NOT FOR Bidding

DESIGN-BUILD
RFP CONTRACT BOOK 3

PROJECT SPECIFIC INFORMATION

TENNESSEE DEPARTMENT OF TRANSPORTATION

I-40

Interchange at SR 222 (Exit 42)

Fayette County- TENNESSEE

PROJECT Identification Number (PIN): 114219.00

Project # IM-40-1(328), 24001-0147-44

CONTRACT NUMBER: DB1201

August 17, 2012

NOT FOR BIDDING

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PROJECT REQUIREMENTS

1. GENERAL

a. Plans and/or the Department supplied material are:

- Survey Data File in Microstation;
- The NEPA documentation was processed as a List D Categorical Exclusion (CE) under 23 CFR 771.117(d) approved on 6/14/2012.
- Preliminary Plans (dated May 2012) (the preliminary plans are supplied for information only, the scope of the project listed in the RFP takes precedence.);
- Approved Interchange Access Request 1/13/11;
- Existing Bridge Plans;
- Traffic Data developed by the Department's Project Planning Division;
- D-B Geotechnical Reports dated 8/ 10/2012;
- Except as provided by the Department above, the Design Builder shall provide all update surveys, mapping, plans, verification of existing utilities, investigation, and analysis required for completion of the work.

Unless noted otherwise elsewhere in this RFP, the Design Builder shall adhere to all commitments stated in the environmental documents.

The Design Builder shall acknowledge that materials furnished by the Department are preliminary and provided solely to assist the Design Builder in the development of the project design. The Design Builder shall be fully and totally responsible for the accuracy and completeness of all work performed under this contract and shall hold the Department harmless and shall be fully liable for any additional costs and all claims against the Department which may arise due to errors, omissions and negligence of the Design Builder in performing the work required by this contract.

b. The Department has not or will not procure permits for the Design Builder.

- The Design Builder shall be solely responsible for and obtain any necessary environmental permits or approvals for any environmental permits or approvals, not supplied above, resulting from their design and construction. If environmental permits are necessary, prior to completion of the Definitive Design Plans, the Design Builder shall contact the Department Alternative Contracting Office immediately for guidance.
- The Design Builder shall be solely responsible for and obtain any necessary environmental permits or approvals from state and/or local agencies regarding the operation of any project-dedicated asphalt and/or concrete plants.
- Borrow and waste disposal areas shall be located in non-wetland areas and above the 100-year, Federal Emergency Management Agency floodplain. Borrow and waste disposal areas shall not affect any Waters of the State/U.S. unless these areas are specifically covered by an ARAP, 404, or NPDES permit, obtained solely by the Design Builder.

c. The assigned DBE goal for this Project is:

- The assigned DBE goal for this Project is **6%**.

  The Design Builder shall exercise all necessary and reasonable steps to ensure that DBEs participate in at least the percent of the total project cost as set forth above as the goal. The design Builder shall make good faith efforts in achieving this goal and shall comply with all requirements of 49 CFR part 26.

d. Assigned On-the-Job/Apprenticeship Training:

- Required on this project 1560 hours for OJT.

e. The liquidated damage for non-compliance is **$1,600 per Calendar Day***. This is also the Time Value used for calculation of selection and for failure to complete the work on time. It shall be calculated as follows:

If the Project is NOT completed in time "B", then the following amount will be deducted from the monies due the Design Builder as:

(Actual Time Charged – B) x **$1,600/Calendar Day***

* Calendar Day amounts are applicable when the Contract Time is expressed on the Calendar Day or fixed date basis.

Any liquidated damages shall be addressed, not as a penalty, and computed as they occur with a separate item number subtracting from monies due the Design Builder.

f. All work shall be completed in accordance with the most current version of the Tennessee Department of Transportation Standard Specifications for Road and Bridge Construction, unless specifically stated herein.

g. The Department will be responsible for Construction Engineering Inspection (CEI) work.

h. Bituminous Material, Portland Cement and Fuel Price Adjustments shall **be** available on this Project. Once the Contract is executed items for Bituminous Material and Fuel Price Adjustments will be added. The adjustments will be made on the Progress Payments approved by the Department.

i. The Design Builder is to use ten (10) Business Days in their CPM for activities requiring the Department Review and Acceptance or Review and Comment.

j. Nothing in the Contract shall relieve the Design Builder from their responsibilities toward the safety and convenience of the general public and the residents along the proposed construction area.

2. PERSONNEL

Any licenses or certifications that are required to meet the requirements of the Contract shall be in place by the time the initial Notice to Proceed is issued. The Response Category II must list the following information.

a. ON SITE PERSONNEL

At all times that work is actually being performed the Design Builder shall have present on the project one competent individual who has been authorized to act in a supervisory capacity over all work on the project including work subcontracted. The individual who has been so authorized shall be experienced in the type of work being performed and is to be fully capable of managing, directing, and coordinating the work; of reading and thoroughly understanding the contract; and of receiving and carrying out directions from the Engineer or his authorized representatives. This person shall be an employee of the Design Builder, unless otherwise approved by the Department.

b. ON CALL PERSONNEL

At all times during the life of the project the Design Builder shall provide one permanent employee who shall have the authority and capability for the overall responsibility of the project and who shall be personally available at the site of work within 24 hours notice. Such employee shall be fully authorized to conduct all business with the Subcontractors and to execute the orders or directions of the Engineer.

c. EXCEPTIONS

If the Design Builder elects to have the employee described under (b.) above constantly available in person on the project, then the presence of this employee will be considered as also meeting the requirements of (a.) above. However, if such employee is absent from the project then an authorized individual meeting the requirements of (a.) above shall be present on the project.

d. KEY PERSONNEL

Key Personnel identified in the SOQ shall not be modified in the Technical Proposal without express written approval of the Department. Any request for modification shall be sent to the Department Design-Build Program Manager prior to the RFP submittal and the written approval from the Department shall be included in Response Category II for the Technical Proposal. Failure to comply with this requirement may be justification for removing the Design Builder from further consideration for this Project. The information provided in the SOQ will be used in the scoring criteria for Response Category II.

Design Builder's Project Management Personnel shall consist of the following individuals to be consistent with the personnel submitted in the SOQ:

- Design Builder's Project Manager
- Quality Manager
- Design Manager
- Construction Manager/ Superintendent
- Traffic Engineer Manager
- Traffic Control Supervisor
- Environmental Compliance Manager

Please provide the following information, at a minimum, in a table format for each of the Key Personnel listed above:

- Key Personnel Role;
- Name of Individual to fill the roles and responsibilities;
- Approval letter of substitution, if applicable.

e. DESIGN PROFESSIONALS

The Design Builder's design professionals shall consist of the following individuals:

- Lead Design Engineer
- Lead Structural Engineer
- Traffic Signal/Sign Design Engineer
- Utilities Design Engineering/ Coordinator
- Erosion Prevention and Sediment Control Inspector

Please provide the following information, at a minimum, in a table format for each of the Design Professionals listed above:

The table shall include the:

- Design Professional Role;
- Name of Individual to fill the roles and responsibilities;
- Anticipated percent of each Individuals time that would be committed to the Project.
- Number of total years experience;
- Number of years experience on projects of similar size and scope;
- Number of years experience on Design Build Projects;
- Education;
- Licenses or Certifications;
- Include the length of employment with current employer and the title, roles, and responsibilities on any related projects.
- Additional qualifications as necessary.

In addition to the information above, the following information is required from the Utility Coordination Firm.

- Form DT-0330 Part II located at: http://www.tdot.state.tn.us/Chief_Engineer/assistant_engineer_design/design/TDOT%20SURVEY%20MANUAL/DOT-CS-200/index.htm
  (This form will not count as part of the total page count)
  - Included within the response for Section F. of this form documentation of experience/projects related to utility/SUE coordination and references for the firm's experience associated with these projects.

Resumes of Key Personnel shall be limited to one page each and will not be counted towards the overall page limit. If an individual fills more than one position, only one resume is required.

3. ROADWAY SCOPE OF WORK

The Design Builder shall preform all necessary survey updates, design and construction services necessary to construct the widening of State Route 222 as well as all ramp realignments associated with the grade separated intersection with I-40.

The Design builder shall preform all field surveys to support the roadway design and construction activities for the Project. The field surveys shall support activities, such as, but not limited to geotechnical investigations, right-of-way stakeout, and construction stakeout. The field surveys shall be performed in accordance with the latest version of TDOT Survey Manual.

The proposed widening of State Route 222 shall be designed and constructed to meet a 45-mph design speed for a rolling collector highway with flush medians and shall adhere to the latest editions of all appropriate TDOT Roadway Standard Drawings, TDOT Design Guidelines and Instructional Bulletins, TDOT Drainage Manual, TDOT Design CADD Standards, AASHTO Policy on Geometric Design of Highways and Streets, and Manual of Uniform Traffic Control Devices. MicroStation and GEOPAK shall be used in the preparation of CADD files.

All proposed ramp realignments associated with the grade separated intersection of I-40 and State Route 222 shall adhere to the latest editions of all appropriate TDOT Roadway Standard Drawings, TDOT Design Guidelines and Instructional Bulletins, TDOT Drainage Manual, TDOT Design CADD Standards, AASHTO Policy on Geometric Design of Highways and Streets, and Manual of Uniform Traffic Control Devices. MicroStation and GEOPAK shall be used in the preparation of CADD files. Where practical the Design Builder should exceed minimum design standards.

The Design Builder shall ensure that all proposed work done to the ramps associated with the grade separated intersection of I-40 and State Route 222 is completed within existing right-of-way. The Design Builder shall also ensure that no additional ROW will be required from the tract(s) associated with Bethlehem U.M. Church and Hebron Cemetery. The Design Builder will be responsible for all ROW activities associated with widening State Route 222.

The Design Builder shall be responsible for contacting utility company to verify the field location of the utilities. Some adjustment of utility lines may be required. The Design Builder shall be responsible for identifying utility conflicts and coordinating with the

utility companies to relocate utility lines. Locations where existing utilities are to remain in place the Design Builder shall provide all necessary protective measures to safeguard the existing utilities from damage during the construction of this project.

The Design Builder shall ensure the minimum clearing and grubbing is performed beyond the toe of slopes, preserving as much vegetation as possible.

