

CALL 002
AMENDMENT NUMBER 11
STATE PROJECT NUMBER; U352-2-11.66 00
FEDERAL PROJECT NUMBER; NFA-2317(003)
WV 2 PROCTOR - KENT
WETZEL COUNTY
REQUEST FOR PROPOSALS (RFP)

I hereby acknowledge the receipt of this amendment by checking the appropriate space in Section J of the Notice OR by attaching this Instruction for Revision(s) to the Contractor's Proposal. By signing this Proposal, I certify that I have made the necessary revision(s) to this Proposal, Plans, and/or Specifications or other applicable documents and have CONSIDERED the amendment(s) in the calculation of my bid. I further acknowledge that failure to confirm receipt of the amendment(s) will cause my bid to be rejected.

This amendment is necessary to revise the West Virginia Division of Highways Request for Proposals (RFP); Contractor's Bidding Proposal and Exhibits.

Amendment(s):

All Amendment(s) posted on bidx; www.bidx.com are to be referenced for this project; the letting date and call number have been revised; 12/8/2020, Call 002.

Proposal:

The Request for Proposals has been revised and is attached to this amendment.

The following Special Provision(s) are being revised and/or added per this amendment and are attached.

Special Provision for Bidding Requirements and Conditions, Section 102 dated May 1, 2013.

Special Provision for Control of Work, Section 105 dated January 1, 2020.

Special Provision for Piling, Section 616 dated April 11, 2018.

Special Provision for Rock Anchors, Section 628 dated October 2, 2019.

Exhibit(s):

The following Exhibit(s) have been revised and placed on the ftp site.

Exhibit A – Agreement

Exhibit A2 – Project Criteria

PLEASE PRINT OUT THE ATTACHED AMENDMENT REVISIONS AND INSERT
THEM INTO YOUR PRINTED COPY.

NOTICE TO CONTRACTORS

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WV 2 PROCTOR - KENT

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PROPOSAL AND EXHIBITS

The Proposal is uploaded to the Bid Express Internet Bidding Service website; <https://www.bidx.com/> and the Exhibits are uploaded to the West Virginia Division of Highways ftp site;

<ftp://dotftp.wv.gov/ContractAdmin/WV2ProctorKent/>

The Proposal is uploaded for the December 8, 2020 letting. Bids must be received by the West Virginia Division of Highways; December 8, 2020 by 10:00 a.m.

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LIST OF EXHIBITS

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Exhibit A1 Scope of Work

Exhibit A2 Project Criteria

Exhibit A3A Escrow Release

Exhibit A3B Escrow Agreement

Exhibit A4 Warranty Bond

Exhibit B Right of Way Plans

Exhibit C Right of Way Certificate and Utility Status

Exhibit D Environmental Documentation

Exhibit E Permit Information

Exhibit F Geotechnical Information

Exhibit G Microstation Files

Exhibit H Hydraulic Information

Exhibit I Project Special Details and Notes

Exhibit J Design Report

Exhibit K WVDOH ATC Policy and Procedure

Exhibit L Conflict of Interest Policy

Exhibit M Railroad Information

Exhibit N Existing Plans

I. PURPOSE OF REQUEST FOR PROPOSALS

The West Virginia Department of Transportation, Division of Highways (DOH) seeks to perform the design and construction to upgrade West Virginia Route (WV) 2 from Proctor to Kent to a four-lane highway on a new alignment, from 0.13 of a mile north of the County Route (CR) 89 in Wetzel County to 0.19 of a mile north of CR 78 in Marshall County (Project) using the Design-Build procurement method. The purpose of this Request for Proposals (RFP) is to select a Proposer to perform the Project services described in this RFP. The DOH desires that this Project be constructed in a very efficient and timely manner. This work will include all services necessary to design and construct the Project. ‘Proposer,’ as used here, includes a firm or firms, consortia, partnerships, joint ventures, and other legal entity, which has been requested by the DOH to submit a Proposal in response to this RFP.

It is not the intention of the DOH to receive complete detailed project analysis and design prior to the selection of a Proposal and the later execution of an agreement. Rather, the response to this RFP shall provide sufficient information to be evaluated to determine if the Proposal is in accordance with the specified process and criteria. The Proposal shall be specific enough on assumptions used in its preparation to provide the basis for determining a final agreement.

The information obtained under this RFP will become the property of DOH without restriction or limitation on its use. DOH shall have unrestricted authority to publish, disclose, distribute, or otherwise use in whole or in part any reports, data, or other materials prepared under this RFP. DOH shall retain ownership of all plans, specifications, and related documents. Anything considered proprietary should be plainly identified in the Proposal.

II. OVERVIEW

A. Project Description

The Project consists of the design and construction to upgrade WV 2 from Proctor to Kent to a four-lane highway on a new alignment, from 0.13 of a mile north of CR 89 in Wetzel County to 0.19 of a mile north of CR 78 in Marshall County. The work shall include the following:

- An upgraded four-lane highway. This includes, but not limited to, grade, drain, paving, signing, and pavement markings. This project follows Alternate 1A in the WV 2 Proctor to Kent Design Report and shall tie into the new Proctor Bridge and the WV 2 Kent to Franklin project (See Exhibit N for both sets of plans).
- Construction of six access roads.

- A vehicular underpass to allow CR 2/2 access to existing WV 2.
- Pavement reconstruction as necessary to tie into existing WV 2.
- Road maintenance within the limits of the project during the duration of the project- **starting at the time of construction. Road maintenance would include any repairs to the existing roadway caused by construction activities.**
- DOH intends to enter into a contract, which shall include but is not limited to:
- Right of Way Acquisition – All necessary right of way to construct the Project.
- Project Services – preparation of construction plans as detailed in the Project Scope and shall include but are not limited to Design and Project Management.
- Geotechnical Services.
- Environmental work as necessary. Permitting work as required.
- Utility Coordination and Utility Relocation Services.
- Railroad Coordination
- Construction Services - necessary to build and ensure high quality workmanship of the designed facilities.

The selected Proposer shall be responsible for any additional survey needed, engineering, design, and plan preparation services including but not limited to utility coordination and relocation services, railroad coordination, right of way plan preparation, construction and testing services, project layout, and any and all other services that may be necessary for completion of the Project.

The Proposer shall be responsible for meeting all project requirements, specifications, and other applicable criteria.

B. Project Information Package

The Project Information Package includes information describing the work which has been performed, or will be performed, by DOH prior to entering into the contract for the Project. This information is included in the various Exhibits to this RFP and can be accessed on Bid Express at the following link: <https://www.bidx.com/index.html>.

C. Environmental Documentation

DOH has prepared the necessary environmental documents consistent with the NEPA process, including any necessary studies. The environmental documentation is included in Exhibit D. Currently the Project has been advanced through the environmental phase with the approval of an Environmental Assessment (EA) – Finding of No Significant Impact (FONSI).

In preparing the environmental documentation, DOH has made certain assumptions regarding the project construction. If the Proposer elects to construct the Project in a manner that is not consistent with the assumptions in the DOH prepared environmental documents, the Proposer will be responsible for preparing any necessary environmental re-evaluation and providing any additional studies that may be required. The Proposer must utilize a consultant for this work that has a minimum of 3 years' experience doing NEPA work for the DOH on highway projects and is on the DOH Statewide Cultural Resource Services list. The list may be found here:

<https://transportation.wv.gov/highways/Pages/UpcomingContracts.aspx#Prequalification%20Categories>

No additional compensation for this work shall be made or additional time granted. All necessary re-evaluations will require DOH approval prior to any construction activity. It is the Proposer's responsibility to comply with all commitments listed in the commitment section of the document.

The FONSI provided is valid for 3 years after the date of approval. Should the FONSI expire before the Proposer begins construction, it shall be the Proposer's responsibility to reevaluate the EA prior to commencement of construction activities.

