



**CALL NO. 419**

**CONTRACT ID. 121010**

**MUHLENBERG COUNTY**

**FED/STATE PROJECT NUMBER 089GR12D004-JL03**

**DESCRIPTION INTERSECTIONS OF US 62-KY 181 AND US 62-KY 171**

**WORK TYPE GRADE & DRAIN WITH ASPHALT SURFACE**

**PRIMARY COMPLETION DATE 8/15/2012**

**LETTING DATE: April 20, 2012**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME April 20, 2012. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

**ROAD PLANS**

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

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**PART I**  
**SCOPE OF WORK**

ADMINISTRATIVE DISTRICT - 02

COUNTY - MUHLENBERG  
089GR12D004-JL03

COUNTY - MUHLENBERG  
JL03 089 0062 009-010

INTERSECTION OF US 62 AND KY 171 RECONSTRUCT THE US 62-KY 171 INTERSECTION BY ADDING TURN LANES TO IMPROVE EFFICIENCY AND SAFETY. GRADE & DRAIN WITH ASPHALT SURFACE. SYP NO. 02-00138.20.

COUNTY - MUHLENBERG  
JL03 089 0062 010-011

INTERSECTION OF US 62 AND KY 181 RECONSTRUCT THE US 62-KY 181 INTERSECTION BY ADDING TURN LANES TO IMPROVE EFFICIENCY AND SAFETY. GRADE & DRAIN WITH ASPHALT SURFACE. SYP NO. 02-00138.10.

COMPLETION DATE - August 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](http://www.transportation.ky.gov/contract))

The Bidder must download the bid file located on the Bid Express website ([www.bidx.com](http://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](mailto: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](http://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.

**SPECIAL NOTE FOR RECIPROCAL PREFERENCE**

**Reciprocal preference to be given by public agencies to resident bidders**

**By reference, KRS 45A.490 to 45A.494 are incorporated herein and in compliance regarding the bidders residency. Bidders who want to claim resident bidder status should complete the Affidavit for Claiming Resident Bidder Status along with their bid in the Expedite Bidding Program. Submittal of the Affidavit should be done along with the bid in Bid Express.**

### **EXPEDITE PROJECT WORK ORDER**

The Contractor may request that the Department expedite the work order for this project to allow for maximization of time to complete the work. In order for the Department to accomplish this task, the Contractor may be required to “hand carry” all required project documentation to facilitate the process. Immediately UPON NOTIFICATION OF AWARD OF THE CONTRACT, deliver required project documentation to:

Division of Construction Procurement  
200 Mero St.  
Frankfort, KY 40602

### **ASPHALT MIXTURE**

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

### **INCIDENTAL SURFACING**

The Department has included in the quantities of asphalt mixtures established in the proposal estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, curve widening, ramp gores and tapers, and road and street approaches, as applicable. Pave these areas to the limits as shown on Standard Drawing RPM-110-05 or as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, pave the crossroads to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. Surface or resurface these areas as directed by the Engineer. The Department will not measure placing and compacting for separate payment but shall be incidental to the Contract unit price for the asphalt mixtures.

### **OPTION B**

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

## 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: March 14, 2012

Project Name: US 62 at Greenville

Letting Date: \_\_\_\_\_

Project #: FD04 C089 7373301R

County: Mulenberg

Item #: 02-138.10

Federal #: \_\_\_\_\_

Description of Project: Reconstruct US 62 from KY 189 to KY 181 at Greenville.

### 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: Jennifer K. Cox  
Printed Name

[Signature] Right-of-Way Supervisor  
Signature

Approved: DAVID L. ORR  
Printed Name

[Signature] 3/14/12  
Signature KYTC, Director of ROW & Utilities

Approved: \_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature FHWA, ROW Officer (when applicable)

# Right-of-Way Certification Form

Revised 2/22/11

Date: March 14, 2012

Project Name: US 62 at Greenville  
Project #: FD04 C089 7373301R  
Item #: 02-138.10  
Letting Date: \_\_\_\_\_

County: Muhlenberg  
Federal #: \_\_\_\_\_

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.

9 Parcels where acquired by a signed fee simple deed and fair market value has been paid

1 Parcels have been acquired by IOJ through condemnation and fair market value has been deposited with the court

\_\_\_\_\_ Parcels have not been acquired at this time (*explain below for each parcel*)

\_\_\_\_\_ 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*)

\_\_\_\_\_ Relocates 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

## 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: March 14, 2012

Project Name: US 62 at Greenville

Letting Date: \_\_\_\_\_

Project #: FD04 C089 7373302R

County: Mulenberg

Item #: 02-138.20

Federal #: \_\_\_\_\_

Description of Project: Reconstruct US 62 from KY 189 to KY 181 at Greenville.

### 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: Jennifer K. Cox  
Printed Name

[Signature] Right-of-Way Supervisor  
Signature

Approved: David L. Orr  
Printed Name

[Signature] 3/14/12  
Signature KYTC, Director of ROW & Utilities

Approved: \_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature FHWA, ROW Officer (when applicable)



# Right-of-Way Certification Form

Revised 2/22/11

Date: March 14, 2012

Project Name: US 62 at Greenville  
Project #: FD04 C089 7373302R  
Item #: 02-138.20  
Letting Date: \_\_\_\_\_

County: Muhlenberg  
Federal #: \_\_\_\_\_

This project has 19 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.

19 Parcels where acquired by a signed fee simple deed and fair market value has been paid

\_\_\_\_\_ Parcels have been acquired by IOJ through condemnation and fair market value has been deposited with the court

\_\_\_\_\_ Parcels have not been acquired at this time (*explain below for each parcel*)

\_\_\_\_\_ 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*)

\_\_\_\_\_ 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

UTILITY NOTES TO BE INCLUDED IN THE PROPOSAL  
**SPECIAL NOTES FOR UTILITY CLEARANCE**  
**IMPACT ON CONSTRUCTION**

**Muhlenberg County**  
**2-138.10 & 2-138.20**  
**JL03 089 0062 010-011 & JL03 089 0062 009-010**  
**US 62 /KY 171/KY 181 intersections**

The following is a list of utility companies involved on this project, the contractor is advised to use caution and call **BUD** prior to beginning work. All utilities included in the roadway contract will have to be relocated prior to the roadway construction.

**Atmos Energy-** Has their facilities relocated.

**Kentucky Utilities** – Has their facilities relocated on the KY 171 / US 62 intersection. They will finish the KY181 / US 62 Intersection by June 15<sup>th</sup> 2012

**AT& T** – Has their facilities relocated.

**Comcast** – Will complete the reaction on the KY 171 / US 62 intersection by May 15<sup>th</sup> 2012. They will complete the relocation on the KY181 / US 62 by June 15<sup>th</sup> 2012.

**City of Greenville Water and Sewer** - Has included their relocation work into the roadway contract.

**PROTECTION OF UTILITIES**

The location of utilities provided in the contract documents has been furnished by the facility owners and/or by reviewing record drawings and may not be accurate. It will be the roadway contractor's responsibility to locate utilities before excavating by calling the various utility owners and by examining any supplemental information supplied by the Cabinet. 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. The cost of repair and any other associated costs for any damage to utilities caused by the roadway contractor's operations shall be borne by the roadway contractor.

The contractor is advised to contact the **BUD one-call system at 811** at least two working days prior to excavating. Contractor should be aware that owners of underground facilities are not required to be members of the BUD one-call system. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the project area.

## **12.16 WATER PIPE AND FITTINGS**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. Water pipe shall be furnished and installed as planned and specified herein for proposed water mains, service lines, force mains, and related appurtenances.

#### **1.02 RELATED WORK**

- A. For casing pipe and boring and jacking see Section 12.13.
- B. For valves and fire hydrants see Section 12.62.
- C. For miscellaneous water appurtenances see Section 12.63.

#### **1.03 SUBMITTALS**

- A. Submittal Requirements
  - 1. Shop Drawings are required.
  - 2. All testing and certification requirements for descriptive literature remain as described herein.

### **PART 2 - PRODUCTS**

#### **2.01 MATERIALS**

- A. Ductile Iron Pipe - Mechanical and Rubber Slip Joint Type
  - 1. Pipe
    - a. General

(1) Ductile iron pipe shall be furnished for all piping three (3) inches and over in size designated "D.I." on Drawings and shall be designed according to ANSI/AWWA C150/A21.50-91 and ANSI/AWWA C151/A21.51-91 specifications and supplements thereto, and for pressures and conditions as stated in Article b below.

b. Design Conditions

- (1) Pressure: Minimum 250 p.s.i. operating pressure, as shown in Table below, plus 100 p.s.i. water hammer allowances.
- (2) Trench Loading: Laying Condition Type 3, depth of cover as shown on Drawings.

c. Metal Design Strength (Minimum)

Tensile Strength	60,000 p.s.i.
Yield Strength	42,000 p.s.i.
Percent Elongation	10 percent

d. Minimum Nominal Thickness

- (1) Minimum design thicknesses for 200 through 350 p.s.i. operating pressure, depths of cover, trench loading, and other conditions per ANSI/AWWA C150/A21.50-91 specifications shall be as shown in the following table:

TABLE OF THICKNESSES FOR DUCTILE IRON PIPE				
Size	Outside	Standard	Standard	
	Diameter	Thickness	Laying condition	
	Trench		Wall	Type 3
	Bell	Class	Thickness	Maximum
	Depth (in.)	(p.s.i.)	(in.) Cover (ft.)	of
4"	4.80	51	0.26	
6"	6.90	50	0.25	44
8"	9.05	50	0.27	36
10"	11.10	50	0.29	29
12"	13.20	51	0.34	27

- (2) For depths of cover exceeding those in the above table, refer to ANSI/AWWA C150/A21.50-91.

e. Lengths

(1) Pipe may be furnished in 18 or 20-foot nominal laying lengths.

f. Marking

(1) The net weight, class or nominal thickness, and casting period shall be shown on each pipe. The manufacturer's mark, the year in which the pipe was produced, and the letters "DI" or "DUCTILE" shall be cast or stamped on the pipe.

g. Weighing

(1) Each pipe shall be weighed before application of lining or coating other than standard coating and the weight shown on the outside or inside of the bell or spigot end.

h. Spigot End of Pipe

(1) The spigot end of the pipe shall be free of blemishes and defects that, in the opinion of the Engineer or the City of Greenville, might be responsible for a poor fit with the rubber ring gasket and result in leakage.

2. Fittings

a. General

(1) Ductile iron compact fittings, meeting the requirements of ANSI/AWWA C153/A21.53-94, shall be used through 12-inch diameter.

(2) Fittings shall be 350 p.s.i. pressure rating for sizes through 12-inch.

(3) Fittings shall be furnished complete with all joint accessories.

b. Lining and Coating

(1) All fittings shall be lined and coated the same as adjacent pipe.

3. Joints

a. General

(1) Pipe joints shall be a mechanical joint, rubber ring slip joint, or locked mechanical joints as shown on the Construction Plans.

(2) All items used for jointing pipe shall be furnished with the pipe. The joints shall be made with tools and lubricant in strict conformity with the manufacturer's instructions. Copies of the instructions shall be delivered to the Engineer and the City of Greenville at the start of construction in sufficient numbers that will permit the City of Greenville to retain two (2) copies.

b. Mechanical Joints

(1) Mechanical joints are to be furnished according to ANSI/AWWA C111/A21.11-90. All pipe joints must be furnished complete with all accessories. Mechanical joint bolts and nuts shall be of alloy cast iron or alloy steel (Corten type such as U.S. Alloy) or equal. Rubber gaskets shall be made of plain, first grade rubber, free of imperfections, and porosity. Hardness shall be  $75 \pm 5$  durameter.

c. Rubber Ring Slip Joint (Push on)

(1) Rubber ring slip joint shall be equal to ANSI/AWWA C111/A21.11-90. The joints shall be of the following materials and assembled in the sequence outlined below:

a. Rubber ring gasket  
compressed in groove in the bell of pipe.

b. Beveled spigot end of pipe for  
initial centering into rubber gasket in the bell.

4. Lining and Coating for Water Service

a. Water Service

(1) All ductile iron pipe and fittings for water service shall have manufacturer's standard outside

bituminous or asphaltic base coating and a cement lining and a bituminous seal coat on the inside. Cement mortar lining and bituminous seal coats inside shall conform to ANSI/AWWA C104/A21.4-90.

b. Bitumastic Finish Coat

(1) Only a coal tar outside coating, or other compatible coating, shall be applied to pipe, which is to receive a bitumastic finish coating.

B. Copper Pipe and Fittings

1. Outside, Underground Tubing

a. Small water piping up to and including two (2) inch size in the ground shall be of standard soft copper tubing for water service pipe, ASTM Specification B 99-81, Type “ K ”, with bronze fittings, stops, and valves having connections for flared copper tubing.

C. Polyvinyl Chloride (PVC) Pipe (ASTM)

1. Pipe

a. This Specification covers rigid polyvinyl chloride pipe and fittings, hereinafter called PVC pipe and PVC fittings, for sizes three-fourths 2 inch through 12-inch.

b. PVC pipe shall be extruded from Class 12454-B polyvinyl chloride material with a hydrostatic design stress of 2000 psi for water at 73.4°F, designated as PVC 1120, meeting ASTM Specifications D 1784-81 for material 40 as specified in ASTM D 1785-76.

c. The pipe shall be homogeneous throughout and free from cracks, holes, foreign inclusions, or other defects. The pipe shall be uniform as commercially practical in color.

d. The workmanship, pipe dimensions and tolerances, outside diameters, wall thickness, eccentricity, sustained pressures, burst pressures, flattening, extrusion quality, marking, and other requirements of ASTM D 2241-80 shall be conforming with all respects.

e. Pipe shall be furnished in 20-foot lengths. The pipe shall have a bell on one end. Male end of the pipe shall be beveled on the outside.

f. Pipe shall be furnished from the manufacturer with a ring painted around the male end 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 the pipe installation.

g. Pipe must be delivered to the job site by means that 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.

h. Pipe must not be exposed to the direct rays of the sun for extended periods of time. If pipe is not installed within 15-days after delivery to the job site, it shall be covered with black plastic.

## 2. Fittings

### a. Ductile Iron

(1) Ductile iron mechanical joint type fittings with appropriate adapters shall be used with PVC pipe. All such fittings shall be approved by the pipe manufacturer. The use of transition gaskets will not be allowed unless specifically approved by the pipe manufacturer.

## 3. Joints

### a. Exterior Buried Pipe - Slip Joint Type

(1) Exterior buried pipe shall be jointed with slip-type joints with rubber gaskets.

(2) Pipe with bells shall have all the parts of the bell, including the gasket groove, made from the same extruding piece, integral with the pipe, and shall be thickened to meet standard dimension ratios of wall thickness to outside diameter. The gasket groove shall be constructed



such that gasket roll out will not occur. Rubber gaskets shall conform to ASTM D 3139-77.

b. Couplings

(1) Coupling shall be same material as ductile iron pipe as specified in this section.

## **2.03 SOURCE QUALITY CONTROL**

A. Ductile Iron Pipe (Mechanical Joint and Rubber Slip Joint Type)

1. Hydrostatic and physical properties' acceptance tests shall be according to ANSI/AWWA Specification C151/A21.51-91 for ductile iron pipe centrifugally cast in metal molds or sand lined molds for water or other liquids.
2. The Engineer and the City of Greenville shall be provided with sufficient copies of each test to permit the City of Greenville to retain two (2) copies.
3. All items used for jointing pipe shall be tested before shipment.

## **PART 3 - EXECUTION**

### **3.01 TRENCH EXCAVATION**

A. General

1. Trenching shall include all clearing and grubbing, including all weeds, briars, trees and stumps encountered in the trenching, regardless of size. The Contractor shall dispose of any such material by burning, burial or hauling away or as noted on the Construction Plans.
2. Trenching also includes such items as railroad, street, road, sidewalk, pipe, small creek crossings, including cutting, moving or repairing damage to fences, poles or gates, and other surface structures, regardless of whether shown on the drawings. The Contractor shall protect existing facilities against danger or damage while the pipeline is being constructed and backfilled or from damage due to settlement of the backfill.

3. Materials encountered in excavation will be divided into only two (2) classes: solid rock excavation and other materials. Pipe must not be laid upon rock or other unyielding surface.

4. All excavations shall be open trenches, except where the Construction Plans call for tunneling, boring, or jacking under structures, railroads, sidewalks, roads, or highways.

B. Trees and Shrubs

1. Where pipelines run through wooded terrain, cutting of trees within limits of the rights-of-way or easement, as set forth in this article, will be permitted. However, cutting of additional trees on sides of the rights-of-way or easement to accommodate operation of trenching machines will not be permitted. The Contractor shall obtain specific written permission of the property owner before cutting any tree on property other than the Developer's property.

C. Highways, Streets and Railroads

1. Construction equipment damaging to paving encountered shall not be used. Curbs, sidewalks, and other structures shall be protected by the Contractor from damage by his construction equipment.

2. Where trenching is cut through paving which does not crumble on edges, trench edges shall be cut to at least two (2) inches deep to straight and neat edges, before excavation is started, and care taken to preserve the edge to facilitate neat repaving.

3. The Contractor shall so coordinate his work as to produce a minimum of interference with normal traffic on highways and streets. He may, with the approval of the governing agency, close a street to traffic for such length of time considered necessary, provided persons occupying property abutting the street have an alternate route of access to the property that is suitable for their needs during the time of closure. It shall be the responsibility of the Contractor to give 24-hours advance notice to fire and Police Departments and to occupants of a street that will be closed, in a manner approved by the governing body.

4. The Contractor shall maintain all road crossings.

5. Railroad and Highway Department requirements in regard to trenching, tunneling, boring, and jacking shall take precedence over the foregoing specifications and the following tunneling and boring

or jacking specifications, where they are involved. Where work is within railroad right-of-way, Railroad Protective Insurance shall be carried by the Contractor in the amounts required by the Railroad Company.

6. The insurance policy shall name the Railroad as the insured and the original policy shall be delivered to the Railroad after submitting same to the City of Greenville for review.

7. Uneven surfaces or bumps in the ground encountered and high driveways and road crossings shall be dug through to such depths that pipe may be laid to a reasonably even grade and have minimum cover at the low places.

D. Existing Utilities

1. The Contractor shall determine, as far as possible in advance, the location of all existing sanitary sewer, storm drainage facilities, water mains, underground electric conduit, telephone cables, gas pipelines, and other subsurface structures and avoid disturbing same in opening trenches. In case of sanitary sewer, water, and gas services and other facilities easily damaged by machine trenching, same shall be uncovered without damage ahead of trenching machine and left intact or removed without permanent damage ahead of trenching and restored immediately after trenching machine has passed. The Contractor shall protect such existing facilities, including power and telephone poles and guy wires, against danger or damage while the pipeline is being constructed and backfilled, or from damage due to settlement of his backfill. It shall be the responsibility of the Contractor to inform the customers of utilities of disruption of any utility service when it is known that it has been or will be cut off.

2. The Contractor shall, at all times during trenching operations, carry a stock of pipe, and fittings likely to be needed for replacement of pipelines to facilitate immediate repair.

E. Location of Proposed Pipelines

1. The locations of pipelines and their appurtenances as shown on the drawings 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. Also, development of property traversed may require location changes. In such cases, the Engineer and the City of Greenville reserves the right to make reasonable changes in line and structure

locations. The Engineer and the City of Greenville are under no obligation to locate pipelines so that they may be excavated by machine.

F. Trench Requirements

1. All trenches must be dug neatly to lines and grades.
2. The opening of more than 500-feet of trench ahead of pipe laying and more than 500-feet of open ditch left behind pipe laying, before backfilling, will not be permitted. No trench shall be left open or work stopped on same for a considerable length of time, which constitutes a danger to person and/or property.
3. Where subgrade of the trench has insufficient stability to support the pipeline and hold it to its original grade, the Engineer or the City of Greenville may order stabilization by various means (i.e., extra excavation, crushed rock for pipe bedding, concrete cradle or piling, etc.).
4. Excavation for pipe laying must be made of sufficient width to allow for proper jointing and alignment of the pipe, but not greater than the maximums permitted in the following table:

MAXIMUM TRENCH WIDTH AT TOP OF PIPE

<u>Nominal Pipe Size</u>	<u>Trench Width</u>
4	28
6	30
8	32
10	34
12	36
14	38
16	40

5. Trenches in earth or rock shall be dug as shown on the Construction Plans and be sufficiently deep to insure a 36-inch minimum cover over pipelines in developed rights-of-ways and a 36-inch minimum cover in utility easements. Depths of trenching shall also be adequate for at least one (1) foot minimum cover over valve nuts. To eliminate the necessity for digging bell holes into the trench subgrade by hand and to insure an earth cushion under the pipe for

uniform bearing, trench depth shall be the cover requirement plus outside diameter of the barrel of pipe plus the required bedding cushion. The cushion construction requirement shall also apply to tunnels.