The Design Builder shall install all control access fence in accordance with the TDOT Design Guidelines and standard drawings S-F-10B, S-F-10C and S-F-10D. The following special note shall be added to the plans and adhered to during construction: "Removal of existing fence shall be performed by hand or suitable means to avoid damage to adjacent vegetation. Vegetation shall be removed only if it is entangled in the fence itself. Removal of all fences shall be as directed by the engineer and all costs for removal are to be included in the price bid for new fence."

The Design Builder shall identify the need for any special roadway design details (i.e. any special drainage structures, rock embankment, rock plating, special guardrail, retaining walls, concrete barrier designs, etc.) and shall provide special design drawings.

The Design Builder shall be responsible for all open channels and storm drainage design and construction. All open channels and storm drainage design shall be done in accordance with the TDOT Design Guidelines and the TDOT Drainage Manual. The design of drainage facilities shall be compatible with existing or proposed drainage systems on adjacent properties, and shall preserve existing drainage patterns wherever possible. If existing drainage patterns must be changed due to design of the Project, the Design Builder shall design and construct a solution that does not adversely impact property owners outside the ROW.

The design and installation of all appropriate temporary and permanent roadway signing shall be the responsibility of the Design Builder. All temporary construction signing and striping shall be in strict accordance with the current edition of the MUTCD, TDOT Design Guidelines, and TDOT Roadway Standard Drawings for temporary work zones. All permanent signing shall be in accordance with the current edition of the MUTCD, the current edition of the Standard Highway Signs, the TDOT Supplement to the Standard Highway Signs, the TDOT Design Guidelines, TDOT Roadway Standard Drawings and the current edition of the Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals. Existing Logo, Hospital and Guide signing shall remain up through all phases of construction. All existing signing shall be replaced with new breakaway supports and new sign faces.

The design and installation of all signalized intersections shall be done according to the Traffic Design Manual, TDOT Roadway Standard Drawings, and the MUTCD. Signalization will be required at the intersections of S.R. 222 and the east bound entrance and exit Ramp as well as the intersection of S.R. 222 and the west bound entrance and exit Ramp.

The Design Builder shall not remove any section of existing guardrail to rework shoulders or slopes until the Department concurs in necessity of removal due to construction requirements and appropriate warning devices installed. All new and replacement guardrail shall be installed in accordance with the current editions of the TDOT Roadway Standard Drawings and Department Standard Specifications, as amended, Section 909. Guardrail, including anchor system shall be complete in place before the mainline roadway is open to traffic. All permanent and temporary safety appurtenances (sign supports, guardrail, barrier rail, impact attenuators, etc.) shall be NCHRP 350 approved and shall have all required TDOT certification documents.

The Design Builder Traffic Control Plan shall show the staging concept. The Design Builder shall take steps to minimize disruptions to the existing roadway facilities during the life of the project and shall demonstrate how the design, traffic control phasing and construction minimize inconvenience to the motorist on the facility.

The Design Builder shall design the Erosion Prevention and Sediment Control (EPSC) plan in accordance with the current TDOT Drainage Manual and the EC-series of the TDOT Roadway Standard Drawings.

All Design Documents and Design Reviews shall be provided by the Design Builder and performed in accordance with the Design Review schedule established in the Critical Path Method (CPM) Schedule, and in accordance with contract requirements.

The Design Builder shall ensure that all applicable "General and Special Notes" found in Section VI of the current edition of the State of Tennessee Department of Transportation Design Division Roadway Design Guidelines are adhered to during construction.

- The roadway construction shall be phased such to maintain the existing number of 12' traffic lanes in each direction in accordance with SP108B.

- All guardrail located within the limits of the project will be upgraded to NCHRP-350 TL3 standards. The upgrade is to conform to all standard drawings and/or manufacturer's instructions pertinent to the work.
- The project shall be designed and constructed so that there is no adverse impact to the slopes along Hebron cemetery assoc.

The Design Builder shall provide a context sensitive retaining structure for stabilizing the slope on the Hebron cemetery assoc. tract that is approved by both the Department and the local government.

The Design Builder shall cold plane and pave in the direction of traffic. The Pavement Design Report for this Project has been developed by the Department and is located as an Appendix A in this **Contract Book 3 (Project Specific Information)**.

- An aggregate underdrain with pipe throughout the project limits will be required, as there is a drainage layer within the pavement.
- Laterals for the underdrain will also be required.
- The Design Builder shall be responsible for the design of all temporary pavements and the evaluation of existing shoulders and roadways regarding their suitability for carrying traffic during construction, if necessary. If required, the Design Builder shall be responsible for strengthening existing facilities prior to routing traffic onto them.

The Design Builder shall not dispose of any material either on or off state-owned ROW in a regulatory flood way as defined by the Federal Emergency Management Agency without approval by same. All material shall be disposed of in upland (non-wetland) areas and above ordinary high water of any adjacent watercourse. This does not eliminate the need to obtain any other licenses or permits that may be required by any other federal, state or local agency.

Desirable Design according to AASHTO A policy on Geometric Design of Highways and Streets, 2004 Edition shall be used for all design elements including but not limited to Horizontal and vertical curves, acceleration and deceleration lanes, and tapers. Acceleration lanes shall be parallel type.

Upon completion of the project, the Design-Builder shall provide Alternative Contracting Office A transmittal letter and compact disc (CD) containing As-Built drawings and final foundation type, including footing elevations and lengths of individual piles, shall be furnished to the Department Alternative Contracting Office prior to final payment of funds to the Design-Builder.

The Professional Engineer in charge of the development of the Project plans shall place his seal, including signature and date, on the right side of the title sheet. All plans sheets shall contain the seal, including signature and date, of the Professional Engineer in charge of its development.

For As-Built Plans and the Design-Builder Specifications following construction completion shall incorporate any changes to the Readiness-for-Construction Design Review Plans and Specifications, as well as all utility locations within ROW. As indicated in the Design Build Guidance: http://www.tdot.state.tn.us/construction/Design-Build/Design-Build%20Guidance_07-14-09.pdf

4. STRUCTURES SCOPE OF WORK

The Design-Builder shall be responsible for the design and construction of the replacement bridge on SR-222 over I-40.

a. The new structure shall be wide enough to incorporate the full roadway width as presented in the functional plans (five 12' lanes and two 12' shoulders).
b. The bridge construction shall be phased such that two 12' traffic lanes (one in each direction) are open at all times and shall correspond with the roadway phasing.
c. The horizontal clearance shall be a minimum of 30'- 0" from the outside of the I-40 travel lane to any substructure. The vertical clearance shall be a minimum of 16'– 6" across the full extent of the required horizontal clearance for I-40.
d. The bridge shall be designed using the AASHTO LRFD Bridge Design Specifications (Sixth Edition, 2012).
e. The bridge shall be designed with no side piers (2 spans).
f. The bridge shall have integral abutments and shall be continuous for live loads.
g. The bridge design shall include 35 psf for future asphalt wearing surface.
h. The bridge shall be designed for the appropriate seismic category, in accordance with the AASHTO Guide Specifications for LRFD Bridge Design. The computer program from AASHTO, GM-2.1, shall be used to define the seismic hazard for the event with 7% probability of exceedance in 75 years (1000 year return period). The preferred method of location is by latitude and longitude, which may be obtained from county maps or Google Earth.
i. If a concrete superstructure is utilized, the beams shall be prestressed and have a minimum 28 day compressive strength of 8,000 psi.
j. If a structural steel superstructure is utilized, the girders shall be ASTM A709 Grade 50W weathering steel, and shall include any structural steel Quality Assurance inspection costs.
k. The Design-Builder shall reference the TDOT Standard Specifications for Road and Bridge Construction (2006 Edition) for construction materials and methods.
l. The bridge parapet rails shall be specified according to current TDOT standards, with a single-slope face.
m. The Design-Builder shall perform a hydraulic analysis to determine the need for deck drains and/or end of bridge drains to handle the surface water on the bridge deck.

n. An applied texture finish is required on the parapet rail, cantilever slab and concrete beams. The top and side of the parapet facing traffic shall receive a white finish (Fed. Spec. No. 37886). All other locations are to be mountain grey (Fed. Spec. No. 36440). The exposed portions of the substructure including the wingwalls, endwalls, abutment beams, pier columns and pier caps are to be finished in mountain grey. Steel girders will not be painted.

The Design Builder shall be responsible for all culverts and culvert extensions if it is applicable

a. The Design Builder shall adhere to all permit, FEMA, and hydraulic design criteria when designing culverts and culvert extensions. Design Builder shall use Drainage Manual found on TDOT Design Division website, and Design procedures for Hydraulic Structures 2004 found on TDOT Structure Division website. Design Builder shall use FHWA scour publication HEC-18, and shall use bridge deck drain design procedures contained in FHWA publication HEC-21 or HEC-22
b. The Design Builder shall analyze existing culverts, boxes and cross pipes, impacted or affected by the project's design.
c. The Design Builder shall replace or supplement any pipes or culverts that are deemed hydraulically deficient as a result of this project and replace any structurally deficient pipes or culverts within the project limits. Newly constructed culverts and pipes shall be in conformance with the AASHTO LRFD Bridge Design Specifications, current edition. The TDOT Standard Box Culvert drawings, STD-17-xx series may be used.

The Design Builder shall be responsible for wall envelopes, structural design and construction of all retaining walls. Retaining walls shall be designed according to TDOT's Earth Retaining Structures Manual, AASHTO LRFD Bridge Design Specifications (current edition), TDOT Standard Specifications for Road and Bridge Construction (2006 Edition), and Supplemental Specifications.

The Design-Builder shall be responsible for the design and construction of all remaining structures necessary to complete the project.

The Design-Builder shall be responsible for the removal and disposal of the existing bridge and any other necessary miscellaneous structures.

Upon completion of the project, the Design-Builder shall provide TDOT Structures Division a final revised set of plans for all structures (bridges, walls, culverts, etc.). The plans shall be delivered on CD (in PDF format) as well as full-size mylars (22" x 34").

