

KYTC

DESIGN BUILD

SCOPE OF SERVICES  
September 4, 2013—Version #3

Contract No. \_\_\_\_\_ State Project # 2-225.00

County Hopkins Route I-69 and Pennyrile Parkway Interchange Reconstruction

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## 1. PROJECT IDENTIFICATION

Contract No. xxxxxx

State Project # 2-225.00

County Hopkins

Route I 69 and Pennyrile Parkway Interchange Reconstruction

Local Route Name Western Ky/Pennyrile Parkway Interchange

- 1.1 Existing Plans and Aerial Mapping:** The following existing plans are available for review at the following ftp site:

<ftp.palmernet.com>

username: Hopkins\_69\_DB

password: db69plan

Existing Western KY Parkway Plans

Existing Pennyrile Parkway Plans

Proposed Geometric Layout Sheet

Proposed Right of Way Plans

Preliminary Line & Grade Plans

Existing Topo & DTM

Inroads alg files

Design Executive Summary

KYTC will provide survey information for this project.

- 1.2 Railroad Coordination:** Not applicable for this Project.

- 1.3 Airway/Highway Clearance:** Bridges over I-69 shall maintain 17.0 feet clearance over all lanes and shoulders.

## 2. PRE-PROPOSAL MEETING

This pre-proposal meeting is to discuss and clarify all issues that the project may have.

Location: District 2 Main Office, 1840 North Main St, Madisonville, KY 42431

Date: 09-19-2013

Time: 10:00 a.m. to 12:00 noon (CST)

The meeting is mandatory for contractors and consultants who intend to be leads on the Design Build Teams (DBT)

## 3. ADDENDA PROCESS

All questions prior to the award shall be directed to:

Name: Ryan Griffith, P.E., Director, Division of Construction Procurement

Phone Number: 502-564-3500

Fax: 502-564-8961

Email: [Ryan.Griffith@ky.gov](mailto:Ryan.Griffith@ky.gov)

Or see the website at: <http://transportation.ky.gov/Construction-Procurement/Pages/default.aspx>

Addenda to this solicitation may be necessary prior to the closing date and will be furnished by mail, email, or the web to all prospective Teams if prior to receipt date and to all Teams determined to be susceptible for award if after receipt date. The KYTC will respond to questions that are received by 4:00 pm (EST) 7 days prior to the bid submittal. The responses will be posted 3 days prior the submittal deadline.

#### **4. PRE-QUALIFICATION OF DESIGN-BUILD TEAM (DBT)**

It is required that the bidder be a KYTC pre-qualified Contractor who has engaged the services of a KYTC pre-qualified Design Consultant Team to perform *all* the design and construction work required in these Conceptual Documents. If the Design Consultant submitted does not meet all the required qualifications, KYTC may reject the DBT's bid. All subconsultants and subcontractors utilized by the DBT on this project shall be pre-qualified to perform work for KYTC or their services shall not be allowed.

##### **4.1 Contractors Prequalification**

Consistent with Section 102.01 of Kentucky's 2012 Standard Specifications for Road and Bridge Construction all organizations and individuals bidding on Department projects and accepting subcontracts on Department projects shall apply for and receive Department prequalification and possess a Certificate of Eligibility as provided in regulations published by the Department according to KRS Section 176.140. The lead entity for the DBT must be prequalified prior to submission of Technical Proposal. Organizations and individuals providing other services shall be prequalified and possess a Certificate of Eligibility prior to performing the work.

##### **4.2 Professional Services Prequalification**

The DBT shall provide all necessary services to design and construct all permanent and temporary portions of the project. Work shall conform to current KYTC, federal, and AASHTO standards, practices, policies, guidelines and specifications where applicable. Additional documents identified within the scope of work will be provided under separate cover as part of the contract documents. KYTC standards, practices, policies, guidelines and specifications shall control in case of a conflict. The standard of care for all such services performed or furnished under this Agreement will be the care and skill ordinarily used by members of the engineering profession practicing under similar conditions at the same time and locality.

Design firms prequalified shall perform only those tasks which they are prequalified to complete. The design team will need to have KYTC prequalifications in a variety of disciplines in order to perform. KYTC prequalifications shall include but not be limited to:

Structure Design	Spans Under 500 Ft
Geotechnical	Laboratory Testing Services
Geotechnical	Drilling Services
Geotechnical	Engineering Services
Roadway Design	Rural Roadway Design
Roadway Design	Surveying
Traffic Engineering	Traffic Engineering Services
Traffic Engineering	Electrical Engineering Roadway Lighting Services

Design firms shall be sufficiently staffed and capable of performing the required work on this contract. These design firms may be subcontractors responsible for the design and engineering of the project.

There may be multiple consultants working on the DBT, however one consultant shall be designated as the Lead Designer. The DBT shall include qualified engineers and surveyors to be

in direct responsible charge of engineering and surveying endeavors and who are professionally registered in the state of Kentucky. Designs prepared for the project shall be signed and stamped by a licensed Kentucky Professional Engineer. To qualify for selection, interested DBTs shall be prequalified through KYTC for the performance of the work. Prequalification requirements pertaining to licensure will be required prior to submission of the Technical Proposal. Services that require prequalification may only be performed by firms that are prequalified for those services at the time of performance of the services.

## **5. CONTRACTOR'S CONSULTANT**

The Contractor must name the Design Consultant. The DBT shall submit a letter of qualifications by October 1, 2013 which identifies team members and pre-qualification categories. Consultant names and addresses must be the same as that on file with the Department.

## **6. RESTRICTIONS ON PARTICIPATION IN DESIGN-BUILD CONTRACTS**

To facilitate this procurement, various rules have been established and are described in the following paragraphs.

### **6.1 Campaign Finance Law Statement Pursuant to KRS 45A.110 and KRS 45A.115**

Each member of the Team shall certify that neither he/she nor any member of his/her immediate family having an interest of ten percent (10%) or more in any business entity involved in the performance of this project, has contributed more than the amount specified in KRS 121.056 (2), to the campaign of the gubernatorial candidate elected at the last election preceding the date of this solicitation. Each member of the Team further swears under the penalty of perjury, as provided by KRS 523.020, that neither he/she nor the company which he/she represents, has knowingly violated any provisions of the campaign finance laws of the Commonwealth, and that the award of a contract to him/her or the company which he/she represents will not violate any provisions of the campaign finance laws of the Commonwealth.

A Commonwealth of Kentucky sworn statement regarding campaign financing laws must be completed and signed by an authorized agent of the Team and submitted with the Letter of Qualifications by October 1, 2013.

### **6.2 CONFLICT OF INTEREST:**

The Teams certify, by the signatures of duly authorized representatives that they are legally entitled to enter into this solicitation and contract and that they shall not be violating, either directly or indirectly, any conflict of interest statute under KRS Chapters 45A or 11A or ethical provisions under KRS Chapter 11A. Forms shall be signed and submitted by an authorized agent of the Team with the Letter of Qualification on or before October 1, 2013.

### **6.3 No Contingent Fees**

No person or selling agency shall be employed or retained or given anything of monetary value to solicit or secure this contract, excepting bona fide employees of the Team or bona fide established commercial or selling agencies maintained by the Team for the purpose of securing business. For breach or violation of this provision, the KYTC shall have the right to reject the proposal, annul the contract without liability, or, at its

discretion, deduct from the contract price or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee or other benefit.

#### **6.4 Restrictions on Communications with KYTC Staff**

From September 9, 2013 until a contract is awarded, proposers are not allowed to communicate with any KYTC staff concerning this Project except:

- During the Pre-Bid Conference with KYTC staff present or
- Via written questions to those specified in Section 3.

For violations of this provision, the KYTC may reject the proposal.

#### **6.5 Proposal Preparation**

The Team shall follow any pertinent sections of this information, in the preparation of the proposal. Failure to provide any of the data required may result in the proposal being excluded from further evaluation.

#### **6.6 Payment and Conditions of Stipend**

Subject to the conditions of the RFP, the KYTC will provide a payment of \$15,000 to each nonselected, responsive, DBT. The term “payment” as used in this section shall mean \$15,000.

By submitting its Technical Proposal for this Project, the DBT forms a contract and agreement for its technical proposal and conceptual design with the KYTC. Furthermore, by submitting its Technical Proposal for this Project, the DBT acknowledges that it is eligible for payment if the DBT’s proposal is not selected. The payment will be payable by the KYTC to the DBT after KYTC enters into contract with the successful DBT, unless payment is waived by the unsuccessful DBT.

The payment shall be due only if the DBT submits a Technical Proposal that is responsive to the RFP as defined herein. The payment shall be full and final consideration for all documents submitted in the Technical Proposal. Except for that intellectual property developed apart from or prior to DBT commencing work on the Technical Proposal for this project, KYTC shall retain an undivided joint interest in all rights and intellectual property submitted with the Technical Proposal.

