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New Hampshire DOT
Department of Transportation

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

Bureau of Bridge Design
March 26, 2018

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 HDR Engineering, Inc., Manchester, NH, Vendor #169983, for an amount not to exceed $1,896,169.39, for preliminary design for the rehabilitation or replacement of the redlisted bridge (Br. No. 235/025) carrying NH Route 1A over Hampton River in the Town of Hampton, effective upon Governor and Council approval, through June 30, 2021. 100% Federal Funds.

Funds to support this request are available in the following account in State FY 2018 and FY 2019, and are contingent upon the availability and continued appropriation of funds in FY 2020 and FY 2021, with the ability to adjust encumbrances between State Fiscal Years through the Budget Office, if needed and justified:

04-096-96-963515-3054	FY 2018	FY 2019	FY 2020	FY 2021
Consolidated Federal Aid				
046-500464 Gen Consultants Non-Benefit	$100,000.00	$800,000.00	$600,000.00	$396,169.39

EXPLANATION

The Department requires professional engineering, environmental, and public involvement consulting services for the rehabilitation or replacement of the bridge (NHDOT Br. No. 235/025) carrying NH Route 1A over Hampton River in the Town of Hampton and approach roadway work in the Towns of Seabrook and Hampton. This is a 13-span, 1,199-foot, steel girder bridge, built in 1949, which has a concrete deck and incorporates a single leaf bascule movable span to allow access for larger vessels into Hampton Harbor. The abutments and piers are to be rehabilitated or replaced as required. The rehabilitated/replacement structure is anticipated to accommodate 2-lanes of traffic (one lane in each direction) with sidewalk(s) and shoulders. This bridge is on the Department's Red List of structurally deficient bridges. The purpose of this agreement is to study and prepare preliminary engineering plans suitable for a Public Hearing and to develop a NEPA document. 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, and assuming a successful Public Hearing, 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 (Seabrook-Hampton, X-A001(026), 15904).

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, 21-I:22-d, 228:4 and 228:5-a, and all applicable Federal laws and the Department's "Policies and Procedures for Consultant Contract Procurement, Management, and Administration" dated August 25, 2017. 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 Seabrook-Hampton 15904 Rehabilitation or Replacement of Br. No. 235/025 carrying NH Route 1A over Hampton Harbor (Preliminary Design Part "A"). The assignment was listed as a "Project Soliciting for

Interest" on the Department's website on September 8, 2016 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 27, 2016 for consideration and approval by the Assistant Commissioner. Upon receipt of that approval, four shortlisted firms were notified on November 15, 2016 through a technical "Request for Proposal" (RFP). Committee members individually rated the firms on January 26, 2017 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 four 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 nine consultant firms that were considered for this assignment, with the four short-listed firms shown in bold, is as follows:

Consultant Firm	***Office Location***
AECOM	Manchester, NH
CHA Consulting, Inc.	Keene, NH
Hardesty & Hanover	**Bedford, NH**
HDR Engineering, Inc.	**Manchester, NH**
Hoyle, Tanner and Associates, Inc.	**Manchester, NH**
Parsons Transportation Group, Inc.	Boston, MA
T.Y. Lin International	Falmouth, ME
Vanasse Hangen Brustlin, Inc.	**Bedford, NH**
WSP/Parsons Brinckerhoff, Inc.	Manchester, NH

The firm of HDR Engineering, 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.

HDR Engineering, Inc. has agreed to furnish the professional engineering services for an amount not to exceed $1,896,169.39. 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 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

Victoria F. Sheehan
Commissioner

Attachments

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January 26, 2017

PROJECT: Seabrook-Hampton 15904, X-A001(026) (Part A)

