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THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



VICTORIA F. SHEEHAN COMMISSIONER

WILLIAM CASS, P.E. ASSISTANT COMMISSIONER

Bureau of Highway Design April 26, 2021

His Excellency, Governor Christopher T. Sununu and the Honorable Council State House Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the Department of Transportation to enter into an Agreement with the firm of Vanasse Hangen Brustlin, Inc., Bedford, NH, Vendor #174584, for an amount not to exceed \$2,162,892.27, for final design of improvements to US 202 at its intersection with NH 124 and NH 137 in the Town of Jaffrey, effective upon Governor and Council approval, through September 30, 2023. 100% Federal Funds.

Funding is available in State Fiscal Year 2021, and is contingent upon the availability and continued appropriation of funds in Fiscal Year 2022 and Fiscal Year 2023 as follows, with the ability to adjust encumbrances through the Budget Office between State Fiscal Years if needed and justified:

Table with 4 columns: Item Description, FY 2021, FY 2022, FY 2023. Row 1: Consolidated Federal Aid. Row 2: 046-500464 Gen Consultants Non-Benefit.

EXPLANATION

The Department requires professional engineering consulting services for the final design of improvements to US 202 and its intersections with NH 124 and NH 137 in the Town of Jaffrey. This project has been through an extensive public involvement process due to the location and impacts associated with the improvements.

On February 1, 2017, the Governor and Council authorized the Part A preliminary design agreement with Vanasse Hangen Brustlin, Inc. (Item #26) for Preliminary engineering required to develop and evaluate alternatives to improve the flow of traffic within and through the historic town center. Environmental efforts to complete all appropriate environmental documentation to meet the requirements of the National Environmental Policy Act, the Clean Water Act, the National Historic Preservation Act and Section 4(f) of the US Department of Transportation Act. The Consultant assisted the Department with a robust public involvement process building upon the Town's planning efforts, including close coordination with the Town of Jaffrey and other stakeholders, and culminating in a formal Public Hearing for the preferred alternative. The tenets of context sensitive solutions will be employed as appropriate to achieve a balance among the competing needs of motorized and non-motorized road users and other stakeholders, while minimizing impacts upon the natural, cultural, and social environments. In the Part A agreement, the Department reserved the right to either negotiate a scope and fee for the Part B final design services or terminate the contract. Since the firm of Vanasse Hangen Brustlin, Inc. satisfactorily completed the Part A services for this project, the Department proposes to continue with this firm to perform the Part B final design. This Part B final design agreement for engineering consulting services includes final roadway and bridge design, environmental permitting, project management, public involvement, contract plans, specifications, special provisions, and estimates of quantities and costs to complete the improvements.

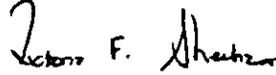
Vanasse Hangen Brustlin, Inc. has agreed to furnish the professional engineering services for an amount not to exceed \$2,162,892.27. This is a reasonable fee and is commensurate with the complexity of the project and the scope of the engineering and technical services to be furnished. This project funding is 80% Federal Funds with

20% State match. Turnpike toll credit is being utilized for New Hampshire's match requirement, effectively using 100% Federal Funds.

This Agreement (Jaffrey, X-A003(234), 16037, Part B) has been approved by the Attorney General as to form and execution. The Department has verified that the necessary funds are available. Copies of the fully executed Agreement are on file at the Secretary of State's Office and the Department of Administrative Services, and subsequent to Governor and Council approval will be on file at the Department of Transportation.

It is respectfully requested that authority be given to enter into an Agreement for consulting services as outlined above.

Sincerely,



Victoria F. Sheehan
Commissioner

Attachments

TABLE OF CONTENTS

ARTICLE I - DESCRIPTION OF PROFESSIONAL SERVICES TO BE RENDERED..... 2

- A. LOCATION AND DESCRIPTION OF PROJECT 2
- B. SCOPE OF WORK (GENERAL)..... 2
- C. SCOPE OF WORK (PROJECT MANAGEMENT)..... 3
- D. SCOPE OF WORK (GEOTECHNICAL)..... 3
- E. SCOPE OF WORK (ENVIRONMENTAL)..... 4
- F. SCOPE OF WORK (FINAL DESIGN)..... 5
- G. SCOPE OF WORK (UTILITIES)..... 6
- H. SCOPE OF WORK (RIGHT-OF-WAY)..... 7
- I. SCOPE OF WORK (PUBLIC PARTICIPATION)..... 7
- J. MATERIAL FURNISHED BY THE DEPARTMENT OF TRANSPORTATION 8
- K. WORK SCHEDULE AND PROGRESS REPORTS..... 9
- L. SUBMISSION OF REPORTS, PLANS AND DOCUMENTS 9
 - 1. Roadway Design Submissions 10
 - a. Pre-Preliminary Plans – Roadway (Not Applicable) 10
 - b. Preliminary Plans – Roadway:..... 10
 - c. Slope and Drain Plans – Roadway:..... 11
 - d. Right-of-Way Impact Plans 11
 - e. Wetland Plans 12
 - f. Utility Plans: 12
 - g. Preliminary PS&E – Roadway: 12
 - h. PS&E – Roadway: 12
 - i. Draft Contract Plans and Consultant Documents: 13
 - j. Contract Plans and Consultant Documents:..... 13
 - 2. Bridge Design Submissions 13
 - a. TSL (Type-Span-Location) Studies 14
 - b. Boring Layout..... 14
 - c. Preliminary Plans – Bridge 15
 - d. Preliminary PS&E - Bridge 15
 - e. PS&E - Bridge 15
 - f. Draft Contract Plans 16
 - g. Contract Plans..... 16
 - 3. Final Submission Document Requirements 16
 - 4. Website Information: 17
- M. SCOPE OF WORK (CONSTRUCTION SUPPORT SERVICES)..... 17
- N. SCOPE OF WORK (CONSTRUCTION SERVICES)..... 18
- O. LETTER OF MAP REVISION (LOMR) 18
- P. DATE OF COMPLETION 18

ARTICLE II - COST PLUS FIXED FEE COMPENSATION OF CONSULTANT 19

- A. GENERAL FEE 19
- B. SUMMARY OF FEES 21
- C. LIMITATION OF COSTS 21
- D. PAYMENTS 22
- E. METHOD OF COMPENSATION FOR SPECIAL ASSISTANT TO THE NHDOT SERVICES 22

ARTICLE III - GENERAL PROVISIONS 24

- A. HEARINGS, ETC. 24
- B. CONTRACT PROPOSALS 24

ARTICLE IV - STANDARD PROVISIONS 25

- A. STANDARD SPECIFICATIONS 25
- B. REVIEW BY STATE AND FHWA - CONFERENCES - INSPECTIONS 25

C. EXTENT OF CONTRACT	25
D. REVISIONS TO REPORTS, PLANS OR DOCUMENTS.....	26
E. ADDITIONAL SERVICES	27
F. OWNERSHIP OF PLANS	27
G. SUBLETTING	28
H. GENERAL COMPLIANCE WITH LAWS, ETC.	28
I. BROKERAGE.....	28
J. CONTRACTUAL RELATIONS	29
K. AGREEMENT MODIFICATION	30
L. EXTENSION OF COMPLETION DATE(S)	30
M. TITLE VI (NONDISCRIMINATION OF FEDERALLY-ASSISTED PROGRAMS) COMPLIANCE.....	31
N. DISADVANTAGED BUSINESS ENTERPRISE POLICY REQUIREMENTS	32
O. DOCUMENTATION.....	33
P. CLEAN AIR AND WATER ACTS.....	33

ATTACHMENTS

- A. **SPECIAL CONTRACT PROVISIONS FOR COVID-19**
- B. **SCOPE OF WORK FOR PART B – (Prepared by VHB dated March 26, 2021)**
 - 1. CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS, ETC.
 - 2. CONSULTANT DISCLOSURE STATEMENT FOR PREPARATION OF ENVIRONMENTAL EVALUATIONS
 - 3. CERTIFICATION OF CONSULTANT/SUBCONSULTANT
 - 4. CERTIFICATION OF STATE DEPARTMENT OF TRANSPORTATION
 - 5. CERTIFICATION FOR FEDERAL-AID CONTRACTS EXCEEDING \$100,000 IN FEDERAL FUNDS
 - 6. CERTIFICATION OF GOOD STANDING
 - 7. CERTIFICATION OF INSURANCE
 - 8. CERTIFICATION OF AUTHORITY / VOTE
 - 9. SIGNATURE PAGE

JAFFREY
X-A001(234)
16307
(Part B)

AGREEMENT
FOR PROFESSIONAL SERVICES

a. PREAMBLE

THIS AGREEMENT made this 19th day of April in the year 2021 by and between the STATE OF NEW HAMPSHIRE, hereinafter referred to as the STATE, acting by and through its COMMISSIONER OF THE DEPARTMENT OF TRANSPORTATION, hereinafter referred to as the COMMISSIONER, acting under Chapter 228 of the Revised Statutes Annotated, and Vanasse Hangen Brustlin, Inc., with principal place of business at 101 Walnut Street, in the City of Watertown, Commonwealth of Massachusetts, and New Hampshire local office at 2 Bedford Farms Drive, Suite 200 in the Town of Bedford, State of New Hampshire, hereinafter referred to as the CONSULTANT, witnesses that:

The Department of Transportation, State of New Hampshire, hereinafter referred to as the DEPARTMENT, proposes to improve US 202 and its intersections with NH 124 and NH 137 in the Town of Jaffrey.

The DEPARTMENT intends to have prepared for said project final design, contract plans, specifications, special provisions, estimates of quantities, and right-of-way plans. These services are outlined in the CONSULTANT'S Scope of Work dated March 26, 2021 (Attached) and Fee Proposal dated January 28, 2021 and revised March 31, 2021, which are hereby adopted by reference and considered to be part of this AGREEMENT.

This AGREEMENT becomes effective upon approval by the Governor and Council.

ARTICLE I

ARTICLE I - DESCRIPTION OF PROFESSIONAL SERVICES TO BE RENDERED

NOW THEREFORE, in consideration of the undertakings of the parties hereinafter set forth, the DEPARTMENT hereby engages the CONSULTANT, who agrees to render services to the DEPARTMENT which shall include, but not be restricted to, the following items, in accordance with conditions and terms hereinafter set forth:

A. LOCATION AND DESCRIPTION OF PROJECT

This project involves improvements to US 202 at its intersections with NH 124 and NH 137 within the central business district of Jaffrey.

The two existing subject intersections are signalized and closely spaced, separated by 300 feet and an intervening bridge over the Contoocook River. Currently US 202 enters the central business district from the north on Peterborough Street and turns right onto NH 124 / Main Street followed by an immediate left turn onto River Street to proceed south.

The proposed improvements include a 3 leg, single lane roundabout along existing US 202 (River Street) where a new roadway will be built to the east, which will become US 202 resulting in a new bridge over the Contoocook River. This new relocated section of US 202 will include a new bridge over the Contoocook River and will land near Blake Street where it will be one leg of a proposed 5 leg, single lane roundabout with, Stratton Road, NH 124 (Turnpike Road), US 202 (Peterborough Street) and NH 124 (Main Street). Improvements are intended to match the intent of the plan presented at the public hearing.

On-street parking will be a component of the design and could include evaluation on US 202 (Turnpike Road), NH 124 (Main Street), River Street (Old US 202) and the new section of US 202. Off-street parking areas along the new section of US 202 may also need to be evaluated.

Landscaping services shall include development of landscape plantings that may be required within the center of the roundabouts, center median islands and curbed grass panels, along the perimeter of the park on the northeast corner of the 3 leg roundabout, around the perimeter of the 5 leg roundabout and in other locations where property impacts may require the replacement of existing buffers and screening.

B. SCOPE OF WORK (GENERAL)

The scope of work is for the final design and preparation of contract plans, specifications, quantities and construction services for the layout approved as a result of the Public Hearing, and documented in the final Environmental Document.

The design shall consider temporary and permanent erosion control measures and Best

ARTICLE I

Management Practices (BMPs) consistent with current New Hampshire Department of Environmental Services (NHDES) guidelines, hazardous material investigation and treatments, traffic control measures, drainage, landscaping and streetscape designs, lighting, BMP Management Plan and treatments to minimize environmental impacts, highway signs, traffic analysis, construction traffic control plan, and pavement markings. The CONSULTANT shall incorporate into the design plans any DEPARTMENT provided materials and designs such as environmental special conditions, supplemental survey, geotechnical information and utility relocations.

The CONSULTANT will develop colored plans for the DEPARTMENT's use in meetings and coordination with the public. The colored plans will be developed subsequent to the Preliminary submission, and incorporate necessary refinements based on DEPARTMENT review to date. The CONSULTANT is responsible for all meeting minutes.

C. SCOPE OF WORK (PROJECT MANAGEMENT)

Project management described in this section is not associated with the management of the design, it is defined to be services related to public interaction, and coordinating and leading multi-discipline meetings during the duration of the design development. The CONSULTANT shall provide the following project management services during this contract:

- Be the point of contact for the Town.
- Represent the Department during right-of-way negotiations as design support to the Departments right-of-way section as needed.
- Lead all internal meeting leading up to advertising the project, including but not limited to: Estimate Review Committee Meetings, Preliminary Plan Coordination Meeting (60%), Pre-Advertisement Coordination Meeting (90%), Final Directors Meeting, and Front Office Meetings.
- Lead all internal review meetings between VHB and the Department
- Coordinate with all Bureaus within the Department to track progress of requests, milestones and respond to questions. The Departments project lead shall be kept informed of all correspondence with other Bureaus

D. SCOPE OF WORK (GEOTECHNICAL)

The CONSULTANT thru its SUBCONSULTANT will complete the full geotechnical program required for the project. In support of the geotechnical program, the CONSULTANT shall provide engineering to include preliminary and final subsurface exploration plan development and siting of the subsurface explorations by providing the station(s), offset(s) and associated GPS coordinate(s) for proposed or actual subsurface exploration locations for all bridge structures, as well as highway design

ARTICLE I

elements to include but not limited to water quality BMP's, roadways, retaining walls, box culverts, etc.

E. SCOPE OF WORK (ENVIRONMENTAL)

The CONSULTANT shall be responsible for the following:

1. All applicable environmental permits and supporting documentation, including photographs. Anticipated permits include: NHDES Major Impact Dredge and Fill, Shoreland Permit and conformance with NHDES Alteration of Terrain regulations and the NH Stormwater Management Manual.
2. Verification of invasive plant species delineations provided to the DEPARTMENT using GPS technology. Field work shall be appropriately timed to coordinate with growing seasons and contract advertising.
3. The CONSULTANT'S plans shall include all commitments made in the environmental documents to the extent practicable.
4. Contamination: The CONSULTANT will conduct a Phase I Environmental Site Assessment that complies with ASTM Standard E1527-13. This effort will satisfy the information requirements listed under Section Env-Or 606.04 of the New Hampshire Code of Administrative Rules and is a component of a Site Investigation Report as defined under Env-Or 606.03.

Some level of exploration and testing by the CONSULTANT will be required to confirm the potential subsurface presence of petroleum or hazardous substances on the acquired properties and to pre-characterize contaminated media that may be encountered by the Project. In consideration of the Project construction requirements to be developed during the final design process, the CONSULTANT will prepare a Soil and Groundwater Management Plan for use during the Project construction.

The CONSULTANT will subcontract with a licensed inspection firm to perform hazardous building materials surveys of buildings, which are planned to be demolished as part of the Project.

5. Limited Reuse Soil – The CONSULTANT shall follow guidance developed by the DEPARTMENT for the management of Limited Reuse Soil (LRS). These soils must be managed as part of the contract and where they can be used may be limited by site constraints. This will need to be assessed at the slope and drain phase of the project.
6. Construction Impacts: The CONSULTANT shall perform, as necessary, tasks required to assess the potential construction impacts on the natural, cultural, and socio-economic resources present within the project area.

ARTICLE I

7. Agency Coordination: The CONSULTANT will attend several of the DEPARTMENT's monthly Natural Resource Agency meetings and coordinate a field meeting, if needed, with the agencies to review resource impacts. The CONSULTANT will also attend several of the DEPARTMENT monthly Cultural Resource meetings with the NH Division of Historical Resources to discuss scope and findings. The CONSULTANT will be responsible for supplying support graphics, making presentations and preparing meeting minutes.
8. Flood mapping revisions including the submission of Conditional Letters of Map Revision (CLOMR) for the Contoocook River will be completed if the base flood elevations are increased by one foot or greater.

F. SCOPE OF WORK (FINAL DESIGN)

Designs shall conform to the current standards, specifications, policies and guidelines enumerated in the Federal Aid Policy Guide, Subchapter G, Part 625, or to 23 Code of Federal Regulations, Part 625 and the DEPARTMENT'S Design Manual, and most current Standard Plans for Road Construction, except as approved. The scope of work proposed by this AGREEMENT includes:

1. The CONSULTANT shall develop plans at the scale of 1" = 20', unless otherwise noted. Additionally, the CONSULTANT shall be prepared to produce intersection plans at a scale of 1" = 20' where necessary or as appropriate.
2. The CONSULTANT shall be responsible for the incorporation of environmental resource mapping, right-of-way and property line information, geotechnical information, and utility information, etc.
3. The design of all permanent guide, warning and regulatory signs into the contract plans including the quantity summary sheets with guidance from the DEPARTMENT. The CONSULTANT shall be responsible for the design of overhead sign structure foundations, if needed, with guidance on foundation loading provided by the DEPARTMENT.
4. The development of the permanent construction sign and warning device package, including the quantity summary sheets. This shall include summary sheets for relocated signs for construction sequencing.
5. The design and incorporation of all pavement marking layouts, item numbers, item descriptions, and quantities.
6. The design of all supporting members for utilities that traverse any bridge structure.
7. The incorporation of utility relocations as designed by the individual utility owner, and the review of constructability and traffic control for the contract plans.

ARTICLE I

8. Construction cost estimates for each major submission (Preliminary, Slope & Drain, PPS&E, PS&E) shall be completed. Estimates shall be submitted with a narrative explaining all major cost and/or quantity changes.
9. Preparation of presentation (colored) base plans at the Preliminary, Slope and Drain, PPS&E, and PS&E submissions.
10. The CONSULTANT will provide the existing right-of-way and abutting property information in the appropriate CAD/D format.
11. Right-of-way alignments will be furnished by the DEPARTMENT.
12. The CONSULTANT will process additional survey requests to the extent necessary to ensure continuity between and current detail model files. The CONSULTANT will be responsible for the incorporation of these files into the current detail base plans and digital terrain models (DTM). The incorporation of additional survey information shall include all drafting, labeling, detailing and field checking of the detail of all survey requests. Additional surveys may be required throughout the design process, and the CONSULTANT shall modify the design, as necessary, based upon the updated survey information.
13. The CONSULTANT shall examine which elements of design, might affect aerial and underground utilities. Any conflict between design elements and utilities shall be identified and brought to the attention of the DEPARTMENT. A special effort shall be made by the CONSULTANT to modify drainage features in order to avoid conflicts with underground utilities, as may be required, during all subsequent design phases.
14. The CONSULTANT shall furnish two (2) permanent, legible copies of the design calculations, suitably bound, and when directed, all study plans, work plans, alternate studies, and estimates indexed in accordance with DEPARTMENT procedures.
15. The CONSULTANT'S Licensed Professional Engineer stamp for the State of New Hampshire shall appear on the construction plans, reports and any other documents that will be submitted to the DEPARTMENT. Stamps shall be those of the professional engineers who prepared them or under whose direct supervisory control they were prepared.

G. SCOPE OF WORK (UTILITIES)

The utility coordination for this project will be performed by the DEPARTMENT. The CONSULTANT shall incorporate utility relocations, as designed by the individual utility owner, into the contract plans. Municipal utility relocations (e.g., sewer and/or water), as approved by the DEPARTMENT, shall be included, as necessary, into the contract plans, cross sections, summary sheets and estimate.

ARTICLE I

H. SCOPE OF WORK (RIGHT-OF-WAY)

The CONSULTANT shall update and expand property research to match proposed project limits and update current property information prior to the completion of Right-of-Way (ROW) impact plans.

The Right-of-Way (ROW) procurement services necessary to complete the Right-of-Way process for this project will be performed primarily by the NHDOT with support from the CONSULTANT.

After the acceptance of the Slope and Drain plans and the resolution of all issues that could result in changes to property impacts beyond the ROW, the CONSULTANT shall prepare and submit impact plans and cross section cut sheets for review by the DEPARTMENT. These plans will show the location and extent of all property acquisitions and easements.

A ROW plan impact meeting will be attended by the CONSULTANT to address questions and comments from the DEPARTMENT. After comments and revisions to the impacts are complete, the CONSULTANT shall submit final impact plans, cross sections and CAD/D files to the DEPARTMENT for use in developing the Right-of-Way plans.

After the final Right-of-Way plans are complete the CONSULTANT will be required to update proposed easements and right-of-way to match the final configuration to be shown on the right-of-way registry plans. The CONSULTANT will be responsible to record the final ROW impact plans at the registry of deeds.

I. SCOPE OF WORK (PUBLIC PARTICIPATION)

The CONSULTANT shall provide support to the public participation process that enhances the DEPARTMENT'S "Public Involvement Process for New Hampshire Transportation Improvement Projects". The CONSULTANT shall prepare presentation graphics, handouts and support displays. The CONSULTANT will attend the presentations and shall draft meeting minutes. Specific tasks include:

1. Public Participation Support: The CONSULTANT shall prepare the colored plans and graphics for the Meetings for the DEPARTMENT. These plans are intended to support the DEPARTMENT'S efforts for Public Meetings. The CONSULTANT is responsible for attendance, presentation and preparing of any project meeting notices and meeting notes, supported by The Department. The CONSULTANT will arrange for five (5) televised Town Select Board Meetings to provide project updates. The CONSULTANT will hold for five (5) Main Street Meetings on-site to provide project updates with downtown residents and businesses. The CONSULTANT will hold for three (3) Main Street Walkarounds to supplement the Main Street Meetings on-site to provide project updates with downtown residents and businesses.

ARTICLE I

2. Newsletter: A Project Newsletter will be prepared and distributed to stakeholders, project abutters, resource agencies and others as determined necessary. The CONSULTANT will distribute three colored Project Newsletters.
3. Website: The CONSULTANT will provide require updates of documents for posting to the State and Town website as needed. The CONSULTANT will respond to emails submitted with questions or comments.

