



**STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION**

Construction division  
SUITE 700, JAMES K. POLK BUILDING  
505 DEADERICK STREET  
NASHVILLE, TN 37243  
(615) 741-2848

**JOHN C. SCHROER**  
COMMISSIONER

**BILL HASLAM**  
GOVERNOR

June 12, 2018

**ADDENDUM #7**

**Re: I-440, Widening from I-40 to I-24  
Davidson County  
Contract No. DB1701**

**To Whom It May Concern:**

This addendum revises the RFP Contract Book 1, Book 2, Book 3, and SP108B. Attached are the revised sheets.

You must acknowledge this addendum by completing the "Addendum Letter Acknowledgement form C and the Technical Proposal Signature Page (Form TPSP) within your Technical Proposal. It is the bidder's responsibility to notify all affected manufacturers, suppliers and subcontractors of this change.

Sincerely,

A handwritten signature in blue ink that reads "Lia Baird".

Assistant Director of Construction  
Construction Division

**DESIGN-BUILD  
RFP CONTRACT BOOK 1  
INSTRUCTIONS TO  
DESIGN-BUILDERS (ITDB)  
TENNESSEE DEPARTMENT OF TRANSPORTATION**

**I-440, Widening from I-40 to I-24,  
Project includes removing and replacing existing pavement**

**Davidson County- TENNESSEE**

**CONTRACT NUMBER: DB1701**



**January 12, 2018**

**Addendum #1 March 13, 2018**

**Addendum #3 April 3, 2018**

**Addendum #4 April 9, 2018**

**Addendum #5 April 25, 2018**

**Addendum #6 May 25, 2018**

**Addendum #7 June 12, 2018**

Schedule that can be loaded or imported by the Department using the Department's scheduling software with no modifications, preparation or adjustments.

The CPM Schedule shall show the order in which the Design-Builder proposes to carry on the work, the time frame which it will start the major items of work and the critical features of such work (including procurement of materials, plant, and equipment), and the contemplated time frames for completing the same. For the purposes of developing the CPM Schedule, the Design-Builder shall use ten (10) business days for the Review and Approvals performed by the Department. The CPM Schedule shall include, at a minimum, the following items:

- Controlling items of work, major work and activities to be performed;
- Seasonal weather limitations;
- Land disturbance restrictions;
- Phase duration or milestone events, based on selected option as applicable;
- Specified contract completion time (defined above) from Price Proposal.

The purpose of this scheduling requirement is to ensure adequate planning and execution of the work and to evaluate the progress of the work. The CPM Schedule proposed shall meet or exceed minimum Contract requirements, as determined by the Department in its sole discretion, where all Design-Builder risks are mitigated with schedule logic. The Design-Builder is and shall remain solely responsible for the scheduling, planning, and execution of the work in order to meet the Project Milestones, the Intermediate Contract Times, and the Contract Completion Date(s).

Within ten (10) business days after award of the Contract, the Design-Builder shall assign a percentage of the Pay Item Cost to each activity in the proposed CPM that reflects an accurate percentage value to each activity based on estimated costs plus associated profit and overhead. The profit and overhead assigned by the to the individual activities starting shall be equal to or less than the mark-up applied to the work when establishing the Contract Lump Sum Price. The schedule shall be in a suitable scale to indicate graphically the total percentage of work scheduled to be completed at any time.

Review and Comment by the Department shall not be construed to imply approval of any particular method or sequence of construction or to relieve the Design-Builder of providing sufficient materials, equipment, and labor to guarantee completion of the Project in accordance with all Contract requirements. The Department Review and Comment shall not be construed to modify or amend the Contract, Interim Completion Dates, or the Contract Completion Date. The updated CPM Schedule may be utilized to facilitate the Department's Quality Assurance (QA) activities.

If at any time the design of the project potentially affects the approved FHWA NEPA document, the Design-Builder shall cease work and contact the Department Alternative Contracting Office.

The Department acceptance of any schedule does not relieve the Design-Builder of responsibility for the accuracy or feasibility of the schedule, does not modify the

**d. THE DEPARTMENT RESPONSE**

The Department will review each ATC and will respond to on Form ATC as shown in **Contract Book 3 (Project Specific Information)** with one of the following determinations:

- 1) The ATC is approved.
- 2) The ATC is not approved.
- 3) The ATC is not approved in its present form, but may be approved upon satisfaction, in the Department's sole discretion, of certain identified conditions that shall be met or certain clarifications or modifications that shall be made (conditionally approved).
- 4) The submittal does not qualify as an ATC but may be included in the Proposal without an ATC (i.e., the concept complies with the baseline requirements of the RFP Documents).
- 5) The submittal does not qualify as an ATC & may not be included in the Proposal; or
- 6) The ATC is deemed to take advantage of an error or omission in the RFP, in which case the ATC will not be considered, and the RFP will be revised to correct the error or omission.

**e. ATC INCLUSION IN TECHNICAL PROPOSAL.**

The Design-Builder may incorporate one or more approved ATCs as part of its Technical and Price Proposals. If the Department responded to an ATC by stating that it would be approved if certain conditions were met, those conditions must be stipulated and met in the Technical Proposal. If the ATC is used in the submittal, the approved Form ATC shall be included in the Technical Proposal.

In addition to outlining each implemented ATC, and providing assurances to meet all attached conditions, the shall also include a copy of the ATC approval letter with approved form from the Department in the Technical Proposal within the Appendix and these will not count towards the page limit maximum; however the ATC must be discussed within the Technical Proposal Response Category for scoring.

Approval of an ATC in no way implies that the ATC will receive a favorable review from the Design-Build Review Committee. The Technical Proposals will be evaluated in regards to the evaluation criteria found in this **Contract Book 1 (ITDB - Instructions to Design-Builders)**, regardless of whether or not ATCs are included.

The Price Proposal shall reflect all incorporated ATCs. Except for incorporating approved ATCs, the Technical Proposal may not otherwise contain exceptions to, or deviations from, the requirements of the RFP.

**3. SELECTION PROCEDURE**

The Department will utilize a **Meets Technical Criteria (A+B+€)** selection process in this procurement to award a Contract to the responsible Design-Builder that

demonstrates it meets the technical criteria and can deliver the best combination of price, and time ~~and segmented interstate closure~~ (A+B+C) in the design and construction of the Project.

Price Proposals will be calculated in accordance with the following method:

$$\text{Total Contract (A+B+C)} = A + (B \times \text{TIME}) - (\text{C} \times \text{SEGMENTED INTERSTATE CLOSURE})$$

Where, A = Contract Amount  
 B = the number of Calendar Days (from the Initial Notice to Proceed) indicated by the time needed to complete the Project in their Price Proposal and will become the contract completion time to be shown in the contract book.

~~C = the number of Calendar Days needed to complete the work as specified in RFP Book 3 for all portions of the segmented interstate closure of I 440 (from I 40 to I 65 and from I 65 to I 24).~~

TIME VALUE = Value associated with time of completion on this Project.

~~SEGMENTED INTERSTATE CLOSURE VALUE = Value associated with full roadway closure for all segmented interstate closures of this Project.~~

B: Calendar Days

Amount of one Calendar Day is \$100,000 as stated in Special Provision 108B.

~~C: Segmented Interstate Closure Calendar Days (to use in Price Proposal)~~

~~Amount of one Segmented Interstate Closure Calendar Day is \$250,000 per day.~~

~~Please see SP108B Segmented Interstate Closure Completion Date for Liquidated Damages Amounts~~

It is intended that all construction be completed by the earliest feasible date to minimize public inconvenience and enhance public safety. Should the total number of calendar days that the Design-Builder placed in the Proposal under the “B” portion of the Proposal to be deemed excessive, then the Proposal will be rejected. To this end the Design-Builder shall pursue the work rigorously utilizing the necessary work week, work hours and/or work shift schedules to expedite the work. The total Contract (A+B+C) cost will be used by the Department to determine the Apparent Design-Builder, but reimbursement to the Design-Builder shall be based solely on the Proposal Price total “A” and any incentive or disincentive payment made in accordance with the Contract.

**IMPORTANT:** The number of Calendar Days “B” ~~and the number of Segmented Interstate Closure Calendar Days “C”~~ is to be placed in the Price Proposal. Failure to enter a value for “B” ~~and “C”~~ will make the Proposal irregular and be cause for rejection.

Calendar days will be charged in accordance with the Contract and time charges will begin on the date shown on the initial NTP letter. Time charges will continue until work is complete, excluding punchlist items and vegetation establishment, on the Project in accordance with the Contract.

Notwithstanding any other provision of this Contract to the contrary, No time adjustments will be allowed for:

- Adverse weather conditions;
- The time required to Review and Approve Shop Drawings;
- The time required to review VECs;
- The time to process Change Orders or plan revisions requiring additional Review and Approval;
- The time to complete work not on the CPM Schedule;
- Any delays typically encountered during a Project regardless of the source.

Time adjustments may be considered for:

- The time for plan revisions requiring additional Review and Approval if the Design-Builder was unable to work on the controlling item of work without revised plans or shop drawings;
- The time for ordering and delivery of materials for Extra Work directed by the Department that affects the CPM Schedule;
- Delays encountered due to a catastrophic event, beyond the control of the Design-Builder, that the Department determines adversely affected the progress of work.

The Department reserves the right to reject any or all Proposals, to waive technicalities, or to advertise for new Proposals, if, in the judgment of the Department, the best interests of the public will be promoted thereby. In putting together their Proposals, the Design-Builder should keep in mind and address the Project goals stated herein.

## C. RELATIVE WEIGHTS ALLOCATED TO TECHNICAL AND PRICE PROPOSALS

The selection method to be utilized for this Project is “Meets Technical Criteria (A+B+~~C~~)”. The Technical Proposal will be evaluated on the pass/fail and technical evaluation factors identified herein. A Proposal must achieve a **Pass** rating for RC I, II, III, and IV. The Department shall first determine whether the Proposals are responsive to the requirements of the RFP. Prior to making such determination, the Department may offer a Design-Builder the opportunity to provide supplemental information or clarify its Proposal. Each responsive Technical Proposal shall be evaluated based on the criteria provided herein. After evaluation of the Technical Proposal, the Department, as required by Department Rule 1680-5-4, Procedures for the Selection and Award of Design-Build Contract, will publically open and read the Total Contract Amount (A+B+~~C~~). Although the selection will be made on the bid proposal that qualifies as the lowest and best adjusted bid, the cost of

- proposed phasing of the Project, and any other scheduling assumptions made by the Design-Builder.
- Plans and procedures to insure timely deliveries of materials to achieve the Project schedule.
  - Categories of work that anticipates will be performed by Design-Builder's own direct labor force, those categories that will be performed by Subcontractors, those categories that will be performed by project specific teams, and those categories that will be performed by existing teaming arrangements.
  - An explanation of Design-Builder's methodology for updating it.
- b) The Design-Builder may adjust the list to more accurately reflect planned sequences and methods, although the level of detail shall be similar to that reflected in the list of required Pay Items in the Schedule of Items.
- 3) Submit a description of Pay Item Breakdowns including the physical features and activities included in the Pay Item, and all work included in the Pay Item Totals as reflected on the Schedule of Items.

For example, but not limited to:

105-01.20 Design-Build Construction Stakes, Lines & Grades

- Field Survey
- ~~ITS~~
- -Construction Staking

105-01.55 Design-Build Design Services

(All Design Activities shall be included in this item.)

- Definitive Design and Reviews
- Readiness-for-Construction Plans and Reviews, Specification and quantity estimates
- Working Drawings
- As-Built Plans and Reviews

105-08.20 Design-Build Contract Management

- Project Administration
- Project progress (scheduling)
- Contract progress submittals for payment

**e. INNOVATION**

- 1) Identify any design or construction solutions that the Design-Builder considers innovative and how those solutions will better serve the Project. Include a description of ideas that were considered, whether implemented or not. If this is an alternate technical concept, include only approved ATCs.
- 2) Identify any potential innovative traffic control and how those solutions will better serve the Project. Describe any temporary impacts and associated with innovations.
- 3) Will these innovations add to, subtract from or have no effect on the costs?