5. GEOTECHNICAL ENGINEERING SCOPE OF WORK

Available subsurface information from nearby projects will be provided to the Design Builder. The Design Builder shall be responsible for site specific investigations. By submitting its Price Proposal, the Design Builder

acknowledges that any subsurface information furnished by the Department is provided solely to assist the Design Builder in the development of the project design. No information with respect to subsurface conditions furnished by the Department shall be considered a Contract Document or part of the Contract. If the Design Builder relies upon any subsurface information furnished by the Department, they do so at their own risk. Please refer to the geotechnical reports provided with this RFP for available subsurface information in this area.

a) The Design Builder shall be required to perform a design level geotechnical investigation to validate and augment the geotechnical information included in this RFP. If field investigations are necessary, the Design Builder shall mail contact letters to all property owners where entry is needed at least one week prior to commencing any activity on private property. Property owners names and addresses shall be obtained using the latest records available from the county Tax Assessor's office. To promote good relationships, a diligent effort shall be made to contact each property owner or tenant prior to entering the property. However, personal contact is preferable in order to explain that entry is required, the purpose of the activity, the activities involved and to determine facts pertinent to the activity.
b) The Design Builder shall collect appropriate data for geotechnical evaluation of embankments, subgrade, soil and rock cuts, culverts, bridge and wall structures, noise barriers, storm water management structures and ponds, minor structures, including drainage pipes, and any other earth supported structures or elements of highway design and construction relevant to the project.
c) Prior to any geotechnical design submittal, the foundation design recommendation reports shall be sealed and signed by a Professional Engineer registered in the State of Tennessee who has completed a minimum of three geotechnical design projects of scope and complexity similar to that anticipated for this project using the load and resistance factor design (LRFD) method and in accordance with the latest edition of the AASHTO LRFD Bridge Design Specifications.
d) The prequalified geotechnical firm shall also determine if additional subsurface information, other than that required and noted elsewhere in the Contract Documents, is required based upon the final roadway and structure designs. If a determination is made that additional subsurface information is required; the Design Builder shall perform all additional subsurface investigation and laboratory testing in accordance with the current Department Geotechnical Specifications, Material and Tests Division.
e) The Design Builder shall be responsible for obtaining the borings for all abutments, bents, piers, retaining wall foundation locations, and noise wall foundation locations where subsurface information is not sufficient or is warranted by variability in the geology. All borings shall be deep enough to show a complete soil and rock profile to the depth of the foundation-supporting layer.
f) The Design Builder shall provide geotechnical design and construction summaries that contain pertinent subsurface investigations, test, and engineering evaluations.
g) The Design Builder shall provide field quality control for all bridge foundations, retaining foundations and noise wall foundations including verifying subsurface conditions for drilled piers and bearing for shallow foundations.

6. RIGHT OF WAY SCOPE OF WORK

The Design-Builder, acting as an agent on behalf of the State of Tennessee Department of Transportation, shall provide right-of-way acquisition services for the Project. Right-of-way acquisition services shall include certified title reports, appraisal, appraisal review, negotiations, relocation assistance services, property management services, parcel closings and all related activities. All appraiser/s, appraisal reviewer/s and acquisition/relocation firms shall be selected from the Tennessee Department of Transportation Right of Way Office's pre-qualified list. TDOT will retain authority for approving just compensation, relocation benefits and claims, administrative settlements, court settlements and court awards. TDOT must issue a Notice to Proceed with Right-of-Way Acquisition to the Design-Builder prior to any offers being made to acquire the property. This represents a hold point in the Design-Builder's Baseline Schedule. TDOT must also issue a Notice to Proceed with Construction to the Design-Builder once the property has been acquired prior to commencing construction on the property. This also represents a hold point in the Design-Builder's Baseline Schedule. TDOT **WILL** be responsible for the cost for the actual purchase price paid to a landowner for right-of-way, including fee simple, any and all easements, any relocation assistant payments. The Design-Builder **WILL** be responsible for all costs associated with the services provided by the appraiser/s, review appraiser/s, acquisition/relocation firm, the costs of any public hearings that may be required. TDOT **WILL** be responsible for actual payments to property owners and certain expenses related to the acquisitions and associated legal costs as well as any additional monies paid the landowners to reach an administrative settlement or pay for court settlements and awards.

The following responsibilities shall be carried out by either the Design-Builder or TDOT as specified in each bulleted item below:

- The Design-Builder shall acquire property in accordance with all Federal and State laws and regulations, including but not limited to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (the "Uniform Act") The acquisition of property shall follow the guidelines as established by TDOT and other State and Federal guidelines that are required and the Tennessee Department of Transportation Right of Way Procedures Manual. The Design-Builder shall execute a certification in its proposal that it has received the Tennessee Department of Transportation's Right of Way Procedures Manual and will comply with the procedures.

- TDOT has an Appeals Board to hear any Relocation Assistance appeals. TDOT agrees to assist with any out of state relocation by persons displaced within the rights of way by arranging with such other state(s) for verification of the relocation assistance claim.

- The Design-Builder shall establish an acquisition/relocation office at a location that is accessible to the property owners and displacees on or near the project. The purpose of maintaining this office is to ensure effective and responsive service to meet the property owners and displacees' needs. The office must be operational by the time acquisitions begin. Supply relocation and negotiation personnel with substantial experience in

highway right-of-way acquisition, or similar work, in numbers sufficient to accomplish the required work in a timely manner. All relocation and negotiation personnel are to be approved by the State for each project hereunder. After the State has approved the personnel for a project, changes may only be made with the written approval of the State. This office shall be staffed by persons knowledgeable of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (the "Uniform Act") and the Tennessee Department of Transportation Right of Way Procedures Manual. This office shall be open during normal business hours and after hours by appointment.

- The Design-Builder shall submit procedures for handling right-of-way acquisitions and relocations to TDOT for approval prior to commencing right-of-way activities. This represents a hold point in the Design-Builder's Baseline Schedule. These procedures are to show the Design-Builder's methods, including the appropriate steps and workflow required for certified title reports, appraisals, appraisal review, negotiations, acquisition, relocations and parcel closings and all related activities. These procedures shall include TDOT's review and approval of just compensation, administrative settlements, relocation benefits and claims.

- A TDOT Representative/s will be available to make timely decisions concerning establishing review and approval of just compensation, approval of administrative settlements, approval of relocation benefits and claims, on behalf of TDOT. The TDOT Representative/s is/are committed to issuing decisions on approval requests within sixty (60) days. The commitment is based on the plan providing a reasonable and orderly workflow and the work being provided to the TDOT Representative/s as completed.

- Maintain accurate parcel files and at the termination of the work on the project, turn over to the State all relocation and negotiation files, appraisal and appraisal review files, and any other pertinent acquisition files, records or reports. All files shall be documented in accordance with the applicable State and Federal requirements. During the work on the project, the Design Builder shall make all such files available, upon demand, for inspection by the State and/or by the Federal Highway Administration, when applicable

- The Design-Builder shall submit a project specific Acquisition and Relocation Plan for TDOT approval. The plan shall identify a prioritized schedule of right-of-way activities including but not limited to appraisal, appraisal review, the specific parcels to be acquired and all relocations. The plan shall allow for the orderly relocation of displaced persons based on time frames not less than those provided by the "Uniform Act" and/or the Department's Right of Way Procedures Manual. This plan shall be updated as necessary during the life of the Project.

- Make the necessary relocation survey and promptly prepare and submit all required relocation documents in accordance with State and Federal regulations. Preform all relocation/s in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (the "Uniform Act") and the Tennessee Department of Transportation Right of Way Procedures Manual as applicable.

- The Design-Builder shall submit bi-monthly status reports to TDOT's Right-of-way Division to manage and track the acquisition process. TDOT standard appraisal, appraisal review, acquisition and relocation assistance and property management forms and documents, will be used as applicable. The status report must include but not limited to the appraisal, appraisal review, and acquisition and relocation assistance status of all parcels.

- The Design-Builder shall provide a current title report (no older than one hundred and eighty (180) days) for each parcel at the time of the initial offer to landowner. Each title examination report shall be prepared by a TDOT approved attorney or Title Company (each TDOT Regional Right of Way Office has a list of approved title firms). The Design Builder will furnish an original + 3 legible copies of a title report, including summary of 5 years sale history, on a form to be provided by the State, designated as ROW Form-49, with copies of all recorded deeds, liens, selloffs, easements, subdivision plats, divorce decrees, wills, judgments, and other pertinent documents attached, for each numbered tract on the right-of-way plan. The Design Builder will furnish one updating of the title report; the process of updating the title report will be performed as part of the closing.
- The following terms and conditions will also apply unless otherwise indicated.

- Preliminary reports of title are required on all tracts for which a taking or an acquisition is shown on the acquisition table.

- Title insurance is not required.

- An original and three legible copies of the "Preliminary Report of Title" (Form 49) are to be submitted. All attachments must accompany the original and all three (3) copies.

- Reports must include information on all contiguous parcels of land which form a single tract under the same ownership.

- In addition to the information to be provided on the R.O.W. Form 49, each preliminary report of title shall contain the tax map, and parcel number for the particular tract as well as the civil district in which the tract is located.

- In addition include documentation of all Environmental Liens if they apply.

- The Design Builder will furnish the correct mailing address of the property owner for each tract number.

- If the right-of-way plan is revised so to add additional tracts from which there will be an acquisition as shown by the acquisition table, all services covered by this agreement are to be provided for those additional tracts.

- Facsimile of title report will not be accepted.

- Completion and filing of Form 1099 published by the Internal Revenue Service, is required in connection with closing of right-of-way acquisition.

- Copies of Tax Maps showing all tracts are to be included. These maps are to be complete, full size sheets whenever possible.

- Copies of subdivision plots are to be included when the only deed description of an individual parcel consists of a lot number in the mentioned subdivision.

- Please number the pages of each "Preliminary Report of Title".

- If any instrument is not legible on the provided copy, (attachments) then a typed
- legible instrument must accompany illegible copies.

- The Design Builder will close all negotiated tracts on the project. This service to include; updating of all the title report to the time of execution of the instrument of conveyance, the preparation of the warranty deed and any releases, the preparation of the closing statement on a form to be provided by the State, designated as ROW Form-24, the preparation of the deed transmittal statement on a form to be provided by the State, designated as ROW Form-29, the arrangement for an making of such disbursements as may be necessary to cause the removal of property taxes, judgments and instruments constituting liens for money owed, and the recording of the warranty deed are the responsibility of the Design Builder. The recording of releases and/or partial releases and the recording of any other required releases for liens or encumbrances and all cost associated with obtaining any releases and any other such documents as soon as practicable following the closing are the responsibility of TDOT.
- The Design Builder agrees to discuss time and location for each proposed closing with the prospective grantor(s) and within reason to accomplish same in accordance with the grantor(s) advice. **Normal closings are expected to take place within 45 days after the agreement of sale is executed. Extenuating circumstances requiring more than 45 days will be reported by letter (or by FAX) no later than the 45th day from the date of the executed agreement of sale with a request for an extension. Requests for extensions beyond the normal accepted time will be considered on a case by case basis.** Within 24 hours after closing the Design Builder will notify the Regional Transportation Manager II of this fact. All closings

are to be done by personal contact, at a time and place that is convenient to the landowner. Where a closing by mail is requested, the written consent of the Department is required, **except of Out of State property owners.**

- The Design-Builder shall prepare appraisals in accordance with TDOT's Guidelines for Appraisers, the Uniform Act and the Uniform Standards for Professional Appraisal Practice (USPAP).