6. Trench line stations and locations of accessories will be set ahead of the trenching. These will be set at least each 100-feet of pipeline. Trenches must be dug true to alignment of stakes. Alignment of trenches or pipes in the trench must not be changed to pass around obstacles such as poles, fences, and other evident obstructions without the permission of the Engineer. Lines will be laid out to avoid obstacles as far as possible, contingent with maintenance of alignment necessary to finding the pipeline in the future and avoiding obstruction to future utilities.

#### G. Damage to Existing Structures

1. Hand trenching is required where undue damage would be caused to existing structures and facilities by machine trenching.

2. 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 structure will be in as good condition and serve its purpose as completely as before, and such restoration and repair shall be done. Where there is the possibility of damage to existing utility lines by trenching machine, the Contractor shall make hand search excavation ahead of machine trenching, to uncover same.

#### H. Dewatering of Trenches

1. Dewatering of trenches shall be considered a part of trenching. Dewatering of trenches shall include groundwater and stormwater. Suitable pumping and other dewatering equipment are to be provided by the Contractor, to insure the installation of the pipeline structure in a dewatered trench and under the proper conditions. Dewatering shall include all practical means available for prevention of surface runoff into trenches and scouring against newly laid pipe. No pipe shall be laid when the elevation of groundwater or storm water is above the invert elevation of the pipe.

No sewage shall be discharged into streams, ditches, or on the ground. Any discharge of sewage into streams, ditches, or on the ground should be reported to the Kentucky Division of Water, Greenville Office at (270) 824-7529 and the City of Greenville at (270) 824-2187, immediately.

2. Piles of excavated materials shall be trenched or temporarily piped to prevent, as far as practical, blockages of drainage ditches and gutters, and water carriage of excavated materials over street and highway surfaces.

### **3.02 LAYING WATER PIPE**

#### **A. General**

##### **1. Inspection of Materials**

- a. All pipe, fittings, and accessories shall be subject to an inspection by the Engineer at the job site. Any damaged materials shall be repaired or replaced to the satisfaction of the Engineer. Should repairs to the piping materials be necessary, then same shall be made in the presence of the Engineer using proven methods prescribed by the pipe manufacturer.
- b. The City of Greenville's inspection of materials shall in no way relieve the Contractor or the Engineer of this responsibility.

##### **2. Laying Requirements**

- a. Water pipe shall be laid to lines, cover, or grades shown on the drawings.
- b. Pipes must be swabbed out before lowering into the trench. In the case of pipelines three (3) inch through 16-inch, a swab must also be dragged through the pipe after it is in place. Larger size pipe shall be visually inspected for cleanliness and proper jointing.
- c. The points insisted upon in the laying of pipe will be: proper alignment, evenness of width and depth of joints, perfection in jointing, and care of the pipe in handling.
- d. Precautions must be taken to prevent flotation of the pipe should water enter the trench before putting the pipeline into operation.
- e. In wet, yielding, and mucky locations where pipe is in danger of sinking below grade or floating out of grade or alignment, or where the backfill materials are of such a fluid nature that such movements of the pipe might

take place during the placing of the backfill, the pipe must be weighted or secured permanently in place by such means as will prove effective.

f. Whenever pipe laying is stopped, the end of the pipe shall be securely plugged with the manufacturer's standard plug held in place by jute packing, caulked into place.

g. Elbows, plugs, dead end valves, and tees shall be firmly blocked, as shown on the Construction Plans, to prevent internal pressure from springing the pipe from the intended alignment, with permanent materials solidly placed without covering pipe joints. Restrained type pipe joints can be substituted for thrust locks with the Engineer's and the City of Greenville's written permission. Pipe shall be free of all structures, other than manholes.

h. No pipe shall be laid resting on solid rock, blocking or other unyielding objects. Jointing before placing in the trench and subsequent lowering of more than one section jointed together will not be allowed.

### 3. Installing Water Pipe in Casing pipe

a. See Section 02326 for installation of carrier pipe in casing pipe.

## B. LAYING WATER PIPE

### 1. Water Pipe Bedding

a. Piping for water mains shall be supported as follows:

- 1) The trench bottom for water main piping shall be stable, continuous, relatively smooth and free of frozen material, clodded dirt, foreign material and rock or granular material larger than one-half (1/2) inch in diameter. The foundation for water main piping 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. Any uneven areas in the trench bottom shall be shaved-off or filled-in with Class I granular bedding. When the trench is made through rock, the bottom shall be lowered to provide six (6) inches of clearance around the pipe. Class I granular bedding shall

be used to bring the trench bottom to grade.

2. After each pipe has been brought to grade, aligned, and placed in final position, earth material for water main piping shall be deposited and densified under the pipe haunches and on each side of the pipe up to the spring line of the pipe to prevent lateral displacement and hold the pipe in proper position during subsequent pipe jointing, bedding, and backfilling operations.
- 3) In wet, yielding and mucky locations where pipe is in danger of sinking below grade or floating out of grade or line, or where backfill materials are of such a fluid nature that such movements of pipe might take place during the placing of the backfill, the pipe must be weighted or secured permanently in place by such means as will prove effective.
- 4) Where an unstable (i.e., water, mud, etc.) trench bottom is encountered, stabilization of the trench bottom is required. This is to be accomplished by undercutting the trench depth and replacing to grade with a foundation of crushed stone aggregate.
- 5) The depth of the foundation is dependent upon the severity of the trench bottom. The size of stone aggregate used in the foundation will be determined by the condition of the unstable material. Once the trench bottom has been stabilized, the required Class I bedding material can be placed.
- 6) It should be noted that no pipe shall be laid on solid or blasted rock.
- 7) Pipe bedding as required in Paragraphs a, b, and d of this Section is **not** considered a separate pay item.

#### C. INSTALLATION OF PIPE

Ductile iron pipe shall first be thoroughly cleaned at joints, and then joined according to instructions and with tools recommended by the pipe manufacturer. Sufficient copies of the manufacturer's installation instructions shall be furnished the Engineer and the City of Greenville to permit the City of Greenville to retain two (2) copies. One (1) copy, in the possession of the Contractor, shall be available at all times at the site of the work.



All pipes must be forced and held together or “homed” at the joints before bolting. Pipe must be aligned as each joint is placed, to present as nearly true, straight lines and grades as practical, and all curves and changes in grades must be laid so that one-half (1/2) of the maximum allowable deflection shown in the pipe manufacturers catalog is not exceeded. Concrete blocking of fittings shall be as specified hereinafter in this section.

Cutting of pipe may be done by power driven pipe saw or special pipe cutters. Cut edges of the pipe shall be made smooth and bevel formed on the exterior of the pipe barrel when using rubber gasket type pipe.

#### D. WATER PIPE BACKFILLING

##### a. Initial Backfill:

1) This backfill is defined as that material which is placed over the pipe from the spring line to a point six (6) inches above the top of the pipe. For water main piping, initial backfill material shall be earth material free of rocks, acceptable to the Engineer or with Class I material when a condition exists mentioned in Paragraph a.3) below.

2) Material used, whether earth or Class I, in the initial backfilling is **not** a separate pay item. Payment for the material is included in the unit price per linear foot of water main.

3) In areas where large quantities of rock are excavated and the available excavated earth in the immediate vicinity is insufficient for placing the required amount of backfill over the top of the pipe as set forth in Paragraph a.1), the Contractor shall either haul in earth or order Class I material for backfilling over the pipe. Neither the hauling and placement of earth nor the ordering and placement of Class I material to fulfill the backfill requirements set forth herein is considered a separate pay item.

##### b. Final Backfill:

1) There are (2) two cases where the method of final backfilling varies. The various cases and their trench situations are as follows:

a. Case I - Areas not subject to vehicular traffic.

- b. Case II - Paved areas including streets, drives, parking areas, and walks.
- 2) In all cases, walking or working on the completed pipelines, except as may be necessary in backfilling, will not be permitted until the trench has been backfilled to a point six (6) inches above the top of the pipe. The method of final backfilling for each of the above cases is as follows:
  - a. Case I - The trench shall be backfilled from a point six (6) inches above the top of the pipe to a point eight (8) inches below the surface of the ground with earth material free from large rock (over one-half (1/2) cubic foot in volume), acceptable to the Engineer. The remainder of the trench shall be backfilled with earth material reasonably free of any rocks.
  - b. Case II - The trench shall be backfilled from a point six (6) inches above the top of the pipe to a point 12-inches below the existing pavement surface with Class I (No. 9 crushed stone aggregate) material. The backfill shall be mechanically tamped in approximately six (6) inch layers to obtain the maximum possible compaction. The remaining backfill shall be Class II (dense graded aggregate) material mechanically tamped to maximum possible compaction. The trench may be left with a slight mound if permitted by the Engineer. Where required by State or Local Regulations, a bituminous binder coarse shall be incorporated in the final backfill.

E. Laying Copper Pipe and Fittings

1. Bedding and Backfilling

- a. The pipe shall be bedded in four (4) inches minimum of loose soil and the hand placed backfill lightly consolidated to a depth of 12-inches above the top of the pipe. "Loose soil" or "select material" is defined as native soil excavated from the trench, free of rocks, foreign materials, and frozen earth. The machine placed backfill may contain rock no larger than four (4) inches in any dimension and to an extent no greater than one-half (1/2) the volume of backfill materials used. The top 12-inches of backfill shall contain no rocks.

2 Installing Copper Pipe and Fittings

a. Exterior copper pipe shall be laid with brass fittings. Joints shall be neatly reamed and flared and joints drawn up firmly. Pipe shall have at least 36-inch cover. Joints shall be tested and all leakage stopped before backfilling the pipe trench.

b. All copper pipes shall be installed by experienced workers.

F. Installation of Air Release Valves

1. Air Release Valves and Corporation Stops

a. The location of air release valve assemblies, while being noted on Construction Plans, could possibly be shifted in actual construction. For this reason, the same statements relative to the methods of installation of meters and water service connections apply to the installation of air valve assemblies. Air release valve assembly boxes shall be installed with the assembly box located slightly off center of the air release valve, to give better access to the stopcock between the valve and water main.

b. Corporation stops and curb stops, as shown on the Construction Plans, are required between the water main and the air release valve assembly.

G Installation of Fire Hydrants

1. Fire hydrants shall be installed in the general location as shown on the Construction Plans. Exact locations shall be determined in the field. Hydrants shall be set such that the lowest nozzle shall be high enough above the ground to allow the uninhibited 360 swing of an 18-inch hydrant wrench. Hydrants shall be set such that the bury line shall be correct for finish grade. Fire hydrants installed at an incorrect bury shall be adjusted at the Developer's expense.

2. Hydrant drainage pits shall be excavated below the hydrant to the depth shown on the Construction Plans. Crushed stone drainage media shall be of the size shown on the Construction Plans. Hydrants shall be set vertical and anchored as hereinafter specified.

3. Hydrants shall be anchored to prevent the hydrant from blowing off the branch line when suddenly opened or closed.

Likewise, the hydrant branch valve shall be anchored to prevent blow-off when the hydrant is removed. The Contractor shall anchor the hydrant and pilot valve utilizing the following procedure:

a. Provide a ductile iron full body swivel hydrant tee (MJ x MJ x swivel).

b. Provide a six (6) inch resilient wedge gate valve with MJ x MJ ends. Install Meg-A-Lug® joint restraint on each end of the pipe lead between the gate valve and the hydrant.

F. Blocking of Pipe at Bends and Ends

1. General

a. All ductile and fittings shall be double polywrapped prior to the placement of concrete. Care shall be taken to avoid damage to the polywrap.

b. Concrete thrust blocking must be allowed to cure, or protected as approved by the City of Greenville, before backfilling.

2. Horizontal Bends

a. Concrete thrust blocking required at bends in the horizontal plane shall be accomplished per the City of Greenville Standard Details for Construction of New Water Mains.

b. The Contractor shall install concrete thrust blocking at each bend in the pipeline of five (5) degrees or greater to withstand maximum test pressure. The Contractor shall provide all material and labor to construct the concrete thrust blocking.

c. Concrete thrust blocks shall be minimum dimension and size as indicated on the City of Greenville Standard Details for Construction of New Water Mains.

d. Concrete used for thrust blocking shall have 3000-p.s.i. compressive strength at 28-days.

3. Vertical Bends

a. The use of vertical bends in lieu of extra depth trenching shall be subject to permission by the Engineer and the City of Greenville.

b. Where the Contractor elects to use vertical bends, or where vertical bends are called for on the Construction Plans, the Engineer shall submit the blocking design, including calculations, to the City of Greenville for review and acceptance. Anchorages shall be designed to resist thrust caused by the internal test pressure in the pipe. Protection against corrosion shall be inherent in the design.

G. Supplemental Backfilling Information

1. General

a. Excavated materials from trenches and tunnels, in excess of quantity required for trench backfill, shall be disposed of by the Contractor. It shall be the responsibility of the Contractor to obtain location or permits for its disposal.

b. Where sod is destroyed in areas maintained equivalent to residential yards, it shall be replaced on slightly ridged backfill on the trench, and where destroyed in areas adjacent to the trench, it shall be replaced by the Contractor with fresh sod. The timing of resodding shall be controlled by the Engineer. Ground shall be prepared and fertilized as herewith specified for seeded areas. In small patches, supplying of three (3) inches of topsoil and raking may be substituted for disking.

c. Where pastures, thin grass, or cover crops are destroyed by trenching, laying, backfilling, or tunneling operations, surfaces shall be prepared by disking, fertilizing, and seeding as

specified in Section 12.18. The timing of this operation shall be controlled by the Engineer. Requirements of the Department of Highways for reseeding shall take precedence over these Specifications.

d. Before completion of the project, all backfills shall be reshaped, holes filled, and surplus materials hauled away and all permanent walks, streets, driveways, and highway paving and sod replacement (if such surface replacement items are included in the project) and reseeding performed.

e. Backfill material must be uniformly ridged over the trench, and excess hauled away. 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 material needed for replacement of settlement of backfill.

f. All rock, including crushed rock or gravel from construction, must be removed from yards and fields. Streets and walks shall be broomed to remove all earth and loose rock immediately following backfilling.

## 2. Special Requirements

a. In case of street, highway, railroad, sidewalk, and driveway crossings or within any roadway paving, or about manholes, valve and meter boxes in such paving, the following backfill material and procedure are required.

b. Fill the trench to within six (6) inches of the surface with one of the following materials of limited compressibility, uniformly disturbed without mechanical compaction.

(1) Kentucky Department of Highways Class II DGA, or other gradation acceptable to the Engineer. In order to accommodate compacted temporary surfacing it may be necessary to bulkhead or otherwise confine the stone fill at the open end of the trench.

c. Railroad Company and Department of Highways requirements concerning backfilling will take precedence over the above general specifications where they are involved.

H. Tie-ins

1. A tie-in defined as the removal of an existing plug or cap and the connecting of the new pipeline into the existing pipeline or fitting or valve at the joint opened by such removal.

### **3.03 FIELD QUALITY CONTROL**

A. Testing Water Pipe for Leakage

1. The Contractor will be required to test all pipelines and appurtenances with water after backfilling. The maximum test pressure, measured at the lowest elevation of the pipeline being tested, shall be 200-p.s.i. or the pressure class of the pipe (to be determined by the City of Greenville).

2. Backfilling before testing will be allowed, in the case of slip type or bolted joint pipe and at points where dangers to the public or other hazards demand that such be done immediately after pipe is laid.

3. When the line or section being tested is pumped up to the required pressure, it shall be valved off from the pump and a pressure gauge placed in the line. All sections shall be tested individually between mainline and branch valves to assure each valve has been tested and is capable of holding the required pressure. Branch valves to fire hydrants shall be opened, with the test pressure operating against the fire hydrant's valve. The pressure drop in the line, if any, shall be noted. If no pressure drop is noted in six (6) hours, the Engineer and the City of Greenville, at their discretion, may accept the line or section as tested, or may require the test run the full 24-hours.

4. At the end of the 24-hour test period, the pressure shall be recorded. If there is a drop in pressure, the Contractor will be required to pump the section being tested up to initial test pressure and maintain that pressure for 24-hours, measuring the amount of water required to accomplish this. The line will not be accepted until the leakage shall prove to be in compliance with AWWA C600, Section 4, or by the following formula.

133,200

Allowable Leakage =  $L = \frac{S \cdot D \cdot P^{1/2}}{1000}$

In which:      L = Allowable Leakage, gallons per hour  
                     S = Length of Pipe being tested, in feet  
                     D = Nominal Diameter of the pipe in inches  
                     P = Average Test Pressure during leakage test, in psi

At the 200 psi required for the test, the following table may be used as an approximation, assuming joints on 18’ intervals.

Pipe Diameter (inches)	Maximum Allowable Leakage Rate (gallons per hour per 1000 feet of pipe)
4	0.42
6	0.64
8	0.85
10	1.06
12	1.27
16	1.70
18	1.91
20	2.12
24	2.55

The pressure test shall be conducted over a six (6) hour period.

5.        Should there be leakage over the allowable amount, the Contractor will be required to locate and repair the leaks and retest the section.

6.        If the leakage of a section of pipeline being tested is below the allowable amount, but a leak is obvious, in the opinion of the Engineer or the City of Greenville, due to water at the surface of the ground, or by listening, the leak can be heard underground with the geophone, or any other means of determining a leak the Contractor will be required to repair those leaks.

(a)       The Contractor shall furnish meter or suction tank, pipe test plugs, and bypass piping, and make all connections for conducting the above tests. The pumping equipment used shall be centrifugal pump, or other pumping equipment that will not place shock pressures on the pipeline. Power plunger or positive displacement pumps will not be permitted for use on closed pipe system for any purpose.



(b) Inspection of pipe laying shall in no way relieve the Contractor of the responsibility for passing tests or correcting poor workmanship.

B. Disinfection

1. Upon completion of the work and cleaning up, and before Final Acceptance, the Contractor shall disinfect all water lines constructed which are to carry treated water.
2. Prior to starting disinfection, all water mains must be thoroughly flushed to remove mud, rocks, etc. This activity shall be coordinated with the City of Greenville to eliminate the possibility of creating excessive turbulence with the water distribution system. Disinfection will then be accomplished by the adding of a chlorine solution while filling the main to obtain the initial 50 parts per million of chlorine. The Contractor shall supply all equipment, labor, etc., necessary for flushing and disinfecting the mains. The Contractor shall submit, in writing, to the City of Greenville, the method he proposes to use for adding the chlorine.
3. The calcium hypochlorite tablet or powder method may be used with the permission of the City of Greenville.
4. Disinfection shall be accomplished by filling the new and/or repaired portions of the system with water having a chlorine content of at least 50 parts per million and at the end of a 24-hour contact time a residual of at least 25 parts per million shall remain. At the end of the 24-hour contact period, all the sterilized surfaces and areas shall be thoroughly flushed from the water system. Chlorinated water shall be disposed of according to 401 KAR 5:031 and 8:020, which state that the allowable in stream concentration of chlorine are 10 ug/l, which is equal to 0.01 mg/l. The Contractor shall submit, in writing to the City of Greenville, the method he proposes for dechlorinating. Recommended chemicals, as given in AWWA C651-92, are sulfur dioxide, sodium bisulfate, sodium sulfite, and sodium thiosulfate.
5. For tie-ins to an existing system such as tapping sleeves and valves where keeping the main out of service would restrict service to existing customers, disinfection shall, at the City of Greenville's discretion, consist of thoroughly cleaning the new part with a solution containing not less than 200 mg/l (ppm) chlorine.
6. After initial disinfection and flushing, the City of Greenville will collect water samples for bacteriological testing. A core zone,

which includes up to the first one-half (1/2) mile, shall be established. Two (2) samples shall be taken from the core zone. Additionally, one (1) sample taken from each mile of new distribution main shall be submitted to the Kentucky Division of Water. A new or routine replacement main shall not be placed in service until negative laboratory results are obtained on the bacteriological analyses. Sample bottles shall be clearly identified as "special" construction tests. If any of the samples are found positive or contain confluent growth, the Contractor shall repeat the disinfections procedure until the required numbers of negative samples are obtained.