**4. RESPONSE CATEGORY IV: TECHNICAL SOLUTIONS**

Submit as much of the following for Evaluation on form Response Category IV form in **Appendix A**(be as specific as possible):

- a. The Design-Builder shall indicate the traffic control option selected; Option 1: Conventional Construction, Option 2: Full Segmented Closure, or Option 3 Segment 2 Closure. See **Contract Book 3 (Project Specific Information)** for specific technical and design required information. The Option Selected in the Technical Proposal shall not be altered.
- b. It is not the intent of the Department for the Design-Builder to submit design plans. The details submitted shall be of sufficient detail to illustrate color, texture, pattern, emblems, proportion, corridor consistency, complementing details, or other such visual effects. For those details used in multiple locations, typical details will suffice with the locations for their use noted in narrative or graphic form.
- c. Conceptual plans, drawings, etc within the Technical Proposal (these plans are in addition to and are separate from the ROW Acquisition sheets required in **Contract Book 3 (Project Specific Information)**) shall include at a minimum the following:
  - Show plan view of design concepts with key elements noted.
  - Show preliminary drawing of bridge elements.
  - Identify preliminary horizontal and vertical alignments of all roadway elements.
  - Show typical sections for the mainline of the Project.
  - Identify drainage modifications and designs to be implemented.
  - Identify the appropriate design criteria for each feature if not provided.
  - Identify all bridge types to be constructed, including any special design features or construction techniques needed.
  - Identify any deviations or proposed design exceptions, from the established design criteria that will be utilized. Explain why the deviation is necessary.
  - Describe any geotechnical investigations to be performed by the Design-Builder.
  - Describe how any utility conflicts will be addressed and any special utility design considerations. Describe how the design and construction methods minimize the Department's utility relocation costs.
  - Describe how the design will affect the right-of-way costs.
  - Identify types of any retaining walls and /or noise walls if applicable.



## RESPONSE CATEGORY IV: TECHNICAL SOLUTION

1. Design-Builder Name:
2. Name of Project: I-440, Davidson County (DB1701)
3. Conceptual Plans, Drawings:
  - Plan View of design concepts with key elements noted included.
  - Preliminary horizontal and vertical alignments of all roadway elements included.
  - Typical Sections included.
4. Identify drainage modifications and designs to be implemented.
5. Identify the appropriate design criteria for each feature if not provided.
6. Identify all bridge types to be constructed, including any special design features or construction techniques needed.
7. Identify any deviations or proposed design exceptions, from the established design criteria that will be utilized. Explain why the deviation is necessary. Describe any geotechnical investigations to be performed by the Design-Builder.
8. Describe how any utility conflicts will be addressed and any special utility design considerations. Describe how the design and construction methods minimize TDOT's utility relocation costs. If none, state none.
9. Describe how the design will affect TDOT right-of-way costs. If none, state none.
10. Identify types of any retaining walls and /or noise walls if applicable. If none, state none.
11. Identify any aspects of the design or construction elements that are considered innovative. Include a description of alternatives that were considered, whether implemented or not. Attach a copy of any approved ATCs used in this Technical Proposal. If none, state none.

## RESPONSE CATEGORY IV: TECHNICAL SOLUTION

12. Describe any traffic control requirements based on the selected option [Option 1: Conventional Construction, Option 2: Full Segmented Closure, or Option 3: Partial Segmented Closure (Segment 2 Only)]. that will be used for each construction phase. Describe how traffic will be maintained as appropriate and describe understanding of any time restrictions noted in the RFP. Specifically describe how business and residential access will be maintained, if applicable. Describe any required road closures and duration thereof. The Option Selected in the Technical Proposal shall not be altered.

12.1. The CPM schedule shall reflect the selected option with definitive segment closure dates defined. The segment closure dates shall not be altered. Failure to enter a definitive segment closure dates will make the Proposal irregular and be cause for rejection.

13. Describe the safety considerations specific to the Project. Discuss overall approach to safety. Describe any proposed improvements that will be made prior to or during construction that will enhance the safety of the work force and/or traveling public both during and after the construction of the Project.

14. Provide detailed Traffic Analysis and Mitigation Report based on the traffic control selected option as described below: Failure to provide this Traffic Analysis and Mitigation Report shall be grounds for rejection of the technical proposal.

- **Traffic Impact Assessment**

For each segment ~~listed below~~, the Design-Builder is required to calculate the AM and PM peak hour operational performance of the segments shown in Traffic Analysis Segments List (provided on project website). An AM and PM peak hour operational performance shall be performed for each ~~unique typical section (number of travel lanes)~~ critical corridor within the segment. The AM and PM peak hour operational performance shall utilize the highest traffic volume present in each segment. For limited access segments, operational performance will be determined based on the volume to capacity ratio. The capacity for each segment shall be calculated using Highway Capacity Manual (6th Edition). For arterial segments, the operational performance shall be calculated based on the Generalized Service Volume Tables (provided on project website).

The ~~existing and detour~~ results for each critical corridor shall be presented by segment in tabular format for AM and PM peak hours for ~~each of the closure scenarios~~ the selected traffic control option.

- **Proposed Detour Routes and Schematics (Segmented Closure Option Only)**

~~Design-Builder shall utilize the results of the traffic impacts assessment to identify the best suited detour routes to handle diverted traffic from the segmented closures. Detour routes shall only consist of facilities that are part of the State or Federal highway system. Detour routes can vary between segments. Design-Builder shall provide detour route schematics for each of the segmented closures. The detour route schematics shall identify the most suitable detour routes, ramp closure detours, and begin and end closure. Detour route schematics shall also denote signs and barricades in accordance with the latest edition of the Manual of Uniform Traffic Control Devices~~

## RESPONSE CATEGORY IV: TECHNICAL SOLUTION

Design-Builder shall ~~also~~ provide wide-area detour schematic designating I-840 as southern detour and Briley Parkway/SR 155 as northern detour to inform I-24, I-40 and I-65 traffic to use these northern and southern detour routes. Detour route schematics shall also denote signs in accordance with the latest edition of the Manual of Uniform Traffic Control Devices. A general schematic shall also be provided for the interchange locations closed on I-440.

○ **Proposed Detour Routes and Schematics (I-65 at I-440 Interchange Weekend Closure)**

Design-Builder shall provide wide-area detour schematic designating detour routes to inform I-24, I-40 and I-65 traffic to use alternative routes. Detour route schematics shall also denote signs in accordance with the latest edition of the Manual of Uniform Traffic Control Devices. A general schematic shall also be provided for the interchange closure.

○ **Deliverable**

The Design-Builder shall supplement the Transportation Management Plan identified in Contract Book 3 Section 12.1.c with the results of the Traffic Impact Analysis and Detour Route schematics.

○ **Data Provided by TDOT**

TDOT will provide each team with the following baseline information:

- Mainline and System Ramp AM and PM peak hour volumes
- Hourly volume data for ramps and select mainline locations
- Summarized Origin-Destination Data for I-440

**DESIGN-BUILD  
RFP CONTRACT BOOK 2  
CONTRACT**

**TENNESSEE DEPARTMENT OF TRANSPORTATION**

**Interstate 440, Widening from I-40 to I-24,  
Project includes removing and replacing existing pavement**

**Davidson County- TENNESSEE**

**CONTRACT NUMBER: ~~DB1071~~DB1701**



**January 12, 2018**

**Addendum #1 March 13, 2018**

**Addendum #3 April 3, 2018**

**Addendum #6 May 25, 2018**

**Addendum #7 June 12, 2018**

## 5. ***SUBSTITUTION OF KEY PERSONNEL AND/OR DESIGN PROFESSIONALS***

The Parties agree that each Key Personnel, Design Professional and Subcontractor is unique, and that the Department has relied upon their qualifications in selecting the Design-Builder to perform the Contract. Therefore, the Design-Builder shall not replace any Key Personnel or Design Professional during the term of the Contract. Notwithstanding the foregoing, in those limited circumstances in which the Department elects to consider substitutions, the process shall be governed by the provisions of **Design-Build Standard Guidance**. In the event the Department approves a substitution request, the Department retains the right to strictly enforce this Section C.5 in the event of future requests for substitution. No individual substitution approval or pattern of substitution approvals shall constitute a waiver of this requirement. Should the Department, in its sole discretion, elect to authorize a substitution, such authorization shall not relieve the Design-Builder of its sole responsibility under the Contract to complete all work and deliver the Project in accordance with all Contract requirements.

## D. **DATE OF COMMENCEMENT AND COMPLETION OF SERVICES**

### 1. ***TIME FOR PERFORMANCE***

The Contract shall take effect on the Effective Date and shall be performed by the Parties according to its terms, unless earlier terminated, until Final Acceptance by the Department in accordance with **Design-Build Standard Guidance**.

### 2. ***COMMENCEMENT OF SERVICES***

The Design-Builder is authorized to commence the work within the Contract for post award submittals pursuant to **Design-Build Standard Guidance**. The Design-Builder shall not perform any services beyond post award submittal until the issuance of first Notice to Proceed (NTP) and for each subsequent phase requiring a Review and Approval NTP.

### 3. ***COMPLETION DATES***

The Design-Builder shall complete all work to be done under the Contract, except for plant/vegetation establishment, by   /  /   and not later than **August 31, 2021**. ~~The segmented interstate closure for all segments shall only be allowed from January 7, 2019 until November 9, 2019 and shall consist of no more than \_\_\_ days.~~

The Design-Builder shall specify the number of calendar days for completion of the project ~~and the number of calendar days for segmented interstate closures~~ within their price proposal. The number of calendar days specified by the Design-Builder in their price proposal will be placed in the Contract above prior to execution of this Design-Build contract.

## F. CHANGES IN THE WORK

Changed work and Extra Work shall be authorized by the Department only under the circumstances set forth in, and pursuant to the terms of, **Design-Build Standard Guidance**. The Design-Builder shall not begin performance of any Changed work or Extra Work until the Department has issued a properly-authorized Change Order, and the Design-Builder shall perform all such work strictly in accordance with the terms of the Change Order.

## G. INSURANCE AND BONDING REQUIREMENTS

### 1. INSURANCE REQUIREMENTS

During the term of the Contract, the Design-Builder shall maintain in full force, at its own expense, from insurers holding a current certificate of authority to transact the business of insurance in the State of Tennessee, all of the insurance coverage's required under **Design-Build Standard Guidance**.

The Design-Builder, being an independent contractor, agrees to maintain errors and omissions insurance in such an amount (**\$ 1,000,000.00 minimum**) and form as are agreeable to the Department.

### 2. BONDING REQUIREMENTS

During the term of the Contract, the Design-Builder shall maintain in full force, at its own expense and from Sureties licensed to do business in Tennessee, Performance and Payment Bond in the full Contract Amount. The Parties understand and agree that the obligation of the Design-Builder's Surety for the faithful performance of the Contract shall include not only all construction, but also the performance of all design services under the Contract.

### 3. INDEMNIFICATION

~~The Design-Builder shall assume full responsibility for the quality of the Design-Builder's work and its conformance with all applicable law, rules, regulations and orders governing said work.~~ The Design-Builder shall, at all times, observe and comply with all applicable federal, state and local laws, ordinances and regulations and shall indemnify and hold harmless the State of Tennessee and all of its officers, agents and servants against any claim of liability or assessment of fines or penalties arising from or based upon the Design-Builder's and/or its employees' or agents' violations of any such law ordinance or regulation.

The Design-Builder shall hold harmless and indemnify the Department for all claims and damages which result from the failure of the Design-Builder to perform its engineering and design duties in conformance with the reasonable standard of care within the State of Tennessee. Said indemnification shall include, but not be limited to, costs for the redesign of plans and the preparations of new specifications as well as the costs for repairs to the construction work itself. ~~This requirement of~~

~~indemnification shall be a continuing obligation of the Design-Builder and shall survive the termination of the Contract regardless of cause.~~

~~The Design-Builder shall be responsible for any and all injury or damage to persons or to property arising from the prosecution of the work and due to any act, omission, neglect or misconduct in its manner or method of prosecuting the work or due to its non-execution of the work or due to defective work or materials. The Design-Builder shall indemnify and hold harmless the State, the Department, and all of its officers, agents, and employees from all suits, actions or claims of any character arising from the Design Builder's acts or omissions in the prosecution of the work, use of unacceptable materials in constructing the work, infringement of patent, trade mark or copyright, or claims for Workers' Compensation.~~

~~If any such suit, action or claim is filed, the Department may retain from the monies due to the Design-Builder under this Contract a sum deemed sufficient by the Department to protect the Department from loss therefrom. Upon resolution of the suit, action or claim, any remaining retained funds will be released.~~

~~These requirements of indemnification shall be a continuing obligation of the Design-Builder and shall survive the termination of the Contract regardless of cause.~~

## H. OWNERSHIP AND USE OF WORK PRODUCT OF THE DESIGN-BUILDER

All work product of the Design-Builder arising from performance of the Contract shall be the exclusive property of the Department, as more particularly provided for under **Design-Build Standard Guidance**.

Plans, specifications and any maps prepared or obtained under the terms of this Contract shall be delivered to and become the property of the Department pursuant to **Design-Build Standard Guidance**. Basic design notes and sketches, charts, computations, all original drawings, and other data prepared or obtained under this Contract shall be made available, upon request, to the Department without restriction or limitation of their use.

## I. PROJECT RECORDS

### 1. FINANCIAL AND OTHER PROJECT RECORDS

The Design-Builder shall maintain complete Project Records as described in **Design-Build Standard Guidance**, in the manner required under the terms of the Contract. The Design-Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management of the Project. The accounting and control systems shall be satisfactory to the Department.

