



CALL NO. 102

CONTRACT ID. 111320

PIKE COUNTY

FED/STATE PROJECT NUMBER BRO 5365 (011)

DESCRIPTION POND CREEK ROAD (KY 199)

WORK TYPE GRADE & DRAIN WITH BRIDGE

PRIMARY COMPLETION DATE 11/15/2012

LETTING DATE: November 18, 2011

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME November 18, 2011. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

ROAD AND BRIDGE PLANS

DBE CERTIFICATION REQUIRED - 5%

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

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PART I
SCOPE OF WORK

CONTRACT ID - 111320

ADMINISTRATIVE DISTRICT - 12

PROJECT(S) IDENTIFICATION AND DESCRIPTION:

COUNTY - PIKE
BRO 5365 (011)

PCN - DE09801991120

POND CREEK ROAD (KY 199) REPLACE BRIDGE AND APPROACHES ON KY 199 OVER POND CREEK, A
DISTANCE OF 0.36 MILES. GRADE & DRAIN WITH BRIDGE. SYP NO. 12-01089.00.
GEOGRAPHIC COORDINATES LATITUDE 37^33'38" LONGITUDE 82^15'31"

COMPLETION DATE(S):

COMPLETION DATE - November 15, 2012
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/contract)

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 is advised that the Underground Facility Damage Protection Act of 1994, became law January 1, 1995. It is the contractor's responsibility to determine the impact of the act regarding this project, and take all steps necessary to be in compliance with the provision of the act.

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.

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. (See attachment)

10/18/2011



Steven L. Beshear
Governor

Commonwealth of Kentucky
Finance and Administration Cabinet
OFFICE OF THE SECRETARY
Room 383, Capitol Annex
702 Capital Avenue
Frankfort, KY 40601-3462
(502) 564-4240
Fax (502) 564-6785

Lori H. Flanery
Secretary

SECRETARY'S ORDER 11-004

FINANCE AND ADMINISTRATION CABINET

Vendor Document Disclosure

WHEREAS, in order to promote accountability and transparency in governmental operations, the Finance and Administration Cabinet believes that a mechanism should be created which would provide for review and assistance to an Executive Branch agency if said agency cannot obtain access to documents that it deems necessary to conduct a review of the records of a private vendor that holds a contract to provide goods and/or services to the Commonwealth; and

WHEREAS, in order to promote accountability and transparency in governmental operations, the Finance and Administration Cabinet believes that a mechanism should be created which would provide for review and assistance to an Executive Branch agency if said agency cannot obtain access to documents that it deems necessary during the course of an audit, investigation or any other inquiry by an Executive Branch agency that involves the review of documents; and

WHEREAS, KRS 42.014 and KRS 12.270 authorizes the Secretary of the Finance and Administration Cabinet to establish the internal organization and assignment of functions which are not established by statute relating to the Finance and Administration Cabinet; further, KRS Chapter 45A.050 and 45A.230 authorizes the Secretary of the Finance and Administration Cabinet to procure, manage and control all supplies and services that are procured by the Commonwealth and to intervene in controversies among vendors and state agencies; and

NOW, THEREFORE, pursuant to the authority vested in me by KRS 42.014, KRS 12.270, KRS 45A.050, and 45A.230, I, Lori H. Flanery, Secretary of the Finance and Administration Cabinet, do hereby order and direct the following:

- I. Upon the request of an Executive Branch agency, the Finance and Administration Cabinet ("FAC") shall formally review any dispute arising where the agency has requested documents from a private vendor that holds a state contract and the vendor has refused access to said documents under a claim that said documents are not directly pertinent or relevant to the agency's inquiry upon which the document request was predicated.
- II. Upon the request of an Executive Branch agency, the FAC shall formally review any situation where the agency has requested documents that the agency deems necessary to

conduct audits, investigations or any other formal inquiry where a dispute has arisen as to what documents are necessary to conclude the inquiry.

- III. Upon receipt of a request by a state agency pursuant to Sections I & II, the FAC shall consider the request from the Executive Branch agency and the position of the vendor or party opposing the disclosure of the documents, applying any and all relevant law to the facts and circumstances of the matter in controversy. After FAC's review is complete, FAC shall issue a Determination which sets out FAC's position as to what documents and/or records, if any, should be disclosed to the requesting agency. The Determination shall be issued within 30 days of receipt of the request from the agency. This time period may be extended for good cause.
- IV. If the Determination concludes that documents are being wrongfully withheld by the private vendor or other party opposing the disclosure from the state agency, the private vendor shall immediately comply with the FAC's Determination. Should the private vendor or other party refuse to comply with FAC's Determination, then the FAC, in concert with the requesting agency, shall effectuate any and all options that it possesses to obtain the documents in question, including, but not limited to, jointly initiating an action in the appropriate court for relief.
- V. Any provisions of any prior Order that conflicts with the provisions of this Order shall be deemed null and void.

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
- 102.08 Irregular Proposals 102.14 Disqualification of Bidders
- 102.09 Proposal Guaranty

CIVIL RIGHTS ACT OF 1964

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

NOTICE TO ALL BIDDERS

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

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

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

FHWA 1273

Contrary to Paragraph VI of FHWA 1273, contractors on National Highway System (NHS) projects of \$1 million or more are no longer required to submit Form FHWA-47.

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 63-35 DBE, within 10 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 WIL 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 submit certified reports on monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal.

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/forms/DBEcheck.xls>

Photocopied payments and completed form to be submitted 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.

09/14/11

KYTC
DBE Payments

updated 2/28/08

Prime Contractor		Cont-ID	
DBE Contractor		CHECK #	
PAYMENT DATE		Amount of Payment	
Use the section below to show multiple payments using the same check			
Cont-ID	Amount	Cont-ID	Amount

Comments:

attach copy of check here

Mail to:
Office of Civil Rights and Small Business Development
200 Mero Street
6th Floor West TCOB
Frankfort, KY 40622

to be Submitted within 7 days of receipt of payment from KYTC

FUEL AND ASPHALT PAY ADJUSTMENT

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

OPTION B

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

SPECIAL NOTES FOR GEOCOMPOSITE WALL DRAIN

Pike County
KY 199, Retaining Wall
FD52 098 0199 008-009
BRO 5365 (011)
Drawing No. 26478

I. DESCRIPTION

This work shall consist of furnishing all materials, labor, equipment and access for installation of the Geocomposite Wall Drain in accordance with the plans.

II. MATERIALS

The contractor shall install one of the following Geocomposite Wall Drains or equivalent in strict accordance with the manufacturer's specifications:

Amerdrain Prefabricated Soil Sheet Drain
American Wick Drain Corporation
1209 Airport Road
Monroe, NC 28110
Tel: (800) 242-WICK (9425)

Vertical Wall System 4001
Sarnafil
100 Dan Road
Canton, MA 02021
Tel: (800) 451-2504

Aquadrain Drainage Composites
Colloidal Environmental Technologies Company (CETCO)
1500 West Shure Drive
Arlington Heights, IL 60004
Tel: (800) 527-9948

The contractor is required to submit technical product data sheets for the proposed materials. These sheets shall include, but not be limited to, manufacturer specifications and physical properties of the proposed materials.

The Contractor shall furnish the Engineer four (4) complete sets of the above required material.

Upon receipt of required information, the Engineer will be required to submit one (1) copy to the Department of Highways, Division of Materials for evaluation.

In addition, one (1) copy shall be submitted to the Division of Bridges and one (1) copy to the original Bridge Designer for their comments, which will be transmitted to the Division of Materials.

The Engineer is to retain one (1) copy for his/her records.

The Contractor shall not order any materials or begin any portion of this work without first obtaining written approval from the Department's Division of Materials.

No additional payment will be made for obtaining approval of materials, required submittals, or, if necessary, for additional information as requested, but shall be considered incidental to the unit price per square foot bid for this item of work.

III. CONSTRUCTION REQUIREMENTS

Installation requirements shall be in accordance with the plans and shall conform to the manufacturer's specifications.

IV. MEASUREMENT AND PAYMENT

The GEOCOMPOSTIE WALL DRAIN shall be incidental to the cost of CONCRETE CLASS 'A'.

SPECIAL NOTES FOR PILE STEEL, W14 x 176

Pike County
KY 199, Retaining Wall
FD52 098 0199 008-009
BRO 5365 (011)
Drawing No. 26478

I. DESCRIPTION

This work shall consist of furnishing all materials, labor and equipment necessary for the installation of Pile Steel, W14 x 176 in accordance with the plans and specifications.

II. MATERIALS

Pile Steel shall be of 50ksi steel.

Pile Steel shall be embedded a minimum of five (5) feet into solid rock.

The rock socket portion surrounding the pile shall be filled with Class B concrete conforming to Section 601 of the Standard Specifications. A mix shall be provided that has a 6 to 10 inch slump at the time of placement. High range water reducing and retarding admixtures may be used to obtain this slump. The concrete is to be considered incidental to this item.

III. CONSTRUCTION REQUIREMENTS

The piles shall be plumbed and true in accordance with the plans.

The piles shall be temporarily braced to ensure that there is no movement of the pile during the filling of the rock socket with concrete.

There is to be no water present in the hole before placing the pile to be cast in concrete. If water is found to be present, the hole shall be pumped dry. This is to be verified by the Engineer prior to filling the rock socket with concrete.

IV. MEASUREMENT AND PAYMENT

PILE STEEL, W14 x 176 will be measured in linear feet complete and accepted in the final work. The limits of payment shall be based upon the distance from the pile cutoff elevation to a point 5 feet below the determined solid rock line. Payment for the accepted quantity at the contract unit price, PILE STEEL, W14 x 176, shall be full compensation for all materials, equipment, labor, access and incidentals necessary to complete the work.

SPECIAL NOTES FOR PRE-DRILLING FOR PILES (ROCK)

Pike County
KY 199, Retaining Wall
FD52 098 0199 008-009
BRO 5365 (011)
Drawing No. 26478

I. DESCRIPTION

This work shall consist of furnishing all materials, labor and equipment necessary for Pre-Drilling for Piles (Rock).

II. MATERIALS

The only materials required for this item are those that will be necessary to complete the drilling in accordance with the plans and as specified in this special note.

III. CONSTRUCTION REQUIREMENTS

Pre – Drilling for Piles (Rock) shall be performed at the same locations as Pre – Drilling for Piles (Soil) was performed.

The diameter of the hole shall measure 30” in diameter to ensure a minimum clearance of 3” from the edge of the flange to the edge of the hole.

The required depth of shall be 5ft minimum into solid rock.

IV. MEASUREMENT AND PAYMENT

PRE – DRILLING FOR PILES (ROCK) will be measured in linear feet complete and accepted in the final work. The limits of payment shall be based upon the distance from the point at which a conventional soil drill bit will no longer penetrate, to be determined by the field engineer, to a depth of 5ft into solid rock. Payment for the accepted quantity at the contract unit price, PRE – DRILLING FOR PILES (ROCK), shall be full compensation for all materials, equipment, labor and incidentals necessary to complete the work.

SPECIAL NOTES FOR PRE-DRILLING FOR PILES (SOIL)

Pike County
KY 199, Retaining Wall
FD52 098 0199 008-009
BRO 5365 (011)
Drawing No. 26478

I. DESCRIPTION

This work shall consist of furnishing all materials, labor and equipment necessary for Pre-Drilling for Piles (Soil).

II. MATERIALS

The only materials required for this item are those that will be necessary to complete the drilling in accordance with the plans and as specified in this special note.

III. CONSTRUCTION REQUIREMENTS

Pre – Drilling for Piles shall be performed at the locations specified on the Foundation Layout Sheet in the plan set. Pre – Drilling will be required for all piles shown on this sheet. It is necessary to drill through the soil because each pile is to be anchored into solid rock.

The diameter of the hole shall measure 30” in diameter to ensure a minimum clearance of 3” from the edge of the flange to the edge of the hole.

IV. MEASUREMENT AND PAYMENT

PRE – DRILLING FOR PILES (SOIL) will be measured in linear feet complete and accepted in the final work. The limits of payment shall be based upon the distance from the existing ground line to a point at which a conventional soil drill bit will no longer penetrate, until solid rock is reached. This determination is to be made by the field engineer. Payment for the accepted quantity at the contract unit price, PRE – DRILLING FOR PILES (SOIL), shall be full compensation for all materials, equipment, labor and incidentals necessary to complete the work.

SPECIAL NOTES FOR TIMBER LAGGING

Pike County
KY 199, Retaining Wall
FD52 098 0199 008-009
BRO 5365 (011)
Drawing No. 26478

I. DESCRIPTION

This work shall consist of furnishing all materials, labor and equipment necessary for the installation of Timber Lagging in accordance with the plans.

II. MATERIALS

The materials utilized for Timber Lagging shall be untreated timber of the “Red Oak” or “White Oak” species.

The term “Red Oak” includes Red Oak, Black Oak, Southern Red Oak, Willow Oak, Water Oak, Pin Oak, Cherrybark, or Swamp Red Oak, and other less known varieties of oak of this character, per Kentucky Standard Specifications for Road and Bridge Construction, Section 818.06.01.

The term “White Oak” includes White Oak, Chestnut Oak, Post Oak, Burr Oak, Swamp Chestnut Oak, Swamp White Oak, Live Oak, Chinquapin Oak, and other less known varieties of oak of this character, per Kentucky Standard Specifications for Road and Bridge Construction, Section 818.06.01.

The minimum thickness of the members used for Timber Lagging shall be 4” rough sawn.

Members of different size or species can be used.

The contractor is required to submit a design for timber lagging by a licensed Kentucky Professional Engineer.

This design is to be submitted to the Engineer no later than three (3) weeks before materials are ordered.

The contractor is not to order materials for or start work on timber lagging until he/she has received written approval from the Engineer.

The Engineer is to keep a copy of the design for records.

III. CONSTRUCTION REQUIREMENTS

Timber Lagging is to be installed behind the front flange in accordance with the plans.

Timber Lagging shall be placed one row at a time. Starting from the existing ground line and working downward to the bottom of the underdrain.

Excavation at the front face shall be performed in incremental steps. Step size shall be enough to allow for the placement of one row of lagging. This process shall be repeated until the proper elevation is reached at the bottom of the underdrain.

There shall be a $\frac{3}{4}$ " spacer between each row of lagging. This shall be incidental to the cost of Timber Lagging.

Each timber shall be worked and wedged into its correct position between piles. This may require temporary clamping to hold the timber in place.

Voids behind the lagging should be filled with compacted material.

The packing of hay or straw may be necessary behind the lagging if the movement of soil through the spaces becomes a problem.

IV. MEASUREMENT AND PAYMENT

TIMBER LAGGING will be measured in square feet complete and accepted in the final work. The limits of payment shall be based upon the distance from edge of flange to edge of flange between piles and from the top to the bottom of the lagging, including the $\frac{3}{4}$ " space between timbers. Payment for the accepted quantity at the contract unit price, TIMBER LAGGING, shall be full compensation for required submittals for approval, all materials, equipment, labor and incidentals necessary to complete the work.

SPECIAL PROVISION FOR WASTE AND BORROW SITES

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

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

Right-of-Way Certification Form

Revised 2/22/11

Federal Funded

Original

State Funded

Re-Certification

This form must be completed and submitted to FHWA with the PS&E package for federal-aid funded Interstate, Appalachia, and Major projects. This form shall also be submitted to FHWA for all federal-aid projects that fall under Conditions No. 2 or 3 outlined elsewhere in this form. When Condition No. 2 or 3 apply, KYTC shall resubmit this ROW Certification prior to construction contract Award. For all other federal-aid projects, this form shall be completed and retained in the KYTC project file.

Date: October 10, 2011

Project Name: KY-199 over Pond Creek

Letting Date: 18-Nov-2011

Project #: FD52 C098 775780R

County: Pike

Item #: 12-1089.00

Federal #: BRO 5365 (006)

Description of Project: Replace Bridge and approaches on KY-199 over Pond Creek

Projects that require **NO** new or additional right-of-way acquisitions and/or relocations

- The proposed transportation improvement will be built within the existing rights-of-way and there are no properties to be acquired, individuals, families, and businesses ("relocatees") to be relocated, or improvements to be removed as a part of this project.

Projects that require new or additional right-of-way acquisitions and/or relocations

- Per 23 CFR 635.309, the KYTC hereby certify that all relocatees have been relocated to decent, safe, and sanitary housing or that KYTC has made available to relocatees adequate replacement housing in accordance with the provisions of the current FHWA directive(s) covering the administration of the Highway Relocation Assistance Program and that at least one of the following three conditions has been met. (Check those that apply.)

Condition 1. All necessary rights-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. Fair market value has been paid or deposited with the court.

Condition 2. Although all necessary rights-of-way have 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. Trial or appeal of 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. Fair market value has been paid or deposited with the court for most parcels. Fair market value for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract. (See note 1 below.)

Note 1: The KYTC shall re-submit a right-of-way certification form for this project prior to AWARD of all Federal-Aid construction contracts. Award must not to be made until after KYTC has obtained full legal possession and fair market value for all parcels has been paid or deposited with the court and FHWA has concurred in the re-submitted right-of-way certification.

Right-of-Way Certification Form

Revised 2/22/11

Condition 3. The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. However, all remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. The KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary rights-of-way will not be fully acquired, and/or some occupants will not be relocated, and/or the fair market value 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. A full explanation and reason for this request, including identification of each such parcel and dates on which acquisitions, payments, and relocations will be completed, is attached to this certification form for FHWA concurrence. (See note 2.)

Note 2: The KYTC may request authorization on this basis only in unique and unusual circumstances. Proceeding to bid letting shall be the exception and never become the rule. In all cases, the KYTC shall make extraordinary efforts to expedite completion of the acquisition, payment for all affected parcels, and the relocation of all relocatees prior to AWARD of all Federal-Aid construction contracts or force account construction.

Approved: Joe Tachett
Printed Name

Joe Tachett Right-of-Way Supervisor
Signature

Approved: DAVID L. ORR
Printed Name

David Orr KYTC, Director of ROW & Utilities
Signature 10/12/11

Approved: DAVID WHITWORTH
Printed Name

David Whitworth FHWA, ROW Officer (when applicable)
Signature 10/17/11

Right-of-Way Certification Form

Revised 2/22/11

Date: October 10, 2011

Project Name: KY-199 over Pond Creek
 Project #: FD52 C098 775780R
 Item #: 12-1089.00
 Letting Date: 18-Nov-2011

County: Pike
 Federal #: BRO 5365 (006)

This project has 10 total number of parcels to be acquired, and 0 total number of individuals or families to be relocated, as well as 0 total number of businesses to be relocated.

- 10 Parcels where acquired by a signed fee simple deed and fair market value has been paid
- 0 Parcels have been acquired by IOJ through condemnation and fair market value has been deposited with the court
- 0 Parcels have not been acquired at this time (*explain below for each parcel*)
- 0 Parcels have been acquired or have a "right of entry" but fair market value has not been paid or has not been deposited with the court (*explain below for each parcel*)
- 0 Relocatees have not been relocated from parcels _____, _____, _____, _____, _____, _____, and _____ (*explain below for each parcel*)

Parcel #	Name/Station	Explanation for delayed acquisition, delayed relocation, or delayed payment of fair market value	Proposed date of payment or of relocation

There are 0 billboards and/or 0 cemeteries involved on this project.

There are 0 water or monitoring wells on parcels _____, _____, _____, _____, and _____. All have been acquired and are the responsibility of the project contractor to close/cap.

Form Effective Date: April 1, 2006
Last Revised: February 22, 2011

SPECIAL NOTES FOR UTILITY CLEARANCE IMPACT ON CONSTRUCTION

**PIKE COUNTY
FD04 098 77578 01 U
McVEIGH – HUDDY ROAD (KY 199)
ITEM NO. - 12-1089.00**

GENERAL PROJECT NOTE ON UTILITY PROTECTION

n/a

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

Kentucky Power Company-----Not impacted by project. Contact Information: Cliff Freeman-Office 606 437-3167, Cell 606-794-7389 (jcfreeman@aep.com)
Columbia Gas Transmission-----Not impacted on project. Columbia Gas Transmission has a transmission line which crosses project at approximate station 49+70. Attached to these notes are "Minimum Guidelines for Construction Near Natural Gas Pipeline Facilities" which must be adhered to by road contractor. (Attachment A)Contact Information – Bruce Reynolds – Office – 606-739-2234 or James Lance – Office – 606-478-6308 cell – 606-791-7360

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

Mountain Water District (MWD)-----100% Completed. Mountain Water District is not a member of the KY 811 service. Contractor is required to call Mountain Water District to have their lines marked prior to any construction being done near lines. Contact Information: Roy Sawyers – Office – 606-631-6165 – Cell – 606-616-8366 rsawyers@mtwater.org

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

AT & T KY – Contact – Jack Salyer – 606-874-2715. Estimated completion date March 1, 2012
Inter-Mountain Cable – Contact – Roy Harlow – 606-479-6222 Estimated completion date March 1, 2012

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

Mountain Water District (MWD)----- Plans and Specifications have been submitted for water line to be included in road contract. Contact Information: Roy Sawyers – Office – 606-631-6165

SPECIAL NOTES FOR UTILITY CLEARANCE

IMPACT ON CONSTRUCTION

PIKE COUNTY
FD04 098 77578 01 U
McVEIGH – HUDDY ROAD (KY 199)
ITEM NO. - 12-1089.00

– Cell – 606-422-7740 rsawyers@mtwater.org

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

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

The Kentucky Transportation Cabinet makes no guarantees regarding the existence of utilities, the location of utilities, the utility companies in the project scope, or the potential for conflicts encountered during construction. Any location of utilities provided herein has been furnished by the facility owners, field inspection, and/or reviewing record drawings. The accuracy of the information provided is undetermined. It will be the contractor's responsibility to locate utilities before excavating. If necessary, the roadway contractor shall determine the exact location and elevation of utilities by hand digging to expose utilities before excavating in the area of a utility.

BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

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

SPECIAL NOTES FOR UTILITY CLEARANCE
IMPACT ON CONSTRUCTION

PIKE COUNTY
FD04 098 77578 01 U
McVEIGH – HUDDY ROAD (KY 199)
ITEM NO. - 12-1089.00

AREA UTILITIES CONTACT LIST

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
KY POWER COMPANY	CLIFF FREEMAN	OFFICE-606-437-3167
AT & T KY	JACK SALYER	OFFICE – 606-874-2715
INTER-MOUNTAIN CABLE	ROY HARLOW	OFFICE – 606-479-6222
MOUNTAIN WATER DISTRICT	ROY SAWYERS	OFFICE – 606-631-6165

Attachment (A)

**NiSource Gas Transmission and Storage
Minimum Guidelines for construction near natural gas pipeline facilities**

This document provides guidelines for acceptable land uses near facilities owned by Columbia Gas Transmission, LLC, Columbia Gulf Transmission Company, Crossroads Pipeline Company, and all other pipeline facilities operated and maintained by any of the aforementioned companies, collectively known as NiSource Gas Transmission and Storage (NGTS.)

Interstate natural gas pipelines are an important part of the nation's energy infrastructure. Pipelines and related facilities operated by NGTS safely transport much of the clean-burning fuel used in homes, businesses and factories of the United States.

These guidelines are intended to protect public safety and help ensure the continuous safe flow of the nation's natural gas supplies. They provide a basic overview of NGTS's requirements. NGTS also has a technical document, entitled "Right-of-Way Use Specifications," which contains more detailed information on many of the topics discussed here. Section references for the Right-of-Way Use Specifications document are listed after various sections of this brochure. You may request a copy of the Right-of-Way Use Specifications document by contacting NGTS at the phone number listed on the back of this brochure.

Consult NGTS early in your plans

To expedite construction or excavation projects safely and without delay, property owners and developers planning any such activities in the vicinity of NGTS pipelines should consult with NGTS in the design phase of the project. Have your construction plans reviewed by company personnel before you apply for zoning permits or commit to construction schedules.

For more information, call NGTS at 1-304-357-3625.

Note: These guidelines supersede any and all prior guidelines pertaining to activities and placements on or near gas transmission facilities owned by an NGTS company. Existence of, or the ramifications from, the implementation of prior guidelines will not dictate, direct or provide for exemption of any of the above guidelines.

May 2009

Notify NGTS before construction begins

Before any preliminary field work or construction begins in the vicinity of NGTS's pipeline facilities, the exact location and elevation of the pipeline must be determined. To coordinate this procedure, dial the national "Call Before You Dig" number (811) or call your state's specific One Call Phone Number. Request that both location and depth of the pipeline be determined.

No construction or excavation activities of any kind, including blasting, shall be done on NGTS's right-of-way area before NGTS personnel have established the actual location of all affected facilities and the limits of the right-of-way. NGTS personnel must be present during any construction or excavation activities on or around its facilities or rights-of-way, unless otherwise permitted by NGTS. Excavation within 3 feet of NGTS facilities is strictly forbidden without an NGTS representative on site.

Excavation near pipelines/buried facilities

No excavation (including hand digging) shall be made on the pipeline right-of-way without prior notification to NGTS through "Call Before You Dig (811)" or the state One-Call notification service. Subsequent follow-up must be made to NGTS to seek approval for the proposed construction. Within 36 inches of the outer edge of the pipe (on all sides) only hand excavation, air cutting, and vacuum excavation are permitted. (Right-of-Way Use Specifications, Section 3.2.)

Crossing pipelines with heavy equipment

NGTS may require heavy equipment operators to install mats, dirt pads, or other approved protective materials to adequately protect NGTS pipelines from potential damage by heavy equipment crossing the right-of-way. All proposed road crossings of buried facilities must be evaluated by NGTS personnel. Any additional over-burden must be removed after construction unless otherwise directed by NGTS personnel. (Right-of-Way Use Specifications, Section 3.7.)