DESCRIPTION: This Federal Aid Project includes preliminary design, public involvement process, and associated environmental & cultural services for the rehabilitation or replacement of the existing bridge carrying NH Route 1A over Hampton Harbor in the Town of Hampton. Constructed in 1949, this thirteen span bridge has a total span of 1199 feet and a total width of 33.4 feet. The center span is a 65' long bascule. This bridge is on the Department's Red List of deficient structures and has a target advertising date in fiscal year 2023 in the current 10 year plan. The scope of work may include: Design a rehab or replacement of the existing bascule bridge. Replacement options should include a mid-level bascule or a high-level fixed structure; Coordinate with US Coast Guard to determine minimum vertical clearance for a fixed structure; Replace bridge rail and approach rail; Roadway design associated with the bridge rehab or replacement; Traffic control design; Public Involvement support services; Design mid-level bascule bridge if option is selected. The future structure is anticipated to accommodate a minimum of 2-lanes of traffic (one lane in each direction), with shoulders and a sidewalk.
Environmental efforts are needed to prepare and complete all appropriate federal and state environmental documentation including cultural resource investigations and permitting, to satisfy NEPA, Section 106, and state requirements. The Consultant will also be required to assist the Department in the public outreach / public involvement process.

Services Required: BRDG, STRC, RDWY, ENV, HIST, PINV, TRAF

Hardesty & Hanover, LLC	4	4	1	3	2	4	1		19
HDR Engineering, Inc.	1	1	3	1	1	1	3		11
Hoyle Tanner & Associates, Inc.	2	2	2	2	3	2	2		15
Vanasse Hangen Brustlin, Inc.	3	3	4	4	4	3	4		25

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations	WEIGHT	Hardesty & Hanover, LLC	HDR Engineering, Inc.	Hoyle Tanner & Associates, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	17	19	18	17
Clarity of the Proposal	20%	17	19	18	16
Capacity to Perform in a Timely Manner	20%	17	19	19	19
Quality & Experience of Project Manager/Team	20%	17	19	19	18
Previous Performance	10%	9	9	9	9
Overall Suitability for the Assignment*	10%	6	9	9	9
Total	100%	85	94	92	88

*Includes usage, quality and experience of subconsultants proposed and proven experience with Department.

Ranking of Firms: 1. HDR 3. VHB
2. HTH 4. H+H

Rating Considerations	WEIGHT	Hardesty & Hanover, LLC	HDR Engineering, Inc.	Hoyle Tanner & Associates, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	19	19	19	19
Clarity of the Proposal	20%	17	19	19	17
Capacity to Perform in a Timely Manner	20%	18	19	18	18
Quality & Experience of Project Manager/Team	20%	18	19	18	18
Previous Performance	10%	8	10	9	9
Overall Suitability for the Assignment*	10%	8	9	8	8
Total	100%	88	95	91	89

*Includes usage, quality and experience of subconsultants proposed and proven experience with Department.

Ranking of Firms: 1. HDR Engineering, Inc 3. Vanasse Hangen Brustlin, Inc
2. Hoyle Tanner & Associates, Inc 4. Hardesty & Hanover, LLC

EVALUATION OF TECHNICAL PROPOSALS (continued)

Rating Considerations	WEIGHT	Hardesty & Hanover, LLC	HDR Engineering, Inc.	Hoyle Tanner & Associates, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	19	18	19	17
Clarity of the Proposal	20%	19	19	19	18
Capacity to Perform in a Timely Manner	20%	18	18	18	18
Quality & Experience of Project Manager/Team	20%	18	18	19	18
Previous Performance	10%	10	8	8	8
Overall Suitability for the Assignment*	10%	9	8	9	9
Total	100%	93	89	92	88

*Includes usage, quality and experience of subconsultants proposed and proven experience with Department.

Ranking of Firms: 1. H+H 3. HDR
2. HTA 4. VHB

Rating Considerations	WEIGHT	Hardesty & Hanover, LLC	HDR Engineering, Inc.	Hoyle Tanner & Associates, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	20	20	20	20
Clarity of the Proposal	20%	17	18	18	19
Capacity to Perform in a Timely Manner	20%	19	19	17	16
Quality & Experience of Project Manager/Team	20%	20	19	17	14
Previous Performance	10%	9	9	8	8
Overall Suitability for the Assignment*	10%	9	10	8	8
Total	100%	94	95	88	85

*Includes usage, quality and experience of subconsultants proposed and proven experience with Department.

Ranking of Firms: 1. HDR 3. HTA
2. H+H 4. VHB

Rating Considerations	WEIGHT	Hardesty & Hanover, LLC	HDR Engineering, Inc.	Hoyle Tanner & Associates, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	20	19	20	18
Clarity of the Proposal	20%	20	20	20	18
Capacity to Perform in a Timely Manner	20%	20	18	18	18
Quality & Experience of Project Manager/Team	20%	19	18	20	17
Previous Performance	10%	9	8	10	9
Overall Suitability for the Assignment*	10%	10	8	9	9
Total	100%	98	91	97	89

*Includes usage, quality and experience of subconsultants proposed and proven experience with Department.