J. MATERIAL FURNISHED BY THE DEPARTMENT OF TRANSPORTATION

The DEPARTMENT will furnish the following data to the CONSULTANT:

1. Electronic files in US Customary Units of the following information in accordance with the DEPARTMENT'S CAD/D Procedures and Requirements for incorporation into the plans by the CONSULTANT:
2. All existing survey and baseline data on disk or other electronic means, field notes, and note reductions in the format outlined in the current DEPARTMENT CAD/D Procedures and Requirements. An electronic ground model shall be provided, if available, along with all existing information that can be used to create a model (ASCII point file, SDR data files, etc.).
3. Any additional surveys of adjacent parcels, mitigation sites, wetland boundaries, or other pertinent items deemed necessary and processed by the DEPARTMENT. Incorporation of this information into the ground terrain model and plans shall be the responsibility of the CONSULTANT.
4. Electronic drawings in MicroStation format of roadway typical cross sections and other detail sheets shall be provided, when available from the DEPARTMENT'S CAD/D library, upon request by the CONSULTANT, in accordance with the current DEPARTMENT CAD/D Procedures and Requirements.
5. Electronic drawings in MicroStation format of the existing underground utilities, if provided to the DEPARTMENT by the utility. The CONSULTANT shall be prepared to provide an electronic copy of preliminary base plans to the DEPARTMENT for use by the utilities. The CONSULTANT shall be responsible for the incorporation of this information (either in paper or electronic format) into the plans, in accordance with the current DEPARTMENT CAD/D Procedures and Requirements.
6. Any available topographical mapping within the project area shall be provided along with any pertinent electronic supporting information (survey field notes, ASCII point file, SDR data files, etc.). The DEPARTMENT will also gather any supplemental topographical survey data that is determined to be necessary as the project proceeds, and will process this data for use.

ARTICLE I

- Incorporation of this supplemental information into the digital terrain model and base plan shall be the responsibility of the CONSULTANT.
7. Electronic drawings in Microstation format of the Right-of-Way data, approximate property lines, and parcel owners. These electronic files containing abstracting information will be updated, as necessary, throughout development of the project. The CONSULTANT shall be prepared to incorporate refinements from the Department, to the electronic files, as needed.
 8. Prints of the following information:
 - a. Any information outlined in Article I.K. 1.a. through g. above (electronic information) both existing and proposed, when available, for verification by the CONSULTANT.
 - b. Any additional information (e.g., abstracting, utilities, etc., not available electronically) for the CONSULTANT to incorporate into the plans in accordance with the DEPARTMENT'S CAD/D Procedures and Requirements.
 9. Geotechnical investigations and recommendations, if available.
 10. DEPARTMENT to provide conceptual design and layout of roadway lighting (temporary and permanent) if deemed necessary. The CONSULTANT shall be responsible for incorporating the design and layout into the project documents and for recommending adjustments required to avoid conflicts.

K. WORK SCHEDULE AND PROGRESS REPORTS

The CONSULTANT shall begin performance of the services designated in the Contract promptly upon receipt from the DEPARTMENT of a Notice to Proceed and the material to be furnished as herein described. The CONSULTANT shall complete these services without delay unless unable to do so for causes not under the CONSULTANT'S control.

The CONSULTANT'S sequence of operation and performance of the work under the terms of this AGREEMENT shall be varied at the direction of the DEPARTMENT in order to give priority in critical areas so that schedules and other STATE commitments, either present or future, can be met.

The CONSULTANT shall develop an acceptable reporting system capable of indicating project status on at least a monthly basis for all critical activities of the project.

L. SUBMISSION OF REPORTS, PLANS AND DOCUMENTS

The CONSULTANT shall prepare and submit to the DEPARTMENT separate submissions as described hereinafter.

The CONSULTANT, with each submission, shall submit a Design Report describing the "design issues" addressed in that submission. The report shall include design criteria and controls, specific items and issues of interest, design calculations appropriate for the submission, drainage information

ARTICLE I

(including back-up calculations, pollutant loading data, and a copy of the drainage software model), traffic analyses and a construction cost estimate. In addition, the report shall include anticipated or outstanding issues and the CONSULTANT'S recommendations. All issues shall be noted as to whether the CONSULTANT feels that the issue is within the scope of work described in Article I. Meetings between the CONSULTANT and the DEPARTMENT shall be held prior to submissions to discuss design issues and recommendations.

The CONSULTANT shall submit information in the agreed to format.

The CONSULTANT will be expected to support their design proposals and any issues resulting from review by the DEPARTMENT, with alternative studies and reasonably itemized cost comparisons for alternate concepts.

Any and all CAD/D-related work completed during the course of this project shall be performed in conformance with the DEPARTMENT'S CAD/D Procedures and Requirements in effect at the time of execution of this AGREEMENT.

1. Roadway Design Submissions

The plan submissions for roadway design shall follow the procedures outlined below:

a. Pre-Preliminary Plans – Roadway (Not Applicable)

b. Preliminary Plans – Roadway:

The submission shall incorporate revisions from the public hearing and finalize the horizontal, vertical, pavement layout, superelevations, and guardrail calculations. This submission shall also incorporate approximate drainage-system details and drainage features, and proposed right-of-way lines, conceptual traffic control, including drainage, slope and/or construction easements. The submission shall consist of roll plans showing slope lines. The CONSULTANT shall prepare and submit to the DEPARTMENT all roadway cross-sections at 50-foot intervals (except 25-foot intervals in rock areas when available), which shall be plotted with the top line of the template of the proposed roadway cross-sections shown.

The following issues, at a minimum, shall also be considered in the development of the above-mentioned plans:

- Conceptual Traffic Control Plan and construction phasing
- Erosion- and sedimentation-control measures (permanent and temporary)
- Recommended water-quality treatment
- Conceptual design for mitigation areas and summary of wetland impacts
- Potential closed drainage and underdrain outlets, and cover requirements
- Right-of-way

ARTICLE I

- Potential conflicts with major utilities

c. Slope and Drain Plans – Roadway:

The submission shall consist of plans showing slope lines, drainage system details and drainage features, and proposed right-of-way lines, including drainage, slope and/or construction easements. The Slope and Drain Plans shall include typical sections, plan views (roll plans as a minimum), profiles, guardrail locations, and cross-sections with complete template plotted and appropriate references on the plans relative to drainage design to assist with the review of the drainage design and the backup drainage calculations. The submission shall be supplemented with a list of utility conflicts that could not be avoided during the design. Complete Best Management Practice (BMP) designs for permanent erosion and sedimentation control features and water-quality appurtenances shall be shown accompanied by backup calculations, including a pre- versus post development pollutant loading assessment. The backup calculations shall also include a narrative, mapping and computations addressing pre-construction and post-construction (and post-development, if applicable) drainage conditions and applicable drainage control features. Two bound copies of the drainage-computation book(s) shall be submitted with all backup drainage calculations illustrated and referenced to each drainage appurtenance shown based on the drainage design. A narrative explaining the strategy to manage Limited Reuse Soils (LRS) shall also be included in this submission.

At this time, a field inspection shall be held with the DEPARTMENT and indicated design changes or corrections made and incorporated into the plans for the Preliminary PS&E submission.

Also, with the Slope and Drain submission, the CONSULTANT shall submit the Traffic Control Plans in near-final form (roll plans, as a minimum) showing all temporary impacts and design needs. Construction phasing shall be shown with narratives for each phase. The CONSULTANT shall also submit a conceptual construction schedule (in MS Project) for the contract, showing the phased construction and utility relocation time frames.

At this submission, a revised itemized estimate shall be prepared and submitted by the CONSULTANT based on the best information and design features shown in this submission.

d. Right-of-Way Impact Plans

Following incorporation of the DEPARTMENT'S comments on the Slope and Drain Submission, the CONSULTANT shall submit right-of-way impact plans showing permanent and temporary property impacts to allow the DEPARTMENT to begin the right-plan development, see ROW scope of work for more detail.

ARTICLE I

c. Wetland Plans

Also following incorporation of the DEPARTMENT'S comments on the Slope and Drain Submission, the CONSULTANT shall submit Wetland Impact plans showing permanent and temporary impacts, for inclusion with the wetland permit applications. These areas shall be hatched or colored according to the DEPARTMENT'S standards. Accompanying these plans, the CONSULTANT shall provide a tabulated impact summary showing wetland identification numbers, areas of fill or dredged volumes in the temporary and permanent conditions for the construction contract.

f. Utility Plans:

Following submission and review of the Slope and Drain submission, the CONSULTANT shall incorporate DEPARTMENT comments into the design layout and assemble the plans into a cut sheet format. The CONSULTANT shall then furnish cut sheet plans (paper prints) of front sheet, plans, profiles, and cross-sections and a list of revised utility conflicts for use by the Design Services Section. This submission plan set is intended to facilitate the identification of the scope of work required by various utilities to comply with the planned construction. The plans are intended to reflect the near-final design of drainage systems with all appurtenances, all cross-sections, traffic control with construction phasing, clearing and grubbing limits, fencing requirements, lighting and ITS conduit. Also, the plans shall reflect all existing detail, existing drainage and existing utilities. Comments will be returned to the CONSULTANT to finalize the plans prior to the formal submission for relocations. The plans shall show the status of the design prior to preparation of the Preliminary PS&E submission.

g. Preliminary PS&E – Roadway:

The Preliminary PS&E submission shall consist of preliminary contract drawings, draft special provisions for items for which current specifications are not available from the DEPARTMENT, and a Preliminary PS&E estimate of quantities and costs. Quantity Summary sheets shall be submitted with major items complete and other items nearly complete. In developing the plans to the Preliminary PS&E stage, the DEPARTMENT will require an estimate of the quantities. Two bound copies of the quantity calculations shall be furnished with the estimate. The plans shall reflect all comments from the Slope and Drain submission and issues that appear during final design.

h. PS&E – Roadway:

Upon approval in writing by the DEPARTMENT of the Preliminary PS&E submission, the CONSULTANT shall proceed to prepare and submit to the DEPARTMENT for approval the PS&E submission, construction plans, two bound copies of the revised quantities book, and a PS&E estimate of quantities. In addition, 2 bound copies of the design report, 2 updated copies

ARTICLE I

of the drainage report, and final Special Provisions shall be submitted.

i. Draft Contract Plans and Consultant Documents:

Upon approval by the DEPARTMENT of the PS&E submission, the CONSULTANT shall proceed to prepare and submit to the DEPARTMENT for approval the Draft Contract Plan submission, which shall consist of construction plans, 2 bound copies of the revised quantities book, and a PS&E estimate of quantities. In addition, 2 bound copies of the design report, and 2 updated copies of the drainage report if required and, final Special Provisions.

j. Contract Plans and Consultant Documents:

Upon approval of the Draft Contract Plans by the DEPARTMENT the CONSULTANT shall make the final submission of contract plans, any final special provisions required and a final PS&E estimate of quantities. These final contract plans and documents shall reflect all comments resulting from the PS&E review. The CONSULTANT shall be prepared to incorporate all comments, furnish drafting services for omissions found and generally assist the DEPARTMENT in finalizing the contract plans. If changes are requested to be made to the CONSULTANT'S plans by the DEPARTMENT, the CONSULTANT shall be prepared to update the corresponding electronic files and submit them to the DEPARTMENT. Final acceptance of the contract plans will be made in writing. A paper set shall be submitted prior to the final submittal to facilitate a final review and "three-way" check by the DEPARTMENT.

During the bidding period the CONSULTANT will submit a final color roll plan.

2. Bridge Design Submissions

The plan submissions for bridge structures shall follow, in general, the "Instructions for Consulting Engineers Concerning Routine Procedures on Bridge Design Projects" formats prepared by the DEPARTMENT.

The content, completeness, and scales for all drawings shall be as approved by the DEPARTMENT, and shall be such as to accurately portray the placement and positioning of components, surfaces, and the general appearance of the structural units. Large-scale details shall be employed as directed for congested areas or connections between components.

The CONSULTANT shall perform a load-rating analysis for each bridge using the appropriate AASHTO Method, or as directed by the DEPARTMENT, to be submitted on a form provided by the DEPARTMENT.

The phases for the development of the project are as follows, unless approved otherwise during scope development between the Department and the Consultant:

ARTICLE I

- Type-Span-Location
- Boring Layout
- Preliminary Plans
- Preliminary PS&E Plans (80% complete)
- PS&E Plans (95% complete)
- Draft Contract Plans
- Contract Plans (Paper Mylars)
- a. TSL (Type-Span-Location) Studies

The alignments and profiles developed during the preliminary design of the highway portion of the project will, after approval of the preliminary highway plans by the DEPARTMENT, serve as a base for determining the types of structures that may be utilized and the arrangement of the structure and its components with respect to span lengths, clearances, alignments, etc., which may affect the interface between the bridge and the highway or other features at the bridge location. These "other" features may include existing bridges, drainage facilities, buildings, streets, utilities, etc., or new structures and roadways, ramps, etc., that will be part of the project.

TSL study plans shall be prepared for each bridge showing the selected structure and shall include the plan, elevation, and typical bridge section. The plan and elevation shall generally be drawn to a scale as approved by the DEPARTMENT and shall accurately portray the location and size of the structural components, pavement and slope lines, center and grade lines, vertical and horizontal clearances, etc. The typical bridge section shall portray the components of the superstructure, materials of construction, beam spacing and locations, and dimensions of pavement, curbs, etc.

At those locations where an existing bridge is adjacent to or a second bridge is proposed, sufficient detail shall be provided for the second bridge to clearly and accurately show the relationship between the two structures.

b. Boring Layout

Following the review and acceptance of the TSL Study by the DEPARTMENT, a boring layout plan shall be prepared for the bridge, the layout being based on the approved TSL Plan. This proposed boring layout plan shall be submitted to the DEPARTMENT for approval.

The results of the subsurface explorations shall be plotted, indicating the materials encountered (by description and blow counts), water table, approximate construction elevations, etc. These subsurface data sheets shall be further developed for inclusion in the preliminary and final contract plans.

ARTICLE I

c. Preliminary Plans – Bridge

Preliminary plans for the bridge shall be prepared following acceptance by the DEPARTMENT of the TSL Study and Boring Layout, completion of the subsurface explorations by the Department, and preparation of the subsurface data sheets.

The preliminary structural designs completed as part of the TSL phase shall be refined to incorporate the review comments, minor changes in profile and/or alignment, and the results of soils investigations. Also included in this phase shall be the development of the survey plan for the bridge location. This plan shall include the existing surface contours, boring locations, sub- and superstructure layout, slope limits, and major topographical items.

The plan and elevation sheets developed in the TSL phase shall be refined as necessary (including addition of plans). Profiles shall be developed for each alignment and shall include the appropriate section of the bridge, including substructure and foundation details.

Additional items to be included are the typical approach sections for the facilities over and under the bridge and the developed view of the abutments showing foundation treatment and rock lines, as appropriate. These items shall become part of the final PS&E plans.

Reproducible prints of these Preliminary Plans and estimated quantities and construction costs shall be submitted for approval by the DEPARTMENT prior to progressing to final design of the bridge.

d. Preliminary PS&E - Bridge

This final design shall incorporate revisions, if any, in the Preliminary Plans as previously approved by the DEPARTMENT. The plan and elevation, survey plan and profiles, and boring logs, as submitted for the Preliminary Plans, shall be refined as necessary and shall become a part of the final contract plans. Estimates of quantities shall be prepared for all materials of construction, and shall be tabulated on the plans and summarized for each bridge.

Upon completion of these contract plans, except for quantities and reinforcing-bar lists, copies of the plans shall be submitted to the DEPARTMENT for review and comment, the plans at this stage representing about 80% completion.

e. PS&E - Bridge

Comments resulting from the DEPARTMENT's review of the Preliminary PS&E submission shall be incorporated into the design and contract plans. The estimate of quantities shall be completed and tabulated.

Upon completion of these contract plans, copies of the plans shall be submitted to the DEPARTMENT for review and comment, the plans at this stage representing about 95% completion.

ARTICLE I

f. Draft Contract Plans

Comments resulting from the DEPARTMENT's review of the PS&E submission shall be incorporated into the design and contract plans. The draft contract plans submitted shall include one set of paper prints. Upon completion of these draft contract plans, they shall be submitted to the DEPARTMENT, the plans at this stage representing 98% completion.

g. Contract Plans

Comments resulting from the DEPARTMENT's review of the Draft Contract submission shall be incorporated into the design and contract plans. The final contract plans submitted shall include one set of paper prints. Upon completion of these contract plans, they shall be submitted to the DEPARTMENT, the plans at this stage representing 100% completion.

3. Final Submission Document Requirements

The CONSULTANT'S final submission shall include hard copy of plans, as well as electronic CAD/D files. The CAD/D files shall consist of the base plans with enhancements in MicroStation format, using DEPARTMENT naming conventions, line styles and character styles. The CAD/D files shall also contain a proposed 3D top line model, complete out to the slope limits. The horizontal, vertical, pavement layout, final slopes, ditches, BMP's and other project elements shall be complete and in a condition to allow for global positioning layout techniques and automated machine guidance.

The CONSULTANT shall provide electronic file copies of all highway and bridge project plan sheets with State plane coordinates. The final electronic plan submittal shall also include one PDF per plan set for the project, and one PDF of each sheet; this is applicable to all plan sets provided (Construction, Right-of-Way, Wetlands, Erosion Control, Shoreland, etc.). All files shall be submitted in conformance with the DEPARTMENT'S CAD/D Procedures and Requirements. The electronic CAD/D files shall also include:

- Plotting references needed to re-produce project cut-sheets including sheet numbering (include final project .pcf file, pen-tables, etc.)
- Files used to number the project cut-sheets (project .pcf file, pen tables, etc.)

Any plans (e.g., quantity summary sheets), notes, or models produced from a spreadsheet or word processing, or other software (e.g., Excel, or Word, etc.) shall be submitted in ASCII file or a format suitable for incorporation into Microsoft Office or the current DEPARTMENT software. This shall include files developed by sub-consultants. These documents include:

- All project quantity summary sheets in original format (Excel)
- All sign text sheet information in original format (Excel)
- All quantity sheet information in original format (Excel)

ARTICLE I

- All drainage note information in original format (Excel, Word, or .dgn)
- All pollutant loading and related information in original format (Excel, Word, etc.)
- All design spreadsheets used to complete certain design elements (guardrail design, borings, monitoring wells, etc.) in original format (Excel, Word, .dgn, etc.)
- All traffic analyses studies done during the project including any HCM analyses, traffic micro-simulation models, and presentation graphics
- Any special quantity studies done during the project that could be useful in the future
- All Hydrocad Models in their original format (include index of models in the file)
- All Stormcad, Storm and Sanitary, HY8, Pond Pac, or Hydrain data in their original formats (include an index of the numbering sequence of tables)
- All watershed maps in their original format (GIS, .dgn, mapping software, etc.)
- All soil map information that was included in the pollutant loading package

The CONSULTANT shall also be prepared to submit separate electronic files of all alignments, geodetic control, traverse data, raw survey files and adjustment reports, ROW bound locations, and other project features, as requested, in a format acceptable to the DEPARTMENT, throughout the design contract, in conformance with the DEPARTMENT'S CAD/D Procedures and Requirements. The CONSULTANT shall also provide a hard copy of all proposed alignments (25-foot minimum station interval and curve control points) with associated State plane coordinates (x, y, z).

4. Website Information:

- a. Website Content: All external NHDOT websites created for this project shall meet the ADA Section 508 requirements as stated in the NH DoIT Website Standards. Those standards are outlined in <https://www.nh.gov/doit/vendor/documents/nh-website-standards.pdf>.
- b. Website Documents: All documents posted to a website created for this project, or that are submitted to be posted to a NHDOT website, shall meet ADA Section 508 accessibility requirements. A checklist for document compliance is provided in <https://www.section508.gov/content/build/create-accessible-documents> (go to second link down under "Checklists").

M. SCOPE OF WORK (CONSTRUCTION SUPPORT SERVICES)

If a contract for construction of the project, or part of it, is entered into within two years after completion by the CONSULTANT of the services outlined in Articles I, III and IV, the

ARTICLE I

CONSULTANT shall, without additional compensation therefore, render services to the DEPARTMENT, including, but not restricted to, the following:

If and when required by the DEPARTMENT during the construction of the project, the CONSULTANT shall:

- a. At the CONSULTANT'S sole expense, correct and resolve errors and/or omissions, due to the CONSULTANT'S own negligence, within the contract plans and specifications found during construction.

N. SCOPE OF WORK (CONSTRUCTION SERVICES)

This service is not included in Part B scope and fee.

O. LETTER OF MAP REVISION (LOMR)

This service is not included with this project.

P. DATE OF COMPLETION

In accordance with the Governor and Council Resolution authorizing this AGREEMENT, the date of completion for all professional services rendered under this AGREEMENT is September 30, 2023.

ARTICLE II

ARTICLE II - COST PLUS FIXED FEE COMPENSATION OF CONSULTANT

A. General Fee

In consideration of the terms and obligations of this AGREEMENT, the STATE, through the DEPARTMENT, hereby agrees to pay and the CONSULTANT agrees to accept as full compensation for all design and construction support services, as well as right-of-way services consisting of right-of-way and boundary research, right-of-way purchase plans, right-of-way registry plans, and right-of-way management and engineering rendered to the satisfaction of the DEPARTMENT under this AGREEMENT (except as otherwise herein provided) an amount equal to the sum of the following costs:

1. Actual salaries* approved by the DEPARTMENT paid to technical and other employees by the CONSULTANT, including salaries to principals, for the time such employees are directly utilized on work necessary to fulfill the terms of this AGREEMENT. A list of those personnel working on the project with their classifications and current salary rates shall be submitted to the DEPARTMENT for approval. The rates of any additional personnel working on the project, if any, shall require written approval of the DEPARTMENT prior to working on the project. The CONSULTANT shall submit classifications and rates for any additional personnel a minimum of 14 days prior to using the additional personnel.

*In accordance with DEPARTMENT policy, the maximum direct-labor rate allowed for all positions under this AGREEMENT shall be \$60.00 per hour unless a waiver to the salary cap has been specifically approved for specialty services.

2. Costs which are directly applicable to the salaries, salary burden, and direct and indirect costs, including administration costs. These costs may be applied to only straight time salary extensions where overtime is employed. These amounts shall be based on actual costs to the CONSULTANT for such items during the period of the AGREEMENT and those allowable in accordance with the applicable cost principles contained in Federal Acquisition Regulations Subpart 31.2 and Subpart 31.105. Further, any overtime required for this project shall have the prior written approval of the DEPARTMENT.
3. A fixed fee amount as shown in Article II-A, Section B for profit and non-reimbursed costs.
4. Reimbursement for direct expenses, including work performed by other parties, such as borings, laboratory tests, field survey, special electronic computer services, services of other specialists, printing, photogrammetry, traffic counts, reproductions and travel not included in normal overhead expenses. The reimbursable costs for mileage and for per diem (lodging and meals) shall be that allowed by the CONSULTANT'S established policy but shall not exceed

ARTICLE II

that allowed in the Federal Acquisition Regulations (Subpart 31.205-46) and in the Federal Travel Regulations. The General Services Administration (GSA), Regulation 41 CFR Part 301-4, specifies the FTR automobile mileage reimbursement. Mileage and per diem costs shall be subject to approval by the DEPARTMENT.

All costs as described in the foregoing paragraphs are to be determined by actual records kept during the term of the AGREEMENT which are subject to audit by the STATE and Federal Governments. The final payment and all partial payments made may be adjusted to conform to this final audit. In no case will any adjustments exceed the total amount to be paid shown in the following paragraph and in Article II-A, Section C.1. All Subconsultant costs may also be subject to audit by the STATE and Federal Governments.

The total amount to be paid under Article II-A of this AGREEMENT shall not exceed \$2,162,892.27, the sum of the amounts shown in Article II-A, Section B (which amount is based on the CONSULTANT'S fee and man-hour estimates of), except by agreement of all parties made after supplemental negotiations. Should circumstances beyond the control of the CONSULTANT require extension of the time of completion more than one (1) year, the general fee may be renegotiated; however, the fixed fee (b) shall not change for reasons of work duration alone. The fixed fee (b) shall only change when there has been a significant increase or decrease in the scope of work outlined in this AGREEMENT.