Blasting plans must be approved

Any blasting proposed within 300 feet of NGTS facilities must be submitted to NGTS in advance along with a blasting plan outlining such proposed activity. No blasting may begin unless and until NGTS provides written confirmation that it does not object to such blasting. Any modifications to the blasting plan must also be submitted to NGTS for review and should not be implemented unless and until NGTS provides written confirmation that it does not object to such modifications. The blasting contractor may be required to monitor and record seismic shock at the facilities. (Right-of-Way Use Specifications, Section 3.10)

Allow adequate clearance for directional drilling

Any directional drilling or boring proposed under NGTS's buried facilities must be submitted to NGTS for review and approval. A minimum of 24" of vertical clearance must be maintained from NGTS's facilities and additional excavations may be required to ensure adequate clearance. As-built plans are required for all borings. (Right-of-Way Use Specifications, Section 3.6.)

Maintain up to 300-foot clear area around storage well heads

Property owners or developers must notify NGTS of any proposed construction or excavation within 300 feet in any direction of a natural gas storage well. For safety, NGTS reserves the right to object to any such proposed activities or placement of objects closer than 300 feet to a storage wellhead. (Right-of-Way Use Specifications, Section 4.1.)

Construction requirements within a right-of-way

NGTS may allow certain property improvements in its rights-of-way. However, NGTS will not assume responsibility, financial or otherwise, for any such improvements directly or indirectly damaged as a result of its operation and maintenance of its facilities. The requirements listed below are minimum guidelines for construction in the vicinity of NGTS pipeline rights-of-way to protect public safety and the integrity of NGTS's facilities. Upon review of individual plans and property rights, NGTS may identify additional restrictions or requirements.

1. The existing cover over pipelines and rights-of-way shall not be modified without NGTS's written permission. The minimum earth cover over pipelines shall be 36-inches; NGTS will perform external load evaluations as necessary to determine if additional protective measures are required. (Right-of-Way Use Specifications, Sections 3.3 and 3.5.1)
2. Above-ground or below-ground structures or obstructions of any type shall not be placed within the easement area of any pipeline, (Right-of-Way Use Specifications, Section 3.4.1.)
3. Pipeline easements shall not be shared longitudinally with other pipelines or utilities. All water valves, curb boxes, manholes, etc. must be outside the easement. All crossings must be approved by NGTS before installation begins and must meet the following criteria (Right-of-Way Use Specifications, Section 3.6):
 - Cross as near 90 degrees as possible, but in no case less than a 45 degree angle.
 - Minimum of 24-inches vertical clearance.
 - Must cross below NGTS's pipeline, unless prior written consent is granted by NGTS.
 - Cable/wire crossings (excluding single telephone and single television drops) must be encased with a minimum of 2-inch Schedule 40 PVC pipe. Additionally, electric and fiber optic lines must be encased in a 6-inch envelope of colored 2,000 psi concrete (red for electric, orange for fiber) or 4-inch minimum diameter, standard wall thickness, coated steel pipe across the entire width of the right-of-way. Note: All cables/wires permitted to cross above NGTS's pipeline (excluding single telephone and single television drops) must be encased in Schedule 40 PVC and coated steel pipes, as outlined above – no concrete shall be used.
 - All crossings shall be marked with above ground markers installed on either side of NGTS right-of-way boundaries.
 - Metallic warning flags shall also be buried above all cable, wire utility, or fiber optic lines crossing an NGTS right-of-way.
4. Roads shall cross pipelines at or as near 90 degrees as practical, but at angles not less than 45 degrees. The entity constructing the road must pay for any measures required by NGTS to inspect and protect its pipeline(s). Such protective measures shall be designed and/or approved by NGTS personnel. (Right-of-Way Use Specifications, Section 3.5.)
5. Walking/bicycling paths require NGTS's written permission prior to construction. Paths must be constructed at the outside edge of NGTS's right-of-way, and may extend no more than 6 feet into the right-of-way. Paths shall cross NGTS pipeline as close to 90 degrees as possible, but in no case less than 45 degrees. NGTS shall have sole determination of number of path crossings to be permitted. No motorized vehicles of any type, other than power driven wheelchairs, are permitted to utilize paths which run longitudinally inside the right-of-way. Landowner shall be responsible for maintaining the

path to prevent right-of-way damage (including erosion, illegal dumping, etc.) (Right-of-Way Use Specifications, Section 3.5.4.)

6. Parking lots require written permission and shall not be allowed over the easement unless the lot can be designed / altered so as not to impact the safe and reliable operation and maintenance of NGTS's pipeline. In no case shall lots be designed such that vehicles will be parking directly over or within 5 feet of a pipeline. Paving for parking lots shall be limited to asphalt only and must meet all requirements set forth in Right-of-Way Use Specifications, Section 3.5.
7. All plans for pavement within an NGTS right-of-way must be submitted and approved by NGTS personnel before paving can begin. Concrete paving is permitted for sidewalks, curbs, and residential driveways. However, continuously poured, steel reinforced concrete is prohibited within NGTS's right-of-way. All residential concrete driveways must meet the requirements set forth in the Right-of-Way Use Specifications attachment entitled "Residential Concrete driveway within NGTS Right-of-Way." (Right-of-Way Use Specifications, Section 3.5.)
8. Detention ponds, lakes, or any other type of water impoundment is prohibited within the right-of-way. Septic tanks and leach fields should be placed so they drain away from the pipeline where practical. In no case shall they be placed in the easement area. (Right-of-Way Use Specifications, Section 3.3.2)
9. The right-of-way may be planted in lawn, flowerbeds, or vegetable gardens, or used for normal agricultural purposes. Shrubs maturing at less than 5 feet tall are permitted in the right-of-way. However, they must be planted such that the branches at maturity are a minimum of 5 feet away from the pipeline. Shrubs greater than 5 feet tall and trees, including fruit or nut bearing trees of any kind and "Christmas Tree farms," are prohibited within the right-of-way. *NGTS is not responsible for replacement of or reimbursement for any plantings within the right-of-way, unless the applicable land rights document states otherwise.* (Right-of-Way Use Specifications, Section 3.4.2.)
10. Fences or continuous hedges that block visual inspection or interfere with access to NGTS's facilities are prohibited within NGTS rights-of-way. Fences permitted by NGTS to cross its rights-of-way must be designed to allow at least a 16-foot opening centered on the pipelines and must cross at or near to 90 degrees. Gates are permissible, as long as they allow for at least a 16-foot opening. If gates are to be locked, NGTS must be allowed to install its own locks on the gates. Locks will be installed in such a manner as to allow both the landowner and NGTS unimpeded access to the property. Fences or continuous hedges may not run longitudinally inside the right-of-way area. (Right-of-Way Use Specifications, Section 3.4.3.)

National "Call Before You Dig" Service – dial "811"

State One-Call Notification Services

Delaware, Maryland:	1-800-257-7777
Kentucky:	1-800-752-6007
Louisiana	1-800-272-3020
Mississippi	1-800-227-6477
New Jersey:	1-800-272-1000
New York:	1-800-962-7962
North Carolina:	1-800-632-4949
Ohio:	1-800-362-2764
Pennsylvania:	1-800-242-1776
Tennessee	1-800-351-1111
Virginia:	1-800-552-7001
West Virginia:	1-800-245-4848

**For more information, contact NGTS at 1-304-357-3625
or email pipelinelandowners@nisource.com**

NOTE:

"Minimum Guidelines for construction near natural gas pipeline facilities" addresses the most common issues concerning land use on/near NGTS rights-of-way. Right-of-Way Use Specifications provides additional technical information as well as guidance on various areas not covered here, and should be consulted as needed. In rare cases, NGTS may determine that adherence to a specific provision of the Minimum Guidelines/Right-of-Way Use Specifications is not feasible for a particular project. In such instances, NGTS may, at its sole discretion, elect to modify specific requirements for that project. Said modifications shall be made by appropriate NGTS personnel and shall be properly documented.

In the event that the provisions of an applicable land rights document conflict with the requirements set forth herein, the land rights document shall supersede these requirements.

SECTION 15100

WATER LINES

1.0 GENERAL

The Contractor shall furnish all labor, materials, and equipment to install the water lines as shown on the plans and as specified herein.

The water lines may be either pressure-rated plastic pipe (PVC) using the ASTM or AWWA C-900 standard, or ductile iron (DI), all as specified hereinafter and as noted on the plans. The bid documents shall show the amounts of each type and class of pipe to be provided by the Contractor.

The Kentucky Transportation Cabinet will obtain all rights-of-way for operations through private property. It will also secure building permits and the permits for all pipe laid in highway rights-of-way. Any charges for inspections or other fees required will be the responsibility of the Contractor since the amounts of these are dependent upon the operation of the Contractor.

2.0 MATERIALS

2.1 POLYVINYL CHLORIDE (PVC) PIPE

This specification covers rigid, pressure-rated, polyvinyl chloride pipe, hereinafter called PVC pipe, for sizes 1/2 inch through 12-inch. Pipe shall be as manufactured by North American or approved equal.

2.1.1 General.

2.1.1.1 Pipe Markings. Depending on the type of PVC pipe being used, the following shall be marked along the length of each joint of pipe: manufacturer's name, nominal pipe size and size base, material code (PVC 1120), dimension ratio or standard dimension ratio, pressure class or rating, production record code, certification seal (NSF logo), and, for C-900 PVC pipe, specification designation (i.e., AWWA C-900).

2.1.1.2 Underground Marking for PVC Pipe. Underground marking for either ASTM or C-900 PVC pipe shall be the following type.

2.1.1.2.1 Underground Marking Tape. At all locations where PVC pipe is utilized, a detectable underground marking tape shall be placed in the trench approximately twelve inches below the finished grade. The tape used shall be mylar encased aluminum foil with the printing "CAUTION - Buried Water Line Below". Printing shall be readable through the clear mylar and surface printing is

15100-1

not acceptable. Tape size shall be 2 inch width as provided by Lifeguard, Inc. or approved equal. Color of the tape shall be blue.

2.1.2 Polyvinyl Chloride (PVC) Pipe—ASTM Standard.

2.1.2.1 PVC Pipe. PVC pipe shall be extruded from Type 1, Grade 1, polyvinyl chloride material with a hydrostatic design stress of 2,000 psi for water at 73.4°F, designated as PVC 1120, meeting ASTM Specifications D-1784 for material and D-2241 for pipe, latest revisions. Pipe shall also meet all applicable provisions of the Product Standards and shall bear the National Sanitation Foundation (NSF) seal of approval in compliance with NSF Standard No. 14. PVC pipe having a maximum hydrostatic working pressure of 160 psi (SDR-26), 200 psi (SDR-21), 250 psi (SDR-17), or 315 psi (SDR-13.5) shall be used as shown in the Bid Documents and Plans.

Samples of pipe and physical and chemical data sheets shall be submitted to the Engineer for review and determination of compliance with these specifications before pipe is delivered to job. The pipe shall be homogeneous throughout and free from cracks, holes, foreign inclusions or other defects.

The workmanship, pipe dimensions and tolerances, outside diameters, wall thickness, eccentricity, sustained pressures (ASTM D-1598), burst pressures (ASTM D-1599), flattening, extrusion quality (ASTM D-2152), marking and all other requirements of the Product Standard PS 22-70 shall be conformed with in all respects. No pipe, 2 inches in diameter or larger, with a wall thickness less than 0.090 inches may be used.

Pipe shall be furnished in 20 feet lengths. The pipe may be double plain end or with bell on one end. Male ends of pipe must be beveled on the outside. Pipe shall have a ring painted around the male end or ends in such a manner as to allow field checking of setting depth of pipe in the socket. This requirement is made to assist construction superintendents and inspectors in visual inspection of pipe installation.

Pipe must be delivered to job site by means which will adequately support it, and not subject it to undue stresses. In particular, the load shall be so supported that the bottom rows of pipe are not damaged by crushing. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as is practical. Pipe must not be exposed to the direct rays of the sun for an extended period of time. If pipe is not to be installed shortly after delivery to the job site, it must be stored in a shaded location and strung as needed.

2.1.2.2 PVC Pipe Jointing. Pipe shall be joined with slip-type joints with rubber gaskets. Pipes with bells shall have all parts of the bell, including the gasket groove, made from the same extruded piece, integral with the pipe, and shall be thickened to meet standard dimension ratios of wall thickness to outside diameter. This manufacturing procedure shall be the normal practice of the pipe

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manufacturer and proven by past performance of pipe in service. The gasket groove shall be constructed such that gasket rollout will not occur. Rubber gasketing shall conform to ASTM D-3139.

Joint lubricant shall be of a type recommended by the manufacturer for their pipe subject to the Engineer approval. Lubricant shall be water soluble, non-toxic and have no objectionable properties.

Due to special requirements for special gaskets for use within 200 feet of underground fuel tanks, gas lines, and/or oil transport lines, PVC pipe shall not be used under these circumstances.

2.1.2.3 Fittings Ductile iron mechanical joint fittings shall be used with PVC pipe. All such fittings shall be approved by the pipe manufacturer, and complete data sent to the Engineer, including the manufacturer's approval, for review. Fittings shall comply with AWWA C-110 or C-153 and shall be manufactured for the size and pressure class of the line on which they are used. Coatings and lining shall be in accordance with section 2.2.7 of the Specifications.

2.1.2.4 Service Connections. All service connections on PVC lines shall be made by means of a bronze service clamps, manufactured specifically for use with PVC pipe and appropriate corporation stop.

2.1.3 Polyvinyl Chloride (PVC) Pipe—AWWA C-900 Standard.

This specification covers the requirements for AWWA approved Polyvinyl Chloride Pressure Pipe for water supply and distribution systems.

2.1.3.1 PVC Pipe—AWWA C-900 Standard. PVC pipe shall meet the requirements of AWWA C-900 or C-905, latest revision and shall be furnished in cast-iron pipe equivalent outside diameters with rubber gasketed joints.

C-900 PVC pipe shall be made from Class 12454-A or Class 12454-B virgin compounds as defined in ASTM D-1784. The standard code designation shall be PVC 1120. The PVC compounds shall be tested and certified as suitable for potable water products by the NSF Testing Laboratory and shall carry the NSF approval marking.

Solvent-cement couplings or joints shall not be used. PVC joints using elastomeric gaskets shall be tested as assembled joints and shall meet the laboratory performance requirements specified in ASTM D-3139.

Pipe shall be DR (Dimension Ratio) 18, or DR 14 as shown on the plans or the bid form.

Pipe and couplings shall meet or exceed the following test requirements:

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Hydrostatic Integrity - Each standard and random length of pipe shall be proof-tested at four times its rated class pressure for a minimum of 5 seconds. Bells or couplings shall be tested with pipe. The pipe and couplings shall further meet or exceed the pressure test requirements of ASTM D-1598 and D-1599.

Flattening - The pipe shall not split, crack, or break when tested by the parallel-plato method as specified by ASTM D- 2241.

Extrusion quality - The pipe shall not flake or disintegrate when tested by the acetone-immersion method as specified in ASTM D-2241.

Standard length - Pipe shall be furnished in standard laying lengths of 20 ft. \pm 1 in. A maximum of 15 percent of each pipe size may be furnished in random lengths of not less than 10 ft. each.

2.1.3.2 C-900 PVC Pipe Jointing. Pipe shall be joined with slip-type joints with rubber gaskets. Manufacturing and installation procedures shall be as recommended by the manufacturer and as described for PVC pipe in section 2.1.2 of this specification.

2.1.3.3 Fittings. Fittings for PVC shall be ductile iron only. Fittings shall be mechanical joint. Fittings shall be manufactured for the size and pressure class of the line on which they are used and shall comply with AWWA C-110 or C-153. Coatings and lining shall be in accordance with section 2.2.7 of the Specifications.

2.1.3.4 Service Connections. Service connections shall be made by means of bronze service clamps manufactured specifically for use with C-900 PVC pipe and appropriate corporation stops.

2.2 DUCTILE IRON PIPE

These specifications cover ductile iron pipe (3-inch diameter and greater) to be used in water transmission systems with mechanical joints, rubber ring slip type joints or flanged joints.

2.2.1 General. Ductile iron pipe shall be designed in accordance with AWWA and for pressures and conditions as stated in these specifications or called for on the plans. Ductile iron pipe shall conform to AWWA C-151.

2.2.2 Minimum Nominal Thickness. The specified thickness will be determined for the given internal and external loading requirements in accordance with AWWA C-150. The class of pipe, wall thickness, and coatings required will be shown on the plans or the bid form and/or as specified herein for all ductile iron pipe installation.

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2.2.3 River Crossing Pipe. River crossing pipe shall be ductile iron, Flex-Lok as manufactured by the American Cast Iron Pipe company or equal conforming to the appropriate requirements of AWWA C150/ANSI A21.50 and AWWA C151/ANSI A21.5 with a minimum thickness class of 54.

2.2.4 Lengths. Pipe may be furnished in 12, 16, 16 1/2, 18 or 20 feet nominal laying lengths.

2.2.5 Marking. The net weight, class or nominal thickness and sampling period shall be marked on each pipe.

2.2.6 Pipe Joints for Ductile Iron Pipe. Joints for buried pipe shall be either mechanical joint or push-on joint conforming to the requirements of AWWA C-111. Mechanical joint bolts and nuts shall be the low-alloy steel type conforming to AWWA C-111.

Interior piping of vaults, plants, etc. shall be supplied with flanged joints meeting the requirements of AWWA C-115. Special joints, such as the "locked" or "restrained" type, shall be as shown on the plans and/or called for in the bid schedule.

Gaskets resistant to hydrocarbon penetration shall be used within 200 feet of underground fuel tanks, gas lines, and/or oil transport lines. The gaskets shall be approved by the Engineer.

2.2.7 Coatings and Lining. All buried ductile iron pipe shall have manufacturer's outside coal tar or asphaltic base coating and a cement lining and bituminous seal coat on the inside. Cement mortar lining and a bituminous seal coat inside shall conform to AWWA C-104 latest revision.

Where specifically called for on the plans, pipe and fittings housed and in vaults shall be lined and coated on the inside as specified herein for buried ductile iron pipe and fittings, but shall be left uncoated on the outside so that it may be painted without the use of tar stop.

2.2.8 Fittings for Ductile Iron Pipe. Ductile iron mechanical, push-on and flanged joints shall conform to AWWA C-110 for centrifugally cast iron water pipe. Mechanical joints shall also conform in all respects to AWWA C-111. All fittings shall be manufactured for the size and pressure class of the pipeline in which they are to be used. All fittings shall be furnished complete with all joint accessories. All ductile iron pipe fittings for water, sewer, air, gas and force main service shall be coated outside and lined on the inside the same as the line on which they are installed.

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3.0 EXECUTION

3.1 HAULING AND STORAGE

The Contractor shall notify the Engineer when pipe will be received on the job so that proper arrangements may be made for inspecting the unloading and stringing, as well as inspecting and examining the pipe materials.

All pipe shall be covered with tarpaulin during hauling from the manufacturer to the job site. It is acceptable for the front end only to be covered. The intent is to prevent diesel exhaust residue from coating the pipe and/or contaminating the gaskets.

Care must be exercised in the handling of all materials and equipment. The Contractor will be held responsible for all breakage or damage to items caused by his workmen, agents, or appliances for handling or moving. Pipes and other castings shall in no case be thrown or dropped from cars, trucks, or wagons to the ground, but shall be lowered gently and not allowed to roll against or strike other castings and unyielding objects violently.

Valves, castings, fabricated metal, reinforcing steel, etc. shall be yarded or housed in some convenient location by the Contractor and delivered at the construction site as required. All equipment and materials subject to damage from the weather, dampness, changes in temperature, or exposure shall be protected by a dry, weatherproof enclosure until ready for installation or use. The cost of all hauling, handling, and storage shall be included in the prices bid for equipment and materials in place. The Owner takes no risk or responsibility for fire, flood, theft, or damage until after the final acceptance of the work.

3.2 LINES AND GRADES

The Contractor will be required to accomplish any detailed layout, including that required for establishing the grade of the pipe line.

3.3 TRENCH EXCAVATION

3.3.1 General. This section describes the acceptable methods of trenching for the installation of pressure pipe and casing pipe in an open trench.

Trenching may be accomplished by means of a backhoe, trenching machine or by hand depending on the construction area.

At the Contractor's option, trenching, by a trenching machine or by backhoe is acceptable except as noted below:

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

The Contractor shall include in his unit price bid, all trenching necessary for installation of all pipelines as planned and specified. Trenching shall include all clearing and grubbing, including all weeds, briars, trees, stumps, etc. encountered in the trenching. The Contractor shall dispose of any such material by burning, burial, or hauling away (or as noted on the drawings), at no extra cost to the Owner. It shall be the Contractor's responsibility to notify the appropriate State and local Air Pollution Control agencies when he conducts open burning of refuse. Ornamental shrubs shall be removed, protected, and replanted. Trenching also includes such items as minor street, road, sidewalk, pipe and small creek crossings, and cutting, moving or repairing damage to fences, poles, gates and/or other surface structures regardless of whether shown on the plans.

The Contractor shall protect existing facilities against danger or damage while pipeline is being constructed and backfilled, or from damage due to settlement of this backfill. In case of damage to any existing structures, repair and restoration shall be made at once and backfill shall not be replaced until this is done. In all cases, restoration and repair shall be such that the damaged structures will be in as good condition and serve its purpose as completely as before and such restoration and repair shall be done without extra cost to the Owner. The use of trench-digging machinery will be permitted except where its operations will cause damage to trees, buildings or existing structures above or below the ground. At such locations hand methods shall be employed to avoid such damage. All excavated material shall be piled in a manner that will not endanger the work and will avoid obstructing sidewalks and driveways. Gutters shall be kept clear or other satisfactory provisions made for street drainage.

All excavation shall be open trenches, except where the drawings call for tunnelling, boring, or jacking under structures, railroads, sidewalks and roads. The construction procedure for these types of excavation is described elsewhere in these specifications.

All trench excavation shall be termed unclassified and costs shall be included in the unit price bid for the pipe.

3.3.2 Clearing. The Contractor shall accomplish all clearing and/or grubbing as required for the construction under this contract. Clearing and grubbing shall include the cutting and removal of trees, stumps, brush, roots, logs, fences and other loose or projecting material and natural obstructions which, in the opinion of the Engineer, must be removed to properly construct and operate the facilities. Ornamental shrubs, plantings, fences, walls, etc. shall be removed and replanted or replaced or protected from the construction activity. Clearing and/or grubbing

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shall be incidental to the various bid items and no additional compensation will be paid for same.

3.3.3 Trench Depth. Trenches shall be excavated to the line and grade required for the installation of pipe at the elevations indicated on the plans. The minimum depth of cover shall be 30 inches above the top of the pipe, unless shown otherwise on the plans or on the Standard Details. When the pipe is laying in or on solid rock, the minimum depth of cover shall also be 30 inches above the top of the pipe. No additional compensation will be made for extra depth where required by the plans or due to Contractor error. Excavation, except as required for exploration, shall not begin until the proposed work has been staked out. Materials which are not required for backfill and site grading shall be removed and disposed of as directed by the Engineer. Hauling, bedding, and backfilling shall be considered incidental to the various bid items and will not be paid for directly. Excavation shall be of sufficient depth to allow the piping to be laid on the standard pipe bedding in accordance with the section 3.4. The trenches shall be excavated to a minimum of six inches below the bottom of the pipe barrel in rock. In all cases where lines are on State Right-of-Way the minimum cover of forty-two inches (42") shall be provided. Should it be necessary to avoid existing utilities, culverts, outlets, or other structures, the water line shall be carried deeper at no additional expense to the Owner.

Where the plans call for extra trench depth, this extra depth shall be provided at no extra cost.

3.3.4 Trench Width. Trench widths shall exceed the minimum width that will provide free working space on each side of the pipe and to permit proper backfilling around the pipe as shown in the accompanying table and unless specifically authorized by the Engineer, shall not be excavated to wider than two feet (2') plus the nominal diameter of the pipe at the top of the trench. Before laying the pipe, the trench shall be opened far enough ahead to reveal any obstruction that may necessitate changing the line and grade of the pipe. Should the Contractor fail to accomplish this, and changes are required, they shall be at his sole expense. In rock, all ledge rocks, boulders and large stones shall be removed to provide six inches (6") of clearance on each side and below all pipe and fittings.

Minimum Trench Width

Size	Width
Up to 4" Pipe	1'-6"
6" Pipe	2'-0"
8" Pipe	2'-0"
10" Pipe	2'-4"

Size	Width
15" Pipe	2'-8"
16" Pipe	2'-8"
18" Pipe	3'-0"
20" Pipe	3'-2"

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12" Pipe	2'-6"
14" Pipe	2'-6"

21" Pipe	3'-4"
24" Pipe	3'-8"

3.3.5 Shoring, Sheeting, and Bracing of Excavation. Where unstable material is encountered, or where the depth of the excavation in earth exceeds five feet (5'), the sides of the trench or excavation shall be supported by substantial sheeting, bracing, or shoring. The design and installation of all sheeting, sheet piling, bracing or shoring shall be based on computations of pressure exerted by the materials to be retained under retaining conditions. Adequate and proper shoring of all excavations will be the entire responsibility of the Contractor. The Standards of the Federal Occupational Safety and Health Act and the Kentucky Department of Labor shall be followed.

The Engineer will not be responsible for determining requirements for bracing or sheeting.

3.3.6 Removal of Water. The Contractor shall provide for adequate removal of all water and the prevention of surface water from entering the excavation. The Contractor shall maintain dry conditions within the excavations until the backfill is placed. No additional compensation will be paid for replacement and/or stabilization of prepared excavations due to flooding and/or deterioration from extended exposure. All water pumped or drained from the excavation shall be disposed of in a suitable manner without damage to adjacent property or to other work under construction.