- Appraisal and Related Service" may include all or parts of the following: real estate appraisal, real estate appraisal review, real estate consultation, pre-trial conference, deposition, and court testimony, as further defined.

- The Design Builder shall provide all service and deliverables as required, described.

- For the project to be covered hereunder, the Design Builder shall provide such of the following services as required by this Contract issued by the State for the subject project. As called for, the Design Builder shall:
- Complete all appraisal services and work product to the standards set forth herein. Failure on the part of the Design-Builder to complete each assignment according to said standards by the agreed upon due date shall be considered a material breach of this Contract.

- Complete all appraisal services in accordance with the Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally-Assisted Programs Act [Uniform Act (Part 24 of title 49 CFR)], the Uniform Standards of Professional Appraisal Practice [USPAP (Appraisal Foundation)], [Guidelines For Appraisers (www.tdot.state.tn.us; click TDOT Services Index; Right-of-Way; Appraisal Office; Guidelines For Appraisers)], and federal, state and local laws, rules, and regulations.

- Furnish an original and two (2) copies of each Market Data Brochure and each Appraisal Report. Furnish one additional copy of each appraisal report together with all exhibits and comparable data write-ups. This copy shall be clearly identified as the landowner(s) copy. Unless specifically directed otherwise in writing, all appraisal services products are to be delivered to the regional office in which the project is located.

- In addition to the standard photos of the subject property and exterior photos of the acquired improvements, the Design Builder shall provide a typical interior photo of acquired/affected structures having substantial contributory value (i.e. residences, commercial structures, large barns, etc.) Legible digital images are acceptable.

- Update to "date of possession" appraisal report(s) on any tract(s) involved in condemnation covered under Work Orders issued hereunder when requested to do so by

the State. Appraisal updates shall be completed within sixty (60) days after the request is made in writing by the State. All such updates shall be in compliance with standards set forth above except that the standards in force as of the date of employment to conduct the updated appraisal service shall apply. The "update" appraisal request may require the Design Builder to consider and include minor plan revisions and changes in market conditions.

- Upon request by the State, testify, in support of the opinion of value of any and all of the property included in his/her appraisal report, in any judicial or arbitration proceeding involving the determination of the value of the property. Further, the Design Builder agrees to attend, as requested by the State, any pre-trial conferences, meetings, depositions, etc. related to such proceedings. The Design Builder shall be compensated for these litigation-related services in accordance with the Expert Valuation Witness Rates in effect at the time the service is rendered. The Expert Valuation Witness Rate Schedule may be adjusted periodically.

- Execute disclaimers of any past, present or contemplated future personal interest in any of the properties included in the proposed agreement, as required by the State, or if applicable, Federal Highway Administration (FHWA).

- Maintain throughout the term of this Contract Errors and Omissions insurance in the amount of not less than one million dollars ($1,000,000.00), and proof of which shall be made available to the State upon demand.

- The Design-Builder shall provide appraisal reviews complying with technical review guidelines found in TDOT's Guidelines for Appraisers, the Uniform Act and the Uniform Standards for Professional Appraisal Practice (USPAP) and TDOT's Right of Way Procedures Manual and make a recommendation of just compensation. Design-Builder's Right-of-Way staff that performs acquisition and relocation/property management services shall be from the TDOT pre-qualified consultant list for acquisition and relocation assistance and related services and the Design-Builder shall include a TDOT pre-qualified Fee Appraiser form TDOT's prequalified appraiser list. The review appraiser shall be approved by TDOT and shall also be on TDOT's prequalified fee appraiser list. TDOT shall have final approval of all the Design-Builder right of way staff.

- Provide necessary property management services during the period of Consultant's

work. Those property management services include, but are not limited to: private property owner utility adjustment cost estimates, salvage appraisals on improvements being acquired, moving cost determination, including the moving of on-premise signs and outdoor advertising devices, and determination and collection of rent after the "90 day" notice to vacate has expired.

- Coordinate all work through the State's Regional Right-of-Way Transportation Manager 2 or his designated representative.

- Recommend tracts for condemnation. When the Design Builder recommends that a tract should be condemned, the request for condemnation must have the necessary back-up information attached to properly completed forms DT 1606 and DT 1602 when submitted to the Regional Right-of-Way Office. The Regional Right-of-Way Office will check these forms and process this information to obtain a voucher. In general all voucher requests for any payment will be handled in this manner.

- Conduct any public meetings as requested by the State and as required by the State's right-of-way procedures and practices.

- Meet and coordinate with public officials of governmental agencies and civic groups as required or as requested by the State.

- TDOT will be responsible for the cost associated with the payment to property owners for negotiated settlements, administrative settlements, and relocation benefits. TDOT is also responsible for the cost associated for the payment to be deposited with the court. In addition any payments agreed to by the property owner and the Attorney General's Office during the condemnation process either by settlement or through the courts including court cost and any mediation expenses is the responsibility of TDOT. The Design-Builder will be responsible for disbursement of these payments and providing indefeasible title to TDOT. All payments will be made in accordance with the policies and procedures established in the Tennessee Department of Transportation's Right of Way Procedures Manual.

- The Design-Builder shall prepare, obtain execution of, and record documents conveying title to such properties to the State of Tennessee Department of Transportation and deliver all executed and recorded general warranty deeds to TDOT. For all property purchased in conjunction with the Project, title will be acquired in fee simple (except for the acquisition of slope, construction or permanent drainage easements, in lieu of fee simple title, with respect to any portion of the rights of way, this must be approved by TDOT's Design Division) and shall be conveyed to the State of Tennessee Department of Transportation, Grantee" by a TDOT-approved general warranty deed, free and clear of all liens and encumbrances except encumbrances expressly permitted by TDOT in writing in advance. All easements shall be acquired in the name of the State of Tennessee Department of Transportation.

- Because these acquisitions are being made on behalf of the Department of Transportation, TDOT shall make the ultimate determination in each case as to whether settlement is appropriate or whether the filing of a condemnation action is necessary, taking into consideration the recommendations of the Design-Builder. When TDOT

authorizes the filing of condemnation, the Design-Builder shall prepare all required documents necessary to file and forwarded to the appropriate TDOT Regional Right of Way Office.

- The Design-Builder will provide the necessary staff and resources as directed by TDOT to work with the Department and the Attorney General's Office throughout the entire condemnation process until the property is acquired by settlement, by deed, or by Final Consent Judgment executed by TDOT and the appropriate court. The Design-Builder will provide updated appraisals (*i.e.*, appraisal reports effective as of the date of possession) and expert testimony supporting condemnation proceedings upon request by TDOT and/or the Attorney General's Office.

- The Design-Builder will be responsible for all contacts with landowners for rights of way and construction items and shall be responsible for properly setting all right of way monuments associated with the Project.

- The Design-Builder shall maintain adequate access to all occupied properties to insure emergency and personal vehicle access. Utility service must be available to all occupied properties at all times prior to and until relocation is complete.

- The Design-Builder shall use reasonable care in determining whether there is reason to believe that property and improvements to be acquired for rights of way may contain concealed or hidden wastes or other materials or hazards requiring remedial action or treatment. When there is reason to believe that such materials may be present, the Design-Builder shall notify TDOT within three (3) calendar days. The Design-Builder shall not proceed with acquiring such property until they receive written notification from TDOT.

- During the acquisition process and for a period of three (3) years after final payment is made to the Design-Builder for any phase of the work, and until the Department of Transportation has indefeasible title to the property, all Project documents and records not previously delivered to TDOT, including but not limited to design and engineering costs, construction costs, costs of acquisition of rights of way, and all documents and records necessary to determine compliance with the laws relating to the acquisition of rights of way and the costs of relocation of utilities, shall be maintained and made available to TDOT for inspection or audit. Throughout the design, acquisition and construction phases of the Project, copies of all documents/correspondence shall be submitted to both the TDOT Head Quarters Office and the respective TDOT Regional Office.

- The Design-Builder will ensure no open burning will occur within 1,000 feet of an occupied dwelling.

- The Design-Builder shall maintain a sufficient buffer or hold off zone around parcels which have not been acquired and/or occupied properties to ensure compliance with

right of way procedures prior to starting construction activities in these affected areas. There should be no construction related activities within the hold off zone until the property is acquired and/or vacated. TDOT will provide written notification before the contractor can enter the hold off zone.