If Technical Proposals have been submitted, but the KYTC does not Award the contract, all responsive shall receive a payment, unless payment is waived by the DBT. If the KYTC withdraws the contract prior to Technical Proposal submission, no payment will be made.

An unsuccessful DBT, who otherwise qualifies for the payment, may elect to waive the payment within 10 days of the KYTC’s Award decision and retain its rights to its Technical Proposal. By accepting payment of the Stipend, DBTs agree to waive all claims and causes of action against the KYTC and FHWA related to the Project in any way.

**6.7 Disposition of Proposals**

All proposals and preliminary plans become the property of the Commonwealth of Kentucky. The successful proposal shall be incorporated by reference into the resulting contract.

**6.8 Bonding Requirements**

A 5% bid proposal guaranty per Section 102.09 of the Standard Specifications will be required to bid this project.

**6.9 Team Response and Proprietary Information**

The KYTC shall not disclose any portion of any proposal prior to contract award to anyone outside the KYTC, other than representatives of the federal government, if required, and the members of the Awards Committee or their designates. After a contract is awarded in whole or in part, the KYTC shall have the right to duplicate, use, or disclose all proposal data, except proprietary data as described below, submitted by Teams in response to this solicitation as a matter of public record. Although the KYTC recognizes the Team's possible interest in preserving selected data which may be part of a proposal, the KYTC must treat such information as provided by the Team pursuant to Kentucky's Open Records Act, KRS 61.870 *et seq.*

Information areas which normally might be considered proprietary must be limited to: individual personnel data, customer references, selected financial data, formulae, and financial audits, which if disclosed would permit an unfair advantage to competitors. If a proposal contains information in these areas that a Team declares proprietary in nature, each sheet containing such information must be clearly designated as proprietary at the top and bottom of the page and must be submitted under separate cover marked "PROPRIETARY DATA". Proposals containing information declared by a Team to be proprietary, either in whole or in part, outside the areas listed above, may be deemed unresponsive to the solicitation and may be rejected.

The KYTC shall have the right to use all ideas, or adaptations of those ideas, contained in any proposal received in response to the solicitation. Selection or rejection of the proposal shall not affect this right.

**6.10 Proposal Addenda and Rules for Withdrawal**

Prior to the date specified for receipt of offers, a submitted proposal may be withdrawn by submitting a written request for its withdrawal to the Director of the Division of Contract Procurement. Withdrawal of the proposal by the DBT will forfeit any payment of the stipend that the DBT shall receive.

The KYTC shall accept addenda, revisions, or alterations to its proposal from any Team until close of business (c/o/b) on the due date. The KYTC shall not accept any unsolicited addenda, revisions, or alterations to any proposal after the c/o/b on the due date. If the KYTC issues an addendum to the solicitation after c/o/b on the due date, then any Team may respond. A Team's response shall precisely respond to the contents of the Commonwealth's addendum.

The KYTC reserves the right to request clarification or additional information. Unless requested by the KYTC, the KYTC shall not accept any addenda, revisions, or alterations to proposals after the proposal due date.

## 6.11 Technical & Price Proposal Submission Requirements

The submittal process will involve a 2 step process (Technical And Price Proposal) and below is a schedule of dates for the submittal:

<i>Date</i>	<i>Submittal</i>
September 9, 2013	Request for Proposals (draft)
September, 19, 2013	Pre-Bid Meeting (Mandatory)
October 1, 2013	Request for Proposals (final)
November 8, 2013	Last Day for Questions
November 18, 2013	Technical Proposal Submittal
December 6, 2013	Price Proposal Submittal
December 2013	Project Award
October 1, 2015 or before	Substantial Completion Date

### **Technical Proposal**

A Team may submit only one proposal. The format and content are as specified. Alternate proposals shall not be allowed. Each proposal shall be prepared simply and economically, providing a straightforward, concise description of the Team's ability to meet the requirements of this solicitation. Fancy bindings, colored displays or promotional materials shall receive no evaluation credit. Emphasis shall be on completeness and clarity of content. The KYTC retains the right to request, receive and consider additional information and clarifications throughout the evaluation process.

Teams shall submit one (1) original and ten (10) copies of the technical proposal and any preliminary plans under a single sealed cover. Proposals shall be received no later than 4:00 p.m., Eastern Standard Time, on 11-18-2013. The KYTC shall reject any proposal received after 4:00 p.m. on 11-18-2013 and shall return it unopened to the proposer. In order to be considered, the original proposal shall be signed in blue ink by an authorized representative of the Team.

The proposal shall be clear and concise, and provide the Scoring Committee with an understanding of the Team's ability to undertake and complete the proposed work in a thorough manner. The proposal is limited to 25 pages 8.5" by 11" which will include resumes, similar projects, project schedule, and technical write-up. The DBT may provide unlimited 11" by 17" pages for supporting details and graphics (ie plan sheets, profiles, etc). A page is defined as an 8.5" by 11" or 11" by 17" sheet which contains text, pictures, graphs, charts, plan sheets, or any other graphics. An 11" by 17" sheet shall not contain only text but shall contain pictures, graphs, charts, plans, or other graphics. Any preliminary plans shall be completed with a readable scale on 11" by 17" sheets. The proposals shall either be mailed or hand delivered to:

Mr. Ryan Griffith, P.E., Director  
Division of Construction Procurement  
200 Mero Street, 3<sup>rd</sup> Floor  
Frankfort, KY 40622

The outside cover of the package containing the proposal shall be marked:

Technical Proposal for  
Hopkins County I 69/Pennyriple Parkway Interchange  
Item No. 2-225.00  
Design-Build: 2013 Design Build #1

**Price Proposal**

The total price offered by the DBT for its Proposal for all work specified in the Contract is referred to herein as the "Price Proposal".

Provide a hardcopy Price Proposal bearing original signature(s) by an authorized employee of the Proposer. All other methods of submitting the Price Proposal shall be considered non-responsive and ineligible for Award.

Provide a Bid Bond. The KYTC Bid Bond form is available on-line at:

<http://transportation.ky.gov/Organizational-Resources/Forms/TC%2014-14.pdf>

or by contacting the KYTC at 502-564-3500. Each Proposer shall submit a Bid Bond with its Proposal in the amount of at least five percent of the Proposal Price, issued by a surety meeting the requirements of the Contract. Alternatively, DBTs may submit cash, a certified check, or a cashier's check payable to KYTC in this amount. A Bid Bond shall not be conditioned in any way to modify the minimum five percent required. Proposals that fail to include a Bid Bond or cash deposit in compliance with this subsection shall be deemed non-responsive and shall be rejected by KYTC. This bond shall be submitted with the Price Proposal in the same sealed envelope and will not be opened until completion of the review of the Technical Proposals.

KYTC shall not accept Price Proposals by facsimile or electronic transmission. Any Price Proposal that fails to meet the deadline or delivery requirement shall be rejected and returned to the DBT without having been opened, considered, or evaluated. The KYTC shall not be responsible for a late Bid due to failure of the DBT to allow sufficient time for delivery of the Bid.

KYTC shall not open the Price Proposal until the completion of the evaluation of the Technical Proposals.

Sealed Price Proposals shall be submitted by mail or hand by 2:00 PM (EST) December 6, 2013 to:

Mr. Ryan Griffith, P.E., Director  
Division of Construction Procurement  
200 Mero Street, 3<sup>rd</sup> Floor  
Frankfort, KY 40622

The outside cover of the package containing the proposal shall be marked:

Price Proposal for  
Hopkins County I 69/Pennyriple Parkway Interchange  
Item No. 2-225.00



**6.12 Acceptance of Proposals**

All proposals properly submitted shall be accepted by the KYTC. However, the KYTC reserves the right to request necessary amendments which may become part of the Team's proposal; reject all proposals; reject any proposal that does not meet mandatory requirements; or cancel this solicitation, in the best interest of the KYTC. For comparison purposes, the Awards Committee will prepare a cost estimate based upon information provided by the DBT in the proposal submittal. For acceptance purposes, the KYTC may use this estimate to accept or reject any or all proposals.

The KYTC also reserves the right to waive minor irregularities in proposals providing such action is in the best interest of the KYTC.

If the KYTC waives minor irregularities, such waiver shall in no way modify the solicitation requirements or excuse the Team from full compliance with the specifications and other contract requirements if the Team is awarded the contract.

**6.13 Protests**

The Secretary of the Kentucky Transportation Cabinet, or his designee, shall have authority to determine and resolve protests and other controversies of actual or prospective Teams in connection with the solicitations or selection for award of a contract.

