



CALL NO. 100

CONTRACT ID. 111341

WARREN COUNTY

FED/STATE PROJECT NUMBER NH 0651 (095)

DESCRIPTION I-65/US 231 INTERCHANGE

WORK TYPE GRADE, DRAIN & SURFACE WITH BRIDGE

PRIMARY COMPLETION DATE 6/30/2013

LETTING DATE: October 21, 2011

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME October 21, 2011. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

ROAD AND BRIDGE PLANS

DBE CERTIFICATION REQUIRED - 6%

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

TABLE OF CONTENTS

PART I	SCOPE OF WORK
	<ul style="list-style-type: none">• PROJECT(S), COMPLETION DATE(S), & LIQUIDATED DAMAGES• CONTRACT NOTES• FEDERAL CONTRACT NOTES• TRAINEES• NATIONAL HIGHWAY• SIGNIFICANT PROJECT -PROJECT TRAFFIC COORDINATOR (PTC)• FUEL AND ASPHALT PAY ADJUSTMENT• COMPACTION OPTION A• SPECIAL NOTE(S) APPLICABLE TO PROJECT• WASTE AND BORROWED SITES• RIGHT OF WAY NOTES• UTILITY CLEARANCE• KPDES STORM WATER PERMIT, BMP AND NOI• COMMUNICATING ALL PROMISES• PRE-BID CONFERENCE
PART II	SPECIFICATIONS AND STANDARD DRAWINGS
	<ul style="list-style-type: none">• SPECIFICATIONS REFERENCE• SUPPLEMENTAL SPECIFICATIONS• [SN-1I] PORTABLE CHANGEABLE SIGNS• [SN-9Y] MATERIAL TRANSFER VEHICLE• [SN-10W] WATERBLASTING STRIPING REMOVAL• [SN-11F] TURF REINFORCEMENT MAT• [SP-69] EMBANKMENT AT BRIDGE END BENT STRUCTURES
PART III	EMPLOYMENT, WAGE AND RECORD REQUIREMENTS
	<ul style="list-style-type: none">• FEDERAL-AID CONSTRUCTION CONTRACTS - FHWA 1273• NONDISCRIMINATION OF EMPLOYEES• EXECUTIVE BRANCH CODE OF ETHICS• TRAINING SPECIAL PROVISIONS• PROJECT WAGE RATES• NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EEO
PART IV	INSURANCE
PART V	BID ITEMS

PART I
SCOPE OF WORK

CONTRACT ID - 111341

ADMINISTRATIVE DISTRICT - 03

PROJECT(S) IDENTIFICATION AND DESCRIPTION:

COUNTY - WARREN
NH 0651 (095)

PCN - DE11400651141

I-65/US 231 INTERCHANGE RECONSTRUCT I-65/US 231 INTERCHANGE AT BOWLING GREEN, A DISTANCE
OF 3.35 MILES. GRADE, DRAIN & SURFACE WITH BRIDGE. SYP NO. 03-00017.00.
GEOGRAPHIC COORDINATES LATITUDE 36^56'05" LONGITUDE 86^25'05"

COMPLETION DATE(S):

COMPLETION DATE - June 30, 2013
APPLIES TO ENTIRE CONTRACT

COMPLETION DATE - November 30, 2012
EVERYTHING UP TO FINAL SURFACE AND SUBSEQUENT ITEMS

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

Bidder must use the Department's Expedite Bidding Program available on the Internet web site of the Department of Highways, Division of Construction Procurement. (www.transportation.ky.gov/contract)

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

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

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

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

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)

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

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

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

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website (www.transportation.ky.gov/contract). The answers provided shall be considered part of

this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

09/30/2011

FEDERAL CONTRACT NOTES

The Kentucky Department of Highways, in accordance with the Regulations of the United States Department of Transportation 23 CFR 635.112 (h), hereby notifies all bidders that failure by a bidder to comply with all applicable sections of the current Kentucky Standard Specifications, including, but not limited to the following, may result in a bid not being considered responsive and thus not eligible to be considered for award:

102.02 Current Capacity Rating 102.10 Delivery of Proposals
102.08 Irregular Proposals 102.14 Disqualification of Bidders
102.09 Proposal Guaranty

CIVIL RIGHTS ACT OF 1964

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

NOTICE TO ALL BIDDERS

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

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

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

FHWA 1273

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

SECOND TIER SUBCONTRACTS

Second Tier subcontracts on federally assisted projects shall be permitted. However, in the case of DBE's, second tier subcontracts will only be permitted where the other subcontractor is also a DBE. All second tier subcontracts shall have the consent of both the Contractor and the Engineer.

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

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

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

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

DBE GOAL

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

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

OBLIGATION OF CONTRACTORS

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

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

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

CERTIFICATION OF CONTRACT GOAL

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

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

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

DBE PARTICIPATION PLAN

Lowest responsive bidders must submit the *DBE Plan/ Subcontractor Request*, form TC 63-35 DBE, within 10 days of the letting. This is necessary before the Awards Committee will review and make a recommendation. **The project will not be considered for award prior to submission and approval of the apparent low bidder’s DBE Plan/Subcontractor Request.**

The DBE Participation Plan shall include the following:

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

facilities, equipment, materials, supplies, delivery of materials and supplies or for furnishing bonds, or insurance, providing such fees or commissions are determined to be reasonable and customary.

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

Upon award and before a work order will be issued, contractors must submit the signed subcontract between the contractor and the DBE contractor, the DBE's certificate of insurance, and an affidavit for bidders, offerors, and contractors from the DBE to the Division of Construction Procurement. The affidavit can be found on the Construction Procurement website. If the DBE is a supplier of materials for the project, a signed purchase order and an affidavit for bidders, offerors, and contractors must be submitted to the Division of Construction Procurement.

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

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

If the DBE participation submitted in the bid by the apparent lowest responsive bidder does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit a Good Faith Effort Package to satisfy the Cabinet that sufficient good faith efforts were made to meet the contract goals prior to submission of the bid. Efforts to increase the goal after bid submission will not be considered in justifying the good faith effort, unless the contractor can show that the proposed DBE was solicited prior to the letting date. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted. One complete set and nine (9) copies of this information must be received in the office of the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

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

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

- 1 Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
- 2 Whether the bidder provided solicitations through all reasonable and available means;
- 3 Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
- 4 Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainty whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the DBE Liaison in the Office of Minority Affairs to give notification of the bidder's inability to get DBE quotes;
- 5 Whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise perform these work items with its own forces;
- 6 Whether the bidder provided interested DBEs with adequate and timely information about the plans, specifications, and requirements of the contract;
- 7 Whether the bidder negotiated in good faith with interested DBEs not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached;
- 8 Whether quotations were received from interested DBE firms but were rejected as unacceptable without sound reasons why the quotations were considered unacceptable. The fact that the DBE firm's quotation for the work is not the lowest quotation received will not in itself be considered as a sound reason for rejecting the quotation as unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a DBE quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy DBE goals;
- 9 Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be subcontracted includes potential DBE participation;
- 10 Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal; and
- 11 Any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include DBE participation.

FAILURE TO MEET GOOD FAITH REQUIREMENT

Where the apparent lowest responsive bidder fails to submit sufficient participation by DBE firms to meet the contract goal and upon a determination by the Good Faith Committee based upon the information submitted that the apparent lowest responsive bidder failed to make sufficient reasonable efforts to meet the contract goal, the bidder will be offered the opportunity to meet in person for administrative reconsideration. The bidder will be notified of the Committee's decision within 24 hours of its decision. The bidder will have 24 hours to request reconsideration of the Committee's decision. The reconsideration meeting will be held within two days of the receipt of a request by the bidder for reconsideration.

The request for reconsideration will be heard by the Office of the Secretary. The bidder will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The bidder will receive a written decision on the reconsideration explaining the basis for the finding that the bidder did or did not meet the goal or made adequate Good Faith efforts to do so.

The result of the reconsideration process is not administratively appealable to the Cabinet or to the United States Department of Transportation.

The Cabinet reserves the right to award the contract to the next lowest responsive bidder or to rebid the contract in the event that the contract is not awarded to the low bidder as the result of a failure to meet the good faith requirement.

SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT

Failure by the prime contractor to fulfill the DBE requirements of a project under contract or to demonstrate good faith efforts to meet the goal constitutes a breach of contract. When this occurs, the Cabinet will hold the prime contractor accountable, as would be the case with all other contract provisions. Therefore, the contractor's failure to carry out the DBE contract requirements shall constitute a breach of contract and as such the Cabinet reserves the right to exercise all administrative remedies at its disposal including, but not limited to the following:

- Disallow credit toward the DBE goal;
- Withholding progress payments;
- Withholding payment to the prime in an amount equal to the unmet portion of the contract goal; and/or
- Termination of the contract.

PROMPT PAYMENT

The prime contractor will be required to pay the DBE within seven (7) working days after he or she has received payment from the Kentucky Transportation Cabinet for work performed or materials furnished.

CONTRACTOR REPORTING

All contractors must keep detailed records and provide reports to the Cabinet on their progress in meeting the DBE requirement on any highway contract. These records may include, but shall not be limited to payroll, lease agreements, cancelled payroll checks, executed subcontracting agreements, etc. Prime contractors will be required to submit certified reports on monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal.

Payment information that needs to be reported includes date the payment is sent to the DBE, check number, Contract ID, amount of payment and the check date. Before Final Payment is made on this contract, the Prime Contractor will certify that all payments were made to the DBE subcontractor and/or DBE suppliers.

The Prime Contractor should supply the payment information at the time the DBE is compensated for their work. Form to use is located at:

<http://transportation.ky.gov/construction/forms/DBEcheck.xls>

Photocopied payments and completed form to be submitted to: Office of Civil Rights and Small Business Development 6th Floor West 200 Mero Street Frankfort, KY 40622

DEFAULT OR DECERTIFICATION OF THE DBE

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

09/14/11

KYTC
DBE Payments

updated 2/28/08

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

Comments:

attach copy of check here

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

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

TRAINEES

In Compliance with the "TRAINING SPECIAL PROVISION" included in Part III of the Proposal, the Contractor will be required to employ 1 trainee(s) (CEMENT MASON) for this contract.

NATIONAL HIGHWAY

Be advised this project is on the NATIONAL HIGHWAY SYSTEM.

PROJECT TRAFFIC COORDINATOR (PTC)

Be advised this project is a significant project pursuant to section 112.03.12.

FUEL AND ASPHALT PAY ADJUSTMENT

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

OPTION A

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



PUBLIC INVOLVEMENT PLAN US 231/SCOTTSVILLE ROAD INTERCHANGE AT I-65 WARREN COUNTY 3-17.0

The primary goal of the Public Information Plan (PIP) is to inform the motoring public and area stakeholders of project information including Maintenance of Traffic (MOT) which includes lane restrictions, reducing lane width, and/or ramp closures that may be required. The KYTC District 3 Public Information Officer (PIO) will coordinate and disseminate appropriate information regarding construction plans to stakeholders, the public, and the news media.

STAKEHOLDERS

- Legislators
 - State Representative Jim DeCesare 270-843-8982; jim.decesare@lrc.ky.gov
 - State Representative Jody Richards 270-842-6731; jody.richards@lrc.ky.gov
 - State Senator Mike Wilson 270-202-7413; mike@christianfamilyradio.com

- State & Federal Agencies
 - KSP Bowling Green Post Lt. Lisa Rudzinski 270-782-2010; lisa.rudzinski@ky.gov
 - KVE Simpson Co. Post Lt. Daniel Pearman 270-586-9042; daniel.pearman@ky.gov
 - I-65 Simpson Co. Welcome Center 270-586-6292; simpson.wc@ky.gov
 - I-65 Bullitt Co. Welcome Center - bullitt.wc@ky.gov
 - Kentucky Transportation Operations Center (511.ky.gov) 502-564-2080
 - Kentucky Department of Vehicle Regulation Rick Taylor rick.taylor@ky.gov
 - KY Over Dimensional Permits Virgie Long virgie.long@ky.gov

- Warren County Agencies & Officials
 - Warren CJE Mike Buchanon – (270) 843-4146; mike.buchanon@ky.gov
 - Warren County Sheriff Peanut Gaines - (270) 842-1633; jerry.gaines@wcsoky.net
 - Warren County E-911 Center (BG Police) – (270) 393-4533
 - Warren County Schools Transportation Dept. – John Odom - (270) 843-3703; john.odom@warren.kyschools.us

- Utility Companies
 - WRECC Gary Dillard gdillard@wrecc.com

TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS

- Area Trucking Companies/Shippers
 - Tennessee PIO BJ Doughty bj.doughty@tn.gov
 - UPS- Louisville Bill Sprigg bsprigg@ups.com
 - Fed Ex- Alicia Coots alisha.coots@fedex.com
 - Houchens Industries Jimmy Gipson jgipson@houchensindustries.com
 - Logan Aluminum-David Beard david.beard@logan-aluminum.com

- Kenneth Shoemake kshoemake@campingworld.com
- Midmark Marvin Claywell mclaywell@midmark.com
- Information will also be posted on the 511 website (www.511.ky.gov) and on the 511 telephone information system.

ADDITIONAL NOTICES

In addition to the known stakeholders listed above, the District 3 Public Information Officer will attempt to provide timely notices about this work zone to other individuals and agencies that may have trucks or employees who regularly travel through the project area.

PRESENTATIONS

A project description including anticipated schedule will be provided to the media, stakeholders and other emergency service agencies via e-mail prior to construction. Information will be provided to these groups via traffic advisories, and/or press releases approximately one week prior to the start of work with additional advisories as appropriate for traffic shifts, etc.

MEDIA RELATIONS

The District Public Information Officer will prepare an initial news release regarding the contract award for the project. The PIO will conduct interviews with the media throughout the project duration to keep the public informed of construction progress. Traffic advisories will be submitted to the media when a change in the MOT occurs. The contractor must provide to the PIO via the Resident Engineer notification of any change in the MOT at least three (3) days prior to the change.

SPECIAL NOTE FOR MECHANICALLY STABILIZED EARTH (MSE) WALL

1. DESCRIPTION

1.01 This work includes design, fabrication of precast facing panels and other appurtenances and construction of Mechanically Stabilized Earth (MSE) walls in accordance with the Contract documents.

2. REFERENCES

2.01 All references to the Standard Specifications are to the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, 2008 Edition. All references to AASHTO are to the AASHTO LRFD Bridge Design Specifications, Fifth Edition 2010.

2.02 The requirements in the Standard Specifications or AASHTO shall be used for information not provided. Where there are conflicts between the Standard Specifications and AASHTO, the Standard Specifications shall govern.

3. WALL TYPES

3.01 Mechanically Stabilized Earth (MSE) Walls;

Only walls utilizing inextensible reinforcement are permitted as follows:

- a. Reinforced Earth^R,
- b. VSL Retained Earth,
- c. Hilfiker RSE & HSE,
- d. ISOGRIDTM, and
- e. Strengthened Earth WallsTM.

3.02 The wall type selected by the contractor shall be used throughout. Short Cast-In-Place sections may be provided at the ends of the MSE Wall.

3.03 Acceptance of the contractor's design calculations and construction plans does not constitute endorsement nor approval of the work submitted. The acceptance is an acknowledgment of the work performed and authorization for the contractor to proceed with the project.

4. CALCULATIONS AND PLANS

4.01 Design calculations and construction plans clearly showing conformance with the Standard Specifications, AASHTO, and contract plans shall be submitted for review. Wall designs and construction plans shall be dated, sealed, and signed by a registered professional engineer licensed to practice in Kentucky. The Division of Bridge Design requires four sets of the design calculations and five sets of the construction plans for each submission and resubmission. Reduced-size prints are acceptable. The Contractor shall allow 30 working days for the Department to review each submission. The thirty-day period begins when the design calculations and construction plans are received in the Division of Bridge Design. Additional time required by the Department to review resubmissions shall not be cause for increasing the number of contract working days. The additional work required by the contractor to provide resubmissions shall be at no cost to the Department.

4.02 The format for the construction plans shall be in accordance with the Division of Bridge Design's Guidance Manual. The first sheet shall be a title sheet. All final wall tracings, with drawing number, shall be submitted on 3 mil, or thicker, 22" X 36" mylar film. The final mylar tracings of the accepted construction plans submitted to the Division of Bridge Design shall be dated, sealed, and signed on Sheet 1 by the engineer performing the work.

4.03 Shop drawings shall not be developed until after the Department has reviewed and accepted the construction plans. The wall design engineer providing the design for the wall shall submit reviewed and approved shop drawings for the wall. The Division of Bridge Design requires nine copies of the approved shop drawings for distribution. Each sheet of two copies of the shop drawings shall be dated, sealed and signed by the wall design engineer providing the design for the wall. The wall design engineer shall approve the shop drawings and provide the Department with a statement of assurance that the shop drawings are accurate and that they satisfy the project requirements.

4.04 All submissions shall be through the Contractor to the Project Resident Engineer. The Project Resident Engineer shall forward the plans, calculations, and shop drawings to the Division of Bridge Design. Contact the Division of Bridge Design before beginning any work on the wall designs and construction plans.

5. DESIGN

5.01 The wall design shall be in accordance with AASHTO. Exceptions to these requirements are listed in this note or shown elsewhere in the contract plans.

5.02 Earth reinforcement elements in MSE Walls shall be designed to have a corrosion resistance/durability to ensure a minimum design life of 100 years.

5.03 Construction live loads above the wall shall be considered for design as equivalent to an additional two feet of earth surcharge. Traffic live loads above the wall shall be considered for design as equivalent to an additional five feet of earth surcharge.

5.04 The MSE Wall volume limits and reinforcement lengths shown on the contract plans are the minimums required by AASHTO and/or the minimums required to satisfy external stability. The MSE Wall supplier's design may require increased reinforcement lengths and MSE volume to satisfy their design. The material required for the MSE Wall volume shall extend one foot, minimum, beyond the ends of the MSE reinforcement.

6. GEOTECHNICAL DESIGN PARAMETERS

6.01 The following parameters are to be used in the design of the MSE wall for this project:

Structure Granular Backfill – See subsection 805.11 of the Standard Specifications

Unit Weight = 115 pcf

Friction Angle = 36 degrees

MSE Volume – See subsection 805.12 B through G

Unit Weight = 115 pcf

Friction Angle = 34 degrees

In-Situ Foundation Soils

Unit Weight = 120 pcf

Cohesion = 1500 psf

Soil Backfill

Unit Weight = 120 pcf

Friction Angle = 25 degrees

Friction angle for sliding calculation = 34 degrees

Sliding Factor of Safety: 2 including passive pressures, 1.5 not including passive pressures

Allowable bearing capacity of granular embankment extended to bedrock or bedrock = 8 ksf

Minimum Strap Length = greater of 8 feet or 70% of height

Material Requirements - MSE Volume Gradation

Sieve Size	Percent Passing
------------	-----------------

4"	100
----	-----

No. 40	0 – 60
--------	--------

No. 200	0 - 5
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6.02 Equivalent fluid pressure = 44.7 pcf soil.

6.03 In no case shall the geotechnical strength parameters used for design exceed the values allowed by the AASHTO Specifications.

7. GENERAL

7.01 Comply with all dimensions shown on the contract plans and accommodate all other project features as shown on the contract plans. Construct the front face of tile wall vertical and in conformance with the plan layout. Survey control is the back face of the wall at its intersection with the leveling pad.

7.02 Section 107.05 shall apply to the use of patented devices, materials, wall systems, and processes.

Concrete for precast elements (facing panels, copings, etc.) shall attain a 28-day compressive strength of 4000 psi unless otherwise specified by the wall supplier. The concrete shall be air entrained containing 5.5 +/- 1.5 percent entrained air at the time the concrete is placed in the forms. A proposed mix design shall be submitted.

7.03 All embedded items and lifting devices shall be set in place in the precast elements prior to concrete placement. Conform to the dimensions and tolerances shown on the approved contract or shop plans or as approved by the Engineer.

7.04 Acceptability of completed precast elements will be determined on the basis of the entrained air in the concrete mix, compression tests, and visual inspection by the Engineer. The Contractor or his supplier shall furnish facilities and a Certified Concrete Technician. The Certified Concrete Technician shall perform all necessary sampling and testing in an expeditious and satisfactory manner.

7.05 Forms for the precast facing elements shall be constructed of steel in a manner that will assure the production of uniform elements. Forms shall remain in place until such time that they can be removed without damage to the finish elements.