All salaries and increases thereof paid to technical or other employees assigned to this project shall be the result of a company-wide evaluation of all employees and shall not be restricted to employees assigned to this project.

If, in the opinion of the DEPARTMENT, any salary or increase thereof of engineering or technical personnel assigned to this project is unreasonable, it shall notify the CONSULTANT of its opinion with regard thereto and request the CONSULTANT to justify said salary or increase thereof. In the event that the CONSULTANT furnishes justification satisfactory to the DEPARTMENT for said salary or increase thereof, then such salary or increase thereof shall be approved as a payroll expense.

The DEPARTMENT shall have the right to exercise the power of review and approval of salary increases thereof, for a period of thirty (30) days after the submission of a monthly invoice by the CONSULTANT. Unless the DEPARTMENT notifies the CONSULTANT in writing during the thirty-day period that such salary increase thereof is, in its opinion, unreasonable, such lack of notice shall constitute approval of said salary increase thereof from the first day of the preceding month.

The DEPARTMENT shall have the right, at the time of audit, to review all items charged to overhead on this project. If, in the opinion of the DEPARTMENT, such payment is unreasonable, the

ARTICLE II

CONSULTANT shall be required to justify such payment or payments before they will be approved as direct or indirect cost.

The CONSULTANT shall maintain adequate cost records for all work performed under this AGREEMENT. All records and other evidence pertaining to cost incurred shall be made available at all reasonable times during the contract period and for three (3) years from the date of final voucher payment for examination by the STATE and copies thereof shall be furnished if requested.

B. SUMMARY OF FEES

The STATE, through the DEPARTMENT, hereby agrees to pay and the CONSULTANT agrees to accept as full compensation the following:

- a. Actual CONSULTANT'S salaries*, costs applicable to actual salaries, salary burden (direct and indirect) and administrative costs attributable to overhead, the sum of which is estimated at \$1,928,555.11 (including \$0 for Construction Support Services). For billing purposes, salary burden and overhead costs are currently estimated at 161.69% of actual salaries.
- b. A fixed fee to cover profit and non-reimbursed costs at \$175,324.73 (including \$0 for Construction Support Services).
- c. Reimbursement for direct, out-of-pocket expenses estimated at \$59,012.43.

The actual amount payable under categories (a) and (c) is only estimated and shall be changed only upon mutual agreement of the DEPARTMENT and CONSULTANT.

*In accordance with DEPARTMENT policy, the maximum direct-labor rate allowed for all positions under this AGREEMENT (including subconsultants paid under direct expenses) shall be \$60.00 per hour unless a waiver to the salary cap has been specifically approved for specialty services.

C. LIMITATION OF COSTS

1. Costs incurred against the Article II-A portion of this AGREEMENT shall not exceed \$2,162,892.27 unless otherwise authorized. The CONSULTANT shall give the DEPARTMENT a ninety (90)-day written notice when it appears that this limit will be exceeded.
2. It is expected that the total cost to the STATE shall be the cost set forth under Article II-A, Section A, and the CONSULTANT agrees to use his best efforts to perform the work specified in the AGREEMENT and all obligations under this contract within such limiting amount.
3. The STATE shall not be obligated to reimburse the CONSULTANT for costs incurred in excess of the limiting amount set forth in Article II-A, Section A.

ARTICLE II

4. Change orders issued under this contract shall not be considered an authorization to the CONSULTANT to exceed the limiting amount set forth in the Summary in the absence of a statement in the change order, or other contract modifications, increasing the limiting amount.

D. PAYMENTS

Payments on account of services rendered under this AGREEMENT shall be made as follows:

1. Monthly payments on account may be made upon written request of the CONSULTANT. Detailed vouchers shall include certification of manhours of effort by employee classification and actual salaries and other costs incurred accompanied by satisfactory evidence of work performed during the period. Actual salaries paid and percentage factor shown in Article II-A, Section B, part (a) as well as for all approved subconsultants, including those listed in part (d) of Section B, shall be used until such time as true costs of salary burden and overhead are fixed by audit. At that time, payments shall be adjusted to agree with the percentage factors as determined by audit for the period in which the work was performed, as approved by the DEPARTMENT. The fixed fee shall be invoiced during the billing period based upon the overall percent complete of the project's scope of work as approved by the DEPARTMENT.
2. The CONSULTANT shall submit a final voucher upon completion of services required by this AGREEMENT, which includes any unbilled portion of the allowable costs or fixed fee and adjustments, if necessary, for audited actual costs and deliver all required plans, documents and records.

Agreement Total \$2,162,892.27

E. METHOD OF COMPENSATION FOR SPECIAL ASSISTANT TO THE NHDOT SERVICES

The method of compensation for the Special Assistant to the NHDOT tasks under this agreement will be Specific Rates of Pay (The Contract Labor Rates for the Specific Rates of Pay format include profit.)

The following costing items are incorporated as part of this AGREEMENT:

1. **Contract Labor Rates** – The contract labor rate will be a firm-fixed-price for the duration of the AGREEMENT. The contract labor rates will be the total hourly wage for the labor classification including overhead, profit, and escalation of labor adjustment, as follows:
 - a. Direct Labor Rate (\$60.00/hr.)
 - + b. Direct Labor Rate x Overhead Rate (161.69%)

ARTICLE II

$$\begin{aligned}
 &+ \text{ c. } (\$60.00 + \$97.01) \times 1.10^* \\
 &= \text{ Contract Labor Rate } (\$172.71/\text{hr.}) \\
 &\quad \text{*Profit Rate}
 \end{aligned}$$

In accordance with DEPARTMENT policy, the maximum direct labor rate allowed for all labor classifications under this AGREEMENT shall be \$60.00 per hour (including overtime rates) for the life of the Contract. For this AGREEMENT, the \$60.00 per hour maximum direct labor rate translates to a \$172.71 per hour maximum Special Assistant to the NHDOT contract labor rate.

SPECIAL ASSISTANT TO THE NHDOT CONTRACT LABOR RATES (PER HOUR)

<u>Classification</u>	<u>Hourly Rate</u>	<u>OH Rate</u>	<u>Profit</u>	<u>Contract Labor Rate</u>
Special Assistant to the NHDOT	\$ 60.00	\$97.01	\$ 15.70	\$172.71

* The Contract Labor Rates in the above table shall apply for any 24 hours of the day. No overtime pay will be allowed.

The CONSULTANT shall not work overtime without prior approval of the DEPARTMENT.

2. **Overhead Factor** - The negotiated overhead factor for Special Assistant to the NHDOT (161.69%) shall remain fixed at that rate for the life of the Contract and shall not be subject to change as a result of a final audit.
3. **Profit** - The fixed cost per hour for profit shall remain fixed for the life of the AGREEMENT. The negotiated rate and cost per hour for profit for this AGREEMENT is 10% which relates to \$15.70/hour.
4. **Invoicing and Payment** - Payments on account of the fee for services rendered under this AGREEMENT will be made by the DEPARTMENT based on a completely itemized, project-by-project bill submitted on a monthly or other approved basis by the CONSULTANT. The CONSULTANT shall also submit with the itemized bill, Department approved backup weekly time sheets for the employee showing the charges by project and signed by a Department representative.

ARTICLE III

ARTICLE III - GENERAL PROVISIONS

A. Hearings, Etc.

Not part of this Agreement.

B. Contract Proposals.

After the CONSULTANT has furnished to the DEPARTMENT contract drawings, special provisions, specifications, and estimate of quantities by items, the DEPARTMENT will prepare the documents for receipt of proposals from construction contractors and for execution of a construction contract or contracts.

ARTICLE IV

ARTICLE IV - STANDARD PROVISIONS

A. Standard Specifications

The CONSULTANT agrees to follow the provisions of the Design Manuals, Standard Specifications for Road and Bridge Construction, and Standard Plans for Road and Bridge Construction of the DEPARTMENT; A Policy on Geometric Design of Highways and Streets and LRFD Bridge Design Specifications of the American Association of State Highway and Transportation Officials (AASHTO), and amendments thereto, and/or other professional codes or standards applicable to the services to be performed under this AGREEMENT. When a publication (including interim publications) is specified, it refers to the most recent date of issue in effect at the time of execution of this AGREEMENT.

B. Review by STATE and FHWA - Conferences - Inspections

It is mutually agreed that all portions of the work covered by this AGREEMENT shall be subject to the inspection by duly-authorized representatives of the STATE and Federal Highway Administration, United States Department of Transportation, at such time or times as the STATE or Federal Highway Administration deems appropriate.

The location of the office where the work will be available for inspection by STATE and Federal Highway Administration representatives is 2 Bedford Farms Drive, Suite 200, Bedford, NH.

It is further mutually agreed that any party, including the duly-authorized representatives of the Federal Highway Administration, may request and obtain conferences, visits to the site, and inspection of the work at any reasonable time.

C. Extent of Contract

1. Contingent Nature of AGREEMENT

Notwithstanding anything in this AGREEMENT to the contrary, all obligations of the STATE, including, without limitation, the continuance of payments, are contingent upon the availability and continued appropriation of funds; and in no event shall the STATE be liable for any payments in excess of such available appropriated funds. In the event of a reduction or termination of those funds, the STATE shall have the right to terminate this AGREEMENT.

2. Termination

The DEPARTMENT shall have the right at any time, and for any cause, to terminate the work required of the CONSULTANT by this AGREEMENT by written notice of such termination provided to the CONSULTANT by the DEPARTMENT, and, in the event of such a termination of this AGREEMENT without fault on the part of the CONSULTANT, the CONSULTANT shall be entitled to compensation for all work theretofore satisfactorily performed, pursuant to this AGREEMENT, such compensation to be fixed, insofar as possible, based upon the work

ARTICLE IV

performed prior to termination. If no contract or contracts for construction of the project contemplated by this AGREEMENT is (are) entered into within two (2) years after satisfactory completion of the services outlined in Article I, all of the services contemplated by this AGREEMENT shall be deemed to have been completed.

It shall be a breach of this AGREEMENT if the CONSULTANT shall fail to render timely the services required under this AGREEMENT, in accordance with sound professional principles and practices, to the reasonable satisfaction of the DEPARTMENT, or shall be in such financial condition as to be unable to pay its just debts as they accrue, or shall make an assignment for the benefit of creditors, or shall be involved in any proceeding, voluntary or involuntary, resulting in the appointment of a receiver or trustee over its affairs, or shall become dissolved for any cause. In the event of the happening of any one or more of the foregoing contingencies, or upon the substantial breach of any other provisions of this AGREEMENT by the CONSULTANT, its officers, agents, employees, and subconsultants, the DEPARTMENT shall have the absolute right and option to terminate this AGREEMENT forthwith, and, in addition, may have and maintain any legal or equitable remedy against the CONSULTANT for its loss and damages resulting from such breach or breaches of this AGREEMENT; provided, however, that as to all plans, drawings, tracings, estimates, specifications, reports, proposals, sketches, diagrams, and calculations, together with all material and data theretofore furnished to the DEPARTMENT by the CONSULTANT, of a satisfactory nature in accordance with this AGREEMENT, which plans, drawings, tracings, etc., are of use to the DEPARTMENT, the CONSULTANT shall be entitled to a credit, based on the contract rate for the work so performed in a satisfactory manner and of use and benefit to the DEPARTMENT.

D. Revisions to Reports, Plans or Documents

The CONSULTANT shall perform such additional work as may be necessary to correct errors in the work required under the AGREEMENT caused by errors and omissions by the CONSULTANT without undue delays and without additional cost to the DEPARTMENT.

Furthermore, prior to final approval of plans, specifications, estimates, reports, or documents by the DEPARTMENT, the CONSULTANT shall make such revisions of them as directed by the DEPARTMENT, without additional compensation therefor, except as hereinafter provided:

1. If, after its written approval thereof, the DEPARTMENT shall require changes to the plans or documents that revise engineering or other factors specifically approved, thereby necessitating revisions of the contract plans or documents, or,
2. When applicable, if during the term of this AGREEMENT, a revision of the alignment is ordered by the DEPARTMENT to the extent that the revised alignment will lie completely or partially outside the limit of the survey data plotted by the CONSULTANT (this does not apply

ARTICLE IV

to those adjustments and refinements to the alignments anticipated under the scope of work),
or,

3. If, after approval by the DEPARTMENT of the final contract plans or documents, the CONSULTANT shall be ordered in writing by the DEPARTMENT to make revisions, or to perform services other than those necessary to adapt said plans, reports, or documents to conditions observed during field inspections and encountered during construction; the CONSULTANT shall be entitled to compensation therefor in accordance with Article II, Section B, such compensation to be in addition to the fee specified in Article II, Section A, for its original work on the plans, reports or documents.

E. Additional Services

If, during the term of this AGREEMENT, additional professional services are required due to a revision in the limits of the project, or it becomes necessary to perform services not anticipated during negotiation, the DEPARTMENT may, in writing, order the CONSULTANT to perform such services, and the CONSULTANT shall be paid a fee in accordance with the provisions of Article II, Sections A and B.

If, during the term of this AGREEMENT, additional professional services are performed by the CONSULTANT due to the fact that data furnished by the DEPARTMENT are not usable or applicable, the STATE will, upon written approval by the DEPARTMENT, reimburse the CONSULTANT for such additional design services in accordance with the provisions of Article II, Sections A and B.

If additional services are performed by the CONSULTANT through its own acts, which are not usable or applicable to this project, the cost of such additional services shall not be reimbursable.

F. Ownership of Plans

All data, plans, drawings, tracings, estimates, specifications, proposals, sketches, diagrams, calculations, reports, or other documents collected, prepared, or undertaken either manually or electronically by the CONSULTANT under the provisions of this AGREEMENT, immediately shall become the property of the DEPARTMENT, and, when completed, shall bear the CONSULTANT'S endorsement. The CONSULTANT shall surrender to the DEPARTMENT, upon demand at any time, or submit to its inspection, any data, plan, drawing, tracing, estimate, specification, proposal, sketch, diagram, calculation, report, or document which shall have been collected, prepared, or undertaken by the CONSULTANT pursuant to this AGREEMENT, or shall have been hitherto furnished to the CONSULTANT by the DEPARTMENT. The CONSULTANT shall have the right, with the written approval of the DEPARTMENT, to use any of the data prepared by it and hitherto delivered to the DEPARTMENT at any later stage of the project contemplated by this AGREEMENT.

ARTICLE IV

G. Subletting

The CONSULTANT shall not sublet, assign or transfer any part of the CONSULTANT'S services or obligations under this AGREEMENT without the prior approval and written consent of the DEPARTMENT.

All subcontracts shall be in writing and those exceeding \$10,000 shall contain all provisions of this AGREEMENT, including "Certification of CONSULTANT/Subconsultant". For subconsultants working on design, hazardous materials, geotechnical services, etc., the minimum limits of their professional liability (errors and omissions) insurance coverage shall be not less than \$2,000,000 in the aggregate, with a deductible of not more than \$75,000. For subconsultant contracts with less risk, e.g., wetland evaluations, materials inspection and testing, structural steel fabrication inspection, underwater bridge inspection, research, bridge deck condition surveys, surveying, mapping, noise studies, air-quality studies, etc., the minimum limits of their professional liability (errors and omissions) insurance coverage shall be not less than \$1,500,000 in the aggregate, with a deductible of not more than \$25,000. For subconsultant contracts with no-risk, e.g., subsurface exploration, archaeology, cultural resources, data gathering, etc., professional liability insurance shall not be required. If coverage is claims made, the period to report claims shall extend for not less than three years from the date of substantial completion of the construction contract. A copy of each subcontract shall be submitted for the DEPARTMENT'S files.

H. General Compliance with Laws, Etc.

The CONSULTANT shall comply with all Federal, STATE, and local laws and ordinances applicable to any of the work involved in this AGREEMENT and shall conform to the requirements and standards of STATE, municipal, railroad, and utility agencies whose facilities and services may be affected by the construction of this project. The services shall be performed so as to cause minimum interruption to said facilities and services.

I. Brokerage

The CONSULTANT warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT, to solicit or secure this Contract, and that it has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, the STATE shall have the right to annul this Contract without liability, or, at its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

ARTICLE IV

J. Contractual Relations

1. Independent Contractor

The CONSULTANT agrees that its relation to the STATE is as an independent contractor and not as an agent or employee of the STATE.

2. Claims and Indemnification

a. Non-Professional Liability Indemnification

The CONSULTANT agrees to defend, indemnify and hold harmless the STATE and all of its officers, agents, and employees from and against any and all claims, liabilities, or suits arising from (or which may be claimed to arise from) any (i) acts or omissions of the CONSULTANT or its subconsultants in the performance of this AGREEMENT allegedly resulting in property damage or bodily injury, and/or, (ii) misconduct or wrongdoing of the CONSULTANT or its subconsultants in the performance of this AGREEMENT.

b. Professional Liability Indemnification

The CONSULTANT agrees to indemnify and hold harmless the STATE and all of its officers, agents, and employees from and against any and all claims, liabilities, or suits arising from (or which may be claimed to arise from) any negligent acts or omissions of the CONSULTANT or its subconsultants in the performance of professional services covered by this AGREEMENT.

c. These covenants shall survive the termination of the AGREEMENT. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the STATE, which immunity is hereby reserved by the STATE.

3. Insurance

a. Required Coverage

The CONSULTANT shall, at its sole expense, obtain and maintain in force the following insurance:

1. Commercial or comprehensive general liability insurance, including contractual coverage, for all claims of bodily injury, death, or property damage, in policy amounts of not less than \$250,000 per occurrence and \$2,000,000 in the aggregate (STATE to be named as an additional insured); and
2. comprehensive automobile liability insurance covering all motor vehicles, including owned, hired, borrowed, and non-owned vehicles, for all claims of bodily injury, death, or property damage, in policy amounts of not less than \$500,000 combined single limit; and
3. professional liability (errors and omissions) insurance coverage of not less than \$2,000,000 in the aggregate. If coverage is claims made, the period to report claims

ARTICLE IV

shall extend for not less than three years from the date of substantial completion of the construction contract. No retention (deductible) shall be more than \$75,000; and

4. workers' compensation and employer's liability insurance as required by law.

b. **Proof of Insurance**

The policies described in paragraph (a) of this section and Section G shall be in the standard form employed in the STATE, issued by underwriters licensed or approved by the Department of Insurance of the STATE. Each policy shall contain a clause prohibiting cancellation or modifications of the policy earlier than 30 days, or 10 days in cases of non-payment of premium, after written notice thereof has been received by the STATE. The CONSULTANT shall provide to the STATE a certificate of insurance evidencing the required coverages, retention (deductible), and cancellation clause prior to submittal of the AGREEMENT to Governor and Council for approval and shall have a continuing duty to provide new certificates of insurance as the policies are amended or renewed.

4. **No Third-Party Rights**

It is not intended by any of the provisions of the AGREEMENT to make the public, or any member thereof, a third-party beneficiary of the AGREEMENT, or to authorize anyone not a party to this AGREEMENT to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Contract. The duties, obligations, and responsibilities of the parties to this AGREEMENT with respect to third parties shall remain as imposed by law. No portion of this AGREEMENT shall be understood to be a waiver of the STATE'S sovereign immunity.

5. **Construction of AGREEMENT**

This AGREEMENT is executed in a number of counterparts, each of which is an original and constitutes the entire AGREEMENT between the parties. This AGREEMENT shall be construed according to the laws of the STATE.

K. AGREEMENT Modification

The assignment of the CONSULTANT, generally established by the scope of work in this AGREEMENT, shall not be modified in any way without prior approval of the Governor and Council.

L. Extension of Completion Date(s)

If, during the course of the work, the CONSULTANT anticipates that one or more of the completion dates specified in this AGREEMENT cannot be met, it shall be the CONSULTANT'S responsibility to notify the DEPARTMENT in writing at least ninety (90) days prior to the completion date(s) in question. The CONSULTANT shall state the reasons that a completion date(s) cannot be met and request a revised date(s) for consideration by the DEPARTMENT.

ARTICLE IV

M. Title VI (Nondiscrimination of Federally-Assisted Programs) Compliance

During the performance of this AGREEMENT, the CONSULTANT, for itself, its assignees and successors in interest agrees as follows:

- (1) **Compliance with Regulations:** The CONSULTANT shall comply with Title VI of the Civil Rights Act of 1964 regulations relative to nondiscrimination in federally-assisted programs of the DEPARTMENT, such regulations entitled Title 49 Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the REGULATIONS), and which are herein incorporated by reference and made a part of this AGREEMENT.
- (2) **Nondiscrimination:** The CONSULTANT, with regard to the work performed by it during the AGREEMENT, shall not discriminate on the grounds of race, color, religion, age, sex, handicap, sexual orientation, or national origin in the selection and retention of subconsultants, including procurements of materials and leases of equipment specific to this project. The CONSULTANT shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the REGULATIONS, including employment practices when the AGREEMENT covers a program set forth in Appendix B of the REGULATIONS.
- (3) **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the CONSULTANT for work to be performed under a subcontract, including procurements of materials or leases of equipment specific to the project, each potential subconsultant or supplier shall be notified by the CONSULTANT of the CONSULTANT'S obligations under this AGREEMENT and the REGULATIONS relative to nondiscrimination on the grounds of race, color, religion, age, sex, handicap, sexual orientation, or national origin.
- (4) **Information and Reports:** The CONSULTANT shall provide all information and reports required by the REGULATIONS or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by the DEPARTMENT or the Federal Highway Administration to be pertinent to ascertain compliance with such REGULATIONS, orders and instructions. Where any information required of a CONSULTANT is in the exclusive possession of another who fails or refuses to furnish this information, the CONSULTANT shall so certify to the DEPARTMENT or the Federal Highway Administration, as appropriate, and shall set forth what efforts it has made to obtain the information.
- (5) **Sanctions for Noncompliance:** In the event of the CONSULTANT'S noncompliance with nondiscrimination provisions of this AGREEMENT, the DEPARTMENT shall impose sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

ARTICLE IV

- (a) withholding of payments to the CONSULTANT under the AGREEMENT until the CONSULTANT complies; and/or
 - (b) cancellation, termination, or suspension of the AGREEMENT, in whole or in part.
- (6) The CONSULTANT shall take such action with respect to any subcontract or procurement as the DEPARTMENT or the Federal Highway Administration may direct as a means of enforcing such provisions, including sanctions for noncompliance, provided, however, that in the event a CONSULTANT becomes involved in, or is threatened with, litigation with a subconsultant or supplier as a result of such direction, the CONSULTANT may request the DEPARTMENT to enter into such litigation to protect the interests of the STATE, and, in addition, the CONSULTANT may request the United States to enter into such litigation to protect the interests of the United States.
- (7) 23 CFR 710.405(b) and Executive Order 11246 entitled "Equal Employment Opportunity," as amended by Executive Order 11375 and as supplemented in Department of Labor REGULATIONS (41 CFR Part 60), shall be applicable to this AGREEMENT and any subagreements hereunder.
- (8) Incorporation of Provisions: The CONSULTANT shall include the provisions of paragraphs (1) through (7) in every subcontract, including procurements of materials and leases of equipment specific to the project, unless exempt by the REGULATIONS, or directives issued pursuant thereto.