Any actual or prospective Team, who is aggrieved in connection with solicitation or selection for award of a contract, may file a protest with the Secretary of the Transportation Cabinet. A protest or notice of other controversy must be filed promptly, and in any event within two calendar weeks after such aggrieved person knows or should have known of the facts giving rise thereto. All protests or notices of other controversies must be in writing to:

Secretary, Transportation Cabinet  
c/o Mike Hancock, State Highway Engineer  
200 Mero Street; 6<sup>th</sup> Floor  
Frankfort, KY 40622

The Secretary of the Kentucky Transportation Cabinet shall promptly issue a decision in writing. A copy of that decision shall be mailed or otherwise furnished to the aggrieved party and shall state the reason for the decision. The decision by the Secretary of the Kentucky Transportation Cabinet shall be final.

**6.14 Equal Employment Opportunity Act**

The Equal Employment Opportunity Act of 1978 applies to all State government projects with an estimated value exceeding \$250,000.

**6.15 Employment Wage, Record, and Insurance Requirements**

See Appendix G for applicable requirements. It is understood and agreed to by the DBT that the Prevailing Wage Schedule for compensation to employees for the work categories and occupations for the county for which this project is located shall be strictly adhered to.

## **6.16 VIOLATION OF TAX AND EMPLOYMENT LAWS:**

KRS 45A.485 requires the DBT to reveal to the KYTC, prior to the award of a contract, any final determination of a violation by the DBT within the previous five (5) year period of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342. These statutes relate to the state sales and use tax, corporate and utility tax, income tax, wages and hours laws, occupational safety and health laws, unemployment insurance laws, and workers compensation insurance laws, respectively.

To comply with the provisions of KRS 45A.485, the DBT shall report any such final determination(s) of violation(s) to the KYTC by providing the following information regarding the final determination(s): the KRS violated, the date of the final determination, and the state agency which issued the final determination.

KRS 45A.485 also provides that, for the duration of any contract, the contract or shall be in continuous compliance with the provisions of those statutes which apply to the contractor's operations, and that the contractor's failure to reveal a final determination as described above or failure to comply with the above statutes for the duration of the contract, shall be grounds for the KYTC's

DBT shall identify one of the following in its letter of qualifications that must be submitted by October 1, 2013:

\_\_\_\_\_ The DBT has not violated any of the provisions of the above statutes within the previous five (5) year period.

\_\_\_\_\_ The DBT has violated the provisions of one or more of the above statutes within the previous five (5) year period and has revealed such final determination(s) of violation(s). A list of such determination(s) is attached.

## **6.17 FHWA 1273 applies. See Appendix H.**

## **6.18 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.

#### **6.19 Disadvantaged Business Enterprise (DBE) Program**

A DBE Goal of 4% has been set for this project. DBE forms and requirements can be found in Appendix M.

### **7. PROJECT DESCRIPTION**

Project Limits: I-69/Pennyrile Parkway Interchange Reconstruction. The reconstruction of the interchange involves the design and construction of a 4 lane interstate with 2 lane ramps that provide access to the Western Kentucky and Pennyrile Parkway. The project limits are from I-69 Mile Point 105 to Western Kentucky Parkway Mile Point 38.7 and from Pennyrile Parkway Mile Point 33.9 to Mile Point 35.3. The Geometric Layout Sheet (GLS) provides a detailed layout of mainline and ramp configuration and is included in the Appendix B. Modifications to the GLS are not permitted. The project also involves the design and construction of 2 bridges (2 lanes) over I-69 mainline and the extension of a box culvert. The DBT will be required to improve the deceleration lane from Northbound Pennyrile Parkway to I-69 to meet KYTC standard following removal of the adjacent loop ramp. As part of the construction phase a pavement rehabilitation project between US 41 and Pennyrile Parkway will be incorporated into this project along with all existing ramps of the interchange. The Western Kentucky Parkway bridge over the Pennyrile Parkway will also be included in this project and details for all rehabilitation strategies can be found in the Appendix D of this document. It is the DBT's responsibility to incorporate all pavement rehabilitation strategies into their lump sum bid amount.

### **8. GENERAL PROVISIONS FOR THE SCOPE OF WORK**

The DBT shall provide for the engineering services, design, and preparation of detailed construction plans for the construction of the proposed project. Further, the DBT shall provide for the furnishing of materials, construction and completion in every detail of all the work described in the Conceptual Documents in order to fulfill the intent of the contract.

#### **8.1 Governing Regulations**

All services, including but not limited to survey, design and construction work, performed by the DBT and all subcontractors, shall be in compliance with all applicable AASHTO Design Standards, KYTC Department of Highway's Standard Specifications for Road and Bridge Construction, Standard Drawings, Manuals and Guidelines. As a part of the DBT's technical proposal submittal, a general schedule outlining the item listed in section 18.1 of the RFP. A comprehensive schedule detailing all project milestone dates must be prepared for Department review and approval within 30 days of the award of the contract. This schedule shall show all major design and construction activities and the critical path to completion.

In addition, the DBT shall be required to furnish the Department with a complete breakdown of the lump sum bid items established for this project at the time of submittal of the DBT price proposal. In order to document how the lump sum bid price was determined, the DBT must supply, using standard KYTC bid item codes whenever possible, quantities, units, and prices to support the lump sum bid submitted. Any non-standard bid items used must be thoroughly explained in the bid proposal. The breakdown shall include materials to be used in the work, and shall be in sufficient detail to provide KYTC with a means to check partial payment requests.

The fact that the bid items for this Design-Build project are general rather than specific shall not relieve the DBT of the requirement that all work performed and all materials

furnished shall be in reasonable conformity with the specifications. The DBT's Consultant shall reference in the plans the appropriate Construction and Material Specifications Item Number for all work to be performed and all materials to be furnished.

It will be the responsibility of the DBT to acquire and utilize the necessary KYTC manuals that apply to the design and construction work required to complete this project.

## **8.2 Lump Sum Bid Items**

For this project, a single "all-inclusive" Lump Sum bid item is to be utilized. The components that are to be incorporated in this bid item shall include but are not limited to:

Design: DBT shall furnish units used to prepare project design. See appropriate sections  
Utility Relocation Services: See Section 12  
Grade & Drain: See Section 14  
Asphalt Paving: See Appendix A  
Structure Construction: See Section 15  
Signing: See Section 16.2  
Lighting: See Section 16.3

The DBT shall provide supplemental cost information and supporting documentation of those costs for each of the components listed. The sum of the individual component costs shall equal the value of the "all-inclusive" single lump sum bid item for the project. Certain aspects and requirements for each of these items are discussed in the following sections. Some components are discussed in multiple sections due to the nature of the work involved. As stated previously, the intent of this "all-inclusive" single lump sum bid item is to incorporate all features of the project into this bid item. Please be advised that three percent (3%) of the total lump sum bid price shall be used as the Demobilization cost for this project.

## **8.3 Basis of Payment**

All items covered by Construction and Material Specifications, Supplemental Specifications, Proposal and Special Provision notes with unit price as a basis of payment shall be included in the Lump Sum bid item established for the project. "In progress" payments for the project shall be made utilizing the supplemental cost information supplied for each of the components identified as parts of the "all inclusive" single Lump Sum bid item.

## **8.4 Final Payment**

In addition to the normal requirements in Sections 105.12 and 109 of the Standard Specifications, the DBT shall prepare and submit the following prior to the request for final payment:

1. All original project files and notes utilized in the preparation of the survey, design and construction of the project.
2. As-Built Plans as required below.

## **8.5 As-Built Plans**

A. General: At the completion of the work, prior to final acceptance of the construction, the Consultant shall furnish the Department Electronic As-Built Plans

of the construction. When the As-Built Plans are completed, the Consultant shall professionally endorse (sign and seal) the title sheet.

As-Built Plans shall be prepared and submitted in accordance with Chapter 200 of the KYTC Highway Design Manual.

In addition to the information shown on the construction plans, the As-Built Plans shall show the following:

1. All deviations from the original approved construction plans which result in a change of location, material, type or size of work.
2. Any utilities, pipes, wellheads, abandoned pavements, foundations or other major obstructions discovered and remaining in place which are not shown, or do not conform to locations or depths shown in the plans. All underground features (including utilities that have been relocated as a part of the project) shall be shown and labeled on the As-Built Plans (Quality C) in terms of station, offset and elevation.
3. The final option and specification number selected for those items which allow several material options under the specification (e.g., conduit).
4. Additional plan sheets may be needed if necessary to show work not included in the construction plans.

The Plan index shall show the plan sheets which have changes appearing on them.

Once the Department has approved the As-Built Plans, the original tracings and the associated electronic files shall be delivered to the Project Manager for final processing. Acceptance of these plans and delivery of the original tracings and the associated electronic files shall be approved by the Project Manager prior to the work being accepted and the final estimate approved.