7. UTILITY COORDINATION SCOPE OF WORK

a. The Design Builder shall be familiar with 1680-6-1 Rules and Regulations for Accommodating Utilities within Highway Rights-of-Way, Tennessee Code Annotated (TCA) Part 8 Relocation of Utilities 54-5-801 through 54-5-856, 23 CFR Part 645 "Utilities", and 23 CFR 646 "Railroads". Adherence to the above referenced regulations and procedures are mandatory.

b. Immediately after submittal of the accepted final Definitive Design Plans, the Design Builder needs to accommodate the statute (TCA 54-5-854) required 120 - 165 Calendar Days in their CPM for Utility Investigation.

c. Some adjustment of utility lines will be required due to the Design Builder design. The Design Builder shall be responsible for identifying any utility conflicts/relocations and utility construction plans. Exact locations shall be determined in the field by contacting the utility companies involved. Notification by calling the Tennessee One Call System, Inc., at 1-800-351-1111 as required by TCA 65-31-106 will be required.

d. The Design Builder shall provide all necessary protective measures to safeguard existing utilities from damage during construction of this Project. In the event that special equipment is required to work over and around the utilities, the Design Builder will be required to furnish such equipment. The cost of protecting utilities from damage and furnishing special equipment will be included in the price bid for other items of construction.

e. Prior to submitting the bid, the Design Builder will be solely responsible for contacting owners of all affected utilities in order to determine the extent to which utility relocations and/or adjustments will have upon the schedule of work for the Project. While some work may be required 'around' utility facilities that will remain in place, other utility facilities may need to be adjusted concurrently with the Design Builder's operations. Advance clear cutting may be required by the Department at any location where clearing is called for in the specifications and clear cutting is necessary for a utility relocation.

f. The Design Builder shall be responsible for confirming the utility locations, confirming the type of facilities, identifying the utility owners and determining the cost responsibilities in order to coordinate the relocation of any utilities in conflict with the project.

g. The Design Builder shall notify each individual utility owner of their plan of operation in the area of the utilities. Prior to commencing work, the Design Builder shall contact the utility owners and request them to properly locate their

respective utility on the ground. This notification shall be given at least three (3) business days prior to commencement of operations around the utility in accordance with TCA 65-31-106.

h. The Design Builder shall coordinate the relocation or adjustment of the utilities in accordance with the RFP. The Department will process and certify all compensable utilities. The Design Builder shall process and certify all non-compensable utilities for potential conflict and/or relocations.

i. The Department will be the approving authority for all utility agreements and approval of plans.

j. The Department shall make the necessary arrangements with the utility owners on compensable utilities and the Design Builder shall make the necessary arrangements with the utility owners for all non-compensable utilities including new installations required for the project, adjustments, relocations or removals where the Design Builder and utility company determine that such work is essential for highway safety and performance of the required construction.

k. The Design Builder shall accommodate utility adjustments, reconstruction, new installation and routine maintenance work by others that may be underway or take place during the progress of the contract.

l. In the event of a utility conflict, the Design Builder shall request that the utility company submit relocation plans (Plans to be provided by the Design Builder to Utility Owners) that shows existing utilities and proposed utility relocations.

m. The Design Builder shall be responsible for determining the cost responsibility (*compensable or non-compensable utilities*) for the utility relocations. The Department will be responsible for non-betterment (*compensable utilities*) utility relocation cost when the utility company has prior rights-of-way or compensable interest. The utility company shall be responsible for the relocation costs if they cannot furnish evidence of prior rights-of-way or compensable interest (*non-compensable utilities*) in their facilities. The Design Builder shall be responsible for all costs associated with utility relocations due to haul roads and/or any other temporary conditions resulting from the Design Builder's methods of operation or sequence of work.

n. If the Design Builder elects to make arrangements with a utility company to incorporate a new utility installation or relocation as part of the highway construction, the utility work done by the Design Builder and the associated costs for the work shall be negotiated and agreed upon between the Design Builder and the utility company.

o. If the Design Builder is requested, in writing, by an entity to relocate, upgrade or incorporate new water and sewer facilities as part of the highway construction, designs shall be coordinated with the utility owner, and the Department. The associated design and construction costs shall be negotiated and agreed upon between the Design Builder and the utility company. The Design Builder shall develop designs; prepare all plans for needed agreements and permits; submit permits directly to the agencies and obtain approval from the agencies.

p. The Department Utility Office must execute approved agreements on Design-Build highway projects. The Utility Relocation Agreements (Cost Agreement) and encroachment agreements are available from the Department.

q. No additional compensation or time shall be granted for any delays, inconveniences, or damage sustained by the Design Builder or its subcontractors due to interference from utilities or the operation of relocating utilities.

r. The Design Builder shall make all reasonable efforts to design the Project to avoid conflicts with utilities, and minimize impacts where conflicts cannot be avoided.

8. ENVIRONMENTAL SCOPE OF WORK

The Environmental Boundaries Report (EBR) has been provided by the Tennessee Department of Transportation's (TDOT) Ecology Section. It is the responsibility of the Design-Builder to make sure all features are field verified. If a feature is discovered that is not included in the EBR, the Design-Builder will be responsible for hiring a biologist to complete the Hydrologic Determination Sheets and submit them to Tennessee Department of Environment and Conservation (TDEC) for review and approval. The Design-Builder shall be responsible for any mitigation for impacts to environmental features included in this report and for any additional features that may be detected during construction. The cost for these items shall be included in the contract amount.

I. WATER QUALITY PERMITS

A. The Design-Builder will obtain and pay for all regulatory permits as required by applicable laws, the plans, or contract specifications. The cost shall be included in the contract amount. The Design-Builder shall be cognizant of and adhere to the requirements of the various permits that will be necessary for construction and operation of this project. Also, the listing herein is not all-inclusive and it shall be the responsibility of the Design-Builder to determine all of the permits required in order to perform the work.

B. The Design-builder assumes all responsibility of the permittee as indicated in the permit that relates to protection of the "Waters of the United States" and/or "Waters of the State of Tennessee" pursuant to the following:

1. Section 404 of the Federal Clean Water Act (33 U.S.C. §1344), and all implementing regulations, including without limitation regulations of the U.S. Army Corps of Engineers governing permits for discharges of dredged or fill material into waters of the United States in 33 CFR Part 323;

2. The Tennessee Water Quality Control Act (T.C.A. §69-3-101, et. seq.) and all implementing regulations, including without limitation the Rules of the Tennessee Department of Environment and Conservation (TDEC) governing National Pollutant Discharge Elimination System (NPDES) permits in Chapter 1200-4-10, and Aquatic Resource Alteration Permits in Chapter 1200-4-7; Class V Injection Well Permits for work in or near sinkholes; and

3. Section 26a of the Tennessee Valley Authority (TVA) Act of 1933 as amended (49 Stat. 1079, 16 U. S. C. sec. 831y1.) and all implementing regulations, including without limitation the regulations of the Tennessee Valley Authority governing construction in the Tennessee River System in 18 C.F.R., Part 1304.

C. List of Regulatory Agencies and Permit Types

1. Department of Army (DA) United States Army Corps of Engineers (USACE)
   a. Nationwide Section 404 Permit (404)
   b. Individual Nationwide Section 404 Permit (I404)
2. Tennessee Department of Environment and Conservation (TDEC), Natural Resource Section
   a. General Aquatic Resources Alteration Permit (GARAP)
   b. Individual Aquatic Resources Alteration Permit (IARAP)
   c. 401 Water Quality Certification (401)
3. Tennessee Department of Environment and Conservation (TDEC), Division of Water Supply
   a. Class V Injection Wells (sinkholes)
4. Tennessee Department of Environment and Conservation (TDEC), Division of Water Pollution Control
   a. General NPDES Permit for Discharge of Storm Water Associated with Construction Activities
5. Tennessee Valley Authority (TVA)
   a. Section 26a Permit

D. Permits may be modified by regulatory agencies during the course of performing the work under the contract. Therefore, wherever the term "order," "permit," "opinion," "programmatic agreement," or "authorization" is used in the contract, it is intended to refer to the current version in effect at the time the event governed by it takes place.

E. A TDEC permit may also be required when activities such as core sampling, seismic exploratory operations, soil surveys, soil sampling, and historic resources surveys occur within waters of the state. A TDEC permit may also be required for placement and operations of scientific measurement devices. See Tennessee General Aquatic Resource Alteration for Surveying and Geotechnical Exploration for additional details. http://www.tn.gov/environment/permits/arapgps.shtml)

F. The Design-Builder shall be responsible for preparing all documents (permit package) and attending all public meetings necessary to obtain the environmental permits for the construction requirements of this project. It shall be the Design-Builder's responsibility to acquire information and prepare permit drawings/sketches that reflect the impacts and minimization efforts resulting from the Design-Builder's design of this project. Permit drawings/sketches for individual permits (IARAP or I404) shall be prepared utilizing the TDOT's template for permit sketches.

G. The Design-Builder shall be responsible for developing the permit application for all jurisdictional impacts. The Design-Builder shall be responsible for all public notice requirements, such as documentation to be placed in the local paper and in the field. The cost of the public notice shall be included in the contract amount. The Design-Builder shall employ the personnel that it deems necessary in order to provide permit compliance. The design shall be complete prior to permit application.

H. Information to be included in the permit application package:

1. Signed application letter to the TDEC Natural Resource Section, USACE and TVA (if applicable) listing all water quality impacts.

2. The signed application letter should indicate the following:

    a. Alternatives for each impact to environmental features.

    b. Proposed methods utilized by the Design-Build to minimize impacts to each environmental feature.

    c. Proposed mitigation for impacts to environmental features (if required).

3. Labeled U.S. Geologic Survey (USGS) color quadrangle map. The map should have the following information shown:

    a. Impact area labeled by permit type.

    b. Longitude and latitude (precision to four decimal places) listed for each impact.

    c. Quadrangle name and number.

    d. Project information (including PIN, State Project Number, project description, County name, nearest city).

    e. Scale bar (quad map scale should be set to 1:240000).

f. North arrow.

4. Copy of signed CN1091 form (the originally-signed CN1091 form should be submitted to Mr. Dan Eagar with TDEC).
5. Signed DA/TVA form or DA form (if applicable). DA/TVA form must be filled out if an Individual Section 404 Permit is required, or if the project is located within one of the TVA watersheds. Refer to the website listed below for TVA watershed information.

   http://www.tva.gov/river/landandshore/landuse_contacts.htm#
6. Signed Section 26a Permit and Land Use Application Applicant Disclosure Form (if applicable).
7. Individual Section 404 Permit applications require the names and addresses of property owners adjacent to all permit impacts listed on a separate permit sketch.
8. Individual permit sketches
9. Form G (see Figure 1) of the Environmental Boundaries report
10. Form G quad map showing impact area and listing all environmental features.
11. Photographs of all environmental features. The photographs should match Form G.
12. Marked-up plan sheets from the Environmental Boundaries matching Form G.
13. A copy of all coordination letters between TDOT and the United States Fish and Wildlife Service (USFWS)
14. TDEC Division of Natural Areas, endangered species database search (Form N of the Environmental Boundaries).
15. A copy of all coordination letters between TDOT and the Tennessee Wildlife Resource Agency (TWRA).
16. Federal Emergency Management Agency (FEMA) flood map for the subject project with construction limits labeled.
17. FEMA No–Rise Certification letter or Conditional Letter of Map Revision (CLOMR).
18. A copy of approved National Environmental Policy Act (NEPA) document (Environment Assessment, Finding of No Significant Impact, Categorical Exclusion, etc.)
19. A copy of the State Historic Preservation Office (SHPO) letter (Architectural & Archaeological)
20. Mitigation plan/plans for all streams and wetlands (if applicable)

21. Half-size copy of the bridge layout(s) (if applicable)

22. Half-size set of plans showing all environmental features. The plans shall be highlighted according to the following guidelines:

    a. Have the new culvert construction (extensions included) highlighted in orange on the proposed layout.

    b. Existing culverts highlighted in blue on the present layout (blue on the proposed layout if sections are remaining).

    c. Streams/springs highlighted in blue on the present and proposed layout.

    d. Wetlands highlighted on present layout (green for permanent impacts and yellow for temporary impacts). Be sure to label plans accordingly.

    e. Bank stabilization, outfall structures, and sinkholes highlighted in pink on proposed layout.