D. Right of Way

The right of way information is included in Exhibit B. The current Right of Way Certificate is attached as Exhibit C. Adequate access shall be maintained to all occupied properties within the project limits to ensure ingress and egress. **No construction activities can begin before the WVDOH provides a clear right of way certificate.**

~~Any Right of Way necessary for the Project shall be acquired by the Proposer. This includes title searches, acquisition activities, payment of just compensation (upon DOH approval), all attorney's fees and costs, real estate closings, recommending condemnation and relocation activities, if necessary. Proposer shall prepare a set of right of way plans according the DOH~~

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~~Design Directive (DD-301) suitable for acquisition purposes upon the finalization of their design, which plans shall be approved by DOH prior to commencement of acquisition activities. All title searches shall be initiated as soon as alignment is finalized. Proposer shall provide RW-4's to the DOH after the project is complete.~~

~~The Proposer shall, as a part of its team, contract with a Right of Way Consultant who is familiar with the requirements of the Uniform Act, 23 and 49 CFR, and the DOH Right of Way Manual. Such Right of Way Consultant must have, at a minimum, significant experience in the acquisition of real property under the Uniform Act, and have significant experience in acquisition of projects under a design build contract. Such Consultant will also have significant experience in relocation services. WVDOH shall approve the use of any right of way consultant.~~

~~Acquisition of any additional area desired by Proposer for, but not limited to, construction staging, demolition activities, waste or borrow pits shall be the responsibility of Proposer. Proposer shall provide DOH the location and documentation for these additional areas. Proposer shall furnish DOH a copy of any agreements for the use of additional properties in conjunction with the construction of the Project. Proposer shall abide by the provisions of all applicable environmental permits, any conditions of individual ROW agreements, and all environmental commitments. Absent a showing of substantial need, no construction staging, demolition activities, waste or borrow pits shall be allowed in DOH Right of Way.~~

~~The DOH shall provide a ROW project manager who will serve as a point of contact for all ROW issues.~~

~~If the Proposer proposes changes that require a revised NEPA document, prior to the approval of the new NEPA document no right of way activities may commence.~~

~~No additional Right of Way/Easements will be acquired by the DOH. No additional compensation to the Contractor will be considered unless the following conditions are met: a) 30 days beyond the availability dates stated in the Right of Way Status Report and b) receipt of documentation showing an adverse effect upon the "critical path" of the project by any delay in availability.~~

~~No allowances for Right of Way and Utilities will be utilized for this project.~~

~~All right of way activities on this project will be the responsibility of the proposer. This responsibility will include, but not be limited to; all necessary title work (typically a sixty year surface examination, or, when necessary, a mineral title examination meeting industry standards), appraisals and review appraisals, and waiver valuations, acquisition activities,~~

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relocation activities, real estate closing costs and any other activity necessary for the completion of this project.

The proposer shall, as part of its team, contract with a right of way consulting firm who will perform their duties in accordance with all Federal and State laws, rules and regulations, including but not limited to the requirements of the Uniform Relocation and Real Property Acquisition Act of 1970, as amended (Uniform Act), 23 CFR and 49 CFR, the Code of West Virginia of 1931, as amended and the Division of Highways (DOH) Right of Way Manual, as revised October 2018. Such consultant shall have significant experience in the acquisition of projects under a design and build contract. The WV DOH Right of Way Division shall approve the use of any right of way consultant.

The proposer shall prepare a set of right-of-way plans in accordance with the DOH Design Directive (DD-301) suitable for acquisition purposes. These plans must be approved by the DOH prior to the commencement of acquisition activities.

Acquisition of any additional area desired by the proposer for construction, construction staging, demolition activities, waste or borrow pits or any other legitimate reason shall be the responsibility of the proposer. The proposer shall provide the DOH with the location and documentation necessary for the inclusion of these additional areas. The Proposer will not be entitled to any additional cost or time for the acquisition of these additional areas. The Proposer shall abide by the provisions of all environmental commitments, applicable environmental permits and any conditions of individual right of way agreements.

In accordance with all rules and regulations concerning the acquisition of right of way for public road purposes, all values related to payments to property owners and relocatees must be approved by the DOH prior to making the payment. This shall include just compensation for the acquisition of real estate, and relocation benefits for property owners and tenants. All documentation necessary for the establishment and substantiation of these values must accompany the request.

If the proposer cannot achieve a real estate acquisition from a property owner, the parcel will be returned to the DOH requesting the initiation and the prosecution of the process of condemnation through eminent domain. All files and documentation concerning this parcel will be returned to the DOH along with this request. The proposer will be responsible for delivering a check to the DOH for the Just Compensation (Fair Market Value) amount to be deposited with the Circuit Clerk of Marshall or Wetzel County.

The proposer is responsible for all expenses and costs in providing the acquisition and relocation services involved in this project. The DOH will be responsible for the mineral rights, private utility relocations that are deemed parcels, wells, acquisition and relocation costs that

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will be paid to or on behalf of the property owners or tenants within the ~~construction~~ proposed right of way limits shown on the plans provided for preferred alternative and drainage easements required for the independent drainage system for the proposed WV 2. Any additional area required by the proposers shall be the responsibility of the proposer. Only those properties purchased as right-of-way, permanent easements, temporary easements and uneconomic remnants will be eligible for reimbursements to the proposer. Also, all relocation benefits paid to or on behalf of the property owners and/or tenants shall be the responsibility of the DOH. When condemnation is requested and instituted on a parcel, the DOH will be responsible for all costs, including the reimbursement of the Fair Market Value deposit to the Circuit Clerk. The proposer shall be responsible for a \$1000 DOH administration fee upon the filing of a condemnation action.

Adequate access shall be maintained to all occupied properties within the project limits to ensure ingress and egress. No construction activities may commence on any parcel until a Right of Way certificate is issued by the DOH, indicating that such parcel is acquired or within the jurisdiction of the DOH. No right of way certificate will be issued until the project acquisition and or relocation files have been turned in and accepted by the DOH.

It will be the responsibility of the proposer’s right-of-way consulting firm to adequately inform the DOH of all activities and progress on this project and all digital and hard copy documents and records created and maintained by a right of way consulting firm shall be the property of the DOH.

The DOH will provide a Right of Way project manager who will serve as a point of contact for all right of way issues. The DOH right-of-way project manager shall make the final determination with regard compliance with the requirements set forth in this document. The right-of-way project manager will be the District 6 Right of Way Manager, or designee, whose address is 1 DOT Drive, Moundsville, West Virginia, 26041. whose phone number is 304-843-4046.

Coal shall follow the following guidelines:

	Min. Thickness	Approx. Recovery	Max Minable Overburden	Vert. Extent Minable To
Construction Coal	12"	90%		
Surface Minable	20"	90%	100'	
Auger Minable	24"	30%		300'
Deep Minable	30"	80%		

No mining shall be allowed within 100’ vertically below the top of the pavement, bottom of fill, bridge foundation or low point of present ground surface, whichever is lowest at the location of the coal; or within 100’ horizontally outside of the right of way boundary at the location of the coal. Mineral owner shall be compensated for 90% of coal based on royalty rate.

Seams between 100’ and 400’ may be mined to 50% or less (a 30% incremental loss).

Seams over 400’ may be mined using standard room and pillar methods to 60% or less without second minding, up to 80% extraction.

Longwall mining at any depth beneath the highway is prohibited.

Coals shall be further classified as right of way coal, 100’ buffer coal or isolated coal reserves.

Mineable coal is also classified as “taken” or sterilized”. Taken coal is considered coal which is within the right of way of the proposed road. Sterilized is considered coal which is outside of the right of way or the proposed road but shall be permitted to be mined due to various reasons.

E. Permits

Proposer shall be responsible for preparing the application and obtaining a National Pollutant Discharge Elimination System (NPDES) General Permit as granted by the West Virginia Division of Environmental Protection (DEP) for the project. Additional information may be found in Exhibit A2 and E.

The DOH is in the process of obtaining an Individual 401 and 404 Permit from the US Army Corps of Engineers (USACE) based on Alternate 1A in the design study. Additional information may be found in Exhibit A2 and E.

F. Utilities and Railroads

~~Work performed by the Proposer relative to relocating utilities will be in accordance with the DOH manual titled *Accommodation of Utilities on Highway Right of Way and Adjustment and Relocation of Utility Facilities on Highway Projects* (latest edition) and *Guidance on Coordinating Utilities and Railroads on Design-Build Projects* (latest edition). Anywhere in the referenced manual that states “Division of Highways”, “DOH”, “Department” or any other form implying such shall read “Contractor” for this project. However, if any utility relocation is reimbursable, the agreement will be between the Proposer and the utility company and will be in compliance with the current DOH reimbursement policy. The amount reimbursable to~~

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~~the utility company will be borne by the Proposer. A Utility Status Report, along with a Utility Contact List, is attached as Exhibit C. If the utility companies relocate according to the requests of the Proposer and are then asked to perform a second relocation, the cost of the second relocation will be borne by the Proposer. No additional compensation will be made by DOH due to Proposer's lack of coordination with affected utilities.~~

All utility verifications and relocation coordination will be the responsibility of the Proposer. Utility verifications received for known utilities in the project limits are included in Exhibit C. Additional utility verifications and coordination will be the responsibility of the Proposer. All costs associated with verification and coordination of utility relocations shall be included in the proposer's bid. Work performed by the Proposer relative to relocating utilities will be in accordance with the DOH manual titled *Accommodation of Utilities on Highway Right of Way and Adjustment and Relocation of Utility Facilities on Highway Projects* (latest edition). Anywhere in the referenced manual that states "Division of Highways", "DOH", "Department" or any other form implying such shall read "Contractor" for this project.