7.06 **Front face of panels shall have an architectural formed finish replicating laid stone similar to that produced by Greenstreak formliner No. 330, Ashlar Stone.** A sample of the proposed finish consisting of four full-sized panels shall be fabricated for inspection by the Engineer. Fabrication of the remaining panels is not authorized until the Engineer has inspected the sample panels and approved the finish as acceptable.

7.07 Precast facing panels shall be cast front face down. Each unit will be cast without interruption. Consolidation shall be with a vibrator supplemented by such hand tamping as may be necessary to force the concrete into the corners of the forms and to prevent formation of honeycombed concrete or cleavage planes. Clear form oil of the same manufacture shall be used throughout the casting operation.

7.08 The rear panel face shall be a face floated surface finish and screeded to eliminate open pockets of aggregate and surface distortions in excess of one quarter inch.

7.09 All materials used in the manufacture of the precast elements, including cement, aggregates, water, admixtures, concrete mixes, steel reinforcement, and structural steel with galvanizing will be sampled and tested according to the Department's standard procedures for those items. Fabrication shall not begin until these materials have been approved. At least 1000 psi compressive strength shall be attained before precast face panels may be handled. Other precast elements, such as copings, shall not be handled until they attain the compressive strength required by the wall supplier.

7.10 Clearly scribe, or paint with waterproof paint, the date of manufacture, lot number and piece-mark on the rear face of each precast facing panel. Precast elements shall be handled, stored, and shipped in such a manner as to eliminate the danger of chipping, cracking, fracturing, and/or excessive bending.

7.11 The supplier shall examine all precast elements before shipment. All excessive voids, honeycombed areas, and other surface defects on both sides of precast elements shall be properly patched as required to conform to the balance of the work with respect to appearance, strength, and durability. Precast elements shall not be shipped before attaining the required final concrete strength.

7.12 Fabrication of precast elements is subject to random inspection by the Department, an approved independent laboratory, or the precast fabricator as approved by the Engineer. The Engineer will normally witness tests performed by the precast fabricator. Results of all tests performed by the precast fabricator shall be furnished to the Engineer.

7.13 Precast elements damaged during handling, transporting, storage, erection, or backfilling or any element that cannot be satisfactorily placed in the wall shall be repaired or rejected and replaced as directed by the Engineer. Precast elements shall be installed in accordance with the approved construction plans. Facing panels shall be placed in successive horizontal lifts according to the sequence shown on the approved construction plans. The facing elements shall be maintained in such position while MSE volume placed behind the facing elements so that the finished wall is vertical.

7.14 Placement of the MSE Wall volume and earth reinforcement shall closely follow the erection of each lift of panels. See the Geotechnical Notes for additional restrictions for placement of the MSE volume. The maximum lift thickness shall not exceed ten inches. Level and compact the backfill before placing and attaching the MSE reinforcement to the facing elements. The lowest layer of MSE reinforcement shall be installed a minimum of twelve inches below the finish grade in front of the wall. Heavy equipment shall not come within three feet of the back face of MSE facing elements. Compaction within three feet of the back face of MSE facing elements shall be achieved by no less than three passes of a lightweight mechanical tamper, roller, or vibratory system.

7.15 Fabric Geotextile Type IV shall be used as a separator between the combined MSE Volume and Structure Granular Backfill and the embankment materials or in-situ soil above, behind, or on the sides of the MSE Volume and Structure Granular Backfill. The contractor shall have the option, at no additional cost to the Department, of constructing that portion of tile embankment above the MSE Volume and between the end bent wingwall limits with the same material as used in the MSE Volume and eliminating the Fabric Geotextile Type IV above the MSE Volume. Fabric Geotextile Type IV shall be incidental to the unit price bid per square foot of Retaining Wall.

7.16 Tie strip earth reinforcement shall be shop fabricated of hot rolled steel conforming to the minimum requirements of ASTM A570, Grade 36 or Grade 50, or equivalent.

7.17 Steel mesh earth reinforcement shall meet the requirements of ASTM A82 for cold drawn wire. The wires shall be welded into the finished mesh according to ASTM A185. Wire size and mesh configuration shall be as shown on the shop plans.

7.18 Ribbed earth reinforcement shall be hot rolled from bars to the required shape and dimensions. Physical and mechanical properties shall conform to AASHTO M223, Grade 65.

7.19 Ladder reinforcing strips shall be fabricated from cold drawn steel wire conforming to ASTM A82. The wires shall be welded into the finished mesh according to ASTM A185.

7.20 All earth reinforcement shall be cut to length and tolerances shown on the construction plans or approved shop drawings. Anchors and connection pins shall conform to ASTM A82. Welding shall be according to ASTM A185.

7.21 Clevis connectors, loops, and connector bars used with steel mesh reinforcement shall be fabricated from cold drawn steel conforming to ASTM A82. Welding shall be in accordance to ASTM A185.

7.22 Fasteners used with ribbed or ladder reinforcing strips shall consist of hexagonal cap screw bolts and nuts conforming to AASHTO M-164 or equivalent.

7.23 U shaped reinforcing connectors used with ribbed or ladder reinforcing strips as yokes to connect the strips to modular blocks shall be shop fabricated from cold drawn steel wire conforming to ASTM A82.

7.24 Pins used to align face panels during construction shall be 5/8 inch diameter, mild steel, round, smooth bars. All steel components shall be hot dip galvanized after fabrication to conform to the minimum requirements of AASHTO M111. Included are tie strip reinforcement, ribbed earth reinforcement, ladder earth reinforcement anchors, connection pins, steel mesh, clevis connectors, loops, connector bars, fasteners, U shaped connectors, and alignment pins. Holes for bolts shall be punched in the locations shown before galvanizing.

7.25 Bearing pads and joint filler for MSE Walls shall be as recommended by the wall supplier. Vertical slip joints shall be provided at 100-foot intervals +/- three feet unless otherwise shown on the plans. Slip joints between wall sections shall be covered by a geotextile fabric. The fabric shall be a non-woven needle punch polyester or woven monofilament polypropylene as recommended by the wall supplier. All joints between MSE Wall panels shall be covered on the back side with Type I geotextile fabric. The minimum width and lap is:

Vertical Joints 18"
Horizontal Joints 12"
All Laps 4"

The adhesive used to hold geotextile fabric at the rear of the MSE Wall units shall be as recommended by the wall supplier.

8. METHOD OF MEASUREMENT AND BASIS OF PAYMENT

8.01 Roadway quantities are calculated and paid from front face of wall with no deductions for the quantity of material required for walls. No deductions are made for the material in the reinforced volume of MSE Walls. Roadway Excavation beneath the wall shall be measured and paid according to Section 204 of the Standard Specifications. When required, the quantity of Granular Embankment for foundation replacement beneath the MSE Wall shall be measured and paid according to Section 206 of the Standard Specifications. The final quantities for these two items shall be based on field measurements.

8.02 The quantity of MSE Wall will be the gross area in square feet, not including footings or leveling pads for precast walls, lying in the vertical plane of the outside front face of the structure as shown on the plans or as directed by in writing. No field measurement will be made. The final quantity will be the design plan quantity increased or decreased by authorized changes.

8.03 The ground line elevations and depth of foundation replacement shown are interpolated from the available geotechnical information. The top of the leveling pad or footing shall be a minimum of two feet below the finish grade in front of the wall or as directed by the Engineer. When required, the plan depth of foundation replacement shall be measured from the bottom of wall as constructed. When the actual foundation replacement required by the Engineer is different from that shown on the contract plans, an adjustment in wall area and excavation quantities shall be made.

Changing the limits or quantities of the retaining wall or structure excavation, except as directed by the Engineer shall not be cause for changing the plan pay quantities. Lowering the bottom of wall elevations to accommodate the wall design or configuration of pre-fabricated concrete units shall not be cause for changing the plan pay quantities.

The MSE Wall supplier's design may require additional excavation and MSE Wall materials to satisfy their design. The design MSE earth reinforcement lengths shall be equal to or greater than the length shown on the plans or as required by the AASHTO Specifications for the height of the wall plus live load surcharge. The

lengths of the MSE Reinforcement shall be constant from the bottom to the top of the section. Extension of the plan limits to accommodate the wall design, configuration of pre-fabricated concrete units, or lengths of earth reinforcement for MSE Walls shall not be cause for changing the plan pay quantities. Additional quantities of excavation, MSE Reinforcement, MSE volume, excavation for foundation replacement, granular embankment, and labor necessary to satisfy the MSE Wall supplier's design shall be incidental to the unit price bid for the Retaining Wall.

The MSE volume that extends twelve inches, minimum, beyond the ends of the reinforced volume for MSE Walls shall be incidental to the unit price bid per square foot of Retaining Wall.

All materials, equipment, and labor necessary to provide and install the geotextile shall be incidental to the unit price bid for the per square foot of Retaining Wall.

All work associated with providing the design, details and construction for the coping shall be incidental to the unit price bid per square foot of Retaining Wall.

Sheeting, shoring, temporary walls or other earth retention systems necessary to stabilize the excavation for the wall during construction shall be the responsibility of the Contractor. All designs, labor, materials, etc. required to complete this work shall be incidental to the unit price bid per square meter of Retaining Wall.

<u>PAY ITEM</u>	<u>UNIT</u>
Retaining Wall	Square Foot
Fabric Geotextile Type III	Square Foot
Granular Embankment	Cubic Yard
Roadway Excavation	Cubic Yard

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

—

I-65 & US 231 INTERCHANGE - WARREN COUNTY

LETTING:
ITEM NUMBER: 3-17.00
PROJECT NUMBER:

TABLE OF CONTENTS

TABLE OF CONTENTS	1
PROJECT DESCRIPTION	2
ADVANCED GROUNDING SYSTEM	6
POLE BASE	7
WEB CAMERA ASSEMBLY	7
UNINTERRUPTIBLE POWER SUPPLY (RACK MOUNTED UPS).....	9
CONDUIT.....	11
MODEL 334 AND 336 ENCLOSURES	11
FIBER OPTIC CABLE AND FIBER TERMINATION RACK.....	18
JUNCTION BOX.....	23
SURGE DEVICES.....	24
TRANSCEIVERS.....	26
TRENCHING AND BACKFILLING	30
WIRE AND CABLE.....	30
GLOSSARY	31

PROJECT DESCRIPTION

GENERAL

This project includes furnishing and installing high mast lighting, a lighting monitoring system, and web camera for the I-65 & US 231 Interchange near Bowling Green, Kentucky, in District 3.

EQUIPMENT AND MATERIALS

All equipment and materials shall be new, free of defects and damage.

SPECIFICATIONS AND WORKMANSHIP

Unless otherwise specified, all work shall conform to the following:

- Kentucky Standard Specifications for Road and Bridge Construction, latest edition.
- FHWA, Manual on Uniform Traffic Control Devices, latest edition.
- National Electrical Code, latest edition.
- National Electric Safety Code, latest edition.
- KYTC Department of Highways Standard Drawings, current editions.
- KYTC Department of Highways Sepia Drawings, current editions.
- International Municipal Signal Association (IMSA) Specification No. 51-7, current edition.
- AASHTO, Roadside Design Guide, latest edition.
- AASHTO, Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, latest edition.

All work shall be performed in a neat and professional manner. The Contractor shall remove debris and trash from work areas during construction. The Contractor shall restore areas to original condition and clean up all debris after construction.

DAMAGE TO EXISTING FACILITIES

The Contractor shall be responsible for locating all underground utilities prior to excavation. The contractor shall repair damage caused to any public or private facilities at his expense. Utilities include but are not limited to telephone, power, water, gas, fiber optic cable, underground vaults, roadway lighting wiring, traffic signal wiring, and roadway drainage systems.

MATERIALS LIST

The contractor shall provide an equipment list in Microsoft Excel format to the Engineer containing the following information:

- Type of equipment
- Field location
- Make
- Model

- Serial number
- Date of purchase
- Manufacturer contact information
- Equipment vendor contact information (if different)
- Date of Installation
- Date warranty expires

This list shall be provided to the Division of Traffic Operations prior to burn-in testing.

WARRANTY

The Contractor shall provide a copy of all equipment warranty information to the Division of Traffic Operations. The Contractor shall provide documentation from the manufacturer that ownership of the warranty is transferred to the following:

Kentucky Transportation Cabinet
Division of Traffic Operations
200 Mero Street
Frankfort, KY 40622

TESTING

The Contractor shall demonstrate proper functioning of all devices at the field cabinets.

A 30 day equipment burn-in test will begin after each device is accepted. If a device fails during the 30 burn-in day test the Contractor shall repair or replace the device and demonstrate that the device is functioning at the field cabinet and a new 30 day burn-in test will begin for that device. Each device will be accepted after it has successfully completed its 30 day test. The 30 day burn-in test will be conducted by TOC personnel in Frankfort from the operations center and consist of operational control of PTZ and video of the remote camera location and sign control.

SHOP DRAWINGS

All items that are used on this project shall have shop drawings sent to Engineer, who will contact Division of Traffic Operations for approval. All items shall be approved before purchase of said items.

AS-BUILT DRAWINGS

The Contractor, at the completion of the project, shall submit as-built drawings. As-built drawings shall be submitted in electronic format such as .pdf, .tiff, .dgn or other standard image format acceptable to the Engineer. As-built drawings may be scanned from marked up field plans or drawn in MicroStation. As-built drawings shall be scanned at a resolution that will allow them to be clearly legible on a computer display. As-built drawings shall include the exact location of all above ground equipment, underground conduit, wire, sensors and other equipment. Drawings shall indicate any changes to the design including changes to the numbers of conductors, wire gage, splices, additional conduit, etc. Conduit locations shall be drawn to scale or shall be dimensioned and referenced to permanent roadway features. Turns in conduit shall be referenced so that the conduit paths may be derived from the as-built drawings. Existing underground

utilities shall be indicated on the drawings. Two copies of the drawings shall be submitted. One copy of the drawings shall be submitted to the Engineer. One copy of the drawings shall be submitted to the KYTC Division of Traffic Operations Design Services Branch. The Contractor shall correct any drawings that are deemed unacceptable to the Engineer. As-built drawings shall be delivered prior to burn-in testing.

TRAFFIC CONTROL PLAN

**THIS PROJECT IS A FULLY CONTROLLED
ACCESS HIGHWAY**

TRAFFIC CONTROL GENERAL

See Maintenance of Traffic and Construction Phasing Plans and proposal documents.

TRAFFIC CONTROL PLANS

Proposed changes to the Traffic control plans shall be submitted to the Engineer two weeks prior to work in the area covered by the plan. This submittal shall consist of five copies of the plans for review and distribution. No work shall begin at any location until the traffic control plan has been approved by KYTC.

PROJECT PHASING & CONSTRUCTION PROCEDURES

No lane or shoulder closures shall be allowed during the following times:

- Between 12:00 noon Friday and 6:00 A.M. Tuesday when the holiday is observed on a Monday: New Year's Day, Memorial Day, Labor Day, Independence Day, and Christmas.
- Between 12:00 noon Thursday and 6:00 A.M. Monday when the holiday is observed on a Friday: Good Friday.
- Between 12:00 noon on the day before Thanksgiving and 6:00 A.M. the following Monday.

ADVANCED GROUNDING SYSTEM

DESCRIPTION

Furnish and install Advanced Grounding System in accordance with the plans, specifications and Standard Drawings.

MATERIALS

Unless otherwise specified, the grounding system provided will be as shown in “Advanced Grounding System Details”. Minimum ground resistance reading needs to be 10 ohms or less as tested via the 3 point fall of potential test method.

If the installation of the advanced grounding system is not possible due to physical constraints of the location or other extenuating factors, the TRIMARC Systems Engineer or Traffic Engineer may allow for a standard ground installation. The standard installation would be with ground wiring consisting of solid bare copper #4 AWG and securely connected inside enclosures with #4 AWG copper clamp connectors. Nuts and washers securing the wire are not acceptable. All grounding shall meet the National Electric Code. Ground wires shall be exothermically welded to the ground rods. Ground rod clamps are not acceptable. The following devices shall be grounded to an array of two or three, 10' X 1" copper coated steel ground rods:

- Model 334/336 Enclosures (two ground rods required)
- Camera Poles (three ground rods required)
- Side-mounted VMS(two ground rods required)
- Service Locations(two ground rods required)

All ground rods in arrays shall have a minimum of 6' separation.

The resistance to ground shall be less than 10 Ohms as measured with an AEMC clamp on ground resistance meter or equivalent. The Contractor shall leave all exothermic welds exposed for inspection by the TRIMARC Systems Engineer or Traffic Engineer before backfilling.

INSTALLATION

All grounding shall be according to standards shown on “Advanced Grounding System Details”. If contractor needs help with installation, they can contact Alltec Corporation for further assistance at 800-203-2658.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Advanced Grounding System will be measured for payment per each. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

POLE BASE

DESCRIPTION

Furnish and install Pole Base in accordance with the plans, specifications and Standard Drawings.

MATERIALS

Pole Base includes concrete, anchor bolts, reinforcing steel, and conduit within base. The Contractor shall submit to material testing at the discretion of the Engineer.

INSTALLATION

The Contractor shall stake all proposed pole base locations and obtain approval before excavation. The Traffic Engineer (District 4 and 6) will approve locations for pole bases in their districts. Any poles bases in Jefferson/Oldham shall be approved by the TRIMARC representative. The Contractor shall have utilities marked in the field prior to requesting approval. The Contractor shall allow two weeks to schedule the location approval. KYTC/TRIMARC approval of field device location does not relieve the contractor from his responsibility to avoid utilities and repair any damage to buried infrastructure. The Contractor shall grade and re-seed all disturbed areas and restore the area to the satisfaction of the Engineer. Poles located behind guardrail shall have a minimum 5' spacing from edge of pole to face of guardrail. Otherwise, poles shall be located as according to the plans sheets or a minimum of 30' from all driving lanes. This item includes all excavation including any special equipment required to install the base in rock. This item shall include a vented rodent barrier furnished and installed by the contractor. See Vented rodent barrier detail.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Pole Base/Pole Base-High Mast will be measured for payment per unit each. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

WEB CAMERA ASSEMBLY

DESCRIPTION

Furnish and install Web Camera Assembly in accordance with the plans, specifications and Standard Drawings.

MATERIALS

The Web Camera Assembly shall be an Axis Network Dome Model 232D+ or approved equivalent. This item shall include the color camera, zoom lenses, environmental enclosure, pan/tilt unit, housing, dome, parapet mount, and all mounting hardware, power cable, connections, and incidentals necessary to complete the work.

Proposed alternates shall be commercially available. The Contractor shall identify an installed site where the proposed alternate Web Camera Assembly has been operating for a period of at least one year in a similar climate region.