3.3.7 Pavement Removal. Pavement removal shall be as indicated on the plans or directed by the Engineer. When so required, or when directed by the Engineer, only one-half (1/2) of the street crossings or road crossings shall be excavated before placing temporary bridges over the side excavated, for the convenience of the traveling public. 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 the property Owners abutting the improvements shall be taken into consideration. All public or private drives shall be promptly backfilled or bridged at the direction of the Engineer. Pavement replacement shall be in accordance with Section 15120 of these specifications. Excavated materials shall be disposed of so as to cause the least interference and in every case the disposition of excavated materials shall be satisfactory to the Engineer.

3.3.8 Traffic Maintenance. The Contractor shall be held responsible for any damage that may occur to persons or property by reason of the failure of the Contractor to properly guard and flag all open trenches or obstructions along the routes of the water lines. The Contractor at his own expense shall maintain warning signs, barricades and watchmen or flag men to control traffic at such times as his work would interfere with the flow of traffic. No excavation shall begin that may present a safety hazard unless the signs, barricades, lights, etc.

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are available to protect the open excavation at the conclusion of the day. The Contractor will comply with all Federal and State Occupational Safety and Health requirements for this type of construction. The Contractor shall also comply with all local and Kentucky Department of Highways requirements for signing and traffic control.

3.3.9 Line Location. The location of pipelines and their appurtenances as shown are those intended for the final construction. However, conditions may present themselves before construction on any line is started that would indicate desirable changes in location. In such cases, the Owner reserves the right to make reasonable changes in line and structure locations without extra cost, except as may be determined by extra units of materials and construction actually involved. The Owner is under no obligation to locate pipelines so they can be excavated by machine.

3.4 BEDDING OF PIPELINE

In all cases the foundation for pipe shall be prepared so that the entire load of the backfill on top of the pipe will be carried uniformly on the barrel of the pipe. The bells of the pipe shall not carry any of the load of the backfill. The Contractor should refer to the Standard Details for pipe bedding shown in the plans. The bedding specifications shall govern the backfill from the bottom of the trench up to the centerline or spring line of the pipe.

3.4.1 Stable Earth Foundation. On all PVC pipelines, the trench bottoms shall be smooth and free of frozen material, clodded dirt and stones over 1/2" diameter. Bottom dirt left by trenching equipment will usually provide adequate material to level the trench bottom and provide bedding support for the pipe barrel. If the trench bottom is free of dirt, soft material may be shoveled off the side walls or shoveled under the pipe to insure proper pipe barrel bedding. In areas where the trench bottom is hard, a layer of soft backfill must be provided to insure the pipe barrel is properly cushioned. See the plans for proper bedding material depth.

If the foundation is good firm earth the pipe may be laid directly on the undisturbed earth provided the pipe barrel is supported for its full length.

Bedding of No. 9 stone, fine gravel, sand or compacted finely graded select earth shall be used to correct irregularities in the subgrade.

As an alternative to the above method, excavation may be undercut to a depth below the required invert elevation that will permit laying the pipe on a bed of granular material or finely graded select earth to provide continuous support for the pipe barrel. Bedding depth shall be as shown on the plans.

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The bedding is not a separate pay item and shall be included as incidental expense in the unit price for the pipe bid per foot of pipe.

3.4.2 Trenches In Rock. All installation in rock will utilize the undercutting method. Bedding will be with 6 inches crushed stone or suitable earth material.

3.5 PIPE LAYING

3.5.1 General. Proper instruments, tools and facilities satisfactory to the Engineer shall be provided and used by the Contractor for the safe and convenient prosecution of the work. Each pipe manufacturer shall have an experienced representative on the job for at least one day at the commencement of jointing and laying operations.

Before any length of pipe is placed in the trench, a careful inspection shall be made of the interior of the pipe to see that no foreign material is in the pipe. In order to properly remove any foreign materials, a swab of necessary length is to be available at all times.

All pipe shall be lowered carefully into the trench, properly aligned and properly jointed by use of suitable tools and equipment, in such a manner as to prevent damage to water line materials and protective coatings and linings. Excessive scratching of the exterior surface of the pipe will be cause for rejection of the pipe.

Under no circumstances shall pipeline materials be dropped or dumped into the trench. The pipe and fittings shall also be inspected for the purpose of determining if they are sound and free from cracks. Laying of pipe shall be commenced immediately after excavation is started. Pipe shall be laid with bell ends facing in the direction of laying.

When pipe laying is not in progress, the open ends of pipe shall be closed by approved means to prevent entrance of trench water into the line. Whenever water is excluded from the interior of the pipe, adequate backfill shall be deposited on the pipe to prevent floating. Any pipe which has floated shall be removed from the trench and relaid as directed by the Engineer. No pipe shall be laid in water or on frozen trench bottom, or whenever the trench conditions or the weather are unsuitable for such work.

If any defective pipe and fittings shall be discovered after the pipeline is laid, they shall be removed and replaced with a satisfactory pipe or fitting without additional charge to the Owner. Open ends of unfinished pipe lines shall be securely plugged or closed at the end of each day's work or when the line is left temporarily at any other time.

3.5.2 Laying Ductile Iron Pipe. Ductile iron pipe shall first be thoroughly cleaned at joints, then joined according to instructions and with tools

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recommended by the manufacturer. Three (3) copies of instructions shall be furnished to the Engineer and one (1) copy shall be available at all times at the site of the work. The lining inside ductile iron pipe must not be damaged by handling.

All pipes must be forced and held together, or "homed" at the joints, before sealing or bolting. Pipe must be aligned as each joint is placed, so as to present as nearly true, straight lines and grades as is practical, and all curves and changes in grades must be laid in such a manner that the manufacturer's recommended maximum deflection is not exceeded at any joint.

Cutting of pipe may be done by wheeled pipe cutters or saws as the Contractor may elect, but the Contractor will be held responsible for breakage or damage caused by careless cutting or handling.

All ductile iron pipe shall be installed per AWWA C150 Laying Condition Type 3 unless otherwise noted, six inches (6") crushed stone bedding or suitable earth shall be used in rock. No pipe shall be laid resting on rock, blocking, or other unyielding objects. Jointing before placing in trench, and subsequent lowering of more than one section jointed together may be allowed, subject to the Engineer approval and direction.

When using pipe with push-on joints care must be exercised to make certain that the correct gasket is being used for the type of joint installed and that the gasket faces the proper direction. Before inserting the gasket, the groove and bell socket should be carefully cleaned of all dirt. If sand or dirt is permitted to remain in the groove, leaks may occur. Lubricant must be applied to bell socket, gasket and plain-end of pipe as required by manufacturer. Plain-end must be beveled before joint is made. Deflection required at the joint shall be obtained after the joint is made.

3.5.3 Laying Plastic Pipe. The trench bottom must be smooth and uniform and the alignment must conform with the plans. Bedding and cover as specified herein and shown in the Standard Details is required.

To make a clean and unobstructed joint, it is necessary to wipe the ring, groove and pipe spigot free from all foreign materials at the time of assembly. The ring must be positioned properly in the fitting to receive the pipe by a worker who is not in contact with the lubricant. In general, the lubricant is applied to the spigot (not the ring or groove). However, the manufacturer's instructions are to be followed in all cases. Only an approved lubricant may be used in accordance with the manufacturer's recommendations. All plastic pipe shall be joined by hand.

Where good bedding conditions are obtained PVC pipe smaller than 4 inches may be assembled outside the trench in longer sections (as conditions allow) and

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then lowered into the trench. At any time when improper bedding is discovered or the pipe is severely deflected the pipe will be removed from the trench and the condition corrected. Pipe in sizes 4 inch and above may be assembled outside the trench but must be lowered into the trench as each joint is assembled. Regardless of installation methods all joints must be inspected after laying in trench for proper insertion and alignment. Field cuts and bevels will be allowed in accordance with the manufacturer's recommendations for these operations. A new reference mark shall be installed before joining any field cut pipe. The same requirements for clearance from rock or other objects, thrust blocking and deflections shall apply to PVC pipe as for other pipe materials.

C-900 PVC pipe of all sizes must be assembled in the trench in strict accordance with the manufacturer's requirements.

3.5.4 Installation of River Crossing Pipe. The ball joint pipe shall be assembled and installed in accordance with manufacturer's recommendations. Installation shall be made at time of low flow, using cofferdams as necessary to divert stream flow. The ball joint pipe shall be laid and allowed to settle before joining to the pipe on each side of the stream. The ball and joint pipes shall be tested separately once in place to detect any leaks or bad joints. After connecting to the land pipe, it shall be tested the same as specified for the other water mains. See the DRAWINGS for additional installation requirements.

3.6 BACKFILLING

Backfilling must be started as soon as practicable after pipe has been laid. The Engineer shall be given a minimum of 8 hours for inspection before backfilling. The backfill shall be crushed rock, sand, or finely divided earth free from debris, organic material and stones, places simultaneously on both sides of pipe to the same level by hand.

In backfilling of the lower part of the trench beginning at the top of the bedding, the backfill material shall be carefully selected and walked-in around the pipe in 6" layers to a point 8 inches higher than 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 pipe line will not be disturbed and injurious side pressures do not occur.

After the above specified backfill is hand placed, rock may be used in the backfill in pieces no larger than 18 inches in any dimension and to an extent not greater than one-half (1/2) the backfill materials used. If additional earth is required, it must be obtained and placed by the Contractor. Filling with rock and earth shall proceed simultaneously, in order that all voids between rocks may be filled with earth. Above the hand placed backfill, machine backfilling may be employed without tamping, (if not contrary to specified conditions for the location) provided caution is used in quantity per dump and uniformity of level of backfilling. Backfill

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material must be uniformly ridged over trench and excess hauled away, with no excavated rock over 1-1/2 inch in diameter or pockets of crushed rock or gravel in top 6 inches of backfill. Ridged backfill shall be confined to the width of the trench and not allowed to overlap onto firm original earth and its height shall not be in excess of needs for replacement of settlement of backfill. All rock, including crushed rock or gravel from construction, must be removed from yards and fields. Streets, roadways and walks shall be swept to remove all earth and loose rock immediately following backfilling.

In the case of street, highway, railroad, sidewalk and driveway crossings or within any roadway paving or about manholes, valve and meter boxes, the backfill must be machine tamped in not over 4-inch layers, measured loose in accordance with the standard details. Where backfill is under paved driveways, streets, highways, railroads, sidewalks, paved parking areas and other areas where settlement is not allowed, crushed stone or coarse sand backfill only shall be used up to the paving surface. Crushed stone shall be Kentucky Department of Highways Standard Specification No. 57. Coarse sand backfill shall be spread in layers not over 4 inches thick and thoroughly compacted. Sand may be moistened to aide compaction. Tunnels shall be backfilled in not over 3-inch layers, measured loose, with selected material suitable for mechanically tamping. If material suitable for tamping cannot be obtained, sand, gravel or crushed rock shall be blown, packed or sluiced to complete fill all void spaces.

Where local conditions permit, pavement shall not be placed until 30 days have passed since placing backfill. Crushed stone is specified for roads and parking areas and sidewalks or their bases, shall be placed and compacted to the top of trench. Backfills shall be maintained easily passable to traffic at original ground level, until acceptance of project or replacement of paving or sidewalks.

Where the final surfacing is to be crushed stone, compacted earth backfill may be used in the trench to within 6 inches of the top as shown in the Standard Details.

Railroad Company and Highway Department requirements in regard to backfilling will take precedence over the above general specification where they are involved.

The Contractor shall protect all sewer, gas, electric, telephone, water and drain pipes or conduits, power and telephone poles and guy wires from danger of damage while pipelines are being constructed and backfilled, or from danger due to settlement of his backfill.

In case of damage to any such existing structures, repair and restoration shall be made at once and backfill shall not be replaced until this is done. In all cases, restoration and repair shall be such that the damaged structure will be in as good

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condition and serve its purpose as completely as before uncovering and such restoration and repair shall be done without extra charge.

No extra charge shall be made for backfilling of any kind, except as provided in the Bid. Backfilling shall be included as a part of the unit price bid for which it is subsidiary. No extra charge shall be made for supplying outside materials for backfill.

Before completion of contract, all backfills shall be reshaped, holes filled and surplus material hauled away, and all permanent walks, street, driveway and highway paving, and sod, replaced and reseeding performed.

The line Contractor shall be responsible for clean-up, grading, seeding, sodding or otherwise restoring all areas that he disturbs.

Any deficiency in the quantity of material for backfilling the trenches or for filling depressions caused by settlement, shall be supplied by the Contractor.

3.7 TIE-INS TO EXISTING PIPELINES

This work shall consist of connecting new water pipes to the existing system where shown on the plans and shall include the necessary fittings, tapping sleeves, valves and necessary equipment and material required to complete the connection.

Knowledge of pipe sizes in the existing system may not be accurate, therefore, it is recommended that the Contractor check outside diameters of existing pipe and types of pipe prior to ordering the required accessories. No additional payment will be allowed for matching pipe and/or accessories when the proper size is not ordered.

Neither the Owner nor the Engineer can guarantee the location of the existing lines. The Contractor shall verify the location of all existing water mains and valves pertaining to the proposed improvements before excavation is started.

The necessary regulation or operation of the valves on existing mains, to allow for the connections being made, shall be supervised by the Engineer. Before shutting down an existing water main or branch main for a proposed connection, prior approval for a specific time and time interval shall be obtained from a representative of the Owner. At no time shall an existing main be shut down without the Owner's knowledge and permission.

Excavation to existing water mains shall be carefully made, care being exercised not to damage the pipe. The excavation shall not be of excessive size or depth beneath the pipe. The sides of the excavation shall be as nearly vertical as possible.

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The Contractor shall be responsible for any damage to the existing system and any such damage shall be repaired to the satisfaction of the Engineer at the Contractor's expense.

The Contractor shall verify, by field inspection, the necessary sizes, lengths and the types of fittings needed for each inter-connection. Typical connections are shown on the plans and any modifications or changes shall be subject to the approval of the Engineer. The exact length of the proposed water main needed for this work shall also be determined by field measurement as required.

The probing required to locate existing mains is not a separate pay item.

3.8 PIPE ENTERING STRUCTURES

Ductile iron, steel or PVC pressure pipe, 4-inch diameter or larger, entering structure below original earth level, unsupported by original earth for a distance of more than six feet (6'), shall be supported by #57 crushed stone. Costs for the support shall be included in the unit price for the pipe.

3.9 OWNERSHIP OF OLD MATERIALS

All fittings, valves, hydrants, pumps and other appurtenances that are removed as a result of new construction shall be removed by the Contractor but shall become the property of the Owner. All such items shall be delivered to a point by the Contractor. Said point shall be on the Owner's property and shall be designated by the Engineer.

3.10 THRUST BLOCKS AND ANCHORAGE

Thrust blocks shall be installed whenever the pipe line changes direction, as at tees, bends, crosses, stops, as at a dead end; or at valves. The locations of thrust blocks depend on the direction of thrust and type of fitting. Their size and type depends on pressure, pipe size, kind of soil, and the type of fitting. Where thrusts act upward (as at vertical curves) the weight of the pipe, the water in the pipe and the weight of the soil over the pipe should be determined to make certain that the total weight is sufficient to resist upward movement. If there is not enough soil or if it will not compact over the pipe or it is too soft to resist movement, then ballast or concrete may be placed around the pipe in sufficient weight and volume to counteract the thrust. Where a fitting is used to make a vertical bend, the fitting may be anchored to a concrete thrust block designed to key in to undisturbed soil and to have enough weight to resist upward and outward thrust, since the newplaced backfill may not have sufficient holding power.

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Thrust blocks shall be constructed of not less than Class B concrete conforming to KTC Specification 601 and placed between the fitting and the trench wall. It is important to place the concrete so it extends to undisturbed (freshly cut) trench wall.

3.11 MAINTENANCE OF FLOW OF DRAINS AND SEWERS

Adequate provision shall be made for the flow of sewers, drains and water courses encountered during construction. Any structures which are disturbed shall be satisfactorily restored by the Contractor.

3.12 INTERRUPTION OF UTILITY SERVICES

No valve, switch or other control on any existing utility system shall be operated for any purpose by the Contractor without approval of the Engineer and the Utility. All consumers affected by such operations shall be notified by the Contractor as directed by the Engineer and utility before the operation and advised of the probable time when service will be restored.

3.13 FENCING

Where water supply line is being constructed in fields where stock is being grazed, Contractor shall provide temporary fence as approved by the Engineer around open trenches to prevent stock from falling in trenches. Where trenching operations should isolate grazing stock from their source of water, Contractor will either provide temporary bridging over trench or else provide water for such stock.

Where trench crosses near sound existing corner posts and existing fence is in good condition, fence may be taken loose, rolled back and stored until pipe line is completed at this point, then replaced by stretching tightly and thoroughly stapling. Additional posts will be provided and additional new fence shall be provided when it is necessary to place the fence crossed by the water line in a condition equal to existing fence before water line was constructed.

Where it is necessary to cut existing fence, new end posts shall be installed on each side of the water line and the old fence thoroughly stapled to these new posts before cutting. After pipe line is completed at this point, a new fence of galvanized wire (No. 9 gauge with No. 11 filler wires) shall be stretched between these new end posts and thoroughly stapled to existing posts and any new intermediate posts necessary to provide a good fence. Replacement of fences shall be on a replacement in-kind basis, and shall be considered incidental to laying of the lines and any additional cost shall be included in the unit price bid per lineal foot of pipe.

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3.14 PROTECTION OF ADJACENT LANDSCAPE

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

In the course of construction, the Contractor may deflect horizontal alignment of the water line to avoid trees and to keep from damaging their roots. The Contractor shall be fully responsible for settling all claims by private property owners concerning damage to trees and shrubs.

3.15 COORDINATION WITH UTILITIES

Prior to construction, the Contractor shall arrange to meet with representatives of all utilities, and provide them with his anticipated work schedule. The Contractor shall have the utilities make their best determination of utility locations in the areas in which he is working. Throughout the progress of the work, such field markings of utilities shall be kept current.

Repairs to any utilities damaged by the Contractor shall normally be performed by the utility at the Contractor's expense, unless the Contractor and the utility negotiate other understandings and/or procedures.

3.16 BLASTING AND ROCK EXCAVATION

The Contractor shall make his own investigation as he deems necessary to ascertain the sub-surface conditions to be encountered in the work. No blasting will be utilized unless approved by the Owner and Engineer.

All blasting operations shall be conducted in accordance with municipal ordinances, state and federal laws and Section 9, Explosives, of the "Manual of Accident Prevention in Construction", published by the Associated General Contractors of America, Inc. Soil particle velocity shall not exceed limit set by Kentucky law. All explosives shall be stored in conformity with said ordinances, laws and safety regulations. No blasting shall be done within five feet of any water mains, sewer lines, natural or manufactured gas lines, liquid petroleum product lines or other utilities. Any damage done by blasting is the responsibility of the Contractor and shall be promptly and satisfactorily repaired by him.

The Contractor shall use delay caps or other approved methods to reduce earth vibrations and noise. Mud capping, as defined in the above manual, will not be

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permitted as a method of breaking boulders. No blasting shall be permitted on Sundays or after dark.

Prior to commencing with the work, the Contractor shall, during a preconstruction conference with the Owner and the Engineer, state clearly his approach to performing the excavations on the project. He shall be familiar with the laws and ordinances covering blasting and shall also give consideration to the use of hydraulically operated rock breaking devices in lieu of blasting where considered necessary. If blasting is not handled in an expert manner at all times, the Engineer reserves the right to suspend blasting and require the work to proceed without it.

Prior to blasting, the Contractor shall make his own detailed preblast survey of adjacent walks, curbs, retaining walls, house foundations, etc. to determine conditions prior to the work. Such a file of information, including photographs, may be certified in such a manner as the Contractor believes necessary since this information that may stand in his defense.

4.0 PAYMENT

Payment for supplying, transporting and storing pipe, trenching, standard bedding, pipe installation, fittings, thrust-blocking, pipe locating wire or tape, testing, backfilling (including flowable fill, if required), disinfection, seeding, crop damage, regular stream crossings, clean-up, tie-ins to other structures and other incidental items in this section shall be made on the basis of the unit price per lineal foot for the type and size of pipe installed. Payment will include all those items not specifically covered by another proposal. Pipe will be measured along the centerline of the pipe as installed with no deduction for valves and fittings.

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SECTION 15101

TESTING AND STERILIZATION

1.0 TESTING

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

1.2 PRESSURE TEST

1.2.1 Test pressure shall:

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

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

1.2.1.3 Be of at least six (6) hour duration unless otherwise stipulated by owner.

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

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

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

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

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

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

1.3 LEAKAGE TESTING

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

1.3.2 No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = ND(P \text{ exp } 1/2)/133,200$$

in which L is the allowable leakage, in gallons per hour; N is the length of pipeline tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test, in pounds per square inch gauge.

1.3.2.1 Allowable leakage at various pressures is shown in TABLE K-1.

1.3.2.2 When testing against closed metal-seated valves, an additional leakage per closed valve of 0.0078 gal/hr/in of nominal valve size shall be allowed.

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

1.3.3 Acceptance shall be determined on the basis of allowable leakage. If any test of pipe laid discloses leakage greater than that specified in Section 1.3.2 the contractor shall, at his own expense, locate and repair the defective material until the leakage is within the specified allowance.

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

Table K-1
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Allowable Leakage Per 1,000 Ft. Of Pipeline (GPH)

Avg. Test Pressure psi	Nominal Pipe Diameter (Inches)								
	2	3	4	6	8	10	12	14	16
450	0.32	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55
400	0.30	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40
350	0.28	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25
300	0.26	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08
275	0.25	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99
250	0.24	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90
225	0.23	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80
200	0.21	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70
175	0.20	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59
150	0.19	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47
125	0.17	0.25	0.34	0.50	0.67	0.84	0.01	1.18	1.34
100	0.15	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20

Avg. Test Pressure psi	Nominal Pipe Diameter (Inches)							
	18	20	24	30	36	42	48	54
450	2.87	3.18	3.82	4.78	5.73	6.69	7.65	8.60
400	2.70	3.00	3.60	4.50	5.41	6.31	7.21	8.11
350	2.53	2.81	3.37	4.21	5.06	5.90	6.74	7.58
300	2.34	2.60	3.12	3.90	4.68	5.46	6.24	7.02
275	2.24	2.49	2.99	3.73	4.48	5.23	5.98	6.72
250	2.14	2.37	2.85	3.56	4.27	4.99	5.70	6.41
225	2.03	2.35	2.70	3.38	4.05	4.73	5.41	6.03
200	1.91	2.12	2.55	3.19	3.82	4.46	5.09	5.73
175	1.79	1.98	2.38	2.98	3.58	4.17	4.77	5.36
150	1.66	1.84	2.21	2.76	3.31	3.86	4.41	4.97
125	1.51	1.68	2.01	2.52	3.02	3.53	4.03	4.53
100	1.35	1.50	1.80	2.25	2.70	3.15	3.60	4.05

2.0 STERILIZATION

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2.1 GENERAL

It is the intent of this section to present essential procedures for disinfecting new and repaired water mains. The section is patterned after AWWA C651. The basic procedure comprises:

2.1.1 Preventing contaminating materials from entering the water mains during construction or repair and removing by flushing materials that may have entered the water main.

2.1.2 Disinfecting any residual contamination that may remain.

2.1.3 Determining the bacteriologic quality by laboratory test after disinfection.

2.2 PREVENTIVE MEASURES DURING CONSTRUCTION

2.2.1 Precautions shall be taken to protect pipe interiors, fittings, and valves against contamination. Pipe delivered for construction shall be strung so as to minimize entrance of foreign material. When pipe laying is not in progress, as, for example, at the close of the day's work, all openings in the pipe line shall be closed by water tight plugs. Joints of all pipe in the trench shall be completed before work is stopped. If water accumulates in the trench, the plugs shall remain in place until the trench is dry.

If dirt, that, in the opinion of the Engineer, will not be removed by the flushing operation (section 2.3) enters the pipe, the interior of the pipe shall be cleaned and swabbed as necessary, with a five (5%) percent hypochlorite disinfecting solution.

2.2.2 Packing Materials and Joints—No contaminated material or any material capable of supporting prolific growth of micro-organisms shall be used for sealing joints. Packing material shall be handled in such a manner as to avoid contamination. Where applicable, packing materials must conform to AWWA standards. Packing material for cast iron pipe must conform to AWWA C600. Yarning or packing material shall consist of molded or tubular rubber rings, rope of asbestos or treated paper. Materials such as jute or hemp shall not be used. The lubricant used in the installation of sealing gaskets shall be suitable for use in potable water. It shall be delivered to the job in enclosed containers and shall be kept clean.

2.3 PRELIMINARY FLUSHING

The main shall be flushed prior to disinfection unless disinfected by the method in section 2.4.2.1. It is recommended that the flushing velocity be not less than 2.5 ft/sec. The rate of flow required to produce this velocity in various diameters is

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shown in Table K-2. No site for flushing should be chosen unless it has been determined that drainage is adequate at the site.

**Table K-2
Required Openings To Flush Pipelines
(40-PSI Residual Pressure)**

Pipe Size (in)	Flow Required to Produce 2.5 fps Velocity (gpm)	Orifice Size (in)	Hydrants Required	
			Number of Hydrants	Nozzle Size (In)
3	55	2/3	1	2 1/2
4	100	15/16	1	2 1/2
6	220	1 3/8	1	2 1/2
8	390	1 7/8	1	2 1/2
10	610	2 5/16	1	2 1/2
12	880	2 13/16	1	2 1/2
14	1,200	3 1/4	2	2 1/2
16	1,565	3 5/8	2	2 1/2
18	1,980	4 3/16	2	2 1/2

2.4 FORM OF CHLORINE FOR DISINFECTION

The most common forms of chlorine used in the disinfecting solutions are liquid chlorine (gas at atmospheric pressure), calcium hypochlorite granules, sodium hypochlorite solutions.

2.4.1 Liquid Chlorine

2.4.1.1 Use: Liquid chlorine shall be used only when suitable equipment is available and only under the direct supervision of a person familiar with the physiological, chemical, and physical properties of this element and who is properly trained and equipped to handle any emergency that may arise. Introduction of chlorine-gas directly from the supply cylinder is unsafe and shall not be permitted.