### 2. RECORD RETENTION PERIOD

The Design-Builder shall retain and preserve all Project Records for a period as stated in **Design-Build Standard Guidance**, after final payment or for such longer period as may be required by law (the "Record Retention Period").

# APPENDIX A

## SUPPLEMENTAL SPECIFICATIONS TO THE STANDARD SPECIFICATIONS

The following, revised as noted, incorporates the Supplemental Specifications by reference for bidding purposes and will be printed with the contract after award. These Supplemental Specifications may be obtained from the Department’s website:

<https://www.tn.gov/tdot/tdot-construction-division.html>

Supplemental Specifications to the Standard Specifications Revision Date

Supplemental Specification to Section 100 -----	<del>11/06/2017</del> <u>5/14/18</u>
Supplemental Specification to Section 200 -----	<del>5/15/2017</del> <u>5/14/18</u>
Supplemental Specification to Section 300 -----	5/15/2017
Supplemental Specification to Section 400 -----	<del>11/06/2017</del> <u>5/14/18</u>
Supplemental Specification to Section 500 -----	<del>11/06/2017</del> <u>5/14/18</u>
Supplemental Specification to Section 600 -----	<del>11/06/2017</del> <u>5/14/18</u>
Supplemental Specification to Section 700 -----	11/06/2017
Supplemental Specification to Section 900 -----	<del>11/06/2017</del> <u>5/14/18</u>





STATE OF TENNESSEE

REVISED 3/13/2018

REVISED 4/3/2018

REVISED 5/25/2018

REVISED 6/12/2018

(January 12, 2018)  
Interstate 440  
Davidson County  
Contract #: DB1701

SPECIAL PROVISION

REGARDING

PROJECT COMPLETION AND LIQUIDATED DAMAGES

The project shall be completed in its entirety as set forth in RFP Book 2 Section D.3. The selected Traffic Control Option shall be implemented as described in Contract Book 3, Section 12.

For each hour, or portion thereof, in which allowable I-440 and I-65 temporary lane closures are not completed and open to traffic as described in Contract Book 3, Section 12, the sum of **\$7,500** per hour per lane shall be deducted from the monies due the Design-Builder, not as a penalty, but as liquidated damages.

For each hour, or portion thereof, in which temporary lane closures on local streets are not completed and open to traffic, the sum of **\$2,300** per hour per lane shall be deducted from the monies due the Design-Builder, not as a penalty, but as liquidated damages.

In addition to temporary lane closures, the Design-Builder will be allowed up to two (2) full weekend closures of I-65, including I-440 at I-65 interchange ramps as specified in RFP Book 3, Section 12. A weekend is defined as between Friday at 9:00 P.M. to Monday at 5:00 A.M. outside of the holidays, major events, and segmented closures discussed in RFP Book 3. For each hour, or portion thereof, in which the I-65 full weekend closure is not completed and open to traffic, the sum of **\$7,500** per hour per lane shall be deducted from the monies due the Design-Builder, not as a penalty, but as liquidated damages.

For all Traffic Control Options: Blasting within the project limits shall not occur on a Sunday. Blasting shall be permitted between 9:00 A.M. and 2:00 P.M.

If the Traffic Control Option #1: Conventional Construction is chosen, rolling roadblocks will be permitted during blasting operations, the erection/construction of overhead signs and setting of bridge beams. If necessary for the public's protection from blasting, the Design-Builder may close traffic lanes in the vicinity of blasting site up to 15 minutes in any one-hour period. Traffic shall be allowed to return to normal flow before a new rolling roadblock is implemented. For each **15 minute** period, or portion thereof, in excess of the allotted 15 minute period that any traffic lane remains closed, the sum of **\$3,750** per lane shall be deducted from the monies due the Design-Builder, not as a penalty, but as liquidated damages. These roadblocks shall be conducted by law enforcement agencies specified in Special

Provision in RFP Book 2. Rolling roadblocks will not be allowed along I-65. The liquidated damage rate for rolling roadblocks shall supersede the hourly lane closure liquidated damages amount.

For Traffic Control Options #2 and #3 as described in Contract Book 3, blasting operations, the erection/construction of overhead signs and setting of bridge beams, shall be completed under the full closure and rolling roadblocks shall not be allowed, unless otherwise directed by the Engineer.

The table below summarizes the liquidated damages referenced above.

<b>Route Name/Type</b>	<b>Temporary Lane Closures Liquidated Damages</b>	<b>Full Weekend Closure Liquidated Damages</b>	<b>Rolling Roadblock Liquidated Damages</b>
I-440	\$7,500 per hour per lane	N/A	\$3,750 per 15 min. per lane
I-65 Including Weekend Closure	\$7,500 per hour per lane	\$7,500 per hour per lane	N/A
Interchange Ramps	\$7,500 per hour per lane	\$7,500 per hour per lane	N/A
Local Streets including State Routes	\$2,300 per hour per lane	N/A	N/A

**Noise Barriers**

The Design-Builder shall complete construction of any new noise barrier within 90 days of the start of demolition of an existing noise barrier wall or cutting of trees whichever occurs first, unless prior approval is received by the Department. Failure to complete construction within the allowed 90 calendar days will result in liquidated damages of **\$1,000** per day until noise barrier construction is complete. Noise barrier construction and/or repairs shall only be conducted during daytime hours not earlier than 8:00 A.M. and no later than 7:00 P.M. For each hour, or portion thereof, in which the noise barrier construction and/or repairs continue (outside the daytime hours allotted), the sum of **\$500** per hour per noise barrier shall be deducted from the monies due the Design-Builder, not as a penalty, but as liquidated damages.

**Potholes**

The Design-Builder shall mitigate potholes greater than or equal to 1 square foot and 1.25 inches deep or an equivalent volume of size, shape and location that presents a hazard to the traveling public within 24 hours of discovery or notification. Failure to complete pothole mitigation within the 24-hour period will result in the sum of **\$1,000** per occurrence per day (or portion thereof) until pothole mitigation is complete. These deductions are not penalties but are liquidated damages.

The following sections summarize the liquidated damages associated with ITS field device and supporting infrastructure downtime.

**Fiber Network**

The contractor shall ensure continuous operation of the fiber optic lines affected by construction activities. Temporary disconnect of communication shall not exceed twenty-four hours. Failure to restore communication within the allowed twenty-four hours will result in liquidated damages of **\$1,500** per hour

until communication is restored.

**Dynamic Message Signs (DMS)**

The contractor shall ensure continuous operation of the dynamic message signs (DMS) affected by construction activities. Temporary loss of DMS operation during construction activities shall not exceed thirty calendar days. Failure to restore full operation within the allowed thirty calendar days will result in liquidated damages of **\$1,500** per day/per DMS until full operation of the DMS is restored. Full operation is defined as the DMS being installed, integrated with TMC software, and accessible/controllable by TMC personnel. If necessary, multiple DMS may be down at the same time.

**Critical CCTV Cameras**

CCTV cameras #29, #53, #56, and #70 located near or within project limits are considered critical CCTV cameras due to being in high incident areas. The contractor shall ensure continuous operation of the critical CCTV cameras affected by construction activities. Temporary loss of critical CCTV camera operation during construction activities shall not exceed forty-eight hours. Failure to restore full operation within the allowed forty-eight hours will result in liquidated damages of **\$1,500** per hour/per CCTV camera until full operation of the camera is restored. Full operation is defined as the CCTV camera being installed, integrated with TMC software, and accessible/controllable by TMC personnel. If necessary, multiple CCTV cameras may be down at the same time.

**Non-Critical CCTV Cameras**

All CCTV cameras not defined as critical are considered non-critical CCTV cameras. The contractor shall ensure continuous operation of the non-critical CCTV cameras affected by construction activities. Temporary loss of non-critical CCTV camera operation during construction activities shall not exceed fourteen calendar days. Failure to restore full operation within the allowed fourteen calendar days will result in liquidated damages of **\$1,500** per day/per CCTV camera until full operation of the camera is restored. Full operation is defined as the CCTV camera being installed, integrated with TMC software, and accessible/controllable by TMC personnel. If necessary, multiple CCTV cameras may be down at the same time.

**Radar Detection System (RDS)**

The contractor shall ensure continuous operation of the radar detection systems (RDS) affected by construction activities. Temporary loss of RDS operation during construction activities shall not exceed fourteen calendar days. Failure to restore full operation within the allowed fourteen calendar days will result in liquidated damages of **\$1,500** per day/per RDS until full operation of the RDS is restored. Full operation is defined as the RDS being installed, integrated with TMC software, and accessible/controllable by TMC personnel. If necessary, multiple RDS may be down at the same time.

The table below summarizes the liquidated ITS related damages referenced above.

<b>ITS Device Type</b>	<b>Allowable Down Time</b>	<b>Liquidated Damages</b>
Fiber	24-Hours	\$1,500 per hour
DMS	30 Calendar Days	\$1,500 per day per DMS
Critical CCTV	48-Hours	\$1,500 per hour per CCTV
Non-Critical CCTV	14 Calendar Days	\$1,500 per day per CCTV
RDS	14 Calendar Days	\$1,500 per day per RDS

**Traffic Control Option and Project Completion Date**

**Traffic Control Option #2: Full Segmented Closure and Option #3: Partial Segmented Closure (Segment 2 Only)**

Failure to complete any segmented closure as described in Contract Book 3, Section 12, on or before the number of calendar days set forth in the Design-Builder's Technical Proposal, a sum of money equal to **\$400,000** per Calendar Day shall be deducted from monies due to the Design-Builder, not as a penalty, but as agreed compensation for damages

**Project Completion Date**

Failure to complete all work specified in the contract on or before the completion date set forth in RFP Book 2 Section D.3, a sum of money equal to **\$100,000** per Calendar Day for the first 30 calendar days after the Design-Builder's established completion date shall be deducted from monies due to the Design-Builder, not as a penalty, but as liquidated damages. For each calendar day thereafter, a sum of money equal to **\$400,000** per Calendar Day shall be deducted from monies due to the Design-Builder, not as a penalty, but as liquidated damages.

Where provisions of this Special Provision conflict with Subsection 108.09 of the Standard Specifications, as amended, and Contract Book 3, Section 12, this Special Provision prevails.

**DESIGN-BUILD  
RFP CONTRACT BOOK 3  
PROJECT SPECIFIC INFORMATION**

**TENNESSEE DEPARTMENT OF TRANSPORTATION**

**Interstate 440, Widening from I-40 to I-24,  
Project includes removing and replacing existing pavement**

**Davidson County- TENNESSEE**

**CONTRACT NUMBER: DB1701**



**January 12, 2018**

**Addendum #1 March 13, 2018**

**Addendum #2 March 15, 2018**

**Addendum #3 April 3, 2018**

**Addendum # 6 May 25, 2018**

**Addendum #7 June 12, 2018**

	<p>design and a joint plan for the proposed median ditch to the Department for concurrence. The inside shoulders will slope toward the median unless in superelevation. Inside shoulders shall be 10' minimum and full depth pavement installed for the full shoulder width. The outside 12' wide shoulders (includes 2.5' from proposed valley gutter) shall receive shoulder depth pavement. A 4.5' wide valley gutter shall be incorporated into the outside edge of shoulder and constructed per detail drawing as supplied in the preliminary plans. Additional guidance regarding minimum inside shoulder widths is provided in 2.2.aa.</p>
2.2.d	<p><b>For Project No. 1:</b> I-440 from approximately STA. 1020+74.23 (approximately MM 0.6) to STA. 1305+00.00 (approximately MM 6.2) will be widened to the inside to provide one additional travel lane and full depth shoulder. The existing travel surface including shoulders will be removed and replaced. Inside shoulders shall be 11' minimum and full depth pavement installed for the full shoulder width. The proposed inside shoulders and proposed travel lane will slope toward the median unless in superelevation. The outside 12' wide shoulders (includes 2.5' from proposed valley gutter) shall receive shoulder depth pavement. A 4.5' wide valley gutter shall be incorporated into the outside edge of shoulder and constructed per detail drawing supplied in the preliminary plans. Additional guidance regarding minimum inside shoulder widths is provided in section 2.2.aa.</p>
2.2.e	<p><b>For Project No. 1:</b> I-440 Westbound from approximately STA. 1305+00.00 (approximately MM 6.2) to STA. 1351+80.09 (approximately MM 7.0) will not be widened. The existing westbound travel surface including shoulders will be removed and replaced. Travel lanes shall be 12' wide and designed per Department standards. Concrete ditch paving (6-inch) will be installed between the proposed 51-inch concrete median barrier (located along the westbound inside edge of shoulder) and proposed 32-inch concrete median barrier (located along the eastbound inside edge of shoulder). The concrete ditch paving (6-inch), between the two barrier walls, shall be constructed to form a ditch to provide adequate slope and capacity to convey the design storm flow. Design-Builder shall submit a ditch design and a joint plan for the proposed median ditch to the Department for concurrence. The inside shoulders will slope toward the median unless in superelevation. The inside shoulders shall be 10' minimum and full depth pavement installed for the full shoulder width. The outside 12' wide shoulders (includes 2.5' from proposed valley gutter) shall receive shoulder depth pavement. A 4.5' wide valley gutter shall be incorporated into the outside edge of shoulder and constructed per detail drawing supplied in the preliminary plans. Additional guidance regarding minimum inside shoulder widths is provided in section 2.2.aa.</p>
2.2.f	<p><b>For Project No. 1:</b> I-440 Eastbound from approximately STA. 1305+00.00 (approximately MM 6.2) to STA. 1351+80.09 (approximately MM 7.0) shall remain in place and travel lanes shall be maintained. The existing 32-inch median barrier located in this segment (along the <del>inside</del><u>outside</u> edge of shoulder) shall be retained and incorporated into the proposed design reference section 2.2.e.</p>
2.2.g	<p><b>For Project No. 1:</b> The following design exceptions have been approved by the Department and are included on the Project Website.</p> <ol style="list-style-type: none"> <li>1. For the curve located at STA 1112+05.26 to STA 1114+87.47 west of Hillsboro Pike - Stopping sight distance equal to 55-mph instead of 60-mph.</li> <li>2. For the curve located STA 1161+85.29 to STA 1170+90.06 near Belmont Boulevard - Stopping sight distance equal to 55-mph instead of 60-mph.</li> <li>3. For the curve located STA 1161+85.29 to STA 1170+90.06 near Belmont Boulevard - Superelevation equal 6% LT instead of 7.8% LT.</li> </ol>