The Web Camera Assembly shall include the following:

Outdoor pendant dome:

- UV protected, distortion free, polycarbonate lower dome
- IP66 Rated
- Operating temperature: -4 degrees F to 122 degrees F
- Fan-assisted Heater: 40 degrees F turn on; 60 degrees F turn off
- Input current Max. 0.4 A
- Max Output Power 40 W
- Unit weight: 11 lbs
- Clear lower bubble
- 24 VAC outdoor power supply

Mounting Hardware:

- Pole mount adapter with banding straps and clips
- Parapet Mount

Web camera

- Image Sensor: 1/4" Sony EXview HAD CCD
- Lens: F1.4-3.0, f=4.1 mm wide to 73.8 mm tele, autofocus with 18x optical zoom
- Lens horizontal viewing angle: 48 degrees (wide end) to 2.8 degrees (tele end)
- Lens focus range: 35 mm (wide) or 800 mm (tele) to infinity
- Minimum illumination: Color:0.3 lux at 301RE, B/W: 0.005 lux at 301RE
- Video compression: Motion JPEG, MPEG-4 Part 2 (ISO/IEC 14496-2)
- Resolution: 4CIF, 2CIFExp, 2CIF, CIF, QCIF
- Resolution Max. 704x480; Min. 160x120
- Frame rate: MPEG-4 up to 21/17 fps at 4CIF/2CIFExp; up to 30/25 fps at 2CIF/CIF/QCIF
- Image settings compression levels: 11 (motion JPEG)/ 23 MPEG-4
- Pan: 360 degrees endless, max speed 360 degrees/s
- Tilt: 0 degrees to 90 degrees, max speed 360 degrees/s
- Zoom: 18x optical, 12x digital
- 20 preset
- Guard tour
- Control
- Shutter speed: 1 sec to 1/10 sec
- IR illumination
- Security: Multiple user access levels with password protection IP address filtering, HTTPS encryption

- Event management: Events triggered by built-in motion detection, external inputs or according to a schedule; Image upload over FTP, email and HTTP; Notification over TCP, email, HTTP and external outputs
- Ethernet 10BaseT/100BaseTX, RJ-45
- Video processing and compression: ARTPEC-2
- 24 VAC Power requirements
- Operating temperature: 41 degrees F to 122 degrees F
- Video access from Web browser: Camera live view. Sequence tour capability for up to 200 Axis cameras, customizable HTML pages, complete remote control pan, tilt, and zoom
- Supported protocols: HTTP, HTTPS, SSL/TLS, TCP, SNMPv1/v2cv/v3 (MIB-II), RTSP, RTP, UDP, IGMP, RTCP, SMTP, FTP, DHCP, UPnP, ARP, DNS, DynDNS, SOCKS
- EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024 approvals
- FCC Part 15 Subpart B Class A, VCCI Class A, C-tick AS/NZS CISPR 22 Class A, ICES-003 Approvals

INSTALLATION

Web Camera Assembly shall be installed on a wood pole or steel strain pole as specified in the plans and in accordance with the manufacturer's instructions. Installation shall comply with all warranty provisions and warranty contract maintenance services. Installation shall comply with all local, state, and federal building, electrical and construction codes, and Motorola R-56 requirements. All wiring access to the Web Camera Assembly shall be through watertight fittings. Wiring access points shall be on the side or underneath components; no exposed top access is permitted. The Web Camera Assembly shall be installed so that the assembly is located on the side of the pole closest to the roadway when the camera is in its fixed position at the top of the pole. The contractor is responsible to verify all functions of the web camera through a laptop interface.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Web Camera Assembly will be measured for payment per unit each. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

UNINTERRUPTIBLE POWER SUPPLY (RACK MOUNTED UPS)

DESCRIPTION

Furnish and install Uninterruptible Power Supply in accordance with the plans, specifications and Standard Drawings.

MATERIALS

The Uninterruptible Power Supply shall be provided emergency power to the load when the input power sources fails. The Uninterruptible Power Supply shall be APC UPS 1500VA USB RM 2U (networkable card AP9630) or approved equal. The Uninterruptible Power Supply shall be networkable and have the following technical specifications:

Output Power Capacity: 980 Watts/ 1440 VA
Nominal Output/Input voltage: 120 Volts
Efficiency at Full Load: 95%
Waveform Type: Sine Wave
Output/Input Connections: (6) NEMA 5-15R
Battery Type: Maintenance-free sealed Lead-Acid Battery with suspended electrolyte:leakproof

Interface Ports: DB-9 Rs 232, USB
Surge Energy Rating: 459 Joules
Filtering: Meets UL 1449
Mounting: shall be able to mount in 19" rack
Operating Environment: 0-40 degrees Celsius
Regulatory Approvals: CSA, FCC Part 15 Class A, UL 1778
Warranty: At least 3 year for repair or replace

Network card shall have the following:

Protocols: HTTP, HTTPS, IPv4, SMTP, SNMP v1, SNMP v3, SSH V1, SSH V2, SSL, TCP/IP, Telnet
Network Interface Connections: RJ-45 10/100 Base-T
Regulatory Approvals: AS/NZS 3548 (C-Tick) Class A, EN 55022 Class A, En 55024, FCC Part 15 Class A, GOST, ICES-003, VCCI Class A
Warranty: At least 3 year for repair or replace

INSTALLATION

Uninterruptible Power Supply shall be installed in 334/336 Cabinet as specified in the plans sheets. It shall be securely mounted the 19" frame which is included in supplied 334/336 cabinet. All cables, rack Mounting Brackets, Rack Mounting support rails shall be incidental to the item.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Uninterruptible Power Supply will be measured for payment per unit each. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

CONDUIT

DESCRIPTION

Furnish and install Conduit in accordance with the plans, specifications and Standard Drawings.

MATERIALS

Conduit shall be rigid steel, schedule 40 PVC, or flexible, non-metallic conduit as specified. This item includes fittings, connectors, clamps, caps and other materials necessary for proper installation. The Contractor shall submit to material testing at the discretion of the Engineer.

INSTALLATION

All conduit installed above ground or below ground under pavement shall be rigid steel. All conduits installed below ground, not under pavement shall be PVC. Flexible, non-metallic conduit shall be used as required and shall be incidental to the project. Unused conduits shall be capped on both ends. Conduit containing wire or cable shall be sealed with a piece of steel wool and capped off with duct seal putty. All conduits shall be accessible inside junction boxes. All conduits shall have bushings included. If rigid steel conduit, the bushings shall be bonded together with other similar types of conduits.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Rigid Steel and PVC Conduit will be measured for payment per unit linear foot. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section. A direct measurement will not be made for flexible, non-metallic conduit. All flexible, non-metallic conduits shall be incidental to the project.

MODEL 334 AND 336 ENCLOSURES

DESCRIPTION

Furnish and install Enclosure in accordance with the plans, specifications and Standard Drawings.

MATERIALS

The two types of enclosures are Model 336 (36" H x 24" W x 22" D) and Model 334 (66" H x 24" W x 30" D). All enclosures shall be NEMA 3R rated. The enclosures shall include: all mounting accessories, access doors (minimum of two doors), ventilation, locking system, handles, door stops, rack assembly, light(s), shelves, drawer, and all required peripherals per the requirements of the contract documents and per the equipment submitted by the Contractor. **The contractor shall provide a cabinet, wiring, and all components that are approved as an assembly. This approved assembly shall be incidental to this**

item. Verification that the cabinet, wiring, and all components are an approved assembly shall be submitted to Central Office Traffic Operations.

This item includes all excavation and any special equipment required to install the enclosure on a pole for a Model 336 enclosure or construct the concrete base for a Model 334 enclosure.

The Contractor shall provide a terminal facility harness by means of mating “MS” type connectors for interconnections of the field equipment specified. All cabinets of the same type shall be identical in size, shape and quality. In addition, the cabinets shall be equipped internally as specified herein and as required to suit the specific equipment specified on the plans.

Cabinets shall be of welded construction, using 0.125” minimum thickness 5052H32 or equivalent sheet aluminum. The equipment design shall utilize the latest available techniques, minimum number of different parts, subassemblies, circuits, cards and/or modules to maximize standardization and commonality.

Cabinets shall be provided with fully wired back and side panels with all necessary terminal boards, wiring harnesses, connectors and attachment hardware. All equipment shall be shelf or 19” rack mounted. Terminals and panel facilities shall be installed on the lower portion of the cabinet walls below all shelves.

Each field cabinet shall, at a minimum, be supplied with the following:

- Fan and Thermostat
- Left Side Power Distribution Panel
- Air Filter
- Adjustable Shelves (1-4 as needed for equipment submitted by the Contractor)
- Back Panel
- Right Side Panel
- Locking System
- Ground Bus (2)
- Terminal Blocks
- Duplex power outlet
- Drawer that slides out for supporting a laptop computer
- All necessary installation and mounting hardware

All external screws, nuts and locking washers shall be stainless steel; no self-tapping screws are permitted unless specifically approved by the Engineer. All screws, nuts and locking washers used internally shall be manufactured from corrosion resistant materials.

All parts of the cabinet shall be cleaned, smoothed and free from flaws, cracks, dents and other imperfections. The cabinet shall be rigidly constructed to provide vibration free operation of the field equipment when installed. The cabinets shall be dust and rain tight and capable of maintaining a dry internal condition when subject to rain and wind gusts.

All components shall be made of corrosion resistant materials such as plastic, stainless steel, aluminum or brass; or shall be treated with corrosion resistance such as cadmium plating or galvanizing. All materials shall be resistant to fungus growth and moisture deterioration.

Individual cabinet components shall be pre-assembled upon installation in the cabinet such that the components can be easily replaced in the field. Modules of unlike function shall be mechanically keyed to prevent insertion into the wrong socket or connector.

Panels shall be designed to mount in the cabinet on mounting studs. It shall not be necessary to remove the panel to replace any panel-mounted equipment. The panels shall be capable of supporting specified equipment mounted on the panel. A lower input termination panel shall be provided to terminate all input field wires.

Electronic components shall meet the requirements contained herein and shall, at a minimum, comply with EIA Specifications. No component shall be of such design, fabrication, nomenclature or other identification as to preclude the purchase of said component from a wholesale electronics distributor or from the component manufacturer.

Components shall be down-rated by 50 percent with regard to ambient temperature, applied voltage, and power dissipation. All circuits shall be designed for reliability and maximum performance.

The design life of all components, under continuous operating conditions in their circuit application, shall be a minimum of ten years.

Each component shall meet all of its specified performance requirements when the input power is AC, 60 Hz, single phase, 120 volts +/- 20 volts. The equipment shall be designed such that the failure of a particular piece of equipment will not cause the failure of any other.

The cabinets shall be furnished with a power distribution panel mounted on the lower left hand inside wall when facing the front of the cabinet. This panel shall include a 115 VAC, convenience, dual outlet with integral ground fault interrupt protected by a circuit breaker. The left panel shall have:

- Circuit Breaker(s)
- Radio Interference Suppressor
- Power Cable Input and Junction Terminals

Circuit breakers shall be approved and listed by UL. Each cabinet shall have, at a minimum, a circuit breaker to protect the lamp, vent fan, and dual outlet. In addition, a properly rated equipment circuit breaker(s) shall be provided for the equipment shown on the plans. At each cabinet that houses VMS control equipment, a 220 VAC circuit breaker, sized to suit the cables that provide power to the VMS pixels shall be furnished and installed. Breakers shall have a minimum interrupt capacity of 50 amperes.

Each cabinet shall be equipped with a radio interference suppressor installed at the circuit breaker. The suppressor shall provide a minimum attenuation of 50 dB over a frequency range of 200 kHz to 75 MHz. The suppressor shall be hermetically sealed in a case filled with a suitable insulation compound.

The suppressor terminals shall be nickel-plated, with brass studs of sufficient external length to provide space for connection of two appropriately sized conductors and shall be mounted such that the terminals cannot be turned in the case. The suppressors shall be designed for operation at the proper current ampere rating as determined by the Contractor per the equipment specified on the plans and shall be approved by UL and EIA.

Power distribution blocks suitable for use as a power feed and junction points shall be furnished and installed for two and three wire circuits. The line side of each circuit shall be capable of handling the specified number of and size of all wires.

Each cabinet shall include a fully wired equipment panel mounted on the lower rear inside of the wall of the cabinet. The back panel shall be utilized to distribute and properly interconnect all cabinet wiring related to the specific equipment. Each piece of equipment specified shall have its cable harness properly connected at terminal boards on the back panel. All functions available at the equipment connector shall be carried in the connector cable harness to a terminal board point on the back panel.

Wiring shall be provided for the equipment specified. All cabinet wiring, where connected to terminal strips, switches, radio interference suppressor, etc., shall be identified by the use of insulated pre-printed sleeving (wire markers) slipped over the wire before attachment of the lug or terminating the connection. The wire markers shall have a text label with sufficient detail so that a translating sheet is not required.

All wires shall be cut to the proper length before assembly. No wires shall be doubled back to take up slack. Wires shall be neatly secured with nylon lacing or cable ties. Cables shall be secured with nylon cable clamps.

The grounded side of the electric service shall be carried throughout the cabinet to the ground bus without a break.

All electrical connections in the cabinet shall have sufficient clearance between each terminal and the cabinet to prevent a leakage path or physical contact under stress. Where these distances cannot be maintained, barriers must be provided. All equipment grounds shall run directly and independently to the ground bus. The lay of the interconnect cable between the components must be such that when the door is closed, it does not press against the cables or force the cables against the various components inside the cabinet. Sufficient length of cable harnesses shall be provided to easily reach the electronic equipment placed anywhere on the shelves.

All wiring containing line voltage AC shall be routed and bundled separately and/or shielded from all low voltage (i.e. control) circuits. All conductors and live terminals or parts, which could be hazardous to maintenance personnel, shall be covered with suitable insulating materials.

All conductors used in the cabinet wiring shall be 22 AWG or larger with a minimum of 19 strands. The insulation shall have a minimum thickness of 10 MILS. All wiring containing line voltage shall be 14 AWG or larger.

The AC+, AC-, and equipment ground wiring shall be electrically isolated from the other by an insulation resistance of at least 10 Megohms when measured at 250 VAC. Return and equipment grounding wiring shall be color-coded white and green respectively.

Terminal blocks located on the panels shall be accessible such that it shall not be necessary to remove the electronic equipment from the cabinet to make a connection or perform an inspection.

Terminal blocks shall be two-position, multiple-pole, and barrier type. Shorting bars, along with integral marking strip, shall be provided. Terminal blocks shall be arranged such that they do not impede the entrance, training, or connection of incoming field conductors. All terminals shall be identified by legends permanently attached to the terminal blocks. Not more than three conductors shall be brought to any one terminal screw. No electrically live parts shall extend beyond the protection afforded by the barriers. All terminal blocks shall be located below the shelves.

AC terminal blocks shall be Underwriter's Laboratory approved for 600 volts AC minimum and shall be suitable for outdoor use. Terminals used for field connections or interwiring connections shall secure conductors by means of a nickel or cadmium plated brass binder head screw.

All connections to and from the electronic equipment shall terminate at an interwiring block. These blocks shall act as intermediate connection points for all electronic equipment inputs and outputs.

A varistor shall be installed across the thermostat used to control the fan to act as a surge and transient noise suppressor. The varistor shall be GE VI5OLAIOA, Stetron 250NRO7-1, Siemens SIOK150, or approved equal.

MOUNTING

Model 336 cabinets shall be pole mounted or mounted to an existing concrete wall as specified. Model 334 cabinets shall be mounted on a poured concrete base or on existing concrete surfaces as specified. All holes drilled into existing concrete surfaces shall penetrate the concrete no more than 4 inches unless otherwise approved by the Engineer. Bolts inserted into any concrete surface shall be properly secured and epoxied, per manufacturer's recommendations. Prefabricated fiberglass bases used in lieu of poured concrete bases must be approved by the Engineer. Cabinet installation shall conform to the details shown. All cabinets shall be furnished with stainless steel mounting plates, nuts, bolts, washers and all other necessary hardware to mount the cabinet as shown or described.

DOORS

All cabinets shall be provided with doors in the front and back. Doors shall have secure gaskets to prevent the entrance of dust and moisture. Doors shall be sized to encompass the full area of the cabinet opening. Doors shall be provided with two stop positions to hold the door open at 90 degrees and 135 degrees. The stops shall hold the door securely open until released manually. The front door shall be hinged on the right-hand side by means of three butt hinges with 1/4" minimum stainless steel hinge pins.

VENTILATION

Cabinets shall be furnished with louvers properly designed to provide natural ventilation to the interior. The louver area shall be of sufficient size to permit the free flow of air corresponding to the rated capacity of the associated cabinet fan. A pleated media fiber filter shall be provided and shall cover all louvers.

Cabinets shall be furnished with an electric, thermostatically-controlled ventilation fan or fans mounted in the cabinet. The fan(s) shall have a rated capacity of at least 200 cubic feet per minute. The fan and cabinet ventilation louvers shall be located with respect to each other so as to direct the bulk of the air flow throughout the entire cabinet and, in particular, over the field equipment units. The thermostat shall be adjustable to turn on between 90 degrees and 120 degrees Fahrenheit.

LOCKING SYSTEM

Each door shall be furnished with a 3-point positive locking system. The lock for the door shall be a self-locking, heavy-duty, five-pin tumbler cylinder rim type. The handles shall be made of stainless steel and shall be provided with a padlock feature. Locks shall be keyed identically to Corbin #2. Two keys shall be provided for each cabinet.

LIGHT

A fluorescent light shall be provided in front for all cabinets and also in the back for Model 334 cabinets. A panel mounted 40-Watt weatherproof incandescent lamp with an on-off switch shall be positioned to provide light to the face of the equipment installed in the cabinet.

SHELF/DRAWER/RACK

A removable 19" EIA rack shall be provided for mounting sub-assemblies in Model 334 cabinet. Adjustable shelves shall be provided to hold the equipment. Vertical shelf adjustment intervals shall be 2" maximum. The shelves shall be positioned from the top of the cabinet in accordance with the actual equipment configuration of the particular cabinet. All devices/sub-assemblies shall be mounted on the rack if possible. Otherwise, they shall be placed on the shelves.

A sliding drawer shall be provided in each cabinet. The drawer shall be installed below the shelves in a suitable position for placement of a laptop computer. The drawer shall have a nominal depth of 1" and a hinged lid.

LABELING

The letters "KYTC ITS" shall be permanently displayed along the top of each door on the outside of each cabinet. The letters shall be a minimum of 1" tall. The letters shall be die-cut or engraved into the metal before galvanizing and shall be readable after galvanizing. All excess galvanizing shall be brushed off. The location and description of the label must be shown on the shop plan submittal for the cabinets. Stenciling with paint or other markers is not permitted. If required information is placed on a steel plate, the plate must match the surface profile of the cabinet. The plate must then be welded completely around the plate before galvanizing.

QUALITY ASSURANCE PROVISIONS

The following water spray test shall be performed on each empty cabinet: Water shall be sprayed from a point directly overhead at an angle of 60° from the vertical axis of the cabinet. This procedure shall be repeated for each of eight equally spaced positions around the cabinet for a period of not less than five minutes in each position. The water shall be sprayed using a domestic type-sprinkling nozzle at a rate of not less than one gallon per minute per square foot of the cabinet's surface area. The cabinet shall then be inspected for leakage. Evidence of water leakage shall be cause for rejection.

A manufacturer's certification of successful completion of the water spray test and that the cabinet conforms to these specifications shall be the basis of acceptance of the cabinet. Separate submission of test cabinets shall not be required.

MAINTENANCE

All components and assemblies shall be clearly identified with name, model number, serial number and any other pertinent information required to facilitate equipment maintenance.

All equipment shall be designed for ease of installation and maintenance. Location, accessibility, serviceability and features that will lead to simplified maintenance shall be a prime consideration. All component parts shall be readily accessible for inspection and maintenance. The only tools and test instruments required by maintenance personnel shall be simple hand tools and basic meters.

After the wiring is complete, all conduit penetrations into the cabinets shall be sealed in such a manner as to prevent rodents and insects from entering the cabinet. The conduit sealants and insect traps used shall be approved by the Engineer prior to installation.

DOCUMENTATION

Each field cabinet shall be supplied with three copies of the final cabinet wiring diagram. One copy shall be placed in a clear plastic envelope and left in the cabinet drawer. Two sets of Mylar plans shall be delivered to the Engineer.

INSTALLATION

Model 334/336 enclosure shall be installed in accordance with the plans and specifications. The Contractor shall stake all proposed enclosure locations and shall obtain approval of staked locations before excavation. A representative from the KYTC Division of Traffic Operations, Design Services Branch or the Traffic Engineer, District 4/6, TRIMARC representatives (for Jefferson/Oldham only) will approve locations for all field devices. The Contractor shall have all utilities marked in the field prior to requesting approval. The Contractor shall allow two weeks to schedule this location approval with KYTC. KYTC approval of field device locations does not relieve the contractor from his responsibility to repair any damage incurred during construction. Enclosures located behind guardrail shall have minimum 5 foot spacing from edge of pole to face of guardrail. Otherwise, enclosures shall be located as specified on the plan sheets or a minimum of 30' from all driving lanes. All materials shall be installed in a neat and professional manner. All pole mount cabinets shall be mounted approximately 42"

from the ground. All 336 pole mounted cabinets shall a 3' L x3' W x4" D concrete pad install for each door. Concrete for the pad is incidental to the cabinets. The Contractor shall grade and re-seed all disturbed areas to the satisfaction of the Engineer. This item includes the furnishing and installing of Fastrac bait bag in each cabinet for rodent control.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Model 334/336 Enclosure will be measured for payment per unit each. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

FIBER OPTIC CABLE AND FIBER TERMINATION RACK

DESCRIPTION

Furnish and install Fiber Optic Cable and Fiber Termination Rack in accordance with the plans, specifications and Standard Drawings.

MATERIALS

The Contractor shall install specified fiber optic cable and distribution equipment using the stated installation procedures. The fiber termination rack shall include rack enclosure (Corning Fiber CCH01 or approved equal), panel modules 12 fiber (Corning Fiber CCHCP1259 or approved equal), and single mode patch cords (Corning Fiber VDX9YY53FIS or approved equal).