Reimbursable relocations that are required according to the preferred alternative in the plans provided will be handled via a reimbursement agreement between the DOH and the utility company and will not be the borne by the Proposer. Relocations that are not required by the preferred alternative in the plans provided will be done at the proposer's expense, will be in compliance with the current DOH reimbursement policy, and will be handled by an agreement between the Proposer and the utility company.

A Utility Status Report is attached as Exhibit C. If the utility companies relocate according to the requests of the Proposer and are then asked to perform a second relocation, the cost of the second relocation will be borne by the Proposer also. No additional compensation will be made by DOH due to Proposer's lack of coordination with affected utilities.

In accordance with recently passed legislation, utility relocations for Roads to Prosperity projects (between January 1, 2018 and July 1, 2021) will be funded on an 85%/15% split. Utilities will receive reimbursement for 15% of their relocation costs when their utility falls within the existing R/W. If the existing utility falls outside of the existing R/W (within an easement) then the utility will be reimbursed at 100%, as long as the utility company has prior rights.

Access to all utility facilities must be maintained during and after construction. This includes but is not limited to access roads, paths or any other means of access that companies use to reach their facilities.

This project has overlapping right of way with that owned by CSX Transportation, Inc. (CSXT). The Proposer will be responsible for submitting plans to the DOH's Railroads and

Utilities Engineer, for circulation to CSXT and CSXT’s General Engineering Consultant (GEC). The DOH will enter into a Preliminary Engineering Agreement with CSXT for reviews, conducting meetings and coordination on behalf of the CONTRACTOR for this project. After the reviews are complete, the DOH will enter into a Construction Agreement with CSXT to cover the work performed by the CONTRACTOR. Costs associated with review, coordination, inspection and flagging will be the responsibility of the DOH.

G. RFP Submittal

The submittal of a Proposal in response to this RFP shall constitute the Proposer's intent to enter into a contract with the DOH for the completion of the Project under the terms set forth in the Agreement attached hereto as Exhibit A. Proposer is to submit a Proposal Guaranty in accordance with Section 102.8 of the DOH Standard Specifications for Roads and Bridges, adopted 2017, as amended by the 2020 Supplemental Specifications with his proposal. The amount of the guaranty will be 5% of the proposed cost of the Project. Failure to submit this guaranty with the Proposal will result in the Proposer being declared non-responsive.

III. GENERAL INSTRUCTIONS

A. Questions

Proposers may ask questions or request clarifications relating to the RFP. These inquiries must be made via the Bid Express Website at <https://www.bidx.com/wv/main> in accordance with the Milestone Schedule. The Question and Answer feature link is displayed on the “Also Available” section of the proposal page.

Questions shall be answered via the website in accordance with the Milestone Schedule. Proposers may not rely on any responses about the RFP except responses posted via the Bid Express Website to questions submitted in accordance with the RFP.

Proposer’s team may not contact DOH employees directly to ask questions concerning the project. Failure to comply shall result in the Proposer being disqualified to move forward.

B. Proposal Submittal

Proposals must be received by the time and date given in the Milestone Schedule. The date as in the Milestone Schedule is our best estimate at this time.

Deliver in a sealed box or envelope:

1. One (1) electronic copy of the Technical Proposal on a thumb drive
2. One (1) electronic copy of the Technical Proposal with the Confidential Appendix redacted on a thumb drive to:

Melanie Neal
Alternative Project Delivery
WVDOH – Engineering Division
1334 Smith Street
Charleston, West Virginia 25301
Phone: (304) 414-6469

Both electronic copies be on the same thumb drive, if clearly labeled.

IV. PROJECT SCOPE

The scope of work for this Project will include design, construction, construction engineering and management of the Project. The design work will include but is not limited to additional surveys, geotechnical analysis, hydraulic analysis, scour analysis, roadway, temporary and permanent traffic control design, lighting design and structural design. The designs shall meet all appropriate DOH design guidelines as set forth in the DOH Design Directives (Latest Edition) (DD), DOH Traffic Engineering Directives (TED), DOH Bridge Design Manual (BDM), DOH Bridge Load Rating Manual, DOH Drainage Manual, (Latest Edition and amendments at time of advertisement), DOH Erosion and Sediment Control Manual, DOH Temporary Traffic Control Manual, DOH Standard Detail Book(s) Vol. 1-3 (revised standard details may be found at: <https://transportation.wv.gov/highways/engineering/Pages/Revised-Standard-Details-Volume-1.aspx>, and supplemented with appropriate AASHTO guidelines and policies including but not limited to AASHTO Policy on Design Standards Interstate System (Latest Edition), AASHTO Policy on Geometric Design of Highways and Streets (Latest Edition), AASHTO Roadside Design Guide (Latest Edition), AASHTO Guidelines for Geometric Design of Low-Volume Local Roads (Latest Edition), AASHTO Load Resistant Factor Design Specifications (LRFD) (current edition with current interim specifications), FHWA Manual of Uniform Traffic Control Devices (MUTCD) (Latest Edition), AASHTO Standard Specifications for Structure Supports for Highways Signs, Luminaires, and Traffic Signals (Latest Edition), DOH Design Guide for Signing manual and DOH Project Criteria attached hereto as Exhibit A2.

Construction will include but is not limited to all necessary roadway and structure work, drainage, utility relocation coordination, erosion and sediment control work items, necessary foundation work, substructure work, superstructure work, and traffic control. Construction engineering and management, including material quality control, will be the responsibility of the Proposer. Proposer shall fully cooperate with, and provide a QC database to the DOH. This database must provide a complete documentation of sampling, tracking, and test results for all materials

incorporated into the project. It will be utilized by the DOH in the performance of their quality assurance duties. Construction will comply with DOH Standard Specifications for Roads and Bridges, adopted 2017, as amended by the 2020 Supplemental Specifications, DOH Construction Manual (October 2002*), and any special provisions.

Areas of work required for this Project will include, but are not limited to, the following items:

1. Survey Services
2. Right of Way Acquisition
3. Roadway and Bridge Plan Preparation
4. Environmental, if necessary
5. Permit Preparation
6. Preliminary and Final Bridge Design
7. Drainage Design including Sediment and Erosion Control
8. Geotechnical Investigation and Design
9. Construction
10. Project Management
11. Construction Management
12. Quality Control (QC) Testing
13. Temporary and Final Traffic Control
14. Traffic Management Plan Development
15. Utility Coordination and Relocation

QC of Construction Inspection will be the responsibility of the DOH or qualified personnel retained by the DOH.

**A hard copy is not available from DOH. This document is maintained at*
<https://transportation.wv.gov/highways/engineering/Pages/Manuals.aspx>

V. CONFLICT OF INTEREST

Proposers shall submit any necessary Conflict of Interest documentation electronically by the milestone date listed at the end of this document. Additional information about the Conflict of Interest policy and the necessary documentation may be found in Exhibit L.

Submissions shall be made to:

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Ms. Melanie Neal, P.E.
Alternative Project Delivery ~~Section Head~~
West Virginia Division of Highways
1334 Smith Street
Charleston, West Virginia 25301
Phone: (304) 414 – 6469
melanie.a.neal@wv.gov

VI. MANDATORY UTILITY AND ONE-ON-ONE MEETINGS

~~The WV 2 Proctor – Kent Design Build project shall require a mandatory Utility Information Meeting in which the Proposers shall have the opportunity to exchange contact information with the impacted utility companies. If available, the utility companies shall provide the Proposers with information relating to the location (horizontal and vertical), size, material and design criteria of their respective utility. The Railroads and Utilities Unit of the Engineering Division shall be responsible for conducting the meeting. The mandatory Utility Information Meeting will be held in accordance with the Milestones Schedule.~~

The WV 2 Proctor - Kent Design Build project shall require a mandatory Utility Information Meeting in which the Proposers shall have the opportunity to exchange contact information with the impacted utility companies. This meeting shall be conducted remotely via a program such as Skype. The WVDOH shall set up the remote meeting. If available, the utility companies shall provide the Proposers with information relating to the location (horizontal and vertical), size, material and design criteria of their respective utility. The Railroads and Utilities Section of the Right of Way Division shall be responsible for conducting the meeting. The mandatory Utility Information Meeting will be held in accordance with the Milestones Schedule.