I. If any regulatory agency rejects or denies the permit application, it is the Design-Builder's responsibility to make the necessary revisions to ensure the permit is approved. The Design-Builder will be responsible for preparing designs and proposing construction methods that are permitable. All permits required for a particular construction activity will be acquired prior to commencing the particular construction activity. All costs and delays associated with incomplete permit packages, agency rejection, agency denials, agency processing time, or any permit violations will be the responsibility of the Design-Builder, and will not be considered sufficient reason for time extension.

J. Any temporary construction measures, including de-watering, construction access, erosion control measures, temporary crossings, etc. shall be addressed in the permit application. The Design-Builder shall clearly indicate the location of and impacts from haul roads on jurisdictional areas. The Design-Builder shall identify all proposed borrow and waste sites and provide all clearance documentation per the Waste and Borrow Manual. (http://www.tdot.state.tn.us/construction/Specs_&_Procedures.htm)

   These details shall be included in the permit application data. Further, the Design-Builder shall describe the methods of construction of all structures.

K. Typical agency review time for Nationwide Section 404 Permit applications and General Aquatic Resources Alteration Permit applications is usually 30 to 60 days; Individual Aquatic Resources Alteration Permit and Individual Nationwide Section 404 Permit applications, is usually 90 to 180 days. For TVA Section 26a Permit applications agency the review time is usually 90 to 120 days; and TDEC Class V Injection Wells (sinkholes) Permit applications typical review time is usually 30 days from the receipt of a "complete" package, including any fees. The Design-Builder needs to be aware that the timeframes, mentioned above, to

review any permit application begin only after a fully-complete and 100% accurate submittal is received. Processing time can vary depending upon such things as the complexity of the activity or impact, the level of public interest (including public hearings), the quality or value of the waters to be affected, etc. Please keep in mind that not all activities are entitled to a permit. All work by the Design-Builder shall be accomplished in strict compliance with the plans submitted with the permit applications and in compliance with all terms and conditions of all permits and certifications issued by the agencies.

L. Mitigation of Stream and Wetlands

1. The Design-Builder shall be responsible for all stream and wetland mitigation required for the subject project and all costs associated with obtaining mitigation. The cost shall be included in the contract amount. This may include (but is not limited to):
    a. planning
    b. design
    c. construction of on-site/off-site mitigation for stream and/or wetlands impacts
    d. purchasing of wetland mitigation credits from an approved bank or site
    e. and/or purchasing of stream mitigation from an approved site/organization

2. All stream mitigation shall follow the requirements outlined in the Stream Mitigation Guidelines for the State of Tennessee, prepared by the TDEC, Division of Water Pollution Control, Natural Resources Section. All proposed stream and wetland mitigation shall be submitted to and coordinated with the regulatory agencies before submittal of the permit application. It shall be the responsibility of the Design-Builder to make any and all adjustments deemed necessary by the regulatory agencies to the proposed mitigation plan.

3. The Design-Builder shall be responsible for all on-site/off-site mitigation requirements listed in the permits and all costs associated with mitigation requirements, such as 5-year site monitoring after construction, reporting of mitigation monitoring to regulatory agencies, and maintenance and/or repairs needed to mitigation sites, etc.

II. NPDES PERMIT

A. Typical agency review time for storm water permits (National Pollutant Discharge Elimination System, NPDES) is usually approximately 30 days.

B. If a NPDES Construction General Permit (CGP) is required for the project, the Design-Builder shall prepare a Storm Water Pollution Prevention Plan (SWPPP) and a Notice of Intent (NOI) using the most current TDOT format approved by

TDOT and TDEC for submittal of the NPDES permits to TDEC. A copy of the Storm Water Pollution Prevention Plan Manual (SWPPP) used by TDOT to develop SWPPPs can be found at the following location:

http://www.tdot.state.tn.us/environment/permits/stormwater.htm.

C. The SWPPP template and Storm Water Pollution Prevention Plan Manual shall be used as a guide in preparation of SWPPPs and the Design-Builder is responsible for complying with all requirements of the CGP. Refer to the following website for a copy of the current CGP and for additional information/requirements: http://www.tn.gov/environment/permits/conststrm.shtml.

D. The SWPPP shall include the Erosion Prevention and Sediment Control (EPSC) plans for application of coverage under the CGP. The SWPPP and NOI shall be submitted at least 30 business days prior to beginning construction activities. Once a Notice of Coverage (NOC) is received by the Design-Builder, the EPSC plans shall be kept current for all phases of construction. Any changes in scope subsequent to submitting the SWPPP for coverage under the CGP shall be submitted to TDEC for their records.

E. The requirements set forth in the Statewide Storm Water Management Plan (SSWMP) will be effective on this project. The Department will perform the Environmental Quality Assurance Project Compliance Assessments on this project, which will include the waste and borrow areas.

F. The Design-Builder shall prepare EPSC plans detailing best management practices (BMPs) to prevent erosion, control sedimentation, and prevent the discharge of any pollutants that may enter stormwater and be transported to receiving waters during the construction of the project. The Design-Builder shall identify all outfall locations on the EPSC plans with an appropriate numbering or lettering system. The Design-Builder shall revise the SWPPP and the EPSC plans as necessary based on actual construction activities throughout the duration of the project. The Design-Builder shall certify that the individual who prepared and reviewed the EPSC plans and SWPPP is currently certified according to Section 3.5.8.1 of the CGP. The Design-Builder shall also certify that the BMPs are designed so that if properly implemented, installed, and maintained, they will manage erosion and prevent sediment accumulation in the waters of the state, as well as comply with the terms of the TDEC NPDES Construction Permit.

G. The Design-Builder shall follow all of TDOT's Design Standards/Guidelines when developing the EPSC plan for the subject project. TDOT's Design Standards/Guidelines can be found at the following address:

http://www.tdot.state.tn.us/Chief_Engineer/assistant_engineer_design/design/designstandardsmenu.htm.

H. TDOT will review and monitor the project, including all waste and borrow areas, to ensure compliance with all applicable environmental regulations and storm water management activities throughout the duration of the project. If at any time, the Design-Builder is not in compliance will any applicable permit regulations, all non-compliance items must be addressed by the Design-Builder within 24 hours of such identification. If non-compliance items are not addressed within this timeframe, liquidated damages shall be addressed, not as a penalty, and computed as they occur with a separate item number subtracting from monies due the Design-Builder. The liquidated damages amount will be addressed in a notice of warning to the Design-Builder of failure to comply. TDOT has the authority to suspend work until such time as the deficiencies have been corrected. The Design-Builder shall not be granted any cost or time compensation for any work suspensions associated with non-compliance. Any monetary fees and/or fines associated with any violations shall be the responsibly of the Design-Builder.

III. HAZARDOUS MATERIAL

Two properties on the east side of SR-222 and north of the SR-22/I 40 interchange were previously identified as being potential Hazmat sites. These sites are considered to be a Moderate Risk of environmental impact to the project.

A. **These two sites are summarized as follows:**

1. Phase II Environmental Site Assessments involving intrusive field investigations on Parcel 005.00 Map 012 (Site 1) and Parcel 003.00 Map 005 (Site 2) will be conducted by the Design/Build Team when definitive ROW plans are completed. Site 1 is a former dump site. Site 2, a former gas station, has no record of registered USTs at TDEC. USTs may remain onsite at this property.

2. No sites of Hazardous Materials interest were identified on the remainder of the proposed routing for proposed SR-222 from near Thorpe Road to the Stanton city limits.

3. In the event hazardous substances/wastes are encountered within the proposed right-of-way, their disposition shall be subject to all applicable regulations, including the applicable sections of the Federal Resource Conservation and Recovery Act, as amended; and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended; and the Tennessee Hazardous Waste Management Act of 1983, as amended.

IV. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENT

A. The Environmental Document for this project is a D-List Categorical Exclusion which allows the project to be federally funded. The D-List Categorical Exclusion was approved on 06/19/12. According to the environmental process, as directed by the NEPA and Federal Highway Administration (FHWA), a right-of-way and/or construction re-evaluation may be conducted on the project as development progresses depending on timing. If there are changes in the right-of-way limits, including new right-of-way, or permanent drainage easements, a formal re-evaluation will need to be conducted by the TDOT Environmental Documentation Office. Permanent drainage easements are considered to be a right-of-way acquisition; therefore, they must be addressed in all environmental documents and re-evaluations. They also require FHWA concurrence, the process of which usually takes approximately eight weeks. As you move through the various phases of the Design-Build project, please remain aware of the federally mandated requirements for these re-evaluations. Please, also allow time for the environmental process for this Design Build project.

B. The Design-Builder shall provide the TDOT Environmental Documentation Office final right-of-way plans for the entire project no later than 3 months after the project has been awarded if any changes occur from the plans used in the NEPA process. This will allow the TDOT Environmental Documentation Office to complete the right-of-way and/or construction re-evaluation before construction activities commences.

9. CONSTRUCTION SCOPE OF WORK

a. Construction Engineering Inspection (CEI) Scope of Work:

- TDOT will be responsible for CEI work.

b. A rideablility Special Provision (SP411B, SP411C) will not be included in this Project. This requirement will be determined according to TDOT Standard Specification Sections 411 and 501.

c. All EPSC designs and implementation shall be the responsibility of the Design-Builder.

- Sod shall be placed at locations to prevent damage to adjacent facilities and property due to erosion on all newly graded cut and fill slopes as work progresses.
  - Pre-construction vegetative ground cover shall not be destroyed, removed or disturbed (i.e. clearing and grubbing initiated) more than 10 calendar days prior to grading or earth moving activities unless the area is seeded and/or mulched or other temporary cover is installed.

- Clearing, grubbing, and other disturbance to riparian vegetation shall be limited to the minimum necessary for slope construction and equipment operations. Unnecessary vegetation removal is prohibited.