	<p>4. For the curve located STA 1125+92.25 to STA 1170+90.06 west of Hillsboro Pike - Stopping sight distance equal to 55-mph instead of 60-mph.</p> <p>5. For the entire project length along I-440 - Inside shoulder widths less than 12’.</p> <p>6. <del>No additional</del> <u>Additional</u> design exceptions <del>shall</del> <u>may</u> be considered by the Department.</p>
2.2.h	<p><b>For Project No. 1:</b> Existing bridge footing elevation data has been collected for this Project by the Department. The data has been provided on the Project Website. The Design-Builder shall verify the data before utilizing it in the design of the project.</p>
2.2.i	<p><b>For Project No. 1:</b> Existing vertical clearances between the existing roadway (entire roadway width including the full shoulder width) and all existing overhead structures along I-440 shall maintain a minimum 16’ vertical clearance (or existing pre-construction clearance if less than 16’) during the construction phase of the project. This requirement shall include all temporary roadway surfaces used during construction. All proposed vertical clearances between the proposed roadway (entire roadway width including the full shoulder width) and all retained existing overhead structures shall be a minimum of 16’. The minimum vertical clearance for the I-440 bridges to be widened (Lealand Lane, Craig Avenue, and I-65 (including ramps) is 16’-6”. The Design-Builder shall submit plans as outlined in the TDOT Design Guidelines to the TDOT Structures Division for Grade Approval.</p>
2.2.j	<p><b>For Project No. 1:</b> The Design-Builder will be responsible for the design and construction of all proposed overhead structures within the Project limits. The Design-Builder shall ensure minimum vertical clearance as defined in the TDOT Design Guidelines is provided. The Design-Builder shall submit plans as outlined in the TDOT Design Guidelines to the TDOT Structures Division for Grade Approval.</p>
2.2.k	<p><b>For Project No 1:</b> To facilitate and expedite securing a R/R agreement for structures crossing a railroad, the Design-Builder shall provide all necessary and pertinent information as outlined in the TDOT Design Guidelines to the State Railroad Coordinator in the preliminary design phase. <u>The Design-Builder shall also follow the requirements of the CSX Public Project Manual located in the project reference material.</u></p>
2.2.l	<p><b>For Project No. 1:</b> The Design-Builder shall be responsible for preparation of final signed and sealed construction plans used to construct the proposed improvements. They shall be prepared in accordance with TDOT’s Design Guidelines and the previous design standards referenced in this section. If the Design-Builder deems that additional ROW is needed outside of the secured ROW, they will be responsible for the additional environmental technical studies needed for re-evaluation of the NEPA document, ROW appraisals and acquisitions, utilities coordination/relocation and any permits.</p>
2.2.m	<p><b>For Project Nos. 2 and 3:</b> The Design-Builder shall be responsible for preparation of final signed and sealed construction plans in accordance with TDOT’s Design Guidelines and to construct the proposed improvements. If the Design-Builder wishes to change the horizontal or vertical alignment or deems that additional ROW is needed outside of the secured ROW, they will be responsible for the additional environmental technical studies needed for re-evaluation of the NEPA document, ROW appraisals and acquisitions, utilities coordination/relocation and any permits.</p>
2.2.n	<p><b>For Project Nos. 2 and 3:</b> The Design-Builder shall be responsible for the design and construction of all structures within the Project limits. The Design-Builder shall ensure minimum vertical clearance as defined in the TDOT Design Guidelines is provided.</p>
2.2.o	<p><b>For Project Nos. 1, 2 and 3:</b> The ramp construction and closures shall be phased in</p>

	solely by the Design Builder.
2.2.x	<b>For Project Nos. 1, 2 and 3:</b> The NEPA document has been approved by FHWA and is included on the Project Website. The commitment sheets and the study area are referenced in these documents. The Design-Builder shall adhere to all requirements included in the NEPA document. If the Design-Builder’s design footprint extends beyond the study area, they will be responsible for the additional environmental technical studies and to provide plans for re-evaluation of the NEPA document. No additional time will be allotted to the Project schedule for the Department’s preparation of the NEPA document re-evaluation and FHWA approval.
2.2.y	<b>For Project Nos. 1, 2 and 3:</b> All proposed roadway slopes shall be sodded.
2.2.z	<b>For Project Nos. 1, 2 and 3:</b> Upon completion of the Project, the Design-Builder shall provide the Alternative Contracting Office a transmittal letter, an electronic copy (CAD and signed PDF’s) of the As-Built drawings, and final foundation type, including footing elevations and lengths of individual piles, 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. The 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, changes made during construction as well as all utility locations within ROW. As indicated in the Design-Build Standard Guidance: <a href="https://www.tn.gov/DB%20Standard%20Guidance">https://www.tn.gov/DB Standard Guidance</a>
2.2.aa	<p><b>For Project No. 1:</b> The following locations along I-440 shall have the following minimum inside shoulder widths (measured from the median barrier centerline to the inside edge of pavement) for the purpose of meeting the required stopping sight distance (SSD). <u>It is the responsibility of the Design-Builder to verify the stopping sight distance in areas where improvements are made:</u></p> <p>STA 1128+00 to STA 1129+20 (WB) – inside shoulder width transition 11’ to 13’</p> <p>STA 1129+20 to STA 1134+80 (WB) – inside shoulder width 13’</p> <p>STA 1134+80 to STA 1136+00 (WB) – inside shoulder width transition 13’ to 11’</p> <p>STA 1041+83.72 to STA 1044+38.72 (EB) – inside shoulder width transition 11’ to 15.25’</p> <p>STA 1044+38.72 to STA 1054+54.67 (EB) – inside shoulder width 15.25’</p> <p>STA 1054+54.67 to STA 1056+79.67 (EB) – inside shoulder width transition 15.25’ to 11’</p> <p>STA 1105+95 to STA 1110+00 (EB) – inside shoulder width transition 11’ to 17.75’</p> <p>STA 1110+00 to STA 1116+00 (EB) – inside shoulder width 17.75’</p> <p>STA 1116+00 to STA 1120+05 (EB) – inside shoulder width transition 17.75’ to 11’</p> <p>STA 1154+60 to STA 1163+99.98 (EB) – inside shoulder width transition 11’ to 27.66’</p> <p>STA 1163+99.98 to STA 1165+00 (EB) – inside shoulder width transition 27.66’ to 26.16’</p> <p>STA 1165+00 to STA 1170+00 (EB) – inside shoulder width 26.16’</p> <p>STA 1170+00 to STA 1179+10 (EB) – inside shoulder width transition 26.16’ to 11’</p> <p>STA 1268+40.11 to STA 1271+10.11 (WB) – inside shoulder width transition 11’ to 15.50’</p> <p>STA 1271+10.11 to STA 1272+00 (WB) – inside shoulder width 15.50’</p>



	<p>STA 1272+00 to STA 1276+00 (WB) – inside shoulder width transition 15.50’ to 16.50’</p> <p>STA 1276+00 to STA 1279+00 (WB) – inside shoulder width 16.50’</p> <p>STA 1279+00 to STA 1280+00.45 (WB) – inside shoulder width transition 16.50’ to 15.50’</p> <p>STA 1280+00.45 to STA 1284+20.73 (WB) – inside shoulder width 15.50’</p> <p>STA 1284+20.73 to STA 1286+90.73 (WB) – inside shoulder width transition 15.50’ to 11’</p> <p>STA 1248+00 to STA 1249+28.72 (WB) – inside shoulder width transition 11’ to 12’</p> <p>STA 1249+28.72 to STA 1257+00 (WB) – inside shoulder width 12’</p> <p>STA 1257+00 to STA 1258+00 (WB) – inside shoulder width transition 12’ to 11’</p> <p>The shoulder widths listed above are shown in the I-440 Revised Preliminary Plans.</p> <p>For segments of I-440 with inside shoulder widths greater than 13.25’ (measured from the median barrier centerline to the inside edge of pavement), the Design-Builder shall use transverse shoulder markings on the inside shoulders in these areas (TDOT Standard Drawing T-M-3 (most current version)).</p> <p>If the Design-Builder deviates from the <del>proposed-preliminary</del> I-440 alignment (either vertically and/or horizontally) shown in the I-440 preliminary plans in any of the locations listed in this section, the Design-Builder shall provide the Department updated SSD calculations to verify the required SSD is achieved at that location. If necessary, the Design Builder shall adjust any <del>ramp</del> alignments due to changes in inside shoulder.</p>
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### 2.3 Ramps

Req. No	Requirement text
2.3.a	Remove and repair concrete ramp pavement at locations shown in I-440 Concrete Ramps Repair Report located as an Appendix A in this <b>Contract Book 3 (Project Specific Information)</b> . Concrete pavement repairs shall adhere to the latest editions of all appropriate TDOT Roadway Standard Drawings, TDOT Design Guidelines and Instructional Bulletins, TDOT Drainage Manual, TDOT Traffic Design Manual, AASHTO <i>Policy on Geometric Design of Highways and Streets</i> , and <i>Manual on Uniform Traffic Control Devices</i> .
2.3.b	Ramp repair and replacement work shall be performed in a manner as to require no concrete joints in the ramp travel lane.
2.3.c	All existing ramp striping and marking (in their entirety) shall be removed and replaced with new contrast striping and marking.
2.3.d	Asphalt ramp paving shall continue from the I-440 termini of the ramp until a full inside shoulder is developed on the ramp, a full outside shoulder is developed on I-440 and a minimum separation of 4’ is achieved between the two shoulders. After this point, concrete ramp paving shall be used. The approximate locations of asphalt ramp paving to concrete ramp paving transitions are shown in the revised preliminary plans (for information only).
<b><i>Paving/Resurfacing (Applicable for Ramp Safety Projects)</i></b>	
2.3.e	For non-curb sections of roadway, the Design-Builder shall attach a device to the screed of the paver such that material is confined at the end gate and extrudes the asphalt material in such a way that results in a consolidated wedge-shape pavement edge of

	include 35 pounds per square foot (psf) for a future wearing surface. The bridge decks shall receive a thin epoxy friction course topping.
3.1.g	The new 51-inch bridge median barriers shall be in accordance with Standard Drawing STD-1-3SS. The existing outside bridge parapets may remain in place. An applied texture finish is required on the inside (traffic) face and top of the parapet rail. The color shall be white AMS STD-595 color No. 37886.
3.1.h	For the Lealand Lane, Craig Avenue, and I-65 bridges, the formliner finishes and sloping faces on the existing abutments shall be replicated on the widened portions.
3.1.i	For the bridges to be widened, the Design-Builder shall perform a hydraulic analysis for bridge deck drainage and shall meet the criteria in the TDOT Design Procedures for Hydraulic Structures.
3.1.j	Bearing conditions for bridge widenings are to match existing bearing conditions.
3.1.k	Existing utility (conduit on interior overhang of EB bridges) carried by bridges to be widened shall be relocated as indicated by other sections of this RFP.
3.1.l	The Design-Builder shall submit erection <u>and demolition</u> plans and calculations for concurrence by the Department.
3.1.m	The Design-Builder shall conduct and submit a load rating analysis for each of the bridges to be widened. The load ratings are to be submitted in a format to be concurred with by the Department.
3.1.n	The Design-Builder shall propose a MASH TL-3 guardrail attachment to bridge end detail (to be concurred with by the Department) for locations where the existing guardrail is attached to bridges.
3.1.o	For repairs to existing bridges, reference TDOT Bridge Inspection Reports and Deck Surveys.
<u>3.1.p</u>	<u>All lifting equipment and connection devices shall have capacity for 150% of the actual lifting load. The factor of safety provided by the manufacturer in the lifting capacity data shall not be considered in the 150% requirement. A licensed professional engineer, familiar with lifting and rigging, in the State where the construction work is proposed must sign and seal all plans and calculations related to critical lifting on the project.</u>
<u>3.1.q</u>	<u>DEMOLITION OF EXISTING STRUCTURE</u> <u>The Contractor shall submit a detailed procedure for demolition of existing structures over or adjacent to TDOT's Roadways or Right-Of-Way. The procedure shall clearly indicate the capacity of cranes, location of cranes with respect to the tracks and calculated lifting loads. The demolition procedure must be approved by TDOT Structure's Division. TDOT's roadways, signals, structures, and other facilities shall be protected from damage during demolition of existing structure or replacement of deck slab. Also a detailed Traffic Control Plan shall also be submitted and approved.</u> <u>A. During demolition of the deck, a protection shield shall be erected from the underside of the bridge over the roadway area to catch falling debris. The protection shield shall be supported from girders or beams. The deck shall be removed by cutting it in sections and lifting each section out. The protection shield shall be designed, with supporting calculations, for a minimum of 50 pounds per square foot plus the weight of the equipment, debris, personnel, and other loads to be carried. Large pieces of deck shall not be allowed to fall on the protection</u>