The WV Proctor - Kent Design Build project shall also require a series of mandatory **and an optional** One-on-One Meetings with the Proposers. Proposers are required to schedule a One-on-One Meeting with the Alternative Project Delivery Section by the date listed in the Milestones Schedule. Failure to schedule a meeting within the required timeframe shall cause the Proposer to be deemed ineligible to bid. Contact information is:

Melanie Neal
Alternate Project Delivery
Project Manager
Engineering Division
(304) 414-6469
melanie.a.neal@wv.gov

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The purpose of the One-on-One meetings is to give each Proposer, in a confidential setting, an opportunity to ask questions and discuss concerns related to the Project, details of the Project scope, and administrative procedures. The meetings are also intended to enable DOH to express, among other things, whether the Proposer is pursuing an approach that will not meet the requirements of the RFP Documents or is otherwise unacceptable to DOH.

This meeting shall be conducted remotely via a program such as Skype. Once the meeting date and time has been scheduled with the DOH Project Manager, the Proposer shall set up the remote meeting. This will enable the Proposer to be in control of the presentation during the meeting. Considering this new procedure, all DOH and support staff in attendance shall sign a Confidentiality Statement to ensure the integrity of the process.

At least five (5) working days before the first one-on-one meeting the Proposer shall submit to DOH in writing the following information that shall be presented at the first meeting. Failure to provide any of the required information five (5) working days prior to the scheduled meeting shall cause the meeting to be cancelled and the Proposer to be ineligible to bid:

- A list of personnel that will be attending the one-on-one meeting and their function on the Design-Build Team (No more than 10 members may attend such meetings).
- A specific meeting agenda presented in outline format. The meeting agenda must be specific in identifying all topics of the meeting which are intended to be presented and/or discussed.
- A list of specific questions. Proposers must submit a list of specific questions which will be discussed at the one-on-one meeting. Questions about RFP exceptions that are presented without enough detail to thoroughly consider shall not be considered and shall not be considered a proprietary idea.
- Any proposed deviations from the anticipated scope of work that are depicted in exhibits or as information presented by the DOH shall be submitted at the one-on-one meeting for vetting purposes.
- Any bridge structure, greater than 20' long, MSE wall, reinforced soil slope (RSS), retaining wall or vehicular culvert, shall be presented for informational purposes at the one-on-one meeting. The structures shall be presented at the Span Arrangement Submission Certification, (See DD-202), level of information minus any hydraulic study information.
- Potential Alternative Technical Concepts (ATC's). Note that formal ATC's shall be submitted in accordance with Exhibit K.
- Preliminary and general project schedule with major tasks shown
- Temporary traffic control schemes for various phases of work consistent with preliminary schedule
- Proposed vehicular underpass layouts being considered

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- Roadway layout and details including proposed cut and embankment fill slope designs, retaining walls and drainage.
- Anticipated lighting layout, if any
- Anticipated Right of Way needs/issues, if any
- Anticipated utility conflicts and proposed utility relocations, if any
- Any anticipated permitting changes including, but not limited to 401/404, NPDES, if any.
- Any other topics presented as outlined above.

At least five (5) working days before the second one-on-one meeting the Proposer shall submit to DOH in writing the following information that shall be presented at the second meeting. Failure to provide any of the required information five (5) working days prior to the scheduled meeting shall cause the meeting to be cancelled and the Proposer to be ineligible to bid:

- A list of personnel that will be attending the one-on-one meeting and their function on the Design-Build Team (No more than 10 members may attend such meetings).
- A specific meeting agenda presented in outline format. The meeting agenda must be specific in identifying all topics of the meeting which are intended to be presented and/or discussed.
- A list of specific questions. Proposers must submit a list of specific questions which will be discussed at the one-on-one meeting. Questions about RFP exceptions that are presented without enough detail to thoroughly consider shall not be considered and shall not be considered a proprietary idea.
- Any proposed deviations from the anticipated scope of work that are depicted in exhibits or as information presented by the DOH shall be submitted at the one-on-one meeting for vetting purposes.
- Potential Alternative Technical Concepts (ATC's). Note that formal ATC's shall be submitted in accordance with Exhibit K.
- Any significant changes/updates for the project schedule previously provided.
- Any changes/updates to the proposed temporary traffic control schemes for various phases of work.
- Final underpass structure type chosen with site plan and typical section.
- Any significant changes/updates to roadway layouts and details presented at previous one-on-one meeting.
- Any other topics presented as outlined above.

At least five (5) working days before the optional one-on-one meeting the Proposer shall submit to DOH in writing the information and questions that shall be presented at the meeting. Failure to provide any of the required information five (5) working days prior to the scheduled meeting shall

cause the meeting to be cancelled. Information presented at the meeting is at the Proposers discretion.

The Proposer's team shall meet with a minimum of the Director of Engineering Division or their designee, the Director of Contractor Administration or their designee, the Section Head of the Alternate Project Delivery Section, and the APD Project Manager. Additional personnel may be asked to attend based on the agenda presented as outlined above.

General rules of the One-on-One Meetings are as follows:

- No electronic recording of any kind will be allowed during the One-on-One Meetings and no transcripts will be maintained. Either party may take notes during the meetings, but no notes shall be used in the evaluation of the Technical Proposal. In addition, no development, submission or publishing of meeting minutes will occur.
- Any statement made at a One-on-One Meeting by the DOH, or its representatives or advisors, may not and shall not be deemed or considered to be a binding indication of a preference about or acceptance or a rejection by the DOH of anything said or done, or any information presented, by a Proposer. No part of the evaluation of Technical Proposals will be based on the discussions that occur during a One-on-One Meeting.
- No statement by the DOH at any One-on-One Meeting or included in a written record or summary of any such meeting will provide, or may be construed as, a waiver or modification of the RFP and any other document and may not be relied on by any Proposer unless the statement is incorporated in an Amendment or approved by an ATC.
- No decisions centering on RFP Document clarifications will be made by the DOH in a One-on-One Meeting.
- The DOH will use reasonable efforts to treat information presented by a Proposer during a One-on-One Meeting as confidential. The DOH will not discuss with any Proposer any questions, requests for clarification or comments on the Bid Documents, any Proposer Technical Proposal, design concept or ATC other than the Proposer's own.
- While discussions in these One-on-One Meetings are intended to be confidential, nothing shall preclude DOH from exercising any rights that it may have under this RFP, including the right to issue a clarification or revision of the RFP, or an RFP Amendment, as a result of what is discussed in such meetings.
- Any issues of general applicability raised during any One-on-One Meeting may be incorporated by Amendment, except to the extent that the DOH determines, in its sole

discretion, that such disclosure would impair the confidentiality of an ATC or would reveal a Proposer’s confidential or proprietary information or project approach unless the DOH believes such disclosure is necessary in the interest of maintaining a fair process or complying with applicable law.

- Nothing herein shall be construed to preclude DOH from speaking with any Proposer at any time prior to the opening of the Price Proposals, and DOH expressly reserves all such rights to do so.
- Any questions or requests that cannot be answered during the course of the meeting shall be answered within three (3) working days.

The DOH may at any time following a One-on-One Meeting discussion, issue one or more requests for clarification to one or more Proposers seeking additional information or clarification from a Proposer. In addition, the DOH may request a Proposer to verify certain aspects of its documentation. Proposers shall respond to any such request by such time as is specified by the DOH in such request. The scope, length and topics to be addressed in any requests for clarification from the DOH shall be prescribed by, and subject to the discretion of the DOH.

The DOH may, at its discretion, issue an addendum to correct a deficiency if, during the ATC process or One-on-One discussions, the DOH becomes aware of a deficiency in the Bid Documents that would have an impact on the ability of the DOH to conduct a fair procurement and the Proposers to provide a responsive Technical Proposal and Price Proposal.

Other than as listed in the above paragraph, all conversations related ATC proposals between the DOH and Proposers will be kept confidential during the bidding process.

Once a project is awarded, ATC proposals may be made public.

VII. PROPRIETARY AND CONFIDENTIAL INFORMATION

All sensitive information of a confidential or proprietary nature shall be placed in an appendix to the Technical Proposal labeled “Confidential and Proprietary”. Confidential and proprietary information shall not be included in the text of the Technical Proposal, but may instead be referenced to the appendices as necessary. Information that may be added to this exhibit may include:

- Drawings showing an approved ATC, proprietary design or construction method.