NOTE: The preferred equipment consists of a solution fed chlorinator in combination with a booster pump for injecting the chlorine-gas water mixture into the main to be disinfected. Direct feed chlorinators are not recommended because their use is limited to situations where the water pressure is lower than the chlorine cylinder pressure.

2.4.2 Hypochlorites

2.4.2.1 Calcium Hypochlorite: Calcium hypochlorite contains seventy (70%) percent available chlorine by weight. It is either granular or tabular in form. The tablets, 6-8 to the ounce, are designed to dissolve slowly in water. Calcium hypochlorite is packaged in containers of various types and sizes ranging from small plastic bottles to one hundred (100) pound drums.

A chlorine-water solution is prepared by dissolving the granules in water in the proportion requisite for the desired concentration.

2.4.2.2 Sodium Hypochlorite: Sodium hypochlorite is supplied in strengths from five and one-quarter (5.25%) to sixteen (16%) percent available chlorine. It is packaged in liquid form in glass, rubber, or plastic containers ranging in size from one (1) quart bottles to five (5) gallon carboys. It may also be purchased in bulk for delivery by tank truck.

The chlorine-water solution is prepared by adding hypochlorite to water. Product deterioration must be reckoned with in computing the quantity of sodium hypochlorite required for the desired concentration.

2.4.2.3 Application: The hypochlorite solutions shall be applied to the water main with a gasoline or electrically powered chemical feed pump designed for feeding chlorine solutions. For small applications, the solutions may be fed with a hand pump, for example, a hydraulic test pump. Feed lines shall be of such material and strength as to withstand safely the maximum pressures that may be created by the pumps. All connections shall be checked for tightness before the hypochlorite solution is applied to the main.

2.5 METHODS OF CHLORINE APPLICATION

2.5.1 Continuous Feed Method: This method is suitable for general application.

2.5.1.1 Water from the existing distribution system or other approved sources of supply shall be made to flow at a constant, measured rate into the newly-laid pipe line. The water shall receive a dose of chlorine, also fed at a constant, measured rate. The two rates shall be proportioned so that the chlorine concentration in the water in the pipe is maintained at a minimum of 50 mg/L available chlorine. To assure that this concentration is maintained, the chlorine residual should be measured at regular intervals in accordance with the procedures described in the current edition of Standard Methods and AWWA M12—Simplified Procedures for Water Examination.

NOTE: In the absence of a meter, the rate may be determined either by placing a pitot gauge at the discharge or by measuring the time to fill a container of known volume.

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TABLE K-3 gives the amount of chlorine residual required for each one hundred (100) feet of pipe of various diameters. Solutions of one (1%) percent chlorine may be prepared with sodium hypochlorite or calcium hypochlorite. The latter solution requires approximately one pound (1 lb.) of calcium hypochlorite in eight and five tenths (8.5) gallons of water.

**Table K-3
 Chlorine Required to Produce 50 mg/L Concentration
 in 100 Ft. Of Pipe (By Diameter)**

Pipe Size (in)	100 Percent Chlorine (lb)	1 Percent Chlorine Solutions (gal)
3	0.016	0.20
4	0.027	0.33
6	0.061	0.73
8	0.108	1.30
10	0.170	2.04
12	0.240	2.88

2.5.1.2 During the application of the chlorine, valves shall be manipulated to prevent the treatment dosage from flowing back into the line supplying the water. Chlorine application shall not cease until the entire main is filled with the chlorine solution. The chlorinated water shall be retained in the main for at least twenty-four (24) hours during which time all valves and hydrants in the section treated shall be operated in order to disinfect the appurtenances. At the end of this twenty-four (24) hour period, the treated water shall contain no less than 25 mg/L chlorine throughout the length of the main.

2.5.2 Slug Method: This method is suitable for use with mains of large diameter for which, because of the volumes of water involved, the continuous feed method is not practical.

2.5.2.1 Water from the existing distribution system or other approved source of supply shall be made to flow at a constant, measured rate (see section 2.5.1.1) into the newly laid pipe line. The water shall receive a dose of chlorine also fed at a constant, measured rate. The two rates shall be proportioned so that the concentration in the water entering the pipe line is maintained at no less than 300 mg/L. The chlorine shall be applied continuously and for a sufficient period to develop a solid column or "slug" of chlorinated water that will, as it passes along the line, expose all interior surfaces to a concentration of at least 300 mg/L for at least three (3) hours. The application shall be checked at a tap near the upstream end of the line by chlorine residual measurements.

2.5.2.2 As the chlorinated water flows past tees and crosses, related valves and hydrants shall be operated as to disinfect appurtenances.

2.6 FINAL FLUSHING

After the applicable retention period, the heavily chlorinated water shall be flushed from the main until the chlorine concentration in the water leaving the main is no higher than that generally prevailing in the system, or less than 1 mg/L. Chlorine residual determination shall be made to ascertain that the heavily chlorinated water has been removed from the pipe line. Water used in the first flushing attempt will be paid for by the Owner, subsequent flushing attempts will require the Contractor to pay for the water used.

2.7 BACTERIOLOGIC TESTS

2.7.1 After final flushing, and before the water main is placed in service, a sample or samples shall be collected from the end of the line and tested for bacteriologic quality and shall show the absence of coliform organisms. If the number and frequency of samples is not prescribed by the public health authority having jurisdiction, at least one sample shall be collected from chlorinated supplies where a chlorine residual is maintained throughout the new main. From unchlorinated supplies at least two samples shall be collected at least twenty-four (24) hours apart.

2.7.2 Samples for bacteriologic analysis shall be collected in sterile bottles treated with sodium thiosulphate. No hose or fire hydrant shall be used in collection of samples. A suggested sampling tap consists of a standard corporation cock installed in the main with a copper tube gooseneck assembly. After samples have been collected, the gooseneck assembly may be removed, and retained for future use.

2.8 REPETITION OF PROCEDURE

If the initial disinfection fails to produce satisfactory samples, disinfection shall be repeated until satisfactory samples have been obtained. The tablet method cannot be used in these subsequent disinfections. When the sample tests indicate that disinfection has been effective, the main may be placed in service.

2.9 PROCEDURE AFTER CUTTING INTO OR REPAIRING EXISTING MAINS

The procedures outlined in this Section apply primarily when mains are wholly or partially dewatered. Leaks or breaks that are repaired with clamping devices while the mains remain full of water under pressure present little danger of contamination and require no disinfection.

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2.9.1 Trench "Treatment": When an old line is opened, either by accident or by design, the excavation will likely be wet and may be badly contaminated from nearby sewers. Liberal quantities of hypochlorite applied to open trench areas will lessen the danger from such pollution. Tablets have the advantage in such a situation because they dissolve slowly and continue to release hypochlorite as water is pumped from the excavation.

2.9.2 Main Disinfection: The following procedure is considered as a minimum that may be used.

2.9.2.1 Swabbing With Hypochlorite Solution: The interior of all pipe and fittings used in making the repair (particularly couplings and tapping sleeves) shall be swabbed with a five (5%) percent hypochlorite solution before they are installed.

2.9.2.2 Flushing: Thorough flushing is the most practical means of removing contamination introduced during repairs. If valving and hydrant locations permit, flushing from both directions is recommended. Flushing shall be started as soon as the repairs are completed and continued until discolored water is eliminated.

2.9.2.3 Slug Method: Where practicable, in addition to the procedures of section 2.9.2.1, a section of main in which the break is located shall be isolated, all service connections shut off, and the section flushed and chlorinated as described in section 2.5.2, except that the dose may be increased to as much as 500 mg/L, and the contact time reduced to as little as one-half (1/2) hour. After chlorination, flushing shall be resumed and continued until discolored water is eliminated.

2.9.3 Sampling: Bacteriologic samples shall be taken after repairs to provide a record by which the effectiveness of the procedures used can be determined. If the direction of flow is unknown, samples shall be taken on each side of the main break.

3.0 PAYMENT

No separate payment shall be made for testing and sterilization of water lines. Items described in this section shall be incidental to the cost of installing the water line.

SECTION 15104

METERS AND SERVICES

1.0 GENERAL

The Contractor shall furnish all labor, tools, equipment, and materials necessary for installing meter services as shown on the plans and as directed.

2.0 MATERIALS

2.1 CORPORATION STOPS, SETTERS AND SADDLES

The corporation stops shall be equal to the Mueller 300 Ball Valve Corporation Stop. The meter setter shall be equal to the Mueller B2404-2 5/8x3/4x7 with 1" H14222 Multi-Purpose end connections. A tandem coppersetter to accommodate a pressure reducer and meter shall be used where specified. Saddles shall be equal to Mueller H13000 Series Bronze Saddle x 1" cc.

2.2 SERVICE LINES

Unless indicated otherwise on the plans, all Service Lines shall be 1" Type K copper tubing using a corporation stop in accordance with the Standard Details. Service pipe shall meet all AWWA Specifications with a minimum pressure rating of 200 psi. Polyethylene service tubing shall be ultra high density type equal to DRISCOPIPE Series 5100, CTS.

3.0 EXECUTION

3.1 RECONNECT METER SERVICE

This item covers meter settings, which can remain in place, but need to be connected to a new water line. The Contractor shall supply all items to connect the meter to the new line. The Contractor shall close the corporation stop at the existing line if the existing line is not abandoned.

3.2 SERVICE LINES

Service lines shall be installed from the water main to the reconnection with existing service line. Any service tubing installed on the customer's side of the meter shall be performed by a licensed plumber.

3.2.1 Service Lines Crossing a Road. Services on the opposite side of the road shall be provided as stated above. In general, all pipe shall be jacked beneath paved or blacktopped city streets or county roads, unless solid rock prevents

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using this method, in which case the open trench method may be used. The open trench method generally will be used on all unpaved city streets, county roads and private driveways. In general, blacktopped and concrete private driveways shall also be jacked under. In all cases where lines are under traffic, a minimum cover of forty-two inches (42") shall be provided. All backfill shall be compacted by air tampers in layers no greater than six inches (6") deep. In cases of open trench construction, crushed stone, blacktop and concrete paving shall be replaced according to the Standard Drawings. All service lines crossing a road shall be cased with PVC casing pipe. Open trench construction will not be permitted through state or federal highways.

4.0 PAYMENT

Service Tubing shall be paid at the Unit Price Bid for each foot of service tubing installed and shall include all labor, materials, equipment incidentals, etc. No extra shall be paid for service tubing bored, jacked and/or encased.

The Unit Price Bid for Reconnect Meter Service shall constitute full compensation for all labor, materials, equipment, etc. required in reconnecting the existing meter setting, to the new water line including locating and shutting off corporation stops for any existing meter services when necessary.

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SECTION 15110

INSTALLATION OF WATER LINE ACCESSORIES

1.0 GENERAL

The Contractor is to supply and install all valves, hydrants, blowoffs and other equipment at the locations shown on the plans in complete accordance with these specifications.

2.0 MATERIALS

2.1 Fire Hydrant. All fire hydrants shall have a six inch bell connection, shall have two hose outlets and one pumper connection, shall be designed for 250 pounds working pressure or 300 pounds hydrostatic pressure and shall conform to the latest specifications of the AWWA C502. All working parts shall be bronze. Both hose outlets shall be 2 1/2 inch with NST threads and the pumper outlet shall be 4 1/2 inch with NST thread. Hydrants shall be designed so that no water will be lost when they are broken off and so they can be repaired with a repair kit. Design, materials, and workmanship shall be similar and equal to the latest stock pattern ordinarily produced by the manufacturer. Length of barrel shall be such to provide a 3 1/2 foot bury depth. Working drawings and full description of hydrants shall be submitted to the Engineer before ordering. All hydrants shall have a 5 1/4 inch valve opening against pressure. The hydrants shall be equal to Mueller Model A423 or equal. All hydrant extensions will be the responsibility of the Contractor.

2.1.1 Paint. Hydrants shall be painted one coat of red paint and two finish coats of approved paint of color directed by the Engineer. All hydrants are to receive the final coat of paint after field installation.

2.2 GATE VALVE

All gate valves shall be the resilient seat-type, iron body, non-rising stem, fully bronze mounted, and suitable for working water pressures of not less than 200 psi for installations on PVC pipe and not less than 250 psi for installations on DI pipe. Valves shall be of standard manufacture and of the highest quality both of materials and workmanship and shall conform to the latest revision of AWWA Specification C-509. Valves shall be furnished with flanged connections for exposed piping and push-on or mechanical joint connections for buried service. Gate valves shall have a clear water way equal to the nominal diameter, and shall be opened by turning counter-clockwise. The operating nut or wheel shall have an arrow cast in the middle, indicating the direction of opening. Each valve shall have the maker's initials, pressure rating and the year in which

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manufactured, cast on the body. Prior to shipment from the factory each valve shall be tested by hydraulic pressure of at least 300 pounds per square inch.

2.3 BUTTERFLY VALVE

All butterfly valves shall be of tight closing, resilient seat type with seats securely fastened to valve body. No metal-to-metal seating surfaces will be permitted. Valves shall be bubble tight at the rated pressure in either direction and shall be satisfactory for applications involving throttling service and/or frequent operation and for applications involving valve operation after long periods of inactivity.

Valves shall be suitable for working water pressure of 200 psi unless otherwise specified or noted on the plans.

Cast Markings: valve size, manufacturer's name, class, direction of opening, and year of casting.

The valve discs shall rotate 90° from the full open position to the tight shut position.

The valve discs shall be cast/ductile iron with a welded nickel edge free of ribbing or protrusions which may collect solids. The disc-to-shaft connections shall be via polished 316 SS pins. Sprayed or plated discs are not acceptable. All disc seating edges shall be smooth and polished.

The shafts shall be turned, ground and polished, and be of one-piece construction. The shafts shall also be constructed from stainless steel with diameters per AWWA C504, Class 75B.

The shaft seals shall be of Hycar or Hypalon and shall be provided to prevent leakage into the bearing chest areas.

The valve bearings shall be Teflon coated, self-lubricating, stainless steel design and construction.

The valve seats shall be Neoprene or Hypalon and shall be simultaneously molded, vulcanized and bonded to the valve body or a rigid reinforcing ring.

2.3.1 Operators. The valve operating mechanisms shall be for counterclockwise opening. There shall be no external moving parts on valve or operator except the operator input shaft. Input shaft is to be operated by a 2-inch square operating nut. Maximum required input force on the operator shaft to open and close the valve shall be 40 pounds. The total number of turns applied to the operating nut required to completely open the valve from a completely closed position shall be not less than twice the nominal valve diameter. An extension stem shall be furnished if required to bring the operating nut within 3

15110-2

1/2 feet of finished grade. Extension stems shall be securely fastened to the valve stem. A stainless steel collar, 6-inches high, shall be welded to the operating gear box housing centered on the operating nut to hold the valve box in place and seal it against dirt. The diameter of the collar shall be such that it will accept the valve box.

The valves shall be manufactured by M & H, Dresser, Dezurik or approved equal.

2.4 AIR RELEASE VALVES

A valve designed to allow exhaust of small pockets of air from the water main while in use shall be installed where shown on the plans or where directed by the Engineer. The air release valve shall have a 3/4" iron pipe thread inlet, cast iron body construction, bronze trim, with all internal parts of stainless steel. The valve shall have a minimum orifice size of 3/32". Valves shall be suitable for a working water pressure of 150 PSIG. The air release valve shall be mounted on 3/4" bronze riser pipe. The riser pipe shall be connected to the water main by use of a service clamp and a corporation stop. The riser shall also have a 3/4" bronze ball valve with stainless steel handle and be suitable for a 150 PSIG working water pressure. Air release valves shall be as manufactured by APCO Models 65 or 50, or approved equal.

Air release valves will be installed in the same type of box used for meter installation. The box must allow for adequate cover over the pipe at the installation.

In locations where the air release valve can not be placed directly above the water main, such as roadway drainage ditches, then a section of service tubing shall be used to locate the valve as directed by the Engineer. The service tubing shall be installed with a continuous upward slope to eliminate air pockets. Additional payment for the tubing shall be made based on the linear foot bid for service tubing. Tubing shall also be rodded through the box to support the valve. No additional payment will be made for the tubing supports.

2.5 VALVE BOXES

All valves (gate, air release, check, etc.) installed underground shall be installed in an approved valve box. Each gate valve shall be installed in a vertical position with a valve box. Valve boxes shall be of a cast iron, two or three-piece, slip-type consisting of a base, a center section and a top section with a cover marked "water". Where valve box is constructed in a paved area the box shall be a screw type box. The entire assembly shall be adjustable for elevation and shall be set vertically and be properly adjusted so that the cover will be in the same plane as the finished street surface (no more than 1/2" above ground in yards or pastures or 2" in unsodded areas). The assembly must provide for the required cover over the pipe at the installation site and shall rest on

15110-3

concrete pads as shown in the Standard Details. The Contractor shall furnish two (2) valve wrenches for the project.

2.6 BLOW-OFF VALVES

Blow-off valves shall be installed in accordance with the details and the specifications at locations shown on the plans and in other locations as directed by the Engineer. The Contractor should refer to the Standard Details for blow-off installation.

The blowoff pipe from the main to the flush valve shall be connected to the main by means of a tee. Do not use a corporation stop for this connection. The gate valve for the blow-off connection shall be a resilient seat gate valves in conformance with AWWA C509.

2.7 TAPPING SLEEVE AND VALVE

Tapping sleeves shall be as manufactured by Ford Meter Box Company, Inc., Model FTSC, or approved equal, and shall be rated for a minimum working water pressure of 150 psi. Contractor shall ascertain the type and size of pipe to which the connection is to be made prior to selection. The valve shall be as specified under section 2.2 or 2.3 of this specification.

2.8 BACKFLOW PREVENTER

The Double Check Type Backflow Preventer shall be ASSE Listed 1013, rated to 180°F and supplied with full port ball valves. The main body and access covers shall be bronze (ASTM B 584). The replaceable seats shall be NSF® Listed Noryl™. The rubber check discs shall be silicone. The check valves shall be at 45° angles to the flow and accessible for maintenance, without removing the device from the line. Each check shall have separate access covers and testcocks, accessible from outside of the device. Testcocks shall be protected from debris by a tethered cap. The Double Check Type Backflow Preventer shall be a two-inch (2") Wilkins Model 975 XL RPZ. **The Contractor shall use one to connect to lines for pressure testing. After completing the project, the backflow preventer shall be given to Mountain Water District.**

3.0 EXECUTION

3.1 FIRE HYDRANTS

Under this Item, the Contractor shall provide all labor, tools, equipment and materials to furnish and install hydrants with gate valves as shown on the drawing and as directed by the Engineer.

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Hydrants shall be set at such elevations that the connecting pipe will have the same depth of cover as the distribution main. The back of the hydrant opposite the pipe connection shall be firmly wedged against one and one-half square feet or enough of the vertical face of the trench with concrete to prevent the hydrants from blowing off the line. In addition, all fittings, valves and hydrants shall be joined by the use of all-thread rods, nuts and "DUC-LUG" offsets as shown on the attached drawing to prevent movement of the hydrant. If the character of the soil is such, in the opinion of the Engineer, that the hydrant cannot be securely wedged, bridle rod collars shall be used which shall be not less than three-fourths inch stock and shall be protected by a coat of acid resistant paint.

Not less than seven cubic feet of No. 9 stone shall be placed around the base of the hydrant to insure drainage. Before the No. 9 stone is placed and before it is backfilled the drain hole shall be inspected and thoroughly cleaned if necessary. The backfill around the hydrant shall be thoroughly compacted to the grade line in a manner satisfactory to the Engineer. Hydrants shall have the interior cleaned of all foreign matter before installation. All hydrants will be installed with the pumper connection facing the main access road or as directed by the Engineer.

Stuffing boxes shall be tightened and the hydrants shall be inspected in open and closed position to see that all parts are in working condition.

3.2 VALVES

Underground valves shall be nut operated, unless otherwise shown on the plans. Valve supplier shall furnish two standard stem iron wrenches for turning nut operated valves. All underground valves which have nuts deeper than 30 inches below the top of valve box shall have extended stems with nuts located within 2 feet of valve box cap. Buried service valves shall have either epoxy-coated or tar-coated exteriors.

Exposed service valves shall be equipped with an AWWA approved handwheel operator. The exterior of exposed valves shall be epoxy-coated, tar-coated, or as specified on the Drawings.

3.3 TIE IN CONNECTIONS

All tie in connections shall include a tapping sleeve and valve per Section 2.7 of this specification and any fittings suitable to make the required connection. The fittings shall be mechanical joint, ductile iron type as specified in other sections.

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4.0 PAYMENT

Payment of the unit price bid for fire hydrants shall constitute full compensation for furnishing and installing the fire hydrants with associated tees, gate valve and incidental items as specified.

Payment for gate valves, air release valves, check valves and other special valves installed underground shall include all work necessary for a complete installation and shall include all valve stem boxes or other valve boxes and box covers. Payment will be made at the unit price bid for the type and size of valve installation.

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KENTUCKY TRANSPORTATION CABINET
COMMUNICATING ALL PROMISES (CAP)
ACTIVE

07 OCT 2011

Item No.	12 - 1089			Project Mgr.	JOHN MICHAEL JOHNSON	
			County	PIKE	Route	KY-199
CAP #	Date of Promise	Promise made to:	Location of Promise			
1	23-JUL-09	Dave Skeens	Utilities			
CAP Description						
PLEASE CONTACT RANDY ELKINS, CORROSION TECHNICIAN, WHEN THE KY 199 WORK IS ABOUT TO COMMENCE. HE WOULD LIKE TO TAKE THE OPPORTUNITY TO CONDUCTION ADDITIONAL MILLIVOLT SURVEYS ON COLUMBIA'S KA PIPELINE AFTER THE ABANDONED RAILROAD BED HAS BEEN STRIPPED TO SUBGRADE AND BEFORE ROAD BASE IS INSTALLED. HIS CONTACT INFORMATION IS 606-478-6316 (OFFICE) OR 606-794-0757 (CELL)						

N O T I C E

DIVISION OF WATER

WATER QUALITY CERTIFICATION

WQC #2010-033-1

PROJECT: Pike County (KY-199), KYTC Item #12-1089.00
Replace Bridge and Approaches on KY-199 over Pond Creek

The Division of Water has 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

May 7, 2010

Ronald B. Rigney, II
Kentucky Transportation Cabinet (KYTC)
Div. of Environmental Analysis, 5th Floor West
200 Mero Street
Frankfort, KY 40622

Re: Water Quality Certification #2010-033-1
KY 199 - Pike Co
USACE Public Notice No.: LRL-2009-940-pjl
AI No.: 102638, Activity ID: APE20090001
Pond Creek
Pike County, Kentucky

Dear Mr. Rigney:

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 attached conditions are met.

All future correspondence on this project must reference **AI No. 102638**. **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 Jesse Robinson 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:JR

Attachment

cc: Pam Loeffler, USACE: Louisville (via e-mail)
John Bottom, THE Engineers, Inc. (via e-mail)

Water Quality Certification
 KY 199 Pike County KYTC
 Facility Requirements
 Permit Number: WQC#2010-033-1
 Activity ID No.: APE20090001

STRC000000002 (KY 199) Replacement of Bridges over Pond Creek:

Submittal/Action Requirements:

Condition No.	Condition
S-1	The Kentucky Transportation Cabinet shall submit notification: Due prior to construction commencement to the Water Quality Certification Section of the Kentucky Division of Water. This notification shall contain proof-of-payment to the Kentucky Department of Fish and Wildlife Stream Restoration Fund for an amount not less than \$80,820. [Clean Water Act]

Narrative Requirements:

Condition No.	Condition
T-1	The work approved by this certification shall be limited to: - 449 linear feet of impact to perennial Pond Creek as a result of bridge replacement and channel change; - 50 linear feet of impact associated with gabion wall installation; - 222 linear feet of impact associated with soldier pile wall impacts; - 90 linear feet of impact to the left descending bank and 140 linear feet of impact to the right descending bank associated with construction of a single clear span bridge; - 23 linear feet of impact associated with extending an existing culvert. [Clean Water Act]
T-2	All work performed under this certification shall adhere to the design and specifications set forth in the application for permit to construct across or along a stream and / or water quality certification, received September 2, 2009. [Clean Water Act]
T-3	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-4	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-5	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]

Water Quality Certification
KY 199 Pike County KYTC
Facility Requirements
Permit Number: WQC#2010-033-1
Activity ID No.: APE20090001

Page 2 of 2

STRC0000000002 (continued):

Narrative Requirements:

Condition No.	Condition
T-6	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 Barry Elmore. 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

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

ROBERT D. VANCE
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: Allen Ingram**
- **Projects that involve filling in the floodplain will require a floodplain construction permit from the Water Resources Branch.
Contact: Barry Elmore**
- **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: 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 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

**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS**

**LETTER OF PERMISSION (LOP)
Corps ID #2009-940-pjl**

PROJECT: Pike County (KY-199), KYTC Item #12-1089.00
Replace Bridge and Approaches on KY-199 over Pond Creek

The Section 404 activities for this project have been permitted under the authority of the Department of the Army Letter of Permission Permit. In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this LOP Permit 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 Corps of Engineers. A copy of any request to the Corps of Engineers 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.