## **12.17 GRAVITY SEWER PIPE AND SANITARY FORCE MAIN PIPE**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. All pipe and accessories supplied for use on projects within the City of Greenville's service area shall be as specified herein.
- B. Where a specific type of pipe or pipe material is called for on the Construction Plans, substitute materials may not be furnished and installed at that location without specific written acceptance of the Engineer and the City of Greenville.
- C. The sewer main shall be constructed of ductile iron pipe under the following conditions:
  - In areas where the sewer main or laterals are subjected to extraordinary earth loads (<12') (See 3.02 A.1.a., Page 120).
  - In areas where the sewer line is positioned either in an area of high ground water levels or other proposed or existing storm water detention/retention ponds.
  - When encroaching on the minimum limits set forth in 8.5.3.1, page 46

#### **1.02 RELATED WORK**

- A. For casing pipe and boring and jacking see Section 12.13.

#### **1.03 REFERENCES**

- A. Where referenced specifications (ASTM, AWWA, etc), are mentioned, these standards are deemed to be the minimum standards of quality of materials or methods to apply to this project.

#### **1.04 SUBMITTALS**

## **1.05 QUALITY ASSURANCE**

- A. Where pipe enters manholes, the pipe manufacturer shall certify that their pipe is compatible with the watertight, flexible seal to be used at manhole openings as specified in Section 12.21 of these Specifications, and that their combined use will produce a flexible watertight installation.

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURERS**

- A. All pipe, fittings, and jointing materials shall be of one manufacturer unless different types are shown on the drawings or otherwise accepted by the Engineer and the City of Greenville.

### **2.02 MATERIALS - GRAVITY SANITARY SEWER PIPE**

- A. Sewer Transition Joints
  - 1. Where sewer pipes of different materials are to be jointed, i.e., PVC pipe to DI pipe, PVC pipe to PVC pipe, or another combination, an adapter made for this purpose shall be used. The adapter shall be made of polyurethane or polyvinyl chloride with stainless steel clamps and shall be a Fernco Adapter by Fernco Joint Sealer Company, Ferndale, Michigan, or an approved equal.
- B. PVC (Polyvinyl-Chloride) Sewer Pipe
  - 1. Pipe
    - a. PVC pipe four (4) inch through 15-inch diameter supplied for use on this project shall be Type PSM Polyvinyl Chloride (PVC) Sewer Pipe as specified per ASTM D 3034-81. PVC pipe 18-inch through 27-inch diameter shall be as specified in ASTM F 679-80.
    - b. The pipe shall be made of PVC plastic having a cell classification of 12454-B or 12454-C as defined in ASTM D 1784-81. Compounds having different cell classifications due to one or more properties being superior to those of the specified compound are acceptable.
    - c. The pipe shall be homogeneous throughout, free of cracks, holes, foreign inclusions, or other damaging defects. The pipe shall be uniform in color, wall thickness,

density, and other physical properties. Wall thickness shall be SDR-35 per ASTM D 3034-81 or wall thickness T-1 per ASTM F 679-80. Marking and identification of pipe shall be per ASTM D 3034-81 or ASTM F 679-80 as applicable.

d. The maximum laying length for all PVC pipe supplied shall be 13.0± feet.

## 2. Fittings

a. PVC fittings supplied for use on this project shall meet all the physical and quality requirements as herein before specified for PVC pipe.

b. Where 45d and 30d bends are used, they shall be the long radius type. 90d bends are not permitted in gravity sewer lines.

c. PVC fittings for four (4) inch through 15-inch diameter pipes shall meet the dimensional requirements of the tables as shown in ASTM D 3034-81 except that saddle type wyes or tee branches shall not be allowed for use on new sewer mains. PVC fittings for 15-inch through 27-inch diameter pipes shall conform to the requirements of ASTM F 679-80.

## 3. Joints - Exterior Piping

a. Joints for PVC pipe and fittings for sewer mains shall be "Push-On Type" composed of an elastomeric ring gasket compressed in the annular space between a bell end or socket and spigot end of the pipe.

b. All surfaces of the bell, socket, or spigot end of the pipe against which the ring gasket may bear shall be smooth, free of cracks, or other imperfections that could adversely affect the sealing capacity of the joint.

c. Lubricant for use in assembling joints shall be supplied with the pipe or be of the specific manufacturer as recommended by the pipe manufacturer for use with the specific pipe supplied. The lubricant shall not cause deterioration of either the elastomeric ring gasket or pipe material.

d. Where PVC pipe and fittings are connected to piping of other materials, the manufacturer’s standard adapters or transition pieces shall be used. Should the manufacturer not produce an adapter for a specific pipe of other material, the adapters or transition fittings as specified shall be used.

C. Ductile Iron Sewer Pipe

1. Pipe

a. This specification cover four (4) to 54-inch ductile iron gravity sewer pipe designated “DI” on the drawings. Pipe furnished under this Specification shall comply with all provisions of ANSI/ASTM A746-77. Maximum design thickness shall be based on depth of cover, trench loadings, and other conditions per ANSI/AWWA C150/A21.50-81.

b. Metal Design Strength p.s.i. (Minimum)

Tensile Strength	60,000
Yield Strength	43,000
Percent Elongation	10

c. The net weight, class or nominal thickness, and casting period shall be shown on each pipe. The manufacturer’s mark, the year in which the pipe was produced, and the letters “DI” or “DUCTILE” shall be cast or stamped on the pipe.

2. Fittings

a. Fittings for ductile iron sewer pipe shall be mechanical joint.

b. Ductile iron mechanical fittings shall conform to ANSI/AWWA C110/A21.10-82 for gray iron and ductile iron fittings. Mechanical joints shall also conform with all respects to ANSI/AWWA C111/A21.11-80.

c. 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.

3. Joints

a. Pipe joints shall be mechanical joint or rubber ring slip joints.

b. Mechanical joints are to be furnished according to ANSI/AWWA C111/A21.11-80. All pipe joints must be furnished complete with all accessories. Mechanical joint bolts and nuts shall be of alloy steel cast iron or alloy steel (Corten type such as U.S. Alloy) or equal. Rubber gaskets shall be made of plain, first grade rubber, free of imperfections, and porosity. Hardness shall be 70 to 75 urometer.

c. Rubber ring slip joints shall be equal to ANSI/AWWA C111/A21.11-80. The joints shall be of the following materials and assembled in the sequence outlined below:

(1) Rubber ring gasket compressed in groove in the bell of pipe.

(2) A beveled spigot end of pipe for initial centering into a rubber gasket in the bell.

d. All items used for jointing pipe shall be furnished with the pipe and tested before shipment. The joints shall be made with tools and lubricant in strict conformity with the manufacturer's instructions. Manufacturers' instructions shall be delivered to the City of Greenville before the start of construction in numbers that will allow two (2) copies to be retained by the City of Greenville.

e. The type of joint for ductile iron sewer pipe shall be as shown on the drawings. Where no specific type joint is shown, the joint shall be the slip joint with a rubber ring gasket.

4. Coating and Linings

a. All ductile iron pipe and fittings for gravity sewer service shall be bituminous coated outside according to ANSI/AWWA C151/A21.51-81 for pipe and ANSI/AWWA C110/A21.10-82 for fittings.

b. All ductile iron pipe and fittings for gravity sewer service shall be cement-mortar lined with a seal coat according to ANSI/AWWA C104/A21.4-80).

**2.03 MATERIALS – SANITARY FORCE MAIN PIPE**

**2.03.1 SOURCE QUALITY CONTROL**

A. PVC Polyvinyl-Chloride Sewer Pipe

1. Pipe shall be tested and inspected at the factory and inspected at the job site. Testing shall be accomplished in conformance with the following ASTM specifications utilizing the test methods specified therein:

Dimensions	ASTM D 3034-81 or ASTM F 679-80 and D 2122-81
Extrusion Quality	ASTM D 2152-80
Pipe Stiffness (5%)	ASTM D 2412-77
Impact Resistance	ASTM D 2444-80
Chemical Resistance	ASTM D 1784-81

2. In addition, a typical joint assembly, both gasket type joint and solvent weld joint, shall be tested by a qualified independent laboratory per test requirements of ASTM D 3212-81. The manufacturer shall submit through the Engineer sufficient copies of certification and test results for each lot of material represented by shipment to the job site that will permit the City of Greenville to retain two copies.



## **PART 3 - EXECUTION**

### **3.01 TRENCH EXCAVATION - GRAVITY SANITARY SEWER PIPE**

#### **A. General**

1. All excavations shall be open trenches, except where the Construction Plans call for tunneling, boring and jacking under structures, railroads, road, or highways.

#### **B. Trees and Shrubs**

1. Trenching shall include all clearing and grubbing, including all weeds, briars, trees and stumps encountered in the trenching, regardless of size. The Contractor shall dispose of any such material by burning, burial, or hauling away or as noted on the Construction Plans.

#### **C. Highways, Streets, and Railroads**

1. Trenching also includes such items as railroad, street, road, sidewalk, pipe, small creek crossings, cutting, moving or repairing damage to fences, poles or gates and other surface structures, regardless of whether shown on the Construction Plans.
2. The Contractor shall so coordinate his work as to produce a minimum of interference with normal traffic on highways and streets. He may, with the approval of the governing agency, close a street to traffic for such length of time considered necessary, provided persons occupying property abutting the street have an alternate route of access to the property that is suitable, for their needs during the time of closure. It shall be the responsibility of the Contractor to give 24-hours advance written notice to Fire and Police Departments and to occupants of a street that will be closed, in a manner approved by the governing body.
3. The opening of more than 500-feet of trench ahead of pipe laying and more than 500-feet of open ditch left behind pipe laying, before backfilling, will not be permitted, except upon written consent of the Engineer. No trench shall be left open or work stopped on same for a considerable length of time. In case of an objectionable delay, the trench shall be refilled according to backfill specifications.
4. Construction equipment will not be approved for use where trends are damaging to paving encountered. Curbs, sidewalks, and

other structures shall be protected by the Contractor from damage by his construction equipment.

5. 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 structure will be in as good condition and serve its purpose as completely as before.

6. When trenching is cut through paving which does not crumble on edges, trench edges shall be saw cut to at least two (2) inches deep to straight and neat edges, before excavation is started, and care taken to preserve the edge to facilitate neat repaving.

7. The Contractor shall maintain road crossings in a passable condition for traffic until the Final Acceptance of the work.

8. Railroad company and Department of Highways requirements concerning trenching, tunneling, boring and jacking shall be implemented into the project.

#### D. Existing Utilities

1. The Contractor shall determine, as far as possible in advance, the location of all existing sanitary sewers, culverts, storm drainage systems, water mains, electric conduits, telephone conduits, gas pipes, and other subsurface structures and avoid disturbing same in opening his trenches. In case of sanitary sewer, water, gas services and other facilities easily damaged by machine trenching, same shall be uncovered without damage ahead of trenching machine and left intact or removed without permanent damage ahead of trenching and restored immediately after the machine has passed. The Contractor shall protect such existing facilities, including power, telephone poles and guy wires, against danger or damage while the pipeline is being constructed and backfilled, or from damage due to settlement of his backfill. It shall be the responsibility of the Contractor to inform the customers of utilities of disruption of any utilities service as soon as it is known that it has been or will be cut off.

2. Where there is the possibility of damage to existing utility lines by trenching machine, the Contractor shall make hand search excavation ahead of machine trenching, to uncover same. Hand trenching is required where undue damage would be caused to existing structures and utilities by machine trenching.

E. Location of Proposed Pipelines

1. The location of pipelines and their appurtenances, as shown on the Construction Plans, is those intended for the final construction. However, conditions may present themselves before construction on any line is started that would indicate desirable change in location. Also, development of property traversed may require location changes. In such cases, the City of Greenville reserves the right to make reasonable changes in line and structure locations. The City of Greenville is under no obligation to locate pipelines so they can be excavated by machine.

F. Construction Stakeout – Gravity Sewers

1. Offset line and grade stakes shall be set and Cut Sheets prepared before trenching work is started. All stakeout work and Cut Sheet preparation shall be accomplished by the Engineer. The Engineer being responsible for established field location of manholes and control points, including the review and checking the finished Cut Sheets. The Engineer shall provide all material and labor for the construction stakeout work. Cut Sheets shall be prepared on forms supplied by the Engineer.

2. The Cut Sheets shall contain the following minimum information:

- (a) Manhole station numbers.
- (b) Grade of pipeline between manholes.
- (c) Centerline and offset stations.
- (d) Distance and direction of offset.
- (e) Centerline elevation of ground over the pipeline.
- (f) Centerline cut (Vertical distance from top of ground to the invert of the gravity sewer).
- (g) Offset hub elevation.
- (h) Offset cut (vertical distance from the top of the offset hub to the invert of the gravity sewer).
- (i) Location and elevation of benchmarks.
- (j) Utilities information and depths and/or any other pertinent information.

3. Where the Contractor elects to use grade (batter) boards for sewer construction, offset hubs shall be set perpendicular to each 25-foot centerline station. Where laser beam equipment is to be used, the offset line shall be set perpendicular to each 100-foot centerline station. In either case, the Contractor shall be required to maintain all offsets until the sewer main has been constructed.

4. Grades shown on the Construction Plans or as revised on the Cut Sheets are invert of pipe and not trench subgrade. No adjustment of planned or Cut Sheet grades shall be made without approval of the Engineer.

#### H. Trench Requirements

1. All trenches must be dug neatly to lines and grades as shown on the Construction Plans, as established in the field and/or as established on the Cut Sheets. Trenches shall be of sufficient width to properly assemble or bolt joints.

2. For maximum permissible trench depth per width of the trench at top of pipe, for various pipe sizes, side support, classes of pipe, their reinforcing and bedding refer to tables for the several pipe materials under this Section of these Specifications. If the excavated trench width up to the top of the pipe is greater than the numerical maximum permissible trench width, as first set forth in the tables of this Section, then the Contractor shall furnish pipe or reinforce pipe, lay and backfill pipeline, as set forth herein for such wider trenches.

3 Trenching shall be completed between one (1) grade control point and the next in advance of the laying of pipe, where pipes, culverts, or other structures may be encountered whose grade cannot reasonably be determined ahead of trenching. Should the Contractor lay pipe closer to the opening of the trench ahead, he shall bear cost of any removal and relaying which may be required to avoid location conflict.

4. Where grade (batter) boards are used to establish a finish grade, they shall be set by the Contractor, with at least three (3) boards set at all times where installation is in progress. These will be set each 25-feet or less and will be set perpendicular to and spanning the centerline of the trench, such that the grade string is in the vertical plan of the pipe flow line. Grade boards shall be supported by stakes driven firmly on each side of the trench. Where laser beam equipment is used, the set up shall be per the laser manufacturer's instructions and/or the permission of the Engineer and the City of Greenville.

5. Where laser beam equipment is used, the Contractor shall submit copies of a "Certificate of Equipment Calibration" to the Engineer before beginning construction. All laser beam equipment must be calibrated within six (6) months of the date of use. The

Engineer shall furnish the City of Greenville two (2) copies of the certificate before construction.

6. Grades shown on the Construction Plans and/or profiles, Cut Sheets, cases and excavation in open trench or tunnel must be made of sufficient depth to take care of required bedding of pipe and bells below these lines.

7. Where bottoms of the trench are in or on solid rock or where concrete cradle or arch is to be used, trenches or tunnels shall be dug to a depth of at least six (6) inches below bottom of barrel of pipe. When in earth, they shall be dug to at least four (4) inches below bottoms of pipe barrels and bells.

8. When trench or tunnel is dug below required grade, the pipe must be brought to grade by filling with crushed rock for pipe bedding as specified in Section 12.12 of these Specifications. Fill for pipe support shall not be made with material excavated from trench or bell holes.

#### I. Dewatering of Trenches

1. Dewatering of trenches shall be considered a part of trenching. Dewatering of trenches shall include groundwater and storm or sanitary sewage. Suitable pumping and other dewatering equipment are to be provided by the Contractor, to insure the installation of the pipeline structure in a dewatered trench and under the proper conditions. Dewatering shall include all practical means available for prevention of surface runoff into trenches and scouring against newly laid pipe.

2. Piles of excavated materials shall be trenched or temporarily piped to prevent, as far as practical, blockages of drainage ditches and gutters, and water carriage of excavated materials over street and highway surfaces.

3. Where subgrade of the trench has insufficient stability to support the pipeline and hold it to its original grade, the Engineer or the City of Greenville may order stabilization by various means.

### **3.02 LAYING GRAVITY SEWER PIPE**

#### A General

1. Checking of pipe

- a. The selection of pipe strength class shall be based on earth weight of 130 pounds per cubic foot and a safety factory of 1.50.
- b. All pipes and fittings must be tested for uniform diameter, straightness and defects by the Contractor before being lowered into the trench. Rejected pipe must be separated from accepted pipe and removed from the project. The Engineer and the City of Greenville will make periodic observations of pipe in storage and/or incorporated into the work. Pipe found defective shall be rejected and replaced.

2. Alignment and Grade

- a. All pipe, after being inspected and accepted, shall be laid to correspond with lines and grades staked out by the Engineer. All sewer lines shall be laid to constant grades between invert elevations shown on the Construction Plans. Grades shown on the Drawings are invert of pipe and **NOT** trench subgrade. The pipe lengths shall be fitted together and matched, so that they will form a sewer with a smooth and uniform invert, visible as a full circle from manhole to manhole. Gravity sewers within the City of Greenville service area shall not be laid on curves.

The following table will establish alignment and grade tolerances to be used in the installation of gravity sewer mains:

<u>ITEM</u>	<u>Allowance</u>
Alignment	No tolerance shall be allowed for pipe out of the designed alignment. Pipe sections found out of the designed alignment shall be rejected.
Grade	A deviation of 0.02' from the designed elevation of the invert of the gravity sewer will be allowed. Gravity sewers found not within the 0.02' tolerance of the designed pipe elevation shall be rejected.

Note - These tolerances are established for gravity lines only. The Engineer shall verify the pipe elevations at all locations throughout the system. The Final Record Drawings shall reflect the results of this verification. In addition to the Engineers' verification, the City of Greenville shall perform a field survey to confirm as-built elevations of the gravity sewer at the completion of construction.

3. Unstable Subgrade

a. In wet, yielding, and mucky locations where pipe is in danger of sinking below grade or floating out of grade or line, or where backfill materials are of such a fluid nature that such movements of pipe might take place during the placing of the backfill, the pipe must be weighted or secured permanently in place by such means as will prove effective.

4. Bedding of Pipe

a. Pipe shall be laid with the bottom quadrant of the barrel and bells of pipe bedded in at least four (4) inch depth of stone when on earth subgrade and at least six (6) inch depth of stone, below the bottom of the barrel of pipe when on solid rock subgrade. Stone for bedding of six (6) inch through 16-inch pipe shall be No. 8 Kentucky Department of Highways crushed rock as specified in Section 02235 of this manual, spaded into place.

b. In case of pipe sizes 18-inch through 72-inch in both earth and rock trenches, the subgrade shall be shaped to provide for a No. 8 to three-fourths (3/4) inch crushed stone pad, Kentucky Department of Highways Size 68, for a depth under the pipe barrel at least one-fourth (1/4) the outside diameter of the pipe, with a minimum of six (6) inch depth and a maximum of nine (9) inch depth. The bedding material shall be thoroughly spaded into place, in order to give a uniform bearing for at least the bottom quadrant of the pipe.

c. No filling of the trench with earth to bring pipe to grade will be permitted. If trenches are dug too deep, they must be brought to grade and supported by crushed rock for pipe bedding (No. 8 to one-half (1/2) inch or No. 8 to three-fourths (3/4) inch) as specified in Section 02235 of this Manual. No pipe shall be laid in the trench until the subgrade is inspected and found correct.