Any information not included in the Confidential and Proprietary Appendix will be made available for public review. The DOH reserves the right to approve the contents of the Confidential and

Proprietary Appendix during the technical proposal review process. Prior to being deemed responsive, the Proposer may be required to remove or add items to this section in order to maintain the integrity of the document. The Proposer shall not label his entire Technical Proposal as “Confidential and Proprietary”. Doing so shall cause the Technical Proposal to be deemed non-responsive.

VIII. PROPOSAL DEVELOPMENT

Proposals must be submitted as indicated by the Milestone Dates, a Technical Proposal and a Cost Proposal. The Technical Proposal shall contain no more than twenty (20) pages, excluding any plans and appendices. The Technical Proposal shall be single sided, with no smaller than twelve-point font and double line spacing for text. The Cost Proposal shall be submitted via Bid Express (<https://www.bidx.com/index.html>) prior to the Milestone date.

A. Technical Proposal

In order that evaluation may be accomplished efficiently, the Technical Proposal shall be prepared in the following sequence:

- I. Executive Summary
- II. Project Delivery
- III. Project Approach
- IV. Innovation and Other Qualitative Considerations

II. Under **Project Delivery**, the Proposal at a minimum shall:

- A. Describe the Proposer’s Proposal in sufficient detail that DOH may determine its scope and intent.
- B. Provide sufficient detail (Exhibits as necessary) to evaluate the proposed design and construction features. These shall include but are not limited to plans, profiles, typical sections, site plans, and MOT schemes. Plan, profile and typical section for the proposed underpass shall be provided which lists the proposed area of the opening. For structures crossing water features, drawings shall also include proposed waterway openings and the governing flow elevations at a minimum. All supporting technical information provided shall be of a legible scale and size or the Technical Proposal will be deemed non-responsive.
- C. Describe the assumptions used in developing the Proposal.
- D. Identify the proposed schedule for implementing the Project. Include the sequence of construction of the Project to minimize disruption to the community, motoring public,

and the environment.

- E. Identify construction methods for the Project.
- F. Identify the proposed schedule for completing the Project. The Project shall be completed no later than December 26, 2025. Include the sequence of construction of the Project to minimize disruption to the community, motoring public, and the environment.
- G. Describe assurances and ability to complete the Project within the proposed time.
- H. Identify the anticipated schedule by which funds will be required.
- I. Describe the proposed plan for meeting the design standards.
- J. Describe the proposed plan for utility relocation coordination.

III. Under **Project Approach**, the Proposal at a minimum shall:

- A. Describe the management structure to assure success.
- B. Provide information for each individual sufficient to show the minimum qualifications below. Resumes provided in an appendix should be limited to one page per position/person.
 - The Lead Bridge Engineer shall have a minimum of five (5) years of experience and expertise in the design of similar types and sizes of structures proposed by the Proposer.
 - The Lead Roadway Engineer shall have a minimum of five (5) years of experience and expertise in the design of roads utilizing DOH design policies.
 - The Lead Traffic Engineer shall have a minimum of five (5) years of experience and expertise in the design of maintenance of traffic plans for high volume highways.
 - The Lead Geotechnical Engineer shall have a minimum of ten (10) years of experience on similar projects.
- C. Describe the Proposer's safety plan to be implemented during the construction phase.
- D. Describe the proposed quality control plan for the Project that ensures coordination with the DOH or its designee for inspection and materials testing. Also make sure the plan demonstrates a sufficient number of inspectors for quality control.

IV. Under **Innovative and Other Qualitative Considerations**, the Proposal at a minimum shall:

- A. Describe the plan to ensure all permit requirements will be met.
- B. Describe the plan to ensure all environmental commitments will be met.
- C. Clearly demonstrate how the long term geotechnical stability of any abutments, piers, approaches, cuts, fills, or walls shall be achieved.

D. Provide sufficient detail (Exhibits as necessary) to evaluate any proposed innovative design and construction features. These may include but are not limited to plans, profiles, materials, drainage, structures, cross sections, utility dispositions, description of work phasing and operations that may be considered innovative.

V. A signed statement shall be submitted with the Technical Proposal affirming that the Proposer and their Geotechnical Engineer have reviewed the Geotechnical Data Report and inspected the project site, and is furthermore aware that some areas of the project site are subject to high risk of landslides and rockfalls. In addition, the Proposer shall include their proposed methods for reducing the risk of landslides and rockfalls in their Technical Proposal.

Technical Proposals will be considered non-responsive and will be rejected if they do not properly acknowledge and address the geotechnical risks associated with the project.

B. Cost Proposal

The cost proposal must be submitted on-line via Bid Express (<https://www.bidx.com/index.html>) prior to the Milestone deadline.

C. Confidentiality of Proposals

Technical proposals and Exhibits shall become the property of the Division. Any information submitted with a Technical Proposal labeled “Confidential and Proprietary” will remain confidential.

IX. EVALUATION OF TECHNICAL PROPOSALS

A. Technical Proposal Review Committee

A Technical Proposal Review Committee (‘Committee’) will be appointed by DOH to review the Technical Proposals. Members of the Committee include the State Highway Engineer, Deputy State Highway Engineer for Development and Construction, Director of Contract Administration Division (or their designee), Director of Engineering Division (or their designee), Director of Traffic Engineering Division (or their designee) and Director of Materials Control Soils and Testing Division (or their designee). A non-scoring FHWA representative may also be present. In addition, DOH may assemble a group of resource members having expertise in the various disciplines required by the Project.

B. Technical Proposal Review

All Technical Proposals will be evaluated by the Committee for responsiveness to the RFP. Non-responsive Technical Proposals will be returned to the Proposer with a detailed explanation as to reasons for determining non-responsiveness. Reasons for determining a Technical Proposal to be non-responsive may result from, but is not limited to, failure to provide all information requested in the Technical Proposal.

The Technical Proposal and its associated exhibits are and shall be incorporated as Contract Documents. Change orders or differing site conditions claims shall not be considered if they are the result of deviations from the Technical Proposals. The failure of the DOH to identify or communicate any errors or omissions in the Technical Proposals during the review process of the proposal does not absolve the Proposer from fully adhering to the RFP documents, and Proposer may be required to remedy the same.

X. OPENING OF PROPOSALS / SELECTION OF CONTRACTOR

All Cost Proposals will be opened and read. Those from Proposers whose Technical Proposal was deemed non-responsive will be read and declared irregular. Cost Proposals can be considered irregular and rejected as per Section 102.7 of the DOH Specifications. Award and execution of the Contract will be in accordance with DOH Specifications.

Upon execution of the contract, Proposer will then become ‘Contractor.’

XI. GENERAL INFORMATION

DOH reserves the right to reject any and all proposals and/or to discontinue contract execution with any party at any time prior to final contract execution.

DOH may also issue addenda to the RFP, which will be posted to the Bid Express site.

DOH reserves the right to terminate one or more of the Proposals if it is determined to be in the best interest of the State to do so.

DOH reserves the right, at its sole discretion, to either proceed no further with the RFP process, or to re-advertise in another public solicitation.

DOH reserves the right to request or obtain additional information about any and all technical proposals.

XII. MILESTONES

Deadline to Submit Conflict of Interest Documentation	March 3, 2020
Mandatory Utility Meeting	March 19, 2020 at 1:30 pm at WV Northern Community College 141 Main Street New Martinsville, Room 212
Mandatory Utility Meeting	June 2, 2020 at 9:00 am
Deadline to Schedule First One-on-One Meeting.....	April 27 March 23 , 2020
First Mandatory One-on-One Meeting	May 5 – 6 March 31 April 1 , 2020
Deadline to Schedule Second One-on-One Meeting	June 5 April 27 , 2020
Second Mandatory One-on-One Meeting	June 16 – 17 10 11 May 5-6 , 2020
Deadline for Proposers to submit written questions Submit ATC	July 7 June 2 , 2020
Mandatory Pre-Bid	July 30, 2020 at 9:00 am
Deadline to Schedule for Optional One-on-One Meeting	Sept 17, 2020
Optional One-on-One Meeting	Sept 24, 2020
Deadline for Proposers to submit written questions Submit ATC	September 8 29 , 2020 October 6 20, 2020
Deadline for DOH to post responses to written questions... ..	Sept. 15 July 14 June 9 , 2020 October 6 13 27, 2020
Submittal of RFP Technical Proposals ..	Nov. 10 October 13 20, August 11 June 23 , 2020 at 4:00 p.m. EST
Submittal of RFP Cost Proposal	Dec. 8 November 17 , September 15 July 14 , 2020 prior to 10:00 a.m. EST

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Public Opening of Proposals..... Dec. 8 ~~November 17~~, ~~September 15~~ ~~July 14~~, 2020
at 10:00 a.m. in Building 5, Room 840

Project Completion Date..... December 26, 2025

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

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FEDERAL PROJECT NUMBER: _____

FOR

SECTION 102

BIDDING REQUIREMENTS AND CONDITIONS

102.16–PRE-CONSTRUCTION DATA:

ADD THE FOLLOWING SUBSECTION TO THE PROPOSAL:

102.16.1 – Questions Regarding Advertised Proposals: All projects advertised by the Division will require any questions to be asked using the Question and Answer feature of the electronic bidding service in accordance with any listed requirements. The various contact information required shall be filled out and completed with valid and applicable information which the Division may verify. If the contact information is unable to be verified then any questions associated with this information may not be answered.