B. CADD Files shall be supplied by DBT:   X   Yes            No

All CADD standards shall be in accordance with the KY CADD Standards Version 3.09.

#### **8.6 Pre-Design-Preconstruction Conference**

Within 10 days after price proposal opening, the DBT shall attend a mandatory Pre-Design-Preconstruction Conference.

#### **8.7 KYTC Contacts**

Communication:

All communication during design and construction shall be with the District Project Manager. All submittals identified elsewhere in this document shall be simultaneously sent to the District Project Manager and to the other KYTC personnel.

District Project Manager:   Byron Johnson, PE  

Phone number:   270-824-7080   Email:   Byron.johnson@ky.gov  

At the Pre-Design-Preconstruction Conference, the Contractor shall name a Project Manager who will act as a liaison between the DBT and KYTC.

### **8.8 Entry on Private Property**

Prior to performing any project development work, the DBT will send notification letters indicating the date and duration of entry to any affected property owners no less than forty-eight (48) hours nor more than thirty (30) days prior to the date of entry. The DBT shall forward copies of all notification letters distributed to KYTC's Project Manager. Any subsequent claims for compensation due to damages incurred during the project development phase will be negotiated between the DBT and the affected property owners.

## **9. HAZARDOUS MATERIALS**

The DBT is advised that any hazardous materials or contaminated areas encountered as a part of the design and construction of the project shall be the responsibility of the DBT to identify, take responsibility for, and take the appropriate steps to dispose of said materials in accordance with all laws and regulations. If Hazardous Materials are encountered with the removal of the building then the process identified in Appendix E shall be followed.

## **10. ENVIRONMENTAL**

### **10.1 NEPA Document**

A Categorical Exclusion Level 3 has been completed by the KYTC for this project. This environmental document assumes that all construction will be within the designated right of way. If this is not what is proposed, the DBT shall be responsible for any additional environmental work for areas outside the existing right of way. Any significant changes from the scope may invalidate the NEPA CE Level 3 approval, and therefore would not be acceptable.

### **10.2 Waterway Permits**

The KYTC will obtain all necessary Nationwide 401/404 permits within the right of way and the DBT will be required to obtain all necessary permits from the appropriate Federal, State or Local government agencies for any excess material or borrow sites needed outside that established right of way. The DBT will be required to have all NPDES and BMP and erosion control measures for the project.

It is required that the bidder be aware of Section 404 and 401 permits and certifications requirements for all projects impacting "waters of the US". The level of permit required, that is Nationwide versus Individual 404 and 401, is determined by the exact amount of impact to "waters of the US", (i.e., acreage of fill activities in a stream or wetland or linear feet of work in a stream) and in some cases the waters impacted. All individual 404 Permits require 401 Water Quality Certification. Nationwide Permits are activity specific permits used to authorize projects with minor impacts. Projects with more than minor impacts require individual review by the U.S. Army Corps of Engineers and the KY Division of Water.

### **10.3 National Pollutant Discharge Elimination System (NPDES) Permit and Best Management Practices (BMP) Plan**

The DBT must submit to the project manager a BMP plan for the project and receive approval prior to beginning work. All temporary erosion control is the responsibility of the DBT. The DBT will be responsible for filing the Notice of Intent (NOI) with the Kentucky Division of Water.

## **11. RIGHT OF WAY (ROW)**

All construction of this project is to be performed within the limits of the right of way purchased by KYTC as identified on the right of way plans. The DBT will be responsible for the demolition of the existing barn located within the right of way (see Appendix E for details).

The DBT will stake and flag the existing and proposed right of way and all easements needed in the field prior to the start of construction. The DBT will maintain all proposed right of way and easement stakes and flags throughout the duration of the project.

## **12. UTILITIES**

KYTC will provide utility relocation for all utilities with the exception of a waterline along Cates Road which will be the DBT's responsibility. DBT shall adapt schedule per the impact notes identified below:

### **PROTECTION OF UTILITIES**

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

The DBT is advised to contact the **BUD one-call system at 1-800-752-6007** at least two working days prior to excavating. DBT should be aware that owners of underground facilities are not required to be members of the BUD one-call system. It may be necessary for the DBT to contact the County Court Clerk to determine what utility companies have facilities in the project area.

### **Special Utility Coordination Requirements Note:**

This project is being bid with some degree of utility relocation underway, as defined within this Utility Impact Note. The KYTC has fully reviewed the ongoing relocation activities and is satisfied that the road contract can be awarded while said utility work is active. By bidding, the DBT concurs with this assessment and has defined work zones and phasing that will not conflict with the ongoing utility relocation work. The DBT will be given the opportunity to monitor the progress of the respective utility work. At any time between the date the DBT is placed on the Pending Awards List and January 10, 2014, the DBT may request that the award for the contract be given, to finalize the contract, and issue the work order. By requesting the award at any time, the DBT understands and agrees that he shall indemnify and save harmless the KYTC, the Department, the Federal Highway Administration, and all their officers, agents and employees from all suits, actions or claims of any character brought on by delays, inefficiencies,

inconveniences, or damages associated with scheduling and completing any/or all utility relocations that are or become associated with the project. By requesting that the contract be awarded, the Department contends, and the DBT agrees, that no additional compensation for delays, inconvenience, inefficiencies, or any other damages sustained by the DBT and his Subcontractors due to any interference from the utility appurtenances or due to the operation of moving them. The DBT also agrees to cooperate with the KYTC, FHWA, pertinent Utility Companies, and associated project partners to facilitate the completion of the road project, which includes cooperative efforts such as; phasing work to avoid conflict with the active utility work, utilizing BUD and utility companies as appropriate to identify utility locations, consider the active utility work when scheduling construction activities, and any other cooperative efforts necessary to allow the release of the work zones occupied by said utilities. The Utility Clearance Dates defined within this note are not warranted and are subject to variation due to typical construction scheduling issues such as; weather, material availability, natural disaster and the like. These issues are not recognized as appropriate justification for claims.

#### **Existing Utilities:**

The existing LGE/KU overhead transmission lines will be relocated by LGE/KU contractors prior to March 31, 2014.

The two existing gas transmission lines (Atmos & Orbit) will remain in their existing location and the DBT will be required to place additional fill material over the lines within right of way limits to assure that 42-in of cover is established. The existing topo provides elevations of the existing gas transmission lines within the right of way limits. Atmos & Orbit will relocate vent pipes outside of right of way prior to March 31, 2014.

AT&T was identified as having underground telephone within the project area. Field investigations confirmed that the underground lines were previously abandoned and will not require relocation.

The DBT will be required to relocate the 3" waterline along Cate Road as identified on the plans provided to the DBT (Appendix C).

It is the DBT responsibility to coordinate and certify coordination with each company that exact locations of the utility lines and if the DBT chooses to relocate any utility it is the DBT responsibility to coordinate, reimburse, and schedule the relocation.

The District Utility Agent has determined that at a minimum, the following utilities are located in the area of the project:

Atmos Energy Corporation  
638 W. Broadway Street  
Madisonville, KY 42431  
Tim Tompkins  
270-836-4538  
[Timothy.tompkins@atmosenergy.com](mailto:Timothy.tompkins@atmosenergy.com)

Orbit Gas  
PO Box 2100  
600 Barret Rd  
Henderson, KY 42420



Jim Martin  
270-827-2093 (O)  
270-302-6431 (C)  
[jim.f.martin@orbitgas.com](mailto:jim.f.martin@orbitgas.com)

AT&T Communications  
Mike Wilson  
270-825-7808

LGE/KU Transmission  
Terry Moore  
270-383-6011  
[Terry.moore@lge-ku.com](mailto:Terry.moore@lge-ku.com)

South Hopkins Water District  
129 S Main St  
Dawson Springs, KY 42408  
Jon Blalok  
(270) 797-5760  
[southhopkinswate@bellsouth.com](mailto:southhopkinswate@bellsouth.com)

### **13. DESIGN AND CONSTRUCTION REQUIREMENTS: MAINTENANCE OF TRAFFIC (MOT)**

Maintenance of Traffic (MOT) Special Provisions in addition to the Governing Regulations listed in Section 8.1 of this document: The DBT shall submit an approach for MOT for the project that incorporates the elements listed as well as propose any innovative ideas that may expedite the work. A Traffic Management Plan will need to be submitted and approved based on the criteria “significant project”

**13.1 General:** All temporary MOT devices shall comply with the National Cooperative Highway Research Program (NCHRP) 350 Hardware report.

**13.2 MOT Restrictions:**

Two (2) eleven foot lanes (1 in each direction), as a minimum, on parkway and all ramp movements shall be maintained. Shoulder closures may be allowed.