5. Laying of Pipe (Mains)

a. The Contractor's laying crew supervisor shall direct subgrade preparation and plumbing and leveling invert of pipe to grade and line, the pipe layer following his directions in placing the pipe. The pipe layer will be responsible for pipe bedding, cleaning joint, proper placement of joint annual ring or gasket, tight jointing, and homing pipe, securing pipe against settlement or other movement, and inspecting and swabbing out any jointing material from inside pipe.

b. No joints will be accepted that show leakage after backfilling and inspection, any joints that are found allowing groundwater to enter the sewer must be excavated and corrected.

c. Plugs in branch fittings to future building sewers shall be protected from excavators by the method as shown on the Construction Plans for protecting the ends of laterals and shall be so constructed and joined in the bell of pipe that they will be watertight, yet removable without breaking the bell or coupling when removed.

6. Laying of Laterals

a. Laterals shall be laid to serve the abutting property at points shown on the Construction Plans. Such pipes shall be connected to sewer mains through tees or Y-branches of size of running sewer barrel and six (6) inch side opening, with six (6) inch 30-degree or 45-degree bends (if required due to deep sewers) Branch fittings in the sewer and the connected bend, shall be supported from bottom of the trench per the Construction Plans.

b. Laterals shall be laid to the right-of-way or property line as shown on the Construction Plans. The end openings shall be plugged with appropriate watertight plugs of permanent materials in the bell of the sewer pipe, removable without breakage of pipe bells. Dead ends of sewers shall be plugged similarly.

c. Laterals shall be laid on not less than a one-fourth (1/4) inch per foot slope (2.083%, or 0.37' per 13'



joint). Where laterals are laid at or near minimum grades, the Contractor shall install batter boards of use a pipe laser, same as specified for gravity mains.

d. In the case of deep sewers, laterals may be brought up to a depth of approximately five (5) feet below ground level with suitable bends and sewer pipe. These pipes shall be laid on a slant outside sewer trench, not to exceed a 45-degree angle, so they will be supported or original earth and not dragged down and cracked by backfill settlement.

e. All lateral installed shall have a two way clean out at the right-of-way line. The clean out shall be construction so that the top of the clean out is three (3) feet above existing ground elevation. The timber shall be installed as shown on the Construction Plans. Consider installing cleanout at property line.

## 7. Piping Connections at Structures

### a. Lines

(1) Pipes shall be laid free from all structures other than manholes. Any pipe entering structures underground unsupported by original earth shall be supported by Class 2,000 concrete, brick and mortar masonry, or Class 4,000 concrete beams and columns as shown on Construction Drawings.

(2) Pipe shall be connected to manholes by fabricated manhole entry seals, specified in Section 12.21 of these Specifications.

(3) Pipe stubbed out of manholes for future connections shall be plugged and tightly sealed with same jointing material used to plug laterals.

## 8. Installing Sewer Pipe in Casing pipe

a. Pipes installed inside casing pipes shall be centered throughout the length of casing pipe. Centering shall be accomplished by the installation of heavy-duty, stainless steel pipeline spacers attached to the pipe in such a manner as to prevent the dislodgement of the spacers as the carrier pipe is pulled or pushed through the casing pipe.

Pipeline spacers shall be of such dimensions to provide (1) full supportive load capacity of the pipe and contents; (2) of such thickness to allow installation and/or removal of the pipe; and (3) to allow no greater than one (1) inch movement of the carrier pipe within the casing pipe after carrier pipe is installed.

b. Pipeline spacers shall be located immediately behind each bell and at the midpoint of each length of pipe installed or a minimum of seven (7) feet spacing, whichever distance is the lesser. The materials used and methods of centering shall be acceptable to the Engineer and the City of Greenville before installation. All clamps or attachment bands shall be stainless steel.

c. Upon completion of installation of the carrier pipe, the annular space at the ends of the casing pipe shall be sealed to prevent the entrance of groundwater, silt, etc., into the casing pipe. The seal shall be a manufactured product specifically made for this purpose. The seal shall be Link Seal - Series 500 as manufactured by the Thunderline Corporation, Wayne, Michigan, or approved equal.

9. Protection of Pipe in Trench

a. No walking upon the completed pipelines will be permitted until trench has been backfilled to a depth of at least six (6) inches over the top of the pipe. The interior of the pipe shall, as the work progresses, be cleaned of all dirt, jointing materials, and superfluous materials of every description. When laying of pipe is stopped for any reason, the exposed end of such pipe shall be closed with a suitable plug fitted into the pipe bell, to exclude earth and other material, precautions being taken to prevent flotation of pipe by runoff into the trench.

10. Observation of Pipeline

a. No backfilling (except securing pipe in place) over pipe will be allowed until the Engineer has had an opportunity to observe the joints, alignment, and grade in the section laid, but such observation shall not relieve the Contractor of further liability in case of defects occurring during or after placement of backfill.

B. Laying Gravity Sewer Pipe

1. PVC Pipe

a. PVC sewer pipe laying shall comply with the requirements of ASTM D 2321-74 (1980) and the additional requirements of this Manual and the Construction Plans.

b. Article 3.02 A of this Section 12.17 shall apply to the installation of PVC sewer pipe. The pipe shall be bedded true to line and grade with uniform and continuous support from a firm base. The bedding material shall conform to that specified in Article 3.02 A of this Section 12.17.

c. All PVC sewer pipe shall be installed in a manner to limit deflection of the pipe to less than five (5) percent. A deflection test shall be performed on all flexible pipe. The test shall be conducted after the final backfill has been in place at least 30-days. No pipe shall exceed a deflection of five (5) percent the deflection test shall be run using a rigid mandrel having a diameter equal to 95% of the inside diameter of the pipe. The test shall be performed without mechanical pulling devices.

d. Pipe deflection tests shall be measured and recorded by the Contractor in the presence of the Engineer and the City of Greenville.

e. When laser equipment is being used for laying PVC sewer pipe, the Contractor shall provide adequate ventilation through the pipe to prevent distortion of the beam.

**3.03 LAYING SANITARY FORCE MAIN PIPE**

**3.04 TRENCH BACKFILL – GRAVITY SEWER AND SANITARY FORCE MAIN PIPE**

A. General

1. Excavated materials from trenches and tunnels, in excess of quantity required for trench backfill, shall be disposed of by the Contractor. It shall be the responsibility of the Contractor to obtain location and/or permits for its disposal.

2. Railroad company and Department of Highways requirements concerning backfilling will take precedence over the above general Specifications where they are involved.

3. Before completion of the project, all backfills shall be reshaped, holes filled, and surplus materials hauled away.

B. Haunching

1. Upon completion of bedding and laying the sewer pipe, the Contractor shall place crushed stone, Kentucky Department of Highways No. 8 dependent on size of pipe, or the same material used for pipe bedding on both sides simultaneously to the top of the pipe. This material shall be hand placed using shovels to work the haunching material completely under the bottom quadrant and around the sides of the pipe to assure the maintenance of alignment of the pipe. No compaction of this material is required other than that obtained by the workers walking on the material during placement.

2. The haunching material is required for all sewer pipe installed in open trenches.

C. Initial Backfill

1. Upon completion of the haunching material to the top of the pipe, initial backfill shall be placed as hereby specified. This material shall serve as protection for the top of pipe reducing the possibility of damage to the pipe during the placement of backfill for the remainder of the trench depth.

2. When sewer pipe is located outside traffic areas, the initial backfill material shall be No. 8 crushed stone placed above the pipe to the level hereinafter stated.

3. When the sewer pipe is located within traffic areas, the initial backfill shall be crushed stone of the same gradation of the pipe bedding material. Other alternate materials may be used only with the specific written permission of the Engineer when the work is located inside traffic areas.

4. In the case of ductile iron pipe, the initial backfill shall be hand placed to a point six (6) inches above the barrel of the pipe. In case of plastic pipe, the initial backfill shall be hand placed and evenly spread to a point 12-inches above the pipe barrel for up to

four (4) feet cover, to a point 18-inches above the barrel for four (4) feet to 10-feet cover, and 24-inches for more than 10-feet cover.

5. The initial backfill material is required over sewer pipe in all open trenches.

D. Final Backfill

1. Outside Traffic Areas

a. After the above-specified initial backfill is hand placed, rock may be used in machine placed backfill in pieces no larger than six (6) inches in any dimension and to an extent not greater than one-half (1/2) the volume of the backfill materials required to backfill the trench. 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 or pockets, created by rock backfill, may be filled with earth. Machine backfilling may be employed with tamping, except as hereinafter restricted, provided caution is used in quantity per dump and in uniformity of level of backfilling. Backfill material must be uniformly ridged over the trench, and excess hauled away, with no excavated rock over one-half (1/2) inch diameter or pockets of crushed rock or gravel in top 12-inches of backfill, the top 12-inches reserved for topsoil or material more suited to sustain surface growth. 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 greater than that required to provide for settlement of backfill.

2 Inside Traffic Areas

a. Where sewer pipe is located in existing or proposed street, highway, railroad, sidewalk, and driveway crossings or within any roadway paving, or about manholes, valve and meter boxes located in such paving, the following backfill material and procedure are required.

(1) Fill the trench to the surface with one of the following materials of limited compressibility, uniformly distributed without mechanical compaction.

(a) Dense graded aggregate (Kentucky Department of Highways Class A, Grading D).

(b) Kentucky Department of Highways No. 78 crushed stone.

### **3.05 FIELD QUALITY CONTROL**

#### **A. Testing Gravity Sewers for Leaks and Infiltration**

##### **1. General**

a. All gravity sewers constructed within the City of Greenville's service area shall be tested for leaks and infiltration using methods as hereinafter specified. The sequence and methods of tests shall be as follows.

b. The Contractor shall furnish all materials, equipment and labor required for all types of tests and the Engineer being responsible for directions, recording data and calculating air losses and/or infiltration rates.

##### **2. Sequence**

##### **a. Testing**

(1) As soon as it is practicable after installing and backfilling sewers, and before putting new sewers into service, low pressure air tests shall be made from manhole to manhole, or up to a maximum of 400-feet of sewer main and 400-feet of sewer laterals at a time, as directed by the Engineer. The maximum allowance for air loss during testing shall be determined by tables of minimum holding time for a pressure drop of 1.0 p.s.i. and are based on an average loss of 0.003 cubic-feet of air per minute per square foot of internal pipe surface, when tested at an average pressure of 4.0 p.s.i. greater than the average back pressure of any groundwater present. These tables may be obtained from the National Clay Pipe Institute (NCPI), and must be furnished in at least two (2) copies for the City of Greenville by the Engineer.

(2) Upon completion of installation and backfilling of all sewers constructed, the low-pressure air test is required for all sewers so constructed.

b. Additional Testing

Upon completion of the required low pressure air testing, and before placing the sewer into operation, if ground and/or surface water flow is observed in the completed sewer, the Contractor shall locate the source of the infiltration and seal the source point. The Engineer or the City of Greenville may order infiltration tests at his discretion. Additional testing may be required even through the results of the initial low pressure air testing indicate the sewers are watertight. The infiltration tests shall be conducted, on order of the Engineer or the City of Greenville, as hereinafter specified.

3. Equipment

a. Low Pressure Air Testing

(1) Air test equipment shall be equal to Cherne Air-Loc Equipment, as manufactured by Cherne Industrial, Inc., Hopkins, Minnesota.

(2) Equipment used shall meet the following minimum requirements:

(a) Pneumatic plugs shall have a sealing length equal to or greater than the diameter of the pipe to be inspected.

(b) Pneumatic plugs shall resist internal test pressures without requiring internal bracing or blocking.

(c) All air used shall pass through a single control panel.

(d) Three (3) individual hoses shall be used for the following connections:

(i)  
From control panel to  
pneumatic plugs for inflation.

(ii)  
From control panel to sealed  
line for introducing the low-pressure  
air.

(iii)  
From sealed line to control  
panel for continually monitoring the  
air pressure rise in the sealed line.

#### 4. Procedures

##### a. Safety Precautions

(1) The air test may be dangerous if a line is improperly prepared. It is extremely important that the various plugs be installed and braced in such a way as to prevent blowouts.

(2) As a safety precaution, pressurizing equipment shall include a regular set at 10 p.s.i. to avoid over-pressurizing and damaging an otherwise acceptable line. No one shall be allowed in the manholes during testing.

##### b. Low Pressure Air Test

(1) All pneumatic plugs shall be seal tested before being used in the actual test installation. One length of pipe shall be laid on the ground and sealed at both ends with the pneumatic plugs to be checked. Air shall be introduced into the plugs to 25 psig. The sealed pipe shall be pressurized to 5 psig. The plugs shall hold against this pressure without bracing and without movement of the plugs out of the pipe.

(2) Clean pipe to be tested by propelling snug fitting inflated rubber ball through the pipe with water.



(3) Plug all pipe outlets with suitable test plugs.

(4) Add air slowly to the portion of the pipe installation under test until the internal air pressure is raised to 4.0 psig.

(5) After an internal pressure of 4.0 psig is obtained, allow at least two (2) minutes for air temperature to stabilize, adding only the amount of air required to maintain pressure.

(6) When pressure decreases to 3.5 psig, start the stopwatch. Determine the time in seconds required for the internal air pressure to reach 2.5 psig. Minimum permissible pressure holding times for runs of single pipe diameter and for systems of four (4) inch, six (6) inch, or eight (8) inch laterals in combination with trunk lines are indicated in the NCPI tables in seconds.

B. Testing Sanitary Force Mains for Leakage

1. The Contractor will be required to test all pipelines and appurtenances with water after backfilling. The maximum test pressure, measured at the lowest elevation of the pipeline being tested, shall be 200-p.s.i. or the pressure class of the pipe (to be determined by the City of Greenville).

2. Backfilling before testing will be allowed, in the case of slip type or bolted joint pipe and at points where dangers to the public or other hazards demand that such be done immediately after pipe is laid.

3. When the line or section being tested is pumped up to the required pressure, it shall be valved off from the pump and a pressure gauge placed in the line. All sections shall be tested individually between mainline and branch valves to assure each valve has been tested and is capable of holding the required pressure. The pressure drop in the line, if any, shall be noted. If no pressure drop is noted in six (6) hours, the Engineer and the City of Greenville, at their discretion, may accept the line or section as tested, or may require the test run the full 24-hours.

4. At the end of the 24-hour test period, the pressure shall be recorded. If there is a drop in pressure, the Contractor will be

required to pump the section being tested up to initial test pressure and maintain that pressure for 24-hours, measuring the amount of water required to accomplish this. The line will not be accepted until the leakage shall prove to be in compliance with AWWA C600, Section 4, or by the following formula.

Allowable Leakage =  $L = \frac{S \cdot D \cdot P^{1/2}}{133,200}$

In which:

L = Allowable Leakage, gallons per hour  
S = Length of Pipe being tested, in feet  
D = Nominal Diameter of the pipe in inches  
P = Average Test Pressure during leakage test, in psi

At the 200 psi required for the test, the following table may be used as an approximation, assuming joints on 18’ intervals.

Pipe Diameter (inches)	Maximum Allowable Leakage Rate (gallons per hour per 1000 feet of pipe)
4	0.42
6	0.64
8	0.85
10	1.06
12	1.27
16	1.70
18	1.91
20	2.12
24	2.55

The pressure test shall be conducted over a six (6) hour period.

5. Should there be leakage over the allowable amount, the Contractor will be required to locate and repair the leaks and retest the section.
6. If the leakage of a section of pipeline being tested is below the allowable amount, but a leak is obvious, in the opinion of the Engineer or the City of Greenville, due to water at the surface of the ground, or by listening, the leak can be heard underground with the geophone, or any other means of determining a leak the Contractor will be required to repair those leaks.

(a) The Contractor shall furnish meter or suction tank, pipe test plugs, and bypass piping, and make all connections for conducting the above tests. The pumping equipment used shall be centrifugal pump, or other pumping equipment that will not place shock pressures on the pipeline. Power plunger or positive displacement pumps will not be permitted for use on closed pipe system for any purpose.

(b) Inspection of pipe laying shall in no way relieve the Contractor of the responsibility for passing tests or correcting poor workmanship.

- A. Copies of the manufacturer's directions for handling and installing the particular pipe supplied and accepted by the Engineer shall be furnished to the Engineer and the City of Greenville at the first delivery of pipe to the project in numbers that will permit the City of Greenville to retain two copies.
- A. The manufacturer's instructions shall be strictly followed unless a conflict exists between the manufacturer's instructions and those contained herein. In such cases, the Engineer shall determine which methods are to be followed and no pipe shall be installed until the Contractor has received written instruction from the Engineer which procedure to follow.

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



**Kentucky Transportation Cabinet**

**Highway District 2 (1)**

**And**

\_\_\_\_\_ **(2), Construction**

**Kentucky Pollutant Discharge Elimination System**

**Permit KYR10**

**Best Management Practices (BMP) plan**

**Groundwater protection plan**

**For Highway Construction Activities**

**For**

**US 62 & KY 181 Intersection Improvement**

**Project: PCN ## - #####**

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

### Project information

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

1. Owner – Kentucky Transportation Cabinet, District 2
2. Resident Engineer: Craig Wyatt (2)
3. Contractor name: (2)  
Address: (2)  
  
Phone number: (2)  
Contact: (2)  
Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number (2)
5. Route (Address) : US 62 / KY 181
6. Latitude/Longitude (project mid-point) dd/mm/ss, dd/mm/ss:  
  
Lat: 37/11/56, Long: 87/10/42
7. County (project mid-point): Muhlenberg
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

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

### A. Site description:

1. Nature of Construction Activity (from letting project description):  
**Intersection Improvement of US62 with KY 181 (1)**
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved : 5622 cu yd(1)
4. Estimate of total project area (acres) : 2.1 acres(1)
5. Estimate of area to be disturbed (acres) : 1.75 acres(1)
6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information. Craig Wyatt, Hopkinsville Construction Office
7. Data describing existing soil condition: See Geotech report if available(1) & (2)
8. Data describing existing discharge water quality (if any): N/A (1) & (2)
9. Receiving water name: None (1)
10. TMDLs and Pollutants of Concern in Receiving Waters: N/A(1 DEA)
11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.
12. Potential sources of pollutants:

The primary source of pollutants is solids that are mobilized during storm events. Other sources of pollutants include oil/fuel/grease from servicing

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

and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

### **B. Sediment and Erosion Control Measures:**

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

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

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

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inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.

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



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control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.

- Permanent Seeding and Protection
  - Placing Sod
  - Planting trees and/or shrubs where they are included in the project
- BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are : Seeding and Protection, Erosion Control Blanket, Grassed Waterways (1)

### C. Other Control Measures

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

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

3. Hazardous Waste

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

4. Spill Prevention

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

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### ➤ **Good Housekeeping:**

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

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

### ➤ **Hazardous Products:**

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

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

**The following product-specific practices will be followed onsite:**

### ➤ **Petroleum Products:**

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

The contractor shall prepare an Oil Pollution Spill Prevention Control and Countermeasure plan when the project that involves the storage of petroleum

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products in 55 gallon or larger containers with a total combined storage capacity of 1,320 gallons. This is a requirement of 40 CFR 112.

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

### ➤ **Fertilizers:**

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

### ➤ **Paints:**

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

### ➤ **Concrete Truck Washout:**

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

### ➤ **Spill Control Practices**

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

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include as appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.

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

### **D. Other State and Local Plans**

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. –None required (1)

### **E. Maintenance**

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

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### **F. Inspections**

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

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

### **G. Non – Storm Water discharges**

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

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

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

## H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

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

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

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

\_\_\_\_\_ There are no activities for this project as listed in 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan.

The contractor is responsible for the preparation of a plan that addresses the

401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

- (a) General information about this project is covered in the Project information;
- (b) Activities that require a groundwater protection plan have been identified above;
- (c) Practices that will protect groundwater from pollution are addressed in section C. Other control measures.
- (d) Implementation schedule – all practices required to prevent pollution of groundwater are to be in place prior to conducting the activity;
- (e) Training is required as a part of the ground water protection plan. All employees of the contractor, sub-contractor and resident engineer personnel will be trained to understand the nature and requirements of this plan as they pertain to their job function(s). Training will be accomplished within one week of employment and annually thereafter. A record of training will be maintained by the contractor with a copy provide to the resident engineer.
- (f) Areas of the project and groundwater plan activities will be inspected as part of the weekly sediment and erosion control inspections
- (g) Certification (see signature page.)

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Contractor and Resident Engineer Plan certification

The contractor that is responsible for implementing this BMP plan is identified in the Project Information section of this plan.