	<p><u>shield</u></p> <p><u>B. The Contractor shall submit detailed plans, with supporting calculations, of the protection shield and environmental protection, Traffic Control, for approval prior to the start of demolition.</u></p> <p><u>C. Blasting will not be permitted to demolish a structure over TDOT roadway without prior approval of the detailed plan by TDOT.</u></p>
	<p><u>ERECTION PROCEDURE:</u></p> <p><u>The Contractor shall submit a detailed procedure for erecting over TDOT right-of-way or roadway. The procedure shall clearly indicate the capacity of cranes, location of cranes with respect to the roadway and calculated lifting loads. A licensed professional engineer, familiar with lifting and rigging, in the State where the construction work is proposed must sign and seal all plans and calculations related to critical lifting on the project. The erection procedure must be approved by TDOT Structure's Division, and the Traffic Control Plan must also be approved by TDOT prior to any implementation of plan.</u></p>

	Association (NFPA) 70.
4.b	All existing light standards located along entire length of I-440 (STA. 13003+89.38, MM 0.2 to STA. 1351+80.09, MM 7.0) shall be removed. This includes lights on surface streets and at interchanges and overpasses that are brown in color and on the I-440 circuit. New lighting standards and luminaires shall be designed to replace any existing lighting to assure that I-440 has adequate lighting to meet TDOT standards. All wiring, conduits, pull boxes, poles, luminaires, cabinets and any other necessary items/components needed to provide a full functional lighting system shall be new items.
4.c	Design-Builder shall <del>use offset design</del> lighting <u>locations</u> for entire length of I-440 (STA. 13003+89.38, MM 0.2 to STA. 1351+80.09, MM 7.0). Where ROW or the roadway layout limits the use of offset lighting, other pole configurations may be utilized with prior concurrence of the TDOT Traffic Operations Division. <u>Design shall be consistent with the most current version of the TDOT Traffic Design Manual.</u>
4.d	Design-Builder shall use AGI32 software for the photometric analysis. When submitting the photometric layout plans, the accompanying AGI32 software files shall be submitted at the same time.
4.e	The illuminance method shall be used (Values of Average Maintained Minimum, Average/Min, and Max/Min shall be in accordance with Chapter 15 of the TDOT Traffic Design Manual). Photometrics for the whole project shall be generated, submitted, and concurred with by Traffic Operations Division before starting a complete detailed design of the project.
4.f	The Design-Builder shall submit lighting photometrics for proposed roadway lighting sections (including underpass lighting) to the Department for concurrence prior to ordering materials or beginning construction/installation.
4.g	High mast lighting will not be allowed under this contract to prevent excessive light pollution in residential areas. All existing high mast poles located at the I-65 and I-40 interchanges shall remain in place.
4.h	Design-Builder shall use LED luminaires for entire project including ramps. Design-Builder shall only use LED fixtures approved by Nashville Metro. (see reference material)
4.i	If the Design-Builder elects to remove the lighting system prior to construction, temporary lighting will be required at all locations where existing lighting is taken out of service. All temporary lighting shall be provided in accordance with TDOT standards.
4.j	The Design-Builder shall not allow light pollution/light hindrance into residential areas during construction.
4.k	All wiring shall be concealed underground in 2-inch schedule 40 PVC rigid conduit.
4.l	The ground wire shall be run inside conduit within structures, shall be colored green and have THW insulation.
4.m	Existing foundations shall be removed a minimum of six inches below grade.
4.n	Light standards shall be round tapered poles. Length shall be determined by required mounting height.

## 5.2 Fiber line

Req. No	Requirement text
5.2.a	All fiber conduit shall be designed to minimize conflicts or damage by other roadway items such as drainage structures, foundations, signing, lighting, guardrail, retaining walls, and landscaping.
5.2.b	The Design-Builder shall design and install the relocated fiber line (Fiber Optic Cable - 72F Trunk Line) and splice it into the existing fiber line. <del>All work related to the relocated fiber line shall be complete prior to the start of any roadway construction in the area of the relocated fiber line.</del> <u>The fiber line shall remain operational by permanent or temporary means, as approved by the Department, throughout construction, including all cameras, RDS, and DMS, and shall be of compatible bandwidth with existing conditions.</u> The design plans shall consist of +/- 2.2 miles of fiber optic line relocated from the existing raised grass median as shown on the ITS Roll Plot as provided on the Project Website.
5.2.c	The proposed location of the relocated fiber line shall be reviewed and receive concurrence from the Traffic Operation Division prior to ordering materials or beginning relocation.
5.2.d	The ITS system redundancy shall be tested with TDOT TMC IT prior to fiber relocation.

## 5.3 CCTV

Req. No	Requirement text
5.3.a	All existing CCTV cameras within the project limits shall be removed and replaced with proposed CCTV cameras meeting the requirements of Special Provision 725.
5.3.b	All CCTV camera poles located in the median shall be removed. All proposed CCTV camera poles shall be located outside of clear zone unless guardrail or barrier is present. Proposed CCTV camera poles shall not be placed in the median.

## 5.4 Dynamic Message System (DMS)

Req. No	Requirement text
5.4.a	All existing DMS support structures shall be removed and replaced with proposed DMS support structures meeting the requirements of Special Provision 725.
5.4.b	All existing DMS signs and supporting equipment shall be retained and reused in the final design.

## 5.5 Radar Detection System (RDS)

Req. No	Requirement text
5.5.a	All RDS detection devices shall be removed and replaced with proposed RDS detection devices meeting the requirements of Special Provision 725.
5.5.b	All RDS support structures shall be removed and replaced with proposed RDS support structures meeting the requirements of Special Provision 725. If an existing light standard

	is utilized as a RDS support structure, the Design-Builder shall not remove the light standard.
5.5.c	When appropriate and possible, co-locate RDS detection devices with CCTV cameras or with DMS to reduce the number of support structures to be replaced. The Design-Builder shall ensure desired detection accuracy irrespective of the installation type.
5.5.d	The proposed RDS system design should maximize the use of RDS installations that detect traffic in both directions of travel. All new RDS support structures shall be located outside of clear zone unless guardrail or barrier is present.

**5.6 Automated Traffic Recorder (ATR) and Embedded Loops**

<u>Req. No</u>	<u>Requirement text</u>
<u>5.6.a</u>	<u>One (1) Automated Traffic Recorders (ATR’s) and two (20 embedded detection loops shall be installed on I-440. The required general locations, specifications, and estimated quantity information is provided in the reference material as ‘ATR Details.zip’ on the project website.</u>
<u>5.6.b</u>	<u>The ATR will be a four lane site that collects traffic data continuously and downloaded by a wireless modem and consist of 2 cabinets, one for each direction, solar panels, traffic loops and internal batteries. The Department will supply the traffic counter and modem. STA-456 ATR (automated traffic recorder) with rigid conduit pole, traffic counter cabinet, solar panel with regulator, pull box and external battery inside the counter cabinet for extra battery backup. 456 is map location.</u>
<u>5.6.c</u>	<u>The two embedded loop locations will have three lanes each direction and the wires are run from the road surface to in ground pull boxes where each will be marked for lane identification and left for our office to complete and make operational:  STA-457 Embedded Loop Site- This consist of traffic loops run from the road surface to in ground pull boxes located on each side of the road. The Department will complete this site installation by adding a sign post, electrical box with amphenol connectors and complete the wiring process. 457 is map location.  STA-458 Repeat the same process as STA-457. 458 is map location.</u>

**6. GEOTECHNICAL SCOPE OF WORK**

<b>Req. No</b>	<b>Requirement text</b>
6.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. A Preliminary Geotechnical Report for this Project was completed by the Department’s Geotechnical Engineering Section. The Design-Builder shall verify the Preliminary Geotechnical Report before utilizing it in the design of the project. For guidance in determining the requirements of the geotechnical exploration please refer to the current TDOT Geotechnical Manual located on the Geotechnical Engineering

		Permit (I404)	
	TDEC Natural Resource Section	- General Aquatic Resources Alteration Permit (GARAP)	60 to 120
		- Individual Aquatic Resources Alteration Permit (IGARAP)	90 to 180
		- 401 Water Quality Certification	90 to 180
	TDEC Division of Water Supply	- Class V Injections Wells (sinkholes)	30 to 45
	TDEC Division of Water Pollution Control	- General NPDES Permit for Discharge of Storm Water Associated with Construction Activities.	30 to 45
	<p>The Design-Builder needs to be aware that the timeframes, in accordance with the table 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.</p>		
9.2.i	<p>The Department’s HQ Environmental Division Permitting Section shall be invited to any meeting between the Design-Builder and the respective Authority to discuss issues related to the application for (or refusal of) a permit. The Design-Builder shall inform the Department five (5) business days in advance of where and when such a meeting is to take place.</p>		
9.2.j	<p>The Design-Builder shall represent the Department in any proceedings relating to reservations, objections, appeals and / or applications for preliminary injunctions initiated by others against the permit application or by itself against the permit decision. In such proceedings, the Design-Builder shall do everything in its power to defend the submitted application, unless the Design-Builder itself has doubts as to whether the regulations, additional requirements or conditions attached to the relevant permit(s) are conducive to the Work and therefore objects to or appeals against them.</p>		
9.2.k	<p>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 permissible. 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. <u>The Department, at its discretion, may make a determination to grant a non-compensable time extension in an approved Change Order for any impacts beyond the reasonable control of the Design-Builder in securing permits, as provided in the Design-Build Standard Guidance.</u></p>		
9.2.l	<p>The Design-Builder shall provide the Department with a copy of the draft permit decision and a copy of the final permit immediately after receipt and submit it to the Department.</p>		
9.2.m	<p>The Design-Builder shall plan, implement, monitor and maintain all applicable TDEC and</p>		



	Department’s Environmental Division. The Design-Builder cannot complete the NEPA document or re-evaluation. The Department shall be responsible for completing and resubmitting NEPA documentation and may procure consultant services that are independent from Developer to complete the documentation necessary to obtain Environmental Approvals.
9.3.d	The Design-Builder shall not propose any work outside of the original study area identified in the approved NEPA document.
9.3.e	Should any changes to the design of the project occur, the Design-Builder will provide the Environmental Division with a notification and copy of the revised plans. <u>A re-evaluation for the Traffic Control Options is being completed by the Department.</u>

**10. LANDSCAPING SCOPE OF WORK**

<b>Req. No</b>	<b>Requirement text</b>
10.a	The Design-Builder shall be responsible for the design and construction of landscaping of seven interchanges (I-40, West End Ave, Murphy Avenue, Hillsboro Pike, I-65, Nolensville Pike and I-24) in accordance with the landscaping plans as provided.  The Design-Builder shall prepare landscaping plans in accordance with TDOT Landscape Design Guidelines and submit actual Planting List with species and variety for concurrence by the Department.
10.b	The Design-Builder materials shall comply with the following: <ul style="list-style-type: none"> <li>- Shade/Canopy trees – 3-inch minimum caliper;</li> <li>- Flowering trees – 2.5-inch minimum caliper;</li> <li>- Evergreen trees – 10-foot minimum height;</li> <li>- Shrubs 30 – 36-inch height and spread; and</li> <li>- Ornamental Grasses/Groundcovers – 1-gallon minimum container plant.</li> </ul>
10.c	The Design-Builder shall apply 3-inch thick shredded hardwood mulch in the entire continuous (canopy drip area of the trees), created within the mixed tree grouping, to minimize the lawn areas. The actual mulched area to be concurred with by the Engineer.
10.d	The Design-Builder shall identify all subsurface utilities prior to work. The Design-Builder is responsible for the protection of all utilities (e.g., power company, gas, natural gas, telephone, water & sewer, cable, etc.).
10.e	The Design-Builder shall take all precautionary measures necessary to protect existing elements, bridge structures, guardrails etc., which are to remain in place, from damage.
10.f	The Design-Builder is responsible to remove all old stumps, trees, shrubs and grasses and demolished material from the project site and dispose of it in legal manner.
10.g	The Design-Builder is responsible for notifying the Engineer of any discrepancy of new planting beds with existing drainage swales and drainage operation.
10.h	The Design-Builder shall provide prior to landscaping activities a maintenance plan in accordance with TDOT Landscape Design Guidelines for concurrence by the Department. The Design-Builder is responsible for the maintenance of all interchanges in accordance with the concurred maintenance plan until one year after final completion of the I-440.