Each ramp may be closed for one weekend from 10 PM to 7 AM to construct any tie-ins by detouring traffic to the next closest interchange and back with a signed detour.

Access to all adjoining properties shall be maintained.

If DBT determines that Two-lane, two way operation (TLTWO) is to be used during maintenance of traffic then the DBT shall provide positive separation.

Temporary barrier wall shall be required to protect the median work area on Western Kentucky & Pennyryle Parkway if work is proposed in the median or within worker protection area.

MOT plan must be submitted for approval. The KYTC will approve or provide comments within 14 calendar days.

The DBT shall maintain one lane in each direction throughout the entire duration of the project. Under special circumstances, KYTC reserves the right to restrict the use of lane closures due to unforeseen special events. Suggestions for additional working hours may be proposed by the DBT to KYTC as a part of the DBT project proposal. Construction operations using shoulder closures may be allowed provided any resulting temporary drop-off conditions and signing requirements are adequately addressed.

Drop-offs greater than 4" shall be wedged with DGA or other suitable materials on a 3:1 or greater slope in conjunction with barrels spaced every 20 feet. If a positive separation of 5 feet or greater can be achieved between traffic and the drop-off, no wedging will be required. Temporary drop-offs during working hours that construction operations are taking place should be kept to a minimum. Drop-offs greater than 4", resulting from excavations directly adjacent to traffic (with no positive separation), shall be limited to 500 feet in length. The intent of this requirement is to keep the temporary (wedging operation" in close proximity to the work to promote safety for the motorist.

#### **14. DESIGN AND CONSTRUCTION REQUIREMENTS: LOCATION & DESIGN**

Location & Design Special Provisions in addition to the Governing Regulations listed in Section 8.1 of this document. The KYTC will furnish the existing and projected traffic numbers for the required interchange. (See Appendix I)

- A. The DBT shall design and construct the Interchange configuration approved by KYTC and provided to the DBT on the Geometric Layout Sheet (GLS). This includes the grade, drain, surfacing, and structure items necessary to construct this interchange.
- B. The bridge and roadway in the interchange area shall be an rural section with four 12 feet lanes plus 12 foot outside shoulder (10 paved) and 6 foot inside shoulder (4 paved).
- C. The bridges over I-69 shall provide a clear distance of at least 30 feet from the edge of traveled way.
- D. The design will maintain 4:1 or flatter slopes within the 30 foot clear zone of the proposed and existing roadways, except as shown on plans from Station 1000+00 to Station 1035+00 where guardrail shall be used to avoid right of way impacts.

##### **14.1 Survey:**

All project survey requirements shall be in accordance with Section 300 of the KYTC Design Manual. Placement of proposed Right of Way monuments, in accordance with KYTC standards, shall be required on this project. Placement of all proposed Right of Way monuments shall be performed by a Registered Surveyor, with a current registration, recognized by the Kentucky State Board of Registration for Professional Engineers and Surveyors. Costs associated for this item shall be borne by the DBT. In accordance with Kentucky Standard Specification for Road and Bridge Construction Section 726, "RIGHT OF WAY MONUMENTS".

The DBT shall provide the following items prior to final acceptance of the As-Built Plans:

- a. Listing of all new monumentation, set, (horizontal and vertical) plotted on the As-Built Plans.

**14.2 Functional Classification of Roadway:** I-69 is a Rural Interstate.

**14.3 Design Speed:** 70 MPH on interstate

**14.4 Pavement:** See Appendix A for thickness details

The existing pavement thicknesses vary on the parkways by direction so different rehabilitation strategies shall be used throughout the project limits. The details, thicknesses, and station limits are shown in Appendix A. The DBT will be responsible for determining the limits of salvageable pavements in the areas where superelevation is transitioning to facilitate mainline I-69. The DBT will also be responsible for pavement removal of the ramps & shoulders that are not being used as part of the proposed interchange improvements. The DBT will seed and protect these areas in accordance with KYTC standard specifications.

**Material Transfer Vehicle Required:** Yes   X   No       

See Special Note for Materials Transfer Vehicle in the standard specifications.

**Asphalt Pavement Ride Quality Required:** Yes   X   No       

See Section 410 of the standard specifications. Rideability will apply to all the ramps and interstate lanes. (Category A)

**OPTION A**

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

**Subgrade Stabilization**

Subgrade Stabilization shall be at the contractor's option:

- a. 16" of Rock (#2,3, or 23's) wrapped in Type IV filter fabric; or
- b. 12" cement stabilized roadbed (6% Portland Cement by dry weight)

**14.5 Typical Section:** See Appendix B

**14.6 Drainage Folder Required:** Yes   X   No       

Replacement and/or Extension of all affected cross drains and culverts will be required on this project. The existing pipes shall be cleaned and video inspected as part of the DBT contract. All drainage structures must be upgraded to meet the appropriate size requirements as set forth in the KYTC Drainage Manual. The DBT shall submit the drainage folders with the as-built plans.

**14.7 Design Exceptions:**

Previously approved Design Exceptions:   None  

The KYTC has an established and approved design executive summary (DES) and the DBT shall advise of any proposed design features that do not meet the minimum design criteria. Due to the sensitive nature of the approval process for a Design Exception, it is a requirement that all design exceptions be submitted for consideration by the KYTC in writing no less than 21 days prior to submittal of the technical proposal. A detailed

explanation of the justification for this exception must be provided with this request. All DBTs will be made aware of the request as well as approval or disapproval in writing. KYTC does not intend to approve design exceptions after the contract is awarded unless extreme and unforeseen circumstances can be demonstrated. The safety of the traveling public shall not be compromised by a design exception.

The following items need to be individually discussed for any requested design exception:

- A. Amount and character of traffic
- B. Type of project (e.g. new construction, 3R)
- C. Accident history relevant to the exception request
- D. Specific information pertinent to the type of exception being requested (i.e. deferral of bridge widening requests should address structural and function adequacy of existing bridge and project a future time for widening and etc.)
- E. Underlying reason for requesting exception
- F. Effect, if any, exception will have on other standards (i.e. design speed exception would affect requirements for grade, curvature, sight distance, etc.)
- G. Effect of the exception on the safety and operation of the facility
- H. Cost of attaining full standards (phrases such as obtaining the standard would be too "costly" or beyond the scope of the project are of little value in making a decision)
- I. Future improvements and their relation to the requested exception
- J. Any features which would tend to mitigate the deviation

**14.8 Fuel and Asphalt Adjustments:**

Fuel and asphalt price adjustments, as detailed in the supplemental specifications, will be applicable for this project. Payments are based on actual quantities placed per day rather than estimated values and the base "index" values used to determine price adjustments shall be based on the values for the first of the month for when the bid proposals are submitted to KYTC.

**14.9 Fencing:** Yes ☒ No ☐

New Access Control fencing will be required for the interstate from the beginning of the US 41 bridge on Western Kentucky Parkway to project limits on Pennyrite Parkway.

**15. DESIGN AND CONSTRUCTION REQUIREMENTS: STRUCTURES**

**15.1 Structure Design / Advance Situation Folder**

The Team will have a consultant team member pre-qualified in Structure Design, Bridges under 500 feet. The Team will be responsible for preparing any structure plans required. The structure plans shall be developed in accordance with Division of Structure Design Guidance Manual (<http://transportation.ky.gov/bridges/GuidanceManual.htm>). Review times shown in the Guidance Manual will begin when a submittal is received. Submittals required will be Advance Situation Folder, Stage 1 Preliminary Plans, Stage 2 Preliminary Plans, Stage 1 Final Plans and Stage 2 Final Plans. The structure plans will be signed and sealed by a Licensed Professional Engineer. Structure can be submitted individually. The Division of Structural Design will provide drawing numbers for each structure. The Team will present electronic copies in pdf format of plans and calculations for all submittals to the Division of Structural Design. This will be in addition to any required hard copies.

### **15.1 Existing Structures Identification and Data**

Plans are available for the existing structures and on the established ftpsite at:

[www.palmer.net.com](http://www.palmer.net.com)

Username: Hopkins\_69\_DB

Password: db69plan

The DBT should field verify all pertinent information needed to facilitate the design and construction of the new structure.

### **15.2 Design and Construction Requirements of Structure**

All design and structure construction shall be in compliance with all applicable AASHTO design criteria as well as current KYTC standards.

All Shop Drawings shall be approved by DBT. PDF copies shall be provided to the Division of Structural Design

### **15.3 Foundation Investigation and Geotechnical Investigations**

Preliminary geotechnical information attached in this proposal was prepared by KYTC for information only and it is the DBT responsibility perform all necessary geotechnical investigations. All geotechnical information needed by the DBT for foundation investigation and all geotechnical investigations necessary to prepare the DBT's bid shall be the responsibility of the DBT. The subsequent report shall be submitted for review and approval by KYTC Geotechnical Branch. Please allow 14 calendar days for this review.