In accordance with EXECUTIVE ORDER 11246, the DEPARTMENT has the authority and responsibility to notify the Office of Federal Contract Compliance Programs of the United States Department of Labor if they become aware of any possible violations of Executive Order 11246 and 41 CFR Part 60. The Office of Federal Contract Compliance Programs is solely responsible for determining compliance with Executive Order 11246 and 41 CFR Part 60 and the CONSULTANT should contact them regarding related compliance issues.

N. Disadvantaged Business Enterprise Policy Requirements

1. Policy. It is the policy of the United States Department of Transportation (USDOT) to ensure nondiscriminatory opportunity for Disadvantaged Business Enterprises (DBE's), as defined in 49 Code of Federal Regulations (CFR) Part 26, to participate in the performance of agreements and any subagreements financed in whole or in part with Federal funds. Consequently, the DBE requirements of 49 CFR Part 26 apply to this AGREEMENT.
2. Disadvantaged Business Enterprise (DBE) Obligation. The STATE and its CONSULTANTS agree to ensure nondiscriminatory opportunity for disadvantaged business enterprises, as defined in 49 CFR Part 26, to participate in the performance of agreements and any subagreements financed in whole or in part with Federal funds. In this regard, the STATE and

ARTICLE IV

its CONSULTANTS shall take all necessary and reasonable steps in accordance with 49 CFR Part 26 to ensure that disadvantaged business enterprises have the opportunity to compete for and perform work specified in the agreements. The STATE and its CONSULTANTS shall not discriminate on the basis of race, color, religion, age, sex, handicap, sexual orientation, or national origin in the award and performance of agreements financed in whole or in part with Federal funds.

3. **Sanctions for Non-Compliance:** The CONSULTANT is hereby advised that failure of the CONSULTANT, or any Subconsultant performing work under this AGREEMENT, to carry out the requirements set forth in paragraphs 1 and 2 above, shall constitute a breach of agreement and, after the notification of the United States Department of Transportation, may result in termination of this AGREEMENT by the STATE or such remedy as the STATE deems appropriate.

O. Documentation

The CONSULTANT shall document the results of the work to the satisfaction of the DEPARTMENT and the Federal Highway Administration. This shall include preparation of progress reports, plans, specifications, and estimates and similar evidences of attainment of objectives called for in this AGREEMENT.

P. Clean Air and Water Acts

If the amount of the AGREEMENT or subcontract thereunder exceeds \$100,000, the CONSULTANT or subconsultant shall comply with applicable standards, orders, or requirements issued under Section 306 of the Federal Clean Air Act (43 U.S.C. 1857(h)), Section 508 of the Federal Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15), which prohibit the use under non-exempt Federal contracts, grants, or loans of facilities included on the EPA List of Violating Facilities. The CONSULTANT or subconsultant shall report violations to the FHWA and to the U. S. Environmental Protection Agency Assistant Administrator for Enforcement (EN-329).

ATTACHMENT A

Special Contract Provisions for COVID-19

The CONSULTANT acknowledges and agrees that this AGREEMENT was entered into following the coronavirus disease 2019 (COVID-19) outbreak. The CONSULTANT agrees that to the extent the COVID-19 outbreak, or any federal, state or local orders, regulations, rules, restrictions, or emergency declarations relating to COVID-19; disrupt, delay, or otherwise impact the Scope of Services to be performed by the CONSULTANT as set forth in Article I of this AGREEMENT, any such disruption, delay, or other impact was foreseeable at the time this AGREEMENT was entered into by the Parties and does not excuse the Contractor's performance under this AGREEMENT. The CONSULTANT agrees that any such impact, including any disruption to supply chains, workforce reductions, delays or interruptions in performance, or other effects on businesses, are not the fault of the STATE and the CONSULTANT may not seek damages against the STATE for any such impacts.

If the CONSULTANT experiences or anticipates any such COVID-19-related impacts to this AGREEMENT, the CONSULTANT shall immediately notify the DEPARTMENT'S Contract Manager. In the event of any COVID-19-related impact or anticipated impact to this AGREEMENT, the Contract Manager shall have the right to temporarily modify, substitute, or decrease the services, without the approval of the Governor and Executive Council, upon giving written notice to the CONSULTANT. The STATE'S right to modify includes, but is not limited to the right to modify service priorities, including how and when services are delivered, and expenditure requirements under this AGREEMENT so as to achieve compliance therewith, provided such modifications are within the Scope of Services and cost limitations of this AGREEMENT. By exercising any of the rights described within this subsection, the STATE does not waive any of its right under this AGREEMENT.

In the event that a modification by the STATE under this subsection would result in a permanent reduction of services that cannot be supplemented during the remaining term of this AGREEMENT with either replacement or substituted services of substantially similar value, the Parties shall submit a formal amendment to this AGREEMENT with a commensurate reduction in the price. This amendment will require the approval of the Governor and Executive Council. In order to facilitate reconciliation of services performed under this AGREEMENT, the CONSULTANT shall submit weekly reports detailing the following for any service not fully performed pursuant to the terms of the AGREEMENT:

- 1) The services required to be performed under the terms of this AGREEMENT as written;
- 2) The services actually performed;
- 3) Any replacement or substituted services performed with reference to the associated unperformed contracted services.



Jaffrey 16307
March 26, 2021

- Blake Street from approximately 200 ft. south of the proposed new alignment of US 202

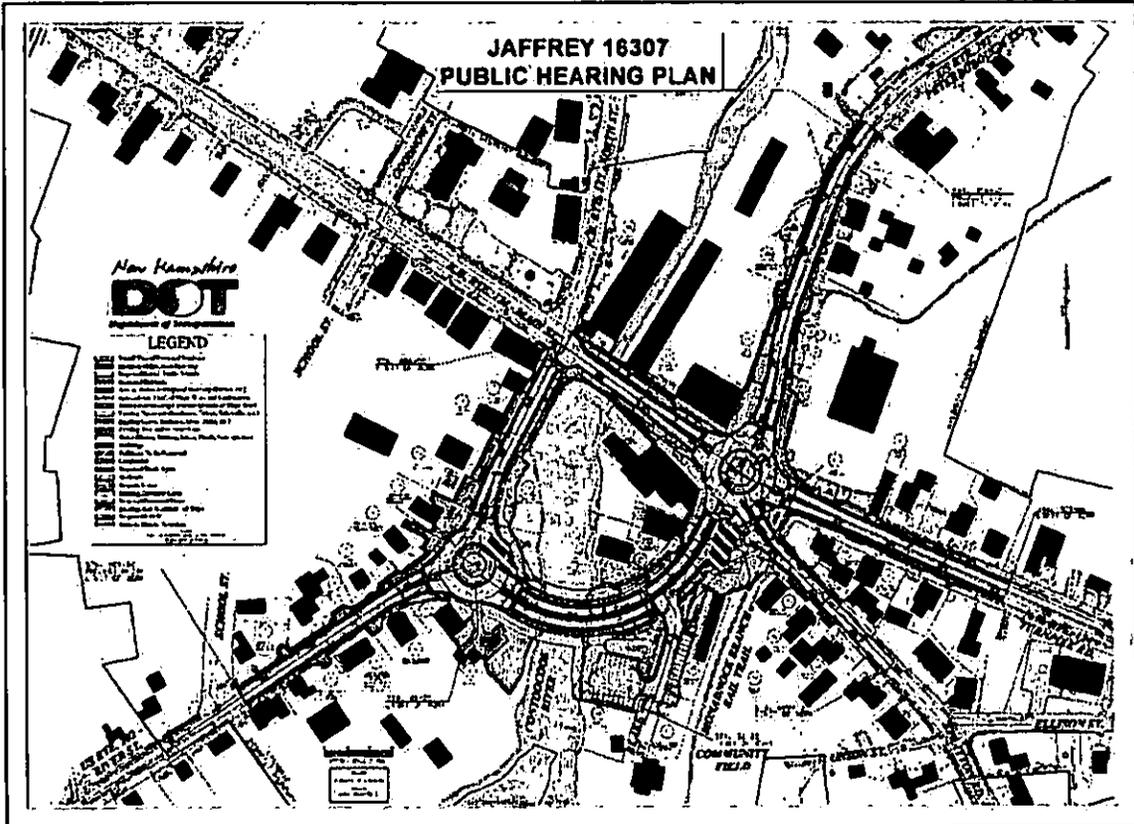


Figure 1: Project Limits

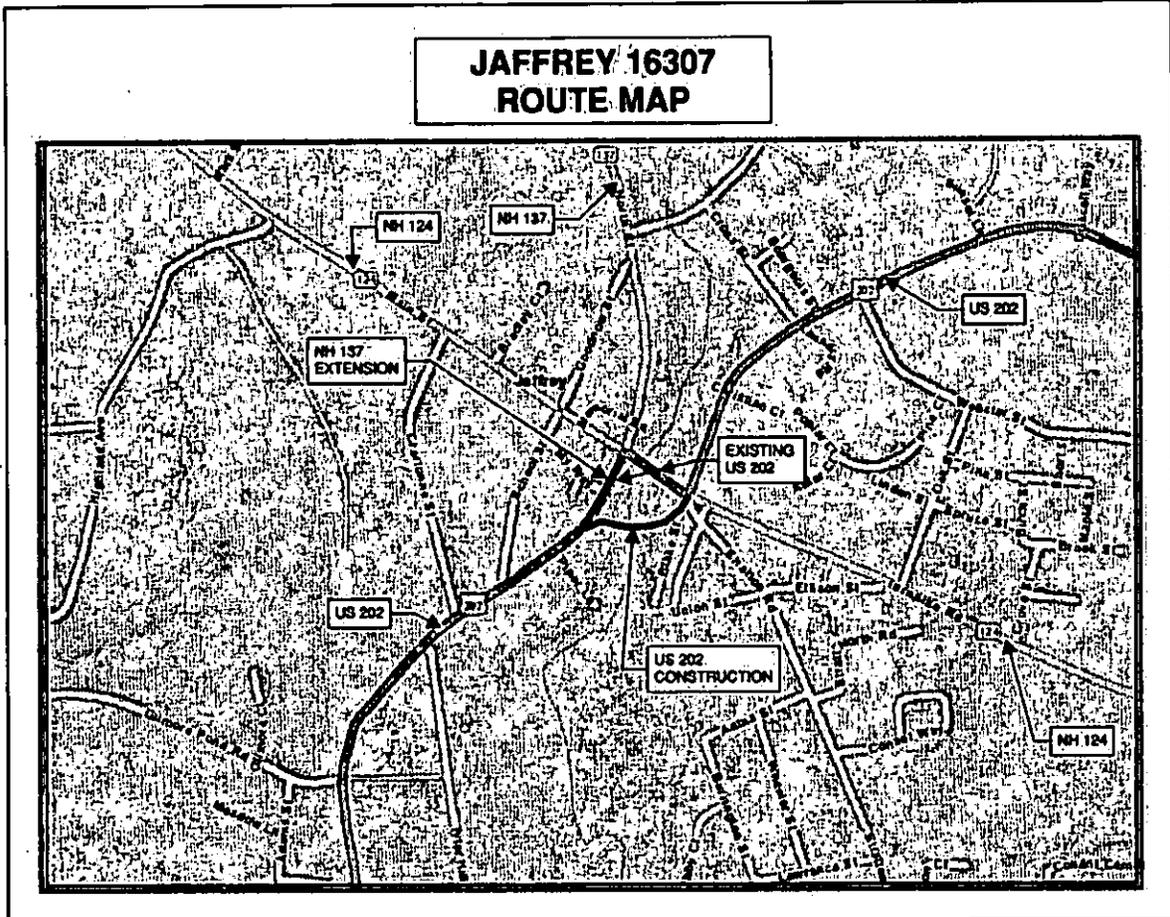


Figure 2: Route Map



Jaffrey 16307
March 26, 2021

SCOPE OF WORK

NHDOT has requested that VHB develop a scope and fee proposal to provide construction plans and supporting documents for the final design of the US 202 intersection improvement project located in Jaffrey, NH. The following provides VHB's proposed scope of services for "Part B" of the above described 16307 US 202 – Jaffrey NH Project. VHB shall perform the services herein in accordance with the standard of care of similarly situated design professionals acting under similar circumstances. It is anticipated the project will follow NHDOT's typical submission process. Accordingly, the work has been divided into tasks for each submission, further discussion of the tasks is provided below.

- Task 1: Project Initiation
- Task 2: Preliminary
- Task 3: Type, Size, and Location (TS&L)
- Task 4: Slope & Drain
- Task 5: Preliminary Bridge Plans
- Task 6: Utility
- Task 7: Preliminary Plans, Specifications & Estimate (PPSE)
- Task 8: Plans, Specifications & Estimate (PSE)
- Task 9: Draft Contract
- Task 10: Contract
- Task 11: Environmental
- Task 12: Survey
- Task 13: Right-of-Way
- Task 14: Community Involvement/Public Relations
- Task 15: NHDOT Project Manager Assistant
- Task 16: Project Administration



Jaffrey 16307
March 26, 2021

TASK 1: PROJECT INITIATION

VHB will complete the following tasks under the Project Initiation phase:

- 1.1 **Project Kickoff** – VHB will hold an informal project kick-off meeting with NHDOT staff. This important meeting will provide an opportunity to review the preliminary design phase, discuss the scope of work for the final design, review near and long-term project milestones, and establish communication protocols and decision-making structure. VHB will prepare for, run and document the project kickoff meeting. VHB will also conduct an internal kick-off meeting to review design procedure, QA/QC protocols, milestones, and coordination of all relevant disciplines.
- 1.2 **Traffic Counts** – VHB will retain a traffic counting vendor (assumed to be Accurate Counts) to conduct 48-hour automatic traffic recorder (ATR) counts along two roadway segments and weekday AM and PM peak period manual turning movement counts (TMC) at two intersections while school is in session. The intersection TMCs will record automobile, truck, and non-motorized (including pedestrian and bicycle) movements. The count locations include:

ATRs

- Main Street, west of Peterborough Street
- River Street, south of Main Street

TMCs

- Main Street/River Street/North Street
- Main Street/Peterborough Street/Turnpike Street/Stratton Road/Blake Street

Due to the coronavirus disease 2019 (COVID-19) pandemic, traffic volumes and travel patterns have been impacted and may not be indicative of typical conditions on New Hampshire roadways. Based on preliminary research through the NHDOT Transportation Data Management System, directional traffic volumes are provided along the Main Street (US 202/NH 124) east of North Street (NH 137) over Contoocook River (Location ID 82233055) that were collected in July 2019 (prior to the pandemic). In addition, traffic volumes were collected in April 2017 as part of the Jaffrey 16307 improvement project for the US 202, NH 124, and NH 137 intersection. Therefore, VHB will compare the traffic counts collected as part of this contract with these pre-pandemic traffic volumes to establish 2020 existing conditions. For planning purposes, the base conditions would represent peak-month traffic volumes to be consistent with NHDOT guidelines. VHB will provide the methodology and adjustments to NHDOT officials for review and acceptance prior to use for design purposes.

- 1.3 **Site Visit** – VHB will conduct one site visit as part of the survey review, assumed to be 3 people from VHB.



Jaffrey 16307
March 26, 2021

TASK 2: PRELIMINARY

The preliminary design will be based on the proposed action developed by VHB as part of the X-A001(234) / 16307 Jaffrey Part A preliminary engineering. The proposed action will be advanced to approximately 30% design completion upon completion of Part A.

VHB will complete the following tasks under the Preliminary Design phase:

2.1. **Roadway** – VHB will advance the proposed horizontal and vertical alignments for roadways noted above in the construction project limits. Pavement layout and lane use will also be refined for roadway approaches, roundabouts, multi-use paths, and parking. Retaining wall locations will be identified and located with consideration to future sign locations. The submission will include roll plans as well as cut sheets for typical sections, profiles and cross sections depicting the top line template. Design criteria for the proposed design will follow the criteria outlined in the Engineers Report, dated September 9, 2019. It is anticipated that the following will be included in the development of the Preliminary Design submission.

- Design Narrative
- Estimate & Quantities
- Preliminary roadway typical sections
- General roll plans (1"=20') depicting recommended horizontal alignments, intersection plans, conceptual best management practices (BMP), and approximate slope limits
- Profiles - 1"=20'H / 1"=4'V
- Cross sections at 50' intervals 1"=10' including special sections for critical driveways and other special elements i.e. retaining walls
- Concept Traffic Control Roll Plans – 1"=50'

2.2. **Drainage** – VHB will review the existing drainage system survey and will develop an existing condition drainage model to determine pre-construction flows at existing outlet locations within the project footprint. VHB will develop a 2D proposed closed drainage system layout and conceptual layout of BMPs. VHB will trace the proposed drainage originating from the project area to its ultimate outlet to waters of the US, which is the Contoocook River within Town of Jaffrey;

2.3. **Traffic Study** – VHB will develop updated traffic volume networks, conduct operational analyses, and summarize the findings in a technical memorandum

2.3.1. **Traffic Volume Networks**

VHB will develop updated base year (2020), opening year (2023), and future design year (2046) weekday AM and PM peak hour traffic volume networks for the defined study area of Main Street from the Peterborough Street, Turnpike Road, Stratton Road, and Blake Street intersection to River Street, River Street from Main Street to the new section of US 202, and along the new section of US 202 from River Street to Main Street. VHB will coordinate with Town planning staff and Southwest Regional Planning Commission



Jaffrey 16307
March 26, 2021

(SWRPC) staff to determine if the previous assumptions for potential development growth need to be modified.

2.3.2. Field Reconnaissance

VHB will conduct a comprehensive field reconnaissance to observe existing traffic flow patterns; traffic operational issues, pedestrian and bicycle activity and to update the physical inventory including signs conducted during Part A. Observations will be performed while school is in session.

2.3.3. Operational Analyses

Traffic operational analyses for the study area intersections will be performed for the base year, opening year, and future design year weekday AM and PM peak hour conditions. The results will report parameters such as level of service, delay, queuing, and volume-to-capacity ratio where appropriate. As currently planned, the traffic operational analyses would be based on the methodologies published in the 6th edition of the Highway Capacity Manual (HCM) using the Synchro 10 computer program for the signalized and unsignalized intersections and using Signalized & Unsignalized Intersection Design and Research Aid (SIDRA) INTERSECTION software for the roundabouts. In addition, the SimTraffic microsimulation model may be used to evaluate vehicular interaction between intersections. This software program may be considered more suitable in determining vehicular levels of service, delays, and queues for closely spaced intersections. VHB will coordinate with NHDOT Bureau of Traffic officials for the latest intersection analysis guidance and the appropriate software programs to be used in ensuring compliance with NHDOT methodologies.

2.3.4. Technical Memorandum

The traffic volume data collection, traffic network development, and the results of the traffic operational analyses will be summarized in a concise technical memorandum. The technical memorandum will document alternate traffic analysis methods, adjustments to data used for traffic operational analysis as well as model calibrations used.

2.4. Traffic Control – VHB will develop conceptual level traffic control roll plans. Roll plans will depict general work zone areas, phasing, concept traffic patterns and roadway closures.

2.5. Utility – VHB will coordinate with Design Services to show the existing utility locations on the plans. Overhead and underground utilities are in the project area and will need to be adjusted or relocated. Based on the preliminary design level, VHB will note the anticipated utility conflicts as part of the design narrative.



Jaffrey 16307
March 26, 2021

- 2.6. Site Visit – VHB will conduct one site visit to review the preliminary design elements, assumed to be 3 people from VHB.
- 2.7. Geotechnical – VHB will coordinate with NHDOT's Bureau of Highway Design and Bureau of Traffic for the development of Average Daily Load (ADL) values for the roadway and parking area pavement designs. ADL values will be developed by the Department. VHB will coordinate with the geotechnical subconsultant for development of geotechnical recommendations, boring locations and geotechnical design report for the project. The geotechnical explorations, sampling, testing and borings program along with report and recommendations are detailed in the attachment to this scope, S.W. Cole Explorations and Geotechnical Engineering Services dated March 25, 2021.
- 2.8. Quantities – VHB will prepare a preliminary design level estimate of only major item quantities. The Department will supply the Department preferred estimating spreadsheet.
- 2.9. Context Sensitive Design Coordination – Throughout Part A, NHDOT and VHB coordinated with the Town to ensure that the preferred alternative would be sensitive to the downtown area. VHB proposes to continue coordination through Part B for context sensitive design including consideration for business access and downtown parking treatments. Street lighting design is by the Department with coordination and incorporation in the plans by VHB. It is noted that uncontrolled crosswalks, except those at roundabouts, must meet current Department safety criteria.
- 2.10. Design Report – VHB will develop a design narrative including discussion on design criteria; horizontal and vertical alignments; superelevation; guardrail; traffic operations and levels of service; environmental factors and commitments; drainage layout utility conflicts; and discussion of pending or outstanding issues.



Jaffrey 16307
March 26, 2021

TASK 3: TYPE, SIZE, AND LOCATION (TS&L)

The proposed new bridge carrying relocated US 202 over Contoocook River is currently shown in the Public Hearing plan as a curved steel girder with composite concrete deck bridge with a span of 140' and an overall out to out width of 62'. This provides a rail-to-rail width of 59' with the following arrangement of a 5.5' sidewalk on the north and south sides, two 12' lanes, two 7' outside shoulders, and a 6' raised median with 2' shoulders on each side of the median. The proposed bridge is fully located within a 220' radius curve (Curve #20) with a vertical grade of 0.5% sloping downward to the east. The bridge is proposed approximately 375' south (upstream) of the Main Street bridge. The bridge will be capable of a mounted sign structure if needed.

The 140' span length was conceptually determined to meet 1.2 times bank full width plus 2' per side using topographic survey assuming bank full width and based on Federal Emergency Management Agency (FEMA) published 100-year water surface elevation. Low superstructure was set at elevation 1013' (NAVD88) as a minimum, 1-foot above FEMA 100-year water surface elevation of 1012'. These assumptions will be verified as part of this task. If required, an Alternative Design Report (ADR) may be required in support of the 140' span length.

There are proposed retaining walls on all four quadrants of the proposed bridge to reduce the proposed alternative impacts.

No efforts associated with the existing retaining wall along the west side of the Contoocook River are expected or included as the preferred alternative maintains the existing wall and drainage outlets.

3.1 Type, Size, and Location (TS&L) – VHB will develop TS&L Plans and an Estimate for a new bridge that will include curved steel girders and a composite concrete deck for two different girder spacings.

Design criteria will be established based on applicable AASHTO design standards and NHDOT procedures and guidelines. Potential design exceptions (none anticipated) associated with the bridge will be discussed in the TS&L report.

The TS&L Plans will include the following plans:

1. Bridge General Plan & Elevation
2. Site Plan & Profile (Survey Layout)
3. Boring Layout and Boring Logs, if received
4. Typical Girder and Deck Cross Section

3.2 Quantities – An estimate of quantities will be included in this submission. Estimate will include major bridge items and select supporting items with contingencies.