This shall include furnishing and installing all materials, mounting hardware, and cabling necessary to construct a complete and functional system. This shall also include all labor, tools, equipment, and incidentals necessary to complete the work, including but not limited to integrated fiber optic termination units, connector modules, jumper cables, testing, and documentation.

Fiber optic cable shall be Optical Cable Company BX12 165AD SLX 900 OFNR or approved equal. Fiber optic cable, jumper cables, and distribution equipment shall be fabricated by a certified ISO 9001 manufacturer.

All fiber cable provided under this contract shall be from the same manufacturer utilizing identical specifications. Fiber cables shall be dielectric (constructed from non-metallic materials). Fiber cables shall contain single mode optical fibers, loose tube, filled with a water-blocking material, and shall be suitable for installation in underground conduit and field cabinets.

All optical fiber in the cable shall, at a minimum, comply with the following requirements:

- Min. Cladding diameter: 125+/- 1.0µm

- Core to cladding offset: 0.8 μ m maximum
- Maximum attenuation: 0.5 dB/km at 1310 nm
0.5 dB/km at 1550 nm
- Maximum chromatic dispersion: 3.2 ps/(nm x km) from 1285 nm to 1330nm
18 ps/(nm x km) at 1550 nm
- Fiber polarization mode dispersion: 0.5 ps/(km), 2 maximum
- Coating diameter: 245 μ m +/- 10 μ m

The change in attenuation for single-mode from 0° F to -150° F shall not exceed 0.2 dB/km at 1550 nm, with 80 percent of the measured values no greater than 0.1 dB/km at 1550 nm.

The cable design shall have a life expectancy of 20 years when installed to manufacturer's specifications.

Optical fibers shall be contained inside a loose buffer tube. Each buffer tube shall contain 12 fibers. The buffer tubes shall allow free movement of the fibers without fiber damage during installation or normal operation, including expansion and contraction of the buffer tubes. The diameter of all buffer tubes in a cable shall match.

The cable shall have a central member designed to prevent buckling of the cable.

The cable core interstices shall be filled with a non-nutritive to fungus, electrically non-conductive, water-blocking material such as water-swellaable tape that is dry to the touch. The water blocking material shall be free from dirt and foreign matter.

The cable shall contain a least one ripcord under the sheath for easy sheath removal.

The cable shall have tensile strength members that minimize cable elongation due to installation forces and temperature. The cable shall withstand a 600 lb. tensile load applied per EIA-455-33. The change in attenuation shall not exceed 0.2 dB during loading and 0.1 dB after loading. The cable shall be rated for a minimum installed tensile service load of 200 lbs.

The cable shall be dielectric (with no armoring) and be either HDPE or MDPE. Jacketing material shall be applied directly over the tensile strength members and water-blocking material.

The markings on the fiber optic cable shall include cable length markings.

The fiber optic cable shall be capable of withstanding the following conditions without damage or decrease in function:

- Cable freezing per EIA/TIA-455-98
- Total immersion in water with natural mineral and salt contents
- Salt spray or salt water immersion for extended periods

- Wasp and hornet spray

Cable shall be furnished in one continuous length per reel and shall be free from optical splices. A minimum length of six feet on each end of the cable shall be accessible for testing.

Information either stenciled or lettered on the reel or provided on a weatherproof tag firmly attached to the reel shall include the following:

- Factory order number
- Job number
- Ship date
- Manufacturer's cable code
- Type of cable (single mode, outdoor, indoor)
- Beginning and ending length markings
- Measured length and attenuation

FIBER OPTIC DISTRIBUTION EQUIPMENT:

SC type Connectors shall used. The measured attenuation of the connector (inclusive of coupler and mated test connector) shall not exceed an average of 0.3 dB for all connectors provided. Any connector found in excess of 0.5 dB will be rejected. Reflectance shall be less than -40 dB, from 14° F to +140° F. The manufacturer shall have a program that periodically tests connectors to ensure that, after 1000 re-matings, the attenuation shall not change more than 0.2 dB.

The connector shall be able to withstand an axial pull of 25 lbs. with no physical damage to the connector and no permanent optical degradation more than 0.3 dB. Connectors shall be pre-wired by the manufacturer.

Fiber optic jumper cables shall, at a minimum, comply with the following requirements:

- Have less than 0.2 dB loss when subjected to EIA/TIA-455-1A, 300 cycles, 0.5 kg
- Have an Aramid yarn strength member
- Have a rugged PVC sheathing
- Have a minimum bend radius of 12.5 inches following installation, 25 inches during installation
- Have a minimum tensile strength of 100 lbs
- Have connectors with strain relief pre-wired by the manufacturer
- Comply with NEC requirements for indoor fiber optic cable

Jumper cables shall be either single or duplex. Duplex jumper cables shall have permanent markings to distinguish between the fibers or connectors.

Connector modules shall consist of a connector panel, couplers, and a protective housing. The measured attenuation of the connector module (inclusive of coupler, fiber, and mated ST test connector) shall not exceed an average of 0.3 dB for all connector

modules provided. Any connector module found in excess of 0.5 dB will be rejected. Connector modules shall, at a minimum, comply with the following:

- Have 6 couplers for ST applications
- Have 12 couplers for SC applications
- Have a durable housing that provides physical protection and strain relief for the termination of multi-fiber cable to couplers
- Be easily installed and removed from the termination housing
- Be furnished with protective covers for couplers on the jumper cable side
- Comply with NEC requirements for indoor fiber optic cable

There shall be a fixed correlation between each buffered fiber color and coupler position for all connector modules. Fiber color shall meet the requirements for outdoor fiber optic cable.

Fiber optic termination units shall be properly sized for the required number of terminations subject to the minimum requirements stated for each configuration. The fiber optic termination units shall, at a minimum, comply with the following requirements:

- Be rack mounted
- Have front and rear doors or removable panels
- Have a top, bottom, and 4 sides that fully enclose the interior and protect its contents from physical damage
- Be manufactured using 16 gauge aluminum or equivalent and corrosion resistant
- Have provisions for neatly routing cables, buffer tubes and fan-out tubing
- Have cable management brackets or rings integral to the unit to secure and route cables from the connector modules to the vertical rack members while maintaining a minimum 1.5 inch cable radius

INSTALLATION

Fiber optic cable shall be installed in conduit and cabinets. Fiber optic cable shall be installed in accordance with the manufacturer's installation techniques and procedures. The Contractor shall furnish and install all jumper cables and termination equipment necessary to connect fiber optic cable to the equipment.

The Contractor shall install fiber optic cable as a continuous run, without splices, between the cable ends identified. The Contractor shall label fiber optic cables at each end of the cable run, at the points where the cable enters and exits the cabinet for mid-cable access locations, and in all junction boxes. Labels for fiber optic cable shall identify the cable number and the string numbers of the fiber contained within the cable.

Installation of fiber optic cable and jumper cables shall meet the minimum requirements of local building codes and NEC Article 770. Cable shall not be pulled along the ground, over or around obstructions, over edges or corners, or through unnecessary curves or bends. Bend radius criteria of 10 times the cable diameter no stress and twenty times

cable diameter under stress shall not be exceeded. Manufacturer-approved pulling grips, cable guides, feeders, shoes, and bushings shall be used to prevent damage to cable during installation.

When cable is removed from the reel prior to installation, it shall be placed in a “figure-eight” configuration to prevent kinking or twisting. Care shall be taken to relieve pressure on the cable by placing cardboard shims at each crossover, by creating additional “figure-eights”, or by an approved equivalent method.

Prior to the installation of any fiber optic cable in conduit, the Contractor shall provide the cable manufacturer’s recommended and maximum pulling tensions to the Engineer. Included with these pulling tensions shall be a list of the cable manufacturer’s approved pulling lubricants. Lubricants shall be used in quantities and in accordance with the procedures recommended by the lubricant manufacturer.

Prior to the installation of any fiber optic cable in conduit, all cable pulling equipment shall be approved by the Engineer. The cable pulling equipment shall include a meter to display pulling tension and a mechanism to ensure that the maximum allowable pulling tension cannot be exceeded at any time during installation.

The Contractor shall furnish attachment hardware, installation guides, and other necessary equipment, not specifically listed herein, as required to install the fiber optic cable.

Fiber optic cable in junction boxes shall be properly looped and attached to the sidewall.

Slack fiber optic cable shall be coiled, labeled, and attached to cable guides.

All fibers, including spares, shall be installed from the connector modules, terminated at the appropriate fibers, and secured neatly within the termination rack.

Fiber terminations shall be neatly and permanently labeled on the connector modules to designate transmit or receive.

Blank connector panels shall be of the same finish and manufacture as the connector modules and shall be installed for all unused connector module spaces.

Prior to the installation of jumper cables, the Contractor shall provide and maintain protective covers over the optical connectors and terminations. Protective covers on unused terminations shall remain.

Jumper cables shall be installed from connector modules to end equipment, and from end equipment to end equipment in multiple cabinet configurations. Jumper cables shall be secured to provide strain relief at both the connector module and the end equipment. Manufacturer recommended installation and minimum bend radius requirements shall be adhered to. Jumper cables shall be labeled at both ends.

Any approved splices shall be made using the fusion splice technique and shall not induce more than 0.1 dB attenuation for each splice nor 0.07 dB average for all splices. Splices that exceed 0.1 dB attenuation shall be re-spliced by the Contractor at no additional cost.

TESTING

Fiber optic cables shall be tested by the manufacturer in conformance with the procedures of TIA/EIA-526-7A. Submittal of test data shall include a summary sheet that clearly illustrates measured loss versus budgeted loss. Each test result on the summary sheet shall be identified by cable number(s) and begin and end locations. The Contractor shall identify any unacceptable losses and perform corrective work at no additional cost. The maximum permissible loss for cables other than jumpers, terminations, and connector modules is 0.05 dB. Any cable not compliant shall be replaced in its entirety and re-tested for compliance. A copy of the final, summarized, post-installation test results shall be placed in a protective sleeve approved by the Engineer and attached to the rack or door.

Bi-directional (OTDR) tests shall be conducted by the manufacturer for all string paths. The OTDR tests shall document the loss for each component (connector module, jumper cable, etc.). Short runs of fiber shall be tested using a 'lead-in' cable or an 'attenuator' to obtain proper readings from the OTDR. OTDR traces shall be submitted. Each test shall be clearly annotated with the measured loss identified on the OTDR trace. All tests over 0.05 dB shall be identified on the summary sheet.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Fiber Optic Cable will be measured for payment per unit linear foot. Termination Fiber Rack will be measured for payment per unit each. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

JUNCTION BOX

DESCRIPTION

Furnish and install Junction Box in accordance with the plans, specifications and Standard Drawings.

MATERIALS

Junction box shall meet or exceed ANSI/SCTE 77-2002, tier 15. Junction box covers shall be marked "Traffic." Covers shall be attached with a minimum of two 3/8" stainless steel hex bolts.

INSTALLATION

Where required, junction box shall be oriented such that the dimensions comply with the NEC. Junction boxes used as pull boxes along a conduit run shall be spaced at a maximum of 250'. Junction boxes shall not be placed in ditch lines or in areas where standing water may accumulate. Junction box covers shall be flush with the finished surface. The Contractor shall restore all disturbed areas to the satisfaction of the Engineer. This item includes the furnishing and installing of Fastrac bait bag in each junction box for rodent control.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Junction Box will be measured for payment per unit each. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

SURGE DEVICES

DESCRIPTION

Furnish and install video surge device, data surge device, power surge device, and RF surge device in accordance with the plans, specifications and Standard Drawings.

MATERIALS

GENERAL

Each surge device shall be compatible with the equipment it is protecting. Each surge device shall include cables, connectors, power supplies, and all incidentals required for operation.

VIDEO SIGNAL COAX CONDUCTOR SURGE DEVICE

Video Signal Coax Conductor Surge Device shall be EDCO CX12-BNC-Y or approved equal. This surge protector shall:

- Have a clamping voltage response time of less than one nanosecond
- Have a maximum clamping voltage of 12 volts when subjected to a 3 kA, 8x20 microsecond wave
- Have a peak surge current of 20kA with 8x20 microsecond wave
- Have BNC connectors
- Pass signals from DC to 80 MHz with less than 3 dB insertion losses
- Be UL 497B listed

DATA SIGNAL CONDUCTOR SURGE DEVICE

Data Signal Conductor Surge Device shall be for RS 422 and RS 485 Communication conductors shall be EDCO PC642C-015 or approved equal. This surge protector shall:

- Have a clamping voltage response time of less than one nanosecond

- Have a maximum clamping voltage of 12 volts when subjected to a 1 kA 8x20 microsecond wave
- Have a peak surge current per wire of 10 kA with 8x20 microsecond wave
- Have a maximum inline resistance of 6 ohms
- Have a maximum attenuation of -3db at 50MHz

RS 232 COMMUNICATION DATA SIGNAL CONDUCTOR SURGE DEVICE

Data Signal Conductor Surge Device for RS 232 Communication conductors shall be EDCO PC642C-015 or approved equal. This surge protector shall:

- Have a clamping voltage response time of less than one nanosecond
- Have a maximum clamping voltage of 30 volts when subjected to a 1 kA 8x20 microsecond wave
- Have a peak surge current per wire of 3kA with 8x20 microsecond wave
- Have a maximum inline resistance of 6 ohms
- Have a maximum attenuation of -3 db at 0.5 MHz

100 BASE-T AND 10 BASE-T COMMUNICATION DATA SIGNAL CONDUCTOR SURGE DEVICE

Data Signal Conductor Surge Device for 100BaseT and 10BaseT Communication conductors shall be EDCO LCDP-30 or approved equal. This surge protector shall:

- Have a clamping voltage response time of less than one nanosecond
- Have a maximum clamping voltage of 30 volts when subjected to a 0.5 kA 8x20 microsecond wave
- Have a peak surge current per wire shall be 1kA with 8x20 microsecond wave
- Have a maximum attenuation shall be -3db at 100 MHz
- Have a N.E.X.T. worst pair of better than -40 db at 100 MHz
- Have a maximum attenuation of -3db at 0.5 MHz

POWER CONDUCTOR SURGE DEVICE

Conductor Surge Device for power carrying conductors shall be EDCO SHA-1210 or approved equal. This surge protector shall meet or exceed the following specifications:

- Nominal Line Voltage 120 V
- Peak Current 20,000 Amps
- Clamp Voltage 280 volt typical @ 20kA
- Response time <5ns
- Continuous Service Current 10 Amps max. 120 VAC, 60 Hz

RF ANTENNA COAX CONDUCTOR SURGE DEVICE

RF Antenna Coax Conductor Surge Devices shall meet all manufacturer recommendations for the particular use of the radio antenna coax conductors.

INSTALLATION

The Contractor shall supply surge devices in model 334/336 enclosures, VMS signs, on poles, and on sign trusses as specified on layout sheets. Surge devices shall be located in said equipment such that they are easily accessible for maintenance activities.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Surge Device will be measured for payment per unit each. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

TRANSCEIVERS

DESCRIPTION

Furnish single channel video over fiber transceiver and single channel data over fiber transceiver to be located in cabinets and trusses for protection of and/or communications to CCTV camera cabinets, VMS Signs, and high mast pole installations.

MATERIALS

SINGLE CHANNEL DATA OVER FIBER TRANSCEIVER

Single Channel Data over Fiber Transceiver shall be IFS, DE7200-S or approved equal.

All fiber optic transceivers shall be supplied from a single manufacturer.

Fiber optic Ethernet media converters shall be provided. The system shall provide real-time 10/100 Base-T and 100 Base-FX performance. The transceiver shall be used as an Ethernet media converter supporting one Ethernet 100 Base-T electrical port and one Ethernet 100 Base-FX optical port. The transceiver shall have auto MDI/MDI-X operation that has the capability of being forced on. The transceiver shall be fully compatible with all standard IEEE 802.3, 802.3u, and 802.3x Ethernet protocols. The transceiver shall have an enhanced mode to provide the back-off algorithm changed from IEEE standard 802.3 binary exponential to aggressive mode, enable half-duplex back-pressure, disable excessive collision drop, and enable jumbo frame for streaming media applications. The transceiver requirements shall be two single mode optical fiber. The transceiver shall have a substantially wide dynamic range so as to never require optical or electrical adjustments. Optical attenuators shall never be required. The transceiver shall provide local diagnostic indicators. The transceiver shall support a remote network management option providing full interoperability with industry standard SNMP/IP protocols. All transceivers shall be available in both card mount and surface mount versions. All transceiver shall have automatic, resettable, polymer fuses on all power rails that shall provide for automatic reset, as well as, transient suppression on all data I/O connections. All card mount transceivers shall have an internal DC power supply. A short circuit in one module shall not affect the operation of other modules powered from the common power supply. All card mount transceivers shall have the

ability to be inserted into and removed from the communication management chassis without interrupting power and with no risk of damage to other modules or the communications management chassis during replacement. The system shall have an ambient operating temperature of -40°C to +74°C, an ambient storage temperature of -40°C to +85°C, a relative humidity ability of 0% to 95% (non-condensing), have an option for conformal coating, and a MTBF of > 100,000 hours. The transceiver shall meet or exceed NEMA TS-1/TS-2 and Caltrans Traffic Signal Control Equipment Specifications for operating temperature, humidity, mechanical shock, vibration, and voltage transient protection. The transceiver radiated emissions shall be compliant with FCC Part 15, Class B, and EN55022 specifications. The transceiver shall use lasers that are compliant with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations Subchapter J.

SPECIFICATIONS

Data: One (1) channel, bi-directional

DATA SPECIFICATIONS

- Data Protocol: Ethernet
- Operating Mode: Half or full-duplex
- Enhanced or standard IEEE 802.3
- Data Rate: 10/100 Mbps
- Ethernet Compliance: IEEE 802.3, 802.3u, 802.3x
- Ethernet Isolation: 1500 VRMS, One (1) minute

OPTICAL SPECIFICATIONS

- Fiber Type: Single mode
- Wavelength: 1300/1550nm
- Number of Fibers: Two
- Optical Emitter Type: Laser
- Transmitter Output Power: 500µw (-3 dBm)
- Receiver Sensitivity: 5µw (-23 dBm)
- Optical Power Budget: 20 dB

STATUS INDICATOR SPECIFICATIONS

- Power
- Data Rate
- Auto-Negotiate
- Operating Modes
- Optical Link Detect

SINGLE CHANNEL VIDEO OVER FIBER TRANSCEIVER

Single Channel Video over Fiber Transceiver shall be IFS VADT/VADR 14130WDM or approved equal.

All fiber optic modules shall be supplied from a single manufacturer.

Digital fiber optic video and data transmitters and receivers shall be provided as required. The transceiver shall transmit a one-way, single channel of high resolution, true broadcast quality, real-time NTSC or PAL color video. The transceiver shall employ 10-bit digital encoding for transmission of these signals. The transceiver shall meet the RS-250C short-haul standard for video transmission. The transceiver shall provide bi-directional data supporting RS-232, RS-422, or 2 or 4-wire RS-485 data interfaces. The transceiver shall be transparent to all major data protocols (i.e., Manchester Encoding, Bi-Phase, NRZ, NRZI, etc.). The transceiver requirements shall be one single mode optical fiber. The transceiver shall have a substantially wide dynamic range so as to never require optical or electrical adjustments. Optical attenuators shall never be required. The transceiver shall provide local diagnostic indicators. The transceiver shall support a remote network management option providing full interoperability with industry standard SNMP/IP protocols. All transceivers shall be available in both card mount and surface mount versions. All transceivers shall have automatic, resettable, polymer fuses on all power rails that shall provide for automatic reset, as well as, transient suppression on all video and data I/O connections. All card mount transceivers shall have an internal DC power supply. A short circuit in one module shall not affect the operation of other modules powered from the common power supply. All card mount transceivers shall have the ability to be inserted into and removed from the communication management chassis without interrupting power and with no risk of damage to other modules or the communications management chassis during replacement. The transceiver shall have an ambient operating temperature of -40°C to +74°C, an ambient storage temperature of -40°C to +85°C, a relative humidity ability of 0% to 95% (non-condensing), have an option for conformal coating, and a MTBF of > 100,000 hours. The transceiver shall meet or exceed NEMA TS-1/TS-2 Equipment Specifications for operating temperature, humidity, mechanical shock, vibration, and voltage transient protection. The transceiver radiated emissions shall be compliant with FCC Part 15, Class B, and EN55022 specifications. The transceivers shall use lasers that are compliant with FDA Performance Standard for Laser Products, Title 21, and Code of Federal Regulations Subchapter J.