### **15.4 Geotechnical, Foundations, Slopes and Walls**

Preliminary geotechnical information (for information only) was prepared by KYTC for the DBT use and is attached to this proposal. All geotechnical information needed by the DBT for foundation investigation and all geotechnical investigations necessary to prepare the DBT's bid shall be the responsibility of the DBT. The subsequent reports shall be submitted for review and approval by the Cabinet's Geotechnical Branch. Please allow 14 calendar days per submittal for this review.

1. The DBT's Geotechnical engineering firm shall be prequalified for Geotechnical engineering work (Engineering, Laboratory Testing and Drilling) in Kentucky.
2. Design shall be in accordance with AASHTO LRFD Bridge Design Specifications, latest edition, except where overridden by state design standards. All design shall use LRFD methods except where such methods are not provided for in the AASHTO design manual, or these requirements. Where state standards recommend ASD design methods, equivalent LRFD methods shall be used. Specific approval to use non LRFD methods is required
3. All geotechnical design and additional geotechnical explorations performed by the DBT shall be completed and submitted to KYTC in accordance with the latest copy of the KYTC Geotechnical Guidance Manual. The design shall be in accordance with the Guidance Manual except where overridden by these requirements.

The DBT shall produce and submit a Foundation Analysis and Design Report for each structure and a Geotechnical Engineering Roadway Report for slopes and

subgrade design. These reports shall include all engineering analyses and design recommendations.

4. DBTs are responsible for reviewing and analyzing the geotechnical information provided with the RFP. Soil and groundwater conditions are only known at the exploration locations at the time of the explorations. Bedrock data is only known at the locations of rock cores obtained at boring locations. Interpretation and interpolation between exploration locations shall be at the sole risk of the DBT. It is the DBT's responsibility to make interpretations and draw conclusions with respect to the character of the geotechnical materials encountered and their impact upon its work.

Rock cores are available for viewing at the KYTC Geotechnical Branch (Mike Blevins 502-564-2374).

5. If the DBT determines additional subsurface explorations are necessary to properly design and construct the work in accordance with KYTC requirements, the DBT shall perform the additional subsurface explorations and analysis at its own expense. The DBT shall selectively locate additional subsurface explorations on the basis of field observations, and design considerations. Location of explorations shall be as topography, site conditions, soil conditions, and design factors dictate.

The DBT shall provide all additional subsurface exploration plans and explorations to KYTC in accordance with the KYTC Geotechnical Manual.

6. All bridge loads must be supported by a deep foundation extended to bedrock or spread footings founded on competent bedrock.
7. Spread footings shall not be allowed for bridge foundations unless they are founded on competent bedrock. Spread footings for other structures shall be designed in accordance with the KYTC Geotechnical Guidance Manual, KYTC Structural Guidance Manual, AASHTO LRFD Bridge Design Specifications, and with applicable Special Notes located in the Appendix to this Project Scope document.
8. Acceptable driven pile types are:
  - Steel H-piles driven to bedrock
  - Steel Pipe Piles (closed and/or open ended) driven to bedrock
  - Timber piles are not allowed for permanent structures.
9. Design drilled Shafts in accordance with the KYTC Geotechnical Guidance manual, KYTC Structural Design Guidance Manual, and AASHTO LRFD Bridge Design Specifications.

Bell shaped shafts shall not be allowed.

Drilled shafts shall be constructed in accordance with the "Special Note For Drilled Shafts" located in the current edition of the "Kentucky Standard Specifications for Road and Bridge Construction".

Drilled Shafts must be designed with shafts tips extended into bedrock.

The side resistance and end bearing components of axial geotechnical resistance in rock sockets may be combined only if the DBT geotechnical engineering team evaluates the results of load testing performed using the Osterberg method to confirm that the deformations required to mobilize the side resistance and end bearing components are compatible.

Because permanent casing is required for drilled shafts extending into bedrock, side resistance in soil and end bearing in rock cannot be combined

For shafts socketed into bedrock:

- Permanent casing is required.
- The DBT shall use permanent casing that is 6 inches larger in diameter than the proposed rock socket diameter to the top of rock socket/bottom of permanent casing.
- The DBT shall be responsible for providing subsurface exploration drilling to finalize the drilled shaft tip elevations. Additional drilling shall be required at each drilled shaft location in accordance with the Special Note for Drilled Shafts, current edition.
- The DBT shall design the shafts neglecting any lateral resistance above the “Bottom of Permanent Casing” elevations and considering lateral resistance only in the uncased portions below the “Bottom of Permanent Casing” elevations.
- The DBT shall perform lateral load analysis neglecting any lateral resistance above the top of the uncased rock socket.

The strength of the steel casing may be included in the structural resistance of the shaft to axial and bending loads. The thickness of the casing shall be reduced by the anticipated corrosion loss of the steel over the design service life of the structure.

10. Proposed alternative foundation systems not specifically allowed for in this criteria or in the KYTC Design Manuals may be used upon approval of KYTC.

If the DBT wishes to propose an alternative foundation system, they must submit a proposal to the KYTC for review. The proposal must specifically address:

- Anticipated nominal resistance of the foundation elements (axial and lateral)
- Anticipated service load deflections of the foundation elements
- Estimated service life
- Proposed design methods and resistance factors

11. The DBT shall design retaining walls shall in accordance with the KYTC Geotechnical Guidance Manual, KYTC Structural Design Guidance Manual, AASHTO LRFD Bridge Design Specifications, and with applicable Special Notes located in the appendix.

The DBT shall design foundations for gravity retaining walls in accordance with the KYTC Geotechnical Manual. The gravity walls shall be constructed in accordance with KYTC Standard Drawing RGX-002. The geometry of the gravity walls may vary from the Standard Drawing only if approved by the Department.

Gabion basket retaining walls shall not be permitted for permanent construction.

Metal "Bin" type retaining walls shall not be permitted for permanent construction.

Only preapproved Mechanically Stabilized Earth (MSE) wall systems shall be used on this Project. See the Special Note for MSE retaining walls located in the Appendix L for preapproved systems. Only inextensible reinforcement shall be allowed.

12. Reinforced soil slopes shall not be designed at a slope ratio steeper than one (1) Horizontal to one (1) Vertical. Reinforced soil slopes shall be designed in accordance with design procedures presented in the latest version of Publication No. FHWA NHI-00-043, "Mechanically Stabilized Earth Walls and Reinforced Soil Slopes."
13. The DBT is responsible for analysis and design of soil slopes. Slopes steeper than two to one (2H:1V) shall be reinforced. Slopes two to one (2H:1V) or flatter may require reinforcement depending on soil conditions.

Where embankment settlement is anticipated to exceed 3 inches in total settlement, The DBT shall submit an instrumentation plan for review to monitor settlement and determine when the pavement section can be placed.

All geotechnical instrumentation shall be left in place for future readings after the project has been completed. Instrumentation destroyed by the DBT shall be replaced at the DBT's expense.

Shale cannot be used in the upper two feet of the subgrade.

Material for the upper two feet of the subgrade shall meet a minimum CBR value of 2.0.

Treatment of the top 12 inches of the subgrade shall be required for a chemically stabilization subgrade.

If shale that has a possibility of being acidic producing is used on the Project, testing shall be required to determine the acidic producing potential. The acidic producing shale shall be encased with a minimum 2.5-foot layer of compacted clay soil. A minimum of 4 feet of clay shall be required on top of the embankment to control the corrosion of guardrail and/or sign post, etc. from the acidic shale. Sulfate resistant cement (ASTM C-150 Type II) shall be used for subsurface structures such as pipes, culverts, bridges, etc.

Foundation embankment benches and longitudinal perforated pipe underdrains shall be constructed in accordance with Standard Drawings RGX-010 and RDP-006 with the exception of the vertical bench shall not be excavated vertically but shall be excavated with a 1:1 slope to allow the use of a continuous rock drainage blanket. The benches shall be constructed one at a time beginning with the lowest bench. Each bench shall be backfilled prior to excavation of the next bench. This procedure shall be followed to help maintain stability of the existing slopes in these areas. A 1-foot vertical thickness coarse aggregate Rock Drainage Blanket, in accordance with the current edition of Sections 210 & 805



of the Standard Specifications for Road and Bridge Construction, shall be placed on the benches for a drainage blanket. The placement of this material is incidental to roadway excavation or embankment-in-place, and no additional compensation shall be made for this work. The drainage blanket shall be wrapped with Type IV fabric in accordance with Sections 214 & 843 of the current Standard Specifications to create a drainage blanket.