## ***11.CONSTRUCTION SCOPE OF WORK***

Req. No	Requirement text
<b>Construction services</b>	
11.a	The Design-Builder shall supervise and administer all construction activities in accordance with Contract requirements.
11.b	The Design-Builder shall perform all other construction work required to complete the Project in conformance with all Contract requirements, including Legal Requirements.
11.c	The Design-Builder shall comply with all applicable laws.
11.d	The Design-Builder shall keep the work location and its vicinity free from accumulation of waste materials and rubbish caused by the Design-Builder's operations. <u>The Department may allow temporary storage of the concrete removal material for not more than 30 days. All materials shall be within the limits of the Project, on State ROW, outside the clear zone, not interfering with stopping sight distances and as approved in writing by the Engineer at least 30 days prior to storage.</u>
11.e	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 the Department.
11.f	The Design-Builder shall coordinate his work with that of other Contractors working on or around the Site. As a minimum the Design-Builder must cooperate and coordinate with the I-440 Greenway Project of the Metropolitan Nashville.  The Design-Builder shall coordinate the Work with that of other Contractors on or around the site and review their sequence working and work out of sequence in order to maintain continuity of work and compliance with the Critical Path Schedule.
<u>11.g</u>	<p><u>If the Design-Builder chooses to utilize a portable asphalt plant the following additional conditions shall apply:</u></p> <p><u>Use of the portable asphalt plant shall be shown in the Design-Builders Technical Proposal. Failure to show the use of a portable asphalt plant in the Technical Proposal shall eliminate the use of a portable asphalt plant in construction.</u></p> <p><u>A portable asphalt plant shall only be utilized in conjunction with Traffic Control Option 2: Full Segmented Closure or Option 3: Partial Segmented Closure (Segment 2 Only) and must be located within the closed segment.</u></p> <p><u>Approval will be granted if all the following requirements are met:</u></p> <p><u>The Design-Builder shall submit the following to the Regional Operations Division for review and approval:</u></p> <ul style="list-style-type: none"> <li>• <u>The exact locations requested, which shall include a plan view or aerial view of the right-of-way area requested.</u></li> <li>• <u>Layout of the site, including plant and stockpile locations, building/lab</u></li> </ul>

	<p><u>locations:</u></p> <ul style="list-style-type: none"> <li>• <u>Safety Precautions to be instituted</u></li> <li>• <u>Anticipated set up and tear down dates shall be provided in the Design-Builders Technical Proposal.</u></li> </ul> <p><u>The requested location shall be within the project limits and subject to Department approval. The requested plant location shall be used only for this contract and shall not be used as a commercial facility (Davis-Bacon rules shall apply for plant personnel and truck drivers since this will be a project specific plant).</u></p> <p><u>The Design-Builder shall be responsible for obtaining all necessary Federal and State permits and documents after the location has been approved by the Department.</u></p> <p><u>Approval for a portable asphalt plant will not be given until the Design-Builder obtains all air and water quality permits and any other federal/state/local permits required by law.</u></p> <p><u>Final approval shall be requested in writing at least 30 days prior full closure.</u></p>
<p><b>Erosion Prevention and Sediment Control (EPSC)</b></p>	
<p>11.g</p>	<p>All EPSC designs and implementation shall be the responsibility of the Design-Builder.</p>
<p>11.h</p>	<p>Sod shall be used for permanent stabilization and 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.</p> <ul style="list-style-type: none"> <li>- Pre-construction vegetative ground cover shall not be destroyed, removed or disturbed (i.e. clearing and grubbing initiated) more than 14 calendar days prior to grading or earth moving activities unless the area is mulched, seeded with mulch or other temporary cover is applied.</li> <li>- Clearing, grubbing, and other disturbance to riparian vegetation shall be limited to the minimum necessary for slope construction and equipment operations. Existing vegetation, including stream and wetland buffers (unless permitted), should be preserved to the maximum extent possible. Unnecessary vegetation removal is prohibited.</li> </ul>
<p>11.i</p>	<p>Temporary stabilization shall be initiated within 14 calendar days when construction activities on a portion of the site are temporarily ceased and earth disturbing activities will not resume until after 14 calendar days. Permanent stabilization measures in disturbed areas shall be initiated within 14 calendar days after final grading of any phase of construction.</p> <p>Steep slopes shall be temporarily stabilized not later than 7 calendar days after construction activity on the slope has temporarily or permanently ceased. steep slopes are defined as a natural or created slope of 35% grade or greater regardless of height.</p> <p>Permanent stabilization will replace temporary measures as soon as practicable. Priority shall be given to finishing operations and permanent EPSC measures over temporary EPSC measures on all projects.</p>
<p>11.j</p>	<p>Inspection, repair, and maintenance of EPSC structures shall 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 Design-Builder</p>

## **12. TRAFFIC CONTROL / TEMPORARY ITEMS SCOPE OF WORK**

### **12.1 Traffic Control**

Req. No	Requirement text
<b>General</b>	
12.1.a	The objective is to ensure a strategic plan for traffic management on the Project, to minimize lane/road closure and cause the least interference with traffic. <u>For all Traffic Control Options, all new noise barriers and noise barrier repairs shall be complete prior to beginning any nighttime work.</u>
12.1.b	<p>The Design-Builder shall:</p> <ul style="list-style-type: none"> <li>- Develop a Transportation Management Plan including Traffic Control System that address major aspects of the work for individual construction areas, phases and stages including temporary traffic control, transportation and information strategies.</li> <li>- The Design-Builder shall prepare Transportation Management Plan including Traffic Control System in accordance with TDOT Standard Specifications for Road and Bridge Construction, TDOT Standard Drawings, TDOT Standard Traffic Operations Drawings, TDOT Traffic Design Manual, TDOT Design Guidelines, TDOT Work Zone Safety and Mobility Manual, ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features (December 2017 Edition), and the latest edition of the Manual of Uniform Traffic Control Devices.</li> <li>- Obtain in advance concurrence for all lane closures by the Department.</li> <li>- Use Traffic Control materials from the Department's Qualified Products List (QPL) <a href="https://www.tn.gov/Research and Product Evaluation and Qualified Products-list">https://www.tn.gov/Research and Product Evaluation and Qualified Products-list</a></li> <li>- State method of construction in the technical proposal.</li> </ul>
12.1.c	<p>The Transportation Management Plan including Traffic Control System shall include a description of the construction staging and traffic control and sequencing proposed to accommodate traffic during construction. The construction traffic control shall include the following:</p> <ul style="list-style-type: none"> <li>- Overall traffic management and control and sequencing approach.</li> <li>- Conceptual construction staging diagrams (scale: 1 inch = 200 feet) including lane configuration and traffic management of the interstate during the different stages of construction. Staging areas shall only be allowed within the I-440 ROW Project limits unless mentioned otherwise. No staging areas shall be allowed adjacent to the Granny White Pike Overpass.</li> <li>- Narrative description of how Design-Builder shall schedule and sequence the construction to minimize impacts on the environment, communities and traveling public while still providing acceptable construction performance.</li> <li>- Brief description of the laydown, recycling, staging, disposal and maintenance locations to be used during construction.</li> <li>- Description of how the ROW and adjacent roads and properties will be maintained and protected, including the intended measures to be used to mitigate and minimize noise, vibration, light, dust, erosion/run-off and local road damage.</li> </ul>

12.1.d	<p><del>Temporary I-440 travel lane closures shall be allowed nightly between 9:00 p.m. and 5:00 a.m. The Design Builder shall provide two 12' travel lanes in each direction with a 2' shoulder on either side of the travel way during construction. The shoulder width, for temporary traffic control, shall be measured from the edge of the travel way to the top face of the temporary portable barrier rail. This temporary traffic control layout shall apply to the entire project unless otherwise specified in sections 12.1.e and 12.1.f of the RFP document.</del></p>
12.1.e	<p><del>Temporary I-440 travel lane closures shall be allowed nightly between 9:00 p.m. and 5:00 a.m. The Design Builder shall provide two 11' travel lanes in each direction with a 2' shoulder on either side of the travel way during construction. The shoulder width, for temporary traffic control, shall be measured from the edge of travel way to the top face of the temporary portable barrier rail. This temporary traffic control layout shall apply to the following station ranges:</del></p> <ul style="list-style-type: none"> <li><del>— STA 1036+00 (approx.) to STA 1081+00 (approx.)</del></li> <li><del>— STA 1109+00 (approx.) to STA 1155+00 (approx.)</del></li> <li><del>— STA 1215+00 (approx.) to STA 1234+00 (approx.)</del></li> <li><del>— STA 1250+00 (approx.) to STA 1266+00 (approx.)</del></li> </ul>
12.1.f	<p><del>Temporary I-440 travel lane closures shall be allowed nightly between 9:00 p.m. and 5:00 a.m. The Design Builder shall provide two 12' travel lanes in each direction with a 4' shoulder on either side of the travel way during construction. The shoulder width, for temporary traffic control, shall be measured from the edge of travel way to the top face of the temporary portable barrier rail. This temporary traffic control layout shall apply to the following station ranges:</del></p> <ul style="list-style-type: none"> <li><del>— STA 1234+00 (approx.) to STA 1250+00 (approx.)</del></li> </ul>
<b>Temporary Lane/Road Closure</b>	
12.1.gd	<p>All temporary lane closures on I-440, I-65 and local streets must be approved seven (7) days in advance. For full closures on I-440, <del>I-65</del> and ramps, request for approval must be sent to the Department twenty-one (21) calendar days in advance of the proposed closure. <u>For I-65 and SR-6 weekend closures, request for approval, weather permitting, must be sent to the Department twenty-one (21) calendar days in advance of the proposed closure.</u> <del>For local street closures, request for approval must be sent to the Department at least twenty one (21) days in advance.</del> Request for complete closures shall also include proposed detour routes and detour signing details. Local streets (non-State Routes) will not be allowed as detour routes for I-440 and I-65 traffic.</p>
12.1.he	<p>No less than twenty-one (21) calendar days prior to the closure of the road, the Design-Builder shall notify the Department describing the affected roads and the approximate duration of the construction assisting with notification to the following parties, but are not limited to: i) local law enforcement office, ii) local fire department, iii) ambulance service, iv) U.S. Postal Service, v) local road superintendent, vi) railroad company (if applicable), vi) Metropolitan Nashville and Davidson County's Parks and Recreation Department (if applicable) and vii) local school superintendent.</p>
12.1.if	<p>There will be periods when the Design-Builder will not be allowed to have any type of closures due to holidays as specified in subsection 104.04 of the Standard Specification and major events listed below. Major events and known periods when lanes cannot be closed include but not limited to:</p>