SPECIFICATIONS

Video: One (1) channel, one-way

Data: One (1) channel, bi-directional, RS-232, RS-422, or 2 or 4-wire RS-485

VIDEO SPECIFICATIONS

- I/O: 1 volt pk-pk (75 ohms)
- Bandwidth: 5Hz – 10 MHz
- Differential Gain: < 2%

- Differential Phase: < 0.7°
- Tilt: < 1%
- Signal-to-Noise Ratio (SNR): 67 dB @ maximum optical loss budget

DATA SPECIFICATIONS

- Data Interface: RS-232, RS-422, or 2 or 4-wire RS-485
- Data Format: NRZ, NRZI, Manchester, Bi-Phase
- Data Rate: DC – 230 kbps (NRZ)
- Bit Error Rate (BER): < 1 x 10⁻⁹ @ maximum optical loss budget
- Operating Mode: Simplex or full-duplex

OPTICAL SPECIFICATIONS

- Fiber Type: Single Mode
- Wavelength: 1300/1550nm
- Number of Fibers: One
- Optical Emitter Type: Laser
- Transmitter Output Power: 600µw (-2 dBm)
- Receiver Sensitivity: 3µw (-25 dBm)
- Optical Power Budget: 23 dB

STATUS INDICATOR SPECIFICATIONS

- Power
- Video Sync
- Data Receive
- Data Transmit
- Optical Link Detect

This item includes cables, connectors, power supplies, and all incidentals required for operation.

INSTALLATION

The Contractor shall single channel data over fiber transceivers and single channel video over fiber transceivers in Model 334/336 enclosures, VMS signs, on poles, and on sign trusses as specified on layout sheets. The Contractor shall be responsible for the transceivers working properly with other equipment.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Single Channel Data over Fiber Transceiver will be measured for payment per unit each. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

TRENCHING AND BACKFILLING

DESCRIPTION

Trenching and Backfilling shall be performed in accordance with the plans, specifications and Standard Drawings.

MATERIALS

All trenches shall be marked with underground utility warning tape.

INSTALLATION

The Contractor shall be responsible for locating all underground utilities prior to excavation. The Contractor shall excavate the trench, place warning tape above the conduit, backfill the trench and restore all disturbed areas to the satisfaction of the Engineer. Backfill material shall be placed and compacted in lifts of 9 inches or less. Incidental to this item is any Bore and jack under existing roadway.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Trenching and Backfilling will be measured for payment per unit linear foot. The Department will make payment for complete, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

WIRE AND CABLE

DESCRIPTION

Furnish and install Wire and Cable in accordance with the plans, specifications and Standard Drawings.

MATERIALS

Unless otherwise specified, wire shall be stranded copper type USE. This item shall include all connectors, splicing and insulating hardware, ties, tape, labels and incidentals required for electrical connections. The Contractor shall submit to material testing at the discretion of the Engineer.

INSTALLATION

The Contractor shall install all cable or wire runs splice-free from the controller/service location to each cabinet, VMS sign, or CCTV camera the cable or wire is feeding. All wire shall be labeled inside cabinets and junction boxes. The contractor shall not use excessive force when pulling wire through duct. The contractor shall replace all wire damaged during installation. The Engineer may require testing of wiring for damaged insulation. Wire that does not pass an insulation resistance test of a minimum of 100 hundred megohms to ground shall be replaced by the Contractor at his cost.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Wire and cable will be measured for payment per unit linear foot. The Department will make payment for complete, functioning, inspected, and accepted quantities. The Department will consider payment as full compensation for all work required under this section.

GLOSSARY

The following acronyms, abbreviations, and definitions shall govern this specification:

- AASHTO – American Association of State Highway and Transportation Officials
- ABS - Acrylonitrile Butadiene Styrene
- AC – Alternating Current
- AlInGaP – Aluminum Indium Gallium Phosphide (refers to the chemical composition of an LED).
- ANSI – American National Standards Institute
- ASCII – American Standard Code for Information Interchange
- ASN.1 – Abstract Syntax Notation 1
- ASTM – American Society for Testing and Materials
- AWG - American Wire Gauge
- AWS – American Welding Society
- BCD – Binary Coded Decimal
- B frames – Bi-directional Predicted Frames
- BGP – Border Gateway Protocol
- Bin – Group of LEDs categorized and sorted by intensity or color. Each bin has upper and lower intensity or color specifications and contains only LEDs that are measured to be within that range. LED manufacturers sort LEDs into bins to ensure consistent intensity and color properties.
- BOOTP – Bootstrap Protocol
- CALTRANS – California Department of Transportation
- CAN – Control Area Network
- CCTV – Closed Circuit Television
- CDPD – Cellular Digital Packet Data
- CLI – Command Line Interface
- CNC – Computer Network Control
- Control Computer – A desktop or laptop computer used in conjunction with VMS control software to communicate with VMS sign controllers. The control computer can instruct a VMS sign controller to program and control the VMS, monitor VMS status, and run VMS diagnostic tests. A control computer can be used for remote control of one or more VMS, as well as for local control of a single VMS
- DC – Direct Current
- DHCP – Dynamic Host Configuration Protocol
- DMS – Dynamic Message Sign. An industry term that applies to various types of

changeable sign technology

- DVI-D – Digital Visual Interface - Digital
- EIA – Electronic Industries Association
- ELFEXT – Equal Level Far End Crosstalk
- EPA – Effective Projected Area
- FCC – Federal Communications Commission
- FDA – Food and Drug Administration
- Font – The style and shape of alphanumeric characters that are displayed on the VMS matrix to create messages viewed by motorists and travelers
- Frame – see *Page*
- FSORS – Full, Standardized Object Range Support – an NTCIP term. See the NTCIP standards for additional information.
- GUI – Graphical User Interface
- HDPE – High Density Polyethylene
- HHR – Half Horizontal Resolution
- HTTP – Hypertext Transfer Protocol
- IEEE – Institute of Electrical and Electronic Engineers
- I frames – Intra-frames
- IC – Integrated Circuit
- IGMP
- InGaAlP – Indium Gallium Aluminum Phosphide
- I/O – Input/Output
- IP – Internet Protocol – in transceivers
- IRE – Institute of Radio Engineers
- ISO – International Organization for Standardization
- ITE – Institute of Transportation Engineers
- ITS – Intelligent Transportation System
- Kbps – Kilobits per second
- KYTC – Kentucky Transportation Cabinet
- LAN – Local Area Network
- LCD – Liquid Crystal Display
- LED – Light Emitting Diode
- MDPE – Medium Density Polyethylene
- Message – Information displayed on the VMS for the purpose of visually communicating with motorists. A VMS message can consist of one or more pages of data that are displayed consecutively
- MIB – Management Information Base
- Module – Assembly consisting of a two-dimensional LED pixel array, pixel drive circuitry, and mounting hardware. Modules are installed in the display adjacent to each other to form the display matrix.
- MTBF – Mean Time Between Failures
- MPEG – Moving Picture Experts Group
- NEC – National Electrical Code

- NEMA – National Electrical Manufacturers Association
- NESC – National Electrical Safety Code
- NEXT – Near End Crosstalk
- NCHRP – National Cooperative Highway Research Program
- NRZ – Non Return to Zero
- NRZI – Non Return to Zero Inverted
- NTCIP – National Transportation Communications for ITS Protocol
- NTSC - National Transmission Standards Committee
- Object – An NTCIP term referring to an element of data in an NTCIP-compatible device that can be manipulated to control or monitor the device.
- OER – Octet Encoding Rules
- OSHA – Occupational Safety and Health Administration
- OTDR – Optical Time Domain Reflectometer
- Page – An NTCIP term referring to the data that is displayed on the VMS display matrix at a given moment in time. Also referred to as a frame.
- P frames – Forward Predicted Frames
- PCB – Printed Circuit Board
- Pixel – Picture element. The smallest changeable (programmable) portion of a VMS display matrix
- PMPP – Point to Multi-Point Protocol
- PPP – Point to Point Protocol
- PSELFEXT – Power Sum Equal Level Far End Cross Talk
- PSNEXT – Power Sum Near End Crosstalk
- PTZ – Pan/Tilt/Zoom
- PVC – Polyvinyl Chloride
- PWM – Pulse Width Modulation
- QSIF – Quarter Source Input Format
- RAM – Random Access Memory
- RARP – Reverse Address Resolution Protocol
- RGB – Red-Green-Blue
- Schedule – A set of data that determines the time and date when a VMS sign controller will cause a stored message to be displayed on the VMS
- SDRAM – Synchronous Dynamic Random Access Memory
- SIF – Source Input Format
- SNMP – Simple Network Management Protocol
- STMP – Simple Transportation Management Framework
- Stroke – Refers to the vertical and horizontal width of the lines and curves of a display font. Single stroke denotes character segments that are one pixel wide. Double stroke denotes character segments that are two pixels wide.
- TFTP – Trivial File Transfer Protocol
- TIA - Telecommunications Industry Association
- TMA – Truck Mounted Attenuator
- TOC – Traffic Operations Center

- UL – Underwriters Laboratories
- UPS – Uninterruptible Power Supply
- USB – Universal Serial Bus
- VLAN – Virtual Local Area Network
- VMS – Variable Message Sign. A type of VMS that is fully programmable such that the content of its messages are fully changeable remotely and electronically.
- VMS Controller – A stand-alone computer that is located at a VMS site, which controls a single VMS. A sign controller receives commands from and sends information to a control computer
- WAN – Wide Area Network
- WYSIWYG – What You See Is What You Get. More specifically, what you see on the VMS control computer monitor is a scaled representation of how a message will appear when it is being displayed on the VMS. Similarly, after a pixel diagnostic test routine has been run, what you see on the control computer monitor is a scaled representation of the functional status of each pixel in the VMS display matrix.

SPECIAL PROVISION FOR WASTE AND BORROW SITES

The contractor is advised that it is their responsibility to gain U.S. Army Corp of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". "Waters of the United States" are defined as perennial or intermittent streams, ponds or wetlands. Ephemeral streams are also considered jurisdictional waters, and are typically dry except during rainfall, but have a defined drainage channel. Questions concerning any potential impacts to "Waters..." should be brought to the attention of the appropriate District Office for the Corps of Engineers for a determination, prior to disturbance. Any fees associated with obtaining approval from the U.S. Army Corp of Engineer or other appropriate regulatory agencies for waste and borrow sites is the responsibility of the contractor.

01/01/2009

Right-of-Way Certification Form

Revised 2/22/11

- Federal Funded
- State Funded

- Original
- 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: September 1, 2011

Project Name:	<u>Tenn State Line - Elizabethtown</u>	Letting Date:	<u>October 21, 2011</u>
Project #:	<u>12F0 FD52 114 8022301R</u>	County:	<u>Warren</u>
Item #:	<u>03-17.00</u>	Federal #:	<u>NH 0651 (094)</u>

Description of Project: Reconstruct I-65/US-231 (Scottsville Road) Interchange at Bowling Green.

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

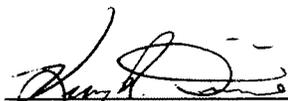
Revised 2/22/11

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:

Kelly R. Divine
Printed Name


Signature

Right-of-Way Supervisor

Approved:

Printed Name

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: September 1, 2011

Project Name: Tenn State Line - Elizabethtown
 Project #: 12F0 FD52 114 8022301R County: Warren
 Item #: 03-17.00 Federal #: NH 0651 (094)
 Letting Date: October 21, 2011

This project has 2 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.

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

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

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

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

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

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

WARREN COUNTY, IM 65-1 (87) 2022
FD52 114 80223 01 U
Tennessee State Line - Elizabethtown Road (I-65)
Reconstruct I-65 / US-231 (Scottsville Road) Interchange at Bowling Green.
Item No. 3-17.00

It should be assumed that these areas will not be available to the Roadway Contractor prior to the relocation completion without permission from the Cabinet's Resident Engineer.

The following companies have facilities to be relocated and/or adjusted on the subject project.

The Contractor is advised to review the following notes that describe the impact of utilities on the scheduling of the project.

Atmos Energy - The Gas Company expects to complete its relocation on or before **July 31, 2012.**

Atmos Energy has existing gas facilities, to be relocated on the subject project at the following locations: US-231: Left and Right of Stations 24+48 to 29+00. Crossing Station 26+30.

AT&T - Kentucky - The Telephone Company expects to complete its relocation on or before **May 31, 2012.**

AT&T - KY has existing telephone facilities, to be relocated on the subject project at the following locations: US-231: Left and Right of Stations 24+4800 to 38+00. Crossing Stations 29+40.

BlueGrass Network LLC - The Telecommunications Company expects to complete its relocation on or before **March 31, 2012.**

Bluegrass network LLC has existing telecommunication facilities relocated on the subject project at the following locations: US-231: Right of Stations 28+00 to 33+00. Crossing Station 28+00.

Bowling Green Municipal Utilities - Fiber Division- The Telecommunications Company expects to complete its relocation on or before **March 31, 2012.**

Bowling Green Municipal Utilities - Fiber Division has existing telecommunication facilities, relocated on the subject project at the following locations: US-231: Left of Stations 24+48 to 36+75. Crossing Station 28+10.

Insight Communications - The Cable TV Company expects to complete its relocation on or before **March 31, 2012**.

Insight Communications has existing cable television facilities, to be relocated on the subject project at the following locations: US-231: Left of Stations 24+48 to 36+75. Crossing Station 28+10.

Bowling Green Municipal Utilities – Water and Wastewater Division - The Water and Sewer Company expects to complete its relocation on or before **July 31, 2012**.

Bowling Green Municipal Utilities - Water and Wastewater Division has existing water and sewer facilities, relocated on the subject project at the following locations: US-231: Left and Right of Stations 24+48 to 29+00; Left of Stations 31+80 to 37+00. Crossing Stations 28+10 and 28+90.

The Roadway Contractor is advised to review the following notes that describe the impact of utilities on the scheduling of the project. The Roadway Contractor should note that this may not be a complete list of the utility owners involved.

BEFORE YOU DIG

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

COORDINATION WITH UTILITY FACILITY OWNERS

The Roadway Contractor will be responsible for contacting all utility facility owners on the subject project to have existing facilities located in the field. The Roadway Contractor will coordinate his activities with the utility facility owners to minimize and, where possible, avoid conflicts with utility facilities.

Where conflicts with utility facilities are unavoidable the Roadway Contractor will coordinate any necessary relocation work with the facility owner.

PROTECTION OF UTILITY FACILITIES

The location of utilities provided in the contact document 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 the 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 the utility. The cost for repair and any other associated costs for any damage to utilities caused by the Roadway Contractor's operation shall be borne by the Roadway Contractor.

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



Kentucky Transportation Cabinet

Highway District 3 (1)

And

_____ **(2), Construction**

Kentucky Pollutant Discharge Elimination System

Permit KYR10

Best Management Practices (BMP) plan

Groundwater protection plan

For Highway Construction Activities

For

Item No. 3-17.00

I-65 & US231 Interchange

Warren County

Project: PCN ## - #### (2)

KyTC BMP Plan for Project PCN ## -

Project information

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

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

Phone number: (2)
Contact: (2)
Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number (2)
5. Route (Address) **US 231 & I-65 Bowling Green, KY 42101**
6. Latitude/Longitude (project mid-point) **36° 56' 05" N; -86° 25' 05" W(1)**
7. County **Warren(1)**
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: **Reconstructing the Interchange at US 231 and I-65.**
2. Order of major soil disturbing activities **(2) and (3)**
3. Projected volume of material to be moved **119,950 cubic yards Excavation & 166,357 cubic yards Embankment(1)**
4. Estimate of total project area **33 acres (1)**
5. Estimate of area to be disturbed **33 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.(1)**
7. Data describing existing soil condition **Pembroke Silt Loam 2 to 6% slope. This soil is deep, well drained and gently sloping. It's has a low strength. (1) & (2)**
8. Data describing existing discharge water quality **average (1) & (2)**
9. Receiving water name **Drakes Creek(1)**
10. TMDLs and Pollutants of Concern in Receiving Waters: **(1 DEA)**
11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.
12. Potential sources of pollutants:

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

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

KyTC BMP Plan for Project PCN ## -

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

KyTC BMP Plan for Project PCN ## -

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

- Permanent Seeding and Protection
 - Placing Sod
 - Planting trees and/or shrubs where they are included in the project
- BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are: **NONE**

C. Other Control Measures

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

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

3. Hazardous Waste

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

4. Spill Prevention

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

- **Good Housekeeping:**

KyTC BMP Plan for Project PCN ## -

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

KyTC BMP Plan for Project PCN ## -

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.

KyTC BMP Plan for Project PCN ## -

- 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. **Project is located in the MS4 Community of Bowling Green (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.

F. Inspections

KyTC BMP Plan for Project PCN ## -

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:

- Water from water line flushings.

KyTC BMP Plan for Project PCN ## -

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

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

H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

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

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

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

KyTC BMP Plan for Project PCN ## -

_____ 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.)

KENTUCKY TRANSPORTATION CABINET
COMMUNICATING ALL PROMISES (CAP)
ACTIVE

Item No.	3 - 17			Project Mgr.	ANDREW STEWART/A. JOHANNES	
			County	WARREN	Route	I-65
CAP #	Date of Promise	Promise made to:	Location of Promise			
1	08-AUG-11	Andrew Stewart				
CAP Description						
THERE ARE NO CAPS ON THIS PROJECT						

SPECIAL NOTE FOR MANDATORY PRE-BID CONFERENCE

The Department will conduct a Pre-Bid Conference of the subject project on **Friday October 7, 2011 at 10:00 AM** at;

**Kentucky Department of Highways
1st Floor Room 109
200 Mero Street
Frankfort, KY 40622**

Any company that is interested in bidding on the subject project or being part of a joint venture must be represented at the conference by at least **one person of sufficient authority to bind the company**. No individual can represent more than one company. At the conference a roster will be taken of the representatives present. **Only companies represented at the conference will be eligible to have their bids opened at the date of letting.**

The purpose of the conference is to familiarize all prospective bidders with the contract requirements of the contract.

Department of Highways officials present at the conference will answer questions concerning the project.