14. Excavation support methods may be required. A dewatering method may be needed in some areas. The DBT shall be responsible for the stability of any excavations or temporary cuts. Protection of adjacent structures and utilities is the responsibility of the DBT. The DBT shall be responsible for any damage to the existing infrastructure. Any damage shall be repaired immediately.

## **16. DESIGN & CONSTRUCTION REQUIREMENTS: PERMANENT TRAFFIC CONTROL**

- 16.1 Pavement Markings and Delineators Special Provisions** in addition to the Governing Regulations listed in Section 8.1 of this document:

**A. Pavement Markings:** Yes   X   No           

The DBT shall use 6" durable waterbourne marking along I-69 and ramps along with 12" durable waterbourne markings at entrance and exit ramp gores. The DBT shall use durable waterbourne paint as per Section 713 of the Standard Specifications. The DBT shall provide striping plans no later than the final plan submittal stage for review and approval by KYTC.

**B. Raised Pavement Markers:** Yes   X   No           

**C. Delineators:** Yes   X   No           

**D. Barrier Reflectors:** Yes   X   No           

**E. Object Markers:** Yes   X   No           

- 16.2 Signing Special Provisions** in addition to the Governing Regulations listed in Section 8.1 of this document: All temporary and permanent signing shall be provided by the DBT for this project. The DBT shall also evaluate all existing guide signs for this interchange and include any new or modified signs required. All existing signs shall be maintained during construction. Some signs may have to be relocated both temporarily and/or permanently. The DBT shall provide sign plans for review and approval by KYTC prior to beginning construction. All signing shall be in accordance with the MUTCD and a preliminary signing plan was provided for the DBT reference. All sign design shall be approved by KYTC prior to implementation.

## **17. DESIGN & CONSTRUCTION REQUIREMENTS: LIGHTING**

- 17.1 Lighting Special Provisions** in addition to the Governing Regulations listed in Section 8.1 of this document: The DBT shall be responsible for developing high mast roadway lighting plans and installing roadway lighting equipment for the entire interchange including the entire length of all ramps and tapers. The DBT shall utilize a consultant pre-qualified by the KYTC for Electrical Engineering Roadway Lighting Services to prepare the roadway lighting plans. The plans shall be in compliance with the Division of Traffic Operations' standards and practices. Lighting plans shall be submitted to the Division of Traffic Operations for review and approval. Plans shall be developed in accordance with the Division of Traffic Operations' Standard Detail Sheets, the National Electrical Code, and the National Electrical Safety Code.

Prior to developing roadway lighting plans, the DBT's lighting consultant shall perform a photometric analysis of the proposed lighting layout and submit all pertinent data to the Division of Traffic Operations for review and approval.

Upon approval of the proposed lighting layout, preparation of the roadway lighting plans may begin.

The following documentation shall be submitted to the division for review.

**A. Full plan set including:**

- A summary sheet with KYTC bid item codes and estimated quantities.
- A bid item notes sheet to describe all items on the summary sheet that are not addressed in the Kentucky Standard Specifications for Road and Bridge Construction.
- Roadway Lighting Standard Detail Sheets
- Drawings, specifications, and construction methods for any items not addressed in the Standard Specifications or Standard Detail Sheets.
- Lighting layout.

**B. Voltage drop calculations.**

**C. Electronic files from lighting analysis.**

The Division's review of submittals shall take no longer than 14 working days. Further submittals (with individual 14 working day review periods) may be required until all issues are addressed and documentation is approved.

**17.2 LAYOUTS:** Lighting analysis shall only be performed using a software package approved by the Division of Traffic Operations.

Photometric analysis shall use a Light Loss Factor (LLF) of 0.80 for open fixtures and 0.65 for closed fixtures. Point spacing should be a maximum of 4 feet transversely and longitudinally.

The IES distribution pattern utilized to design the lighting shall be noted on the plans.

The DBT's lighting consultant shall calculate the voltage drop for each branch circuit. The wiring shall be sized such that the voltage drop for each branch circuit is less than 5% of the source voltage.

For pole-mounted cabinets, the maximum number of circuits allowed shall be five, not including the spare. For base-mounted cabinets, the maximum number of circuits allowed shall be nine, not including the spare.

All lighting poles placed behind guardrail shall be located a minimum of 4 feet from the face of the guardrail.

When laying out the lighting, particular attention should be given to decision points such as intersections, gore areas, overhead signs (reflection issues), etc. Designs should avoid overhead and underground utilities, drainage structures, and other obstructions. Poles on structures should be limited to as few as possible. The plans shall include station and offset for each pole, determined from the nearest roadway alignment.

### **17.3 HIGH MAST LIGHTS**

High mast poles shall be located such that they are out of the clear zone as defined by AASHTO's *Roadside Design Guide*. The typical design should include four to six 1000W luminaires mounted on a 120' pole. High mast systems should be designed using ducted cable in lieu of wiring/conduit.

### **17.4 AVIATION OBSTRUCTION LIGHTING:** The DBT's lighting consultant shall contact the Kentucky Department of Aviation to determine if aviation obstruction lighting is necessary.

All applicable sections of the Federal Aviation Administration Advisory Circular 70/7460-1F shall be followed when installing aviation obstruction lighting.

The Federal Aviation Administration (FAA), through 14 CFR, would require that the DBT file a Notice of Proposed Construction or Alteration (FAA Form 7460-1) with the Administrator of the FAA if any state-maintained highway or other traverse way whose prescribed adjusted height would exceed any of the standards noted below:

- A. Any construction or alteration exceeding 200 ft above ground level
- B. Any construction or alteration:
  - within 20,000 ft of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft
  - within 10,000 ft of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft
  - within 5,000 ft of a public use heliport which exceeds a 25:1 surface

If required, the DBT's lighting consultant shall fill out and submit an Application for Permit to Construct or Alter a Structure form (TC 56-50) or a Notification of Change in Oversight or Ownership of a Structure form (TC 56-54).

### **17.5 ILLUMINANCE LEVELS:** Interchange lighting shall be designed to provide the following:

- Average maintained illuminance on all roadway surfaces of 0.80 footcandles
- Minimum illuminance of 0.20 footcandles, and
- Uniformity ratio less than or equal to 4:1

**17.6 COVERAGE:** For complete interchange lighting layouts, the designer shall provide lighting:

- On the mainline through the interchange, extending to the end of the farthest taper in each direction
- On the crossroad, extending outside the furthest ramp termini
- Along each ramp including the gore areas.

**17.7 SHOP DRAWINGS:** Upon final approval of the roadway lighting plans, shop drawings shall be submitted to the Division of Traffic Operations for review. Upon approval of the submitted shop drawings, installation of roadway lighting equipment can begin.

**17.8 INSTALLATION:** The DBT shall utilize a contractor prequalified by the KYTC in Lighting to install the roadway lighting equipment. Installation shall be in compliance with the plans, Kentucky Standard Specifications for Road and Bridge Construction, Standard Detail Sheets, National Electrical Code, and the local utility company serving the installation. Included in the roadway lighting installation shall be the removal of items not to be reused. All other roadway lighting equipment not to be reused shall be disposed of off the project at the DBT's expense.

**17.9 INSPECTION:** The Division of Traffic Operations shall conduct an inspection of all lighting installed on this project. The Division shall prepare a list of required corrective work and send it to the applicable personnel. Additional inspections of corrective work may be required until identified issues have been addressed.

## **18. SELECTION CRITERIA**

The DBT will be required to provide the KYTC two separate submittals for the project. The first submittal will be a technical proposal and the second submittal will be a price proposal. The Scoring Committee will evaluate the technical proposal and provide a score to the awards committee. The price proposal will be submitted after the scoring committee has completed scoring the proposals and the awards committee will establish an overall score. The KYTC's Project Awards Committee will select the winning Design Building Team for this project and the award will be made accordingly. The bids will be opened on December 6, 2013 and the award will be made by December 20, 2013.

### **18.1 Technical Proposal (40 Points)**

#### **A. Schedule / Capacity (20 Points)**

The DBT shall establish a substantial completion date for the project which shall be no later than October 1, 2015. Early substantial completion date of the project is

preferred and liquidated damages will apply on the date submitted by the contractor as part of his submittal. If the project is not completed by DBT's designated date, liquidated damages per Section 108.09 of the Standard Specifications will be applied for each calendar day including weekends and holidays. Contrary to current specifications, liquidated damages, in the amount of \$5,000.00/per day will be assessed through the winter months and during any times when a work item cannot be pursued due to seasonal limitations.