- All disturbed areas shall be properly stabilized as soon as practicable. Priority shall be given to finishing operations and permanent EPSC measures over temporary EPSC measures on all projects.
- EPSC measures shall be installed concurrently with clearing operations, and shall be functional prior to any earth moving operations.
- EPSC inspection, repair, and maintenance of structures are to be performed on a regular basis and sediment shall be removed from sediment control structures when the design capacity has been reduced by fifty percent (50%). During sediment removal, the Design-Builder shall take care to ensure that structural components of EPSC structures are not damaged and thus made ineffective. If damage does occur, the contractor shall repair the structures at their own expense.
- Inspection of EPSC components shall be done on regular basis and a copy of each inspection report shall be provided to the TDOT project engineer.
- Sediment removed from sediment control structures shall be placed and be treated in a manner so that the sediment is contained within the project limits and does not migrate into Waters of the State/U.S.
- The Design-Builder shall establish and maintain a proactive method to prevent the off-site migration or deposit of sediment on roadways used by the general public. If sediment escapes the construction site, off-site accumulations of sediment that have not reached a stream must be removed at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment that has escaped the construction site and has collected in a street must be removed so that it is not subsequently washed into storm sewers and streams by the next rain and/or so that it does not pose a safety hazard to users of public streets). Arrangements concerning removal of sediment on adjoining property must be settled with the adjoining property owner before removal of sediment.
- Upon conclusion of the inspections, EPSC measures found to be ineffective shall be repaired, replaced, or modified before the next rain event, if possible, but in no case more than 24 hours after the inspection or when the condition is identified. If the repair, replacement or modification is not practical within the timeframe, written documentation must be provided and an estimated repair, replacement or modification schedule shall be documented within 24 hours after identification. All costs associated with modifications made to these measures shall be the responsibility of the Design-Builder and all modifications shall be approved by the TDOT project engineer.
- EPSC measures must be in place and functional before earth moving operations begin, and must be constructed and maintained throughout the construction period. Temporary EPSC measures may be removed at the beginning of the workday, but must be replaced at the end of the workday.

All EPSC measures as well as buffer zones and other protective measures shall be kept in good and effective operation condition.

- If permanent or temporary vegetation is to be used as an EPSC measure, then the timing of planting of vegetation. Delaying planting of cover vegetation until winter months or dry months should be avoided, if possible.
- Offsite vehicle tracking of sediments and the generation of dust shall be minimized. A stabilized construction access (a point of entrance/exit to the construction project) shall be provided, as needed, to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- The EPSC measures and/or plan shall be modified as necessary so that they are effective at all times throughout the course of the Project. The cost of all modifications and upgrades to the EPSC plan as directed by the engineer shall be the responsibility of the Design-Builder.
- The accepted EPSC plan shall require that EPSC measures be in place before clearing, grubbing, excavation, grading, cutting or filling occurs, except as such work may be necessary to install EPSC measures, including without limitation as follows:
  - Initial clearing and grubbing shall be limited to that necessary for the installation of applicable EPSC devices in accordance with the accepted EPSC plan.
  - No other clearing and grubbing operations shall be started before applicable EPSC measures are in place in accordance with the accepted EPSC plan.
  - In the event that wetlands are delineated within the project limits, no access shall be granted to these areas for any reason. These areas shall be protected from sediment prior to any clearing and grubbing operations.
- No grading, excavation, cutting, filling, or other earthwork shall be started before EPSC measures are in place in accordance with the accepted EPSC plan.

d. Any area that is disturbed outside limits of construction during the life of this Project shall be repaired by the Design-Builder at their expense. All repaired areas shall be inspected and be deemed satisfactory by department personnel.

e. The Design-Builder shall not dispose of any material either on or off state-owned R.O.W. in a regulatory flood way as defined by the Federal Emergency Management Agency without approval by same. All material shall be disposed of in upland (non-wetland) areas and above ordinary high water of any adjacent watercourse. This does not eliminate the need to obtain any other licenses or permits that may be required by any other federal, state or local agency.

f. Nothing in the Contract shall relieve the Design-Builder from their responsibilities toward the safety and convenience of the general public and the residents along the proposed construction area.

g. Bituminous Material and Fuel Price Adjustments **shall be** available on this Project. Once the Contract is executed items for Bituminous Material and Fuel Price Adjustments will be added. The adjustments will be made on the Progress Payments approved by TDOT.

10. TRAFFIC CONTROL/PAVEMENT MARKING SCOPE OF WORK

a. The Design-Builder shall be responsible for developing the traffic control system that best meets these requirements and the construction activities.

The Design Builder shall state method of construction in the technical proposal. No closures are allowed on holidays or holiday weekends as defined in the Standard Specifications in subsection 104.04, as amended.

- All lane closures shall be allowed as specified in SP108B.
- No less than seven (7) days prior to the closure of the road, the Design-Builder shall notify the following individuals or agencies completely describing the affected roads and the approximate duration of the construction: these parties include, but are not limited to: (1) local law enforcement office, (2) local fire department, (3) ambulance service, (4) local school superintendent, (5) United States Postal Service, and (6) local road superintendent.
- Any demolition of the existing structure is to be done on weekends only (Saturday and/or Sunday). This will require that SR-222 be closed during the period of demolition.
- The beams for the new bridge shall be set on weekends only (Saturday and/or Sunday).
- Construction on SR-222 can be phased by closing one lane to traffic and shifting two-way traffic to one side of the existing structure using a temporary traffic control signal; however, a delay analysis shall be provided with the Technical Proposal and reviewed by TDOT for feasibility. Please state method of construction in your technical proposal. No closures are allowed on holidays or holiday weekends as defined in the Standard Specifications, as amended.
- For each hour or portion thereof, which any traffic lane remains closed beyond these allowable time periods, the sum of one thousand dollars ($1,000) per HOUR per lane shall be deducted from monies due the Design-Builder, not as a penalty, but as liquidated damages.
- If detours are required, they shall be paved, striped, signed and the vertical panels are to be in place before it is opened to traffic.

- Advanced warning signs shall not be displayed more than forty-eight (48) hours before physical construction begins. Signs may be erected up to one week before needed, if the sign face is fully covered.
- If the Design-Builder moves off the Project, all unneeded signs shall be covered or removed as directed by TDOT. Costs of removal, covering, and reinstalling signs shall not be measured and paid for separately, but all costs shall be included in the Contract Amount.
- A long term but sporadic use warning sign, such as a flagger sign, may remain in place when not required provided the sign face is fully covered.
- Traffic control devices shall not be displayed or erected unless related conditions are present necessitating warning.
- Use of barricades, portable barrier rails, vertical panels, and drums shall be limited to the immediate areas of construction where a hazard is present. These devices shall not be stored along the roadway within thirty (30) feet of the edge of the traveled way before or after use unless protected by guardrail, bridge rail, and/or barriers installed for other purposes for roadways with current ADT's less than 1500 and design speed of less than 60 mph. This distance shall increase to forty-five (45) feet for roadways with current ADT's of 1500 or greater and design speed of 60 mph or greater or on the outside of a horizontal curve. These devices shall be removed from the construction work zone when TDOT determines they are no longer needed. Where there is insufficient ROW to provide for this required setback, the ADT's shall determine the alternate locations and request the TDOT's approval to use them.

- A minimum of two (2) Changeable Message Signs shall be used in addition to advance warnings signs to notify the motoring public. The locations of these Changeable Message signs shall be approved the Department.

- Difference in elevation between adjacent roadway elements greater than 0.75 inch and not exceeding 2 inches:
  A. Warning signs, uneven pavement (W8-11) and/or shoulder drop-off (W8-9a), shall be placed in advance of and throughout the exposed area. Maximum spacing between signs shall be 2,000 feet with a minimum of 2 signs per exposed area. Where uneven pavement is encountered, signs shall be placed on each side of the roadway.
  B. Differences in elevation between adjacent traffic lanes being utilized by traffic caused by added pavement shall be eliminated within three workdays.
  C. Differences in elevation between adjacent traffic lanes being utilized by traffic caused by cold planning shall be eliminated within three workdays.

D. When the difference in elevation is between the traffic lane being utilized by traffic and shoulder the difference in elevation shall be eliminated within 7 workdays after the condition is created.

- Difference in elevation between adjacent roadway elements greater than 2 inches and not exceeding 6 inches. Traffic is not to be allowed to traverse this difference in elevation.

  A. Separation shall be accomplished by drums, barricades or other approved devices in accordance with the following:

     1. Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.
     2. Where posted speeds are less than 50 mph the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater.

  B. If the difference in elevation is eliminated or decreased to 2 inches or less by the end of each day's work, cones may be used during daylight hours in lieu of drums, barricades or other approved protective devices mentioned in paragraph a, provided warning signs are erected. Warning signs (uneven pavement and/or low shoulder) shall be placed in advance of and throughout the exposed area. Maximum spacing between signs shall be 2,000 feet with a minimum of 2 signs per exposed area. Where uneven pavement is encountered, signs shall be placed on each side of the roadway.

  C. When the difference in elevation is between the thru traffic lane and the shoulder and the elevation difference is less than 3 ½ inches, the contractor may use warning signs and/or protective devices as applicable and approved by the engineer. See paragraph A regarding use of drums, barricades or other approved protective devices. Warning signs (uneven pavement and/or low shoulder) will be placed in advance of and throughout the exposed area. Maximum spacing between signs shall be 2,000 feet with a minimum of 2 signs per exposed area. Where uneven pavement is encountered, signs shall be placed on each side of the roadway.

     In these situations the Design-Builder shall limit his operations to one work zone not exceeding two miles in length unless otherwise noted on the plans approved by TDOT. Once the Design-Builder begins work in a work zone a continuous operation shall be maintained until the difference in elevation is eliminated. Simultaneous work on separate roadways of divided highways will be considered independently in regard to restriction of work zone activity.

- Difference in elevation between adjacent roadway elements greater than 6 inches but not exceeding 18 inches, the Design-Builder, with the TDOT's approval, may utilize one of the following:

A. The Design-Builder shall accomplish separation by drums, barricades or other approved devices in accordance with the following:

1. Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.
2. Where posted speeds are less than 50 mph the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater. In order to use this method the Design-Builder must reduce the difference in elevation to 6 inches or less by the end of the workday that the condition is created.

B. The Design-Builder shall provide drums, barricades or other approved separation devices as specified in paragraph A, and construct a stone wedge with a 4:1 slope, or flatter, to eliminate the vertical offset if the lower elevation is at or below subgrade at the end of each day.