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

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

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

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

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

SUBSECTION: REVISION:	<p>102.07.02 Computer Bidding. Replace the first paragraph with the following:</p> <p>Subsequent to registering for a specific project, use the Department's Expedite Bidding Program on the internet website of the Department of Highways, Division of Construction Procurement (http://transportation.ky.gov/contract/). Download the bid file from the Bid Express Bidding Service Website to prepare a Bid Proposal for submission to the Department. Submit Bid Proposal electronically through Bid Express Bidding Service.</p> <p>Delete the second and third paragraph.</p>
SUBSECTION: REVISION:	<p>102.08 Irregular Bid Proposals. Delete the following from the first paragraph: 4) fails to submit a disk created from the Highway Bid Program.</p> <p>Replace the second paragraph with the following: The Department will consider Bid Proposals irregular and may reject them for the following reasons:</p> <ol style="list-style-type: none">1) when there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the Bid Proposal incomplete, indefinite, or ambiguous as to its meaning; or2) 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; or3) any failure to comply with the provisions of Subsection 102.07; or4) 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.
SUBSECTION: REVISION:	<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>
SUBSECTION: REVISION:	<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>
SUBSECTION: REVISION:	<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**
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SUBSECTION: REVISION:	<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>
SUBSECTION: REVISION:	<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>
SUBSECTION: REVISION:	<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>
SUBSECTION: REVISION:	<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**
(Effective with the July 15, 2011 Letting)

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

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

SUBSECTION: REVISION:	<p>106.04 Buy America Requirement. Replace the section with the following:</p> <p>106.04 Buy America Requirement. Follow the “Buy America” provisions as required by Title 23 Code of Federal Regulations § 635.410. Except as expressly provided herein all manufacturing processes of steel or iron materials including but not limited to structural steel, guardrail materials, corrugated steel, culvert pipe, structural plate, prestressing strands, and steel reinforcing bars shall occur in the United States of America, including the application of:</p> <ul style="list-style-type: none">• Coating,• Galvanizing,• Painting, and• Other coating that protects or enhances the value of steel or iron products. <p>The following are exempt, unless processed or refined to include substantial amounts of steel or iron material, and may be used regardless of source in the domestic manufacturing process for steel or iron material:</p> <ul style="list-style-type: none">• Pig iron,• Processed, pelletized, and reduced iron ore material, or• Processed alloys. <p>The Contractor shall submit a certification stating that all manufacturing processes involved with the production of steel or iron materials occurred in the United States.</p> <p>Produce, mill, fabricate, and manufacture in the United States of America all aluminum components of bridges, tunnels, and large sign support systems, for which either shop fabrication, shop inspection, or certified mill test reports are required as the basis of acceptance by the Department.</p> <p>Use foreign materials only under the following conditions:</p> <ol style="list-style-type: none">1) When the materials are not permanently incorporated into the project; or2) When the delivered cost of such materials used does not exceed 0.1 percent of the total Contract amount or \$2,500.00, whichever is greater. <p>The Contractor shall submit to the Engineer the origin and value of any foreign material used.</p>
SUBSECTION: REVISION:	<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>
SUBSECTION: REVISION:	<p>108.02 Progress Schedule. Insert the following prior to the first paragraph:</p> <p>Specification 108.02 applies to all Cabinet projects except the following project types:</p> <ul style="list-style-type: none">• Right of Way Mowing and/or Litter Removal• Waterborne Paint Striping• Projects that contain Special Provision 82• Projects that contain the Special Note for CPM Scheduling <p>Insert the following paragraph after paragraph two:</p> <p>Working without the submittal of a Written Narrative is violation of this specification and additionally voids the Contractor’s right to delay claims.</p> <p>Insert the following paragraph after paragraph six:</p> <p>The submittal of bar chart or Critical Path Method schedule does not relieve the Contractor’s requirement to submit a Written Narrative schedule.</p>

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

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

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

<p>SUBSECTION: REVISION:</p>	<p>112.03.01 General Traffic Control. Replace paragraph three with the following:</p> <p>All flaggers shall be trained in current MUTCD flagging procedures. Proof of training must be available for review at the Department's request. Flagging credentials must be current within the last 5 years.</p>
<p>SUBSECTION: PART: REVISION:</p>	<p>112.03.11 Temporary Pavement Markings. B) Placement and Removal of Temporary Striping. Replace the 2nd sentence of the first paragraph with the following:</p> <p>On interstates and parkways, and other roadways approved by the State Highway Engineer, install pavement striping that is 6 inches in width.</p>
<p>SUBSECTION: REVISION:</p>	<p>112.03.12 Project Traffic Coordinator (PTC). Add the following at the end of the subsection:</p> <p>After October 1, 2008 the Department will require the PTC to have successfully completed the applicable qualification courses. Personnel that have not successfully completed the applicable courses by that date will not be considered qualified. Prior to October 1, 2008, conform to Subsection 108.06 A) and ensure the designated PTC has sufficient skill and experience to properly perform the task.</p>
<p>SUBSECTION: REVISION:</p>	<p>112.03.15 Non-Compliance of Maintain and Control of Traffic. Add the following section:</p> <p>112.03.15 Non-Compliance of Maintain and Control of Traffic. It is the Contractor's responsibility to conform to the traffic control requirements in the TCP, Proposal, plan sheets, specifications, and the Manual on Uniform Traffic Control Devices.</p> <p>Unless specified elsewhere in the contract, a penalty will be assessed in the event of non-compliance with Maintain and Control of Traffic requirements. These penalties will be assessed when the Contractor fails to correct a situation or condition of non-compliance with the contract traffic control requirements after being notified by the Engineer. The calculation of accrued penalties for non-compliance will be based upon the date/time of notification by the Engineer.</p> <p>The amount of the penalty assessed for non-compliance will be determined based upon the work zone duration, as defined by the MUTCD, and will be the greatest of the different calculation methods indicated below:</p> <p>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>

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

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

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

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

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition**
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<p>SUBSECTION: REVISION:</p>	<p>401.03.01 Preparation of Mixtures. Replace the third paragraph and Mixing and Laying Temperature table with the following:</p> <p>Maintain the temperature of the component materials and asphalt mixture within the ranges listed in the following table:</p> <table border="1"> <thead> <tr> <th colspan="4">MIXING AND LAYING TEMPERATURES (°F)</th> </tr> <tr> <th>Material</th> <th></th> <th>Minimum</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Aggregates</td> <td></td> <td>240</td> <td>330</td> </tr> <tr> <td>Aggregates used with Recycled Asphalt Pavement (RAP)</td> <td></td> <td>240</td> <td>—</td> </tr> <tr> <td rowspan="2">Asphalt Binders</td> <td>PG 64-22</td> <td>230</td> <td>330</td> </tr> <tr> <td>PG 76-22</td> <td>285</td> <td>350</td> </tr> <tr> <td rowspan="4">Asphalt Mixtures at Plant (Measured in Truck)</td> <td>PG 64-22 HMA</td> <td>250</td> <td>330</td> </tr> <tr> <td>PG 76-22 HMA</td> <td>310</td> <td>350</td> </tr> <tr> <td>PG 64-22 WMA</td> <td>230</td> <td>275</td> </tr> <tr> <td>PG 76-22 WMA</td> <td>250</td> <td>300</td> </tr> <tr> <td rowspan="4">Asphalt Mixtures at Project (Measured in Truck When Discharging)</td> <td>PG 64-22 HMA</td> <td>230</td> <td>330</td> </tr> <tr> <td>PG 76-22 HMA</td> <td>300</td> <td>350</td> </tr> <tr> <td>PG 64-22 WMA</td> <td>210</td> <td>275</td> </tr> <tr> <td>PG 76-22 WMA</td> <td>240</td> <td>300</td> </tr> </tbody> </table>	MIXING AND LAYING TEMPERATURES (°F)				Material		Minimum	Maximum	Aggregates		240	330	Aggregates used with Recycled Asphalt Pavement (RAP)		240	—	Asphalt Binders	PG 64-22	230	330	PG 76-22	285	350	Asphalt Mixtures at Plant (Measured in Truck)	PG 64-22 HMA	250	330	PG 76-22 HMA	310	350	PG 64-22 WMA	230	275	PG 76-22 WMA	250	300	Asphalt Mixtures at Project (Measured in Truck When Discharging)	PG 64-22 HMA	230	330	PG 76-22 HMA	300	350	PG 64-22 WMA	210	275	PG 76-22 WMA	240	300
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<p>SUBSECTION: REVISION:</p>	<p>402.01 Description. Replace the paragraph with the following:</p> <p>Provide the process control and acceptance testing of all classes and types of asphalt mixtures which may be furnished either as hot mix asphalt (HMA) or warm mix asphalt (WMA) produced with water injection systems.</p>																																																	
<p>SUBSECTION REVISION:</p>	<p>402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. Add the following subsection:</p> <p>402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. The Department will evaluate trial production of WMA by use of a water injection system provided the system is installed according to the manufacturer's requirements and satisfies the requirements of Section 401. Evaluation will include production and placement of WMA to demonstrate adequate mixture quality including volumetric properties and density by Option A as specified in Subsection 402.03.02 D). Do not place WMA for evaluation on Department projects. Provided production and placement operations satisfy the applicable quality levels, the Department will approve WMA production on Department projects using the water injection system as installed on the specific asphalt mixing plant evaluated.</p>																																																	
<p>SUBSECTION: REVISION:</p>	<p>402.05.02 Asphalt Mixtures and Mixtures With RAP. Replace Subsection Title as below:</p> <p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.</p>																																																	
<p>SUBSECTION: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Replace the paragraph with the following:</p> <p>The Department will pay for the mixture at the Contract unit bid price and apply a Lot Pay Adjustment for each lot placed based on the degree of compliance with the specified tolerances. Using the appropriate Lot Pay Adjustment Schedule, the Department will assign a pay value for the applicable properties within each subplot and average the subplot pay values to determine the pay value for a given property for each lot. The Department will apply the Lot Pay Adjustment for each lot to a defined unit price of \$50.00 per ton. The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>																																																	

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

<p>SUBSECTION: PART: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. C) Conventional and RAP Mixtures Placed on Shoulders. Replace Title and Text with the following:</p> <p>C) HMA, WMA and RAP Mixtures Placed on Shoulders or Placed as Asphalt Pavement Wedge.</p> <ol style="list-style-type: none"> 1) Placed monolithically with the Mainline – Width of 4 feet or less. The Department will pay as mainline mixture. 2) Placed monolithically with the Mainline – Width of greater than 4 feet. The Department will pay as mainline mixture but use 1.00 for the Lane and Joint Density Pay Value for shoulder or Asphalt Pavement Wedge quantities. 3) Placed Separately. The Department will use 1.00 for the Lane and Joint Density Pay Value. 												
<p>SUBSECTION: PART: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. D) Conventional and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge. Replace the title with the following: D) HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.</p> <p>Delete the following: D) HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge. The Department will pay as mainline mixture but use a 1.00 pay value for all properties.</p>												
<p>SUBSECTION: PART: REVISION:</p>	<p>402.05.02 Asphalt Mixtures for Temporary Pavement. E) Asphalt Mixtures for Temporary Pavement. Replace E) Asphalt Mixtures for Temporary Pavement with the following:</p> <p>D) Asphalt Mixtures for Temporary Pavement.</p>												
<p>SUBSECTION: PART: TABLES: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option A, Base and Binder Mixtures VMA Replace the VMA table with the following:</p> <table border="1"> <thead> <tr> <th colspan="2">VMA</th> </tr> <tr> <th>Pay Value</th> <th>Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>≥ min. VMA</td> </tr> <tr> <td>0.95</td> <td>0.1-0.5 below min.</td> </tr> <tr> <td>0.90</td> <td>0.6-1.0 below min.</td> </tr> <tr> <td>(1)</td> <td>> 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥ min. VMA	0.95	0.1-0.5 below min.	0.90	0.6-1.0 below min.	(1)	> 1.0 below min.
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<p>SUBSECTION: PART: TABLES: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option A, Surface Mixtures VMA Replace the VMA table with the following:</p> <table border="1"> <thead> <tr> <th colspan="2">VMA</th> </tr> <tr> <th>Pay Value</th> <th>Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>≥ min. VMA</td> </tr> <tr> <td>0.95</td> <td>0.1-0.5 below min.</td> </tr> <tr> <td>0.90</td> <td>0.6-1.0 below min.</td> </tr> <tr> <td>(1)</td> <td>> 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥ min. VMA	0.95	0.1-0.5 below min.	0.90	0.6-1.0 below min.	(1)	> 1.0 below min.
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**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition
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<p>SUBSECTION: PART: TABLE: REVISION:</p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option B Mixtures VMA Replace the VMA table with the following:</p> <table border="1"> <thead> <tr> <th colspan="2">VMA</th> </tr> <tr> <th>Pay Value</th> <th>Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>≥min. VMA</td> </tr> <tr> <td>0.95</td> <td>0 1-0.5 bel w min.</td> </tr> <tr> <td>0.9</td> <td>0.6-1.0 below min.</td> </tr> <tr> <td>⁽²⁾</td> <td>> 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥min. VMA	0.95	0 1-0.5 bel w min.	0.9	0.6-1.0 below min.	⁽²⁾	> 1.0 below min.											
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<p>SUBSECTION: PART: NUMBER: REVISION:</p>	<p>403.03.03 Preparation of Mixture. C) Mix Design Criteria. 1) Preliminary Mix Design. Replace the last two sentences of the paragraph and table with the following:</p> <p>Complete the volumetric mix design at the appropriate number of gyrations as given in the table below for the number of 20-year ESAL's. The Department will define the relationship between ESAL classes, as given in the bid items for Superpave mixtures, and 20-year ESAL ranges as follows:</p> <table border="1"> <thead> <tr> <th rowspan="2">Class</th> <th rowspan="2">ESAL's (millions)</th> <th colspan="3">Number of Gyration</th> </tr> <tr> <th>$N_{initial}$</th> <th>N_{design}</th> <th>N_{max}</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>< 3.0</td> <td>6</td> <td>50</td> <td>75</td> </tr> <tr> <td>3</td> <td>3.0 to < 30.0</td> <td>7</td> <td>75</td> <td>115</td> </tr> <tr> <td>4</td> <td>≥ 30.0</td> <td>8</td> <td>100</td> <td>160</td> </tr> </tbody> </table>	Class	ESAL's (millions)	Number of Gyration			$N_{initial}$	N_{design}	N_{max}	2	< 3.0	6	50	75	3	3.0 to < 30.0	7	75	115	4	≥ 30.0	8	100	160
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<p>SUBSECTION: PART: REVISION:</p>	<p>403.03.09 Leveling and Wedging, and Scratch Course. A) Leveling and Wedging. Replace the first sentence of the first paragraph with the following:</p> <p>Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.</p>																							
<p>SUBSECTION: PART: REVISION:</p>	<p>403.03.09 Leveling and Wedging, and Scratch Course. B) Scratch Course. Replace the second sentence of the first paragraph with the following:</p> <p>Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.</p>																							
<p>SUBSECTION: REVISION:</p>	<p>407.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:</p> <p>Construct a pavement wedge composed of a hot-mixed or warm-mixed asphalt mixture.</p>																							
<p>SUBSECTION: REVISION:</p>	<p>409.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:</p> <p>Use reclaimed asphalt pavement (RAP) from Department projects or other approved sources in hot mix asphalt (HMA) or warm mix asphalt (WMA) provided mixture requirements are satisfied.</p>																							
<p>SUBSECTION: REVISION:</p>	<p>410.01 DESCRIPTION. Delete the second sentence of the paragraph.</p>																							

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

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for Road and Bridge Construction, 2008 Edition**
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<p>SUBSECTION: 413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22. TABLE: JOINT DENSITY TABLE REVISION: Replace the joint density table with the following:</p>	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="3" style="text-align: center;">DENSITY</th> </tr> <tr> <th style="text-align: center;">Pay Value</th> <th style="text-align: center;">Lane Density Test Result (%)</th> <th style="text-align: center;">Joint Density Test Result (%)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.05</td> <td style="text-align: center;">95.0-96.5</td> <td style="text-align: center;">92.0-96.0</td> </tr> <tr> <td style="text-align: center;">1.00</td> <td style="text-align: center;">93.0-94.9</td> <td style="text-align: center;">90.0-91.9</td> </tr> <tr> <td style="text-align: center;">0.95</td> <td style="text-align: center;">92.0-92.9 or 96.6-97.0</td> <td style="text-align: center;">89.0-89.9 or 96.1-96.5</td> </tr> <tr> <td style="text-align: center;">0.90</td> <td style="text-align: center;">91.0-91.9 or 97.1-97.5</td> <td style="text-align: center;">88.0-88.9 or 96.6-97.0</td> </tr> <tr> <td style="text-align: center;">0.75</td> <td style="text-align: center;">----</td> <td style="text-align: center;">< 88.0 or > 97.0</td> </tr> <tr> <td style="text-align: center;">⁽¹⁾</td> <td style="text-align: center;">< 91.0 or > 97.5</td> <td style="text-align: center;">----</td> </tr> </tbody> </table>	DENSITY			Pay Value	Lane Density Test Result (%)	Joint Density Test Result (%)	1.05	95.0-96.5	92.0-96.0	1.00	93.0-94.9	90.0-91.9	0.95	92.0-92.9 or 96.6-97.0	89.0-89.9 or 96.1-96.5	0.90	91.0-91.9 or 97.1-97.5	88.0-88.9 or 96.6-97.0	0.75	----	< 88.0 or > 97.0	⁽¹⁾	< 91.0 or > 97.5	----
DENSITY																									
Pay Value	Lane Density Test Result (%)	Joint Density Test Result (%)																							
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0.75	----	< 88.0 or > 97.0																							
⁽¹⁾	< 91.0 or > 97.5	----																							
<p>SUBSECTION: 501.05.02 Ride Quality. REVISION: Add the following sentence to the end of the first paragraph:</p>	<p>The sum of the pay value adjustments for the ride quality shall not exceed \$0 for the project as a whole.</p>																								
<p>SUBSECTION: 505.03.04 Detectable Warnings. REVISION: Replace the first sentence with the following:</p>	<p>Install detectable warning pavers at all sidewalk ramps and on all commercial entrances according to the Standard Drawings.</p>																								
<p>SUBSECTION: 505.04.04 Detectable Warnings. REVISION: Replace the paragraph with the following:</p>	<p>The Department will measure the quantity in square feet. All retrofit applications for maintenance projects will require the removal of existing sidewalks to meet the requirements of the standard drawings applicable to the project. The cost associated with the removal of the existing sidewalk will be incidental to the detectable warnings bid item or incidental to the bid item for the construction of the concrete sidewalk unless otherwise noted.</p>																								
<p>SUBSECTION: 505.05 PAYMENT. REVISION: Add the following to the bid item table:</p>	<table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;"><u>Code</u></th> <th style="text-align: left;"><u>Pay Item</u></th> <th style="text-align: left;"><u>Pay Unit</u></th> </tr> </thead> <tbody> <tr> <td>23158ES505</td> <td>Detectable Warnings</td> <td>Square Foot</td> </tr> </tbody> </table>	<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																							
<p>SUBSECTION: 509.01 DESCRIPTION. REVISION: Replace the second paragraph with the following:</p>	<p>The Department may allow the use of similar units that conform to the National Cooperative Highway Research Program (NCHRP) 350 Test Level 3 (TL-3) requirements and the typical features depicted by the Standard Drawings. Obtain the Engineers approval prior to use. Ensure the barrier wall shape, length, material, drain slot dimensions and locations typical features are met and the reported maximum deflection is 3 feet or less from the NCHRP 350 TL-3 for Test 3 – 11 (pickup truck impacting at 60 mph at a 25-degree angle.)</p>																								

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

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

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

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

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

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

**Supplemental Specifications to The Standard Specifications
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(Effective with the July 15, 2011 Letting)

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

**Supplemental Specifications to The Standard Specifications
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(Effective with the July 15, 2011 Letting)

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

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

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

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(Effective with the July 15, 2011 Letting)

<p>SUBSECTION: REVISION:</p>	<p>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.</p>
<p>SUBSECTION: REVISION:</p>	<p>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.</p>
<p>SUBSECTION: REVISION:</p>	<p>805.04 CONCRETE. Replace the "AASHTO T 160" reference in first sentence of the third paragraph with "KM 64-629"</p>
<p>SUBSECTION: TABLE: PART: REVISION:</p>	<p>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"</p>

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

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

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

⁽¹⁾ Gradation performed by wet sieve KM 64-620 or AASHTO T 117 T7.
⁽²⁾ Sizes shown for convenience and are not to be considered as coarse aggregates.
⁽³⁾ Nominal Maximum Size is the largest sieve on the gradation table for an aggregate size on which any material may be retained.
 Note: The Department will allow blending of same source/same type aggregate when precise procedures are used such as cold feed, belt, or equivalent and combining of sizes or types of aggregate using the weigh hopper at concrete plants or controlled feed belts at the pugmill to obtain designated sizes.

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

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

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

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

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

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

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

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

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

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

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

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

- 11) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 12) Provide a photocell control to provide automatic dimming.
- 13) Allow an on-off flashing sequence at an adjustable rate.
- 14) Provide a sight to aim the message.
- 15) Provide a LED display color of approximately 590 nm amber.
- 16) Provide a controller that is password protected.
- 17) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 18) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

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

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

2.3 Requirements for Flip-Disc Type Signs. Flip-disc type signs will have the following additional requirements:

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

2.4 Power.

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.
- 2) Diesel Power Source. Ensure the following is provided for:
 - a) At least 24 spare bulbs available on the project for quick replacement of burned out bulbs.
 - b) Black light at both top and bottom of each line to illuminate discs for visibility at night or under adverse weather conditions, for flip disk signs.

11

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

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

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

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

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

4.0 MEASUREMENT. The final quantity of Variable Message Sign will be the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

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

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

January 5, 2010

9Y

SPECIAL NOTE FOR MATERIAL TRANSFER VEHICLE

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

1.0 DESCRIPTION. Provide and use a Material Transfer Vehicle (MTV) to place asphalt mixtures.

2.0 MATERIALS AND EQUIPMENT. In addition to the equipment specified in Subsection 403.02, provide a MTV with the following minimum characteristics:

- 1) A system to independently deliver asphalt mixtures from the hauling equipment to the paving equipment;
- 2) A high capacity truck unloading system, capable of 600 tons per hour, that will receive asphalt mixtures from the hauling equipment;
- 3) A minimum combined capacity, including the MTV storage bin and paver hopper, of 25 tons of asphalt mixture;
- 4) An auger system in the storage bin to continuously blend the asphalt mixture prior to discharge to the conveyor system; and
- 5) A discharge conveyor, with the ability to swivel, to deliver the mixture to the paving spreader while allowing the MTV to operate from an adjacent lane.