The Scoring Committee will evaluate the ability of the DBT to complete the project based on the following:

- **Proposed Schedule (15 points)** (see Section 8.1) submission shall include a CPM schedule to clearly demonstrate the DBT approach with the following specific dates (at a minimum):

Phase II

- 1) Final Plans-in-Hand and Drainage Inspection Date:
- 2) Maintenance of Traffic Plan Submittal Date:
- 3) Submittal of Review Plans Date:
- 4) Final Plan Submittal Date (see also "Buildable Units" Section 19):
- 5) Construction Start Date:
- 6) Substantial Completion Date:

- **Capacity (5 Points)** Current projects and availability of Team members (Switching of team members after the award of this project will only be allowed upon written approval by the KYTC.)

**B. Innovation / Project Management (20 Points)**

This section shall contain information about the DBT's proposal for completing the project. The Scoring Committee will evaluate based on the following:

- Design Quality & Qualification
- Innovative Construction Proposal
- Project Management & Coordination

**18.2 Evaluation of Mandatory Requirements**

The Scoring Committee members shall evaluate and score the technical proposal. This evaluation shall be based on the information contained in the DBT's technical proposal concerning the Team's Schedule/Capacity and Innovative/Project Management Ideas.

**18.3 Price Proposal (60 points)**

Price Proposals are evaluated on the basis of Section 8.1 and 8.2 of this proposal:

- Price Proposal (Lump Sum Bid) 60 points

**18.4 Value Based Formula Used for Selection**

Scoring of the Technical Proposal and Price Proposal plan shall be combined using a normalized weighted formula as follows:

$$SB = 100 [0.40 (TB/TH) + 0.60 (PL/PB)]$$

Where

PB = DBT's Price Proposal

PL = Lowest Price Proposal (all DBTs)

TB = DBT's Technical Proposal Score

TH = Highest Technical Proposal Score (all DBTs)

The DBT's Overall Score (SB) will be rounded to a tenth of a point. Rounding of Scores to the nearest tenth of a point will be accomplished by the round-up method: e.g., 75.45, 75.46, 75.47, 75.48, and 75.49 would be rounded up to 75.5; and 75.41, 75.42, 75.43, and 75.44 will be rounded to 75.4. The DBT with the highest overall score shall be recommended to the KYTC Awards Committee for Contract Award. In the event that two or more DBTs achieve the same rounded final score (SB), the "tied" DBT with the lowest Price Proposal (PB) shall be recommended to the KYTC Awards Committee for Contract Award. The KYTC Awards Committee has final authority to determine the best interests of the KYTC in awarding (or not awarding) the Contract.

## **19. PLAN SUBMITTALS AND REVIEW REQUIREMENTS**

- 19.1 Quality Control:** The DBT, upon selection by the Awards Committee, will be responsible for the professional quality, technical accuracy and adherence to the Governing Regulations listed in section 8.1 of this document, for all plan submittals required under this contract.

The DBT shall immediately notify the Department of any apparent discrepancy between the various design and construction manuals and the Conceptual Documents.

Unless stated otherwise, review comments do not revise the scope or intent of the project and do not constitute a request for changes beyond the current contracted Scope of Services

In the event the Department determines that any required submission is incomplete, contains inaccuracies which preclude a meaningful review, or does not adhere to the Governing Regulations listed in section 8.1 of this document, the Department will advise the DBT of the short comings and direct the DBT to revise and resubmit the plan. No time extension will be granted as a result of such action. The Department will schedule a review meeting or issue review comments as appropriate.

In the event the DBT believes that any review comment, or orders issued by the Department, require a change to the scope of the agreed work, the DBT shall first contact the Department for clarification and shall, within 10 days of receipt of the comments or orders, provide written notice to the District Project Manager and Project Engineer concerning the reasons why the DBT believes the scope has been changed.

- 19.2 Major Design Decision:** Separate submittals for concurrence with major design decisions are required. Major design decisions involve significant utility relocation, unforeseen acquisition of ROW, traffic operation or geometric decisions that involve two or more viable solutions, and any other decision that impacts the public, operation of the facility or future maintenance.

When the DBT becomes aware of additional decisions during the course of the design, they must advise the District Project Manager in writing.

- 19.3 Final Plans In Hand Review Submission:** For each Buildable Unit the Consultant shall submit Final Plans In Hand detailed design plans as per the KYTC Design Manual for review. All submissions must be shown on the required Progress Schedule. The

Department shall have 14 calendar days from receipt to review complete submissions. This review time must be shown on the required Progress Schedule. Following the review, the Department will return to the DBT marked plans noted 'ACCEPTED', 'ACCEPTED AS NOTED' or 'NOT ACCEPTED'. The DBT shall correct errors, incorporate changes, perform investigations and make related changes to the plans and supporting documents prior to submitting construction plans.

**Plan Review Distribution Table:** The DBT shall supply half size (11"x17") paper prints simultaneously to the parties indicated below along with an electronic pdf version. Each affected utility company shall receive one full size (22"x34") plans:

	Number of half size sets
KYTC District Office	8
KYTC Central Office, Division of Highway Design	2
KYTC Central Office, Division of Construction	3
FHWA	2

- 19.4 Construction Plans:** After the review comments for the final plan review submission have been complied with, and following approval of the design documentation, the DBT shall prepare plan sets for use during construction. All review comments shall be resolved in writing by the DBT to satisfaction of the Department before DBT submits the construction plans. Each plan sheet shall have its last revised date noted on the sheet and clearly marked 'Approved For Construction'. Physical construction shall not begin until the plans marked 'Approved For Construction' (by the Project Manager and the FHWA) are delivered to each party on the Plan Distribution Table below. The FHWA will comment on these plans within 14 working days of their submission by the Project Manager. No time extensions will be approved by the Project Manager if the plan distribution is not completed and project delays occur as a result.

**Plans Distribution Table:** The DBT shall supply full size (22"x35") and/or half size (11"x17") paper prints and electronic pdf version of each plan submission simultaneously to the parties indicated below:

	Number of full size sets	Number of half size sets
KYTC District Office	4	4
KYTC Central Office, Division of Highway Design		2
KYTC Central Office, Division of Construction		1
FHWA		2

## **20. BUILDABLE UNITS (BU)**

**Definition:** Buildable Units are portions of the projects which can be designed, reviewed and built with only limited controls and assumptions coming from the design of other portions of the project. Often a Buildable Unit will be defined by a geographic area within the plan, but it may also be defined by types of work or construction stages which may require or permit similar,

nearby work to be divided into separate Buildable Units. All Buildable Units shall summarize the materials required to construct that portion of the project. The summary shall include the Construction and Material Specifications Item Number, and a description of the materials to be used.

General: The DBT may break the project work into two or more separate BU which can be progressed through design and construction with minimal or known effect on each other and/or which can be dealt with sequentially such that sufficient data is available for design and review of each BU. In order that the design and construction of one BU may proceed without significant approved information from an associated BU, the DBT may develop and propose assumptions which will allow for the first BU to proceed through design and/or construction. These assumptions shall be submitted for review and comment but their accuracy and effort upon the final design are the sole responsibility of the DBT. Should error in these assumptions result in additional work, remedial work or other changes to assume an acceptable design or should they result in the need to remove work and substitute additional work, the DBT shall be responsible for all such costs including, removal of unacceptable materials from the site, modification, additional work, repairs, etc. as necessary to produce an acceptable result.

If the DBT elects to develop Buildable Units, The DBT shall prepare, for review by the Department, a table of Buildable Units for the project with each BU described in detail. This table of Buildable Units will be approved or comments given within 14 calendar days after the submission. If the table is approved, the DBT shall modify the Progress Schedule to show a separate group of activities for BU and these activities shall encompass all of the design and construction work in each BU. Work activities shall be further separated in the Progress Schedule to show a meaningful completion status (i.e. separate activities comprising the placement of a bridge deck on steel beams shall describe; shoring, form building, steel placement, placement of conduit & joints, pouring concrete, forming parapets, pouring or slip forming parapets, provision of membranes, provision of wearing surfaces, curing, repair, form removal, cleaning, etc.)

The Final Review Submission and construction plans shall specifically be identified by the Buildable Unit code. If the design of a BU requires input information from an adjacent or related BU, the source for that information in previously approved plans shall be cited or the DBT shall provide an estimated value of the data. The input data shall also be carefully identified. In the same way any assumption, calculations or results from the stage and BU which are used as input to another BU to verify previous assumptions. Should assumptions not match values calculated later, the DBT shall re-analyze all affected components and determine appropriate changes. Should those elements have already been constructed, the DBT shall recommend repairs, adjustments, modifications or replacement of the existing work as necessary to comply with the Scope of Work. All costs for re-design, re-submission, modifications, removals, disposal of materials and new work needed to remedy the project and bring it to compliance shall be borne by the DBT and no time extensions shall be approved for this.



## **INDEX OF ATTACHMENTS**

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Appendix C:	Preliminary Plans (including Waterline Plans)
Appendix D:	Pavement Rehab Information
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