	<ul style="list-style-type: none"> <li>- CMA Fest, Tennessee Titans Home Games, Rock n Roll Nashville Marathon, Vanderbilt Homecoming, TSU Homecoming, <u>NFL Draft</u>.</li> <li>- No closures or work on local roads that would impede the Rock n Roll Nashville Marathon route or motoring public before, during, and after the race event.</li> </ul> <p>These restrictions do not apply during the segmented interstate closure of I-440.</p>
<p>12.1.jg</p>	<p>Weekend closures of I-65 through lanes and four left turning fly-over ramps (I-65 southbound to I-440 eastbound, I-65 northbound to I-440 westbound, I-440 westbound to I-65 southbound and I-440 eastbound to I-65 northbound) at the I-440 and I-65 interchange and State Route 6 will be allowed. Up to two (2) non-holiday/non-major event weekend closures for removal and installation of the I-440 bridge components over I-65 and ramp repairs will be allowed. Limits of I-440, I-65 and ramp closures shall be installed in a manner to not disrupt right turning ramps between I-65 and I-440 as well as between I-440 and I-65. During this full weekend closure, no other temporary lane closures or full ramp closures will be allowed on the project. Weekend closures, including detour routes, shall be submitted, <u>weather pending</u>, to the Department a minimum of twenty-one (21) days prior to closure. <u>No construction activities on the I-440 bridges over I-65 are to occur over live traffic unless previously approved in writing by the Engineer.</u></p> <p><u>Outside of weekend closures, the Design-Builder will be allowed to close one lane of I-65 each direction (3 lanes shall remain open) during nighttime hours (9 pm - 5 am)</u></p>
<p>12.1.hh</p>	<p>The Design-Builder shall notify the Department and the local governmental agency, <u>if applicable</u>, responsible for traffic control maintenance at least seven (7) days in advance of the cold planing activity at signalized intersections where detector loops are on the pavement. The maintaining agency will then be responsible for disconnecting the loop detectors and making any necessary timing adjustments in the signal controller prior to the construction.</p>
<p>12.1.i</p>	<p><u>The Option Selected in the Technical Proposal shall not be changed.</u></p> <p><u>The CPM schedule shall reflect the selected option with definitive segment closure dates defined. The segment closure dates shall not be altered. Failure to enter a definitive segment closure dates will make the Proposal irregular and be cause for rejection.</u></p> <p><u>The Options listed below are described in detail in subsequent sections:</u></p> <ul style="list-style-type: none"> <li>• <u>Option 1: Conventional Construction</u></li> <li>• <u>Option 2: Full Segmented Closure</u></li> <li>• <u>Option 3: Partial Segmented Closure (Segment 2 Only).</u></li> </ul> <p><u>Any changes post award to the option selected or dates submitted, may be grounds for terminating the contract.</u></p> <p><u>The option for full closure of Segment #1 and Conventional Construction of Segment #2 shall not be allowed.</u></p>
<p>12.1.j</p>	<p><u>Traffic Control Option 1 - Conventional Construction:</u></p>

	<p><u>On I-440, the Design-Builder shall provide two 12’ travel lanes in each direction with a 2’ shoulder on either side of the travel way during construction. The shoulder width, for temporary traffic control, shall be measured from the edge of the travel way to the top face of the temporary portable barrier rail. This temporary traffic control layout shall apply to the entire project unless otherwise specified below.</u></p> <p><u>On I-440, the Design-Builder shall provide two 11’ travel lanes in each direction with a 2’ shoulder on either side of the travel way during construction. This temporary traffic control layout shall apply to the following station ranges:</u></p> <ul style="list-style-type: none"> <li>- <u>STA 1036+00 (approx.) to STA 1081+00 (approx.)</u></li> <li>- <u>STA 1109+00 (approx.) to STA 1155+00 (approx.)</u></li> <li>- <u>STA 1215+00 (approx.) to STA 1234+00 (approx.)</u></li> <li>- <u>STA 1250+00 (approx.) to STA 1266+00 (approx.)</u></li> </ul> <p><u>On I-440, the Design-Builder shall provide two 12’ travel lanes in each direction with a 4’ shoulder on either side of the travel way during construction. This temporary traffic control layout shall apply to the following station ranges:</u></p> <ul style="list-style-type: none"> <li>- <u>STA 1234+00 (approx.) to STA 1250+00 (approx.)</u></li> </ul> <p><u>On I-440, the Design-Builder shall maintain one (1) 12’ travel lane with shoulders as described above in each direction during nighttime hours (9 pm – 5 am) for the duration of the project.</u></p> <p><u>The Department will allow two (2) weekend closures for work on the I-440 bridges at I-65 as discussed in section 12.1.g</u></p> <p><u>The Department will allow weekend closures of other ramps for the repairs of the Murphy Rd, West End Ave, Hillsboro Pike, Nolensville Pike, I-440/I-24 and I-440/I-65 right turning ramps. The Design-Builder will be allowed to close ramps at multiple interchanges on the same weekend, however:</u></p> <ul style="list-style-type: none"> <li>a. <u>no individual ramp can be closed for more than two (2) total weekends</u></li> <li>b. <u>ramps on adjacent interchanges along the same travel direction of I-440 cannot be closed on the same weekend</u></li> <li>c. <u>ramps on I-440/I-24 and I-440/I-65 along the same travel direction of I-440 cannot be closed on the same weekend.</u></li> <li>d. <u>these closures shall not occur during the weekend closure of I-65.</u></li> </ul> <p><u>Weekend ramp closures, including detour routes, shall be submitted to the Department a minimum of twenty-one (21) days prior to closure.</u></p>
<p>12.1.m</p>	<p><b><u>Traffic Control Option 2 – Full Segmented Interstate Closure:</u></b></p> <p>The Department will allow the segmented interstate closure of all travel lanes on I-440. Segment #1 being I-440 (both directions) from the eastern half of the I-65 interchange to the eastern project limits at I-24; and Segment #2 representing I-440 (both directions) between I-40 at the western project limits to the western half of the I-65 interchange as shown in Exhibit 1. Segment #1 shall be closed first while providing access to I-65 north and south from west side of I-440. Once Segment #1 is complete as defined below, closure of Segment #2 <del>shall</del> <u>will</u> be allowed while providing access to I-65 north</p>

and south from east side of I-440.

Prior to any segmented closure, on I-440, the Design-Builder shall maintain one (1) 12' travel lane in each direction with a minimum 2' inside shoulder and 10' outside shoulder during nighttime hours (9 pm – 5 am). No closures outside the allowable nighttime hours will be allowed unless otherwise directed by the Engineer. Lane shifts shall not be allowed.

On I-440, the Design-Builder shall maintain one 11' wide paved emergency vehicle access lane along the closed I-440 segments.

~~Design Builder shall open Segment # 1 to all travel lanes minus the surface course on or before May 10, 2019. Segment # 2 shall not begin until all travel lanes of Segment #1 are open to traffic.~~

Segment #1 may be closed between March 4, 2019 and November 7, 2019 or January 6, 2020 and November 6, 2020 and shall not exceed 120 days from the starting date provided by the Design-Builder in their Technical Proposal. Failure to meet these dates shall result in liquidated damages as specified in Special Provision 108B.

~~All segmented interstate closures shall be completed on or before November 9, 2019. At a minimum the following items shall be completed for the individual segments Segment #1 by these the specified dates:~~

- All travel lanes including auxiliary lanes and ~~inside~~ shoulders in each direction of travel along I-440 from ~~near STA. 13003+89.38 (approximately MM 0.2)~~the eastern end of the bridge over I-65 to STA. 1351+80.09 (approximately MM 7.0) as shown in the preliminary plan shall be complete and open to travel. All lanes shall be paved to the finished grade minus the final asphalt surface layer.
- All system and route interchange ramp work shall be completed.
- All bridge work shall be completed (Excluding the I-65 bridge and the bridge over Glenrose Ave. and CSX Railroad).
- All concrete median barrier and guardrail work completed.
- All drainage work located along the inside shoulder or under the travel and auxiliary lanes of I-440.
- Roadway lighting installation
- Interstate sign installation
- ~~ITS devices installation~~ shall be operational by permanent or temporary means.

During the Segment #1 closure, the Department will allow the following closures on Segment #2:

- On I-440, the Design-Builder will be allowed to reduce the inside shoulders to 4' for median work only outside the allowable nighttime hours. Lane shifts shall not be allowed on Segment #1.

- On I-440, the Design-Builder shall maintain one (1) 12' travel lane in each direction with a minimum 2' inside shoulder and 10' outside shoulder during nighttime hours (9 pm – 5 am) for the duration of the project.

Segment #2 shall be closed after Segment #1 is completed, as described above, between



March 4, 2019 and November 7, 2019 or January 6, 2020 and November 6, 2020 and shall not exceed 180 days from the starting date provided by the Design-Builder in their Technical Proposal. Failure to meet these dates shall result in liquidated damages as specified in Special Provision 108B.

At a minimum the following items shall be completed for Segment #2 by the specified dates:

- All travel lanes including auxiliary lanes and shoulders in each direction of travel along I-440 from near STA. 13003+89.38(approximately MM 0.2) to the western end of the bridge over I-65 as shown in the preliminary plan shall be complete and open to travel. All lanes shall be paved to the finished grade minus the final asphalt surface layer.
- All system and route interchange ramp work shall be completed.
- All bridge work shall be completed (Excluding the I-65 bridges and the bridges over CSX Railroad at approximate LM 0.72).
- All concrete median barrier and guardrail work completed.
- All drainage work located along the inside shoulder or under the travel and auxiliary lanes of I-440.
- Roadway lighting installation
- Interstate sign installation
- ITS devices shall be operational by permanent or temporary means.

During the Segment #2 closure, the Department will allow the following closures on Segment #1:

- On I-440, no closures outside the allowable nighttime hours will be allowed, unless otherwise directed by the Engineer.
- On I-440, the Design-Builder shall maintain one (1) 12' travel lane in each direction with a minimum 2' inside shoulder and 10' outside shoulder during nighttime hours (9 pm – 5 am) for the duration of the project.

The Design-Builder shall maintain 2 lanes of traffic for the ramps from I-440 to I-65 outside the allowable nighttime closure hours.

All remaining work, except final paving and striping, outside the travel lanes and shoulders can may continue and be completed after the ~~November 9, 2019 completion date~~ allowable timeframe as indicated in the Design-Builders Technical Proposal for the segmented interstate closure. Striping for the I-65 bridge needs to allow for ~~3-11' lanes with two (2) 2' shoulders in each direction and a maximum 40 mph speed posting, two 12' lanes with a 2' inside shoulder and 4' outside shoulder.~~

For final asphalt paving and striping and I-65 bridge construction, ~~No daytime no~~ temporary lane closures outside the allowable nighttime hours shall be allowed along Segment #1 or #2 after the ~~November 9, 2019 completion date~~ allotted timeframes as indicated in the Design-Builders Technical Proposal for the segmented interstate closure. Nighttime temporary lane closures will be allowed while maintaining a minimum of 1-12' travel lane ~~2 travel lanes~~ in each direction, ~~are allowed for the following items:~~

- ~~Final asphalt paving~~
- ~~Final roadway striping~~
- ~~I-65 bridge construction~~



12.1.1	<p><b><u>Traffic Control Option 3 – Partial Segmented Closure (Segment 2 Only):</u></b></p> <p><u>For Segment #1:</u></p> <p><u>On I-440, the Design-Builder shall provide two 12’ travel lanes in each direction with a 2’ shoulder on either side of the travel way during construction. The shoulder width, for temporary traffic control, shall be measured from the edge of the travel way to the top face of the temporary portable barrier rail. This temporary traffic control layout shall apply to the entire project unless otherwise specified below.</u></p> <p><u>On I-440, the Design-Builder shall provide two 11’ travel lanes in each direction with a 2’ shoulder on either side of the travel way during construction. This temporary traffic control layout shall apply to the following station ranges:</u></p> <p style="padding-left: 40px;"><u>- STA 1250+00 (approx..) to STA 1266+00 (approx.)</u></p> <p><u>On I-440, the Design-Builder shall maintain one (1) 12’ travel lane with shoulders as described above in each direction during nighttime hours (9 pm – 5 am) for the duration of the project.</u></p> <p><u>During Segment #1 construction, the Department will allow the following closures on Segment #2:</u></p> <p style="padding-left: 40px;"><u>- On I-440, the Design-Builder will be allowed to reduce the inside shoulders to 4’ for median work only outside the allowable nighttime hours. Lane shifts shall not be allowed on Segment #1.</u></p> <p style="padding-left: 40px;"><u>- On I-440, the Design-Builder shall maintain one (1) 12’ travel lane in each direction with a minimum 2’ inside shoulder and 10’ outside shoulder during nighttime hours (9 pm – 5 am) for the duration of the project.</u></p> <p><u>The Department will allow two (2) weekend closures for work on the I-440 bridges at I-65 as discussed in section 12.1.g</u></p> <p><u>The Department will allow weekend closures of other ramps for the repairs of the Nolensville Pike, I-440/I-24 and I-440/I-65 right turning ramps. The Design-Builder will be allowed to close ramps at multiple interchanges on the same weekend, however:</u></p> <ol style="list-style-type: none"> <li><u>a. no individual ramp can be closed for more than two (2) total weekends</u></li> <li><u>b. ramps on adjacent interchanges along the same travel direction of I-440 cannot be closed on the same weekend</u></li> <li><u>c. ramps on I-440/I-24 and I-440/I-65 along the same travel direction of I-440 cannot be closed on the same weekend.</u></li> <li><u>d. these closures shall not occur during the weekend closure of I-65.</u></li> </ol> <p><u>Weekend ramp closures, including detour routes, shall be submitted to the Department a minimum of twenty-one (21) days prior to closure.</u></p> <p><u>At a minimum the following items shall be completed for Segment #1 prior to Segment #2 closure:</u></p> <p style="padding-left: 40px;"><u>- All travel lanes including auxiliary lanes and inside shoulders in each direction</u></p>
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of travel along I-440 from the eastern end of the bridge over I-65 to STA. 1351+80.09 (approximately MM 7.0) as shown in the preliminary plan shall be complete and open to travel. All lanes shall be paved to the finished grade minus the final asphalt surface layer.