The following certification applies to all parties that are signatory to this BMP plan:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, this plan complies with the requirements of 401 KAR 5:037. By this certification, the undersigned state that the individuals signing the plan have reviewed the terms of the plan and will implement its provisions as they pertain to ground water protection.

Resident Engineer and Contractor Certification:

(2) Resident Engineer signature

Signed \_\_\_\_\_title\_\_\_\_\_, \_\_\_\_\_  
Typed or printed name<sup>2</sup>signature

(3) Signed \_\_\_\_\_title\_\_\_\_\_, \_\_\_\_\_  
Typed or printed name<sup>1</sup>signature

1. Contractors Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.
2. KyTC note: to be signed by the Chief District Engineer or a person designated to have the authority to sign reports by such a person (usually the resident engineer) in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601 Reference the Project Control Number (PCN) and KPDES number when one has been issued.



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

Sub-Contractor Certification

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

Subcontractor

Name:  
Address:  
Address:

Phone:

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

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

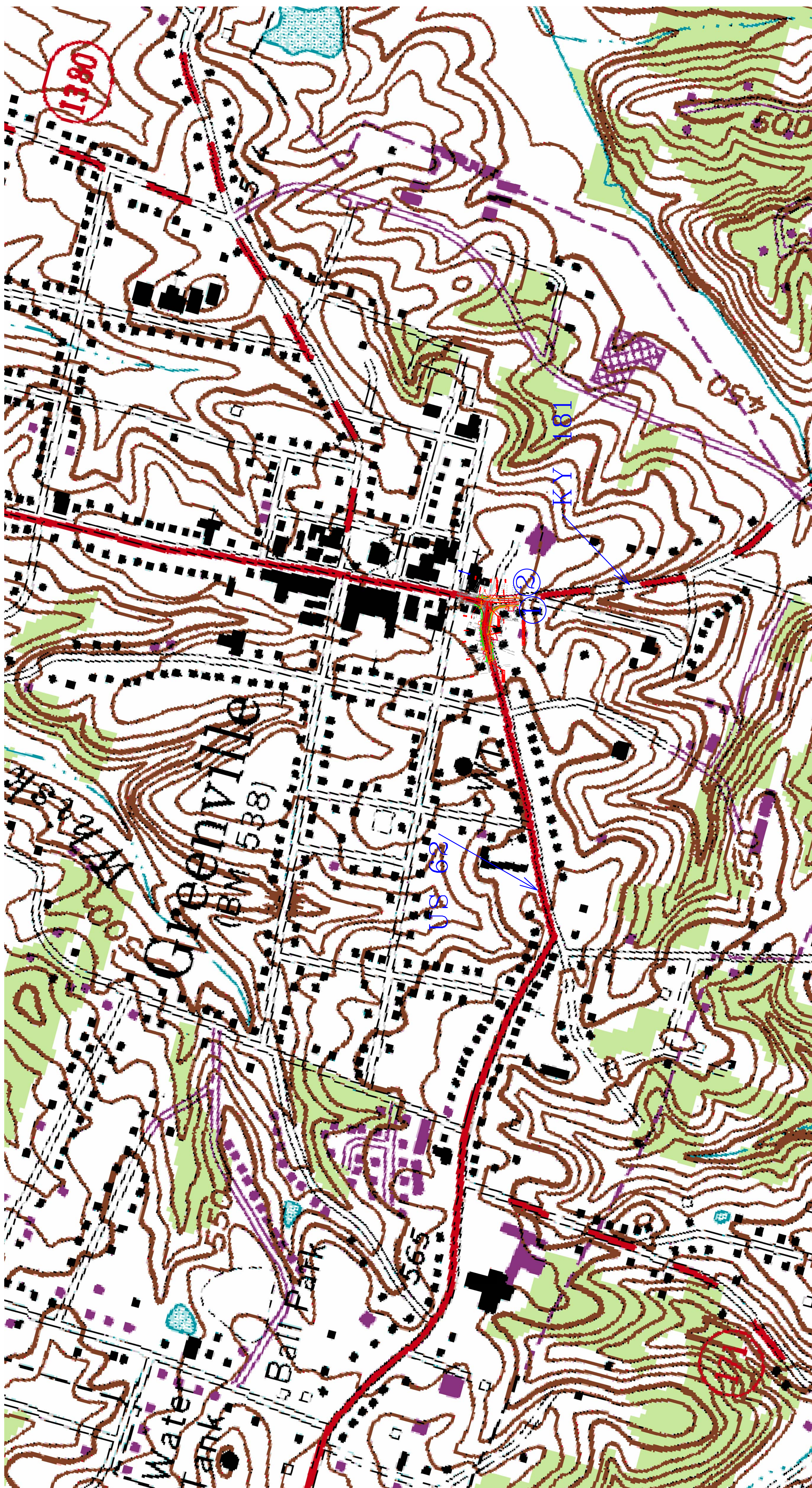
Signed \_\_\_\_\_title\_\_\_\_\_, \_\_\_\_\_  
Typed or printed name<sup>1</sup>signature

1. Sub Contractor Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.

2-138.10 NOI Password is:

0354e6a2-41fc-4521-b1d7-1a20a4e89029







**DECEMBER 2011 LETTING**

**KENTUCKY TRANSPORTATION CABINET  
COMMUNICATING ALL PROMISES (CAP)**

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**MUHLENBERG COUNTY**

**JL03 089 0062 009-010 & JL03 089 0062 010-011**

**(NO CAPS INVOLVED IN PROJECT)**

MATERIAL SUMMARY

CONTRACT ID: 121010

JL03 089 0062 009-010

PES NO: DE089006212W1

INTERSECTION OF US 62 AND KY 171 RECONSTRUCT THE US 62-KY 171 INTERSECTION BY ADDING

TURN LANES TO IMPROVE EFFICIENCY AND SAFETY

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0010	00003	CRUSHED STONE BASE	2,423.00	TON
0020	00020	TRAFFIC BOUND BASE	208.00	TON
0030	00078	CRUSHED AGGREGATE SIZE NO 2	2,243.00	TON
0040	00190	LEVELING & WEDGING PG64-22	1,077.00	TON
0050	00214	CL3 ASPH BASE 1.00D PG64-22	554.00	TON
0060	00216	CL3 ASPH BASE 1.00D PG76-22	361.00	TON
0070	00326	CL3 ASPH SURF 0.50B PG76-22	744.00	TON
0080	00521	STORM SEWER PIPE-15 IN	2,021.00	LF
0090	00522	STORM SEWER PIPE-18 IN	945.00	LF
0100	00524	STORM SEWER PIPE-24 IN	107.00	LF
0110	00980	SLOTTED DRAIN PIPE-12 IN	120.00	LF
0120	01432	SLOPED BOX OUTLET TYPE 1-15 IN	2.00	EACH
0130	01433	SLOPED BOX OUTLET TYPE 1-18 IN	1.00	EACH
0140	01434	SLOPED BOX OUTLET TYPE 1-24 IN	1.00	EACH
0150	01544	DROP BOX INLET TYPE 11	5.00	EACH
0160	01559	DROP BOX INLET TYPE 13G	15.00	EACH
0170	01568	DROP BOX INLET TYPE 13S	2.00	EACH
0180	01577	DROP BOX INLET TYPE 14	4.00	EACH
0190	01581	DROP BOX INLET TYPE 16G	1.00	EACH
0200	01587	DROP BOX INLET TYPE 16S	2.00	EACH
0210	01641	JUNCTION BOX-15 IN	1.00	EACH
0220	01756	MANHOLE TYPE A	3.00	EACH
0230	01810	STANDARD CURB AND GUTTER	3,273.00	LF
0240	02101	CEM CONC ENT PAVEMENT-8 IN	495.00	SQYD
0250	02159	TEMP DITCH	2,218.00	LF
0260	02204	SPECIAL EXCAVATION	1,245.00	CUYD
0270	02230	EMBANKMENT IN PLACE	3,181.00	CUYD
0280	02242	WATER	0.16	MGAL
0290	02429	RIGHT-OF-WAY MONUMENT TYPE 1	27.00	EACH
0300	02430	RIGHT-OF-WAY MONUMENT TYPE 1A	4.00	EACH
0310	02432	WITNESS POST	3.00	EACH
0320	02483	CHANNEL LINING CLASS II	29.00	TON
0330	02545	CLEARING AND GRUBBING	1.00	LS
		1.72 ACRES		
0340	02551	CONCRETE-CLASS A FOR STEPS	1.08	CUYD
0350	02562	SIGNS	222.00	SQFT
0360	02585	EDGE KEY	100.00	LF
0370	02599	FABRIC-GEOTEXTILE TYPE IV	7,048.00	SQYD
0380	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	10,526.00	SQYD
0390	02619	HANDRAIL-TYPE A	16.00	LF
0400	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
		MP 9-10		
0410	02701	TEMP SILT FENCE	2,032.00	LF
0420	02703	SILT TRAP TYPE A	5.00	EACH
0430	02704	SILT TRAP TYPE B	5.00	EACH
0440	02705	SILT TRAP TYPE C	5.00	EACH
0450	02706	CLEAN SILT TRAP TYPE A	15.00	EACH
0460	02707	CLEAN SILT TRAP TYPE B	15.00	EACH
0470	02708	CLEAN SILT TRAP TYPE C	15.00	EACH
0480	02709	CLEAN TEMP SILT FENCE	2,032.00	LF
0490	02720	SIDEWALK-4 IN CONCRETE	1,249.00	SQYD
0500	02726	STAKING	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 121010

		MP 9-10		
0510	05950	EROSION CONTROL BLANKET	25.00	SQYD
0520	05952	TEMP MULCH	23,309.00	SQYD
0530	05953	TEMP SEEDING AND PROTECTION	23,309.00	SQYD
0540	05966	TOPDRESSING FERTILIZER	0.20	TON
0550	05985	SEEDING AND PROTECTION	3,000.00	SQYD
0560	05990	SODDING	5,643.00	SQYD
0570	06510	PAVE STRIPING-TEMP PAINT-4 IN	4,064.00	LF
0580	06514	PAVE STRIPING-PERM PAINT-4 IN	4,687.00	LF
0590	06574	PAVE MARKING-THERMO CURV ARROW	12.00	EACH
0600	08100	CONCRETE-CLASS A	1.35	CUYD
0610	08150	STEEL REINFORCEMENT	8.00	LB
0620	21289ED	LONGITUDINAL EDGE KEY	3,350.00	LF
0630	23131ER701	PIPELINE VIDEO INSPECTION	1,597.00	LF
0640	23158ES505	DETECTABLE WARNINGS	210.00	SQFT
0650	02569	DEMOBILIZATION	1.00	LS

JL03 089 0062 010-011

PES NO: DE089006212W2

INTERSECTION OF US 62 AND KY 181 RECONSTRUCT THE US 62-KY 181 INTERSECTION BY ADDING

TURN LANES TO IMPROVE EFFICIENCY AND SAFETY

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0010	00003	CRUSHED STONE BASE	1,106.00	TON
0020	00020	TRAFFIC BOUND BASE	120.00	TON
0030	00078	CRUSHED AGGREGATE SIZE NO 2	696.00	TON
0040	00190	LEVELING & WEDGING PG64-22	434.00	TON
0050	00214	CL3 ASPH BASE 1.00D PG64-22	252.00	TON
0060	00216	CL3 ASPH BASE 1.00D PG76-22	138.00	TON
0070	00326	CL3 ASPH SURF 0.50B PG76-22	382.00	TON
0080	00520	STORM SEWER PIPE-12 IN	35.00	LF
0090	00522	STORM SEWER PIPE-18 IN	1,040.00	LF
0100	01433	SLOPED BOX OUTLET TYPE 1-18 IN	2.00	EACH
0110	01547	DROP BOX INLET TYPE 12	30.00	LF
0120	01559	DROP BOX INLET TYPE 13G	9.00	EACH
0130	01568	DROP BOX INLET TYPE 13S	2.00	EACH
0140	01577	DROP BOX INLET TYPE 14	1.00	EACH
0150	01756	MANHOLE TYPE A	2.00	EACH
0160	01792	ADJUST MANHOLE	2.00	EACH
0170	01810	STANDARD CURB AND GUTTER	1,187.00	LF
0180	01811	STANDARD CURB AND GUTTER MOD	35.00	LF
0190	01875	STANDARD HEADER CURB	204.00	LF
0200	01946	MOUNTABLE MEDIAN TYPE 2A	4.00	SQYD
0210	02091	REMOVE PAVEMENT	59.00	SQYD
0220	02101	CEM CONC ENT PAVEMENT-8 IN	181.00	SQYD
0230	02159	TEMP DITCH	1,200.00	LF
0240	02203	STRUCTURE EXCAV-UNCLASSIFIED	173.00	CUYD
0250	02204	SPECIAL EXCAVATION	419.00	CUYD
0260	02230	EMBANKMENT IN PLACE	3,371.00	CUYD
0270	02242	WATER	0.10	MGAL
0280	02429	RIGHT-OF-WAY MONUMENT TYPE 1	22.00	EACH
0290	02430	RIGHT-OF-WAY MONUMENT TYPE 1A	14.00	EACH
0300	02432	WITNESS POST	3.00	EACH
0310	02484	CHANNEL LINING CLASS III	584.00	TON
0320	02545	CLEARING AND GRUBBING 1.75 ACRES	1.00	LS
0330	02551	CONCRETE-CLASS A FOR STEPS	1.64	CUYD
0340	02555	CONCRETE-CLASS B	155.00	CUYD
0350	02562	SIGNS	202.00	SQFT
0360	02585	EDGE KEY	78.00	LF
0370	02599	FABRIC-GEOTEXTILE TYPE IV	2,766.00	SQYD
0380	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	3,777.00	SQYD
0390	02611	HANDRAIL-TYPE A-1	209.00	LF
0400	02619	HANDRAIL-TYPE A	14.00	LF
0410	02650	MAINTAIN & CONTROL TRAFFIC MP 10-11	1.00	LS
0420	02701	TEMP SILT FENCE	1,200.00	LF
0430	02703	SILT TRAP TYPE A	3.00	EACH
0440	02704	SILT TRAP TYPE B	3.00	EACH
0450	02705	SILT TRAP TYPE C	3.00	EACH
0460	02706	CLEAN SILT TRAP TYPE A	9.00	EACH
0470	02707	CLEAN SILT TRAP TYPE B	9.00	EACH
0480	02708	CLEAN SILT TRAP TYPE C	9.00	EACH
0490	02709	CLEAN TEMP SILT FENCE	1,200.00	LF

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0503	02726	STAKING	1.00	LS
		MP 10-11		
0520	05950	EROSION CONTROL BLANKET	25.00	SQYD
0530	05952	TEMP MULCH	13,939.00	SQYD
0540	05953	TEMP SEEDING AND PROTECTION	13,939.00	SQYD
0550	05966	TOPDRESSING FERTILIZER	0.25	TON
0560	05985	SEEDING AND PROTECTION	3,935.00	SQYD
0570	05990	SODDING	821.00	SQYD
0580	06510	PAVE STRIPING-TEMP PAINT-4 IN	9,090.00	LF
0590	06514	PAVE STRIPING-PERM PAINT-4 IN	4,135.00	LF
0600	06530	PAVE STRIPING REMOVAL-4 IN	285.00	LF
0610	06566	PAVE MARKING-THERMO X-WALK-12 IN	240.00	LF
0620	06568	PAVE MARKING-THERMO STOP BAR-24IN	76.00	LF
0630	06574	PAVE MARKING-THERMO CURV ARROW	6.00	EACH
0640	06575	PAVE MARKING-THERMO COMB ARROW	2.00	EACH
0650	23131ER701	PIPELINE VIDEO INSPECTION	538.00	LF
0660	23158ES505	DETECTABLE WARNINGS	126.00	SQFT
0670	23185EC	BRICK-PAVERS FOR SIDEWALK	60.00	SQYD
0680	24416EC	REMOVE AND RESET LANDSCAPE WALL	1.00	LS
0690	04793	CONDUIT-1 1/4 IN	50.00	LF
0700	04795	CONDUIT-2 IN	286.00	LF
0710	04811	JUNCTION BOX TYPE B	4.00	EACH
0720	04820	TRENCHING AND BACKFILLING	95.00	LF
0730	04830	LOOP WIRE	2,115.00	LF
0740	04844	CABLE-NO. 14/5C	966.00	LF
0750	04850	CABLE-NO. 14/1 PAIR	1,010.00	LF
0760	04881	MAST ARM POLE	2.00	EACH
0770	04895	LOOP SAW SLOT AND FILL	796.00	LF
0780	04931	INSTALL CONTROLLER TYPE 170	1.00	EACH
0790	20188NS835	INSTALL LED SIGNAL-3 SECTION	10.00	EACH
0800	21543EN	BORE AND JACK CONDUIT	175.00	LF
0810	21743NN	INSTALL PEDESTRIAN DETECTOR	2.00	EACH
0820	23064NN	INSTALL SIGNAL-PEDESTRIAN COUNTDOWN	4.00	EACH
0830	23157EN	TRAFFIC SIGNAL POLE BASE	7.07	CUYD
0840	23222EC	INSTALL SIGNAL PEDESTAL	2.00	EACH
0850	23982EC	INSTALL ANTENNA	1.00	EACH
0860	24488ED	INSTALL MAST ARM MOUNTED SIGN	1.00	EACH
0870	02569	DEMOBILIZATION	1.00	LS
0880	01065	STEEL ENCASEMENT PIPE-8 IN	40.00	LF
		OPEN CUT		
0890	01071	STEEL ENCASEMENT PIPE-14 IN	93.00	LF
		BORE		
0900	01075	STEEL ENCASEMENT PIPE-18 IN	30.00	LF
		BORE		
0910	01075	STEEL ENCASEMENT PIPE-18 IN	70.00	LF
		OPEN CUT		
0920	03381	PVC PIPE-2 IN	70.00	LF
0930	03383	PVC PIPE-4 IN	60.00	LF
0940	03385	PVC PIPE-6 IN	580.00	LF
0950	03389	PVC PIPE-10 IN	2,900.00	LF
0960	03495	AIR RELEASE VALVE	2.00	EACH
0970	03526	GATE VALVE-6 IN	13.00	EACH
0980	03530	GATE VALVE-10 IN	10.00	EACH
0990	03547	BEND 22.50 DEG 10 IN	3.00	EACH
1000	03555	BEND 45 DEG 10 IN	2.00	EACH
1010	03559	BEND 90 DEG 4 IN	2.00	EACH
1020	03560	BEND 90 DEG 6 IN	2.00	EACH
1030	03561	BEND 90 DEG 10 IN	1.00	EACH
1040	20156EC	FIRE HYDRANT ASSEMBLY	8.00	EACH
1050	20311EC	SERVICE LINE-3/4 IN	769.00	LF
		COPPER		
1060	20953ND	TEE-10 IN X 10 IN	2.00	EACH
1070	20955ND	TEE-10 IN X 6 IN	11.00	EACH
1080	20956ND	REDUCER-10 IN X 8 IN	1.00	EACH
1090	20957ND	REDUCER-10 IN X 6 IN	1.00	EACH
1100	23308EC	WATER METER WITH BOX	28.00	EACH
1110	23741EC	TEE-6 X 6 IN	1.00	EACH
1120	24444ND	TEE 10 IN X 4 IN	2.00	EACH
1130	24445EC	STONE FILL NO. 9	700.00	TON
1140	24446EC	ASPHALT PAVING	150.00	TON
		DRIVEWAYS		
1150	24451EC	CONCRETE	6.00	CUYD
		WALKS		
1160	24452EC	SEEDING	5.00	ACRE
1170	01050	SEWER PIPE-4 IN	200.00	LF
1180	01051	SEWER PIPE-6 IN	630.00	LF
1190	01052	SEWER PIPE-8 IN	1,542.00	LF
1200	01073	STEEL ENCASEMENT PIPE-16 IN	160.00	LF
		OPEN CUT		
1210	02690	SAFELOADING	5.00	CUYD
1220	03479	TIE-IN	3.00	EACH

MUHLENBERG COUNTY

089GR12D004-1243

1243	23774EC	MANHOLE-6 FT	6.00	EACH
1250	24445EC	STONE FILL NO. 9	350.00	TON
1260	24446EC	ASPHALT PAVING	150.00	TON
1270	24447EC	PVC WYE-8 X 6	20.00	EACH
1280	24448EC	CLEANOUT ASSEMBLY	20.00	EACH
1290	24449EC	MANHOLE-8 FT	4.00	EACH
1300	24450EC	MANHOLE-12 FT	1.00	EACH
1310	24452EC	SEEDING	3.00	ACRE

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**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 July15, 2011 Letting)

<b>SUBSECTION: REVISION:</b>	101.02 Abbreviations. Insert the following abbreviation and text into the section:  KEPSC     Kentucky Erosion Prevention and Sediment Control
<b>SUBSECTION: REVISION:</b>	101.03 Definitions. Replace the definition for Specifications – <i>Special Provisions</i> with the following:  Additions and revisions to the Standard and Supplemental Specifications covering conditions peculiar to an individual project.
<b>SUBSECTION: REVISION:</b>	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 ( <a href="http://transportation.ky.gov/contract/">http://transportation.ky.gov/contract/</a> ).  Delete the second paragraph.  Delete the last paragraph.
<b>SUBSECTION: REVISION:</b>	102.04 Issuance of Bid Proposal Form. Replace Heading with the following:  102.04 Bidder Registration.  Replace the first sentence of the first paragraph with the following:  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:  Replace the last sentence of the subsection with the following:  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.
<b>SUBSECTION: REVISION:</b>	102.06 Examination of Plans, Specifications, Special Provisions, Special Notes, and Site of Work. Replace the first paragraph with the following:  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.
<b>SUBSECTION: REVISION:</b>	102.07.01 General. Replace the first sentence with the following:  Submit the Bid Proposal on forms furnished on the Bid Express Bidding Service website ( <a href="http://www.bidx.com">www.bidx.com</a> ).  Replace the first sentence of the third paragraph with the following:  Bid proposals submitted shall use an eligible Digital ID issued by Bid Express.