3.0 CONSTRUCTION. When constructing driving lanes, use a MTV to place asphalt mixtures. When the Engineer determines the use of the MTV is not practical for a portion of the project he may waive its requirement for that portion.

4.0 MEASUREMENT.

4.1 Asphalt Placement with MTV. The Department will not measure the MTV for payment and will consider its use incidental to the asphalt mixture.

4.2 Asphalt Mixture. The Department will measure the quantity according to Section 402.

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
----	Asphalt Mixture, Type	Ton

March 12, 2008

10W

SPECIAL NOTE FOR WATERBLASTING STRIPING REMOVAL

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

1.0 DESCRIPTION. Remove pavement striping, temporary or permanent, from asphalt or concrete pavement using ultra-high pressure water.

2.0 MATERIALS AND EQUIPMENT.

2.1 Truck Mounted Ultra-high Pressure Pump and Water Tank. Use a truck having a separate hydrostatic transmission capable of speed increments of ±1 foot per minute at operator's discretion. Use a pump capable of delivering a minimum of 30,000 psi to a bumper mounted deck containing an operator controlled rotating manifold that is speed variable up to at least 3,000 rpm and accepts interchangeable waterjet nozzles. Provide all necessary waterjet nozzle setups and patterns to ensure clean sufficient removal. Ensure the deck's discharge directs the water and removal material in a manner that is not hazardous to vehicles or pedestrians.

2.2 Water. Conform to Section 803.

3.0 CONSTRUCTION. Before starting work, provide the Engineer with a contractor work history of 2 projects where striping removal was completed acceptably for a similar type of pavement. If no history is available, complete 1,000 linear feet of striping removal and obtain the Engineer's approval before continuing.

Conduct striping removal under lane closures meeting the conditions of the MUTCD and Kentucky Standard Drawings and Specifications. Waterblast to remove temporary or permanent striping completely as the Engineer directs. Do not damage the pavement in any way and protect all joint seals. If damage is observed, stop the removal process until the operator can make changes and demonstrate acceptable striping removal. Repair any damage to the pavement. Vacuum all marking material and removal debris concurrently with the blasting operation.

4.0 MEASUREMENT. The Department will measure the quantity in linear feet. When the removal area's width exceeds 8 inches and a second pass is required, the Department will measure the length of the additional pass for Payment. The Department will not measure for payment additional passes for widths of 8 inches or less or passes to further eradicate markings. The Department will not measure repair of damaged pavement for payment and will consider it incidental to this item of work.

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
---	Waterblast Stripe Removal	Linear Foot

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

January 1, 2008

SPECIAL NOTE FOR TURF REINFORCING MAT

1.0 DESCRIPTION. Install turf reinforcement mat at locations specified in the Contract or as the Engineer directs. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

2.0 MATERIALS.

2.1 Turf Reinforcement Mat (TRM). Use a Turf Reinforcement Mat defined as permanent rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a three-dimensional matrix of sufficient thickness and from the Department's List of Approved Materials. Mats must be 100% UV stabilized materials. For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting exclusively. Ensure product labels clearly show the manufacturer or supplier name, style name, and roll number. Ensure labeling, shipment and storage follows ASTM D-4873. The Department will require manufacturer to provide TRMs that are machine constructed web of mechanically or melt bonded nondegradable fibers entangled to form a three dimensional matrix. The Department will require all long term performance property values in table below to be based on non degradable portion of the matting alone. Approved methods include polymer welding, thermal or polymer fusion, or placement of fibers between two high strength biaxially oriented nets mechanically bound by parallel stitching with polyolefin thread. Ensure that mats designated in the plans as Type 4 mats, are not to be manufactured from discontinuous or loosely held together by stitching or glued netting or composites. Type 4 mats shall be composed of geosynthetic matrix that exhibits a very high interlock and reinforcement capacities with both soil and root systems and with high tensile modulus. The Department will require manufacturer to use materials chemically and biologically inert to the natural soil environments conditions. Ensure the blanket is smolder resistant without the use of chemical additives. When stored, maintain the protective wrapping and elevate the mats off the ground to protect them from damage. The Department will not specify these materials for use in heavily acidic coal seam areas or other areas with soil problems that would severally limit vegetation growth.

- A) Dimensions. Ensure TRMs are furnished in strips with a minimum width of 4 feet and length of 50 feet.
- B) Weight. Ensure that all mat types have a minimum mass per unit area of 7 ounces per square yard according to ASTM D 6566.
- C) Performance Testing: The Department will require AASHTO's NTPEP index testing. The Department will also require the manufacturer to perform internal MARV testing at a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory for tensile strength, tensile elongation, mass per unit area, and thickness once every 24,000 yds of production or whatever rate is required to ensure 97.7% confidence under ASTM D4439& 4354. The Department will require Full scale testing for slope and channel applications shear stress shall be done under ASTM D 6459, ASTM D 6460-07 procedures.

2.2 Classifications

The basis for selection of the type of mat required will be based on the long term shear stress level of the mat of the channel in question or the degree of slope to protect and will be designated in the contract. The Type 4 mats are to be used at structural backfills protecting critical

structures, utility cuts, areas where vehicles may be expected to traverse the mat, channels with large heavy drift, and where higher factors of safety, very steep slopes and/or durability concerns are needed as determined by project team and designer and will be specified in the plans by designer.

Turf Reinforcement Matting					
Properties ¹	Type 1	Type 2	Type 3	Type 4	Test Method
Minimum tensile Strength lbs/ft	125	150	175	3000 by 1500	ASTM D6818 ²
UV stability (minimum % tensile retention)	80	80	80	90	ASTM D4355 ³ (1000-hr exposure)
Minimum thickness (inches)	0.25	0.25	0.25	0.40	ASTM D6525
Slopes applications	2H:1V or flatter	1.5H:1V or flatter	1H:1V or flatter	1 H: 1V or greater	
Shear stress lbs/ft ² Channel applications	6.0 ⁴	8.0 ⁴	10.0 ⁴	12.0 ⁴	ASTM D6459 ASTM D6460-07

¹ For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting alone.

²Minimum Average Roll Values for tensile strength of sample material machine direction.

³Tensile Strength percentage retained after stated 1000 hr duration of exposure under ASTM D4355 testing. Based on nondegradable components exclusively.

⁴Maximum permissible shear design values based on short-term (0.5 hr) vegetated data obtained by full scale flume testing ASTM D6459, D6460-07. Based on nondegradable components exclusively. Testing will be done at Independent Hydraulics Facility such as Colorado State University hydraulics laboratory, Utah State University hydraulics laboratory, Texas Transportation Institute (TTI) hydraulics and erosion control laboratory.

2.3 Quality Assurance Sampling, Testing, and Acceptance

- A) Provide TRM listed on the Department’s List of Approved Materials. Prior to inclusion on the LAM, the manufacturer of TRM must meet the physical and performance criteria as outlined in the specification and submit a Letter Certifying compliance of the product under the above ASTM testing procedures and including a copy of report from Full Scale Independent Hydraulics Facility that Fully Vegetated Shear Stress meets shear stress requirements tested under D6459 and D6460-07.
- B) Contractors will provide a Letter of Certification from Manufacturer stating the product name, manufacturer, and that the product MARV product unit testing results meets Department criteria. Provide Letters once per project and for each product.
- C) Acceptance shall be in accordance with ASTM D-4759 based on testing performed by a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory using Procedure A of ASTM D-4354.

Current mats meeting the above criteria are shown on the Department’s List of Approved Materials.

2.4 Fasteners. When the mat manufacturer does not specify a specific fastener, use steel wire U-shaped staples with a minimum diameter of 0.09 inches (11 gauge), a minimum width of one inch and a minimum length of 12 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils as directed by Engineer or Manufacturer’s Representative. Provide staples with colored tops when requested by the Engineer.

3.0 CONSTRUCTION. When requested by the Engineer, provide a Manufacturer’s Representative on-site to oversee and approve the initial installation of the mat. When requested by the Engineer, provide a letter from the Manufacturer approving the installation. When there is a conflict between the Department’s criteria and the Manufacturer’s criteria, construct using the more restrictive. The Engineer and Manufacturer’s Representative must approve all alternate installation methods prior to execution. Construct according to the Manufacturer’s recommendations and the following as minimum installation technique:

3.1 Site Preparation. Grade areas to be treated with matting and compact. Remove large rocks, soil clods, vegetation, roots, and other sharp objects that could keep the mat from intimate contact with subgrade. Prepare seedbed by loosening the top 2 to 3 inch of soil.

3.2 Installation. Install mats according to Standard Drawing Sepias “Turf Mat Channel Installation” and “Turf Mat Slope Installation.” Install mats at the specified elevation and alignment. Anchor the mats with staples with a minimum length of 12 inches. Use longer anchors for installations in sandy, loose, or wet soils as directed by the Engineer or Manufacturer’s Representative. The mat should be in direct contact with the soil surface.

4.0 MEASUREMENT. The Department will measure the quantity of Turf Reinforcement Mat by the square yard of surface covered. The Department will not measure preparation of the bed, providing a Manufacturer’s Representative, topsoil, or seeding for payment and will consider them incidental to the Turf Reinforcement Mat. The Department will not measure any reworking of slopes or channels for payment as it is considered corrective work and incidental to the Turf Reinforcement Mat. Seeding and protection will be an incidental item.

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
23274EN11F	Turf Reinforcement Mat 1	Square Yard
23275EN11F	Turf Reinforcement Mat 2	Square Yard
23276EN11F	Turf Reinforcement Mat 3	Square Yard
23277EN11F	Turf Reinforcement Mat 4	Square Yard

April 18, 2009

SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES

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

1.0 DESCRIPTION. Construct a soil, granular, or rock embankment with granular or cohesive pile core and place structure granular backfill, as the Plans require. Construct the embankment according to the requirements of this Special Provision, the Plans, Standard Drawing RGX 100 and 105, and the 2008 Standard Specifications.

2.0 MATERIALS.

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

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

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

2.4 Cohesive Pile Core. Conform to Section 206 of the Standard Specifications and use soil with at least 50 percent passing a No. 4 sieve having a minimum Plasticity Index (PI) of 10. In addition, keep the cohesive pile core free of boulders, larger than 6 inches in any dimension, or any other obstructions, which would interfere with drilling operations. If cohesive pile core material interferes with drilling operations, take appropriate means necessary to maintain excavation stability, at no expense to the Department.

2.5 Structure Granular Backfill. Conform to Subsection 805.11

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

3.0 CONSTRUCTION.

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

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

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

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

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

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

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

After placing the end bent cap and removing adjacent forms, fill the excavation with structure granular backfill material to the level of the berm prior to placing beams for the bridge. For soil embankments, place Type IV geotextile fabric between embankment material and structure granular backfill. After completing the end bent backwall, or after completing the span end wall, place the structure granular backfill to subgrade elevation. If the original excavation is enlarged, fill the entire volume with compacted structure granular backfill at no expense to the Department. Do not place backfill before removing adjacent form work. Place structure granular backfill material in trench ditches at the ends of the excavation. Place Geotextile Fabric, Type IV over the surface of structure granular backfill prior to placing aggregate base course.

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

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

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

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

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

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

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

4.0 MEASUREMENT.

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

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

4.2 Rock Embankment. The Department will not measure for payment any rock embankment and will consider it incidental to roadway excavation or embankment in place, as applicable. (embankments requiring rock with none present within project excavation limits will be constructed using granular embankment)

4.3 Granular Pile Core. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment furnishing and placing 8-inch perforated underdrain pipe and will consider it incidental to the Granular pile core. The Department will not measure for payment any granular pile core that is necessary because the contractor elects to use granular or rock embankment when it is not specified in the plans.

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

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

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

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

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

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

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02223	Granular Embankment	Cubic Yards
20209EP69	Granular Pile Core	Cubic Yards
20210EP69	Cohesive Pile Core	Cubic Yards

69

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

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

April 24, 2008

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

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

	Page
I. General-----	1
II. Nondiscrimination-----	1
III. Nonsegregated Facilities-----	3
IV. Payment of Predetermined Minimum Wage-----	3
V. Statements and Payrolls-----	6
VI. Record of Materials, Supplies, and Labor-----	6
VII. Subletting or Assigning the Contract-----	7
VIII. Safety: Accident Prevention-----	7
IX. False Statements Concerning Highway Projects-----	7
X. Implementation of Clean Air Act and Federal Water Pollution Control Act-----	8
XI. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion-----	8
XII. Certification Regarding Use of Contract Funds for Lobbying-----	9

ATTACHMENTS

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

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

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

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

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

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

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

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

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

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

II. NONDISCRIMINATION

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

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

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

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

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

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

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

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

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

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

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

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

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

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

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

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

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

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

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

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

6. Training and Promotion:

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

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

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

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

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

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

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

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

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin,

age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

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

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

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

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

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

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

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

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

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

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

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

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

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

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

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

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

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics

shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

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

2. Classification:

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

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

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

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

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

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

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

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

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

3. Payment of Fringe Benefits:

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

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

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

a. Apprentices:

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

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

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable

classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

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

b. Trainees:

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

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

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

c. Helpers:

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

5. Apprentices and Trainees (Programs of the U.S. DOT):

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of

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

6. Withholding:

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

7. Overtime Requirements:

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

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any

liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

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

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

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

2. Payrolls and Payroll Records:

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

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

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

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

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

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

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

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

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

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

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

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

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

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

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

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

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

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

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

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

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

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

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

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

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

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

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

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

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

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

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

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

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

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

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

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

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

1. Instructions for Certification - Primary Covered Transactions:

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

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

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

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

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

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which

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

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

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

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

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

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

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

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

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

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

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

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

2. Instructions for Certification - Lower Tier Covered Transactions:

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

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

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

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

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

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

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

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

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

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

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

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

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

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

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

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

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and

submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

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

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

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS**

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

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

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

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

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

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

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

provide apprenticeship or other training.

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

REVISED: 12-3-92

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (6) provides:

No present or former public servant shall, within six (6) months of following termination of his office or employment, accept employment, compensation or other economic benefit from any person or business that contracts or does business with the state in matters in which he was directly involved during his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved in state government. This subsection shall not prohibit the performance of ministerial functions, including, but not limited to, filing tax returns, filing applications for permits or licenses, or filing incorporation papers.

KRS 11A.040 (8) states:

A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
TRAINING SPECIAL PROVISIONS

This Training Special Provision supersedes subparagraph 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," (Attachment 1), and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

The number of trainees to be trained under these special provisions and in this contract is shown in "Special Notes Applicable to Project" in the bid proposal.

In the event that a contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction the contractor shall submit to the Kentucky Transportation Cabinet, Department of Highways for its approval, an acceptable training program on forms provided by the Cabinet indicating the number of trainees to be trained in each selected classification. Failure to provide the Cabinet with the proper documentation evidencing an acceptable training program prior to commencing construction shall cause the Cabinet to suspend the operations of the contractor with (if applicable) working days being charged as usual against the contract time or (if applicable), no additional contract time being granted for the suspension period. The Cabinet will not be liable for the payment of any work performed during the suspension period due to the failure of the contractor to provide an acceptable training program. Said suspension period shall be terminated when an acceptable training program is received by the Cabinet. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeymen status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case. The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Kentucky Transportation Cabinet, Department of Highways and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs

registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed for each hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

General Decision Number: KY100214 09/16/2011 KY214

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	10/22/2010
1	01/28/2011
2	03/25/2011
3	04/01/2011
4	05/27/2011
5	06/03/2011
6	07/01/2011
7	07/08/2011
8	07/22/2011
9	07/29/2011
10	08/05/2011
11	08/12/2011
12	08/19/2011
13	09/16/2011

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.....	\$ 28.47	12.78

BRTN0004-005 05/01/2009

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

	Rates	Fringes
BRICKLAYER.....	\$ 24.52	1.83

CARP0357-002 07/01/2011

	Rates	Fringes
CARPENTER.....	\$ 25.95	13.22
Diver.....	\$ 39.30	13.22
PILEDRIVERMAN.....	\$ 26.20	13.22

ELEC0369-006 05/26/2010

BUTLER, EDMONSON, LOGAN, TODD & WARREN COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 29.27	13.08

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.

ELEC1701-003 06/01/2010

DAVISS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO,
UNION & WEBSTER COUNTIES:

	Rates	Fringes
ELECTRICIAN		
Electrician.....	\$ 29.01	27.85%+5.34
Heilarc Welding; Cable		
Splicing.....	\$ 29.26	27.85%+5.34

ELEC1925-002 06/01/2009

FULTON COUNTY (Up to a 5 mile radius of City Hall in Fulton):

	Rates	Fringes
CABLE SPLICER.....	\$ 25.00	10.27
ELECTRICIAN.....	\$ 24.50	10.26

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; Batch 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; Guries; 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.

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

IRON0103-004 04/01/2011

DAVISS, 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

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

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

LABO0189-005 07/01/2010

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

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 20.13	10.83
GROUP 2.....	\$ 20.30	10.83
GROUP 3.....	\$ 20.43	10.83
GROUP 4.....	\$ 21.03	10.83

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 07/01/2010

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

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 21.16	9.80
GROUP 2.....	\$ 21.41	9.80
GROUP 3.....	\$ 21.46	9.80
GROUP 4.....	\$ 22.06	9.80

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

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

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

PAIN0156-006 04/01/2010

DAVISS, 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

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

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

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

PLUM0502-004 08/01/2011

ALLEN, BUTLER, EDMONSON, SIMPSON & WARREN

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

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

TEAM0089-003 03/31/2008

	Rates	Fringes
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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

BALLARD, CALLOWAY,
CALDWELL, CARLISLE,
CHRISTIAN, CRITTENDEN,
FULTON, GRAVES, HICKMAN,
LIVINGSTON, LYON,
MARSHALL, MCCRACKEN, TODD
& TRIGG COUNTIES:

Group 1.....	\$ 23.89	4.15
Group 2.....	\$ 24.12	4.15
Group 3.....	\$ 24.19	4.15
Group 4.....	\$ 24.20	4.15

DAVIESS, HANCOCK,
HENDERSON, HOPKINS,
MCLEAN, MUHLENBERG, OHIO,
UNION & WEBSTER COUNTIES:

Group 1.....	\$ 19.23	9.20
Group 2.....	\$ 19.46	9.20
Group 3.....	\$ 19.53	9.20
Group 4.....	\$ 19.54	9.20

TRUCK DRIVER CLASSIFICATIONS FOR ALLEN, BUTLER, EDMONSON,
LOGAN, SIMPSON & WARREN COUNTIES

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; 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

GROUP 5 - Euclid and Other Heavy Earth Moving Equipment; Low
Boy; Articulator Cat; Five Axle Vehicle

TRUCK DRIVER CLASSIFICATIONS FOR BALLARD, CALLOWAY, CALDWELL,
CARLISLE, CHRISTIAN, CRITTENDEN, FULTON, GRAVES, HICKMAN,
LIVINGSTON, LYON, MARSHALL, MCCRACKEN, TODD & TRIGG COUNTIES

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; Mixer All Types

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

TRUCK DRIVER CLASSIFICATIONS FOR DAVIESS, HANCOCK, HENDERSON,
HOPKINS, MCLEAN, MUHLENBERG, OHIO, UNION & WEBSTER COUNTIES

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

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

Unlisted classifications needed for work not included within
the scope of the
classifications listed may be added after award only as
provided in the labor
standards contract clauses (29 CFR 5.5(a)(1)(ii)).

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

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can
be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on
a wage
determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests
for summaries
of surveys, should be with the Wage and Hour Regional Office
for the area in
which the survey was conducted because those Regional Offices
have
responsibility for the Davis-Bacon survey program. If the
response from this
initial contact is not satisfactory, then the process described
in 2.) and
3.) should be followed.

With regard to any other matter not yet ripe for the formal
process
described here, initial contact should be with the Branch of
Construction
Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an

interested party
(those affected by the action) can request review and
reconsideration from
the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR
Part 7).
Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the
interested
party's position and by any information (wage payment data,
project
description, area practice material, etc.) that the requestor
considers
relevant to the issue.

3.) If the decision of the Administrator is not favorable, an
interested
party may appeal directly to the Administrative Review Board
(formerly the
Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

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

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
12.0%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Warren County.