Jaffrey 16307
March 26, 2021

3.3 **Hydrology** – VHB will gather hydrologic information considering the dam controls immediately upstream and downstream of the proposed crossing. The hydrologic analysis will estimate peak flows for the 2, 10, 50, 100, and 500-year return periods. VHB will use available information, including FEMA Flood Insurance Studies (FIS) published information and recent infrastructure studies, to estimate peak flows:

3.4 **Hydraulics** – The proposed crossing is located in Special Flood Hazard Area (SFHA) Zone AE with a Base Flood Elevation (BFE) of 1012', according to the Cheshire County 2006 Effective FIS published by FEMA. The proposed structure will be designed to provide 1 foot of freeboard during the 100-year storm event without increasing the BFE. VHB will perform a hydraulic analysis for the bridge span for all storm events.

VHB will calculate scour depths for the 100-year and 500-year events based on the methodology presented in the Hydraulic Engineering Circular (HEC) 18 published by the Federal Highway Administration (FHWA) in April 2012.

The hydraulic analysis will be based on topographic field survey as obtained as part of this project. VHB will use HEC-RAS to analyze the proposed bridge crossing.

3.5 **Geotechnical** – VHB will develop a Boring Layout Plan during this phase. No geotechnical evaluations are anticipated for the TSL phase. Any geotechnical information developed or obtained by geotechnical subconsultant will be incorporated into the Preliminary Plans, if available.



Jaffrey 16307
March 26, 2021

TASK 4: SLOPE & DRAIN

VHB will prepare the Slope & Drain Plan Submission for review by NHDOT based on comments received from the Preliminary submission review. The Slope and Drain submission will advance design to approximately 60% completion.

VHB will complete the following tasks under the Slope & Drain Design phase:

4.1 Roadway – Provide cut sheet design plans for construction/materials, roadway approaches, roundabout and multi-use path layout, project impacts, grading and drainage, pavement markings, guardrail, curbing, signing and rectangular rapid flashing beacons. The Slope & Drain submission will finalize horizontal and vertical alignments, advance pavement layouts, refine cross sections and add bottom of sub-base, develop full typical sections, identify retaining walls, develop closed drainage system designs and BMP treatment locations and further identify utility conflicts and available existing utility information.

It is anticipated that the following cut sheets may be included in the development of the Slope & Drain submission (anticipate sheets).

1. Front Sheet (1)
2. General Notes/Index (1)
3. Standard Symbols (2)
4. Roadway Typical (5)
5. Miscellaneous Details (1)
6. General Plans – 1"=20' (6)
7. Drainage Notes (1)
8. Profiles - 1"=20'H/1"=4'V (6)
9. Drainage and Utility Plans – 1"=20' (6)
10. Alignment, Curbing, and Pavement Layout Plans – 1"=20' (6)
11. Pavement Marking and Signing Plans – 1"=20' (6)
12. Traffic Control Roll Plans Only – 1"=50' (4)
13. Traffic Control Critical Sections - (4)
14. Cross sections at 50' intervals and drive cross-sections – 1"=10' (52)

4.2 Drainage – The project consists of curbed roadway sections requiring closed drainage systems for the proposed roundabouts, new section of US 202 and roadway approaches to the roundabout. Closed drainage systems will be designed along with BMP's to mitigate for pollutant loading requirements. The proposed closed system will be designed with consideration of the existing closed drainage systems within the project footprint. Proposed closed systems will need to connect to existing systems. Ditch line drainage will be considered where necessary. BMP's will be selected based on detention and pollutant loading requirements along with existing site constraints. The design will include structure types, locations, sizes, and drainage notes. The project footprint will be analyzed for pre and post construction peak flow run-off. Note that given the current impounded condition of the river and the tight footprint of the project that there are limited areas to detain stormwater run-off.



Jaffrey 16307
March 26, 2021

4.3 **Traffic** – New signing and striping for the roundabouts, US 202 and approach legs to the roundabouts will be proposed. Signing and striping will be in accordance with NHDOT practices, the Manual of Uniform Traffic Control Devices (MUTCD) 2009 edition and NCHRP Report 672 – Roundabouts: An Informational Guide, Second Edition and NHDOT Practices. The pavement marking and signing plan sheets may require additional sheets beyond the limits of pavement work as indicated in the study plans. No additional survey is assumed; additional plan work will be done with digitized aerial photography. Signing will include standard regulatory and warning signs approaching, through, and exiting the roundabouts. It is assumed that guide signs will follow MUTCD Figure 2D-9 layouts and will not include diagrammatic signs (D1-5 series). No overhead signing is proposed.

4.3.1 **Rectangular Rapid Flashing Beacon Analysis** –VHB will analyze roundabout locations within the project limits to determine if a rectangular rapid flashing beacons (RRFB) would be appropriate. The analyses will be summarized in a technical memorandum.

4.4 **Traffic Control** – VHB will advance concept level traffic control from the preliminary submission to include defined traffic control layouts, work zones, sequencing narrative and detours. Traffic control sequencing will be provided in word document format. Traffic control plans will be submitted in roll plan format. Plans will include temporary alignments, critical sections and temporary drainage adjustments.

4.5 **Site Visit** – VHB will conduct one site visit to review the geometric layout of the roadway improvements, drainage conditions and other final design elements, assumed to be 3 people from VHB.

4.6 **Geotechnical** – VHB will review the geotechnical report developed by the geotechnical sub-consultant and provide the report to NHDOT for consideration and comment. Based on comments provided by the Department and VHB the geotechnical subconsultant will then develop a final geotechnical report. VHB will use the geotechnical report and recommendations to advance the slope and drain submission.

4.7 **Quantities** – An estimate of quantities, and quantity computation book will be included in this submission. Estimate will advance the Preliminary quantities and include major earthwork and select material items along with an expanded drainage quantity and major items. The Slope & Drain estimate will still include contingencies for items not included at slope & drain design level.

4.8 **Design Report** – An update to the design narrative will be provided with the Slope and Drain.

4.9 **Drainage Report** – A stormwater report will be developed to document the closed drainage, BMP'S, and hydrologic design. The memorandum will include existing conditions, proposed conditions, methodology and design criteria, pollutant loading, conclusions and supporting appendices with calculations. Roll plans showing watershed areas and sub-catchments will be developed.



Jaffrey 16307
March 26, 2021

Task 5: PRELIMINARY BRIDGE PLANS

5.1 Preliminary Bridge Plans – VHB will develop Preliminary Bridge plans for the proposed new bridge in accordance with Chapter 3 and Section 500 of the Bridge Design Manual and the comments received from NHDOT on the TS&L Submission. The plans will depict the preferred bridge treatment alternative and will include the following plans:

1. Bridge General Plan & Elevation
2. Site Plan & Profile (Survey Layout)
3. Boring Layout and Boring Logs
4. Abutment A Masonry and Wingwalls (Developed Views)
5. Abutment B Masonry and Wingwalls (Developed Views)
6. Typical Girder and Deck Cross Section
7. Preliminary Girder Framing Plan (Curved Girder Layout)

The Preliminary Bridge Plans will be developed on survey base plans and will show the proposed design including project limits, top and bottom of slopes, clearing limits, anticipated easements for drainage or construction, edge of pavement, lane and shoulder limits, and guardrail extents. Bridge design will account for potential bridge mounted signs on the sidewalks.

5.2 Cost Estimate – An updated estimate of quantities will also be provided as part of the Preliminary Bridge Plans Submission.

5.3 Agency Coordination – New Hampshire State Historic Preservation Office (NHSPO), Federal Highway Administration (FHWA), and the Town of Jaffrey will be provided the opportunity to review and comment on the Preliminary Bridge Plans developed by VHB in coordination with NHDOT at the Preliminary Bridge (30%) plans stage with a 30-day review time. See Task 15 for meeting preparation materials expected for this meeting.



Jaffrey 16307
March 26, 2021

TASK 6: UTILITY

VHB will prepare a Utility submission plan set for review by Design Services and the utility companies noted to be located within the Jaffrey 16307-project site. VHB will complete the following tasks under the Utility phase:

6.1 Utility Coordination – Coordinate with Design Services to refine the existing utility locations and establish relocation and/or modifications for existing utilities based on the proposed improvements. Overhead and underground utilities are located within the project area and will need to be adjusted or relocated. VHB will send revised Slope & Drain plans to Design Services for NHDOT coordination with the utility companies known to have equipment within the project area. One on-site meeting will be held with the impacted utility companies to review the proposed construction limits and discuss potential impacts. If utility facilities are required to be relocated to accommodate the improvements, Design Services will request relocation and construction schedules from the impacted utilities and provide the approved relocation plans to VHB to incorporate the relocation into the design plans as necessary. Any utility relocation designs will be completed by others. VHB will show utility relocations, as provided by NHDOT, on the project general plans, drainage and utility plans and cross sections as appropriate. The utility plan set is anticipated to be a condensed slope and drain level plan set including the following plans:

1. Front Sheet
2. Standard Symbols
3. Roadway Typicals
4. General Plan
5. Drainage Notes
6. Profiles
7. Traffic Control Plans
8. Cross sections



Jaffrey, 16307
March 26, 2021

TASK 7: PPS&E

VHB will prepare the Preliminary Plans, Specification & Estimate (PPS&E) submission for review by NHDOT based on comments received from the Utility and Slope & Drain submission reviews. The PPS&E submission will develop the complete plan. VHB will complete the following tasks under the PPS&E phase:

- 7.1 Roadway – The complete contract plan set will be advanced including the development of the quantity summary sheets. Any right-of-way and utility comments will be incorporated into the design. Additional design details will be added as needed to supplement the proposed design. Any proposed utility relocations will be incorporated into the plans based on utility designs by others.
- 7.2 Construction Schedule - As part of the PPS&E submission, VHB will develop a construction schedule for the project that will include major tasks and estimated durations that may be used by NHDOT to develop timeframes and traffic control requirements and prosecution of work.
- 7.3 Bridge – VHB will complete the design of all major bridge components including the deck, steel girders, bridge rail, abutments and wingwalls and accommodations for municipal water main. The curved steel girders will be independently checked by another VHB engineer. Additionally, the PPS&E submission will include the design of the riprap (i.e. size and depth) at the abutments. The PPS&E plans will reflect the final design of the bridge and the approaches to near completion except for the reinforcing steel schedules and minor details. The PPS&E plans will also address the comments received from NHDOT on the Preliminary Bridge Plan Submission. Draft construction estimate will be prepared and submitted at this stage. No special provisions are anticipated.

- 7.3.1 The NHDOT, FHWA, and the Town of Jaffrey will be provided the opportunity to review and comment on the Preliminary PS&E Bridge Plans developed by VHB in coordination with NHDOT at the Preliminary PS&E Bridge (80%) plans stage with a 30-day review time.

- 7.4 Traffic – VHB will advance the signing and pavement marking plans from comments received from the Slope & Drain and Utility submissions. Sign text layout sheets will be developed for the PPS&E submission. In coordination with the traffic control plans, VHB will provide a construction signs and warning devices (CSWD) package. This package will include project specific construction guide signs. VHB will prepare a CSWD spreadsheet for the expected permanent construction signs and traffic control devices for review by the NHDOT Bureau of Traffic. For the temporary traffic controls, VHB will design temporary traffic signals to be phased out during the construction of the roundabout. For estimating purposes, VHB is assuming two temporary traffic signal phases at the intersection of Main Street/Peterborough Street/Turnpike Street/Stratton Road/Blake Street. VHB will develop special provisions in accordance with the Bureau of Traffic format for the temporary traffic signals. Additional special provisions for traffic equipment and RRFBS will be provided as required.

- 7.4.1 Traffic Control Analysis – VHB will provide a traffic control analysis for the temporary traffic phasing, specifically focused on the operations of the temporary traffic signals required for the roundabout construction. VHB will use the traffic volume networks created for the opening year from the Preliminary Design Traffic Study. The results of the traffic control analyses will be summarized in a supplemental technical memorandum.



Jaffrey 16307
March 26, 2021

- 7.5 Quantities – Slope and drain estimate will be advanced to include the majority of the project bid items. The PPS&E submission phase will develop the first draft of the blank quantity summary tables for the project.
- 7.6 Design Report – The design narrative will be updated and provided with the PPS&E submission. The design report will be updated based on the current design and comments from NHDOT. Special provisions will be developed to supplement NHDOT Standard Specifications where no standard specifications exist, or modifications are proposed.
- 7.7 Drainage Report – The drainage report will be updated based on the current design and comments from NHDOT. Roll plans will be further refined as the design is finalized.
- 7.8 TCP and POW Document Support – VHB will develop and provide draft Traffic Control Plan (TCP) and Prosecution of Work (POW) documents to NHDOT. The POW will be developed from NHDOT's base POW document. NHDOT will be responsible for all modifications, additions and deletions in finalizing these documents.
- 7.9 Landscape Plans – Landscape plans will be developed for design of plantings in targeted locations. Landscaping will need to be coordinated with the Town of Jaffrey and NHDOT. Planting locations are roundabout center islands, war memorial park frontage, rail trail adjacent Stratton Road and Alderman Park.



Jaffrey.16307
March 26, 2021

TASK 8: PS&E

VHB will prepare the Plans, Specifications & Estimate (PS&E) submission for review by NHDOT based on comments received from the PPSE submission review. VHB will complete the following tasks under the PSE phase:

- 8.1 Roadway – Roadway plans will be further refined based on NHDOT comments, right-of-way (ROW) and utility coordination. Any utility relocations will be incorporated into the plans based on utility designs by others. Also, the incorporation of municipal relocation plans into the contract documents (plans, specifications, and estimate).
- 8.2 Construction Schedule -VHB will update the construction schedule completed in PPS&E.
- 8.3 Bridge – VHB will complete the PS&E package in accordance with Chapter 11 of the NHDOT Bridge Design Manual and address comments from the PPS&E Bridge Submission. Plans will include the reinforcing steel schedule and additional minor details that may be required. Final revisions to the VHB prepared estimate will be completed and included in this submission.
- 8.4 Traffic – Signing and pavement marking plans, temporary traffic signal plans, CSWD package, and traffic special provisions including RRFBs will be finalized based on NHDOT comments. The final traffic control analysis memorandum will be revised and resubmitted as required by changes to the TCP design.
- 8.5 Quantities – All quantities will be determined for the PSE submission.
- 8.6 Design Report – VHB will update the design narrative provided with the Preliminary Plan, Specification and Estimate submission. Revisions and additions of any special provisions are not included with the PSE submission.
- 8.7 Drainage Report – The drainage report will be updated to include any revisions to the proposed design.
- 8.8 TCP and POW Document Support – VHB will provide support to NHDOT for advancing the TCP and POW documents prior to hand off to NHDOT. VHB will attend the Issue's meeting, assumed to be 3 people from VHB.
- 8.9 Landscape Plans – Landscape plans at both roundabout center islands, war memorial park frontage, rail trail adjacent Stratton Road and Alderman Park will be advanced based on town and NHDOT comments and available funding.



Jaffrey 16307
March 26, 2021

TASK 9: DRAFT CONTRACT

VHB will prepare the Draft Contract submission for review by NHDOT based on comments received from the PS&E submission.

VHB will complete the following tasks under the Draft Contract phase:

- 9.1 Roadway and Traffic – VHB will update the roadway and traffic plans based on NHDOT comments received from the PS&E submission. VHB will finalize 3D roadway way top line surface models.
- 9.2 Bridge - VHB will prepare and submit updated Bridge Draft Contract submission plans based on NHDOT comments received from the PS&E submission with engineer's estimate. Other deliverables include quantity computations (both final pay items and entire item summary), design calculations, and independent structural design calculations.
- 9.3 Estimate and Quantities – VHB will update quantities. VHB will provide color quantities for major items.
- 9.4 Design Report – VHB will update the design narrative provided with the Plans, Specification and Estimate submission.
- 9.5 Drainage Report – This task includes any final revisions to the drainage report and appendices.
- 9.6 TCP and POW Document Support – This task includes any final coordination needed for the TCP and POW documents.



Jaffrey 16307
March 26, 2021

TASK 10: CONTRACT

VHB will prepare the Contract submission based on comments received from the Draft Contract submission review. VHB will complete the following tasks under the Contract phase:

10.1 Roadway and Traffic – VHB will finalize roadway bid plan set package, estimate and prepare final deliverables package for electronic submission of plan set, 3D modeling and design calculations. Contract plans will be stamped and signed by a licensed professional engineer in the State of NH. Electronic submission will include MicroStation and inroads files, PDF's of plans and report documentation, excel quantity files and summary tables. Anticipated plans sheets excluding bridge sheet for the Contract Plans includes (175 sheets anticipated)

1. Front Sheet (1)
2. General Notes/Index (1)
3. Standard Symbols (2)
4. Roadway Typical (5)
5. Quantity Summary Sheets (20)
6. Pavement match Details (2)
7. Drainage Details (2)
8. Sidewalk Details (9)
9. Driveway Details (1)
10. Truck Apron and Splitter Island Details (3)
11. Rectangular Rapid Flashing Beacon Details (4)
12. Sign Text Layout Sheets (3)
13. General Plans – (6)
14. Profiles - (6)
15. Drainage Notes – (3)
16. Drainage and Utility Plans – (6)
17. Alignment, Curbing, and Pavement Layout Plans – (6)
18. Pavement Marking and Signing Plans – (6)
19. Roundabout Grading Plan River St. (1)
20. Roundabout Grading Plan Main St. (1)
21. Landscape Plans
22. Traffic Control Sequence (2)
23. Traffic Control Plans (24)
24. Traffic Control Critical Sections (7)
25. Traffic Control Details (2)
26. Cross sections at 50' intervals and drive cross-sections – 1"=10' (52)

10.2 Bridge – VHB will prepare and submit updated Bridge Final Contract submission plans based on NHDOT comments received from NHDOT. The submission will include the engineer's estimate. Contract plans will be stamped and signed by a licensed professional engineer in the State of NH. Other deliverables include quantity computations (both final pay items and entire item summary), design calculations, independent structural design calculations, load rating summary (Form 4) and



Jaffrey 16307
March 26, 2021

associated computations, and electronic deliverables of the plans in both MicroStation (dgn) and pdf format.

Anticipated bridge sheets (40) for the Contract Plans includes:

1. Bridge General Plan & Elevation (Summary of Quantities)
2. Project Notes
3. Site Plan & Profile (Survey Layout)
4. Channel Sections
5. Construction Access and Grading Plan
- 6-9. Boring Layout and Boring Logs (4 sheets)
10. Footing A Masonry (Plan & Sections)
11. Footing A Reinforcement
12. Abutment A Masonry (Plan, Elevation, Section & Excavation Limits)
13. Abutment A Reinforcement
- 14-15. Wingwall Masonry (Plan, Elevation, Section & Excavation Limits)
- 16-17. Wingwall Reinforcement
18. Footing B Masonry (Plan & Sections)
19. Footing B Reinforcement
20. Abutment B Masonry (Plan, Elevation, Section & Excavation Limits)
21. Abutment B Reinforcement
- 22-23. Wingwall / Retaining Wall Masonry (Plan, Elevation, Section & Excavation Limits)
- 24-25. Wingwall / Retaining Wall Reinforcement
26. Bridge Bearings
- 27-28. Superstructure Framing Plan, Details
29. Typical Deck Section, Details
30. Deck Reinforcement
31. Approach Slabs
- 32-34. Expansion Joint Details
35. Rail & Curb Layout
36. Bridge Rail
- 37-38. Bridge Approach Rail
- 38-40. Reinforcing Schedules

10.3 Quantities – Quantities will be finalized. Color quantities will be updated and finalized.

10.4 Design Report – Design report provided with the Draft Contract submission will be finalized.

10.5 Drainage Report – Drainage report provided with the Draft Contract submission will be finalized.

10.6 Design Closeout – VHB will complete all items on the Design Closeout checklist.



Jaffrey 16307
March 26, 2021

TASK 11: ENVIRONMENTAL

11.1 ENVIRONMENTAL DATA COLLECTION

11.1.1 Wetlands Delineation & Functional Evaluation – VHB will verify the wetlands delineation performed during the NEPA phase by flagging and surveying jurisdictional wetlands and surface waters within 100 feet of the final project limits. The top of bank of streams and surface waters will be delineated in accordance with the definitions in the NH Wetlands Bureau rules. Additionally, to distinguish bank vs. bed impacts, the ordinary high-water mark will be delineated in accordance with NH RSA Chapter 483-B:4(IX-e). Wetland delineation field work will be overseen by a NH certified wetland scientist (NHCWS). Wetland delineations will follow procedures and standards in the Corps of Engineers Wetland Delineation Manual and the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (January 2012). VHB will also use the Northcentral-Northeast Regional Wetland Plant List published by the U.S. Army Corps of Engineers, the Field Indicators of Hydric Soils in the United States, Version 8.0 published by the Natural Resources Conservation Service, and the Field Indicators for Identifying Hydric Soils in New England, Version 3 published by the New England Interstate Water Pollution Control Commission. Wetlands will be classified in accordance with the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al. 1979).

In addition to the wetland delineation, VHB will perform a functional assessment in accordance with Env-Wt 311.10. For non-tidal wetlands and watercourses, this functional assessment shall be performed by a NHCWS, and will use the US Army Corps of Engineers ("Corps") Highway Methodology Workbook, dated 1993, together with the Corps New England District Highway Method Workbook Supplement, dated 1999, or an equivalent methodology.

VHB document each impacted wetland by completing two Wetland Determination Data Forms (one upland and one wetland plot), using the form contained in Appendix C of the *2012 US Army Corps Northcentral and Northeast Regional Supplement*. Special attention will be paid to areas where disturbed conditions exist.

Delineations of vernal pools shall be based on the characteristics listed in the definition of vernal pool in Env-Wt 104. Each vernal pool will be assessed using the US Army Corps of Engineers "Vernal Pool Assessment" guidance and form dated 9/6/2016, Appendix L of the USACE New England District Compensatory Mitigation Guidance.

VHB will issue a report to document the delineations and functional evaluation, and the final existing condition plans will be stamped by a NHCWS. For budgetary purposes, it is assumed that up to 100 wetland/steam flags will be required to fully delineate the project



Jaffrey 16307
March 26, 2021

area. It is assumed that VHB will be responsible for surveying the wetland and stream flags via traditional survey.

- 11.1.2 Stream Geomorphic Assessment – VHB water resources scientist will conduct a stream crossing assessment for the crossing of the Contoocook River and at an appropriate reference reach as required by NH Administrative Rule Env-Wt 903.04 following the New Hampshire Stream Crossing Assessment Protocol, Version 2.0 – May 2014. VHB notes that the river, in the vicinity of the crossing, is currently impounded, and that an appropriate reference reach will need to be identified in consultation with NHDOT and New Hampshire Department of Environmental Services (NHDES). VHB will determine the Rosgen classification, bankfull width, bankfull depth, entrenchment ratio, sinuosity and flood prone width, and will complete the NHDES Stream Crossing Worksheet (NHDES-W-06-071, 12/23/19). This field work will allow VHB to address the requirements for stream crossings as outlined in NH Administrative Rule Env-Wt 900 during permitting of the selected alternative, if required.
- 11.1.3 Waterfront Buffer Survey – If VHB confirms that a regular Shoreland Permit is required for the work (rather than a Permit by Notification), VHB will perform a vegetation survey of the waterfront buffer, i.e., the protected shoreland within 50 feet of ordinary high-water, as specified in RSA 483-B:9, V(a)(1). This vegetation survey will be limited to an area approximately 300 feet by 50 feet on the east and west sides of the Contoocook River, i.e., where temporary or permanent clearing or grading would occur. Within this area, VHB will identify waterfront buffer point scores within 25 feet shoreland segments. This survey will include saplings and trees greater than 1-inch diameter at breast height (DBH).
- 11.1.4 Invasive Species Mapping – VHB will map populations of any wetland or upland invasive species within the project limits, noting the species according to Type I or Type II designations; any such invasive species will be mapped and included on project base plans per NHDOT standards.