Summary of Impacts

12-1089.00

2. Right Sta. 48+68 to Rt. Sta. 53+02 – Construct a gabion wall and soldier pile retaining wall along KY199 and Pond Creek. The gabion wall impacts **50'** of the **left descending bank**, the soldier pile wall impacts **222'** of the **left descending bank (length includes replacing 50' of existing retaining wall)**, of a **perennial stream (Reach 2)**. The retaining walls average 0.4 CY per linear foot of fill/obstruction below the ordinary high water mark (conservatively estimated at a depth of approximately 5 feet). The impact to waters is **0.018 acres (at OHW)**. The drainage area affected is **8.47 square miles**. The site is located near N37-33-38, W82-15-36. (Nationwide Permit No. 13)

3. Sta. 53+77 - Replace an existing bridge with a single clear span bridge, with 80' of retaining wall on the right descending bank; on Pond Creek. This impacts **90'** of the **left descending bank**, and **140'** of the **right descending bank** of a **perennial stream (Reach 2)**. The impact to waters is **0.043 acres** (0.022 acres along left bank, and 0.021 acres along the right bank). The drainage area affected is **8.47 square miles**. The site is located near N37-33-39, W82-15-36. (Nationwide Permit No. 14)

4. Sta. 54+51 – Construct a culvert extension, 110' in length, with 7' of outlet channel, on an existing culvert for an **intermittent** tributary (Reach 3) to Pond Creek. This replaces the last **23' of existing pipe**, which outlets at a wall along Pond Creek. The extension relocates the outlet. The impact to waters is **0.003 acres (23' of culvert)**. The drainage area affected is **134 acres**. The site is located near N37-33-39, W82-15-37. (Nationwide Permit No. 14)



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P.O. BOX 59
LOUISVILLE, KENTUCKY 40201-0059
<http://rl.usace.army.mil/>
August 6, 2010

Operations Division
Regulatory Branch (South)
ID No. LRL-2009-940-pjl

Mr. Dave Harmon
Kentucky Transportation Cabinet
Division of Environmental Analysis
200 Mero Street
Frankfort, Kentucky 40622

Dear Mr. Harmon:

This is in regard to your application for a Department of the Army (DA) permit dated August 26, 2009, concerning a plan to replace two bridges carrying KY-199 over Pond Creek in Pike County, Kentucky (KYTC Item Nos. 12-1076 and 12-1089). We have reviewed your application and have made the following determinations: the work is minor in nature, will not have a significant impact on the environment, and should encounter no opposition.

Based on these determinations, your proposed work satisfies the Letter of Permission criteria, as specified in our regulations and the procedures outlined in the LOP No. 200600250-pgj issued on October 3, 2007. Therefore, you are authorized, in accordance with 33 USC 404 of the Clean Water Act (CWA), to discharge dredged and fill materials in waters of the United States associated with filling, channel alignment, grading and/or culvert placement at 3 locations involving Pond Creek and its tributary. This permission is granted with the following conditions:

- 1) The project shall be constructed in accordance with plans included in the August 26, 2009 application for Kentucky Transportation Cabinet, Item Nos. 12-1076 and 12-1089 for Department of the Army Permit.
- 2) The permittee 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) The permittee shall pay an in-lieu mitigation fee payment of \$80,820.00 to the Kentucky Department of Fish and Wildlife Resources for the Kentucky Stream and Wetland Mitigation Trust Fund. Written proof of payment must be provided to the U.S. Army Corps of Engineers, Louisville District prior to conducting work in "waters of the United States".

- 4) The time limit for completing the work authorized ends five years from the date of this letter. 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.
- 5) Upon completion of construction you are to notify the District Engineer. The enclosed Completion Report form must be completed and returned to this office.
- 6) 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 this decision, 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 Great Lakes and Ohio River Division Office at the following address:

Ms. Pauline D. Thorndike
U.S. Army Engineer Division,
Great Lakes and Ohio River
550 Main Street - Room 10032
Cincinnati, Ohio 45202-3222
(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 October 5, 2010. 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:




Pam Loeffler
Regulatory Specialist
Regulatory Branch

Enclosures

(I accept the conditions of this authorization):



Kentucky Transportation Cabinet



Date

GENERAL CONDITIONS

1. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

2. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal 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.

3. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this authorization.

4. 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 in accordance with the terms and conditions of the authorization.

Further Information:

1. Limits of this authorization.

a. This authorization does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This authorization does not grant any property rights or exclusive privileges.

c. This authorization does not authorize any injury to the property or rights of others.

d. This authorization does not allow or sanction interference with any existing or proposed Federal project.

2. Limits of Federal Liability. In issuing this authorization, the Federal Government does not assume any liability for the following:

a. Damages to authorized project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the authorized project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the authorized activity.
- d. Design or construction deficiencies associated with the authorized work.
- e. Damage claims associated with any future modification, suspension, or revocation of this authorization.

3. Reliance on Applicant's Data: The determination of this office that issuance of this authorization is not contrary to the public interest was made in reliance on the information you provided.

4. Reevaluation of Permit Decision. This office may reevaluate its decision on this authorization at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this authorization.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 3 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5.

The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your authorization and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

5. Good Faith Transfer. If you sell the property associated with this authorization, you must have the new owner submit a statement accepting the transfer and agreement with the terms and conditions.

ADDRESS FOR COORDINATING AGENCIES

Ms. Stephanie Fulton
Wetlands & Marine Regulatory Section
U.S. Environmental Protection Agency
Region IV
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303

Mr. Lee Andrews
U.S. Fish & Wildlife Service
JC Watts Federal Building, Room 265
330 West Broadway
Frankfort, Kentucky 40601

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

Dr. Jonathan W. Gassett
Commissioner
Department of Fish and Wildlife Resources
#1 Game Farm Road
Frankfort, Kentucky 40601

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

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to the *Standard Specifications for Road and Bridge Construction, Edition of 2004*, and *Standard Drawings, Edition of 2000* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2008* and *Standard Drawings, Edition of 2003 with the 2008 Revision*.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
(Effective with the July 15, 2011 Letting)

<p>SUBSECTION: REVISION:</p>	<p>101.02 Abbreviations. Insert the following abbreviation and text into the section:</p> <p>KEPSC Kentucky Erosion Prevention and Sediment Control</p>
<p>SUBSECTION: REVISION:</p>	<p>101.03 Definitions. Replace the definition for Specifications – <i>Special Provisions</i> with the following:</p> <p>Additions and revisions to the Standard and Supplemental Specifications covering conditions peculiar to an individual project.</p>
<p>SUBSECTION: REVISION:</p>	<p>102.03 Contents of the Bid Proposal Form. Replace the first sentence of the first paragraph with the following: The Bid Proposal form will be available on the Department internet website (http://transportation.ky.gov/contract/).</p> <p>Delete the second paragraph.</p> <p>Delete the last paragraph.</p>
<p>SUBSECTION: REVISION:</p>	<p>102.04 Issuance of Bid Proposal Form. Replace Heading with the following:</p> <p>102.04 Bidder Registration.</p> <p>Replace the first sentence of the first paragraph with the following:</p> <p>The Department reserves the right to disqualify or refuse to place a bidder on the eligible bidder’s list for a project for any of the following reasons:</p> <p>Replace the last sentence of the subsection with the following:</p> <p>The Department will resume placing the bidder on the eligible bidder’s list for projects after the bidder improves his operations to the satisfaction of the State Highway Engineer.</p>
<p>SUBSECTION: REVISION:</p>	<p>102.06 Examination of Plans, Specifications, Special Provisions, Special Notes, and Site of Work. Replace the first paragraph with the following:</p> <p>Examine the site of the proposed work, the Bid Proposal, Plans, specifications, contract forms, and bulletins and addendums posted to the Department’s website and the Bid Express Bidding Service Website before submitting the Bid Proposal. The Department considers the submission of a Bid Proposal prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the Contract.</p>
<p>SUBSECTION: REVISION:</p>	<p>102.07.01 General. Replace the first sentence with the following:</p> <p>Submit the Bid Proposal on forms furnished on the Bid Express Bidding Service website (www.bidx.com).</p> <p>Replace the first sentence of the third paragraph with the following:</p> <p>Bid proposals submitted shall use an eligible Digital ID issued by Bid Express.</p>

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<p>SUBSECTION: REVISION:</p>	<p>102.07.02 Computer Bidding. Replace the first paragraph with the following:</p> <p>Subsequent to registering for a specific project, use the Department's Expedite Bidding Program on the internet website of the Department of Highways, Division of Construction Procurement (http://transportation.ky.gov/contract/). Download the bid file from the Bid Express Bidding Service Website to prepare a Bid Proposal for submission to the Department. Submit Bid Proposal electronically through Bid Express Bidding Service.</p> <p>Delete the second and third paragraph.</p>
<p>SUBSECTION: REVISION:</p>	<p>102.08 Irregular Bid Proposals. Delete the following from the first paragraph: 4) fails to submit a disk created from the Highway Bid Program.</p> <p>Replace the second paragraph with the following: The Department will consider Bid Proposals irregular and may reject them for the following reasons:</p> <ol style="list-style-type: none"> 1) when there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the Bid Proposal incomplete, indefinite, or ambiguous as to its meaning; or 2) when the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a Contract pursuant to an award; or 3) any failure to comply with the provisions of Subsection 102.07; or 4) Bid Proposals in which the Department determines that the prices are unbalanced; or when the sum of the total amount of the Bid Proposal under consideration exceeds the bidder's Current Capacity Rating.
<p>SUBSECTION: REVISION:</p>	<p>102.09 Bid Proposal Guaranty. Insert the following after the first sentence:</p> <p>Bid Proposals must have a bid proposal guaranty in the amount indicated in the bid proposal form accompany the submittal. A guaranty in the form of a paper bid bond, cashier's check, or certified check in an amount no less than the amount indicated on the submitted electronic bid is required when the electronic bid bond was not utilized with the Bid Express Bidding Service. Paper bid bonds must be delivered to the Division of Construction Procurement prior to the time of the letting.</p>
<p>SUBSECTION: REVISION:</p>	<p>102.10 Delivery of Bid Proposals. Replace paragraph with the following:</p> <p>Submit all Bid Proposals prior to the time specified in the Notice to Contractors. All bids shall be submitted electronically using Bid Express Bidding Services. Electronically submitted bids must be done in accordance with the requirements of the Bid Express Bidding Service.</p>
<p>SUBSECTION: REVISION:</p>	<p>102.11 Withdrawal or Revision of Bid Proposals. Replace the paragraph with the following:</p> <p>Bid Proposals can be withdrawn in accordance the requirements of the Bid Express Bidding Service prior to the time of the Letting.</p>

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<p>SUBSECTION: REVISION:</p>	<p>102.13 Public Opening of Bid Proposals. Replace Heading with the following: 102.13 Public Announcement of Bid Proposals.</p> <p>Replace the paragraph with the following: The Department will publicly announce all Bid Proposals at the time indicated in the Notice to Contractors.</p>
<p>SUBSECTION: REVISION:</p>	<p>103.02 Award of Contract. Replace the first sentence of the third paragraph with the following:</p> <p>The Department will normally award the Contract within 10 working days after the date of receiving Bid Proposals unless the Department deems it best to hold the Bid Proposals of any or all bidders for a period not to exceed 60 calendar days for final disposition of award.</p>
<p>SUBSECTION: REVISION:</p>	<p>105.02 Plans and Working Drawings. Insert the following after the fourth paragraph:</p> <p>Submit electrical shop drawings, design data, and descriptive literature for materials in electronic format to the Division of Traffic Operations for approval. Drawings and literature shall be submitted for lighting and signal components. Notify the Engineer when submitting information to the Division of Traffic Operations. Do not begin work until shop drawings are approved.</p> <p>Submit shop drawings for traffic counting equipment and materials in electronic format to the Engineer or the Division of Planning. Notify the Engineer when submitting information directly to the Division of Planning. Do not begin work until shop drawings are reviewed and approved.</p>
<p>SUBSECTION: REVISION:</p>	<p>105.03 Record Plans. Replace the section with the following:</p> <p>Record Plans are those reproductions of the original Plans on which the accepted Bid Proposal was based and, and signed by a duly authorized representative of the Department. The Department will make these plans available for inspection in the Central Office at least 24 hours prior to the time of opening bids and up to the time of letting of a project or projects. The quantities appearing on the Record Plans are the same as those on which Bid Proposals are received. The Department will use these Record Plans as the controlling plans in the prosecution of the Contract. The Department will not make any changes on Record Plans subsequent to their issue unless done so by an approved contract modification. The Department will make 2 sets of Record Plans for each project, and will maintain one on file in the Central Office and one of file in the District Office. The Department will furnish the Contractor with the following: 1 full size, 2 half size and an electronic file copy of the Record Plans at the Pre-Construction conference.</p>

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<p>SUBSECTION: REVISION:</p>	<p>105.12 Final Inspection and Acceptance of Work. Insert the following paragraphs after the first paragraph:</p> <p>Notify the Engineer when all electrical items are complete. A notice of the electrical work completion shall be made in writing to the Contractor. Electrical items will be inspected when the electrical work is complete and are not subject to waiting until the project as a whole has been completed. The Engineer will notify the Division of Traffic Operations within 3 days that all electrical items are complete and ready for a final inspection. A final inspection will be completed within 90 days after the Engineer notifies the Division of Traffic Operations of the electrical work completion.</p> <p>Energize all electrical items prior to notifying the Engineer that all electrical items are complete. Electrical items must remain operational until the Division of Traffic Operations has inspected and accepted the electrical portion of the project. Payment for the electrical service is the responsibility of the Contractor from the time the electrical items are energized until the Division of Traffic Operations has accepted the work.</p> <p>Complete all corrective work within 90 calendar days of receiving the original electrical inspection report. Notify the Engineer when all corrective work is complete. The Engineer will notify the Division of Traffic Operations that the corrective work has been completed and the project is ready for a follow-up inspection. Upon re-inspection, if additional corrective work is required, complete within the same 90 calendar day allowance. The Department will not include time between completion of the corrective work and the follow up electrical inspection(s). The 90 calendar day allowance is cumulative regardless of the number of follow-up electrical inspections required.</p> <p>The Department will assume responsibility for the electrical service on a project once the Division of Traffic Operations gives final acceptance of the electrical items on the project. The Department will also assume routine maintenance of those items. Any damage done to accepted electrical work items by other Contractors shall be the responsibility of the Prime Contractor. The Department will not be responsible for repairing damage done by other contractors during the construction of the remaining project.</p> <p>Failure to complete the electrical corrective work within the 90 calendar day allowance will result in penalties assessed to the project. Penalties will be assessed at ½ the rate of liquidated damages established for the contract.</p> <p>Replace the following in the second sentence of the second paragraph:</p> <p>Replace Section 213 with Section 212.</p> <p>Delete the fifth paragraph from the section.</p>
<p>SUBSECTION: REVISION:</p>	<p>105.13 Claim Resolution Process. Replace the last sentence of the 3. Bullet with the following:</p> <p>If the Contractor did not submit an as-bid schedule at the Pre-Construction Meeting or a written narrative in accordance with Subsection 108.02, the Cabinet will not consider the claim for delay.</p> <p>Delete the last paragraph from the section.</p>

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<p>SUBSECTION: REVISION:</p>	<p>106.04 Buy America Requirement. Replace the section with the following:</p> <p>106.04 Buy America Requirement. Follow the “Buy America” provisions as required by Title 23 Code of Federal Regulations § 635.410. Except as expressly provided herein all manufacturing processes of steel or iron materials including but not limited to structural steel, guardrail materials, corrugated steel, culvert pipe, structural plate, prestressing strands, and steel reinforcing bars shall occur in the United States of America, including the application of:</p> <ul style="list-style-type: none"> • Coating, • Galvanizing, • Painting, and • Other coating that protects or enhances the value of steel or iron products. <p>The following are exempt, unless processed or refined to include substantial amounts of steel or iron material, and may be used regardless of source in the domestic manufacturing process for steel or iron material:</p> <ul style="list-style-type: none"> • Pig iron, • Processed, pelletized, and reduced iron ore material, or • Processed alloys. <p>The Contractor shall submit a certification stating that all manufacturing processes involved with the production of steel or iron materials occurred in the United States.</p> <p>Produce, mill, fabricate, and manufacture in the United States of America all aluminum components of bridges, tunnels, and large sign support systems, for which either shop fabrication, shop inspection, or certified mill test reports are required as the basis of acceptance by the Department.</p> <p>Use foreign materials only under the following conditions:</p> <ol style="list-style-type: none"> 1) When the materials are not permanently incorporated into the project; or 2) When the delivered cost of such materials used does not exceed 0.1 percent of the total Contract amount or \$2,500.00, whichever is greater. <p>The Contractor shall submit to the Engineer the origin and value of any foreign material used.</p>
<p>SUBSECTION: REVISION:</p>	<p>106.10 Field Welder Certification Requirements. Insert the following sentence before the first sentence of the first paragraph:</p> <p>All field welding must be performed by a certified welder unless otherwise noted.</p>
<p>SUBSECTION: REVISION:</p>	<p>108.02 Progress Schedule. Insert the following prior to the first paragraph:</p> <p>Specification 108.02 applies to all Cabinet projects except the following project types:</p> <ul style="list-style-type: none"> • Right of Way Mowing and/or Litter Removal • Waterborne Paint Striping • Projects that contain Special Provision 82 • Projects that contain the Special Note for CPM Scheduling <p>Insert the following paragraph after paragraph two:</p> <p>Working without the submittal of a Written Narrative is violation of this specification and additionally voids the Contractor’s right to delay claims.</p> <p>Insert the following paragraph after paragraph six:</p> <p>The submittal of bar chart or Critical Path Method schedule does not relieve the Contractor’s requirement to submit a Written Narrative schedule.</p>

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	<p>Insert the following at the beginning of the first paragraph of A) Written Narrative.:</p> <p>Submit the Written Narrative Schedule using form TC 63-50 available at the Division of Construction's website (http://www.transportation.ky.gov/construction/ResCenter/ResCenter.htm).</p> <p>Replace Part A) Written Narrative 1. And 2. with the following:</p> <ol style="list-style-type: none"> 1. Provide a description that includes how the Contractor will sequence and stage the work, how the Contractor plans to maintain and control traffic being specific and detailed, and what equipment and crew sizes are planned to execute the work. 2. Provide a list of project milestones including, if applicable, winter shut-downs, holidays, or special events. The Contractor shall describe how these milestones and other dates effect the prosecution of the work. Also, include start date and completion date milestones for the contract, each project if the contract entails multiple projects, each phase of work, site of work, or segment of work as divided in the project plans, proposal, or as subdivided by the Contractor.
<p>SUBSECTION: REVISION:</p>	<p>109.07.01 Liquid Asphalt. Add the following to the Adjustable Contract Items:</p> <ul style="list-style-type: none"> • Stone Matrix Asphalt for Base • Stone Matrix Asphalt for Surface
<p>SUBSECTION: REVISION:</p>	<p>110.01 Mobilization. Replace paragraph three with the following:</p> <p>Do not bid an amount for Mobilization that exceeds 5 percent of the sum of the total amounts bid for all items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives. The Department will automatically adjust any Bid Proposals that are in excess of this amount down to 5 percent to compare Bid Proposals and award the Contract. The Department will award a Contract for the actual amount bid when the amount bid for Mobilization is less than 5 percent, or the Department will award the Contract for the adjusted bid amount of 5 percent when the amount bid for Mobilization is greater than 5 percent. If any errors in unit bid prices for other Contract items in a Contractor's Bid Proposal are discovered after bid opening and such errors reduce the total amount bid for all other items, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives, so that the percent bid for Mobilization is larger than 5 percent, the Department will adjust the amount bid for Mobilization to 5 percent of the sum of the corrected total bid amounts.</p>
<p>SUBSECTION: REVISION:</p>	<p>110.02 Demobilization. Replace the third paragraph with the following:</p> <p>Bid an amount for Demobilization that is a minimum of \$1,000 or 1.5 percent of the sum of the total amounts bid for all other items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives. The Department will automatically adjust any Bid Proposal that is less than this amount up to \$1,000 or 1.5 percent to compare Bid Proposals and award the Contract. The Department will award a Contract for the actual amount bid when the amount bid for demobilization exceeds 1.5 percent, or the Department will award the Contract for the adjusted bid amount when the amount bid for demobilization is less than the minimum of \$1,000 or less than 1.5 percent of the sum of the total amounts bid for all other items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives.</p>
<p>SUBSECTION: REVISION:</p>	<p>110.04 Payment. Insert the following paragraph following the demobilization payment schedule (4th paragraph):</p> <p>The Department will withhold an amount equal to \$1,000 for demobilization, regardless of the schedule listed above. The \$1,000 withheld for demobilization will be paid when the final estimate is paid.</p>

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<p>SUBSECTION: REVISION:</p>	<p>112.03.01 General Traffic Control. Replace paragraph three with the following:</p> <p>All flaggers shall be trained in current MUTCD flagging procedures. Proof of training must be available for review at the Department's request. Flagging credentials must be current within the last 5 years.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>112.03.11 Temporary Pavement Markings. B) Placement and Removal of Temporary Striping. Replace the 2nd sentence of the first paragraph with the following:</p> <p>On interstates and parkways, and other roadways approved by the State Highway Engineer, install pavement striping that is 6 inches in width.</p>
<p>SUBSECTION: REVISION:</p>	<p>112.03.12 Project Traffic Coordinator (PTC). Add the following at the end of the subsection:</p> <p>After October 1, 2008 the Department will require the PTC to have successfully completed the applicable qualification courses. Personnel that have not successfully completed the applicable courses by that date will not be considered qualified. Prior to October 1, 2008, conform to Subsection 108.06 A) and ensure the designated PTC has sufficient skill and experience to properly perform the task.</p>
<p>SUBSECTION: REVISION:</p>	<p>112.03.15 Non-Compliance of Maintain and Control of Traffic. Add the following section:</p> <p>112.03.15 Non-Compliance of Maintain and Control of Traffic. It is the Contractor's responsibility to conform to the traffic control requirements in the TCP, Proposal, plan sheets, specifications, and the Manual on Uniform Traffic Control Devices.</p> <p>Unless specified elsewhere in the contract, a penalty will be assessed in the event of non-compliance with Maintain and Control of Traffic requirements. These penalties will be assessed when the Contractor fails to correct a situation or condition of non-compliance with the contract traffic control requirements after being notified by the Engineer. The calculation of accrued penalties for non-compliance will be based upon the date/time of notification by the Engineer.</p> <p>The amount of the penalty assessed for non-compliance will be determined based upon the work zone duration, as defined by the MUTCD, and will be the greatest of the different calculation methods indicated below:</p> <p style="padding-left: 40px;">A) Long-term stationary work that occupies a location more than 3 days.</p> <p style="padding-left: 40px;">Correct the non-compliant issue within 24 hours from initial notification by the Engineer. If the issue is not corrected within 24 hours from the initial notification, a penalty for non-compliance will be assessed on a daily basis beginning from the initial notification of non-compliance. The Contractor will be assessed a \$1,000 daily penalty or the amount equal to the contract liquidated damages in Section 108.09, whichever of the 2 is greater. The penalty for non-compliance will escalate as follows for continued non-compliance after the initial notification.</p> <p style="padding-left: 40px;">3 Days after Notification \$1,500 daily penalty or 1.5 times the contract liquidated damages daily charge rate in Section 108.09, whichever is greater.</p> <p style="padding-left: 40px;">7 Days after Notification \$2,000 daily penalty or double the contract liquidated damages daily charge rate in Section 108.09, whichever is greater.</p>

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	<p>B) Intermediate-term stationary work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than 1 hour.</p> <p>Correct the non-compliant issue within 4 hours from initial notification by the Engineer. If the issue is not corrected within 4 hours from notification, a penalty for non-compliance will be assessed on an hourly basis beginning from the initial notification of non-compliance. The penalty for non-compliance will be assessed at \$200 per hour.</p> <p>C) Short-term stationary is work that occupies a location for more than 1 hour within a single 24-hour period.</p> <p>Correct the non-compliant issue within 1 hour from initial notification by the Engineer. If the issue is not corrected within 1 hour from notification, a penalty for non-compliance will be assessed on an hourly basis beginning from the initial notification of non-compliance. The penalty for non-compliance will be assessed at \$200 per hour.</p> <p>If the Contractor remains in violation of the Maintain and Control of Traffic requirements, or if the Department determines it to be in the public's interest, work will be suspended in accordance with Section 108.08 until the deficiencies are corrected. The Department reserves the right to correct deficiencies by any means available and charge the Contractor for labor, equipment, and material costs incurred in emergency situations.</p>
<p>SUBSECTION: REVISION:</p>	<p>206.03.02 Embankment Replace the last paragraph with the following:</p> <p>When rock roadbed is specified, construct the upper 2 feet of the embankment according to Subsection 204.03.09 A).</p>
<p>SUBSECTION: REVISION:</p>	<p>213.03.03 Inspection and Maintenance. Replace the last sentence of the second paragraph with the following:</p> <p>Initiate corrective action within 24 hours of any noted deficiency and complete the work within 7 calendar days of receipt of the report. The Contractor shall make a concentrated effort to complete any corrective action required prior to the next predicted rainfall event.</p> <p>Insert the following paragraph after the second paragraph:</p> <p>When the Contractor is required to obtain the KPDES permit, it is their responsibility to ensure compliance with the inspection and maintenance requirements of the permit. The Engineer will perform verification inspections a minimum of once per month and within 7 days of a ½ inch or greater rainfall event. The Engineer will document these inspections using Form TC 63-61 A. The Engineer will provide copies of the inspection only when improvements to the BMP's are required. Verification inspections performed by the Engineer do not relieve the Contractor of any responsibility for compliance with the KPDES permit. Initiate corrective action within 24 hours of any noted deficiency and complete the work within 7 calendar days of receipt of the report. The Contractor shall make a concentrated effort to complete any corrective action required prior to the next predicted rainfall event.</p>