Supplemental Specifications to The Standard Specifications  
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<b>SUBSECTION: REVISION:</b>	<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 (<a href="http://transportation.ky.gov/contract/">http://transportation.ky.gov/contract/</a>). 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>
<b>SUBSECTION: REVISION:</b>	<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> <div><div>1)</div><div>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</div></div> <div><div>2)</div><div>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</div></div> <div><div>3)</div><div>any failure to comply with the provisions of Subsection 102.07; or</div></div> <div><div>4)</div><div>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.</div></div>
<b>SUBSECTION: REVISION:</b>	<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>
<b>SUBSECTION: REVISION:</b>	<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>
<b>SUBSECTION: REVISION:</b>	<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>

Supplemental Specifications to The Standard Specifications  
for Road and Bridge Construction, 2008 Edition  
(Effective with the July15, 2011 Letting)

<b>SUBSECTION: REVISION:</b>	<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>
<b>SUBSECTION: REVISION:</b>	<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>
<b>SUBSECTION: REVISION:</b>	<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>
<b>SUBSECTION: REVISION:</b>	<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>

Supplemental Specifications to The Standard Specifications  
for Road and Bridge Construction, 2008 Edition  
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<b>SUBSECTION: REVISION:</b>	<p>105.12 Final Inspection and Acceptance of Work.</p> <p>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>
<b>SUBSECTION: REVISION:</b>	<p>105.13 Claim Resolution Process.</p> <p>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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<b>SUBSECTION: REVISION:</b>	<p>106.04 Buy America Requirement. Replace the section with the following:</p> <p><b>106.04 Buy America Requirement.</b> 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"><li>• Coating,</li><li>• Galvanizing,</li><li>• Painting, and</li><li>• Other coating that protects or enhances the value of steel or iron products.</li></ul> <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"><li>• Pig iron,</li><li>• Processed, pelletized, and reduced iron ore material, or</li><li>• Processed alloys.</li></ul> <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"><li>1) When the materials are not permanently incorporated into the project; or</li><li>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.</li></ol> <p>The Contractor shall submit to the Engineer the origin and value of any foreign material used.</p>
<b>SUBSECTION: REVISION:</b>	<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>
<b>SUBSECTION: REVISION:</b>	<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"><li>• Right of Way Mowing and/or Litter Removal</li><li>• Waterborne Paint Striping</li><li>• Projects that contain Special Provision 82</li><li>• Projects that contain the Special Note for CPM Scheduling</li></ul> <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 (<a href="http://www.transportation.ky.gov/construction/ResCenter/ResCenter.htm">http://www.transportation.ky.gov/construction/ResCenter/ResCenter.htm</a>).</p> <p>Replace Part A) Written Narrative 1. And 2. with the following:</p> <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> </ol>
<b>SUBSECTION: REVISION:</b>	<p>109.07.01 Liquid Asphalt.</p> <p>Add the following to the Adjustable Contract Items:</p> <ul style="list-style-type: none"> <li>• Stone Matrix Asphalt for Base</li> <li>• Stone Matrix Asphalt for Surface</li> </ul>
<b>SUBSECTION: REVISION:</b>	<p>110.01 Mobilization.</p> <p>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>
<b>SUBSECTION: REVISION:</b>	<p>110.02 Demobilization.</p> <p>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>
<b>SUBSECTION: REVISION:</b>	<p>110.04 Payment.</p> <p>Insert the following paragraph following the demobilization payment schedule (4<sup>th</sup> 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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<b>SUBSECTION: REVISION:</b>	<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>
<b>SUBSECTION: PART: REVISION:</b>	<p>112.03.11 Temporary Pavement Markings. B) Placement and Removal of Temporary Striping. Replace the 2<sup>nd</sup> 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>
<b>SUBSECTION: REVISION:</b>	<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>
<b>SUBSECTION: REVISION:</b>	<p>112.03.15 Non-Compliance of Maintain and Control of Traffic. Add the following section:</p> <p><b>112.03.15 Non-Compliance of Maintain and Control of Traffic.</b> 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>A) Long-term stationary work that occupies a location more than 3 days.</p> <p>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>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>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>
<b>SUBSECTION: REVISION:</b>	<p>206.03.02 Embankment</p> <p>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>
<b>SUBSECTION: REVISION:</b>	<p>213.03.03 Inspection and Maintenance.</p> <p>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 7calendar 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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<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	213.03.05 Temporary Control Measures. E) Temporary Seeding and Protection. Replace the first paragraph with the following:  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.
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	213.03.05 Temporary Control Measures. F) Temporary Mulch. Replace the last sentence with the following:  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.
<b>SUBSECTION:</b> <b>REVISION:</b>	303.05 Payment. Replace the second paragraph of the section with the following:  The Department will make payment for Drainage Blanket-Type II (ATDB) according to the Lot Pay Adjustment Schedule for Specialty Mixtures in Section 402.
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	401.02.04 Special Requirements for Dryer Drum Plants. F) Production Quality Control. Replace the first sentence with the following:  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.
<b>SUBSECTION:</b> <b>REVISION:</b>	401.02.04 Special Requirements for Dryer Drum Plants. Add the following:  Part G) <b>Water Injection System.</b> 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). Ensure the equipment for water injection meets the following requirements: 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.
<b>SUBSECTION:</b> <b>REVISION:</b>	401.03.01 Preparation of Mixtures. Replace the last sentence of the second paragraph with the following:  Do not use asphalt binder while it is foaming in a storage tank.

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<b>SUBSECTION:</b> <b>REVISION:</b>	401.03.01 Preparation of Mixtures. Replace the third paragraph and Mixing and Laying Temperature table with the following:  Maintain the temperature of the component materials and asphalt mixture within the ranges listed in the following table: <table><tr><th colspan="4">MIXING AND LAYING TEMPERATURES (°F)</th></tr><tr><th colspan="2">Material</th><th>Minimum</th><th>Maximum</th></tr><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></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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<b>SUBSECTION:</b> <b>REVISION:</b>	402.01 Description. Replace the paragraph with the following:  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.																																																	
<b>SUBSECTION:</b> <b>REVISION:</b>	402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. Add the following subsection:  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.																																																	
<b>SUBSECTION:</b> <b>REVISION:</b>	402.05.02 Asphalt Mixtures and Mixtures With RAP. Replace Subsection Title as below:  402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.																																																	
<b>SUBSECTION:</b> <b>REVISION:</b>	402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Replace the paragraph with the following:  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.																																																	

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<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	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:  C) HMA, WMA and RAP Mixtures Placed on Shoulders or Placed as Asphalt Pavement Wedge.  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.												
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	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.  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.												
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	402.05.02 Asphalt Mixtures for Temporary Pavement. E) Asphalt Mixtures for Temporary Pavement. Replace E) Asphalt Mixtures for Temporary Pavement with the following:  D) Asphalt Mixtures for Temporary Pavement.												
<b>SUBSECTION:</b> <b>PART:</b> <b>TABLES:</b> <b>REVISION:</b>	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: <table><tr><th colspan="2">VMA</th></tr><tr><th>Pay Value</th><th>Deviation From Minimum</th></tr><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>&gt; 1.0 below min.</td></tr></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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<b>SUBSECTION:</b> <b>PART:</b> <b>TABLES:</b> <b>REVISION:</b>	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: <table><tr><th colspan="2">VMA</th></tr><tr><th>Pay Value</th><th>Deviation From Minimum</th></tr><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>&gt; 1.0 below min.</td></tr></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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<b>SUBSECTION:</b> <b>PART:</b> <b>TABLE:</b> <b>REVISION:</b>	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: <div><table><tr><th colspan="2">VMA</th></tr><tr><th>Pay Value</th><th>Deviation From Minimum</th></tr><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>&gt; 1.0 below min.</td></tr></table></div>	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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0.9	0.6-1.0 below min.																									
(2)	> 1.0 below min.																									
<b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>REVISION:</b>	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:  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: <div><table><tr><th colspan="2"></th><th colspan="3">Number of Gyrations</th></tr><tr><th>Class</th><th>ESAL's (millions)</th><th>N<sub>initial</sub></th><th>N<sub>design</sub></th><th>N<sub>max</sub></th></tr><tr><td>2</td><td>&lt; 3.0</td><td>6</td><td>50</td><td>75</td></tr><tr><td>3</td><td>3.0 to &lt; 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></table></div>			Number of Gyrations			Class	ESAL's (millions)	N <sub>initial</sub>	N <sub>design</sub>	N <sub>max</sub>	2	< 3.0	6	50	75	3	3.0 to < 30.0	7	75	115	4	≥ 30.0	8	100	160
		Number of Gyrations																								
Class	ESAL's (millions)	N <sub>initial</sub>	N <sub>design</sub>	N <sub>max</sub>																						
2	< 3.0	6	50	75																						
3	3.0 to < 30.0	7	75	115																						
4	≥ 30.0	8	100	160																						
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	403.03.09 Leveling and Wedging, and Scratch Course. A) Leveling and Wedging. Replace the first sentence of the first paragraph with the following:  Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.																									
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	403.03.09 Leveling and Wedging, and Scratch Course. B) Scratch Course. Replace the second sentence of the first paragraph with the following:  Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.																									
<b>SUBSECTION:</b> <b>REVISION:</b>	407.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:  Construct a pavement wedge composed of a hot-mixed or warm-mixed asphalt mixture.																									
<b>SUBSECTION:</b> <b>REVISION:</b>	409.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:  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.																									
<b>SUBSECTION:</b> <b>REVISION:</b>	410.01 DESCRIPTION. Delete the second sentence of the paragraph.																									

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<b>SUBSECTION:</b> <b>REVISION:</b>	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.														
<b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>REVISION:</b>	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.														
<b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>REVISION:</b>	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.														
<b>SUBSECTION:</b> <b>REVISION:</b>	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.														
<b>SUBSECTION:</b> <b>REVISION:</b>	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.														
<b>SUBSECTION:</b> <b>TABLE:</b> <b>REVISION:</b>	413.05.02 CL3 SMA BASE 1.00D PG 76-22. JOINT DENSITY TABLE Replace the joint density table with the following: <table><tr><th colspan="2">LANE DENSITY</th></tr><tr><th>Pay Value</th><th>Test Result (%)</th></tr><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>&lt; 91.0 or &gt; 97.5</td></tr></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
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														
<b>SUBSECTION:</b> <b>REVISION:</b>	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.														



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<b>SUBSECTION:</b> <b>TABLE:</b> <b>REVISION:</b>	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: <div><table><tr><th colspan="3">DENSITY</th></tr><tr><th>Pay Value</th><th>Lane Density Test Result (%)</th><th>Joint Density Test Result (%)</th></tr><tr><td>1.05</td><td>95.0-96.5</td><td>92.0-96.0</td></tr><tr><td>1.00</td><td>93.0-94.9</td><td>90.0-91.9</td></tr><tr><td>0.95</td><td>92.0-92.9 or 96.6-97.0</td><td>89.0-89.9 or 96.1-96.5</td></tr><tr><td>0.90</td><td>91.0-91.9 or 97.1-97.5</td><td>88.0-88.9 or 96.6-97.0</td></tr><tr><td>0.75</td><td>----</td><td>&lt; 88.0 or &gt; 97.0</td></tr><tr><td>(1)</td><td>&lt; 91.0 or &gt; 97.5</td><td>----</td></tr></table></div>	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	----
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	----																							
<b>SUBSECTION:</b> <b>REVISION:</b>	501.05.02 Ride Quality. Add the following sentence to the end of the first paragraph:  The sum of the pay value adjustments for the ride quality shall not exceed \$0 for the project as a whole.																								
<b>SUBSECTION:</b> <b>REVISION:</b>	505.03.04 Detectable Warnings. Replace the first sentence with the following:  Install detectable warning pavers at all sidewalk ramps and on all commercial entrances according to the Standard Drawings.																								
<b>SUBSECTION:</b> <b>REVISION:</b>	505.04.04 Detectable Warnings. Replace the paragraph with the following:  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.																								
<b>SUBSECTION:</b> <b>REVISION:</b>	505.05 PAYMENT. Add the following to the bid item table: <div><table><tr><td><u>Code</u></td><td><u>Pay Item</u></td><td><u>Pay Unit</u></td></tr><tr><td>23158ES505</td><td>Detectable Warnings</td><td>Square Foot</td></tr></table></div>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	23158ES505	Detectable Warnings	Square Foot																		
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>																							
23158ES505	Detectable Warnings	Square Foot																							
<b>SUBSECTION:</b> <b>REVISION:</b>	509.01 DESCRIPTION. Replace the second paragraph with the following:  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.)																								



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<b>SUBSECTION:</b> <b>REVISION:</b>	<p>601.03.02 Concrete Producer Responsibilities.</p> <p>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>
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	<p>601.03.02 Concrete Producer Responsibilities.</p> <p>B) Certified Personnel.</p> <p>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>
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	<p>601.03.02 Concrete Producer Responsibilities.</p> <p>C) Quality Control.</p> <p>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>
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	<p>601.03.02 Concrete Producer Responsibilities.</p> <p>D) Producer Testing.</p> <p>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>
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	<p>601.03.02 Concrete Producer Responsibilities.</p> <p>E) Trip Tickets.</p> <p>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>
<b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>REVISION:</b>	<p>601.03.03 Proportioning and Requirements.</p> <p>C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures</p> <p>2) Mineral Admixtures.</p> <p>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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<b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>LETTER:</b> <b>REVISION:</b>	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.
<b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>LETTER:</b> <b>REVISION:</b>	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.
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	601.03.03 Proportioning and Requirements. E) Measuring. Add the following sentence:  Conform to the individual ingredient material batching tolerances in Appendix A.
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	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.
<b>SUBSECTION:</b> <b>REVISION:</b>	605.02.05 Forms. Delete the last sentence.
<b>SUBSECTION:</b> <b>REVISION:</b>	605.03.04 Tack Welding. Replace with the following:  The Department does not allow tack welding.
<b>SUBSECTION:</b> <b>REVISION:</b>	606.02.11 Coarse Aggregate. Replace with the following:  Conform to Section 805, size No. 8 or 9-M.
<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	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.
<b>SUBSECTION:</b> <b>REVISION:</b>	609.03.09 Finish with Burlap Drag. Delete the entire section.
<b>SUBSECTION:</b> <b>REVISION:</b>	609.04.06 Joint Sealing. Replace Subsection 601.04 with the following:  Subsection 606.04.08.

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<b>SUBSECTION: REVISION:</b>	609.05 Payment. Replace the Pay Unit for Joint Sealing with the following:  See Subsection 606.05.
<b>SUBSECTION: REVISION:</b>	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.
<b>SUBSECTION: REVISION:</b>	<p>701.03.08 Testing of Pipe. Replace and rename the subsection with the following:</p> <p style="text-align: center;"><b>701.03.08 Inspection of Pipe.</b> 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 style="text-align: center;">The Cabinet may elect to conduct Quality Assurance verifications of any pipe inspections.</p>
<b>SUBSECTION: REVISION:</b>	<p>701.04.07 Testing. Replace and rename the subsection with the following:</p> <p style="text-align: center;"><b>701.04.07 Pipeline Video Inspection.</b> 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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<b>SUBSECTION:</b> <b>REVISION:</b>	701.05 PAYMENT Add the following pay item to the list of pay items: <table><tr><td>Code</td><td>Pay Item</td><td>Pay Unit</td></tr><tr><td>23131ER701</td><td>Pipeline Video Inspection</td><td>Linear Foot</td></tr></table>	Code	Pay Item	Pay Unit	23131ER701	Pipeline Video Inspection	Linear Foot						
Code	Pay Item	Pay Unit											
23131ER701	Pipeline Video Inspection	Linear Foot											
<b>SUBSECTION:</b> <b>TABLE:</b> <b>REVISION:</b>	701.05 PAYMENT PIPE DEFLECTION DETERMINED BY CAMERA TESTING Replace this table with the following table and note: <table><tr><th colspan="2">PIPE DEFLECTION</th></tr><tr><th>Amount of Deflection (%)</th><th>Payment</th></tr><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 <sup>(1)</sup></td></tr><tr><td>10 or greater</td><td>Remove and Replace</td></tr></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 <sup>(1)</sup>	10 or greater	Remove and Replace		
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 <sup>(1)</sup>												
10 or greater	Remove and Replace												
<b>SUBSECTION:</b> <b>TABLE:</b> <b>REVISION:</b>	701.05 PAYMENT PIPE DEFLECTION DETERMINED BY MANDREL TESTING Delete this table.												
<b>SUBSECTION:</b> <b>REVISION:</b>	713.02.01 Paint. Replace with the following:  Conform to Section 842 and Section 846.												
<b>SUBSECTION:</b> <b>REVISION:</b>	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.												
<b>SUBSECTION:</b> <b>REVISION:</b>	713.03.03 Paint Application. Replace the second paragraph with the following table: <table><tr><th>Material</th><th>Paint Application Rate</th><th>Glass Beads Application Rate</th></tr><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></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
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											
<b>SUBSECTION:</b> <b>REVISION:</b>	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.												
<b>SUBSECTION:</b> <b>REVISION:</b>	713.05 PAYMENT. Insert the following codes and pay items below the Pavement Striping – Permanent Paint: <table><tr><td>Code</td><td>Pay Item</td><td>Pay Unit</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>	Code	Pay Item	Pay Unit	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
Code	Pay Item	Pay Unit											
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											

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<b>SUBSECTION: REVISION:</b>	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.
<b>SUBSECTION: REVISION:</b>	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.
<b>SUBSECTION: REVISION:</b>	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.
<b>SUBSECTION: REVISION:</b>	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.
<b>SECTION: REVISION:</b>	717 – THERMOPLASTIC INTERSECTION MARKINGS. Replace the section name with the following:  INTERSECTION MARKINGS.
<b>SUBSECTION: REVISION:</b>	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.
<b>SUBSECTION: REVISION:</b>	717.02 MATERIALS AND EQUIPMENT. Insert the following subsection:  717.02.06 Type I Tape. Conform to Section 836.
<b>SUBSECTION: REVISION:</b>	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.