11.2 ENVIRONMENTAL PERMITTING

- 11.2.1 NHDES Wetland Permit Application – VHB will prepare a permit application with all applicable information required for a complete application per NHDES current rules, for filing with the NHDES Wetland Bureau following the NHDOT required order of application package as amended from time to time, including, but not limited to:
- Current Standard Dredge and Fill Application Form
 - DOT Checklist for Project Development Projects
 - USGS Location Map, including the approximate boundaries and size of the contributing watershed
 - Narrative addressing the NHDES Review Criteria for Major/Minor Projects
 - Functional Evaluation
 - Natural Resource Agency Coordination Meeting Minutes



Jaffrey 16307
March 26, 2021

- Mitigation Report (if required, see below)
- Stream Crossing Report, including:
 - USGS watershed boundaries area for stream crossings
 - Applicable stream crossing forms
 - Narrative addressing Env-Wt 904
- Natural Heritage Bureau (NHB) review and IPaC supporting correspondence
- New Hampshire Division of Historical Resources (NHDHR) Effect Memorandum/NHDOT Cultural Resource Review
- Army Corps of Engineers (ACOE) – Appendix B with supplemental narrative if needed
- Color photos of impact areas, labeled and showing all impact areas
- Construction Sequence, describing the sequence of construction including pre-construction through post construction activities and their relative timing and progression of all work
- Wetland Permitting Plans, including:
 - Existing Conditions Plan
 - Proposed Condition Plans (i.e., General Plan)
 - Impact Sheet, showing temporary and permanent impacts and BMPs
 - Wetlands Legends (wetland identification and type)
- Erosion Control Plans, including:
 - Existing and Proposed Contours (1-foot intervals)
 - Existing contours shown with a lighter line weight
 - Proposed contours shown with a heavier (bold) line weight
 - Perimeter Controls - Showing the outermost limit of work (including temporary phasing work)
 - Chanel protection
 - Clean water bypasses
 - Double protection at water resources (including wetlands)
 - Strategies Sheet (latest revised version December 2015)

VHB will coordinate with NHDOT Environment Bureau to determine whether mitigation will be required for the proposed project and will assist NHDOT in developing a mitigation proposal to offset wetland impacts if required. If required, mitigation would be anticipated to include an in-lieu fee (Stream Passage Improvement Program (SPIP) stream crossing restoration mitigation is not included in this scope). Prior to permit application submittal, the mitigation proposal will be compiled into a report as required by NH Administrative Rule Env-Wt 803.01, Plan and Report Required for All Mitigation Proposals. This report will include the following elements:

- Size of the proposed project's impact to each jurisdictional area;
- Identification of each type of jurisdictional area to be impacted, with wetlands being classified per the Cowardin system in wetland technical report;



Jaffrey 16307
March 26, 2021

- Account of the compensatory mitigation recommendations provided by the conservation commission or governing body;
- Discussion of how the mitigation proposal complies with the requirements of Env-Wt 803.07, Compensation Amount and other applicable rules; and
- If applicable, calculation of an in-lieu mitigation payment as specified in RSA 482-A:30, as well as addressing Env-Wt 803.10(b) and Env-Wt 803.10(c) or (d), as applicable.

VHB will submit a draft permit application package to NHDOT for review and will revise the package in response to comments prior to submitting a final package. An allowance to cover the estimated permit application fee is not included in our contract (assumed paid by NHDOT). Up to 10 copies of the application would be provided to NHDOT for distribution.

11.2.2 US Army Corps of Engineers Permit – Based on NHDOT coordination with the US Army Corps of Engineers, VHB assumes that this project will be authorized as a NH Statewide General Permit and no individual permit application will be required. However, VHB will submit the NH General Permits Appendix B – Corps Secondary Impacts Checklist to be included with the NHWB permit and produce project plans in 8.5 X 11 format for the Corp's records. It is assumed that the environmental analysis produced for the NHDES Wetland Permit application will be sufficient to address US Army Corps of Engineers permit requirements.

11.2.3 Shoreland Water Quality Protection Act Permit Application – The Contoocook River is a fourth order stream regulated under RSA 483-B, the Shoreland Water Quality Protection Act. Any new construction or construction that modifies the footprint, including tree clearing, of existing impervious surfaces or uses mechanized equipment to either excavate, remove or form a cavity within the ground and filling any areas with rocks, soil, gravel or sand within 250-feet from the Ordinary High Water Mark of the river would require a Shoreland Impact Permit through the NHDES Shoreland Program. VHB will confirm the appropriate permit application type (Permit By Notification or standard application) prior to beginning work on this task. For scoping purposes, VHB will assume a full application is required, and will complete an application for a Shoreland Permit consisting of the following:

- Shoreland Permit Application Form signed by NHDOT;
- Shoreland Application Worksheet, calculating the impervious area within 250 feet of the reference line;
- Permit plans clearly and accurately depicting the work to be completed relative to the reference line of the river and waterfront buffer and natural woodland buffer areas where trees will be removed for compliance with the minimum standards. (as detailed above with tree count info per minimum standards;



Jaffrey 16307
March 26, 2021

- Stormwater management plan designed and certified by a professional engineer;
- A copy of the survey plan showing public right-of-way;
- A copy of the US Geological Survey map at a scale of 1:24,000 with the property and project located;
- A copy of the tax map or the Right-of-Way plan showing the location and lot number of the proposed project;
- Photographs of the area to be impacted;
- A copy of the NH Natural Heritage Bureau (NHB) Report for the subject property indicating that the project has been screened for species of concern; and
- Shoreland Waiver Request Form, if the project requires waiver(s) of the minimum standards of RSA 483-B:9, in accordance with RSA 483-B:9, V(i).

A draft application package will be provided to NHDOT for review and signature prior to finalization, and up to ten (10) hard copies of the permit application will be provided to NHDOT for submittal. Note that NHDOT is exempt from abutter notification and application fee requirements.

11.2.4 Stormwater Permitting - VHB will evaluate the stormwater treatment analyses and supporting documents to address the anticipated water quality regulatory needs for the proposed Preferred Alternative. It is understood that the primary regulatory drivers consist of the Memorandum of Agreement pertaining to addressing the NHDES Alteration of Terrain (AoT) requirements and the Environmental Protection Agency (EPA) Construction General Permit. The project is not located in an Urbanized Area and therefore not subject to the EPA MS4 Stormwater Permit. In addition, it is understood that this project will not require an individual Section 404 Wetlands Permit, and thus a project specific Section 401 Water Quality Certificate is not anticipated to be issued. As such, the following subtasks will be completed:

- *Pollutant Loading Analysis:* VHB will review and update the existing pollutant load analysis, if necessary, based on final design of the proposed BMPs. VHB's water scientists will work with the roadway design engineers to design the stormwater treatment BMPs to be consistent with the design guidelines included in the NH Stormwater Manual. If changes in the amount of roadway area to be treated are anticipated, then potential change in pollutant loads will be evaluated for the nearby surface waters under existing and proposed conditions.
- The analysis will account for the expected treatment effects of the proposed stormwater treatment BMPs. A Technical Memorandum will be prepared to describe the potential changes and the net effect on pollutant loading.
- The Technical Memorandum will describe the reasons the proposed change, possible options to enhance treatment with other stormwater BMPs as well as maintenance considerations.
- *Description of Potential Erosion Control Measures:* VHB will provide a description of the proposed disturbance activity and the various erosion control measures



Jaffrey 16307
March 26, 2021

included in the project design. The description will include any recommended phasing or sequencing considerations and temporary / permanent stabilization measures. This information will be used to develop a technical memorandum describing how the project will meet the Alteration of Terrain rules that can be used to support the future Construction Stormwater Pollution Prevention Plan (SWPPP). This information will be included in the project Drainage Report.

- *Stormwater BMP I&M:* Consistent with other recent major road improvement projects, VHB will prepare a Stormwater BMP Inspection and Maintenance (I&M) Plan for the proposed stormwater BMPs. The plans for each BMP within the project shall be included within the I&M Plan. The I&M Plan will describe district personnel roles and responsibilities, inspection procedures and frequency, potential maintenance needs and recordkeeping protocols. The Draft I&M Plan will be submitted for NHDOT review prior to submittal to NHDES for review and approval.
- *Turbidity Monitoring Plan:* As part of the Final Design and prior to advertisement for construction, VHB will prepare a Turbidity Monitoring Plan like previous NHDOT projects. The plan will identify appropriate sampling locations, QA/QC protocols, testing methods and frequency. The plan will outline reporting procedures and corrective actions, if needed. The Turbidity Monitoring Plan will be submitted for NHDOT review prior to sending a revised Plan to NHDES for review. The Turbidity Monitoring Plan will be revised to address pertinent NHDES comments for approval.

11.2.5 Section 106 Memorandum of Agreement (MOA) Stipulation Support – VHB will perform support services to complete mitigation measures required during final design and construction as part of Section 106 MOA. The provided services for Stipulations 2 and 5 are included within this scope of services, described as follows:

- *Stipulation 2: Downtown Jaffrey National Register Historic District Nomination Update:* VHB will coordinate with NHDOT on the preparation of a Downtown Jaffrey National Register Nomination update and boundary increase. VHB will prepare the nomination to meet the guidelines and requirements as set forth by the National Park Service (NPS) and NHSHPO. The draft text and information will be incorporated into the National Register nomination format and will also include the production of the required archival photographs. The nomination will be submitted to the Town of Jaffrey (through the Jaffrey Historic District Commission) and to the NHSHPO for review and comment (30-day review). Following receipt of any comments, the nomination will be revised and the final package, including two copies for the final nomination and associated archival photographs, will be submitted to the Town of Jaffrey for final action. If the Town wishes to proceed with submittal of the updated nomination following public notice and outreach, they will be responsible for submission to the NHSHPO for subsequent transmittal to the NPS.



Jaffrey 16307
March 26, 2021.

- **Stipulation 5: Interpretive Sign(s)/Panel(s):** VHB will coordinate the preparation of up to three of the required outdoor interpretive sign(s)/panel(s) about the Downtown Jaffrey Historic District. As part of this task, VHB will need to determine panel specifications (size, number of characters, etc.). Once size and number of characters are understood, VHB will provide suggestions for text, subject to review by NHDOT, NHSHPO, and the Jaffrey Historic District Commission. The final text must be reviewed by a 36 CFR 61(Appendix A)-qualified Architectural Historian and the location or locations will be determined in consultation with NHDOT and the Jaffrey Historic District Commission. VHB will be responsible for writing the content for the panel and taking a major role for the sign design and preparation of the specifications for installation. VHB will address comments from two rounds of review by NHDOT, NHSHPO, and the Jaffrey Historical Commission. Subcontracting a fabricator and installer will not be performed by VHB and is not included within this scope of work. VHB will perform the following as part of the subtask:
 - Discuss and obtain signage specifications from appropriate agency or commission
 - Obtain ideas of general content of panel(s) from appointed group
 - Prepare draft text for the sign
 - Circulate and ask for comments from those appointed to review
 - Edit the draft text for the panel(s) to address comments
 - Work with the Town and appointees reviewing the panel on appropriate location(s) within the Downtown Jaffrey Historic District
 - Submit the panel(s) location(s) and proposed text to NHSHPO
 - Revise the location(s) to address comments
 - Finalize and submit; the deliverable is a set of electronic files of the panel(s) for delivery to a fabricator

11.2.6 Permit Follow-On Services – VHB’s experience in obtaining permits and approvals has found that, after submissions to regulatory agencies and boards, follow-up and liaison effort is sometimes required to respond to specific comments and concerns raised. Work under this task includes:

- Preparation of documents to respond to agency comments;
- Minor plan revisions/additions; or
- Attendance at site inspections by the state or federal agencies.

Because the specific agency data requests are unknown at this time, for budgetary purposes, we assume up to 40 hours for this effort. If required due to unanticipated or extensive agency requests, reallocation or an adjustment to the original Scope of Services and fee may be necessary if the follow-up services are in excess of the initial allocation.



Jaffrey 16307
March 26, 2021

11.3 Assessment and Management of Contaminated Media

11.3.1 Environmental Site Assessment – This effort will satisfy the information requirements listed under Section Env-Or 606.04 of the New Hampshire Code of Administrative Rules; it is consistent with the initial stage of environmental due diligence customary for the transfer of commercial property and is a component of a Site Investigation Report as defined under Env-Or 606.03. The scope of activities included in this task are specified to meet the following objectives:

1. Assess for presence of "Recognized Environmental Conditions" (RECs) on properties to be acquired in support of the Project or on nearby properties where environmental conditions have the potential to impact properties to be acquired. The assessment is intended to support the landowner, contiguous property owner, or bona fide prospective purchaser limitations on Comprehensive Environmental Response and Compensation Liability Act (CERCLA) liability. Note that a prior review of records and site reconnaissance were completed but these activities must be performed within 180 days of acquisition to qualify for the limitations on CERCLA liability.
2. Identify the potential presence of contaminated media (i.e., soil and groundwater) that may require management (i.e., worker and public health and safety planning; avoiding the potential spread of contaminated media; and identifying appropriate reuse, containment, and disposal options) during Project construction.

Proposed environmental site assessment activities are summarized below.

- *Updated Records Review:* As documented in the September 2019 Categorical Exclusion/Draft Section 4(f) Evaluation (CE/4(f)) (NHDOT, 2019), VHB completed review of environmental records, including an environmental database search report acquired from Environmental Data Resources (EDR), as well as the web-based NHDES OneStop database, in February 2019. The results of this review are summarized in Table 1 of Appendix J to the CE/4(f). The review identified two site listings within the footprint of the Project where documented environmental conditions are likely to impact the Project and seventeen site listings that have the potential to impact the Project. The updated records review will include accessing the OneStop database to identify any new information posted within the vicinity of the Project since the last review, and acquisition/review of an updated EDR report. VHB will also review historical documents (e.g., Sanborn Fire Insurance maps, aerial photographs, USGS mapping, etc.) and readily available land ownership records to develop a history of previous land uses of the properties to be acquired and surrounding area.
- *Site Reconnaissance:* In support of the CE/4(f), VHB performed an exterior reconnaissance of the Project area on March 6, 2019 to observe surficial conditions that may indicate a REC (i.e., the release or potential release of petroleum and/or hazardous



Jaffrey 16307
March 26, 2021

compile the analytical data and documentation into a summary report for NHDOT's review. Any soil or groundwater data requiring NHDES notification will immediately be provided to NHDOT Bureau of Environment. The report will include a description of the work completed, a summary of the results of the analytical data relative to established standards, and discussion of findings. The report will be provided in draft form to NHDOT for review prior to finalization. Note, this task includes labor associated with the anticipated pre-characterization reporting effort. However, follow-up assessments and/or remediation are not included in this scope and associated fee, but may be required by NHDES (i.e., in the event a reportable condition is identified).

11.3.3 Soil and Groundwater Management Planning – Building on the findings from Tasks 11.3.1 and 11.3.2, and in consideration of the Project construction requirements to be developed during the final design process, VHB will prepare a Soil and Groundwater Management Plan for use during the Project. The Plan will describe best management practices (BMPs) that will be implemented to reduce potential for exposure of workers and the public to known or assumed contaminated environmental media and maintain conditions that are protective of human health and the environment. In developing the plan, VHB will:

- Assess the potential for generation of limited reuse soil (LRS) or other contaminated media (soil or groundwater);
- Provide estimated quantities of the impacted environmental media requiring handling/management, delineated by Project stationing and shown on Figures developed for the SGMP; and
- Identify management strategies for these media, including potential stockpile/storage locations and reuse/disposal options, as applicable.

Consideration will be given to environmental media that may contain invasive species and whether the Project can be classified as an LRS de minimis activity. The Plan will be provided in draft form to NHDOT and NHDES for review prior to finalization.



Jaffrey 16307
March 26, 2021

Task 12 Survey

VHB has progressed the 16307 Jaffrey US 202 Intersection re-alignment study to the preferred alternative stage. The preferred alternative has been progressed based on a combination of survey sources including previous NHDOT project survey combined with updated spot survey for the existing roadways in the project area of Jaffrey town center. VHB has further developed the existing ground surface by merging the NHDOT topo3D.dtm model ground survey with NHDOT provided lidar survey. The lidar survey filled in areas outside of existing roadway and sidewalk locations and furthered survey extents outside the direct vicinity of the US 202 and NH 124 intersection. Survey and lidar base files were provided to VHB on 8-7-2017, 8-11-2017 and 9-18-2017. Based on the refinement of proposed alternatives, supplemental survey is required to update the current Topo3D.dtm to include areas not previously surveyed which will be impacted by the preferred alternative. The updated survey will be used for the final design of the project. The extent of the updated survey Limits of Work will be as noted in the above "Construction Project Limits" section.

This scope of work includes updated survey, refinement and definition of the existing conditions noted below:

1. Building Footprints and sill elevations
2. Parking lots / Driveways
3. Existing Bridge and spillway (NH 124/Main Street)
4. Rail Trail
5. River Walk both sides of river
6. Existing retaining walls along River Street and at the memorial park / adjacent property
7. Rite Aid parking lot
8. Ballfield parking area, houses and drive access
9. Existing utilities updated / verified, RIM elevations for any utility manholes, gate valves, etc.
10. Existing storm drainpipe inverts, rim elevations and pipe locations

VHB will support environmental efforts including surveying the locations of wetland flagging, invasive species flagging, and trees flagged within the waterfront buffer survey.



Jaffrey 16307
March 26, 2021

TASK 13: RIGHT-OF-WAY

VHB will provide support to the Bureau of Right-of-way (ROW) and conduct follow up property research, field work, and ROW analysis in questionable areas of project impacts.

Update Existing ROW

Under "Part A" of Contract - X-A001(234) / 16307 dated Dec. 15, 2016, VHB established the existing ROW for the study. VHB will have a New Hampshire Licensed Land Surveyor perform research, field survey, office calculations and plan preparation to update and expand existing ROW for the project limits, if necessary. The following is a breakdown of tasks required to conduct the updated existing ROW boundary survey for final design:

1. Updated Research – VHB will perform an updated property research at the Town, and the County Registry of Deeds. Assessor information, plans, deed copies will be obtained to update and determine the existing rights-of-ways. In addition, VHB will meet with the NHDOT ROW Bureau to obtain and review all information regarding the layouts of the project ROW.
2. Field Survey – Utilizing the information gathered during the updated research task, VHB will recover and locate monuments within the project area and abutting properties to assist in the determination of the ROW. Evidence of the perimeter property lines (bounds, pipes, fences, walls, etc.) will be field measured, compiled with record data and shown on the Existing ROW Plan.
3. Data Analysis and Deed Interpretation – Based on the data gathered above, VHB will calculate and analyze existing record property line data and compare the results with the field located boundary evidence.
4. File Creation – VHB will create two MicroStation .dgn files per NHDOT Cad/d Procedures & Requirements. Files will be developed in US Survey Feet. These files will be used throughout the project as the Existing ROW, erl and ert files.

Purchase Plans

The proposed ROW Purchase plans will be prepared in accordance with the plan requirements of the Cheshire County Registry of Deeds. Any permanent easements will be established following NHDOT's new guidance. The purchase plans shall consist of a front sheet, property layout sheet, summary sheet, geometric layout sheet and ROW layout plans. Once it is determined that acquisitions and/or easements are necessary, plans will be forwarded to start the acquisition process. The Purchase Plans will not be used for reference for deed descriptions or condemnations. The existing detail on the plans will be the original existing detail prior to any construction. The final purchase plan set shall consist of a front sheet, standard property layout sheets, standard symbol sheets, summary sheets, geometric layout sheet and ROW layout plans and will be submitted after all ROW has been acquired to revise any negotiated modifications. The final purchase plan updates are not considered ROW revisions, but updates to the plans. Existing and proposed ROW will match that of the registry plans. VHB is responsible to have a NH Licensed Land Surveyor sign and stamp only the actual ROW plans.



Jaffrey 16307
March 26, 2021

Registry Plans

VHB will prepare registry plans along a portion for US 202 and the new section of US 202 within the project limits noted above in the "Project Limits" section.

Preliminary Registry ROW Submission – Registry ROW plans will be developed from the data collection and analysis performed by VHB during the completion of ROW and boundary research. NHDOT will be competing the Title abstracting. VHB assumes there are no more than 25 properties abutting the project limits that will require ROW acquisition or easement. Permanent and temporary ROW impacts will be determined based on limits of construction. These impacts and associated ROW acquisitions and easements will be clearly indicated on the plans for review and comment by NHDOT. The plans will be developed to meet the Cheshire County Registry of Deeds.

Final Registry Right-of-Way Submission – A Registry ROW submission will be submitted after the Finalized Preliminary ROW submission approval. VHB will prepare a plan depicting the proposed ROW parcels with metes and bounds and area calculations. The plan will meet the Cheshire County Registry of Deeds recording requirements and Plat law 478:1-a. Parcel descriptions of the proposed ROW for each impacted landowner will be prepared in an electronic format. This description will be used in the conveyance deed or easement to be recorded. The Registry ROW submission will include one set of plans prepared by a New Hampshire Licensed Land Surveyor. VHB will record the Registry Plans on behalf of NHDOT with the costs for recording to be billed to NHDOT.



Jaffrey 16307
March 26, 2021

Main Street Meetings – VHB will hold up to five (5) meetings with downtown residents and business owners specifically focused on the proposed timing, phasing, traffic control, business operations during construction.

Main Street Walkarounds – To supplement the Main Street meetings or to accommodate those unable to attend those meetings, VHB will schedule up to three (3) dates to visit downtown merchants and residents to answer their questions and/or solicit their comments on the progress of the design.

Construction Communication Protocol – VHB will develop and present to the community a plan that outlines NHDOT's protocol for maintaining communication with downtown residents and business owners during construction. The plan will be documented in some type of handout or pamphlet with text and graphics describing the protocol. The material will be presented at meetings with the town, placed on the project website, and/or distributed as hard copies to downtown businesses.

Wayfinding and Context Sensitive Signing – In addition to the permanent highway signs and temporary construction signs (through the CSWD), VHB will develop supplemental guide signing for business and parking access through construction that comply with MUTCD and NHDOT outdoor advertising rules or temporary construction signing practices. The guidance for these signs will come from the Context Sensitive Design Coordination meetings with the Town from the Preliminary Design.



Jaffrey 16307
March 26, 2021

TASK 15: NHDOT PROJECT MANAGER ASSISTANT

Based on Part B Article 1 provided by the Department VHB will provide the following services:

1. Represent the Department during Right-of-Way negotiations as design support to the Department's Bureau of Right-of-Way as needed and requested.
2. Lead all internal (Department) meetings leading up to advertising the project, including but not limited to: Estimate Review Committee Meetings, Preliminary Plan Coordination Meeting (60%), Pre-Advertisement Coordination Meeting (90%), Final Directors Meeting, and all requested Front Office Meetings.
3. Lead all internal (Department) review meetings between VHB and the Department.
4. Coordinate with all Bureaus within the Department to track progress of requests, milestones and respond to questions. The Department's Project Manager shall be kept informed of all correspondence with other Bureaus and outside agencies (DHR, DES, etc.).