C. The Design-Builder shall provide drums, barricades or other approved separation devices as specified in paragraph a, and if the lower elevation is base stone or asphalt pavement, placement of subsequent layers of pavement must begin the next work day and progress continuously until the difference in elevation is eliminated or reduced to six inches or less.

D. The Design-Builder shall provide separation by portable barrier rail.

For preceding conditions A, B, and C, the Design-Builder shall use the shoulder drop-off warning sign (W8-9a). It shall be placed in advance of and throughout the exposed area. Maximum spacing between the signs shall be 2,000 feet with a minimum of 2 signs per exposed area. In these situations the Design-Builder shall limit his operations to one work zone not exceeding one mile in length unless otherwise approved by TDOT. Once the Design-Builder begins work in a work zone a continuous operation shall be maintained until the difference is eliminated. Simultaneous work on separate roadways of divided highways will be considered independently in regard to restriction of work zone activity.

- Difference in elevation between adjacent roadway elements greater than 18 inches.

  Separation will be provided by use of portable barrier rail.

  In this situation the Design-Builder shall limit his operations to one work zone not exceeding one mile in length unless otherwise approved by TDOT. Once the Design-Builder begins work in a work zone a continuous operation shall be maintained until the difference in elevation is eliminated. Simultaneous work on separate roadways of divided highways will be considered independently in regard to restriction of work zone activity.

- Difference in elevation is within 30 feet of the nearest traffic lane being used by traffic caused by grading, excavation for utilities, drainage structures, undercutting, etc.:

- Difference in elevation is within 8 feet of the nearest traffic lane with difference in elevation greater than ¾ inch and not exceeding 2 inches.

  Warning signs (uneven pavement and/or low shoulder) shall be placed in advance of and throughout the exposed area maximum spacing between signs shall be 2,000 feet with a minimum of 2 signs per exposed area. Where uneven pavement is encountered, signs shall be placed on each side of the roadway.

- Difference in elevation is within 8 feet of the nearest traffic lane with difference in elevation greater than 2 inches and not exceeding 6 inches:

  A. Separation shall be accomplished by drums, barricades or other approved devices in accordance with the following:

     1. Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.
     2. Where posted speeds are less than 50 mph the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater.

- Difference in elevation is within 8 feet of the nearest traffic lane with difference in elevation greater than 6 inches:

  A. Separation shall be accomplished by drums, barricades or other approved devices in accordance with the following:

     1. Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.
     2. Where posted speeds are less than 50 mph the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater.

  B. Eliminate vertical offset by constructing a stone wedge or grading to a 4:1 slope, or flatter, or use portable barrier rail.

     The Design-Builder shall schedule the work so as to minimize the time traffic is exposed to an elevation difference. Once the Design-Builder begins an activity that creates an elevation difference within 8 feet of a traffic lane, the activity shall be pursued as a continuous operation until the elevation difference is eliminated.

- Difference in elevation is farther than 8 feet from the nearest traffic lane but not more than 30 feet from the nearest traffic lane: separation shall be accomplished by drums, barricades or other approved devices in accordance with the following:

  A. Where posted speeds are 50 mph or greater, spacing of the protective devices shall not exceed 100 feet.

  B. Where posted speeds are less than 50 mph the maximum spacing of the protective devices in feet shall not exceed twice the posted speed in miles per hour or 50 feet, whichever spacing is greater.

The Design-Builder shall schedule the work so as to minimize the time traffic is exposed to an elevation difference. Once the Design-Builder begins an activity that creates an elevation difference, the activity shall be pursued as a continuous operation until the elevation difference is eliminated.

- The Design-Builder is not permitted to park any vehicles or construction equipment during periods of inactivity, within thirty (30) feet of the edge of pavement when the lane is open to traffic unless protected by guardrail, bridge rail, and/or barriers installed for other purposes for roadways with current ADT's less than 1500 and design speed of less than 60 mph. This distance shall be increased to forty-five (45) feet for roadways with current ADT's of 1500 or greater and design speed of 60 mph or greater or on the outside of a horizontal curve. Privately owned vehicles shall not be allowed to park within thirty (30) feet of an open traffic lane at any time unless protected as described above for roadways with current ADT's less than 1500 and design speed of less than 60 mph. This distance shall be increased to forty-five (45) feet for roadways with current ADT's of 1500 or greater and design speed of 60 mph or greater or on the outside of a horizontal curve.. Where there is insufficient ROW to provide for this required setback, the contractor shall determine the alternate locations and request TDOT's approval to use them.

a. The Design-Builder shall use Traffic Control materials from TDOT's Qualified Products List (QPL).

   Pavement Markings shall be:

   - For Interstates and Freeways: 6" Enhanced Flat line Thermoplastic edge lines; and 6" Enhanced Flat line Thermoplastic skip lines with Snowplowable Raised Pavement Markings (SRPMs).
   - For 2 and 3 Lane State Routes:
     - For Average Daily Traffic (ADT) ≤ 2,000: Spray Thermoplastic edge lines; and Spray Thermoplastic skip lines/centerlines with an estimated Raised Pavement Markers (RPM) or Snowplowable RPMs depending on elevation and plowable needs.
     - For Average Daily Traffic > 2,000 and < 12,000: Rumble Stripes with Spray Thermoplastic edge lines; and Spray Thermoplastic skip lines/centerlines with RPMs or Snowplowable RPMs depending on elevation and plowable needs.
     - For Average Daily Traffic (ADT) ≥ 12,000:
       - 4" Enhanced Flatline Thermoplastic
       - 4" Enhanced Flatline Thermoplastic skip lines/centerlines with RPMs or Snowplowable RPMs depending on elevation and plowable needs.

APPENDIX A

DATE: 08/06/12 FULL DEPTH DESIGN FOR I-40 ROUTE I-40

COUNTY: FAYETTE PROJ NO: 24001-1147-44 FED PROJ IM-40-1(328)

DESCRIPTION: WIDENING OF SR-222 OVER I-40 AND INTERCHANGE REDESIGN

ROADWAY DESIGN REGION IV

	DESCRIPTION	THICKNESS
411-03.10	ACS (PG76-22) GR "D"	1.25
307-03.08	AC MIX(PG76-22) GR "B-M2"	2.00
307-03.01	AC MIX (PG76-22) GR "A"	6.00
307-(**)	PERF AC (PG76-22)GR"A-S"	3.75
303-01	MINERAL AGG BASE GRADING "D"	12.00
	TOTALS	25.00

OUTSIDE SHOULDER DESIGN

	DESCRIPTION	THICKNESS
411-01.07	ACS (PG64-22) GR "E"	1.25
307-01.08	AC MIX (PG64-22)GR "B-M2"	2.50
303-01	MINERAL AGG BASE GRA "D"	21.25
	TOTALS	25.00

(**) REQUIRES USE OF ITEM 307-

REMARKS: 1) 6" OF PERF."A-MIX" TO BE APPLIED AT TWO EQUAL LIFTS
2) SUBSURFACE DRAINAGE - AGGREGATE UNDERDRAIN W/PIPE
3) OVERLAY EXISTING PAVEMENT USING 1.25" OF "D" MIX WHERE NEEDED.

DATE: 08/06/12 RAMPS ROUTE: I-40

COUNTY: FAYETTE PROJ NO: 24001-1147-44

DESCRIPTION: INTERCHAGE AT SR-222 (EXIT 42)

ROADWAY DESIGN REGION IV

	DESCRIPTION	THICKNES
501-01	PORTLAND CEM CONC (PLAIN)	10.00
313-03	TREATED PERMEABLE BASE	4.00
303-01	MINERAL AGG BASE GRADING "D"	6.00
	TOTALS	20.00

SHOULDER DESIGN

	DESCRIPTION	COEFFICIENT	THICKNESS
501-01	PORTLAND CEM CONC (PLAIN)		10.00
313-03	TREATED PERMEABLE BASE		4.00
303-01	MINERAL AGG BASE GRADING "D"		6.00
	TOTALS		20.00

REMARK: SUBSURFACE DRAINAGE - AGGREGATE UNDERDRAIN W/PIPE

DATE: 08/06/12 FULL DEPTH DESIGN FOR SR-222 ROUTE: I-40

COUNTY: FAYETTE PROJ NO: 24001-1147-44 FED PROJ IM-40-1(328)

DESCRIPTION: INTERCHAGE AT SR-222 (EXIT 42)

ROADWAY DESIGN REGION: IV

	DESCRIPTION	THICKNESS
411-02.10	ACS (PG70-22) GR "D"	1.25
307-02.08	AC MIX (PG70-22) GR "B-M2"	2.00
307-02.01	AC MIX (PG70-22) GR "A"	4.00
307-02.02(**)	PREF AC(PG70-22)GR "A-S"	4.00
303-01	MINERAL AGG BASE GRADING "D"	10.00
	TOTALS	21.25

SHOULDER DESIGN

	DESCRIPTION	THICKNESS
411-01.07	ACS (PG64-22) GR "E"	1.25
307-01.08	AC MIX (PG64-22)GR "B-M2"	2.00
303-01	MINERAL AGG BASE GRADING "D"	18.00
	TOTALS	21.25

(**) REQUIRES USE OF ITEM 307-02.03

REMARKS: 1) SUBSURFACE DRAINAGE: AGGREGATE UNDERDRAIN W/PIPE
2) ELIMINATE SHOULDER DESIGN FOR CURB AND GUTTER SECTION

APPENDIX B

CONTRACT BOOK 3 (PROJECT INFORMATION) FORMS

(Located in the Design Builder's Technical Proposal "Exhibit A")

FORM NAME	**FORM DESIGNATION**
ALTERNATE TECHNICAL CONCEPTS (ATC) SUBMITTAL	FORM ATC
RFP QUESTION REQUEST	FORM QR
RESPONSE CATEGORY II	FORM RC II
RESPONSE CATEGORY III	FORM RC III
RESPONSE CATEGORY IV	FORM RC IV
Receipt of Addenda/Clarifications	FORM C

APPENDIX C

REFERENCE INFORMATION

- Preliminary plans http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Survey data file in Micorstation http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Existing Structure details http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Environmental Document D-list C.E. http://www.tdot.state.tn.us/construction/DB1101_details.htm
- DB Geotechnical documents http://www.tdot.state.tn.us/construction/DB1101_details.htm
- Environmental Boundaries http://www.tdot.state.tn.us/construction/DB1101_details.htm