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<p>SUBSECTION: PART: REVISION:</p>	<p>213.03.05 Temporary Control Measures. E) Temporary Seeding and Protection. Replace the first paragraph with the following:</p> <p>Apply an Annual Rye seed mix at a rate of 100 pounds per acre during the months of March through August. In addition to the Annual Rye, add 10 pounds of German Foxtail-Millet (<i>Setaria italica</i>), when performing temporary seeding during the months of June through August. During the months of September through February, apply Winter Wheat or Rye Grain at a rate of 100 pounds per acre. Obtain the Engineer's approval prior to the application of the seed mixture.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>213.03.05 Temporary Control Measures. F) Temporary Mulch. Replace the last sentence with the following:</p> <p>Place temporary mulch to an approximate 2-inch loose depth (2 tons per acre) and anchor it into the soil by mechanically crimping it into the soil surface or applying tackifier to provide a protective cover. Regardless of the anchoring method used, ensure the protective cover holds until disturbance is required or permanent controls are in installed.</p>
<p>SUBSECTION: REVISION:</p>	<p>303.05 Payment. Replace the second paragraph of the section with the following:</p> <p>The Department will make payment for Drainage Blanket-Type II (ATDB) according to the Lot Pay Adjustment Schedule for Specialty Mixtures in Section 402.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>401.02.04 Special Requirements for Dryer Drum Plants. F) Production Quality Control. Replace the first sentence with the following:</p> <p>Stop mixing operations immediately if, at any time, a failure of the automatic electronic weighing system of the aggregate feed, asphalt binder feed, or water injection system control occurs.</p>
<p>SUBSECTION: REVISION:</p>	<p>401.02.04 Special Requirements for Dryer Drum Plants. Add the following:</p> <p>Part G) Water Injection System. Provided each system has prior approval as specified in Subsection 402.01.01, the Department will allow the use of water injection systems for purposes of foaming the asphalt binder and lowering the mixture temperature for production of Warm Mix Asphalt (WMA).</p> <p>Ensure the equipment for water injection meets the following requirements:</p> <ol style="list-style-type: none"> 1) Injection equipment computer controls are automatically coupled to the plants controls (manual operation is not permitted); 2) Injection equipment has variable controls that introduce water ratios based on production rates of mixtures; 3) Injects water into the flow of asphalt binder prior to contacting the aggregate; 4) Provides alarms on the water injection system that operate when the flow of water is interrupted or deviates from the prescribed water rate.
<p>SUBSECTION: REVISION:</p>	<p>401.03.01 Preparation of Mixtures. Replace the last sentence of the second paragraph with the following:</p> <p>Do not use asphalt binder while it is foaming in a storage tank.</p>

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<p>SUBSECTION: REVISION:</p>	<p>401.03.01 Preparation of Mixtures. Replace the third paragraph and Mixing and Laying Temperature table with the following:</p> <p>Maintain the temperature of the component materials and asphalt mixture within the ranges listed in the following table:</p> <table border="1" data-bbox="391 409 1386 856"> <thead> <tr> <th colspan="4">MIXING AND LAYING TEMPERATURES (°F)</th> </tr> <tr> <th colspan="2">Material</th> <th>Minimum</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td colspan="2">Aggregates</td> <td>240</td> <td>330</td> </tr> <tr> <td colspan="2">Aggregates used with Recycled Asphalt Pavement (RAP)</td> <td>240</td> <td>—</td> </tr> <tr> <td rowspan="2">Asphalt Binders</td> <td>PG 64-22</td> <td>230</td> <td>330</td> </tr> <tr> <td>PG 76-22</td> <td>285</td> <td>350</td> </tr> <tr> <td rowspan="4">Asphalt Mixtures at Plant (Measured in Truck)</td> <td>PG 64-22 HMA</td> <td>250</td> <td>330</td> </tr> <tr> <td>PG 76-22 HMA</td> <td>310</td> <td>350</td> </tr> <tr> <td>PG 64-22 WMA</td> <td>230</td> <td>275</td> </tr> <tr> <td>PG 76-22 WMA</td> <td>250</td> <td>300</td> </tr> <tr> <td rowspan="4">Asphalt Mixtures at Project (Measured in Truck When Discharging)</td> <td>PG 64-22 HMA</td> <td>230</td> <td>330</td> </tr> <tr> <td>PG 76-22 HMA</td> <td>300</td> <td>350</td> </tr> <tr> <td>PG 64-22 WMA</td> <td>210</td> <td>275</td> </tr> <tr> <td>PG 76-22 WMA</td> <td>240</td> <td>300</td> </tr> </tbody> </table>	MIXING AND LAYING TEMPERATURES (°F)				Material		Minimum	Maximum	Aggregates		240	330	Aggregates used with Recycled Asphalt Pavement (RAP)		240	—	Asphalt Binders	PG 64-22	230	330	PG 76-22	285	350	Asphalt Mixtures at Plant (Measured in Truck)	PG 64-22 HMA	250	330	PG 76-22 HMA	310	350	PG 64-22 WMA	230	275	PG 76-22 WMA	250	300	Asphalt Mixtures at Project (Measured in Truck When Discharging)	PG 64-22 HMA	230	330	PG 76-22 HMA	300	350	PG 64-22 WMA	210	275	PG 76-22 WMA	240	300
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<p>SUBSECTION: REVISION:</p>	<p>402.01 Description. Replace the paragraph with the following:</p> <p>Provide the process control and acceptance testing of all classes and types of asphalt mixtures which may be furnished either as hot mix asphalt (HMA) or warm mix asphalt (WMA) produced with water injection systems.</p>																																																	
<p>SUBSECTION: REVISION:</p>	<p>402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. Add the following subsection:</p> <p>402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. The Department will evaluate trial production of WMA by use of a water injection system provided the system is installed according to the manufacturer's requirements and satisfies the requirements of Section 401. Evaluation will include production and placement of WMA to demonstrate adequate mixture quality including volumetric properties and density by Option A as specified in Subsection 402.03.02 D). Do not place WMA for evaluation on Department projects. Provided production and placement operations satisfy the applicable quality levels, the Department will approve WMA production on Department projects using the water injection system as installed on the specific asphalt mixing plant evaluated.</p>																																																	
<p>SUBSECTION: REVISION:</p>	<p>402.05.02 Asphalt Mixtures and Mixtures With RAP. Replace Subsection Title as below:</p> <p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.</p>																																																	
<p>SUBSECTION: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Replace the paragraph with the following:</p> <p>The Department will pay for the mixture at the Contract unit bid price and apply a Lot Pay Adjustment for each lot placed based on the degree of compliance with the specified tolerances. Using the appropriate Lot Pay Adjustment Schedule, the Department will assign a pay value for the applicable properties within each subplot and average the subplot pay values to determine the pay value for a given property for each lot. The Department will apply the Lot Pay Adjustment for each lot to a defined unit price of \$50.00 per ton. The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>																																																	

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<p>SUBSECTION: PART: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. C) Conventional and RAP Mixtures Placed on Shoulders. Replace Title and Text with the following:</p> <p>C) HMA, WMA and RAP Mixtures Placed on Shoulders or Placed as Asphalt Pavement Wedge.</p> <ol style="list-style-type: none"> 1) Placed monolithically with the Mainline – Width of 4 feet or less. The Department will pay as mainline mixture. 2) Placed monolithically with the Mainline – Width of greater than 4 feet. The Department will pay as mainline mixture but use 1.00 for the Lane and Joint Density Pay Value for shoulder or Asphalt Pavement Wedge quantities. 3) Placed Separately. The Department will use 1.00 for the Lane and Joint Density Pay Value. 												
<p>SUBSECTION: PART: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. D) Conventional and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge. Replace the title with the following: D) HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.</p> <p>Delete the following: D) HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge. The Department will pay as mainline mixture but use a 1.00 pay value for all properties.</p>												
<p>SUBSECTION: PART: REVISION:</p>	<p>402.05.02 Asphalt Mixtures for Temporary Pavement. E) Asphalt Mixtures for Temporary Pavement. Replace E) Asphalt Mixtures for Temporary Pavement with the following:</p> <p>D) Asphalt Mixtures for Temporary Pavement.</p>												
<p>SUBSECTION: PART: TABLES: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option A, Base and Binder Mixtures VMA Replace the VMA table with the following:</p> <table border="1" data-bbox="727 1230 1092 1449"> <thead> <tr> <th colspan="2">VMA</th> </tr> <tr> <th>Pay Value</th> <th>Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>≥ min. VMA</td> </tr> <tr> <td>0.95</td> <td>0.1-0.5 below min.</td> </tr> <tr> <td>0.90</td> <td>0.6-1.0 below min.</td> </tr> <tr> <td>(1)</td> <td>> 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥ min. VMA	0.95	0.1-0.5 below min.	0.90	0.6-1.0 below min.	(1)	> 1.0 below min.
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<p>SUBSECTION: PART: TABLES: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option A, Surface Mixtures VMA Replace the VMA table with the following:</p> <table border="1" data-bbox="711 1612 1076 1864"> <thead> <tr> <th colspan="2">VMA</th> </tr> <tr> <th>Pay Value</th> <th>Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>≥ min. VMA</td> </tr> <tr> <td>0.95</td> <td>0.1-0.5 below min.</td> </tr> <tr> <td>0.90</td> <td>0.6-1.0 below min.</td> </tr> <tr> <td>(1)</td> <td>> 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥ min. VMA	0.95	0.1-0.5 below min.	0.90	0.6-1.0 below min.	(1)	> 1.0 below min.
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<p>SUBSECTION: PART: TABLE: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option B Mixtures VMA Replace the VMA table with the following:</p> <table border="1" data-bbox="717 388 1083 659"> <thead> <tr> <th colspan="2">VMA</th> </tr> <tr> <th>Pay Value</th> <th>Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>≥min. VMA</td> </tr> <tr> <td>0.95</td> <td>0 1-0.5 bel w min.</td> </tr> <tr> <td>0.9</td> <td>0.6-1.0 below min.</td> </tr> <tr> <td>⁽²⁾</td> <td>> 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥min. VMA	0.95	0 1-0.5 bel w min.	0.9	0.6-1.0 below min.	⁽²⁾	> 1.0 below min.											
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<p>SUBSECTION: PART: NUMBER: REVISION:</p>	<p>403.03.03 Preparation of Mixture. C) Mix Design Criteria. 1) Preliminary Mix Design. Replace the last two sentences of the paragraph and table with the following:</p> <p>Complete the volumetric mix design at the appropriate number of gyrations as given in the table below for the number of 20-year ESAL's. The Department will define the relationship between ESAL classes, as given in the bid items for Superpave mixtures, and 20-year ESAL ranges as follows:</p> <table border="1" data-bbox="542 957 1248 1110"> <thead> <tr> <th rowspan="2">Class</th> <th rowspan="2">ESAL's (millions)</th> <th colspan="3">Number of Gyration</th> </tr> <tr> <th>$N_{initial}$</th> <th>N_{design}</th> <th>N_{max}</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>< 3.0</td> <td>6</td> <td>50</td> <td>75</td> </tr> <tr> <td>3</td> <td>3.0 to < 30.0</td> <td>7</td> <td>75</td> <td>115</td> </tr> <tr> <td>4</td> <td>≥ 30.0</td> <td>8</td> <td>100</td> <td>160</td> </tr> </tbody> </table>	Class	ESAL's (millions)	Number of Gyration			$N_{initial}$	N_{design}	N_{max}	2	< 3.0	6	50	75	3	3.0 to < 30.0	7	75	115	4	≥ 30.0	8	100	160
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<p>SUBSECTION: PART: REVISION:</p>	<p>403.03.09 Leveling and Wedging, and Scratch Course. A) Leveling and Wedging. Replace the first sentence of the first paragraph with the following:</p> <p>Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.</p>																							
<p>SUBSECTION: PART: REVISION:</p>	<p>403.03.09 Leveling and Wedging, and Scratch Course. B) Scratch Course. Replace the second sentence of the first paragraph with the following:</p> <p>Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.</p>																							
<p>SUBSECTION: REVISION:</p>	<p>407.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:</p> <p>Construct a pavement wedge composed of a hot-mixed or warm-mixed asphalt mixture.</p>																							
<p>SUBSECTION: REVISION:</p>	<p>409.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:</p> <p>Use reclaimed asphalt pavement (RAP) from Department projects or other approved sources in hot mix asphalt (HMA) or warm mix asphalt (WMA) provided mixture requirements are satisfied.</p>																							
<p>SUBSECTION: REVISION:</p>	<p>410.01 DESCRIPTION. Delete the second sentence of the paragraph.</p>																							

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<p>SUBSECTION: REVISION:</p>	<p>410.03.01 Corrective Work. Replace the last sentence of the paragraph with the following: Provide a final surface comparable to the adjacent pavement that does not require corrective work in respect to texture, appearance, and skid resistance.</p>														
<p>SUBSECTION: PART: NUMBER: REVISION:</p>	<p>410.03.02 Ride Quality. B) Requirements. 1) Category A. Replace the last sentence of the first paragraph with the following: At the Department's discretion, a pay deduction of \$1200 per 0.1-lane-mile section may be applied in lieu of corrective work.</p>														
<p>SUBSECTION: PART: NUMBER: REVISION:</p>	<p>410.03.02 Ride Quality. B) Requirements. 2) Category B. Replace the second and third sentence of the first paragraph with the following: When the IRI is greater than 90 for a 0.1-mile section, perform corrective work, or remove and replace the pavement to achieve the specified IRI. At the Department's discretion, a pay deduction of \$750 per 0.1-lane-mile section may be applied in lieu of corrective work.</p>														
<p>SUBSECTION: REVISION:</p>	<p>410.05 PAYMENT. Add the following sentence to the end of the first paragraph: The sum of the pay value adjustments for ride quality shall not exceed \$0 for the project as a whole.</p>														
<p>SUBSECTION: REVISION:</p>	<p>413.05.02 CL3 SMA BASE 1.00D PG76-22. Insert the following sentence between the first and second sentence of the first paragraph: The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>														
<p>SUBSECTION: TABLE: REVISION:</p>	<p>413.05.02 CL3 SMA BASE 1.00D PG 76-22. JOINT DENSITY TABLE Replace the joint density table with the following:</p> <table border="1" data-bbox="673 1409 1117 1675"> <thead> <tr> <th colspan="2">LANE DENSITY</th> </tr> <tr> <th>Pay Value</th> <th>Test Result (%)</th> </tr> </thead> <tbody> <tr> <td>1.05</td> <td>95.0-96.5</td> </tr> <tr> <td>1.00</td> <td>93.0-94.9</td> </tr> <tr> <td>0.95</td> <td>92.0-92.9 or 96.6-97.0</td> </tr> <tr> <td>0.90</td> <td>91.0-91.9 or 97.1-97.5</td> </tr> <tr> <td>(1)</td> <td>< 91.0 or > 97.5</td> </tr> </tbody> </table>	LANE DENSITY		Pay Value	Test Result (%)	1.05	95.0-96.5	1.00	93.0-94.9	0.95	92.0-92.9 or 96.6-97.0	0.90	91.0-91.9 or 97.1-97.5	(1)	< 91.0 or > 97.5
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<p>SUBSECTION: REVISION:</p>	<p>413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22. Insert the following sentence between the first and second sentence of the first paragraph: The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>														

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<p>SUBSECTION: TABLE: REVISION:</p>	<p>413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22. JOINT DENSITY TABLE Replace the joint density table with the following:</p> <table border="1" data-bbox="553 388 1235 705" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="3" style="text-align: center;">DENSITY</th> </tr> <tr> <th style="text-align: center;">Pay Value</th> <th style="text-align: center;">Lane Density Test Result (%)</th> <th style="text-align: center;">Joint Density Test Result (%)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.05</td> <td style="text-align: center;">95.0-96.5</td> <td style="text-align: center;">92.0-96.0</td> </tr> <tr> <td style="text-align: center;">1.00</td> <td style="text-align: center;">93.0-94.9</td> <td style="text-align: center;">90.0-91.9</td> </tr> <tr> <td style="text-align: center;">0.95</td> <td style="text-align: center;">92.0-92.9 or 96.6-97.0</td> <td style="text-align: center;">89.0-89.9 or 96.1-96.5</td> </tr> <tr> <td style="text-align: center;">0.90</td> <td style="text-align: center;">91.0-91.9 or 97.1-97.5</td> <td style="text-align: center;">88.0-88.9 or 96.6-97.0</td> </tr> <tr> <td style="text-align: center;">0.75</td> <td style="text-align: center;">----</td> <td style="text-align: center;">< 88.0 or > 97.0</td> </tr> <tr> <td style="text-align: center;">⁽¹⁾</td> <td style="text-align: center;">< 91.0 or > 97.5</td> <td style="text-align: center;">----</td> </tr> </tbody> </table>	DENSITY			Pay Value	Lane Density Test Result (%)	Joint Density Test Result (%)	1.05	95.0-96.5	92.0-96.0	1.00	93.0-94.9	90.0-91.9	0.95	92.0-92.9 or 96.6-97.0	89.0-89.9 or 96.1-96.5	0.90	91.0-91.9 or 97.1-97.5	88.0-88.9 or 96.6-97.0	0.75	----	< 88.0 or > 97.0	⁽¹⁾	< 91.0 or > 97.5	----
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<p>SUBSECTION: REVISION:</p>	<p>501.05.02 Ride Quality. Add the following sentence to the end of the first paragraph:</p> <p>The sum of the pay value adjustments for the ride quality shall not exceed \$0 for the project as a whole.</p>																								
<p>SUBSECTION: REVISION:</p>	<p>505.03.04 Detectable Warnings. Replace the first sentence with the following:</p> <p>Install detectable warning pavers at all sidewalk ramps and on all commercial entrances according to the Standard Drawings.</p>																								
<p>SUBSECTION: REVISION:</p>	<p>505.04.04 Detectable Warnings. Replace the paragraph with the following:</p> <p>The Department will measure the quantity in square feet. All retrofit applications for maintenance projects will require the removal of existing sidewalks to meet the requirements of the standard drawings applicable to the project. The cost associated with the removal of the existing sidewalk will be incidental to the detectable warnings bid item or incidental to the bid item for the construction of the concrete sidewalk unless otherwise noted.</p>																								
<p>SUBSECTION: REVISION:</p>	<p>505.05 PAYMENT. Add the following to the bid item table:</p> <table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><u>Code</u></td> <td style="text-align: center;"><u>Pay Item</u></td> <td style="text-align: center;"><u>Pay Unit</u></td> </tr> <tr> <td style="text-align: center;">23158ES505</td> <td style="text-align: center;">Detectable Warnings</td> <td style="text-align: center;">Square Foot</td> </tr> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	23158ES505	Detectable Warnings	Square Foot																		
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<p>SUBSECTION: REVISION:</p>	<p>509.01 DESCRIPTION. Replace the second paragraph with the following:</p> <p>The Department may allow the use of similar units that conform to the National Cooperative Highway Research Program (NCHRP) 350 Test Level 3 (TL-3) requirements and the typical features depicted by the Standard Drawings. Obtain the Engineers approval prior to use. Ensure the barrier wall shape, length, material, drain slot dimensions and locations typical features are met and the reported maximum deflection is 3 feet or less from the NCHRP 350 TL-3 for Test 3 – 11 (pickup truck impacting at 60 mph at a 25-degree angle.)</p>																								

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<p>SUBSECTION: REVISION:</p>	<p>601.03.02 Concrete Producer Responsibilities. Replace the first sentence with the following:</p> <p>Obtain the concrete from producers that are in compliance with KM 64-323 and on the Department's List of Approved Materials.</p> <p>Add the following to the first paragraph:</p> <p>If a concrete plant becomes unqualified during a project and there are no other qualified plants in the region, the Department will provide qualified personnel to witness and ensure the producer follows the required specifications. The Department will assess the Contractor a \$100 per hour charge for this service.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>601.03.02 Concrete Producer Responsibilities. B) Certified Personnel. Replace the second sentence with the following:</p> <p>Ensure that the concrete technicians are certified as ACI Level I (Level I) and KRMCA Level II (Level II).</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>601.03.02 Concrete Producer Responsibilities. C) Quality Control. Replace the second sentence with the following:</p> <p>Ensure that the Level II concrete technician is present when work is in progress and is responsible for inspecting trucks, batch weight calculations, monitoring batching, making mixture adjustments, reviewing the slump, air content, unit weight, temperature, and aggregate tests, all to provide conforming concrete to the project.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>601.03.02 Concrete Producer Responsibilities. D) Producer Testing. Replace with the following:</p> <p>When producing for state work, have a Qualified Concrete Aggregate Technician or KYTC Qualified Aggregate Technician perform, at a minimum, weekly gradations and minus 200 wash tests and daily moisture contents of coarse and fine aggregate (Fine aggregates will not require a minus 200 wash test). Using the daily moisture contents, adjust the approved mix design accordingly prior to production. Ensure that the Level II concrete technician is present when work is in progress and is responsible for inspecting trucks, batch weight calculations, monitoring batching, making mixture adjustments, reviewing the slump, air content, unit weight, temperature, and aggregate tests, all to provide conforming concrete to the project.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>601.03.02 Concrete Producer Responsibilities. E) Trip Tickets. Replace the second sentence with the following:</p> <p>Include on the trip ticket the Sample ID for the approved mix design and a statement certifying that the data on the ticket is correct and that the mixture conforms to the mix design.</p>
<p>SUBSECTION: PART: NUMBER: REVISION:</p>	<p>601.03.03 Proportioning and Requirements. C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures 2) Mineral Admixtures. Replace the second sentence with the following:</p> <p>Reduction of the total cement content by a combination of mineral admixtures will be allowed, up to a maximum of 40 percent.</p>

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<p>SUBSECTION: PART: NUMBER: LETTER: REVISION:</p>	<p>601.03.03 Proportioning and Requirements. C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures 2) Mineral Admixtures. a) Fly Ash. Delete the last sentence of the third paragraph.</p>
<p>SUBSECTION: PART: NUMBER: LETTER: REVISION:</p>	<p>601.03.03 Proportioning and Requirements. C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures 2) Mineral Admixtures. b) Ground Granulated Blast Furnace Slag (GGBF Slag). Delete the second sentence of the third paragraph.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>601.03.03 Proportioning and Requirements. E) Measuring. Add the following sentence: Conform to the individual ingredient material batching tolerances in Appendix A.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>601.03.09 Placing Concrete. A) General. Replace the last sentence of the fourth paragraph with the following: Do not use aluminum or aluminum alloy troughs, pipes, or chutes that have surface damage or for lengths greater than 20 feet. Replace the second sentence of the fifth paragraph with the following: When pumping, equip the delivery pipe with a nozzle, having a minimum of 2 right angles, at the discharge end. Alternate nozzles or restriction devices may be allowed with prior approval by the Engineer.</p>
<p>SUBSECTION: REVISION:</p>	<p>605.02.05 Forms. Delete the last sentence.</p>
<p>SUBSECTION: REVISION:</p>	<p>605.03.04 Tack Welding. Replace with the following: The Department does not allow tack welding.</p>
<p>SUBSECTION: REVISION:</p>	<p>606.02.11 Coarse Aggregate. Replace with the following: Conform to Section 805, size No. 8 or 9-M.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>609.03.04 Expansion and Fixed Joints. D) Preformed Neoprene Joint Seals. Replace the last sentence of paragraph seven with the following: Field splices will not be allowed during partial width construction. It is Contractor's responsibility to determine and install the length of seal required for the joint to barrier wall as per the standard drawing.</p>
<p>SUBSECTION: REVISION:</p>	<p>609.03.09 Finish with Burlap Drag. Delete the entire section.</p>
<p>SUBSECTION: REVISION:</p>	<p>609.04.06 Joint Sealing. Replace Subsection 601.04 with the following: Subsection 606.04.08.</p>

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<p>SUBSECTION: REVISION:</p>	<p>609.05 Payment. Replace the Pay Unit for Joint Sealing with the following: See Subsection 606.05.</p>
<p>SUBSECTION: REVISION:</p>	<p>701.03.06 Initial Backfill. Replace the first sentence of the last paragraph with the following: When the Contract specifies, perform quality control testing to verify compaction according to KM 64-512.</p>
<p>SUBSECTION: REVISION:</p>	<p>701.03.08 Testing of Pipe. Replace and rename the subsection with the following:</p> <p>701.03.08 Inspection of Pipe. The engineer will visually inspect all pipe. The Department will require camera/video inspection on a minimum of 50 percent of the linear feet of all installed pipe structures. Conduct camera/video inspection according to KM 64-114. The pipe to be installed under pavement will be selected first. If the total linear feet of pipe under pavement is less than 50 percent of the linear feet of all pipe installed, the Engineer will randomly select installations from the remaining pipe structures on the project to provide for the minimum inspection requirement. The pipe will be selected in complete runs (junction-junction or headwall-headwall) until the total linear feet of pipe to be inspected is at least 50 percent of the total linear feet of all installed pipe on the project.</p> <p>Unless the Engineer directs otherwise, schedule the inspections no sooner than 30 days after completing the installation and completion of earthwork to within 1 foot of the finished subgrade. When final surfacing conflicts with the 30-day minimum, conduct the inspections prior to placement of the final surface. The contractor must ensure that all pipe are free and clear of any debris so that a complete inspection is possible.</p> <p>Notify the Engineer immediately if distresses or locations of improper installation are discovered. When camera testing shows distresses or improper installation in the installed pipe, the Engineer may require additional sections to be tested. Provide the video and report to the Engineer when testing is complete in accordance with KM 64-114.</p> <p>Pipes that exhibit distress or signs of improper installation may necessitate repair or removal as the Engineer directs. These signs include, but are not limited to: deflection, cracking, joint separation, sagging or other interior damage. If corrugated metal or thermoplastic pipes exceed the deflection and installation thresholds indicated in the table below, provide the Department with an evaluation of each location conducted by a Professional Engineer addressing the severity of the deflection, structural integrity, environmental conditions, design service life, and an evaluation of the factor of safety using Section 12, "Buried Structures and Tunnel Liners," of the AASHTO LRFD Bridge Design Specifications. Based on the evaluation, the Department may allow the pipe to remain in place at a reduced unit price as shown in the table below. Provide 5 business days for the Department to review the evaluation. When the pipe shows deflection of 10 percent or greater, remove and replace the pipe. When the camera/video or laser inspection results are called into question, the Department may require direct measurements or mandrel testing.</p> <p>The Cabinet may elect to conduct Quality Assurance verifications of any pipe inspections.</p>
<p>SUBSECTION: REVISION:</p>	<p>701.04.07 Testing. Replace and rename the subsection with the following:</p> <p>701.04.07 Pipeline Video Inspection. The Department will measure the quantity in linear feet along the pipe invert of the structure inspected. When inspection above the specified 50 percent is performed due to a disagreement or suspicion of additional distresses and the Department is found in error, the Department will measure the quantity as Extra Work according to Subsection 104.03. However, if additional distresses or non-conformance is found, the Department will not measure the additional inspection for payment.</p>