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<b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b>	717.03.05 Proving Period. A) Requirements. Insert the following to this section:  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.																																							
<b>SUBSECTION:</b> <b>REVISION:</b>	717.03.06 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.																																							
<b>SUBSECTION:</b> <b>REVISION:</b>	717.05 PAYMENT. Insert the following bid item codes: <table><tr><td><u>Code</u></td><td><u>Pay Unit</u></td><td><u>Pay Item</u></td></tr><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></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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<b>SUBSECTION:</b> <b>REVISION:</b>	725.02.02 Type VI Class C & CT. Replace bullet 2) with the following:  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.																																							
<b>SUBSECTION:</b> <b>REVISION:</b>	725.02.04 Type VII Class C. Replace bullet 2) with the following: 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.																																							
<b>SUBSECTION:</b> <b>REVISION:</b>	801.01 REQUIREMENTS. Delete the fourth sentence of the first paragraph and add the following to the second paragraph.  When supplying cement with a SO <sub>3</sub> content above the value in table I of ASTM C 150, include supportive ASTM C 1038 14-day expansion test data for the supplied SO <sub>3</sub> content on the certification.																																							

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<b>SUBSECTION:</b> <b>REVISION:</b>	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.
<b>SUBSECTION:</b> <b>REVISION:</b>	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.
<b>SUBSECTION:</b> <b>REVISION:</b>	805.04 CONCRETE. Replace the “AASHTO T 160” reference in first sentence of the third paragraph with “KM 64-629”
<b>SUBSECTION:</b> <b>TABLE:</b> <b>PART:</b> <b>REVISION:</b>	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
Aggregate Size	Nominal <sup>(3)</sup> 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					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 <sup>(2)</sup>	No. 4										100	85-100		10-30
11 <sup>(2)</sup>	No. 4										100	40-90	10-40	0-5
DENSE GRADED AGGREGATE <sup>(1)</sup>	3/4 inch							100	70-100		50-80	30-65		10-40
CRUSHED STONE BASE <sup>(1)</sup>	1 1/2 inch				100		90-100		60-95		30-70	15-55		5-20

<sup>(1)</sup> Gradation performed by wet sieve KM 64-620 or AASHTO T 11/T 27.  
<sup>(2)</sup> Sizes shown for convenience and are not to be considered as coarse aggregates.  
<sup>(3)</sup> 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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<b>SUBSECTION: REVISION:</b>	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.					
<b>SUBSECTION: REVISION:</b>	810.04.01 Coating Requirements. Replace the “Subsection 806.07” references with “Subsection 806.06”					
<b>SUBSECTION: PART: REVISION:</b>	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.					
<b>SUBSECTION: REVISION:</b>	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.					
<b>SUBSECTION: REVISION:</b>	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.					
<b>SUBSECTION: REVISION:</b>	837.03.01 Composition. COMPOSITION Table: Replace <table border="1"><tr><td>Lead Chromate</td><td>0.0 max.</td><td>4.0 min.</td></tr></table> with <table border="1"><tr><td>Heavy Metals Content</td><td>Comply with 40 CFR 261</td></tr></table>	Lead Chromate	0.0 max.	4.0 min.	Heavy Metals Content	Comply with 40 CFR 261
Lead Chromate	0.0 max.	4.0 min.				
Heavy Metals Content	Comply with 40 CFR 261					
<b>SUBSECTION: TABLE: REVISION:</b>	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.					
<b>SECTION: REVISION:</b>	DIVISION 800 MATERIAL DETAILS Add the following section in Division 800  <b>SECTION 846 – DURABLE WATERBORNE PAINT</b>  <b>846.01 DESCRIPTION.</b> 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.  <b>846.02 Approval.</b> 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					

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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 <sub>2</sub>	VOC	Heavy Metals Content
Reduction Rate	60%	10%	10%	10%	60%	60%

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<b>APPENDIX A:</b> <b>PART:</b> <b>REVISION:</b>	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
<b>APPENDIX A:</b> <b>PART:</b> <b>REVISION:</b>	TABLUTION OF CONSTRUCTION TOLERANCES. 601.03.03 C) 2) Delete

## **PART III**

### **EMPLOYMENT, WAGE AND RECORD REQUIREMENTS**

## **TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS**

### **LABOR AND WAGE REQUIREMENTS APPLICABLE TO OTHER THAN FEDERAL-AID SYSTEM PROJECTS**

- I. Application
- II. Nondiscrimination of Employees (KRS 344)
- III. Payment of Predetermined Minimum Wages
- IV. Statements and Payrolls

#### **I. APPLICATION**

1. These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work or by subcontract. The contractor's organization shall be construed to include only workmen employed and paid directly by the contractor and equipment owned or rented by him, with or without operators.

2. The contractor shall insert in each of his subcontracts all of the stipulations contained in these Required Provisions and such other stipulations as may be required.

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

#### **II. NONDISCRIMINATION OF EMPLOYEES**

##### **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.

#### **III. PAYMENT OF PREDETERMINED MINIMUM WAGES**

1. These special provisions are supplemented elsewhere in the contract by special provisions which set forth certain predetermined minimum wage rates. The contractor shall pay not less than those rates.

2. The minimum wage determination schedule shall be posted by the contractor, in a manner prescribed by the Department of Highways, at the site of the work in prominent places where it can be easily seen by the workers.

#### **IV. STATEMENTS AND PAYROLLS**

1. All contractors and subcontractors affected by the terms of KRS 337.505 to 337.550 shall keep full and accurate payroll records covering all disbursements of wages to their employees to whom they are required to pay not less than the prevailing rate of wages. Payrolls and basic records relating thereto will be maintained during the course of the work and preserved for a period of one (1) year from the date of completion of this contract.

2. The payroll records shall contain the name, address and social security number of each employee, his correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid.

3. The contractor shall make his daily records available at the project site for inspection by the State Department of Highways contracting office or his authorized representative.

Periodic investigations shall be conducted as required to assure compliance with the labor provisions of the contract. Interrogation of employees and officials of the contractor shall be permitted during working hours.

Aggrieved workers, Highway Managers, Assistant District Engineers, Resident Engineers and Project Engineers shall report all complaints and violations to the Division of Contract Procurement.

The contractor shall be notified in writing of apparent violations. The contractor may correct the reported violations and notify the Department of Highways of the action taken or may request an informal hearing. The request for hearing shall be in writing within ten (10) days after receipt of the notice of the reported violation. The contractor may submit

records and information which will aid in determining the true facts relating to the reported violations.

Any person or organization aggrieved by the action taken or the findings established as a result of an informal hearing by the Division of Contract Procurement may request a formal hearing.

4. The wages of labor shall be paid in legal tender of the United States, except that this condition will be considered satisfied if payment is made by a negotiable check, on a solvent bank, which may be cashed readily by the employee in the local community for the full amount, without discount or collection charges of any kind. Where checks are used for payments, the contractor shall make all necessary arrangements for them to be cashed and shall give information regarding such arrangements.

5. No fee of any kind shall be asked or accepted by the contractor or any of his agents from any person as a condition of employment on the project.

6. No laborers shall be charged for any tools used in performing their respective duties except for reasonably avoidable loss or damage thereto.

7. Every employee on the work covered by this contract shall be permitted to lodge, board, and trade where and with whom he elects and neither the contractor nor his agents, nor his employees shall directly or indirectly require as a condition of employment that an employee shall lodge, board or trade at a particular place or with a particular person.

8. Every employee on the project covered by this contract shall be an employee of either the prime contractor or an approved subcontractor.

9. No charge shall be made for any transportation furnished by the contractor or his agents to any person employed on the work.

10. No individual shall be employed as a laborer or mechanic on this contract except on a wage basis, but this shall not be construed to prohibit the rental of teams, trucks or other equipment from individuals.

No Covered employee may be employed on the work except in accordance with the classification set forth in the schedule mentioned above; provided, however, that in the event additional classifications are required, application shall be made by the contractor to the Department of Highways and (1) the Department shall request appropriate classifications and rates from the proper agency, or (2) if there is urgent need for additional classification to avoid undue delay in the work, the contractor may employ such workmen at rates deemed comparable to rates established for similar classifications provided he has made written application through the Department of Highways, addressed to the proper agency, for the supplemental rates. The contractor shall retroactively adjust, upon receipt of the supplemental rates schedule, the wages of any employee paid less than the established rate and may adjust the wages of any employee overpaid.

11. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any work-week in which he is employed on such work, to work in excess of eight hours in any calendar day or in excess of forty hours in such work-week unless such laborer or mechanic receives compensation at a rate not less than one and one half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such work-week. 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. This agreement shall be in writing and shall be executed prior to the employee working in excess of eight (8) hours, but not more than ten (10) hours, in any one (1) calendar day.

12. Payments to the contractor may be suspended or withheld due to failure of the contractor to pay any laborer or

mechanic employed or working on the site of the work, all or part of the wages required under the terms of the contract. The Department may suspend or withhold payments only after the contractor has been given written notice of the alleged violation and the contractor has failed to comply with the wage determination of the Department of Highways.

13. Contractors and subcontractors shall comply with the sections of Kentucky Revised Statutes, Chapter 337 relating to contracts for Public Works.

Revised 2-16-95

## 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.

### **Kentucky Equal Employment Opportunity Act of 1978**

The requirements of the Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) shall apply to this Contract. The apparent low Bidder will be required to submit EEO forms to the Division of Construction Procurement, which will then forward to the Finance and Administration Cabinet for review and approval. No award will become effective until all forms are submitted and EEO/CC has certified compliance. The required EEO forms are as follows:

- EEO-1: Employer Information Report
- Affidavit of Intent to Comply
- Employee Data Sheet
- Subcontractor Report

These forms are available on the Finance and Administration's web page under ***Vendor Information, Standard Attachments and General Terms*** at the following address:  
**<https://www.eProcurement.ky.gov>**.

Bidders currently certified as being in compliance by the Finance and Administration Cabinet may submit a copy of their approval letter in lieu of the referenced EEO forms.

For questions or assistance please contact the Finance and Administration Cabinet by email at **[finance.contractcompliance@ky.gov](mailto:finance.contractcompliance@ky.gov)** or by phone at 502-564-2874.



General Decision Number: KY120127 02/10/2012 KY127

Superseded General Decision Number: KY20100214

State: Kentucky

Construction Type: Highway

Counties: Allen, Ballard, Butler, Caldwell, Calloway, Carlisle, Christian, Crittenden, Daviess, Edmonson, Fulton, Graves, Hancock, Henderson, Hickman, Hopkins, Livingston, Logan, Lyon, Marshall, McCracken, McLean, Muhlenberg, Ohio, Simpson, Todd, Trigg, Union, Warren and Webster Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	01/06/2012
1	01/13/2012
2	02/10/2012

BRIN0004-002 06/01/2011

BALLARD, BUTLER, CALDWELL, CARLISLE, CRITTENDEN, DAVIESS, EDMONSON, FULTON, GRAVES, HANCOCK, HENDERSON, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCRACKEN, MCLEAN, MUHLENBERG, OHIO, UNION, and WEBSTER COUNTIES

	Rates	Fringes
BRICKLAYER		
Ballard, Caldwell, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, Marshall, and McCracken Counties.....	\$ 24.11	10.30
Butler, Edmonson, Hopkins, Muhlenberg, and Ohio Counties.....	\$ 24.61	10.22
Daviess, Hancock, Henderson, McLean, Union, and Webster Counties.....	\$ 28.47	12.78

BRTN0004-005 05/01/2009

ALLEN, CALLOWAY, CHRISTIAN, LOGAN, SIMPSON, TODD, TRIGG, and WARREN COUNTIES

Rates	Fringes
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BRICKLAYER.....	\$ 24.52	1.83
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CARP0357-002 07/01/2011		
	Rates	Fringes
CARPENTER.....	\$ 25.95	13.22
Diver.....	\$ 39.30	13.22
PILEDRIVERMAN.....	\$ 26.20	13.22
-----		
ELEC0369-006 06/01/2011		
BUTLER, EDMONSON, LOGAN, TODD & WARREN COUNTIES:		
	Rates	Fringes
ELECTRICIAN.....	\$ 29.27	13.33
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ELEC0429-001 02/01/2010		
ALLEN & SIMPSON COUNTIES:		
	Rates	Fringes
ELECTRICIAN.....	\$ 21.85	10.35
-----		
ELEC0816-002 06/01/2011		
BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON (Except a 5 mile radius of City Hall in Fulton), GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES:		
	Rates	Fringes
ELECTRICIAN.....	\$ 29.47	25.5%+5.35
Cable spicers receive \$.25 per hour additional.		
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ELEC1701-003 06/01/2011		
DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO, UNION & WEBSTER COUNTIES:		
	Rates	Fringes
ELECTRICIAN.....	\$ 29.02	13.44
Cable spicers receive \$.25 per hour additional.		
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ELEC1925-002 01/01/2012		
FULTON COUNTY (Up to a 5 mile radius of City Hall in Fulton):		
	Rates	Fringes
CABLE SPLICER.....	\$ 25.00	10.27
ELECTRICIAN.....	\$ 25.00	10.43
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ENGI0181-017 07/01/2011

	Rates	Fringes
Operating Engineer:		
GROUP 1.....	\$ 26.50	13.00
GROUP 2.....	\$ 24.08	13.00
GROUP 3.....	\$ 24.46	13.00
GROUP 4.....	\$ 23.82	13.00

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Gurries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting Engine (Two or More Drums); Horizontal Directional Drill Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (Over 900 cu. ft. per min.); Bituminous Mixer; Boom Type Tamping Machine; Bull Float; Concrete Mixer (Under 21 cu. ft.); Dredge Engineer; Electric Vibrator; Compactor/Self-Propelled Compactor; Elevator (One Drum or Buck Hoist); Elevator (When used to Hoist Building Material); Finish Machine; Firemen & Hoist (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Concrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher; Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger; Welding Machine; Well Points;& Whirley Oiler

GROUP 3 - All Off Road Material Handling Equipment, including Articulating Dump Trucks; Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine; Cement Gun; Concrete Saw; Conveyor; Deckhand Oiler; Grout Pump; Hydraulic Post Driver; Hydro Seeder; Mud Jack; Oiler; Paving Joint Machine; Power Form Handling Equipment; Pump; Roller (Earth); Steerman; Tamping Machine; Tractor (Under

50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where the length of the boom in combination with the length of the piling equals or exceeds 150 ft. - \$1.00 above Group 1 rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID 10% ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT WORK.

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IRON0070-005 06/01/2011

BUTLER COUNTY (Eastern eighth, including the Townships of Decker, Lee & Tilford);  
EDMONSON COUNTY (Northern three-fourths, including the Townships of Asphalt, Bee Spring, Brownsville, Grassland, Huff, Kyrock, Lindseyville, Mammoth Cave, Ollie, Prosperity, Rhoda, Sunfish & Sweden)

	Rates	Fringes
Ironworkers:		
Structural; Ornamental;		
Reinforcing; Precast		
Concrete Erectors.....	\$ 25.77	18.28

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IRON0103-004 04/01/2011

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, OHIO, UNION & WEBSTER COUNTIES  
BUTLER COUNTY (Townships of Aberdeen, Bancock, Casey, Dexterville, Dunbar, Elfie, Gilstrap, Huntsville, Logansport, Monford, Morgantown, Provo, Rochester, South Hill & Welchs Creek);  
CALDWELL COUNTY (Northeastern third, including the Township of Creswell);  
CHRISTIAN COUNTY (Northern third, including the Townships of Apex, Crofton, Kelly, Mannington & Wynns);  
CRITTENDEN COUNTY (Northeastern half, including the Townships of Grove, Mattoon, Repton, Shady Grove & Tribune);  
MUHLENBERG COUNTY (Townships of Bavier, Beech Creek Junction, Benton, Brennen, Browder, Central City, Cleaton, Depoy, Drakesboro, Eunis, Graham, Hillside, Luzerne, Lynn City, Martwick, McNary, Millport, Moorman, Nelson, Paradise, Powderly, South Carrollton, Tarina & Weir)

	Rates	Fringes
Ironworkers:.....	\$ 28.25	14.475

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IRON0492-003 05/01/2009

ALLEN, LOGAN, SIMPSON, TODD & WARREN COUNTIES  
BUTLER COUNTY (Southern third, including the Townships of Boston, Berrys Lick, Dimple, Jetson, Quality, Sharer, Sugar Grove & Woodbury);  
CHRISTIAN COUNTY (Eastern two-thirds, including the Townships

of Bennettstown, Casky, Herndon, Hopkinsville, Howell,  
Masonville, Pembroke & Thompsonville);  
EDMONSON COUNTY (Southern fourth, including the Townships of  
Chalybeate & Rocky Hill);  
MUHLENBERG COUNTY (Southern eighth, including the Townships of  
Dunnior, Penrod & Rosewood)

	Rates	Fringes
Ironworkers:.....	\$ 22.50	9.60
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IRON0782-006 05/01/2011		

BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN,  
LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES  
CALDWELL COUNTY (Southwestern two-thirds, including the  
Townships of Cedar Bluff, Cider, Claxton, Cobb, Crowtown,  
Dulaney, Farmersville, Fredonia, McGowan, Otter Pond &  
Princeton);  
CHRISTIAN COUNTY (Western third, Excluding the Townships of  
Apex, Crofton, Kelly, Mannington, Wynns, Bennettstown, Casky,  
Herndon, Hopkinsville, Howell, Masonville, Pembroke &  
Thompsonville);  
CRITTENDEN COUNTY (Southwestern half, including the Townships  
of Crayne, Dycusburg, Frances, Marion, Mexico, Midway,  
Sheridan & Told)

	Rates	Fringes
Ironworkers:		
Projects with a total contract cost of \$20,000,000.00 or above.....	\$ 26.00	17.42
All Other Work.....	\$ 24.66	16.29
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LABO0189-005 07/01/2011		

BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN,  
LIVINGSTON, LYON, MARSHALL & MCCRACKEN COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 20.38	11.28
GROUP 2.....	\$ 20.63	11.28
GROUP 3.....	\$ 20.68	11.28
GROUP 4.....	\$ 21.28	11.28

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement  
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter  
Tender; Cement Mason Tender; Cleaning of Machines;  
Concrete; Demolition; Dredging; Environmental - Nuclear,  
Radiation, Toxic & Hazardous Waste - Level D; Flagperson;  
Grade Checker; Hand Digging & Hand Back Filling; Highway  
Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;

Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

LABO0189-006 07/01/2011

ALLEN, BUTLER, CALDWELL, CHRISTIAN, DAVIESS, EDMONSON, HANCOCK, HOPKINS, LOGAN, MCLEAN, MUHLENBERG, OHIO, SIMPSON, TODD, TRIGG & WARREN COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 21.51	10.15
GROUP 2.....	\$ 21.76	10.15
GROUP 3.....	\$ 21.81	10.15
GROUP 4.....	\$ 22.41	10.15

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);  
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;  
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete  
Saw Operator; Deckhand Scow Man; Dry Cement Handler;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Level C; Forklift Operator for Masonary; Form Setter;  
Green Concrete Cutting; Hand Operated Grouter & Grinder  
Machine Operator; Jackhammer; Pavement Breaker; Paving  
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven  
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;  
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind  
Trencher; Sand Blaster; Concrete Chipper; Surface  
Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite  
Operator & Mixer; Grout Pump Operator; Blaster; Side Rail  
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free  
Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;  
& Tunnel Mucker (Free Air); Directional & Horizontal  
Boring; Air Track Drillers (All Types); Powdermen &  
Blasters; Troxler & Concrete Tester if Laborer is Utilized

LABO0561-001 07/01/2011

CRITTENDEN, HENDERSON, UNION & WEBSTER COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 20.61	11.05
GROUP 2.....	\$ 20.86	11.05
GROUP 3.....	\$ 20.91	11.05
GROUP 4.....	\$ 21.51	11.05

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement  
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter  
Tender; Cement Mason Tender; Cleaning of Machines;  
Concrete; Demolition; Dredging; Environmental - Nuclear,  
Radiation, Toxic & Hazardous Waste - Level D; Flagperson;  
Grade Checker; Hand Digging & Hand Back Filling; Highway  
Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;  
Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail  
& Fence Installer; Signal Person; Sound Barrier Installer;  
Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper;  
Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);  
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;  
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete  
Saw Operator; Deckhand Scow Man; Dry Cement Handler;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Level C; Forklift Operator for Masonary; Form Setter;  
Green Concrete Cutting; Hand Operated Grouter & Grinder  
Machine Operator; Jackhammer; Pavement Breaker; Paving

Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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PAIN0032-002 05/01/2010

BALLARD COUNTY

	Rates	Fringes
Painters:		
Bridges.....	\$ 30.56	13.95
All Other Work.....	\$ 28.26	13.95

Spray, Blast, Steam, High & Hazardous (Including Lead Abatement) and All Epoxy - \$1.00 Premium

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PAIN0118-003 05/01/2010

EDMONSON COUNTY:

	Rates	Fringes
Painters:		
Brush & Roller.....	\$ 18.50	10.30
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning.....	\$ 19.50	10.30

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PAIN0156-006 04/01/2010

DAVIESS, HANCOCK, HENDERSON, MCLEAN, OHIO, UNION & WEBSTER COUNTIES

	Rates	Fringes
Painters:		
BRIDGES		
GROUP 1.....	\$ 25.60	10.05
GROUP 2.....	\$ 25.85	10.05
GROUP 3.....	\$ 26.60	10.05
GROUP 4.....	\$ 27.60	10.05
ALL OTHER WORK:		
GROUP 1.....	\$ 25.60	11.30
GROUP 2.....	\$ 25.85	11.30



GROUP 3.....	\$ 26.60	11.30
GROUP 4.....	\$ 27.60	11.30

PAINTER CLASSIFICATIONS

GROUP 1 - Brush & Roller

GROUP 2 - Plasterers

GROUP 3 - Spray; Sandblast; Power Tools; Waterblast;  
Steamcleaning; Brush & Roller of Mastics, Creosotes, Kwinch  
Koate & Coal Tar Epoxy

GROUP 4 - Spray of Mastics, Creosotes, Kwinch Koate & Coal  
Tar Epoxy

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PAIN0456-003 07/01/2011

ALLEN, BUTLER, LOGAN, MUHLENBERG, SIMPSON, TODD & WARREN  
COUNTIES:

	Rates	Fringes
Painters:		
BRIDGES		
Brush & Roller.....	\$ 22.55	9.65
Spray; Sandblast; Power Tools; Waterblast & Steam Cleaning.....	\$ 23.55	9.65
ALL OTHER WORK		
Brush & Roller.....	\$ 17.55	9.65
Spray; Sandblast; Power Tools; Waterblast & Steam Cleaning.....	\$ 18.55	9.65

ALL OTHER WORK - HIGH TIME PAY  
Over 35 feet (up to 100 feet) - \$1.00 above base wage  
100 feet and over - \$2.00 above base wage

DURING SPRAY PAINTING AND SANDBLASTING OPERATIONS, POT  
TENDERS SHALL RECEIVE THE SAME WAGE RATES AS THE SPRAY  
PAINTER OR NOZZLE OPERATOR

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PAIN0500-002 07/01/2011

CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON,  
GRAVES, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCracken  
& TRIGG COUNTIES:

	Rates	Fringes
Painters:		
Bridges.....	\$ 25.25	11.55
All Other Work.....	\$ 19.00	11.55

Waterblasting units with 3500 PSI and above - \$.50 premium  
Spraypainting and all abrasive blasting - \$1.00 premium  
Work 40 ft. and above ground level - \$1.00 premium

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PLUM0184-002 07/01/2011  
  
BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN,  
FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCrackEN  
and TRIGG COUNTIES

	Rates	Fringes
Plumber; Steamfitter.....	\$ 31.45	13.99

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PLUM0502-004 08/01/2011  
  
ALLEN, BUTLER, EDMONSON, SIMPSON & WARREN

	Rates	Fringes
Plumber; Steamfitter.....	\$ 31.00	16.13

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PLUM0633-002 07/01/2011  
  
DAVIess, HANCOCK, HENDERSON, HOPKINS, LOGAN, MCLEAN,  
MUHLENBERG, OHIO, TODD, UNION & WEBSTER COUNTIES:

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 29.22	12.65

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\* TEAM0089-003 03/27/2011  
  
Zone 1: ALLEN, BUTLER, EDMONSON, LOGAN, SIMPSON, & WARREN  
COUNTIES  
Zone 2: BALLARD, CALLOWAY, CALDWELL, CARLISLE, CHRISTIAN,  
CRITTENDEN, FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON,  
MARSHALL, MCCrackEN, TODD, & TRIGG COUNTIES  
Zone 3: DAVIess, HANCOCK, HENDERSON, HOPKINS, MCLEAN,  
MUHLENBERG, OHIO, & WEBSTER COUNTIES

	Rates	Fringes
Truck drivers: ALLEN, BUTLER, EDMONSON, LOGAN, SIMPSON & WARREN COUNTIES:		
Group 1.....	\$ 19.04	12.02
Group 2.....	\$ 19.37	12.02
Group 3.....	\$ 19.44	12.02
Group 4.....	\$ 19.45	12.02
Group 5.....	\$ 19.50	12.02
Zone 1:		
Group 1.....	\$ 19.38	7.30+A
Group 2.....	\$ 19.56	7.30+A
Group 3.....	\$ 19.64	7.30+A
Group 4.....	\$ 19.66	7.30+A
Zone 2:		
Group 1.....	\$ 26.09	A
Group 2.....	\$ 27.32	A

Group 3.....	\$ 26.89	A
Group 4.....	\$ 27.40	A
Group 5.....	\$ 27.39	A
Zone 3:		
Group 1.....	\$ 20.93	7.30+A
Group 2.....	\$ 21.16	7.30+A
Group 3.....	\$ 21.23	7.30+A
Group 4.....	\$ 21.24	7.30+A

A - \$246.70 per week

#### TRUCK DRIVER CLASSIFICATIONS FOR ZONE 1:

GROUP 1 - Greaser; Tire Changer

GROUP 2 - Truck Mechanic; Single Axle Dump; Flat Bed; All Terrain Vehicles when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors

GROUP 3 - Mixer All Types

GROUP 4 - Winch and A-Frame when used in transporting materials; Ross Carrier; Fork Lift when used to transport building materials; Driver on Pavement Breaker; Euclid and Other Heavy Earth Moving Equipment; Low Boy; Articulator Cat; Five Axle Vehicle

#### TRUCK DRIVER CLASSIFICATIONS FOR ZONE 2:

GROUP 1 - Greaser; Tire Changer

GROUP 2 - Truck Mechanic

GROUP 3 - Single Axle Dump; Flat Bed; all Terrain Vehicles when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors

GROUP 4 - Euclid and Other Heavy Earth Moving Equipment; Low Boy; Articulator Cat; Five Axle Vehicle; Winch and A-Frame when used in transporting materials; Ross Carrier

GROUP 5 - Mixer All Types

#### TRUCK DRIVER CLASSIFICATIONS FOR ZONE 3:

GROUP 1 - Greaser, Tire Changer

GROUP 2 - Truck Mechanic

GROUP 3 - Single Axle Dump; Flat Bed; all Terrain Vehicle when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors; Mixer All Types

GROUP 4 - Euclid and Other Heavy Earth moving Equipment; Lowboy; Articulator Cat; 5 Axle Vehicle; Winch and A-Frame

when used in transporting materials; Ross Carrier; Fork  
Lift when used to transport building materials; Driver on  
Pavement Breaker

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

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The body of each wage determination lists the classification  
and wage rates that have been found to be prevailing for the  
cited type(s) of construction in the area covered by the wage  
determination. The classifications are listed in alphabetical  
order of "identifiers" that indicate whether the particular  
rate is union or non-union.

#### Union Identifiers

An identifier enclosed in dotted lines beginning with  
characters other than "SU" denotes that the union  
classification and rate have found to be prevailing for that  
classification. Example: PLUM0198-005 07/01/2011. The  
first four letters , PLUM, indicate the international union and  
the four-digit number, 0198, that follows indicates the local  
union number or district council number where applicable ,  
i.e., Plumbers Local 0198. The next number, 005 in the  
example, is an internal number used in processing the wage  
determination. The date, 07/01/2011, following these  
characters is the effective date of the most current  
negotiated rate/collective bargaining agreement which would be  
July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any  
changes in the collective bargaining agreements governing the  
rate.

#### Non-Union Identifiers

Classifications listed under an "SU" identifier were derived  
from survey data by computing average rates and are not union  
rates; however, the data used in computing these rates may  
include both union and non-union data. Example: SULA2004-007  
5/13/2010. SU indicates the rates are not union rates, LA  
indicates the State of Louisiana; 2004 is the year of the  
survey; and 007 is an internal number used in producing the  
wage determination. A 1993 or later date, 5/13/2010, indicates  
the classifications and rates under that identifier were issued  
as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

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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.

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END OF GENERAL DECISION

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-I-HWY dated August 04, 2011.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

**TO: EMPLOYERS/EMPLOYEES**

**PREVAILING WAGE SCHEDULE:**

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

**OVERTIME:**

Overtime is to be paid after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. Wage violations or questions should be directed to the designated Engineer or the undersigned.

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

## **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**

KENTUCKY TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS  
FRANKFORT, KY 40622

CONTRACT ID: 121010  
COUNTY: MUHLENBERG  
PROPOSAL: 089GR12D004-JL03

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LETTING: 04/20/12  
CALL NO: 419

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
SECTION 0001 ROADWAY					
0010	00003	CRUSHED STONE BASE	3,529.000 TON		
0020	00020	TRAFFIC BOUND BASE	328.000 TON		
0030	00078	CRUSHED AGGREGATE SIZE NO 2	2,939.000 TON		
0040	00190	LEVELING & WEDGING PG64-22	1,511.000 TON		
0050	00214	CL3 ASPH BASE 1.00D PG64-22	806.000 TON		
0060	00216	CL3 ASPH BASE 1.00D PG76-22	499.000 TON		
0070	00326	CL3 ASPH SURF 0.50B PG76-22	1,126.000 TON		
0080	00520	STORM SEWER PIPE-12 IN	35.000 LF		
0090	00521	STORM SEWER PIPE-15 IN	2,021.000 LF		
0100	00522	STORM SEWER PIPE-18 IN	1,985.000 LF		
0110	00524	STORM SEWER PIPE-24 IN	107.000 LF		
0120	00980	SLOTTED DRAIN PIPE-12 IN	120.000 LF		
0130	01432	SLOPED BOX OUTLET TYPE 1-15 IN	2.000 EACH		
0140	01433	SLOPED BOX OUTLET TYPE 1-18 IN	3.000 EACH		
0150	01434	SLOPED BOX OUTLET TYPE 1-24 IN	1.000 EACH		
0160	01544	DROP BOX INLET TYPE 11	5.000 EACH		
0170	01547	DROP BOX INLET TYPE 12	30.000 LF		
0180	01559	DROP BOX INLET TYPE 13G	24.000 EACH		
0190	01568	DROP BOX INLET TYPE 13S	4.000 EACH		
0200	01577	DROP BOX INLET TYPE 14	5.000 EACH		

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0210	01581	DROP BOX INLET TYPE 16G	1.000 EACH		
0220	01587	DROP BOX INLET TYPE 16S	2.000 EACH		
0230	01641	JUNCTION BOX-15 IN	1.000 EACH		
0240	01756	MANHOLE TYPE A	5.000 EACH		
0250	01792	ADJUST MANHOLE	2.000 EACH		
0260	01810	STANDARD CURB AND GUTTER	4,460.000 LF		
0270	01811	STANDARD CURB AND GUTTER MOD	35.000 LF		
0280	01875	STANDARD HEADER CURB	204.000 LF		
0290	01946	MOUNTABLE MEDIAN TYPE 2A	4.000 SQYD		
0300	02091	REMOVE PAVEMENT	59.000 SQYD		
0310	02101	CEM CONC ENT PAVEMENT-8 IN	676.000 SQYD		
0320	02159	TEMP DITCH	3,418.000 LF		
0330	02203	STRUCTURE EXCAV-UNCLASSIFIED	173.000 CUYD		
0340	02204	SPECIAL EXCAVATION	1,664.000 CUYD		
0350	02230	EMBANKMENT IN PLACE	6,552.000 CUYD		
0360	02242	WATER	0.260 MGAL		
0370	02429	RIGHT-OF-WAY MONUMENT TYPE 1	49.000 EACH		
0380	02430	RIGHT-OF-WAY MONUMENT TYPE 1A	18.000 EACH		
0390	02432	WITNESS POST	6.000 EACH		
0400	02483	CHANNEL LINING CLASS II	29.000 TON		
0410	02484	CHANNEL LINING CLASS III	584.000 TON		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0420	02545	CLEARING AND GRUBBING 1.72 ACRES	( 1.00) LS		
0430	02545	CLEARING AND GRUBBING 1.75 ACRES	( 1.00) LS		
0440	02551	CONCRETE-CLASS A FOR STEPS	2.720 CUYD		
0450	02555	CONCRETE-CLASS B	155.000 CUYD		
0460	02562	SIGNS	424.000 SQFT		
0470	02585	EDGE KEY	178.000 LF		
0480	02599	FABRIC-GEOTEXTILE TYPE IV	9,814.000 SQYD		
0490	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	14,303.000 SQYD	2.00	28,606.00
0500	02611	HANDRAIL-TYPE A-1	209.000 LF		
0510	02619	HANDRAIL-TYPE A	30.000 LF		
0520	02650	MAINTAIN & CONTROL TRAFFIC MP 10-11	( 1.00) LS		
0530	02650	MAINTAIN & CONTROL TRAFFIC MP 9-10	( 1.00) LS		
0540	02701	TEMP SILT FENCE	3,232.000 LF		
0550	02703	SILT TRAP TYPE A	8.000 EACH		
0560	02704	SILT TRAP TYPE B	8.000 EACH		
0570	02705	SILT TRAP TYPE C	8.000 EACH		
0580	02706	CLEAN SILT TRAP TYPE A	24.000 EACH		
0590	02707	CLEAN SILT TRAP TYPE B	24.000 EACH		
0600	02708	CLEAN SILT TRAP TYPE C	24.000 EACH		
0610	02709	CLEAN TEMP SILT FENCE	3,232.000 LF		
0620	02720	SIDEWALK-4 IN CONCRETE	1,793.000 SQYD		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0630	02726	STAKING MP 10-11	( 1.00) LS		
0640	02726	STAKING MP 9-10	( 1.00) LS		
0650	05950	EROSION CONTROL BLANKET	50.000 SQYD		
0660	05952	TEMP MULCH	37,248.000 SQYD		
0670	05953	TEMP SEEDING AND PROTECTION	37,248.000 SQYD		
0680	05966	TOPDRESSING FERTILIZER	0.450 TON		
0690	05985	SEEDING AND PROTECTION	6,935.000 SQYD		
0700	05990	SODDING	6,464.000 SQYD		
0710	06510	PAVE STRIPING-TEMP PAINT-4 IN	13,154.000 LF		
0720	06514	PAVE STRIPING-PERM PAINT-4 IN	8,822.000 LF		
0730	06530	PAVE STRIPING REMOVAL-4 IN	285.000 LF		
0740	06566	PAVE MARKING-THERMO X-WALK-12 IN	240.000 LF		
0750	06568	PAVE MARKING-THERMO STOP BAR-24IN	76.000 LF		
0760	06574	PAVE MARKING-THERMO CURV ARROW	18.000 EACH		
0770	06575	PAVE MARKING-THERMO COMB ARROW	2.000 EACH		
0780	08100	CONCRETE-CLASS A	1.350 CUYD		
0790	08150	STEEL REINFORCEMENT	8.000 LB		
0800	21289ED	LONGITUDINAL EDGE KEY	3,350.000 LF		
0810	23131ER701	PIPELINE VIDEO INSPECTION	2,135.000 LF		
0820	23158ES505	DETECTABLE WARNINGS	336.000 SQFT		
0830	23185EC	BRICK-PAVERS FOR SIDEWALK	60.000 SQYD		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0840	24416EC	REMOVE AND RESET LANDSCAPE WALL	( 1.00 ) LS		
SECTION 0002 SEWER					
0850	01050	SEWER PIPE-4 IN	200.000 LF		
0860	01051	SEWER PIPE-6 IN	630.000 LF		
0870	01052	SEWER PIPE-8 IN	1,542.000 LF		
0880	01073	STEEL ENCASEMENT PIPE-16 IN OPEN CUT	160.000 LF		
0890	02690	SAFELOADING	5.000 CUYD		
0900	03479	TIE-IN	3.000 EACH		
0910	20425ED	ABANDON MANHOLE	4.000 EACH		
0920	23774EC	MANHOLE-6 FT	6.000 EACH		
0930	24445EC	STONE FILL NO. 9	350.000 TON		
0940	24446EC	ASPHALT PAVING	150.000 TON		
0950	24447EC	PVC WYE-8 X 6	20.000 EACH		
0960	24448EC	CLEANOUT ASSEMBLY	20.000 EACH		
0970	24449EC	MANHOLE-8 FT	4.000 EACH		
0980	24450EC	MANHOLE-12 FT	1.000 EACH		
0990	24452EC	SEEDING	3.000 ACRE		
SECTION 0003 SIGNALIZATION					
1000	04793	CONDUIT-1 1/4 IN	50.000 LF		
1010	04795	CONDUIT-2 IN	286.000 LF		
1020	04811	JUNCTION BOX TYPE B	4.000 EACH		

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1030	04820	TRENCHING AND BACKFILLING	95.000 LF		
1040	04830	LOOP WIRE	2,115.000 LF		
1050	04844	CABLE-NO. 14/5C	966.000 LF		
1060	04850	CABLE-NO. 14/1 PAIR	1,010.000 LF		
1070	04881	MAST ARM POLE	2.000 EACH		
1080	04895	LOOP SAW SLOT AND FILL	796.000 LF		
1090	04931	INSTALL CONTROLLER TYPE 170	1.000 EACH		
1100	20188NS835	INSTALL LED SIGNAL-3 SECTION	10.000 EACH		
1110	21543EN	BORE AND JACK CONDUIT	175.000 LF		
1120	21743NN	INSTALL PEDESTRIAN DETECTOR	2.000 EACH		
1130	23064NN	INSTALL SIGNAL-PEDESTRIAN COUNTDOWN	4.000 EACH		
1140	23157EN	TRAFFIC SIGNAL POLE BASE	7.070 CUYD		
1150	23222EC	INSTALL SIGNAL PEDESTAL	2.000 EACH		
1160	23982EC	INSTALL ANTENNA	1.000 EACH		
1170	24488ED	INSTALL MAST ARM MOUNTED SIGN	1.000 EACH		
SECTION 0004 WATERLINE					
1180	01065	STEEL ENCASEMENT PIPE-8 IN OPEN CUT	40.000 LF		
1190	01071	STEEL ENCASEMENT PIPE-14 IN BORE	93.000 LF		
1200	01075	STEEL ENCASEMENT PIPE-18 IN BORE	30.000 LF		
1210	01075	STEEL ENCASEMENT PIPE-18 IN OPEN CUT	70.000 LF		
1220	03381	PVC PIPE-2 IN	70.000 LF		



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LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1230	03383	PVC PIPE-4 IN	60.000 LF		
1240	03385	PVC PIPE-6 IN	580.000 LF		
1250	03389	PVC PIPE-10 IN	2,900.000 LF		
1260	03495	AIR RELEASE VALVE	2.000 EACH		
1270	03526	GATE VALVE-6 IN	13.000 EACH		
1280	03530	GATE VALVE-10 IN	10.000 EACH		
1290	03547	BEND 22.50 DEG 10 IN	3.000 EACH		
1300	03555	BEND 45 DEG 10 IN	2.000 EACH		
1310	03559	BEND 90 DEG 4 IN	2.000 EACH		
1320	03560	BEND 90 DEG 6 IN	2.000 EACH		
1330	03561	BEND 90 DEG 10 IN	1.000 EACH		
1340	20156EC	FIRE HYDRANT ASSEMBLY	8.000 EACH		
1350	20311EC	SERVICE LINE-3/4 IN COPPER	769.000 LF		
1360	20953ND	TEE-10 IN X 10 IN	2.000 EACH		
1370	20955ND	TEE-10 IN X 6 IN	11.000 EACH		
1380	20956ND	REDUCER-10 IN X 8 IN	1.000 EACH		
1390	20957ND	REDUCER-10 IN X 6 IN	1.000 EACH		
1400	23308EC	WATER METER WITH BOX	28.000 EACH		
1410	23741EC	TEE-6 X 6 IN	1.000 EACH		
1420	24444ND	TEE 10 IN X 4 IN	2.000 EACH		
1430	24445EC	STONE FILL NO. 9	700.000 TON		

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1440	24446EC	ASPHALT PAVING DRIVEWAYS	150.000 TON		
1450	24451EC	CONCRETE WALKS	6.000 CUYD		
1460	24452EC	SEEDING	5.000 ACRE		
SECTION 0005 DEMOBILIZATION					
1470	02569	DEMOBILIZATION (AT LEAST 1.5%)	LUMP		
		TOTAL BID			