PART IV
INSURANCE

INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

- 1) Commercial General Liability-Occurrence form – not less than \$2,000,000 General aggregate, \$2,000,000 Products & Completed Aggregate, \$1,000,000 Personal & Advertising, \$1,000,000 each occurrence.
- 2) Automobile Liability- \$1,000,000 per accident
- 3) Employers Liability:
 - a) \$100,000 Each Accident Bodily Injury
 - b) \$500,000 Policy limit Bodily Injury by Disease
 - c) \$100,000 Each Employee Bodily Injury by Disease
- 4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
 - a) "policy contains no deductible clauses."
 - b) "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."
- 5) **KENTUCKY WORKMEN'S COMPENSATION INSURANCE.** The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

PART V
BID ITEMS

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 1
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT

SECTION 0001 PAVING					

0010	00001	DGA BASE	51,721.000 TON		

0020	00018	DRAINAGE BLANKET-TYPE II-ASPH	21,960.000 TON		

0030	00100	ASPHALT SEAL AGGREGATE	98.000 TON		

0040	00103	ASPHALT SEAL COAT	11.700 TON		

0050	00190	LEVELING & WEDGING PG64-22	2,823.000 TON		

0060	00205	CL3 ASPH BASE 1.50D PG64-22	9,195.000 TON		

0070	00208	CL4 ASPH BASE 1.50D PG64-22	26,439.000 TON		

0080	00212	CL2 ASPH BASE 1.00D PG64-22	7,368.000 TON		

0090	00214	CL3 ASPH BASE 1.00D PG64-22	4,719.000 TON		

0100	00219	CL4 ASPH BASE 1.00D PG76-22	13,048.000 TON		

0110	00309	CL2 ASPH SURF 0.50D PG64-22	1,359.000 TON		

0120	00312	CL3 ASPH SURF 0.50D PG64-22	2,229.000 TON		

0130	00335	CL4 ASPH SURF 0.50A PG76-22	6,172.000 TON		

SECTION 0002 ROADWAY					

0140	00078	CRUSHED AGGREGATE SIZE NO 2	11,579.000 TON		

0150	01000	PERFORATED PIPE-4 IN	21,988.000 LF		

0160	01010	NON-PERFORATED PIPE-4 IN	1,407.000 LF		

0170	01015	INSPECT & CERTIFY EDGE DRAIN SYSTEM	(1.00) LS		

0180	01020	PERF PIPE HEADWALL TY 1-4 IN	3.000 EACH		

0190	01028	PERF PIPE HEADWALL TY 3-4 IN	47.000 EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 2
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0200	01032	PERF PIPE HEADWALL TY 4-4 IN	20.000	EACH		
0210	01310	REMOVE PIPE	608.000	LF		
0220	01718	REMOVE INLET	11.000	EACH		
0230	01740	CORED HOLE DRAINAGE BOX CON-4 IN	5.000	EACH		
0240	01810	STANDARD CURB AND GUTTER	433.000	LF		
0250	01845	ISLAND INTEGRAL CURB	34.000	LF		
0260	01923	STANDARD BARRIER MEDIAN TYPE 5	2,935.000	SQYD		
0270	01946	MOUNTABLE MEDIAN TYPE 2A	62.000	SQYD		
0280	01982	DELINEATOR FOR GUARDRAIL-WHITE	32.000	EACH		
0290	01983	DELINEATOR FOR GUARDRAIL-YELLOW	31.000	EACH		
0300	01984	DELINEATOR FOR BARRIER-WHITE	156.000	EACH		
0310	01985	DELINEATOR FOR BARRIER-YELLOW	55.000	EACH		
0320	01992	INSTALL TEMP CONC MED BARR	14,000.000	LF		
0330	02003	RELOCATE TEMP CONC BARRIER	21,500.000	LF		
0340	02014	BARRICADE-TYPE III	80.000	EACH		
0350	02081	JPC PAVEMENT-8 IN SHLD	67.000	SQYD		
0360	02091	REMOVE PAVEMENT	1,072.000	SQYD		
0370	02159	TEMP DITCH	10,000.000	LF		
0380	02223	GRANULAR EMBANKMENT	30,667.000	CUYD		
0390	02230	EMBANKMENT IN PLACE	166,357.000	CUYD		
0400	02242	WATER	3,350.000	MGAL		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 3
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0410	02262	FENCE-WOVEN WIRE TYPE 1	578.000	LF		
0420	02351	GUARDRAIL-STEEL W BEAM-S FACE	1,675.000	LF		
0430	02360	GUARDRAIL TERMINAL SECTION NO 1	1.000	EACH		
0440	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	4.000	EACH		
0450	02369	GUARDRAIL END TREATMENT TYPE 2A	4.000	EACH		
0460	02381	REMOVE GUARDRAIL	5,352.000	LF		
0470	02391	GUARDRAIL END TREATMENT TYPE 4A	4.000	EACH		
0480	02397	TEMP GUARDRAIL	1,500.000	LF		
0490	02483	CHANNEL LINING CLASS II	262.000	TON		
0500	02545	CLEARING AND GRUBBING (33 ACRES)	(1.00)	LS		
0510	02562	SIGNS	1,500.000	SQFT		
0520	02585	EDGE KEY	9,265.000	LF		
0530	02599	FABRIC-GEOTEXTILE TYPE IV	55,889.000	SQYD		
0540	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	1,984.000	SQYD	2.00	3,968.00
0550	02625	REMOVE HEADWALL	31.000	EACH		
0560	02650	MAINTAIN & CONTROL TRAFFIC	(1.00)	LS		
0570	02651	DIVERSIONS (BY-PASS DETOURS) (BY-PASS DETOURS RAMP B SLIP RAMP	(1.00)	LS		
0580	02651	DIVERSIONS (BY-PASS DETOURS) (BY-PASS DETOURS RAMP D SLIP RAMP	(1.00)	LS		
0590	02653	LANE CLOSURE	3.000	EACH		
0600	02671	PORTABLE CHANGEABLE MESSAGE SIGN	8.000	EACH		
0610	02676	MOBILIZATION FOR MILL & TEXT	(1.00)	LS		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 4
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0620	02677	ASPHALT PAVE MILLING & TEXTURING	1,142.000	TON		
0630	02690	SAFELOADING	57.000	CUYD		
0640	02720	SIDEWALK-4 IN CONCRETE	16.000	SQYD		
0650	02726	STAKING	(1.00)	LS		
0660	02731	REMOVE STRUCTURE	(1.00)	LS		
0670	02775	ARROW PANEL	2.000	EACH		
0680	02898	RELOCATE CRASH CUSHION	8.000	EACH		
0690	03287	SIDEWALK RAMP TYPE 1	1.000	EACH		
0700	05950	EROSION CONTROL BLANKET	17,732.000	SQYD		
0710	05966	TOPDRESSING FERTILIZER	9.800	TON		
0720	05985	SEEDING AND PROTECTION	187,678.000	SQYD		
0730	05989	SPECIAL SEEDING CROWN VETCH	18,165.000	SQYD		
0740	05990	SODDING	584.000	SQYD		
0750	06417	FLEXIBLE DELINEATOR POST-W	218.000	EACH		
0760	06418	FLEXIBLE DELINEATOR POST-Y	54.000	EACH		
0770	06510	PAVE STRIPING-TEMP PAINT-4 IN	113,653.000	LF		
0780	06511	PAVE STRIPING-TEMP PAINT-6 IN	113,361.000	LF		
0790	06514	PAVE STRIPING-PERM PAINT-4 IN	21,089.000	LF		
0800	06516	PAVE STRIPING-PERM PAINT-8 IN	240.000	LF		
0810	06554	PAVE STRIPING-DUR TY 1-4 IN W	100.000	LF		
0820	06556	PAVE STRIPING-DUR TY 1-6 IN W	53.000	LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 5
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0830	06557	PAVE STRIPING-DUR TY 1-6 IN Y	460.000	LF		
0840	06558	PAVE STRIPING-DUR TY 1-8 IN W	162.000	LF		
0850	06560	PAVE STRIPING-DUR TY 1-12 IN W	210.000	LF		
0860	06561	PAVE STRIPING-DUR TY 1-12 IN Y	214.000	LF		
0870	06568	PAVE MARKING-THERMO STOP BAR-24IN	439.000	LF		
0880	06570	PAVE MARKING-PAINT CROSS-HATCH	11,470.000	SQFT		
0890	06572	PAVE MARKING-DOTTED LANE EXTEN	4,098.000	LF		
0900	06574	PAVE MARKING-THERMO CURV ARROW	62.000	EACH		
0910	06576	PAVE MARKING-THERMO ONLY	7.000	EACH		
0920	06585	PAVEMENT MARKER TY IVA-MW TEMP	500.000	EACH		
0930	06586	PAVEMENT MARKER TY IVA-MY TEMP	500.000	EACH		
0940	06589	PAVEMENT MARKER TYPE V-MW	314.000	EACH		
0950	06590	PAVEMENT MARKER TYPE V-MY	153.000	EACH		
0960	06591	PAVEMENT MARKER TYPE V-BY	18.000	EACH		
0970	06592	PAVEMENT MARKER TYPE V-B W/R	372.000	EACH		
0980	06593	PAVEMENT MARKER TYPE V-B Y/R	86.000	EACH		
0990	08100	CONCRETE-CLASS A	16.580	CUYD		
1000	08150	STEEL REINFORCEMENT	552.000	LB		
1010	08905	CRASH CUSHION TY VI CLASS CT	9.000	EACH		
1020	10020NS	FUEL ADJUSTMENT	89,181.000	DOLL	1.00	89,181.00
1030	10030NS	ASPHALT ADJUSTMENT	132,034.000	DOLL	1.00	132,034.00

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 6
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1040	20099ES842	PAVE MARK TEMP PAINT STOP BAR	1,220.000	LF		
1050	20411ED	LAW ENFORCEMENT OFFICER	800.000	HOUR		
1060	20456NS835	INSTALL TEMP VIDEO CAMERA	17.000	EACH		
1070	21383ES508	CONC MEDIAN BARRIER TYPE 14C2(50)	368.000	LF		
1080	23131ER701	PIPELINE VIDEO INSPECTION	1,560.000	LF		
1090	23143ED	KPDES PERMIT AND TEMP EROSION CONTROL	(1.00)	LS		
1100	23158ES505	DETECTABLE WARNINGS	16.000	SQFT		
1110	23163ED	TEMPORARY SIGNAL MODIFICATION	12.000	EACH		
1120	23237EN10W	WATERBLAST STRIPE REMOVAL	27,000.000	LF		
1130	23274EN11F	TURF REINFORCEMENT MAT 1	2,396.000	SQYD		
1140	24189ER	DURABLE WATERBORNE MARKING-6 IN W	19,580.000	LF		
1150	24190ER	DURABLE WATERBORNE MARKING-6 IN Y	6,210.000	LF		
1160	24191ER	DURABLE WATERBORNE MARKING-12 IN W	4,660.000	LF		
1170	24388ES508	CONC MEDIAN BARRIER TYPE 14C1(50)	142.000	LF		
SECTION 0003 DRAINAGE						
1180	00462	CULVERT PIPE-18 IN	1,064.500	LF		
1190	00464	CULVERT PIPE-24 IN	169.000	LF		
1200	00466	CULVERT PIPE-30 IN	418.000	LF		
1210	00522	STORM SEWER PIPE-18 IN	1,059.800	LF		
1220	00524	STORM SEWER PIPE-24 IN	21.000	LF		
1230	01450	S & F BOX INLET-OUTLET-18 IN	5.000	EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 7
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1240	01451	S & F BOX INLET-OUTLET-24 IN	5.000	EACH		
1250	01452	S & F BOX INLET-OUTLET-30 IN	2.000	EACH		
1260	01456	CURB BOX INLET TYPE A	10.000	EACH		
1270	01480	CURB BOX INLET TYPE B	2.000	EACH		
1280	01490	DROP BOX INLET TYPE 1	1.000	EACH		
1290	01493	DROP BOX INLET TYPE 2	2.000	EACH		
1300	01511	DROP BOX INLET TYPE 5D	5.000	EACH		
1310	01643	JUNCTION BOX-24 IN	3.000	EACH		
1320	01756	MANHOLE TYPE A	1.000	EACH		
1330	21800EN	BORE AND JACK PIPE-30 IN	70.000	LF		
1340	23862EC	SILT TRAP TYPE B-PERM	9.000	EACH		
1350	24186EC	BORE AND JACK PIPE-36 IN	301.000	LF		
SECTION 0004 BRIDGE						
1360	02223	GRANULAR EMBANKMENT	5,539.000	CUYD		
1370	02231	STRUCTURE GRANULAR BACKFILL	6,221.000	CUYD		
1380	02599	FABRIC-GEOTEXTILE TYPE IV	1,702.000	SQYD		
1390	02998	MASONRY COATING	2,564.000	SQYD		
1400	03299	ARMORED EDGE FOR CONCRETE	580.000	LF		
1410	08001	STRUCTURE EXCAVATION-COMMON	22,602.000	CUYD		
1420	08018	RETAINING WALL	16,045.000	SQFT		
1430	08033	TEST PILES	248.000	LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 8
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1440	08039	PRE-DRILLING FOR PILES	3,027.000	LF		
1450	08046	PILES-STEEL HP12X53	3,083.000	LF		
1460	08051	PILES-STEEL HP14X89	4,385.000	LF		
1470	08094	PILE POINTS-12 IN	153.000	EACH		
1480	08095	PILE POINTS-14 IN	101.000	EACH		
1490	08100	CONCRETE-CLASS A	912.300	CUYD		
1500	08104	CONCRETE-CLASS AA	2,084.000	CUYD		
1510	08150	STEEL REINFORCEMENT	113,812.000	LB		
1520	08151	STEEL REINFORCEMENT-EPOXY COATED	633,014.000	LB		
1530	08635	PRECAST PC I BEAM TYPE 6	6,044.000	LF		
1540	21532ED	RAIL SYSTEM TYPE III	555.000	LF		
SECTION 0005 SIGNING						
1550	06400	GMSS GALV STEEL TYPE A	1,133.000	LB		
1560	06405	SBM ALUMINUM PANEL SIGNS	4,755.000	SQFT		
1570	06406	SBM ALUM SHEET SIGNS .080 IN	270.000	SQFT		
1580	06407	SBM ALUM SHEET SIGNS .125 IN	460.000	SQFT		
1590	06410	STEEL POST TYPE 1	920.000	LF		
1600	06411	STEEL POST TYPE 2	521.000	LF		
1610	06426	OSS ALUMINUM 70 FT TRUSS	2.000	EACH		
1620	06441	GMSS GALV STEEL TYPE C	6,533.000	LB		
1630	06445	OSS ALUMINUM 90 FT TRUSS	1.000	EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 9
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1640	06449	REM OVERHEAD SIGN SUPPORT STR	3.000	EACH		
1650	06450	REM OVERHEAD STRUC CONC BASE	3.000	EACH		
1660	06451	REMOVE SIGN SUPPORT BEAM	4.000	EACH		
1670	06490	CLASS A CONCRETE FOR SIGNS	41.950	CUYD		
1680	06491	STEEL REINFORCEMENT FOR SIGNS	1,656.000	LB		
1690	20418ED	REMOVE & RELOCATE SIGNS	56.000	EACH		
1700	21373ND	REMOVE SIGN	15.000	EACH		
1710	21596ND	GMSS TYPE D	52.000	EACH		
SECTION 0006 SIGNALIZATION						
1720	04793	CONDUIT-1 1/4 IN	415.000	LF		
1730	04795	CONDUIT-2 IN	375.000	LF		
1740	04797	CONDUIT-3 IN	85.000	LF		
1750	04811	JUNCTION BOX TYPE B	10.000	EACH		
1760	04820	TRENCHING AND BACKFILLING	625.000	LF		
1770	04830	LOOP WIRE	5,500.000	LF		
1780	04844	CABLE-NO. 14/5C	7,135.000	LF		
1790	04850	CABLE-NO. 14/1 PAIR	3,275.000	LF		
1800	04873	POLE 45 FT WOODEN	1.000	EACH		
1810	04884	ANCHOR	2.000	EACH		
1820	04885	MESSENGER-10800 LB	975.000	LF		
1830	04886	MESSENGER-15400 LB	680.000	LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 10
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1840	04895	LOOP SAW SLOT AND FILL	2,045.000	LF		
1850	04931	INSTALL CONTROLLER TYPE 170	3.000	EACH		
1860	04932	INSTALL STEEL STRAIN POLE	11.000	EACH		
1870	04950	REMOVE SIGNAL EQUIPMENT	4.000	EACH		
1880	04953	TEMP RELOCATION OF SIGNAL HEAD	24.000	EACH		
1890	20093NS835	INSTALL PEDESTRIAN HEAD-LED	16.000	EACH		
1900	20188NS835	INSTALL LED SIGNAL-3 SECTION	25.000	EACH		
1910	20266ES835	INSTALL LED SIGNAL- 4 SECTION	8.000	EACH		
1920	20390NS835	INSTALL COORDINATING UNIT	3.000	EACH		
1930	20392NS835	JUNCTION BOX TYPE C	2.000	EACH		
1940	21543EN	BORE AND JACK CONDUIT	85.000	LF		
1950	21743NN	INSTALL PEDESTRIAN DETECTOR	16.000	EACH		
1960	23157EN	TRAFFIC SIGNAL POLE BASE	57.700	CUYD		
1970	23222EC	INSTALL SIGNAL PEDESTAL	2.000	EACH		
1980	24365EC	RADAR PRESENCE DETECTOR TYPE A	4.000	EACH		
SECTION 0007 LIGHTING						
1990	04714	POLE 120 FT MTG HT HIGH MAST	7.000	EACH		
2000	04740	POLE BASE	2.000	EACH		
2010	04761	LIGHTING CONTROL EQUIPMENT	2.000	EACH		
2020	04773	HPS LUMINAIRE HIGH MAST	42.000	EACH		
2030	04795	CONDUIT-2 IN	2,600.000	LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 11
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
2040	04797	CONDUIT-3 IN	515.000	LF		
2050	04800	MARKER	16.000	EACH		
2060	04820	TRENCHING AND BACKFILLING	5,850.000	LF		
2070	04860	CABLE-NO. 8/3C DUCTED	2,350.000	LF		
2080	04861	CABLE-NO. 6/3C DUCTED	5,600.000	LF		
2090	04940	REMOVE LIGHTING	(1.000)	LS		
2100	04941	REMOVE POLE BASE	2.000	EACH		
2110	04942	REMOVE STORE & REINSTALL POLE	2.000	EACH		
2120	20211ES706	BORE & JACK PIPE	515.000	LF		
2130	20391NS835	JUNCTION BOX TYPE A	1.000	EACH		
2140	20392NS835	JUNCTION BOX TYPE C	8.000	EACH		
2150	21065ND	MODEL 334 ENCLOSURE	1.000	EACH		
2160	21069ND	SURGE DEVICE 120 VOLT	1.000	EACH		
2170	21071ND	DATA SURGE DEVICE	6.000	EACH		
2180	21076ND	FIBER TERMINATION RACK	3.000	EACH		
2190	21077ED	FIBER OPTIC CABLE	2,600.000	LF		
2200	21458ND	FIBER TRANSCEIVER SIGN	3.000	EACH		
2210	21489ND	RACK MOUNTED UPS	1.000	EACH		
2220	22403NN	WEB CAMERA ASSEMBLY	1.000	EACH		
2230	23022NN	INSTALL HIGH MAST CONTROL CABLE	1.000	EACH		
2240	23023NN	RETROFIT HIGH MAST LOWERING DEVICE	1.000	EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 111341
COUNTY: WARREN
PROPOSAL: NH 0651 (095)

PAGE: 12
LETTING: 10/21/11
CALL NO: 100

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
2250	23161EN	POLE BASE-HIGH MAST	69.000	CUYD		
2260	23365EC	LIGHTING-NAV MONITORING SYSTEM	(1.00)	LS		
2270	23944EC	ADVANCED GROUNDING SYSTEM	1.000	EACH		
SECTION 0008 TRAINEES						
2280	02742	TRAINEE PAYMENT REIMBURSEMENT 1 CEMENT MASON	1,200.000	HOUR		
SECTION 0009 MOBILIZATION / DEMOBILIZATION						
2290	02568	MOBILIZATION (NO MORE THAN 5%)		LUMP		
2300	02569	DEMOBILIZATION (AT LEAST 1.5%)		LUMP		
		TOTAL BID				