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SUBSECTION: REVISION:	701.05 PAYMENT. Add the following pay item to the list of pay items: <table border="0"> <tr> <td><u>Code</u></td> <td><u>Pay Item</u></td> <td><u>Pay Unit</u></td> </tr> <tr> <td>23131ER701</td> <td>Pipeline Video Inspection</td> <td>Linear Foot</td> </tr> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	23131ER701	Pipeline Video Inspection	Linear Foot						
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>											
23131ER701	Pipeline Video Inspection	Linear Foot											
SUBSECTION: TABLE: REVISION:	701.05 PAYMENT PIPE DEFLECTION DETERMINED BY CAMERA TESTING Replace this table with the following table and note: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">PIPE DEFLECTION</th> </tr> <tr> <th>Amount of Deflection (%)</th> <th>Payment</th> </tr> </thead> <tbody> <tr> <td>0.0 to 5.0</td> <td>100% of the Unit Bid Price</td> </tr> <tr> <td>5.1 to 9.9</td> <td>50% of the Unit Bid Price ⁽¹⁾</td> </tr> <tr> <td>10 or greater</td> <td>Remove and Replace</td> </tr> </tbody> </table> <p>(1) Provide Structural Analysis as indicated above. Based on the structural analysis, pipe may be allowed to remain in place at the reduced unit price.</p>	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		
PIPE DEFLECTION													
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SUBSECTION: TABLE: REVISION:	701.05 PAYMENT PIPE DEFLECTION DETERMINED BY MANDREL TESTING Delete this table.												
SUBSECTION: REVISION:	713.02.01 Paint. Replace with the following: Conform to Section 842 and Section 846.												
SUBSECTION: REVISION:	713.03 CONSTRUCTION. Replace the first sentence of the second paragraph with the following: On interstates and parkways, and other routes approved by the State Highway Engineer, install pavement striping that is 6 inches in width.												
SUBSECTION: REVISION:	713.03.03 Paint Application. Replace the second paragraph with the following table: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Material</th> <th>Paint Application Rate</th> <th>Glass Beads Application Rate</th> </tr> </thead> <tbody> <tr> <td>4 inch waterborne paint</td> <td>Min. of 16.5 gallons/mile</td> <td>Min. of 6 pounds/gallon</td> </tr> <tr> <td>6 inch waterborne paint</td> <td>Min. of 24.8 gallons/mile</td> <td>Min. of 6 pounds/gallon</td> </tr> <tr> <td>6 inch durable waterborne paint</td> <td>Min. of 36 gallons/mile</td> <td>Min. of 6 pounds/gallon</td> </tr> </tbody> </table>	Material	Paint Application Rate	Glass Beads Application Rate	4 inch waterborne paint	Min. of 16.5 gallons/mile	Min. of 6 pounds/gallon	6 inch waterborne paint	Min. of 24.8 gallons/mile	Min. of 6 pounds/gallon	6 inch durable waterborne paint	Min. of 36 gallons/mile	Min. of 6 pounds/gallon
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SUBSECTION: REVISION:	713.03.04 Marking Removal. Replace the last sentence of the paragraph with the following: Vacuum all marking material and removal debris concurrently with the marking removal operation.												
SUBSECTION: REVISION:	713.05 PAYMENT. Insert the following codes and pay items below the Pavement Striping – Permanent Paint: <table border="0"> <tr> <td><u>Code</u></td> <td><u>Pay Item</u></td> <td><u>Pay Unit</u></td> </tr> <tr> <td>24189ER</td> <td>Durable Waterborne Marking – 6 IN W</td> <td>Linear Foot</td> </tr> <tr> <td>24190ER</td> <td>Durable Waterborne Marking – 6 IN Y</td> <td>Linear Foot</td> </tr> <tr> <td>24191ER</td> <td>Durable Waterborne Marking – 12 IN W</td> <td>Linear Foot</td> </tr> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	24189ER	Durable Waterborne Marking – 6 IN W	Linear Foot	24190ER	Durable Waterborne Marking – 6 IN Y	Linear Foot	24191ER	Durable Waterborne Marking – 12 IN W	Linear Foot
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>											
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24191ER	Durable Waterborne Marking – 12 IN W	Linear Foot											

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<p>SUBSECTION: REVISION:</p>	<p>714.03 CONSTRUCTION. Insert the following paragraph at the end of the third paragraph: Use Type I Tape for markings on bridge decks, JPC pavement and JPC intersections. Thermoplastic should only be used for markings on asphalt pavement.</p>
<p>SUBSECTION: REVISION:</p>	<p>714.03.07 Marking Removal. Replace the third sentence of the paragraph with the following: Vacuum all marking material and removal debris concurrently with the marking removal operation.</p>
<p>SUBSECTION: REVISION:</p>	<p>716.01 DESCRIPTION. Insert the following after the first sentence: Energize lighting as soon as it is fully functional and ready for inspection. Ensure that lighting remains operational until the Division of Traffic Operations has provided written acceptance of the electrical work.</p>
<p>SUBSECTION: REVISION:</p>	<p>716.02.01 Roadway Lighting Materials. Replace the last two sentences of the paragraph with the following: Submit for material approval an electronic file of descriptive literature, drawings, and any requested design data to the Division of Traffic Operations. Do not begin work until shop drawings are approved. Notify the Engineer when submitting any information to the Division of Traffic Operations. Do not make substitutions for approved materials without written permission as described above.</p>
<p>SECTION: REVISION:</p>	<p>717 – THERMOPLASTIC INTERSECTION MARKINGS. Replace the section name with the following: INTERSECTION MARKINGS.</p>
<p>SUBSECTION: REVISION:</p>	<p>717.01 DESCRIPTION: Replace the paragraph with the following: Furnish and install thermoplastic or Type I tape intersection markings (Stop Bars, Crosswalks, Turn Arrows, etc.) Thermoplastic markings may be installed by either a machine applied, screed extrusion process or by applying preformed thermoplastic intersection marking material.</p>
<p>SUBSECTION: REVISION:</p>	<p>717.02 MATERIALS AND EQUIPMENT. Insert the following subsection: 717.02.06 Type I Tape. Conform to Section 836.</p>
<p>SUBSECTION: REVISION:</p>	<p>717.03.03 Application. Insert the following part to the subsection: B) Type I Tape Intersection Markings. Apply according to the manufacturer's recommendations. Cut all tape at pavement joints when applied to concrete surfaces.</p>

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<p>SUBSECTION: PART: REVISION:</p>	<p>717.03.05 Proving Period. A) Requirements. Insert the following to this section:</p> <p>2) Type I Tape. During the proving period, ensure that the pavement marking material shows no signs of failure due to blistering, excessive cracking, bleeding, staining, discoloration, oil content of the pavement materials, drippings, chipping, spalling, poor adhesion to the pavement, loss of retroreflectivity, vehicular damage, and normal wear. Type I Tape is manufactured off site and warranted by the manufacturer to meet certain retroreflective requirements. As long as the material is adequately bonded to the surface and shows no signs of failure due to the other items listed in Subsection 714.03.06 A) 1), retroreflectivity readings will not be required. In the absence of readings, the Department will accept tape based on a nighttime visual observation.</p>																																							
<p>SUBSECTION: REVISION:</p>	<p>717.03.06 Marking Removal. Replace the third sentence of the paragraph with the following:</p> <p>Vacuum all marking material and removal debris concurrently with the marking removal operation.</p>																																							
<p>SUBSECTION: REVISION:</p>	<p>717.05 PAYMENT. Insert the following bid item codes:</p> <table border="0" data-bbox="386 852 1453 1247"> <thead> <tr> <th><u>Code</u></th> <th><u>Pay Unit</u></th> <th><u>Pay Item</u></th> </tr> </thead> <tbody> <tr> <td>06563</td> <td>Pave Marking – R/R X Bucks 16 IN</td> <td>Linear Foot</td> </tr> <tr> <td>20782NS714</td> <td>Pave Marking Thermo – Bike</td> <td>Each</td> </tr> <tr> <td>23251ES717, 23264ES717</td> <td>Pave Mark TY I Tape X-Walk, Size</td> <td>Linear Foot</td> </tr> <tr> <td>23252ES717, 23265ES717</td> <td>Pave Mark TY I Tape Stop Bar, Size</td> <td>Linear Foot</td> </tr> <tr> <td>23253ES717</td> <td>Pave Mark TY I Tape Cross Hatch</td> <td>Square Foot</td> </tr> <tr> <td>23254ES717</td> <td>Pave Mark TY I Tape Dotted Lane Extension</td> <td>Linear Foot</td> </tr> <tr> <td>23255ES717</td> <td>Pave Mark TY I Tape Arrow, Type</td> <td>Each</td> </tr> <tr> <td>23268ES717-23270ES717</td> <td></td> <td></td> </tr> <tr> <td>23256ES717</td> <td>Pave Mark TY I Tape- ONLY</td> <td>Each</td> </tr> <tr> <td>23257ES717</td> <td>Pave Mark TY I Tape- SCHOOL</td> <td>Each</td> </tr> <tr> <td>23266ES717</td> <td>Pave Mark TY 1 Tape R/R X Bucks-16 IN</td> <td>Linear Foot</td> </tr> <tr> <td>23267ES717</td> <td>Pave Mark TY 1 Tape-Bike</td> <td>Each</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Unit</u>	<u>Pay Item</u>	06563	Pave Marking – R/R X Bucks 16 IN	Linear Foot	20782NS714	Pave Marking Thermo – Bike	Each	23251ES717, 23264ES717	Pave Mark TY I Tape X-Walk, Size	Linear Foot	23252ES717, 23265ES717	Pave Mark TY I Tape Stop Bar, Size	Linear Foot	23253ES717	Pave Mark TY I Tape Cross Hatch	Square Foot	23254ES717	Pave Mark TY I Tape Dotted Lane Extension	Linear Foot	23255ES717	Pave Mark TY I Tape Arrow, Type	Each	23268ES717-23270ES717			23256ES717	Pave Mark TY I Tape- ONLY	Each	23257ES717	Pave Mark TY I Tape- SCHOOL	Each	23266ES717	Pave Mark TY 1 Tape R/R X Bucks-16 IN	Linear Foot	23267ES717	Pave Mark TY 1 Tape-Bike	Each
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<p>SUBSECTION: REVISION:</p>	<p>725.02.02 Type VI Class C & CT. Replace bullet 2) with the following:</p> <p>2) The SCI100GM System as developed by SCI Products, Inc. of St. Charles, Illinois. For all miscellaneous metal work conform to ASTM A 36 and galvanize according to ASTM A 123. For the SCI100GM fender panels conform to AASHTO 180. Galvanize the SCI100GM fender panels and SCI100GM -beam connectors after fabrication according to ASTM A 123.</p>																																							
<p>SUBSECTION: REVISION:</p>	<p>725.02.04 Type VII Class C. Replace bullet 2) with the following:</p> <p>2) The SCI100GM System as developed by SCI Products, Inc. of St. Charles, Illinois. For all miscellaneous metal work conform to ASTM A 36 and galvanize according to ASTM A 123. For the SCI100GM fender panels conform to AASHTO 180. Galvanize the SCI100GM fender panels and SCI100GM-beam connectors after fabrication according to ASTM A 123.</p>																																							
<p>SUBSECTION: REVISION:</p>	<p>801.01 REQUIREMENTS. Delete the fourth sentence of the first paragraph and add the following to the second paragraph.</p> <p>When supplying cement with a SO₃ content above the value in table I of ASTM C 150, include supportive ASTM C 1038 14-day expansion test data for the supplied SO₃ content on the certification.</p>																																							

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SUBSECTION: REVISION:	805.01 GENERAL. Replace the second paragraph with the following: The Department's List of Approved Materials includes the Aggregate Source List, the list of Class A and Class B Polish-Resistant Aggregate Sources, and the Concrete Restriction List.
SUBSECTION: REVISION:	805.04 CONCRETE. Delete footnote (1) The permissible lightweight particle content of gravel coarse aggregate for reinforced concrete box culvert sections, concrete pipe, pipe arches, or for use only in concrete that will be permanently protected from freezing by 2 feet or more of cover is 10.0 percent.
SUBSECTION: REVISION:	805.04 CONCRETE. Replace the "AASHTO T 160" reference in first sentence of the third paragraph with "KM 64-629"
SUBSECTION: TABLE: PART: REVISION:	805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE. AGGREGATE SIZE USE Cement Concrete Structures and Incidental Construction Replace "9-M for Waterproofing Overlays" with "8 or 9-M for Waterproofing Overlays"

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SUBSECTION: 805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE.
REVISION: Replace the "SIZES OF COARSE AGGREGATES" table in with the following:

SIZES OF COARSE AGGREGATES																	
AMOUNTS FINER THAN EACH LABORATORY SIEVE (SQUARE OPENINGS) PERCENTAGE BY WEIGHT																	
Aggregate Size	Sieve	4 inch	3 1/2 inch	3 inch	2 1/2 inch	2 inch	1 1/2 inch	1 inch	3/4 inch	1/2 inch	3/8 inch	No. 4	No. 8	No. 16	No. 30	No. 100	No. 200
Aggregate Size	Nominal ⁽¹⁾ Maximum Aggregate Size																
1	3 1/2 inch	100	90-100		25-60		0-15		0-5								
2	2 1/2 inch			100	90-100	35-70	0-15		0-5								
23	2 inch			100		40-90		0-15		0-5							
3	2 inch				100	90-100	35-70	0-15		0-5							
357	2 inch				100	95-100		35-70		10-30		0-5					
4	1 1/2 inch				100	90-100	20-55	0-15		0-5							
467	1 1/2 inch				100	95-100		35-70		10-30		0-5					
5	1 inch				100	90-100	20-55	0-10	0-5								
57	1 inch				100	95-100		25-60			0-10	0-5					
610	1 inch				100	85-100		40-75			15-40						
67	3/4 inch				100	90-100		20-55		0-10	0-5						
68	3/4 inch				100	90-100		30-65		5-25	0-10	0-5					
710	3/4 inch				100	80-100		30-75		0-30							
78	1/2 inch				100		90-100	40-75		5-25	0-10	0-5					
8	3/8 inch				100		85-100	10-30		0-10	0-5						
9-M	3/8 inch				100		75-100	0-25	0-5								
10 ⁽²⁾	No. 4				100			85-100				10-30					
11 ⁽²⁾	No. 4				100			40-90		10-40		0-5					
DENSE GRADED AGGREGATE ⁽¹⁾	3/4 inch				100			70-100		50-80		30-65			10-40		4-13
CRUSHED STONE BASE ⁽¹⁾	1 1/2 inch				100			90-100		60-95		30-70			5-20		0-8

⁽¹⁾ Gradation performed by wet sieve KM 64-620 or AASHTO T 117 T 27.
⁽²⁾ Sizes shown for convenience and are not to be considered as coarse aggregates.
⁽³⁾ Nominal Maximum Size is the largest sieve on the gradation table for an aggregate size on which any material may be retained.
 Note: The Department will allow blending of same source/same type aggregate when precise procedures are used such as cold feed, belt, or equivalent and combining of sizes or types of aggregate using the weigh hopper at concrete plants or controlled feed belts at the pugmill to obtain designated sizes.

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<p>SUBSECTION: REVISION:</p>	<p>805.16 SAMPLING AND TESTING. Replace the "AASHTO T 160" method with the "KM 64-629" method for the Concrete Beam Expansion Test. Replace the "ASTM D 3042" method with the "KM 64-625" method for Insoluble Residue.</p>									
<p>SUBSECTION: REVISION:</p>	<p>810.04.01 Coating Requirements. Replace the "Subsection 806.07" references with "Subsection 806.06"</p>									
<p>SUBSECTION: PART: REVISION:</p>	<p>810.06.01 Polyvinyl Chloride (PVC) Pipe. B) Culvert and Entrance Pipe. Replace the title with the following: B) Culvert Pipe, Storm Sewer, and Entrance Pipe.</p>									
<p>SUBSECTION: REVISION:</p>	<p>823.02 LIQUID MEMBRANE FORMING COMPOUNDS. Add the following: Effective July 1, 2011, to remain on or be added to the Department's approved list, products must have completed testing or been submitted for testing through the National Transportation Product Evaluation Program (NTPEP) for Concrete Curing Compounds.</p>									
<p>SUBSECTION: REVISION:</p>	<p>837.03 APPROVAL. Replace the last sentence with the following: The Department will sample and evaluate for approval each lot of thermoplastic material delivered for use per contract prior to installation of the thermoplastic material. Do not allow the installation of thermoplastic material until it has been approved by the Division of Materials. Allow the Department a minimum of 10 working days to evaluate and approve thermoplastic material.</p>									
<p>SUBSECTION: REVISION:</p>	<p>837.03.01 Composition. COMPOSITION Table: Replace <table border="1" data-bbox="391 1199 1295 1289"> <tr> <td>Lead Chromate</td> <td>0.0 max.</td> <td>4.0 min.</td> </tr> <tr> <td colspan="3">with</td> </tr> <tr> <td>Heavy Metals Content</td> <td colspan="2">Comply with 40 CFR 261</td> </tr> </table> </p>	Lead Chromate	0.0 max.	4.0 min.	with			Heavy Metals Content	Comply with 40 CFR 261	
Lead Chromate	0.0 max.	4.0 min.								
with										
Heavy Metals Content	Comply with 40 CFR 261									
<p>SUBSECTION: TABLE: REVISION:</p>	<p>842.02 APPROVAL. PAINT COMPOSITION Revise the following in the table: Replace the 2.0ΔE* values in the table with 4.0ΔE* for both Yellow and White Paint on both the Daytime and Nighttime Color Spectrophotometer.</p>									
<p>SECTION: REVISION:</p>	<p>DIVISION 800 MATERIAL DETAILS Add the following section in Division 800 SECTION 846 – DURABLE WATERBORNE PAINT 846.01 DESCRIPTION. This section covers quick-drying durable waterborne pavement striping paint for permanent applications. The paint shall be ready-mixed, one-component, 100% acrylic waterborne striping paint suitable for application on such traffic-bearing surfaces as Portland cement concrete, bituminous cement concrete, asphalt, tar, and previously painted areas of these surfaces. 846.02 Approval. Select materials that conform to the composition requirements below. Provide independent analysis data and certification for each formulation stating the total concentration of each heavy metal present, the test method used for each determination, and compliance to 40 CFR 261 for leachable heavy metals content. Submit initial samples for approval before beginning striping</p>									

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operations. The initial sample may be sent from the manufacture of the paint. The Department will randomly sample and evaluate the paint each week that the striping operations are in progress.

The non-volatile portion of the vehicle shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis. The acrylic resin used shall be a 100% cross-linking acrylic as evidenced by infrared peaks at wavelengths 1568, 1624, and 1672 cm⁻¹ with intensities equal to those produced by an acrylic resin known to be 100% cross-linking.

PAINT COMPOSITION		
Property and Test Method	Yellow	White
Daytime Color (CIELAB) Spectrophotometer using illuminant D65 at 45° illumination and 0° viewing with a 2° observer	L* 81.76 a* 19.79 b* 89.89 Maximum allowable variation 4.0ΔE*	L* 93.51 a* -1.01 b* 0.70 Maximum allowable variation 4.0ΔE*
Nighttime Color (CIELAB) Spectrophotometer using illuminant A at 45° illumination and 0° viewing with a 2° observer	L* 86.90 a* 24.80 b* 95.45 Maximum allowable variation 4.0ΔE*	L* 93.45 a* -0.79 b* 0.43 Maximum allowable variation 4.0ΔE*
Heavy Metals Content	Comply with 40 CFR 261	Comply with 40 CFR 261
Titanium Dioxide ASTM D 4764	NA	10% by weight of pigment min.
VOC ASTM D 2369 and D 4017	1.25 lb/gal max.	1.25 l /gal max.
Contrast Ratio (at 15 mils wft)	0.97	0.99

846.02.01 Manufacturers Certification. Provide a certification of analysis for each lot of traffic paint produced stating conformance to the requirements of this section. Report the formulation identification, traffic paint trade name, color, date of manufacturer, total quantity of lot produced, actual quantity of traffic paint represented, sampling method utilized to obtain the samples, and data for each sample tested to represent each lot produced.

846.03 ACCEPTANCE PROCEDURES FOR NON-SPECIFICATION DURABLE WATERBORNE PAVEMENT STRIPING PAINT. When non-specification paint is inadvertently incorporated into the work the Department will accept the material with a reduction in pay. The percentage deduction is cumulative based on its compositional properties, but will not exceed 60 percent. The Department will calculate the payment reduction on the unit bid price for the routes where the non-specification paint was used.

DURABLE WATERBORNE PAVEMENT STRIPING PAINT REDUCTION SCHEDULE						
Non-conforming Property	Resin	Color	Contrast	TiO ₂	VOC	Heavy Metals Content
Reduction Rate	60%	10%	10%	10%	60%	60%

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APPENDIX A: PART: REVISION:	TABLUTION OF CONSTRUCTION TOLERANCES. 601.03.03 Replace with the following: Concrete accuracy of individual ingredient material for each batch. ± 2.0% for aggregates ± 1.0% for water ± 1.0% for cement in batches of 4 cubic yards or greater ± 1.0% for total cementitious materials in batches of 4 cubic yards or greater 0.0% to + 4.0% for cement in batches less than 4 cubic yards 0.0% to + 4.0% for total cementitious materials in batches less than 4 cubic yards ± 3.0% for admixtures
APPENDIX A: PART: REVISION:	TABLUTION OF CONSTRUCTION TOLERANCES. 601.03.03 C) 2) Delete

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 or flip disk/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) Allow direct wiring for operation of the sign or arrow board from an external power source when desired.
- 7) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
- 8) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
- 9) 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.
- 10) 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.

- 11) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 12) Provide a photocell control to provide automatic dimming.
- 13) Allow an on-off flashing sequence at an adjustable rate.
- 14) Provide a sight to aim the message.
- 15) Provide a LED display color of approximately 590 nm amber.
- 16) Provide a controller that is password protected.
- 17) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 18) 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 Requirements for Flip-Disc Type Signs. Flip-disc type signs will have the following additional requirements:

- 1) Disc faces are fluorescent yellow on one side, and flat black on the reverse.
- 2) Discs are at least 3.5 square inches with a minimum character size of 5 discs horizontally by 7 discs vertically.
- 3) Discs are designed to operate without lubrication for at least 200 million operations.
- 4) Line change speed of 600 milliseconds or less.
- 5) When power is lost, the sign automatically becomes blank or displays a preprogrammed default message.

2.4 Power.

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. 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.
- 2) Diesel Power Source. Ensure the following is provided for:
 - a) At least 24 spare bulbs available on the project for quick replacement of burned out bulbs.
 - b) Black light at both top and bottom of each line to illuminate discs for visibility at night or under adverse weather conditions, for flip disk signs.

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- c) Diesel generator and electric start assembly, including batteries and a fuel capacity adequate to provide at least 72 hours continuous operation without refueling.
- d) Fuel gage.
- e) Provide all other specific features, such as bulb size, protection from sun glare, and shock protection for electronics and bulbs, to the satisfaction of the Engineer.

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. Unless the Contract specifies flip-disk signs, use Class I signs on interstates and parkways.

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 or disk.

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 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

January 5, 2010

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SPECIAL NOTE FOR STRUCTURAL MASS CONCRETE

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. This Special Note covers requirements for structural mass concrete placement. The Department considers mass concrete to be any concrete placement, excluding drilled shafts, with its least plan dimension being 5 feet or greater.

2.0 MATERIALS AND EQUIPMENT.

2.1 Cement. Conform to Section 801 or ASTM C595 for blended cements, Type IS or Type I(SM), except the slag constituent in Type IS is limited to 50 percent of the mass of the portland blast furnace slag.

2.2 Mineral Admixtures. Conform to Section 844 except the Department will permit fly ash Class F and Grade 100 ground granular blast furnace slag (GGBF) in addition to Grade 120.

2.3 Aggregate. Use coarse aggregate conforming to the freeze-thaw expansion requirements of Subsection 805.04.01 for use in all classes of structural mass concrete, excluding seal concrete.

2.4 Temperature Sensing Equipment. Use thermistor type temperature sensing devices, or an approved equal, capable of indicating temperatures over a range of 50 to 200 °F, with an accuracy of ± 1 °F and a precision of 1 °F. Connect the sensors to a device that continuously records and displays temperatures at intervals no greater than 4 hours, and produces a record that can be detached and filed.

3.0 CONSTRUCTION. When placing the mixture, do not allow its temperature to exceed 70 °F. Insulate the concrete until the thermal control is finished. Do not allow the concrete to exceed the maximum temperature of 160 °F at any time during the curing period.

3.1 Thermal Control Plan. Submit for approval a written Thermal Control Plan describing the procedures to be used to minimize temperature differentials within the concrete. Include all items required by this note, and other items deemed necessary or prudent.

Submit the Thermal Control Plan at least 30 calendar days before the first intended structural mass concrete placement. The Engineer will respond within 21 calendar days after receipt of the plan. Make any changes required by the Engineer and resubmit the plan. Continue this process until the Engineer approves the Thermal Control Plan.

Do not place structural mass concrete before receiving written approval of the Thermal Control Plan and having all equipment and materials necessary to facilitate the plan on the site and ready for use.

Approval of the Thermal Control Plan is independent of the submission of the trial mixtures.