- All system and route interchange ramp work shall be completed.
- All bridge work shall be completed (Excluding the I-65 bridges and the bridges over Glenrose Ave. and CSX Railroad).
- All concrete median barrier and guardrail work completed.
- All drainage work located along the inside shoulder or under the travel and auxiliary lanes of I-440.
- Roadway lighting installation
- Interstate sign installation
- ITS devices shall be operational by permanent or temporary means.

For Segment #2:

Segment #2 shall be closed after Segment #1 is completed, as described above, between March 4, 2019 and November 7, 2019 or January 6, 2020 and November 6, 2020 and shall not exceed 180 days from the starting date provided by the Design-BUILDER in their Technical Proposal. Failure to meet these dates shall result in liquidated damages as specified in Special Provision 108B.

At a minimum the following items shall be completed for Segment #2 by the specified dates:

- All travel lanes including auxiliary lanes and shoulders in each direction of travel along I-440 from near STA. 13003+89.38(approximately MM 0.2) to the western end of the bridge over I-65 as shown in the preliminary plan shall be complete and open to travel. All lanes shall be paved to the finished grade minus the final asphalt surface layer.
- All system and route interchange ramp work shall be completed.
- All bridge work shall be completed (Excluding the I-65 bridges and the bridges over CSX Railroad at approximate LM 0.72).
- All concrete median barrier and guardrail work completed.
- All drainage work located along the inside shoulder or under the travel and auxiliary lanes of I-440.
- Roadway lighting installation
- Interstate sign installation
- ITS devices shall be operational by permanent or temporary means.

During the Segment #2 closure, the Department will allow the following closures on Segment #1:

- On I-440, no closures outside the allowable nighttime hours will be allowed, unless otherwise directed by the Engineer.
- On I-440, the Design-BUILDER shall maintain one (1) 12' travel lane in each direction with a minimum 2' inside shoulder and 10' outside shoulder during nighttime hours (9 pm – 5 am) for the duration of the project.

The Design-BUILDER shall maintain 2 lanes of traffic for the ramps from I-440 to I-65 outside the allowable nighttime closure hours.

	<p><u>All remaining work, except final paving and striping, outside the travel lanes and shoulders may continue and be completed after the allowable timeframe as indicated in the Design-Builders Technical Proposal for the segmented interstate closure. Striping for the I-65 bridge needs to allow for two 12' lanes with a 2' inside shoulder and 4' outside shoulder.</u></p> <p><u>For final asphalt paving and striping and I-65 bridge construction, no temporary lane closures outside the allowable nighttime hours shall be allowed along Segment #1 or #2 after the allotted timeframes as indicated in the Design-Builders Technical Proposal for the segmented interstate closure. Nighttime temporary lane closures will be allowed while maintaining a minimum of 1-12' travel lane in each direction.</u></p>
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**12.2 Temporary Marking, Detours, Lane Shifts and Median Cross-overs**

Req. No	Requirement text
12.2.a	Temporary marking shall adhere to guidance outlined in Section IV of current edition of the Department’s Design Division Roadway Design Guidelines for pavement markings. The minimum temporary pavement marking width shall be 8-inches. All temporary pavement markings shall be at a minimum painted.
12.2.b	Temporary pavement line markings on intermediate layers of pavement shall be reflective tape or reflectorized paint installed to permanent standards at the end of each day work. Short, unmarked sections shall not be allowed.
12.2.c	The temporary pavement marking on detours, lane shifts and median cross-overs shall be installed and maintained to the same standards as for permanent markings on the main roadway. These markings shall be in place prior to allowing traffic onto the pavement.
12.2.d	All access, service and frontage roads shall be constructed with a minimum of one (1) course of base material before traffic is interrupted on existing roads.
12.2.e	Before opening detours, lane shifts and/or median cross-overs to traffic, the transitional markings on the existing roadway must be in place. All existing markings in the area of these transitional markings shall be obliterated and all existing raised pavement markers shall be removed to eliminate conflicting markings.
12.2.f	All temporary lane shifts and median crossovers shall be paved, striped, signed and the vertical panels are to be in place before it is opened to traffic.
12.2.g	Contrast striping shall be used for temporary striping on concrete pavement located along I-440 and ramps. Contrast striping is covered under SP716DB. (See Reference Materials)

**12.3 Temporary Signage**

Req. No	Requirement text
12.3.a	All temporary signage shall be in accordance with TDOT Standard Specifications for Road and Bridge Construction, TDOT Standard Drawings, TDOT Standard Traffic Operations Drawings, TDOT Traffic Design Manual, TDOT Design Guidelines, TDOT Work Zone Safety and Mobility Manual, and the latest edition of the Manual of Uniform Traffic Control Devices.

<b>Changeable Message Signs</b>	
12.3.b	A minimum of 20 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 reviewed by the Department. Overage of Changeable Message Signs (beyond the minimum 20) shall be paid (with prior concurrence) as defined in RFP Book 3 Chapter 13.7
<b>Emergency signage</b>	
12.3.c	All existing “emergency reference markers” and “hospital signs” shall be maintained within full view of the motoring public throughout all phases of construction.
<b>Tourist Oriented Directional Signs (TODS)</b>	
12.3.d	All existing “Tourist Oriented Directional Signs” shall be maintained within full view of the monitoring public throughout all phases of construction.
<b>Detour and construction signage</b>	
12.3.e	All detour and construction signing shall be in strict accordance with the current edition of the MUTCD.

**12.4 Construction Work Zone**

Req. No	Requirement text
12.4.a	Traffic control devices shall not be displayed or erected unless related conditions are present necessitating warning.
<u>12.4.b</u>	<u>The Design-Builder shall provide portable barrier rail at all times during median work under traffic in any selected Traffic Control Option to aid in prevention of median cross-overs and work zone intrusion. Barriers shall not impede roadway drainage and shall provide a minimum 4’ inside shoulder. For all other conditions the Design-Builder shall follow the Pavement Edge Drop-off Traffic Control prescribed below.</u>
<b>Pavement Edge Drop-off Traffic Control</b>	
12.4. <b>bc</b>	<p>A. Differences in elevation between adjacent traffic lanes or between the traffic lane and shoulder where the traffic lane is being used by traffic, that is caused by base, paving or resurfacing, shall be handled as follows:</p> <p style="padding-left: 40px;">1. <u>Differences in elevation between adjacent roadway elements greater than 0.75 inch and not exceeding 1.5 inches:</u></p> <p style="padding-left: 40px;">a. Warning signs, uneven lanes (W8-11) and/or shoulder drop-off with plaque (W8-17 and W8-17P), shall be placed in advance of and throughout the exposed area. Maximum spacing between signs shall be 2,000 feet with a minimum of two (2) signs per exposed area. Where uneven pavement is encountered, signs shall be placed on each side of the roadway.</p> <p style="padding-left: 40px;">b. Differences in elevation between adjacent traffic lanes being utilized by traffic caused by added pavement shall be eliminated within three workdays.</p> <p style="padding-left: 40px;">c. Differences in elevation between adjacent traffic lanes being utilized by traffic caused by cold planing shall be eliminated within three workdays.</p>

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 concurred with 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 concurred with separation devices as specified in paragraph 3a above 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 with plaque (w8-17 and w8-17p). 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 two (2) signs per exposed area. In these situations, the Design-Builder shall limit his operations to one work zone not exceeding 1 mile in length unless otherwise noted on the plans or concurred with by the Department. 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.

4. For differences 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 1 mile in length unless otherwise noted on the plans or concurred with by the Department. 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.

- 12.4.ed **B.** If the 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., differing situations shall be handled as follows:

1. If the difference in elevation is within 8 feet of the nearest traffic lane with difference in elevation greater than 3/4 inch and not exceeding 2 inches:

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

2. If the 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 concurred with 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.

3. If the 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 concurred with 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.

12.4.de C. If the difference in elevation is farther than 8 feet from the nearest traffic lane but not more than 30 feet from the nearest traffic lane:

- a. Separation shall be accomplished by drums, barricades or other concurred with 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, the activity shall be pursued as a continuous operation until the elevation difference is eliminated.

### **13. OTHER SCOPE OF WORK**

The other scope of work are additional to the latest version of the Department's **Standard Specifications** and the **DB Standard Guidance**. All work shall be completed in accordance with the most current version of the Tennessee Department of

- 19I04400030MAR16_ov_Craig_Ave	.pdf
- 19I04400041MAR16_ov_Bransford_Ave	.pdf
- 19I04400054MAR16 ov Glenrose Ave CSX LL	.pdf
- I-440 Concrete Ramps (New 2-12-18)	.pdf
ITS Information (New 2-12-18)	
- <a href="#">ATR Details</a>	.zip
- CNF-075 Pub Sheet 1	.pdf
- CNF-075 Pub Sheet 2	.pdf
- CNF-075 Pub Sheet 3	.pdf
- CNF-075 Pub Sheet 4	.pdf
- CNF-075 Pub Sheet 5	.pdf
- CNF-075 Pub Sheet 6	.pdf
- CNF-075 Pub Sheet 7	.pdf
- CNF-075 Pub Sheet 8	.pdf
- CNF-075 Pub Sheet 9	.pdf
- CNF-075 Pub Sheet 10	.pdf
- CNF-075 Pub Sheet 11	.pdf
- CNF-075 Pub Sheet 12	.pdf
- CNF-075 Pub Sheet 13	.pdf
- CNF-075 Pub Sheet 14	.pdf
- CNF-075 Pub Sheet 15	.pdf
- CNF-075 Pub Sheet 16	.pdf
- CNF-075 Pub Sheet 17	.pdf
- I-440 ITS Devices	.xlsx
Lighting Specifications (New 4-6-18)	
- MGLED 6 4K AS W H V G P7	.pdf
- Street Lighting Guidelines 4	.pdf
- W4GLED 20C 1000 40K T3M MVOLT SPD P7 GYSDP	.pdf
Noise Walls	
- I-440 Noise Wall Inspection Report	.pdf
- PIN 125325.00 I-440 Memo Re Noise Barriers 12-26-17	.pdf
- I-440 TNM Runs (New 4-24-18)	.zip
- PIN 125325.00 I-440 Memo Re Noise Barriers 12-26-17	.pdf

Planned Maintenance (New 3-27-18)	
- I-440 Planned Maintenance (New 3-27-18)	.pdf
Preliminary Design (Updated 5-25-18)	
- 125325-00-DesignExceptionsApproved_Locations1&2	.pdf
- generic bridge repair details	.pdf
- I-440 Bridges to Widen	.pdf
- I-440 ITS Roll Plots	.pdf
- I-440 Landscaping Schematic Plans	.pdf
- I-440 Lighting Roll Plots (Revised 4/2/2018)	.pdf
- I-440 Preliminary Plans (Revised 5-25-18)	.pdf
- I-440 ShldrColorSheets (New 4-24-18)	.pdf
- I-440 Signing and Marking Roll Plots	.pdf
- I-440 Utility List (New 2-12-2018)	.pdf
Railroad	
- For Publication_CSXPublicProjectManual_Julay2017_7.31	.pdf
Ramp Safety Projects	
- 119734-00-ROW	.pdf, .zip
- 119735-00-ROW	.pdf, .zip
Traffic Count Data (New 2-25-18)	
- I-65S.B.@ArmoryDrExitRamp2021 DHV	.pdf
- I-65S.B.@ArmoryDrExitRamp2041 DHV	.pdf
- I-65S.B.@WedgewoodRamps2021 DHV	.pdf
- I-65S.B.@WedgewoodRamps2041 DHV	.pdf
- I-440 2021DHV	.pdf
- I-440 2041 DHV	.pdf
Traffic Impact Assessment (New 5-25-18)	
- <u>2018 FDOT Generalized Service Volume Tables</u>	<u>.pdf</u>
- <u>Closure Exhibit 1</u>	<u>.pdf</u>
- <u>I-440 Volume Diagrams</u>	<u>.pdf</u>
- <u>Metro Traffic Data</u>	<u>.zip</u>
- <u>Summarized Origin-Destination Data for I-440</u>	<u>.pdf</u>
- <u>Traffic Analysis Segments List</u>	<u>.pdf</u>