Questions and Answers will become part of the Contract Documents once answered and officially released by the Division.

Potential Bidders may ask questions up until _____ to allow the Division time to sufficiently answer the question and modify the Contract, if necessary.

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**SECTION 105
CONTROL OF WORK**

ADD THE FOLLOWING SUBSECTION:

105.18-ALTERNATIVE PROJECT DELIVERY CONTRACTS:

The Contractor is advised that this Contract will be administered as an Alternative Project Delivery Contract. Thus due to the unique and sometimes complicated nature of such projects the Division will elect to administer such contracts in a manner that often falls outside our normal procedures and practices.

105.18.1-Basis of Payment: The Contractor is advised that this Contract will use Item Number “Alternative Project Delivery Contract - \$/UN” for payment of all work performed. The unit value for Alternative Project Delivery Contract will be established by the Division of \$1.00 dollar(s) per unit (\$1/UN). This will be reflected in the Proposal’s Schedule of Items for Item 105003-010.

This number is intended to establish a unit value to each dollar bid to simplify payment procedures within the Division’s project records system and ensure consistent and accurate payments throughout the life of the Contract.

The Alternative Project Delivery Contract value entered by the Contractor in the Proposal for Item 105003-010 will be the total dollar amount anticipated for the Construction of the Project for work reflected in units.

105.18.2-Pay Items:

ITEM	DESCRIPTION	UNIT
105003-010	Alternative Project Delivery Contract - \$/UN ^{Note-1}	Dollars / Unit (\$/UN)

Note 1 – Due to the limitations of the Division’s Electronic Bidding Service, the Contractor shall distribute his/her total bid amount, as equally as possible, among all 105003-010 items contained within proposal. Failure to do so may cause bid to be deemed irregular.

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SECTION 616

PILING

616.8-DETERMINATION OF BEARING VALUES:

616.8.1-Loading Test:

DELETE SUBSECTION 616.8.1 AND REPLACE WITH THE FOLLOWING:

616.8.1-Dynamic Load Tests: This item of work shall consist of applying a dynamic load by a pile hammer to a production pile being driven by the Contractor, while transducers obtain measurements for predicting the static capacity of the pile and evaluate the performance of the pile driving system. Selection of the Dynamic Testing Consultant shall be the responsibility of the Contractor. The Dynamic Testing Consultant shall install the transducers and provide all testing equipment. The dynamic load shall be applied to the pile by a pile hammer which is operating at its normal operating level. The testing work shall be conducted by the Dynamic Testing Consultant with the required assistance from the Contractor driving the pile.

This work item is required to establish/adjust driving criteria necessary to achieve the target test capacity shown on the plans without damaging the piles. The driving criteria shall include the blow count, range of stroke length and fuel setting needed for each driving condition encountered at the site.

All equipment necessary for the dynamic monitoring such as PDA, gages, cables, etc., shall be furnished by the Dynamic Testing Consultant. The equipment shall conform to the requirements of ASTM D-4945, Standard Test Method for High-Strain Dynamic Testing of Piles.

An experienced technician shall operate the Pile Driving Analyzer in the field. The technician operating the equipment shall meet one of the following requirements:

1. Documented experience in personally conducting dynamic load tests on at least 25 projects..
2. A Certificate of Proficiency with a rank of at least Intermediate in the PDCA/PDI Dynamic Measurement and Analysis Proficiency Test.

This written documentation shall be furnished to the Engineer for approval.

616.8.1.1-General: The Contractor shall conduct dynamic tests for the production piles as shown on the plans. If restrike is required, the Contractor shall conduct the dynamic tests as noted on the plans. The Contractor shall notify the Engineer of his intent to drive piling at least fourteen (14) days prior to the installation of the first pile at each foundation.

The hammer selected for driving the piles shall be used for driving all piles represented by the same site conditions. If the Contractor subsequently finds it necessary to use a different hammer, the Department will require additional dynamic load testing. Any such additional testing, delays, and mobilization costs shall be at no additional cost to the Department.

616.8.1.2-Equipment: The Contractor shall supply all personnel and equipment needed to strike the pile(s) to be tested with the pile hammer. The Contractor shall also supply a source of 115 V, 1500 VA, 60 Hz electrical power with extension power cords.

All equipment necessary for the dynamic monitoring such as sensors, cables or wireless transmitters, etc., shall be furnished by the Dynamic Testing Consultant. The equipment shall conform to the requirements of ASTM D-4945.

616.8.1.3-Test Procedures: The Dynamic Testing Consultant shall be available on the construction site for a typical eight-hour work day. While on the site, as many dynamic load tests as is practicable shall be conducted by the Dynamic Testing Consultant during the eight-hour work day.

The Dynamic Testing Consultant personnel will drill holes into the piles to be tested so that electronic transducers (at least 2 accelerometers and 2 strain gages) can be attached. When the transducers have been placed in position and the Pile Driving Analyzer has been made ready to receive the acceleration and strain measurements, the Contractor shall strike the pile with the pile hammer as many times as is required to obtain adequate measurements as determined by the Dynamic Testing Consultant personnel.

Immediately after the dynamic testing measurements have been obtained and analyzed in the field, the Dynamic Testing Consultant will provide the Engineer and the Contractor with handwritten criteria for driving the piles for the conditions anticipated. The Dynamic Consultant may need to later adjust the driving criteria based on further analysis of the data using CAPWAP or other signal matching software. Should the results indicate that a weld has broken, or that any below grade pile damage has occurred, the Contractor shall stop driving and pull that pile for examination, repair, or replacement as needed.

616.8.1.4-Dynamic Load Testing Report: Within one week after the dynamic testing, three (3) copies of a thorough type written report shall be delivered to the Engineer. One report per bridge is typical, but additional testing reports may be required per the plans or as requested by either the Contractor or the Engineer. The report shall be in accordance with ASTM D-4945. This report shall include a refined wave equation analysis and a CAPWAP analysis (or equal) for each pile tested. The report shall state whether the required capacity (target capacity) was achieved for each pile tested and provide the recommended driving criteria to achieve the target capacity for the hammer used. The Engineer will provide the Contractor and Geotechnical Group with a copy of the report.

616.14-METHOD OF MEASUREMENT:

ADD THE FOLLOWING TO THE SUBSECTION:

Measurement shall be based on each field test performed. If restrike is required, it shall be measured based on each field test.

616.15-BASIS OF PAYMENT:

ADD THE FOLLOWING TO THE SUBSECTION:

Payment for each test will be made at the contract bid price. Payment will be made after receiving and accepting the required report(s).

616.16-PAY ITEMS:

ADD THE FOLLOWING ITEMS TO THE TABLE:

ITEM	DESCRIPTION	UNIT
616007-001	Pile Load Testing – Dynamic	Each
616007-002	Pile Load Testing – Dynamic (Restrike)	Each

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FEDERAL PROJECT NUMBER: _____

**SECTION 628
ROCK ANCHORS**

628.1-GENERAL:

628.1.1-Description: This work shall consist of furnishing and installing rock anchors in accordance with this special provision, AASHTO LRFD Bridge Construction Specifications (4th Edition, 2017), and in reasonably close conformity with the dimensions, locations and details shown on the Plans or established by the Engineer.

628.1.2-Prequalification of Contractor: A contractor experienced in permanent rock anchor installation shall perform the rock anchor work. The anchor contractor's qualifications must be submitted to the Engineer fourteen (14) calendar days before rock anchor work begins. The following is a list of the requirements:

1. The contractor must be experienced in the design and construction of permanently anchored walls.
2. The contractor's staff shall include at least one registered Professional Engineer in the state of West Virginia with at least five years of supervisory experience in the design and construction of permanently anchored walls.
3. The foreman shall have a minimum of five years' experience in constructing permanently anchored walls.
4. The contractor shall have constructed (or have under construction) a minimum of five projects (in the last five years) that are similar in concept and scope to the proposed wall.