The Department will allow the inclusion of the following items in the Thermal Control Plan.

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- 1) Reduction of the total cement content by the use of mineral admixtures. Mineral admixtures derived from blended cements, used as processing additions, or as ingredient materials will apply toward stated maximums.
 - a. Substitution of Class F fly ash for cement at the rate of 25 to 30 percent, by mass, applying a substitution rate of 1.0 to 1.25 pounds of fly ash added.
 - b. Substitution of GGBF for cement up to a maximum of 50 percent, by mass, applying a substitution rate of one pound of GGBF for each one pound of cement.
 - c. Mixes with both GGBF and Class F fly ash, permit up to but no more than 20 percent of the 50 percent GGBF maximum as Class F fly ash.
- 2) Sprinkle the mixer trucks' drums for cooling.
- 3) Arrange with supplier to avoid delivery of hot cement.
- 4) Cooling of aggregate stockpiles.
- 5) Use of a nitrogen gas cooling system to cool the concrete mass before placement.
- 6) Use of shaved, flaked, or chipped ice as part of the mixing water.
- 7) Embedment in the structural mass concrete of a cooling system, approved by the Engineer, consisting of non-corrosive piping and circulating fresh water. Filling of the pipe with concrete or grout after its usefulness has ended is required.
- 8) Placing concrete during the coolest part of the day, or during cooler weather.
- 9) Use of special cements or additives that will reduce heat of hydration without affecting strength or durability.

3.2 Thermal Control.

3.2.1 Temperature Differential Restrictions. Ensure that the temperature differential between the geometric center of each placement and the geometric surface does not exceed 35 °F at any time. Maintain thermal control of each placement until the temperature at the center is within 35 °F of the average outside air temperature. Determine the average outside air temperature by averaging the daily high and low temperatures over the preceding 7 calendar days.

3.2.2 Temperature Sensing and Recording. For each placement of structural mass concrete, install 4 temperature sensors, 2 at separate locations near the geometric center of each concrete placement and 2 at the approximate center of the exterior face that has the least sun exposure with the longest distance to the interior sensors. Place the exterior side sensors one inch below the exterior surface. The Department requires 2 sensors at each location in order to have a primary and secondary backup.

3.2.3 Failure to Comply. If the temperature differential within any structural mass concrete placement exceeds 35 °F, take immediate corrective action, suspend future placement of structural mass concrete, and submit a revised Thermal Control Plan to the Engineer for approval. Do not resume placing mass concrete without written approval from the Engineer.

3.3 Trial Mixtures. At least 30 calendar days prior to concrete placement, for each class of concrete used in structural mass concrete, make trial batches according to Subsection 601.03.02 G).

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3.4 Seal Concrete. Conform to all requirements herein this note for underwater placement of concrete seals, with the following exceptions.

- 1) The Department will not require thermistor devices.
- 2) The Department will not require insulation.
- 3) The Department will not require monitoring of the differential between interior and exterior temperatures.
- 4) When placing the mixture, do not allow its temperature to exceed 60° F.
- 5) Ensure seal concrete has the following properties:

Cementitious Content	564 lbs/cy
Maximum Free Water	0.47 lb water/lb cement
Slump	4-8 inches
Air Content	0-5%
28-day Compressive Strength	3,500 psi

3.5 Acceptance Testing. Conform to the specified 28-day compressive strength requirements for each class of concrete. The Department will make extra cylinders at the rate of one set per 100 cubic yards, except seal concrete shall be one set per 200 cubic yards, and will test them at an age of 7 days. The Department will cure the extra cylinders, after the first 24 hours, at a temperature between 60 °F and 80 °F. The extra cylinders will be expected to achieve a minimum 7-day compressive strength of 2,600 psi. If the 2,600 psi is not consistently achieved, take corrective action on future pours.

4.0 MEASUREMENT. The Department will not measure the work required by this Special Note as a separate pay unit and will consider it incidental to the various concrete bid items.

5.0 PAYMENT. When the temperature differential exceeds 35 °F during the thermal control period, the Department will adjust payment for the concrete within the affected placement by multiplying the contract unit price by the appropriate factor in the following table:

<u>Temperature Differential</u>	<u>Pay Factor</u>
36 to 40 °F	0.96
41 to 45 °F	0.90
46 °F or higher	0.80

When the 35 °F differential is exceeded for more than one 24-hour period, the Department will apply the pay factor for the maximum differential that occurs. Begin measuring temperature differential 12 hours after the last concrete placement.

January 1, 2008

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 2008 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Construct a soil, granular, or rock embankment with 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 2008 Standard Specifications.

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 Granular Pile Core. 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.

2.4 Cohesive Pile Core. 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 6 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.

2.5 Structure Granular Backfill. Conform to Subsection 805.11

2.6 Geotextile Fabric. Conform to Type I or Type IV in Section 214 and 843 as required in the plans.

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 granular or cohesive pile core, soil, granular or rock embankment, and structure granular backfill according to the applicable density requirements for the project. When constructing granular or rock embankments, use granular pile core for driven pile foundations and use cohesive pile core for pre-drilled pile or drilled shaft foundations. Place geotextile fabric, Type IV between cohesive pile core and structure granular backfill and granular or rock embankment.

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 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 or install shafts, 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.

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 removing adjacent forms, fill the excavation with structure granular backfill material to the level of the berm prior to placing beams for the bridge. For soil embankments, 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 structure granular backfill to subgrade elevation. If the original excavation is enlarged, fill the entire volume with compacted structure granular backfill 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 structure granular backfill prior to placing aggregate base course.

Tamp the backfill with hand tampers, pneumatic tampers, or other means the Engineer approves. 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 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. (embankments requiring rock with none present within project excavation limits will be constructed using granular embankment)

4.3 Granular Pile Core. 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 furnishing and placing 8-inch perforated underdrain pipe and will consider it incidental to the Granular pile core. The Department will not measure for payment any granular pile core that is necessary because the contractor elects to use granular or rock embankment when it is not specified in the plans.

4.4 Cohesive Pile Core. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204.

4.5 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.

When following construction sequence “A”, as shown on the Standard Drawings, the Department will not measure structure excavation at the end bent for payment and will consider it incidental to Structure Granular Backfill.

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

4.6 Geotextile Fabric. The Department will measure the quantities as specified in Section 214. The Department will not measure the quantity of fabric used for separating granular or rock embankment and cohesive pile core and will consider it incidental to cohesive pile core.

4.7 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.

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
20209EP69	Granular Pile Core	Cubic Yards
20210EP69	Cohesive Pile Core	Cubic Yards

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02231	Structure Granular Backfill	Cubic Yards
02596, 02599	Geotextile Fabric, Type	See Section 214

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

April 24, 2008

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

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

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ATTACHMENTS

- A. Employment Preference for Appalachian Contracts
(included in Appalachian contracts only)

I. GENERAL

1. 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.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

- Section I, paragraph 2;
- Section IV, paragraphs 1, 2, 3, 4, and 7;
- Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 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 DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

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 and 41 CFR 60) 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 Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American 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 State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his 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, preapprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO 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 minority group employees.

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 minority groups 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 minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group 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, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group 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 his 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 his avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

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. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

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 minority group and women employees 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 his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. 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 best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best 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 SHA 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 minority and women 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 minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) 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 SHA.

8. 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.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. 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 completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

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

(1) The number 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;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA 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. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers 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 (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) 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. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, 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 paragraphs 4 and 5 of this Section IV.

b. 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.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification 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 DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour 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.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional 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. Said 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

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

a. 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 or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a 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.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

(1) 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 DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/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 Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees 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 employee 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 listed in 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 or subcontractor 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-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) 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 journeyman-level 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 for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) 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 DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. 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.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level 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-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor 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. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under an approved definition, shall be paid not less than the applicable wage rate on the wagedetermination for the classification of work actually performed.

5. 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.

6. Withholding:

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor 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, as 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 SHA contracting officer 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.

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her 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, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies 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 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof 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. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found 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 and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

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

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such 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 the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of worked performed, as specified in the applicable wage determination incorporated into the contract.

e. 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 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, 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 SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions 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.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

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 State. 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).

a. "Its own organization" shall be construed to include only workers employed and paid directly 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, assignee, or agent of the prime contractor.

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 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 VII 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 SHA 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 SHA 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 SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

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 SHA 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. 333).

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. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

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, the following notice 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:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

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 not more than \$10,000 or imprisoned not more than 5 years or both."

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

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

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

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

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

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary 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 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 primary 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 department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary 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," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which

this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary 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 primary 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 Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. 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.

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.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement 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;

c. 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 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary 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 Covered Transactions:

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

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," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

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.

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 may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

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 Covered Transactions:

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 participation in this transaction 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.

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(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 his or her bid or proposal that he or she 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.

**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 (between forty and seventy); 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 (between forty and seventy). 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, disability or age (between forty and seventy), except that such notice or advertisement may indicate a preference, limitation, or specification based on religion, or national origin when religion, or national origin 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 (between forty and seventy), 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: 12-3-92

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 (6) provides:

No present or former public servant shall, within six (6) months of 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 the state in matters in which he was directly involved during 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, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved 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.

KRS 11A.040 (8) states:

A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, 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, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Tender.....	\$ 19.80	8.50
(04) Asphalt Lute and Rakerman, Side Rail Setter..	\$ 19.85	8.50
(05) Gunnite Nozzxleman, Gunnite Operator.....	\$ 19.95	8.50
(06) Tunnel Laborer (Free Air).....	\$ 20.00	8.50
(07) Tunnel Mucker (Free Air).....	\$ 20.05	8.50
(08) Tunnel Miner, Blaster and Driller (free Air).....	\$ 20.40	8.50
(09) Caisson Worker.....	\$ 20.95	8.50
(10) Powderman.....	\$ 21.05	8.50
(11) Drill Operator of Percussion Type Drills powered and propelled by an independent air supply...	\$ 22.25	8.50

PAINTER

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

PLUMBER.....\$ 22.52 7.80

POWER EQUIPMENT OPERATOR:

GROUP 1.....	\$ 24.10	8.50
GROUP 2.....	\$ 21.20	8.50
GROUP 3.....	\$ 21.40	8.50
GROUP 4.....	\$ 20.79	8.50

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1: Auto Patrol, Batcher 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, Elevating Grader and all types of Loaders, Hoe-type Machine, Hoisting Engine, Locomotive, LeTourneau or carry-all scoop, Bulldozer, Mechanic, Orangepeel Bucket, Piledriver Operator, 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, m 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, 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 (under 212 cu ft), Welding Machine, Form Grader, Tractor (50 hp and over), Bulll 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		
(01) Truck Tender and Warehouseman.....	\$ 19.70	8.50
(02) Driver, Winch Truck and A-Frame when used in Transporting Materials.....	\$ 19.80	8.50
(03) Driver (Semi-trailer or Pole Trailer), Driver (Dump Truck, Tandem Axle), Driver of Distributor.....	\$ 19.90	8.50
(04) Driver on Mixer Trucks (all types).....	\$ 19.95	8.50
(05) Truck Mechanic.....	\$ 20.00	8.50
(06) Driver (3 tons and under), Tire Changer, Truck Mechanic Tender.....	\$ 20.03	8.50
(07) Driver on Pavement Breakers.....	\$ 20.05	8.50
(08) Driver (over 3 tons), Driver (Truck Mounted Rotary Drill).....	\$ 20.24	8.50
(09) Driver, Euclid and other Heavy Earth Moving Equipment.....	\$ 20.81	8.50
(10) Greaser on greasing facilities.....	\$ 20.90	8.50

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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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 (29 CFR 5.5(a)(1)(ii)).

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In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

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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.

END OF GENERAL DECISION

Kentucky Determination No. CR-11-II-HWY dated August 04, 2011

	BASIC HOURLY RATES	FRINGE BENEFIT PAYMENTS COMBINED
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CRAFTS:

Boilermakers	24.65	12.94
Bricklayers	22.90	8.50
Stone Mason	21.50	8.50
Carpenters	22.40	8.75
Cement Masons	21.25	8.50
Electricians	*29.36	10.55

*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 a direct 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.

LINEMAN :

*BASE RATE	30.09
FRINGE BENEFITS....	10.94

EQUIPMENT OPERATOR:

*BASE RATE	26.90
FRINGE BENEFITS	10.31

GROUNDSMAN:

*BASE RATE.....	17.79
FRINGE BENEFITS.....	8.51

<u>IRONWORKERS:</u>	25.77	18.54
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Painters:

All Excluding Bridges	19.92	9.57
Bridges	23.92	10.07
Piledrivers	22.05	8.75
Plumbers	22.52	7.80
Sheet Metal	20.40	7.80

Welders- Receive rate for craft in which welding is incidental.

LABORERS:

General Laborer, Flagman, Steam Jenny.	BASE RATE.....	20.84
	FRINGE BENEFITS.....	8.75

Batch Truck Dumper, Deck Hand or Scow Man,
 Hand Blade Operator.

BASE RATE.....	20.84
FRINGE BENEFITS.....	8.75

Kentucky Determination No. CR-11-II-HWY dated August 04, 2011

LABORERS: (continued)

Power Driven Tool Operator of the following: Wagon Drill, Chain Saw, Sand Blaster, Concrete Chipper, Pavement Breaker, Vibrator, Power Wheelbarrow, Power Buggy, Sewer Pipe Layer, Bottom Men, Dry Cement Handler, Concrete Rubber, Mason Tender.

BASE RATE 21.09
FRINGE BENEFITS 8.75

Asphalt Lute and Rakerman, Side Rail Setter.

BASE RATE 21.14
FRINGE BENEFITS 8.75

Gunnite Nozzle Man, Gunnite Operator.

BASE RATE 21.14
FRINGE BENEFITS 8.75

Tunnel Laborer (Free Air).

BASE RATE 21.14
FRINGE BENEFITS 8.75

Tunnel Mucker (Free Air).

BASE RATE 21.74
FRINGE BENEFITS 8.75

Tunnel Miner, Blaster and Driller (Free Air).

BASE RATE 21.74
FRINGE BENEFITS 8.75

Caisson Worker

BASE RATE 21.74
FRINGE BENEFITS 8.75

Powderman

BASE RATE 21.44
FRINGE BENEFITS 8.75

Drill Operator of Percussion type Drills which are both powered and propelled by an independent air supply.

BASE RATE 22.64
FRINGE BENEFITS 8.75

Kentucky Determination No. CR-11-II-HWY dated August 04, 2011

TRUCK DRIVERS AND RELATED CLASSIFICATIONS:

Truck helper and Warehouseman.	BASE RATE21.10 FRINGE BENEFITS8.75
Driver, Winch Truck and A-Frame when used in transporting materials.	BASE RATE21.46 FRINGE BENEFITS8.75
Driver (Semi-Trailer or Pole Trailer), Driver (Dump Truck, Tandem Axle), Driver of Distributor.	BASE RATE21.45 FRINGE BENEFITS8.75
Driver on Mixer Trucks (All Types).	BASE RATE21.45 FRINGE BENEFITS8.75
Truck Mechanic	BASE RATE21.38 FRINGE BENEFITS8.75
Driver (3 tons and under), Tire Changer and Truck Mechanic Helper.	BASE RATE21.15 FRINGE BENEFITS8.75
Driver on Pavement Breakers.	BASE RATE21.46 FRINGE BENEFITS8.75
Driver (over 3 tons), Driver (Truck Mounted Rotary Drill).	BASE RATE21.45 FRINGE BENEFITS8.75
Driver, Euclid and other Heavy Earth Moving Equipment and Low Boy.	BASE RATE21.46 FRINGE BENEFITS8.75
Greaser on Greasing Facilities.	BASE RATE21.15 FRINGE BENEFITS8.75

Kentucky Determination No. CR-11-II-HWY dated August 04, 2011

OPERATING ENGINEERS:

GROUP A:

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 Points, 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, Gradeall, Hoist, Hyster, Material Pump, Pumpcrete, Ross Carrier, Sheep Foot, 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.

BASE RATE23.80
FRINGE BENEFITS8.75

GROUP B:

All Air Compressors (200 cu. ft. per min. or greater capacity), Bituminous Mixer, Concrete Mixer (under 21 cu. ft.), Welding Machine, Form Grader, Tractor (50 H.P. and over), Bull Float, Finish Machine, Outboard Motor Boat, Brakeman, Mechanic Helper, Whirley Oiler, Tractair and Road Widening Trencher, Articulating Trucks.

BASE RATE21.55
FRINGE BENEFITS 8.75

GROUP B2:

Greaser on grease facilities servicing heavy equipment.

BASE RATE21.90
FRINGE BENEFITS8.75

GROUP C:

Bituminous Distributor, Cement Gun, Conveyor, Mud Jack, Paving Joint Machine, Pump, Tamping Machine, Tractors (under 50 H.P.), Vibrator, Oiler, Air Compressors (under 200 cu. ft. per min. capacity), Concrete Saw, Burlap and Curing Machine, Hydro Seeder, Power Form Handling Equipment, Deckhand Oiler, Hydraulic Post Driver.

BASE RATE21.31
FRINGE BENEFITS 8.75

Kentucky Determination No. CR-11-II-HWY dated August 04, 2011

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 the General Laborer except those classified as bona fide apprentices registered with the Kentucky State Apprenticeship Supervisor unless otherwise specified in this schedule of wage rates.

These rates are listed pursuant to the Kentucky Determination No. CR-11-II HWY dated August 04, 2011. 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.

Kentucky Determination No. CR-11-II-HWY dated August 04, 2011

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 to the undersigned.

Ryan Griffith, Director
Division of Construction Procurement
Frankfort, Kentucky 40622

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

These rates are listed pursuant to the Kentucky Determination No. CR-11-II- HWY dated August 04, 2011

NOTE: Both Kentucky Determination No. CR-11-II-HWY and Federal Decision No. KY215 dated October 22, 2010 apply to this project. Both sets of wage rates are included. If there is a difference in the two wages for the same classification, the Contractor is required to pay the higher of the two listed wages.

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.

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Ryan Griffith, Director
Division of Construction Procurement
Frankfort, Kentucky 40622

**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

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 COUNTY: PIKE
 PROPOSAL: BRO 5365 (011)

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
SECTION 0001 PAVING						
0010	00001	DGA BASE	2,640.000	TON		
0020	00080	CRUSHED AGGREGATE SIZE NO 23	850.000	TON		
0030	00100	ASPHALT SEAL AGGREGATE	12.240	TON		
0040	00214	CL3 ASPH BASE 1.00D PG64-22	3,221.000	TON		
0050	00291	EMULSIFIED ASPHALT RS-2	1.480	TON		
0060	00339	CL3 ASPH SURF 0.38D PG64-22	301.000	TON		
SECTION 0002 ROADWAY						
0070	01310	REMOVE PIPE	30.000	LF		
0080	02014	BARRICADE-TYPE III	4.000	EACH		
0090	02091	REMOVE PAVEMENT	414.000	SQYD		
0100	02159	TEMP DITCH	1,810.000	LF		
0110	02200	ROADWAY EXCAVATION	3,459.000	CUYD		
0120	02223	GRANULAR EMBANKMENT	81.000	CUYD		
0130	02242	WATER	300.000	MGAL		
0140	02351	GUARDRAIL-STEEL W BEAM-S FACE	900.000	LF		
0150	02355	GUARDRAIL-STEEL W BEAM-S FACE A	75.000	LF		
0160	02360	GUARDRAIL TERMINAL SECTION NO 1	5.000	EACH		
0170	02391	GUARDRAIL END TREATMENT TYPE 4A	3.000	EACH		
0180	02399	EXTRA LENGTH GUARDRAIL POST	15.000	EACH		
0190	02429	RIGHT-OF-WAY MONUMENT TYPE 1	22.000	EACH		

KENTUCKY TRANSPORTATION CABINET
 DEPARTMENT OF HIGHWAYS
 FRANKFORT, KY 40622

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0200	02432	WITNESS POST	3.000	EACH		
0210	02545	CLEARING AND GRUBBING (1.47 ACRES)	(1.00)	LS		
0220	02562	SIGNS	433.000	SQFT		
0230	02585	EDGE KEY	125.000	LF		
0240	02599	FABRIC-GEOTEXTILE TYPE IV	5,673.000	SQYD		
0250	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	317.000	SQYD	2.00	634.00
0260	02610	RETAINING WALL-GABION	420.000	CUYD		
0270	02650	MAINTAIN & CONTROL TRAFFIC	(1.00)	LS		
0280	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.000	EACH		
0290	02676	MOBILIZATION FOR MILL & TEXT	(1.00)	LS		
0300	02677	ASPHALT PAVE MILLING & TEXTURING	19.000	TON		
0310	02690	SAFELOADING	5.000	CUYD		
0320	02701	TEMP SILT FENCE	3,230.000	LF		
0330	02704	SILT TRAP TYPE B	8.000	EACH		
0340	02705	SILT TRAP TYPE C	3.000	EACH		
0350	02707	CLEAN SILT TRAP TYPE B	24.000	EACH		
0360	02708	CLEAN SILT TRAP TYPE C	9.000	EACH		
0370	02709	CLEAN TEMP SILT FENCE	6,460.000	LF		
0380	02726	STAKING	(1.00)	LS		
0390	05950	EROSION CONTROL BLANKET	153.000	SQYD		
0400	05952	TEMP MULCH	8,337.000	SQYD		

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0410	05953	TEMP SEEDING AND PROTECTION	7,114.000 SQYD		
0420	05966	TOPDRESSING FERTILIZER	0.120 TON		
0430	05985	SEEDING AND PROTECTION	2,337.000 SQYD		
0440	06510	PAVE STRIPING-TEMP PAINT-4 IN	5,176.000 LF		
0450	06514	PAVE STRIPING-PERM PAINT-4 IN	5,848.000 LF		
0460	06568	PAVE MARKING-THERMO STOP BAR-24IN	54.000 LF		
0470	10020NS	FUEL ADJUSTMENT	4,800.000 DOLL	1.00	4,800.00
0480	10030NS	ASPHALT ADJUSTMENT	8,458.000 DOLL	1.00	8,458.00
SECTION 0003 DRAINAGE					
0490	00440	ENTRANCE PIPE-15 IN	30.000 LF		
0500	00441	ENTRANCE PIPE-18 IN	184.000 LF		
0510	00462	CULVERT PIPE-18 IN	112.000 LF		
0520	00464	CULVERT PIPE-24 IN	82.000 LF		
0530	00470	CULVERT PIPE-48 IN	98.000 LF		
0540	00522	STORM SEWER PIPE-18 IN	184.000 LF		
0550	01433	SLOPED BOX OUTLET TYPE 1-18 IN	2.000 EACH		
0560	01450	S & F BOX INLET-OUTLET-18 IN	1.000 EACH		
0570	01490	DROP BOX INLET TYPE 1	1.000 EACH		
0580	01535	DROP BOX INLET TYPE 6F	1.000 EACH		
0590	01550	DROP BOX INLET TYPE 12A	6.000 LF		
0600	01650	JUNCTION BOX	2.000 EACH		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0610	08100	CONCRETE-CLASS A	3.270	CUYD		
0620	08150	STEEL REINFORCEMENT	248.000	LB		
0630	23131ER701	PIPELINE VIDEO INSPECTION	238.000	LF		
SECTION 0004 BRIDGE						
0640	02231	STRUCTURE GRANULAR BACKFILL	384.000	CUYD		
0650	02596	FABRIC-GEOTEXTILE TYPE I	216.000	SQYD		
0660	02731	REMOVE STRUCTURE	(1.00)	LS		
0670	02998	MASONRY COATING	345.000	SQYD		
0680	03299	ARMORED EDGE FOR CONCRETE	128.000	LF		
0690	08001	STRUCTURE EXCAVATION-COMMON	313.000	CUYD		
0700	08019	CYCLOPEAN STONE RIP RAP	299.000	TON		
0710	08033	TEST PILES	40.000	LF		
0720	08046	PILES-STEEL HP12X53	533.000	LF		
0730	08100	CONCRETE-CLASS A	222.700	CUYD		
0740	08104	CONCRETE-CLASS AA	47.900	CUYD		
0750	08150	STEEL REINFORCEMENT	11,686.000	LB		
0760	08151	STEEL REINFORCEMENT-EPOXY COATED	6,445.000	LB		
0770	08665	PRECAST PC BOX BEAM CB33-48	672.000	LF		
0780	08801	GUARDRAIL-STEEL W BEAM-S FACE BR	177.000	LF		
SECTION 0005 WATERLINE						
0790	01091	DUCTILE IRON PIPE-4 IN	140.000	LF		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0800	01315	BLOW-OFF ASSEMBLY	1.000	EACH		
0810	03479	TIE-IN	2.000	EACH		
0820	03523	GATE VALVE-3 IN	2.000	EACH		
SECTION 0006 RETAINING WALL						
0830	02351	GUARDRAIL-STEEL W BEAM-S FACE	225.000	LF		
0840	02596	FABRIC-GEOTEXTILE TYPE I	192.000	SQYD		
0850	08001	STRUCTURE EXCAVATION-COMMON	100.000	CUYD		
0860	08019	CYCLOPEAN STONE RIP RAP	205.000	TON		
0870	08039	PRE-DRILLING FOR PILES (ROCK)	165.000	LF		
0880	08039	PRE-DRILLING FOR PILES (SOIL)	600.000	LF		
0890	08100	CONCRETE-CLASS A	153.700	CUYD		
0900	08151	STEEL REINFORCEMENT-EPOXY COATED	19,311.000	LB		
0910	08170	SHEAR CONNECTORS (APPROXIMATELY 323 REQUIRED)	(1.00)	LS		
0920	24102EC	PILES-STEEL W14 X 176	970.000	LF		
0930	24132EC	TIMBER LAGGING	1,029.000	SQFT		
SECTION 0007 DEMOBILIZATION						
0940	02569	DEMOBILIZATION (AT LEAST 1.5%)		LUMP		
		TOTAL BID				