Project Manager Assistant hours will only be spent when directed by NHDOT Project Manager and will be tracked separately in each invoice with a running total and percentage to date to keep the NHDOT Project Manager updated on the status of this allotment.

Item #1 from Part B Article 1 is covered above under Task 14.



Jaffrey 16307
March 26, 2021

TASK 16: PROJECT ADMINISTRATION

Throughout the project, VHB will coordinate with NHDOT regarding any issues or concerns that may arise, project budget and schedule, and general coordination matters. In addition, VHB assumes that the following meetings listed below will be needed within the duration of the project. VHB efforts will include preparation, travel, attendance and documentation in the form of meeting notes. For budgeting purposes, this scope of work budgets for the following meetings:

- Turnover Comment Meetings (6 assumed for bridge and highway each, 2 VHB attendees)
- Preliminary Plan Coordination Meeting (1 assumed, 3 VHB attendees)
- Pre-Advertisement Coordination Meeting (1 assumed, 3 VHB attendees)
- Additional Coordination Meetings (2 assumed, 2 VHB attendees)
- Resource Agency Coordination Meetings (6 assumed, 3 VHB attendees)
- Contamination Meetings (2 assumed, 2 VHB attendees)
- Utility Coordination Meetings (2 assumed)
- Prosecution of Work and Temporary Traffic Control Meetings (1 assumed, 3 VHB attendees)
- Pre-Construction Meeting (1 assumed, 2 VHB attendees)
- Internal Phase Team Meetings (7 assumed VHB 1 per submission)

The Public Meetings and Outreach is a commitment for the project to continue the involvement of the public to provide design updates and receive feedback as the final design develops. Two (2) meetings are intended to be held during the design contract. The subject of these meetings will be specifically determined as the project develops with the appropriate plan preparation and support efforts provided. The attendance at these meetings will also be determined on an as needed basis (assuming 3 VHB attendees per meeting).

In addition to the public meetings, VHB anticipates up to two (2) with Jaffrey staff to coordinate the design and/or project phasing with any potentially concurrent Town infrastructure projects.

VHB is responsible for preparing the color plans for the Preliminary Coordination (60%) Meeting and the Pre-Advertisement Coordination (90%) Meeting only and these will be utilized for Public Meetings. This effort includes attending NHDOT Front Office staff at a Monday afternoon meeting before each of these public meetings. Presentation preparation (intended to primarily consist of simple PowerPoint presentation of available materials). Attendance of two (2) VHB staffers are assumed.

VHB will prepare a 2D rendered site plan with supporting precedent images to help convey the design intent for the project, with a particular focus of the new bridge crossing south of downtown Main Street. We anticipate presenting the concept plan to NHDHR, the Town, and stakeholders for review and comment. We anticipate presentation of up to four (4) views of the bridge and project along the corridor and from downtown Main Street.



Jaffrey 16307
March 26, 2021

Resource Agency Meetings – VHB staff will support NHDOT by attending up to six (6) meetings with resource agencies through the regularly scheduled Natural Resource Agency Meeting or Cultural Resource Coordination Meeting. We assume that three staff from VHB will need to attend specific meetings. VHB will be available to present information and prepare notes for meetings if requested by NHDOT.

SCHEDULE

VHB will begin performance of the above services on the date the written authorization to proceed is received. If NHDOT requests work under this agreement to be stopped, the schedule is subject to renegotiation when authorization to proceed is received. VHB shall not be responsible for failure to perform or for delays in the performance of services which arise out of causes beyond the control and/or without the fault or negligence of VHB. The following tentative schedule is based on a notice to proceed date of March 22, 2021. See attached project schedule.

SERVICES NOT INCLUDED

The following services are not anticipated and, therefore, not included in this Scope at this time:

- Utility coordination
- Lighting design
- Permanent traffic signal design
- ITS device design
- US Coast Guard Bridge Permit
- Construction Support Services

Should work be required in these areas, or areas not previously described, VHB will prepare a proposal or amendment, at NHDOT's request, that contains the Scope of Services, fee, and schedule required to complete the additional work items.



Jaffrey 16307
March 26, 2021

ASSUMPTIONS

- Construction support services are **NOT** included in this scope and will be included in a separate future scope and fee, Part C.
- NHDOT will perform all utility coordination with plan support from VHB.
- Landscape design will be completed by VHB.
- Lighting design will be provided by NHDOT with VHB incorporating it into the plans and summary sheets. Assume 2 streetlights per uncontrolled crosswalk, including uncontrolled crosswalks on approaches to roundabouts in addition to what would typically be needed for roads/intersections.
- VHB through its subconsultant will complete any geotechnical investigation, analysis and recommendations for the project including the design of the pavement, subbase and underdrain recommendations. The geotechnical explorations, sampling, testing and borings program along with report and recommendations are detailed in the attachment to this scope, S.W. Cole Explorations and Geotechnical Engineering Services dated March 25, 2021.
- Roadway design work will follow the current NCHRP Report 672 – Roundabouts: An Informational Guide, second Edition, A Policy on Geometric Design of Highways and Streets, 2018 – American Association of State Transportation Officials (AASHTO) and NHDOT design criteria. The NHDOT's Highway Design Manual, Volumes I and II, will be used as guides in the preparation of all contract plans and documents.
- VHB will prepare a color plan for the Pre-Advertisement Coordination Meeting.
- NHDOT current Drainage Manual is not published on NHDOT website: Draft drainage manual to be used for design, version 01/12/2015.
- Base design criteria will be as noted in the preferred alternative, and the Engineers Report and attachments, submitted 02/02/2020.
- Preliminary Design will advance the design from the preferred alternative submission dated 03/29/2019 (including general plans, profiles, cross sections, geometry reports and design narrative and public hearing plan dated 10/02/2020).
- Survey updates will include detail specified in the preferred alternative survey request dated 3/29/2019, included plan diagram.
- Drainage design will be based on the findings in the 9/20/2019 preliminary pavement and stormwater analysis.

Bridge

- The new bridge will be designed using the current AASHTO LRFD design specifications.
- There will be utilities under the bridge as requested by the Town of Jaffrey that will require special structure design and detailing for this curved girder bridge. NHDOT will coordinate with the utility companies. VHB will assist by providing plan information as needed.
- VHB will complete any geotechnical investigation, analysis and recommendations for the bridge thru its subconsultant. The geotechnical explorations, sampling, testing and borings program along with report and recommendations are detailed in the attachment to this scope, S.W. Cole Explorations and Geotechnical Engineering Services dated March 25, 2021.
- No Construction Services are included in this Agreement.



Jaffrey.16307
March 26, 2021

- VHB will review submissions (TS&L, Preliminary and PPS&E) with NHDOT Bridge Design assuming two (2) VHB staff members attending each.
- VHB will send one (1) member of the Bridge staff to the Issue's Meeting (PPS&E) at NHDOT to answer any questions related to the bridge and attached retaining walls.
- Precast Deck Panels will not be used given the curvature.
No special provisions are included.

Assessment and Management of Contaminated Media

- VHB assumes two rounds of revisions will be required to incorporate NHDOT comments, and then NHDES (as applicable) comments to plans and reports prepared for assessment and management of contaminated media.
- VHB assumes that NHDOT will coordinate access to properties identified for field investigation to support assessment and management of contaminated media.
- For the purposes of this scope, VHB has assumed that ASTM-compliant Phase I Environmental Site Assessment Reports will be prepared for up to three properties to be acquired in full by NHDOT; modified Phase I ESA reports will be prepared for up to seven partial acquisition properties.
- As noted above, recommendations for subsurface exploration and testing will be based on findings from activities described for Task 11.3.1. Therefore, VHB has included an estimated allocation for pre-characterization (Task 11.3.2); however, the actual level of effort is currently unknown. If a reallocation of budget is necessary based on the actual field program requirements, VHB will notify NHDOT prior to initiating work on this task. For scoping purposes, VHB has assumed that subsurface investigations will be recommended on up to three properties to be acquired by NHDOT and up to two non-acquisition properties where known or suspected contamination is present and significant intrusive earthwork (e.g., cutting, excavation, dewatering, etc.) is expected in support of the Project. Specifically, VHB has assumed that subsurface investigation/testing will be conducted on the following parcels:
 - Parcel 238-12 (12 River Street)
 - Parcel 238-6 (River Street)
 - Parcel 239-222 (4 Stratton Road)
 - Parcel 239-227 (Blake Street)
 - Parcel 238-7 (15 River Street)
- This scope includes methods to identify and avoid subsurface utilities, however, avoidance is not guaranteed and is largely based on availability of accurate record information and field delineation provided by others. Other than for acts of gross negligence, VHB will not be responsible for any damaged utilities as a result of this investigation.
- VHB has assumed that a District Excavation Permit will be required for environmental drilling activities within the Project area. While the fee and bond requirements will be waived for the Project, VHB anticipates providing necessary work details (e.g., proposed boring locations and anticipated depths, drilling contractor information, assessment of traffic control requirements, etc.) as part of the application process.



Jaffrey 16307
March 26, 2021

- NHDOT should be aware of the potential to identify a reportable release of oil and/or hazardous materials as a result of the soil and groundwater analytical testing. Upon comparison to regulatory thresholds, should contamination be identified that is reportable to the NHDES per the Administrative Rules, VHB will notify NHDOT of the potential reporting requirement immediately upon receipt of analytical data and will assist with communication to NHDES, if requested. This scope includes an allowance for the anticipated reporting effort associated with pre-characterization investigation activities. Although follow-up assessments and/or remediation are not included in this scope and associated fee, these services may be required by NHDES should a reportable condition be identified during scope implementation.
- The investigation activities likely to be performed will identify environmental conditions that are local to the exploration locations (soil borings, monitoring wells), conditions between explorations will be inferred using multiple lines of evidence. VHB cannot rule out the potential presence of latent environmental conditions that are not detected during the investigation/pre-characterization efforts that may come to light during project execution.

21-0340 S

March 17, 2021
Revised March 25, 2021

VHB
Attention: Jason M. Hilton, P.E.
2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532

Subject: Scope of Services and Budget
Explorations and Geotechnical Engineering Services
Dogleg Intersections of US 202-NH 124 at NH 137
and at Stratton Road-Blake Street
NHDOT Project Number: 16307
Jaffrey, New Hampshire

Dear Jason:

We have prepared this Proposal to provide explorations and geotechnical engineering services for the subject project. The purpose of our services relative to the project is to provide subsurface explorations in order to develop geotechnical recommendations for design of the proposed new roadway and structures and evaluate existing pavement section associated with proposed construction.

PROJECT CONDITIONS

The project involves improvement of US Route 202 dogleg intersections of Main Street with Peterborough Street and River Street in downtown Jaffrey, New Hampshire.

This is achieved by reconfiguring US 202 and NH 124 intersection to a 5-leg roundabout configuration and construction of a new section of US 202 over the Contoocook River. The new section of US 202 will be about 600 feet in length and require construction of a 56-foot wide and 140-foot long bridge over the Contoocook River. The new intersection with US 202 and River Street on the west side of the river will be a 3-leg roundabout. The

project will require demolition of a commercial building south of the 5-leg roundabout, takeover of a parking lot for the approach to the new bridge on the east side of the river, and demolition of a multi-family residential building for the approach to the new bridge on the west side of the river.

The construction limits include the anticipated work limits and roadway approaches as defined in Figure 1 of the Final Design Scope of Work document with our work focused on the following areas:

- US 202 (River Street) from the intersection with School Street through the two proposed roundabouts, to a point approximately 250 ft. south of the intersection of Cross Street, STA 101+50 to 106+00, STA 200+00 to 206+50, STA 300+00 to 306+50.
- From the proposed west roundabout to the intersection of NH 124 (Main Street) and NH 137 (North Street), STA 800+00 to 804+00.
- NH 124 (Turnpike Road) extending about 400 feet east of the proposed East roundabout, STA 401+75 to 407+00.
- Stratton Road extending about 400 feet east of the proposed East roundabout, STA 600+00 to 604+50.
- Blake Street extending about 400 feet south of the proposed East roundabout and include new parking lots on east and west sides of Blake Street.

It is our understanding that at Type, Span, and Location (TSL) Study has not been undertaken for the bridge, therefore details about abutment types and anticipated foundation support options are not available.

ANTICIPATED SUBSURFACE CONDITIONS

Based on published soil mapping and experience in the general area, we anticipate the site soils along the river will consist of alluvial deposits of silt and sand overlying glacial till and bedrock. Mapping suggests bedrock could be shallow along the river and apparent

bedrock is located in the river north of the Main Street bridge. However, the overall soil profile in this area of Jaffrey shows soil deposits extending upward of 80 feet deep

SCOPE OF SERVICES

S. W. Cole Engineering, Inc. (S.W.COLE) will coordinate an exploration program consisting of test borings, provide soils laboratory testing, and make a geotechnical evaluation of the findings as they relate to the proposed construction. Our services will be provided in general accordance with the NHDOT Inter-department communication for Geotechnical Report Request from Leah Savage to Dennis Herrick date March 3, 2021 and other various subsequent clarifications between NHDOT and VHB. Details regarding specific components of work are as follows.

Exploration and Coordination: We will subcontract, coordinate, and observe test borings for the proposed construction and improvements. We will perform the explorations for proposed structures and Stormwater Best Management Practices (BMPs) using cased drive and wash techniques and explorations for pavement areas using hollow-stem augers. We will perform Standard Penetration Testing (SPT) at 2 and 5 foot vertical intervals. As drilled locations will be recorded by S.W.COLE using a hand held mapping grade GPS unit. Test borings will be backfilled with drill cuttings to the ground surface and patched with asphalt cold patch or rapid set concrete where pavement is present. S.W.COLE will have a geotechnical engineer coordinate and observe the explorations and prepare boring logs for each test boring. Soils will be visually classified using the modified Burmister soil classification system. Exploration logs will be prepared in gINT using the log file template provided by NHDOT. We will photograph and log each run of rock core obtained. Our approach with regard to boring depth will be the following:

- Bridge Structures – Carry borings to refusal and perform at least 10 feet of rock coring. Plan for boring depths on the order of 75 feet.
- Retaining/Wing Walls – Carry borings to 30 feet below bottom of proposed wall or to refusal, whichever is shallower.
- New Roadways – Carry borings to 10 feet below proposed finish grade or to refusal, whichever is shallower.

- Existing Roadways – Carry borings to 5 feet below finish grade or to refusal, whichever is shallower. Where the shoulder is greater than 4 feet in width we will obtain a companion boring in the shoulder to determine pavement and base aggregate thickness.
- BMPs – Carry borings to 17 feet below the bottom of the proposed stormwater practice or to refusal, whichever is shallower. Plan for boring depths on the order of 25 feet.
 - Falling head permeability tests will be performed at 2-foot depth intervals within the drill casing with a 6-foot zone below the bottom of the proposed stormwater practice at the boring on the east side of the river. An open standpipe PVC piezometer will be installed in the east side boring for measuring static groundwater table. We will make two return visits in the 4 week period following explorations to measure the water level in the piezometer.

The borings for each feature are outlined in the table and plans presented in Attachment 2 and Attachment 3, respectively.

We will obtain necessary local and state road opening permits to complete the test boring work. We will provide use of traffic control signs, flaggers, and police detail as necessary to complete the exploration work. We proposed to perform the exploration work located in existing roadways during off-peak hours (i.e. mid day).

We will pre-mark the borings in the field and contact DigSafe to pre-clear member utilities prior to our exploration work. We request that you furnish to S.W.COLE a dimensioned plan identifying the type and location of underground utilities and/or other manmade objects beneath the site. We suspect utilities associated with street lighting and traffic signals will not be covered by DigSafe. Further, there are some explorations on private properties. S.W.COLE will engage a private utility locator on client's behalf to locate underground utilities and/or other manmade objects in the immediate vicinity of certain subsurface explorations. Neither S.W.COLE nor its subcontractors shall be responsible for any loss arising from damage to or contact with buried utilities and/or other manmade

objects that were not brought to the attention of S.W. COLE prior to commencement of S.W. COLE's exploration program.

Laboratory Testing: We will perform soil gradation, moisture content, and Atterberg Limits testing of soil samples as needed to assist in our geotechnical evaluation. We have planned to perform soil gradation and moisture content on up to 20 samples for the purpose of soil classification and evaluation of re-use during construction. We will perform Atterberg Limits tests on up to 5 samples for soil classification. We will performed an unconfined compressive strength testing per ASTM D7012-10, method C for each 5-foot run of rock core obtained, anticipating 8 samples total.

We will perform soil gradation on two samples from an elevation corresponding to streambed from the abutment borings and report the D_{50} and D_{90} sizes for VHB's scour analysis.

Evaluation and Report: We will make a geotechnical engineering evaluation of the subsurface findings as they relate to the proposed construction. Our findings will be presented in a written report including:

Bridge Abutments and Wing/Retaining Walls

- Description of subsurface conditions (soils, bedrock, groundwater)
- Seismic site classification (AASHTO 2017)
- Frost penetration depth
- Discussion of geotechnical soil limitations
- Geotechnical analyses using Load and Resistance Factor Design (LRFD)
- Recommended foundation type (driven piles, spread footings, or mechanically stabilized earth walls)
- Driven-pile resistances and anticipated pile lengths, as appropriate
 - Axial resistance
 - Lateral resistance
- Design parameters for spread footings, as appropriate
- Subgrade preparations recommendations
- Lateral earth pressure coefficients
- Excavation, blasting, and dewatering considerations

- Recommendations for fill/backfill materials and compaction requirements
- Global stability of wing/retaining structures
- Bearing capacity and soil design parameter for wing/retaining structures

Roadways, Parking Lots, and BMPs

- Subgrade preparation recommendations
- Pavement section materials and thickness for full depth construction using Average Daily Load (ADL) values and AASHTO Pavement Design Methodology
- Pavement reclaim recommendations for roadway tie-ins
- Underdrain recommendations
- Considerations for foundation removal and filling for building demolition
- Infiltration rates and considerations for BMPs

We will provide general discussion and geotechnical design parameters for consideration for construction dewatering and temporary excavations; however, it is understood that it will be the contractor's responsibility to provide construction dewatering and excavation/shoring design for construction of the foundations.

We will attach an exploration location plan, exploration logs, and laboratory test results to our report. We will provide our report in an electronic format.

We will prepare a DRAFT geotechnical report for the project and attach exploration location plans, exploration logs, and laboratory test results to our report. Following review by the design team, we will prepare FINAL reports. We will provide our reports in portable document file (pdf) format. We will provide electronic copies of the boring logs in gINT format and plans in Microstation format.

SCHEDULE

Based on current schedules, we can likely begin exploration work within about 3 weeks from authorization to proceed, while allowing time to obtain pertinent local and state road permits. Our laboratory testing, geotechnical evaluation, and draft geotechnical report preparation will require about 4 to 5 weeks after completion of the exploration work.



21-0340 S
March 17, 2021
Revised March 25, 2021

S.W. COLE's ability to meet the schedule outlined in this Proposal is dependent upon future developments in the ongoing COVID-19 pandemic. It is understood that adjustments to the schedule, scope and fee of this Proposal may become necessary. The parties' remedies as outlined in Section 12 of the Terms and Conditions apply to the current pandemic.

BUDGET AND COMPENSATION

S.W. COLE will charge for our geotechnical engineering services and subcontracted test borings on an hourly rate basis according to the attached Fee Estimate (Attachment 1). Any required additional days of borings will be charged at unit rates as shown in the attached Fee Estimate.

TERMS AND CONDITIONS

It is understood that VHB will issue a Subconsultant Authorization with mutually agreed upon terms and conditions.

We look forward to being of assistance to you with this project.

Sincerely,

S. W. Cole Engineering, Inc.

 Digitally signed by Chad Michaud
DN: cn=Chad Michaud,
o=S. W. Cole Engineering,
inc., ou,
email=cmichaud@swcole.
com, c=US
Date: 2021.03.25 09:44:39
-04'00'

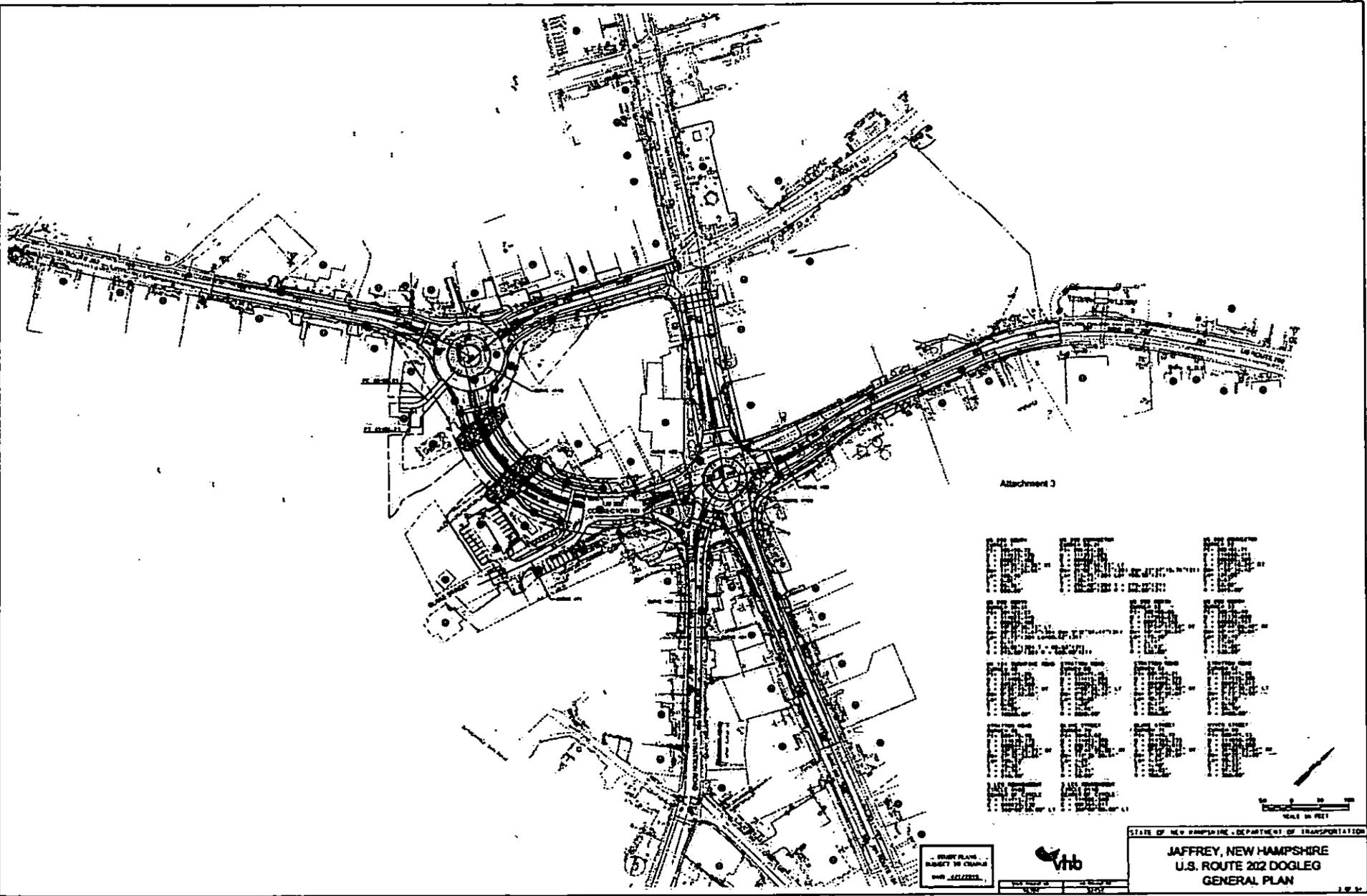
Chad B. Michaud, P.E.
Principal Geotechnical Engineer
Executive Vice President

CBM:mas

Attachments: 1- Budget Estimate
 2 - Proposed Subsurface Exploration Inventory
 3 - Proposed Exploration Location Plan

PROPOSED SUBSURFACE EXPLORATION INVENTORY

Feature	Number of Borings	Boring Depth (ft)	Total Depth (ft)	Total Rock Core (ft)	Number of Exploration Days
Peterborough Street (Route 202)	2	5	10		4
5-Leg Roundabout	3	10	10		
Turnpike Road (NH Route 124)	2	5	10		
Stratton Road	2	5	10		
Connector Road (East)	1	10	20		
River Street (Route 202)	4	5	20		
River Street (Route 202) Roundabout	2	10	20		
East Abutment	2	75	150	10	3
West Abutment	2	75	150	10	3
BMPs	2	20	40		2
SW Wing Wall	2	30	60		1.25
NW Wing Wall	2	30	60		1.25
SE Wing Wall	2	30	60		1.25
NE Wing Wall	2	30	60		1.25
Blake Street Parking Lots	4	10	40		1
Total	34		720		18



Attachment 3

DATE PLAN
 PREPARED BY
 DATE 12/12/2013



STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION
 JAFFREY, NEW HAMPSHIRE
 U.S. ROUTE 202 DOGLEG
 GENERAL PLAN

Attachment 1

**CERTIFICATION WITH REGARD TO THE PERFORMANCE OF
PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO
THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS**

The CONSULTANT X, proposed subconsultant _____, hereby certifies that it has X, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Order 11246 and that it has X, has not _____, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Vanasse Hangen Brustlin, Inc.