628.1.3-CONTRACTOR'S DESIGNS:

The Contractor shall prepare a complete design for the anchors they propose to use. This design shall conform to the criteria on the Plans, Specifications, and other documents referenced therein. The design shall be based on the Contractor's experience on similar work and on accepted practice described in AASHTO LRFD Bridge Construction Specifications "Section 6: Ground Anchors". The design shall also include the corrosion protection scheme for the tendon as well as the anchor head.

The Contractor is cautioned that the soil and rock information shown on the Plans is based on a limited number of borings. The actual conditions and elevations may differ from those shown.

Any design different from that shown on the Plans shall be prepared and sealed by a duly licensed Professional Engineer in the state of West Virginia. The design and working drawings shall be reviewed by the Engineer to confirm that the design meets the design requirements.

The Contractor may use a nominal (ultimate) grout-rock bond stress higher than 118 psi, provided that a field pullout test is performed by the Contractor to confirm the higher bond stress. The anchor to be pullout tested shall have a minimum bond length of 10 feet. The pullout test shall be done at no cost to the Division. The requirement for the pullout test can be waived if the contractor shows a proof test result of anchors bonded in sandstone and installed in the vicinity of the project site. If the Contractor chooses to use a higher bond stress, the Contractor will be responsible for failed performance tests and/or proof test as a result of using a higher bond stress. The cost of installing and re-testing additional anchors will be the responsibility of the Contractor.

For alternate designs it shall be assumed that all structural parts shown on the Plans, such as wales, piles and connections, are fully stressed. Any additional stresses imposed on such structural parts and on the anchors themselves, due to design changes such as a steeper slope of the anchors, will require strengthening of various parts. Such strengthening shall be done at no cost to the Division, nor will the contract amount be reduced because of any shortening of anchors due to design changes.

628.2-MATERIALS:

Materials shall conform to the requirements specified in the following Subsections:

MATERIAL	SUBSECTION
Portland Cement	701.1
Fine Aggregate	702.1
Prestressing Steel	709.2
Structural Steel	709.12

Minimum grout strength at stressing shall be 3,500 psi. Expansion additives in grout will not be allowed. Grout shall not be re-tempered or used after it has begun to set. Proportioning mix design requirements (including requirements for submission to the Division), quality control, and testing of grout (including number, size and shape of samples) shall conform to the applicable provisions of Subsections 601.3 and 601.4.

All other materials, including sheaths, grease, tubes, centralizers and spacers, shall be of good quality, acceptable to the Engineer. The contractor shall submit Manufacturer’s certificates and catalogs, tests reports or other such documents, as required by the Engineer.

628.3-PREPARATION OF ANCHOR:

The anchor tendons shall consist of seven-wire low relaxation strands. The tendons shall be fabricated in accordance with approved details and shall be free of dirt, or other deleterious substances. Light rust or rust stains that can be wiped off with a rag may be allowed. Prior to installation, they shall be handled and stored in such a manner as to avoid corrosion and physical damage. Damage such as abrasions, cuts, nicks, welds, weld splatters, or heavy corrosion and pitting will be cause for rejection. Rejected tendons shall be replaced at no cost to the Division in

terms of either material replacement or resulting time delay. Care shall be taken during handling and installation to prevent any sharp bends of the tendon.

Couplers and similar hardware should be avoided, but if their use is necessary, the grout cover shown in plans over the tendons shall be provided over hardware, too.

The bond length shall be degreased prior to installation.

A smooth, shop extruded, tight fitting polypropylene (or polyethylene) sheath will encapsulate the entire stressing length of each tendon. The sheath shall have a minimum wall thickness of 0.04 inches. The sheath should be heat shrunk onto the strand.

A grease film compounded to provide corrosion inhibiting and lubricating properties shall fill the space between the sheath and the stressing length of the tendons. The coefficient of friction between the steel tendon and the polypropylene shall not exceed 0.05. The contractor shall provide certified test data confirming that this coefficient of friction does not exceed 0.05. The allowable content of deleterious substances in the grease shall not exceed the following:

COMPOUND	TEST METHOD	MAXIMUM QUANTITY
Chlorides	ASTM D 512	2 ppm
Nitrates	ASTM D 992	2 ppm
Sulfides	APHA "Sulfides in Water"	2 ppm

Test samples are to be prepared in accordance to the following procedure:

1. Coat the inside (bottom and sides) of a liter glass beaker (dimensions approximately O.D. - 110 mm. Height - 144 mm) with 100 ± 10 grams of grease.
2. Fill beaker with a measured amount of distilled water, approximately 1000 cc.
3. Heat beaker at a controlled temperature of 100° F (± 3° F). Maintain for 4 hours. Do not heat on a hot plate. Heat either in an oven or with an immersion heater so that the water will remain clear for tests.
4. Run a blank on distilled water.
5. Decant water and analyze for soluble ions. Test only for salts in leached water used in the test.

For corrosion protection, the entire length of the anchor shall be encased in a polypropylene (or polyethylene) tube grouted both inside and outside at the same time. The tube within the bond length shall be corrugated.

If the bond length is grouted and the anchor stressed before grouting the stressing length, the Contractor must provide a mean to ensure that the grout covers the entire bond length plus two feet of the stressing length.

Provide spacers to center the strands inside the polypropylene tube and centralizers to center the polypropylene tube in the hole, both in the stressing and in the bond portion. These centralizers shall be provided at a maximum of five-foot intervals throughout the bond length of the anchor in the stressing length, so that no less than 0.5 inches of grout cover is achieved surrounding the anchor.

Place spacers at five foot and ten foot intervals throughout the tendon length to ensure grout cover on all elements. Centralizers and spacers may be made of any material, except wood, not deleterious to the prestressing steel or plastic sheath. Spacers and centralizers must be approved by the Engineer prior to use.

The entire polypropylene (or polyethylene) tube, together with any trumpet used under the anchor head, including all joints, shall be water and mortar tight. Provide seals, gaskets and the like as required.

The tendons, the anchor head, and any other metallic parts of the anchor, shall be electrically insulated from piles and wales, to the Engineer's satisfaction.

628.4-INSTALLATION:

628.4.1-General: Anchor centerlines shall not deviate from their planned location by more than 3 degrees, nor shall they approach each other closer than 4 feet at their lower ends.

A resistance factored unit bond stress and a set of estimated required bonded lengths and corresponding grouted diameters are specified on the plan. Should the Contractor decide to use a different factored unit bond stress, he shall be responsible for determining the bond length necessary to develop adequate load capacity to satisfy anchor testing acceptance criteria for the design load. Any rock anchor that does not meet the test acceptance criteria shall be replaced at no additional cost to the Division.

The diameter of the drilled hole shall be adequate for grouting inside and outside the polypropylene tube. The hole shall be free of fall-in soil or other debris immediately prior to grouting.

628.4.2-Hole in the Stressing Length: Casing of portions of many or all holes may be needed to maintain an open clean hole. There will be no additional compensation for such casings; their cost shall be included in the bid prices.

628.4.3-Hole in the Bond Length: Drilling Logs shall be prepared in a manner approved by the Engineer, and submitted daily. They shall contain the following information:

1. Characteristics of all materials encountered during the drilling process, and their specific location(s) within the holes
2. Length of each run with percentage of core recovery
3. The location of special features such as mud seams, open cracks, broken rock, etc.
4. Points where abnormal loss or gain to drill water has occurred
5. Groundwater levels or other items of interest for grouting
6. All significant actions of the bit
7. If any weak material, such as coal, clay, weathered rock or the like is encountered within the required bond length, the hole shall be extended to compensate for the weak material.
8. If large voids are encountered, consolidation grouting and re-drilling of the hole will be required. The grout shall be injected at the lowest point of the drill hole and shall proceed such that the hole is filled progressively from the bottom to the top, in order to prevent air voids.

Consolidation grout should have a water/cement ratio of between 0.45 and 0.55. Variations from these ratios shall require an approval from the Engineer prior to the placement. Special measures (such as stiff grout mixes) may be required to prevent or reduce grout loss. A consolidation-grouted hole shall not be re-drilled until the grout has had a minimum of 24 hours to set up.

628.4.4-Grouting: During grouting, the end of the grout pipe shall be covered by at least 2 feet of wet grout. Grouting shall proceed from the bottom up, to prevent air voids. The grout in the stressing length must not interfere with the stressing operation; tendons in the stressing length must not develop any bond to the surrounding grout. To achieve this, the grout inside the polypropylene tube shall preferably be placed after stressing.