(Company)

By: _____

Sr. Vice President

(Title)

MRB

Date: 4/19/2021

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by consultants and proposed subconsultants only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally, only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime consultants and subconsultants who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such consultant submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

(Revised: June, 1980) **NOTE: TO BE COMPLETED BY CONSULTANT WHEN SIGNING AGREEMENT.**

Attachment 2

**CONSULTANT DISCLOSURE STATEMENT
FOR PREPARATION OF
ENVIRONMENTAL EVALUATIONS**

I hereby affirm that I have read and reviewed the Council on Environmental Quality (CEQ) regulation [40 CFR 1506.5(C)] and related guidance issued by CEQ and that pursuant thereto this firm has no financial or other interest in the outcome of this project.

I further hereby affirm that the information provided herein is true and correct and acknowledge that any knowingly false statement or false representation as to any material part contained herein may subject me to a fine and/or imprisonment, pursuant to pertinent provisions of the United States Code.

4/19/2021

(Date)



(Signature)

MRB

Attachment 3

CERTIFICATION OF CONSULTANT/SUBCONSULTANT

I hereby certify that I am the Senior Vice-President and duly-authorized representative of the firm of Vanasse Hangen Brustlin, Inc. and that neither I nor the above firm I here represent has:

- (a) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above CONSULTANT) to solicit or secure this Contract;
- (b) agreed, as an express or implied condition for obtaining this Contract, to employ or retain the services of any firm or person in connection with carrying out the Contract, or
- (c) paid, or agreed to pay, to any firm, organization or person (other than a bona fide employee working solely for me or the above CONSULTANT) any fee, contribution, donation or consideration of any kind for, or in connection with, procuring or carrying out the Contract.

I/WE do also, under penalty of perjury under the laws of the United States, certify that, except as noted below, the company or any person associated therewith in the capacity of (owner, partner, director, officer, principal investigator, project director, manager, auditor, or any position involving the administration of Federal funds): (a) is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency; (b) has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past three years; (c) does not have a proposed debarment pending; and (d) has not been indicted, convicted or had a civil judgment rendered against (it) by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

except as here expressly stated (if any):

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, indicate below to whom it applies, the initiating agency, and dates of action. Providing false information may result in criminal prosecution or administrative sanctions.

I acknowledge that this certificate is to be furnished to the State Department of Transportation and the Federal Highway Administration, U. S. Department of Transportation, in connection with this Contract involving participation of Federal-aid highway funds, and is subject to applicable State and Federal laws, both criminal and civil.

4/19/2021

(Date)



(Signature)

MRS

Attachment 4

CERTIFICATION OF STATE DEPARTMENT OF TRANSPORTATION

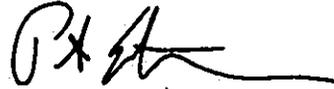
I hereby certify that I am the Director of Project Development of the Department of Transportation of the State of New Hampshire, and the above consulting firm or its representatives has not been required, directly or indirectly, as an express or implied condition in connection with obtaining or carrying out this Contract, to:

- (a) employ or retain, or agree to employ or retain, any firm or person, or
- (b) pay, or agree to pay, to any firm, person, or organization, any fee, contribution, donation, or consideration of any kind:

except as here expressly stated (if any):

April 21, 2021

(Date)

A handwritten signature in black ink, appearing to be 'P. A.', written over a horizontal line.

(Signature)

Attachment 5

**CERTIFICATION FOR FEDERAL-AID CONTRACTS
EXCEEDING \$100,000 IN FEDERAL FUNDS**

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

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

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

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

Attachment 6

IN WITNESS WHEREOF the parties hereto have executed this AGREEMENT on the day and year first above written.

Consultant

WITNESS TO THE CONSULTANT

By: [Signature]

Dated: 4/19/2021

CONSULTANT

By: [Signature] MRB

Senior Vice President

(TITLE)

Dated: 4/19/2021

Department of Transportation

WITNESS TO THE STATE OF NEW HAMPSHIRE

By: [Signature]

Dated: April 21, 2021

THE STATE OF NEW HAMPSHIRE

By: [Signature]

Director of Project Development
DOT COMMISSIONER

Dated: April 21, 2021

Attorney General

This is to certify that the above AGREEMENT has been reviewed by this office and is approved as to form and execution.

Dated: June 1, 2021

By: [Signature]
Assistant Attorney General

Secretary of State

This is to certify that the GOVERNOR AND COUNCIL on _____ approved this AGREEMENT.

Dated: _____

Attest:

By: _____

Secretary of State

VANASSE HANGEN BRUSTLIN, INC.

Certificate of Vote

**JAFFREY
X-A-0001(234)
16307
PART B**

I, Robert M. Dubinsky, hereby certify that I am the duly elected Clerk of Vanasse Hangen Brustlin, Inc.

I hereby certify the following is a true copy of Vote taken at a meeting of the Board of Directors of the Corporation, duly called and held on January 27, 2021, at which a quorum of the Board was present and voting.

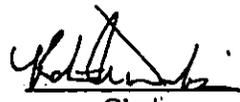
VOTED:

That Thomas W. Jackmin is Senior Vice President for Vanasse Hangen Brustlin, Inc. and is hereby authorized to execute professional services contracts, proposals and amendments in the name and behalf of Vanasse Hangen Brustlin, Inc., and affix its corporate seal thereto; and such execution of any professional service contract, proposal or amendment in this company's name on its behalf under seal of the company, shall be valid and binding upon this company.

I hereby certify that said vote has not been amended or repealed and remains in full force and effect as of this date, and that Thomas W. Jackmin is Senior Vice President for this Corporation.

ATTEST:

Date: 4/19/2021


Clerk



(Corporate Seal)

State of New Hampshire
Department of State

CERTIFICATE

I, William M. Gardner, Secretary of State of the State of New Hampshire, do hereby certify that VANASSE HANGEN BRUSTLIN, INC. is a Massachusetts Profit Corporation registered to transact business in New Hampshire on December 11, 1986. I further certify that all fees and documents required by the Secretary of State's office have been received and is in good standing as far as this office is concerned.

Business ID: 104275

Certificate Number: 0005351928



IN TESTIMONY WHEREOF,
I hereto set my hand and cause to be affixed
the Seal of the State of New Hampshire,
this 19th day of April A.D. 2021.

A handwritten signature in black ink, appearing to read "Wm Gardner".

William M. Gardner
Secretary of State



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
04/29/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

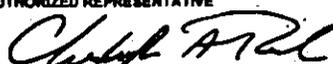
PRODUCER Pools Professional B&B of MA 107 Audubon Rd, #2, Ste 305 Wakefield, MA 01880 Christopher A. Pools 781-245-5400	CONTACT NAME: Christopher A. Pools	
	PHONE (A/C, No, Ext): 781-245-5400	FAX (A/C, No): 781-245-5463
INSURER(S) AFFORDING COVERAGE		
INSURER A: Transportation Insurance Co	NAIC #: 20494	
INSURER B: Continental Insurance Company	NAIC #: 35289	
INSURER C: Continental Casualty Company	NAIC #: 20443	
INSURER D: XL Specialty Insurance Company	NAIC #: 37885	
INSURER E:		
INSURER F:		

INSURED Vanessa Hengen Brustlin, Inc. VHB Eng Surveying Landscape Arch & Geology PC; VHB Eng NC PC Vanessa Hengen Brustlin LLC, VHB Metro DC LLC Brinkerhoff Env Services Inc. PO Box 9151 Watertown, MA 02471	COVERAGES	CERTIFICATE NUMBER:	REVISION NUMBER:
--	------------------	----------------------------	-------------------------

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

DESR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Contractual Liab <input checked="" type="checkbox"/> Blanket Waiver GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:	X	X	6018141932 NO DEDUCTIBLE INCL XCU COVERAGE	05/01/2021	05/01/2022	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (EA occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/OP AGG \$ 2,000,000
B	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input checked="" type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY <input checked="" type="checkbox"/> 1501873 MA SAFETY NOH	X	X	6018203376 COMPICOLL 1K	05/01/2021	05/01/2022	COMBINED SINGLE LIMIT (EA accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000	X	X	6018203362 FOLLOWS FORM	05/01/2021	05/01/2022	EACH OCCURRENCE \$ 14,000,000 AGGREGATE \$ 14,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	6017185236	05/01/2021	05/01/2022	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
D	Arch/Eng Prof Liab incl Pollution Liab			DPR9962765 FULL PRIOR ACTS	07/19/2020	07/19/2021	Per Claim \$ 5,000,000 Aggregate \$ 5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 RE: Project Name - Jaffrey, X-A001(234) 16307 (Part B)
 Deductible: \$50,000
 See Attached

CERTIFICATE HOLDER NHDOT-1 New Hampshire Department of Transportation John O. Morton Building 7 Hazen Drive, P.O. Box 483 Concord, NH 03301-0483	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
--	--

NOTEPAD:

HOLDER CODE NHDOT-1
INSURED'S NAME Vanasse Hangen Brustlin, Inc.

VANAS-1
OP ID: CL

PAGE 2
Date 04/29/2021

RE: Project Name - Jaffrey, X-A001(234) 16307 (Part B)

The New Hampshire Department of Transportation is included as additional insured per written contract under the general, auto, and umbrella liability policies subject to same terms and conditions. Coverage is primary and non-contributory. Waiver of subrogation applies to indicated policies in favor of additional insured. 30 day notice of cancellation except 10 day notice for non-payment of premium.



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



26 Ben

VICTORIA F. SHEEHAN
COMMISSIONER

WILLIAM CASS, P.E.
ASSISTANT COMMISSIONER

Bureau of Highway Design
December 15, 2016

His Excellency, Governor Christopher T. Sununu
and the Honorable Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the Department of Transportation to enter into an Agreement with the firm of Vanasse Hangen Brustlin, Inc., Bedford, NH, Vendor #174584, for an amount not to exceed \$950,877.12, for preliminary design of improvements to US 202 at its intersection with NH 124 and NH 137 in the Town of Jaffrey, effective upon Governor and Council approval, through January 31, 2019. 100% Federal Funds.

Funds to support this request are available in the following account in State FY 2017, and are contingent upon the availability and continued appropriation of funds in FY 2018 and FY 2019, with the ability to adjust encumbrances between State Fiscal Years if needed and justified:

Table with 4 columns: Account Number, FY 2017, FY 2018, FY 2019. Row 1: 04-096-96-963515-3054 Consolidated Federal Aid. Row 2: 046-500464 Gen Consultants Non-Benefit. Values: \$238,000.00, \$476,000.00, \$236,877.12.

EXPLANATION

The Department requires professional engineering, environmental, and public involvement consulting services for the study of improvements to US 202 and its intersections with NH 124 and NH 137 in the Town of Jaffrey. Preliminary engineering is required to develop and evaluate alternatives to improve the flow of traffic within and through the historic town center. Environmental efforts are needed to prepare and complete all appropriate environmental documentation including, at a minimum, the requirements of the National Environmental Policy Act, the Clean Water Act, the National Historic Preservation Act and Section 4(f) of the US Department of Transportation Act. The environmental evaluation will also need to identify all applicable environmental permitting requirements. The Consultant will also assist the Department in undertaking a robust public involvement process building upon the Town's planning efforts, including close coordination with the Town of Jaffrey and other stakeholders, and culminating in a formal Public Hearing for the preferred alternative. The tenets of context sensitive solutions will be employed as appropriate to achieve a balance among the competing needs of motorized and non-motorized road users and other stakeholders, while minimizing impacts upon the natural, cultural, and social environments. This project will require both Part "A" (Preliminary Design) and Part "B" (Final Design) services. This agreement is for Part "A" only. Upon completion of Part "A" services, the Department reserves the right to either negotiate a scope and fee for Part "B", or terminate the contract. This project is included in the State's Ten-Year Transportation Improvement Plan (Jaffrey, X-A003(234), 16037).

The consultant selection process employed by the Department for this qualifications-based contract is in accordance with RSAs 21-I:22, 21-I:22-c and 21-I:22-d, all applicable Federal laws and the Department's "Consultant Selection and Service Agreement Procedures", dated December 1999. The Department's Consultant Selection Committee is a standing committee that meets regularly to administer the process and make determinations. The Committee is comprised of the Assistant Director of Project Development (Chair), the Chief Project Manager, the Administrators of the Bureaus of Highway Design, Bridge Design, Environment, and Materials and Research, and the Municipal Highways Engineer.

The consultant selection process for this qualifications-based contract was initiated by a solicitation for consultant services for Jaffrey 16037 US 202/NH124/NH137 Improvements (Preliminary Design Part A). The assignment was listed as a "Project Soliciting for Interest" on the Department's website on August 29, 2014 asking for letters of interest from qualified firms. From the list of firms that submitted letters of interest, the Committee prepared a long and then short list of Consultants on October 9, 2014 for consideration and approval by the Assistant Commissioner. Upon receipt of that approval, three shortlisted firms were notified on November 17, 2014 through a technical "Request for Proposal" (RFP). Committee members individually rated the firms on January 8, 2015 using a written ballot to score each firm on the basis of comprehension of the assignment, clarity of the proposal, capacity to perform in a timely manner, quality and experience of the project manager and the team, previous performance, and overall suitability for the assignment. (A compilation of the completed individual rating ballots and the ranking summary form is attached.) The individual rankings were then totaled to provide an overall ranking of the three firms, and the Committee's ranking was submitted to the Assistant Commissioner for consideration and approval. Upon receipt of that approval, the short listed firms were notified of the results and the highest-ranking firm was asked to submit a fee proposal for negotiations.

The long list of six consultant firms that were considered for this assignment, with the three short-listed firms shown in bold, is as follows:

Consultant Firm

BETA Group, Inc.
 DuBois & King Inc.
Fay, Spofford & Thorndike, LLC
 McFarland-Johnson, Inc.
TEC, Inc.
Vanasse Hangen Brustlin, Inc.

Office Location

Norwood, MA
 Bedford, NH
Bedford, NH
 Concord, NH
Lawrence, MA
Bedford, NH

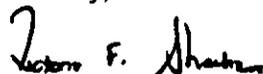
The firm of Vanasse Hangen Brustlin, Inc. was recommended for this contract. This firm has an excellent reputation and has demonstrated their capability to perform the required services. Background information on this firm is attached.

Vanasse Hangen Brustlin, Inc. has agreed to furnish the professional engineering services for an amount not to exceed \$950,877.12. This is a reasonable fee and is commensurate with the complexity of the project and the scope of the engineering and technical services to be furnished. This project funding is 80% Federal funds with 20% State match. Turnpike toll credit is being utilized for New Hampshire's match requirement, effectively using 100% federal funds.

This Agreement (Jaffrey, X-A003(234), 16037) has been approved by the Attorney General as to form and execution. The Department has verified that the necessary funds are available. Copies of the fully-executed Agreement are on file at the Secretary of State's Office and the Department of Administrative Services, and subsequent to Governor and Council approval will be on file at the Department of Transportation.

It is respectfully requested that authority be given to enter into an Agreement for consulting services as outlined above.

Sincerely,



Victoria F. Sheehan
 Commissioner

Attachments

PROJECT: Jaffrey 16037 (Part A)

DESCRIPTION: Preliminary engineering, environmental, and public involvement services are needed for the study of improvements to US 202 and its intersections with NH 124 and NH 137 in the Town of Jaffrey, New Hampshire. Preliminary engineering is required to develop and evaluate alternatives to improve the flow of traffic within and through the historic town center of Jaffrey, building upon prior studies undertaken by the Town and by Plan NH. The task will include reestablishing and documenting the existing highway right of way in a manner suitable for recording at the Cheshire County Registry of Deeds. Environmental efforts are needed to prepare and complete all appropriate environmental documentation including, at a minimum, the requirements of the National Environmental Policy Act, the Clean Water Act, the National Historic Preservation Act and Section 4(f) of the US Department of Transportation Act. The environmental evaluation will also need to identify all applicable environmental permitting requirements. The Consultant will also assist the Department in undertaking a robust public involvement process building upon the Town's planning efforts, including close coordination with the Town of Jaffrey and other stakeholders, and culminating in a formal Public Hearing for the preferred alternative. The tenets of context sensitive solutions will be employed as appropriate to achieve a balance among the competing needs of motorized and non-motorized road users and other stakeholders, while minimizing impacts upon the natural, cultural, and social environments.

Services Required: BRDG, STRC, RDWY, ENV, HAZ, HIST, AIR, NOIS, HYD, TRAF, PINV, SURV

Fay, Spofford & Thorndike, LLC	2	2	2	2	2	2	2	2	14
TEC, Inc.	3	3	3	3	3	3	3	3	24
Vanasse Hangen Brustlin, Inc.	1	1	1	1	1	1	1	1	7

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations	WEIGHT	Scoring of Firms		
		Fay, Spofford & Thorndike, LLC	TEC, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	20	15	15
Clarity of the Proposal	20%	20	15	15
Capacity to Perform in a Timely Manner	20%	15	15	20
Quality & Experience of Project Manager/Team	20%	20	20	20
Previous Performance	10%	5	5	10
Overall Suitability for the Assignment*	10%	5	5	10
Total	100%	85	75	90

*Includes: Proximity to project and usage, quality and experience of subconsultants

- Ranking of Firms:
1. *YHB*
 2. *FST*
 3. *TEC*

Rating Considerations	WEIGHT	Scoring of Firms		
		Fay, Spofford & Thorndike, LLC	TEC, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	19	15	20
Clarity of the Proposal	20%	15	15	20
Capacity to Perform in a Timely Manner	20%	19	15	19
Quality & Experience of Project Manager/Team	20%	13	16	20
Previous Performance	10%	9	7	10
Overall Suitability for the Assignment*	10%	9	7	10
Total	100%	92	73	99

*Includes: Proximity to project and usage, quality and experience of subconsultants

- Ranking of Firms:
1. *VHB*
 2. *FST*
 3. *TEC*

EVALUATION OF TECHNICAL PROPOSALS (continued)

Rating Considerations	Scoring of Firms			
	W E I G H T	Fry, Spofford & Thornsdike, LLC	TEC, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	18	18	19
Clarity of the Proposal	20%	18	16	19
Capacity to Perform in a Timely Manner	20%	18	16	19
Quality & Experience of Project Manager/Team	20%	18	18	19
Previous Performance	10%	9	5	9
Overall Suitability for the Assignment*	10%	8	6	9
Total	100%	89	60	94

*Includes: Proximity to project and usage, quality and experience of subconsultants p

- Ranking of Firms:
1. Vanasse Hangen Brustlin, Inc
 2. Fry, Spofford & Thornsdike, LLC
 3. TEC, Inc.

Rating Considerations	Scoring of Firms			
	W E I G H T	Fry, Spofford & Thornsdike, LLC	TEC, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	18	15	20
Clarity of the Proposal	20%	18	15	20
Capacity to Perform in a Timely Manner	20%	17	17	18
Quality & Experience of Project Manager/Team	20%	17	16	20
Previous Performance	10%	9	8	10
Overall Suitability for the Assignment*	10%	9	7	10
Total	100%	91	78	98

*Includes: Proximity to project and usage, quality and experience of subconsultants

- Ranking of Firms:
1. VHB
 2. FST
 3. TEC

Rating Considerations	Scoring of Firms			
	W E I G H T	Fry, Spofford & Thornsdike, LLC	TEC, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	18	14	20
Clarity of the Proposal	20%	17	15	20
Capacity to Perform in a Timely Manner	20%	15	12	17
Quality & Experience of Project Manager/Team	20%	17	12	20
Previous Performance	10%	22	10.5	22
Overall Suitability for the Assignment*	10%	9	5	10
Total	100%	87	63	97

*Includes: Proximity to project and usage, quality and experience of subconsultants p

- Ranking of Firms:
1. VHB
 2. FST
 3. TEC

Rating Considerations	Scoring of Firms			
	W E I G H T	Fry, Spofford & Thornsdike, LLC	TEC, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	19	17	19
Clarity of the Proposal	20%	17	16	20
Capacity to Perform in a Timely Manner	20%	18	17	19
Quality & Experience of Project Manager/Team	20%	18	17	19
Previous Performance	10%	7	7	9
Overall Suitability for the Assignment*	10%	9	6	10
Total	100%	88	81	96

*Includes: Proximity to project and usage, quality and experience of subconsultants

- Ranking of Firms:
1. VHB
 2. FST
 3. TEC

Rating Considerations	Scoring of Firms			
	W E I G H T	Fry, Spofford & Thornsdike, LLC	TEC, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	17	15	19
Clarity of the Proposal	20%	17	15	19
Capacity to Perform in a Timely Manner	20%	18	16	18
Quality & Experience of Project Manager/Team	20%	18	16	20
Previous Performance	10%	8	7	9
Overall Suitability for the Assignment*	10%	9	6	10
Total	100%	87	75	95

*Includes: Proximity to project and usage, quality and experience of subconsultants

- Ranking of Firms:
1. VHB
 2. FST
 3. TEC