The grout shall be placed over the entire bond length without interruption. The anchor shall then remain undisturbed until the grout has reached strength of 3500 psi. The following data shall be recorded and submitted to the Engineer, about the grouting operation, on a daily basis:

1. Type of Mixer
2. Type of Cement and Water/Cement Ratio
3. Type of Additives (if approved)
4. Grout Pressure
5. Test Sample Strengths (prior to stressing)
6. Volume of Grout placed in the Bond and in the Stressing Lengths

628.4.5-Corrosion Protection of Anchorage: Following acceptance of the anchor by the Engineer, the portion of each tendon extending past the lock-off plate shall be cut off with Carborundum blades in a manner that will not develop excessive heat. The tendon anchorage shall not be damaged by the cutting operation. All stressing anchorages shall be encased in concrete at least 4 inches or as shown on the plan.

The trumpet shall be sealed by bearing plate and shall overlap the unbonded length corrosion protection by at least 6 inches. The trumpet shall be long enough to accommodate movement of the structure and the tendon during testing and stressing. The trumpet shall also be long enough to enable the tendon to make a transition from the diameter of the tendon along the unbonded length to the diameter of the tendon at the wedge plate without damaging the encapsulation.

The trumpet shall be completely filled with grout, which must be placed after the ground anchor has been tested and stressed to the lock-off load. The trumpet shall either have a temporary seal between the trumpet and the unbonded length corrosion protection or shall fit tightly over the unbonded length corrosion protection for a minimum of 6 inches.

628.5-ANCHOR TESTS:

In the following sections, AL denotes alignment load (0.10P) and P denotes the anchor design load.

628.5.1-Performance Test: A performance test shall be carried out on the first anchor stressed for each tieback group shown on the plans and on one additional anchor selected by the Engineer. During the performance test, the contractor shall incrementally load and unload the anchor in accordance with the following schedule. The movement of the tendon shall be recorded to the nearest 0.001 inches at each increment, with respect to an independent (fixed) reference point. The load applied by the jack shall be monitored with a pressure gauge and preferably a load cell.

Each load shall be held for a minimum of one minute with the maximum loading being held for 60 minutes.

All leaks in the jacking system shall be repaired as discovered and the test restarted at the initial reading.

Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Cycle 6
AL	AL	AL	AL	AL	AL
0.25 P	0.25 P	0.25 P	0.25 P	0.25 P	0.25 P
	0.50 P	0.50 P	0.50 P	0.50 P	0.50 P
	0.25 P	0.75 P	0.75 P	0.75 P	0.75 P
		0.50 P	1.00 P	1.00 P	1.00 P
		0.25 P	0.75 P	1.20 P	1.20 P
			0.50 P	1.00 P	1.33 P (Max)
			0.25 P	0.75 P	- Hold for creep test
				0.50 P	- Reduce for lock-off load, P
				0.25 P	

All anchors undergoing performance tests shall hold the maximum load, i.e. 1.33P, for 10 minutes (or 60 minutes). The jack shall be repumped as necessary in order to maintain a constant load. During this period, the anchor movement with respect to a fixed reference point shall be recorded at 0 seconds, 30 seconds, 1 minute, 2, 3, 4, 5, 6, and 10 minutes (and 15, 20, 25, 30, 45, and 60 minutes). The dial gauge used for monitoring movement shall be capable of reading the entire movement without resetting. Upon passing the acceptance criteria in 628.5.4, the anchor shall be adjusted to lock-off load, P.

628.5.2-Lift-Off Test: A lift-off test shall be part of the performance test. After transferring the load to the end anchorage, a lift-off reading shall be made. The load determined from the lift-off reading shall be within 5 percent of the desired transfer or lock-off load otherwise the end anchorage shall be reset to the design load and another lift-off reading shall be made.

Lift-off tests can be made a minimum of 24 hours, and a maximum of 7 days, after the design load has been locked-off in the anchor. The results of the test shall be submitted to the Engineer on the day of the test. All tendons which are to be lift tested must have an adequate length of tendon left protruding over the anchorage to permit jacking. The jack utilized for lift-off testing shall be calibrated within two weeks of testing and at intervals of approximately 3 months throughout testing. The contractor shall furnish the calibration chart and submit it to the Engineer.

628.5.3-Proof Test: All anchors not performance tested shall be proof tested by incrementally loading the anchor in accordance with the following schedule. Load and movement shall be monitored as stated in 628.5.1.

Load
AL
0.25 P
0.50 P
0.75 P
1.00 P
1.20 P
1.33 P (Max)
- Hold for creep test
- Reduce to lock-off load, P

The proof test results shall be compared to the performance test results. Any significant variation from the performance test results may require a performance test on the next anchor. Lift-off tests for proof tested anchors may be required as designated by the Engineer. The Contractor shall do all additional tests due to inadequate results of a proof test at no cost to the Division.

Upon passing the acceptance criteria in 628.5.4, the anchor shall be adjusted to lock-off load, P.

628.5.4-Acceptance Criteria: A performance-tested or proof-tested rock anchor with a 10-minute load hold shall be accepted if (1) the rock anchor resists the maximum test load with less than 0.04” of movement between 1 minute and 10 minutes; and (2) the total elastic movement at maximum test load exceeds 80% of the theoretical elastic elongation of the unbonded length; or (3) the total elastic movement at the maximum test load does not exceed the theoretical elastic elongation of the unbonded length plus 50% of the theoretical elongation of the bonded length.

A performance-tested or proof-tested rock anchor with a 60-minute load hold shall be accepted if (1) the rock anchor resists the maximum test load with a creep rate that does not exceed 0.08” in the last log cycle of time; and (2) the total elastic movement at maximum test load exceeds 80% of the theoretical elastic elongation of the unbonded length.

The initial lift-off reading shall be within +5% of the design lock-off load. If this criterion is not met, the tendon load shall be adjusted accordingly and the initial lift-off reading repeated.

If any anchor fails to meet the acceptance criteria, the Contractor shall determine, if possible, the reason for failure. An additional anchor shall be installed in accordance with this specification at a location approved by the Engineer and tested to verify that the capacity of the new anchor meets the 1.33 P load. The Division will make no payment for failed anchor. An additional anchor in this area shall be performance tested when a failure occurs, at no cost to the Division.

Records shall be kept of the load and elongation for each increment of loading for each tieback and shall be furnished to the Engineer following the completion of each test.

628.6-METHOD OF MEASUREMENT:

628.6.1-Rock Anchors, Installed, per each: The work performed for rock anchor installation shall be included in this item. The quantity of work performed to install the rock

anchors as described above and to the depth shown on the plans will be paid for at the contract unit price bid for this item below. This price and payment shall include furnishing all material required for installation of the anchor, grouting of the anchor as specified or required, proof testing of all anchors, covering of anchor heads, and replacing failed anchors.

628.6.2-Rock Anchor Performance Test, per each: This item covers the cost of a performance test, over and above that of the proof test. (Cost of proof test is included in the item, “Rock Anchors, Installed”).

628.6.3-Additional Anchor Length, per foot: This item will be applicable if the actual elevation of sound rock is, on the average, lower than that indicated on the Plans, and if weak materials are encountered in the sound rock, as described under 628.4.3 above. The measurement will be based on the anchor slope shown on the Plans.

This item shall be exercised after the installation of soldier piles but prior to the fabrication of tiebacks. The anchor stressing lengths shall be reevaluated and adjusted if needed by the Engineer based on top of sound rock information obtained during soldier pile installation. The reevaluated anchor stressing lengths will be compared to the Contractor’s bid quantity to determine the quantity for this bid item.

628.6.4-Drilled Hole, 4” Diameter, per linear foot: This item will occur if large voids are encountered in the sound rock as described under 628.4.3 above. The hole diameter of 4” coincides with item, “Additional Anchor Length”, and the anchor specifications used under item “Rock Anchors, Installed”. The required length of re-drilling will be measured, based on the anchor slope shown on the Plans.

628.6.5-Pressure Injected Grout, per cubic foot: This item will be applicable if large voids are encountered in the sound rock as described under 628.4.3 above. Measurement will be based on the actual cubic foot amount of cement used in the grout that is injected in the void.

628.7-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit prices bid for the items below, which prices and payments shall be full compensation for furnishing all materials and doing all the work in a workmanlike and acceptable manner, including all tools, equipment, supplies, labor and incidentals necessary to complete the job.

628.8-PAY ITEMS:

ITEM	DESCRIPTION	UNIT
628007-001	Rock Anchors, Installed	Each
628007-002	Rock Anchor Performance Test	Each
628007-003	Additional Anchor Length	Linear Foot
628001-001	Drilled Hole, 4” Diameter	Linear Foot
628002-001	Pressure Injected Grout	Cubic Foot