Ranking of Firms: 1. H+H 3. HDR
2. HTA 4. VHB

Rating Considerations	WEIGHT	Hardesty & Hanover, LLC	HDR Engineering, Inc.	Hoyle Tanner & Associates, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	15	18	17	16
Clarity of the Proposal	20%	15	19	18	15
Capacity to Perform in a Timely Manner	20%	17	19	18	17
Quality & Experience of Project Manager/Team	20%	18	18	19	16
Previous Performance	10%	10	10	8	8
Overall Suitability for the Assignment*	10%	7	10	9	8
Total	100%	82	94	89	80

*Includes usage, quality and experience of subconsultants proposed and proven experience with Department.

Ranking of Firms: 1. HDR 3. H+H
2. HTA 4. VHB

Rating Considerations	WEIGHT	Hardesty & Hanover, LLC	HDR Engineering, Inc.	Hoyle Tanner & Associates, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	17	20	19	18
Clarity of the Proposal	20%	16	19	20	16
Capacity to Perform in a Timely Manner	20%	20	20	20	19
Quality & Experience of Project Manager/Team	20%	17	19	20	17
Previous Performance	10%	8	10	10	9
Overall Suitability for the Assignment*	10%	8	10	8	8
Total	100%	86	98	97	87

*Includes usage, quality and experience of subconsultants proposed and proven experience with Department.

Ranking of Firms: 1. HDR 3. VHB
2. HTA 4. H+H

ARCHITECT-ENGINEER QUALIFICATIONS

1 SOLICITATION NUMBER (If any)

PART I - GENERAL QUALIFICATIONS
(IF A FIRM HAS BRANCH OFFICES, COMPLETE FOR EACH SPECIFIC BRANCH OFFICE SEEKING WORK.)

2a. FIRM (or branch office) NAME	3 YEAR ESTABLISHED	4 DUNS NUMBER
HDR Engineering, Inc.	1982	78-900-0684 (Engineering) 79-008-9721 (Architecture)

2b. STREET	5 OWNERSHIP
695 Atlantic Avenue	a TYPE: Private Corporation
2c. CITY: Boston / 2d. STATE: MA / 2e. ZIP CODE: 02111	b SMALL BUSINESS STATUS: Large Business

6a. POINT OF CONTACT NAME AND TITLE
Cynthia Carleo, Assoc. Vice President & N.E. Area Manager

6b. TELEPHONE NUMBER: 617.357.7700
6c. E-MAIL ADDRESS: Cynthia.carleo@hdrinc.com

7 NAME OF FIRM (if block 2a is a branch office) The branch office identified in Block 2(a-e) includes personnel from one or more of our operating companies which are wholly owned subsidiaries of HDR, Inc. Collectively we bring resources of more than 9,000 multi-disciplinary professionals together as one seamless entity

8a. FORMER FIRM NAME(S) (if any)		8b YR ESTABLISHED	8c. DUNS NUMBER
Henningson, Durham & Richardson, Inc.	1951	1985	06 866 8805
Henningson Engineering Company, Inc.	1930		
Henningson Engineering Company	1917		

9. EMPLOYEES BY DISCIPLINE

a. Function code	b Discipline	c. No. of employees (1) Firm	(2) Branch
02	Administrative	895	8
06	Architect	729	14
08	CADD Technician	626	2
12	Civil Engineer	711	17
16	Construction Manager	180	1
20	Economist	43	2
23	Environmental Engineer	102	2
24	Environmental Scientist	323	2
30	Geologist	61	1
37	Interior Designer	54	2
42	Mechanical Engineer	195	1
47	Planner: Urban/Regional	233	2
52	Sanitary Engineer	237	1
56	Specifications Writer	8	1
57	Structural Engineer	253	6
58	Technician/Analyst	1,674	13
60	Transportation Engineer	1,006	9
99	Intern Architects	99	1
99	Management Scientists	90	2
99	Public Relations	484	7
99	Railroad Experts	89	3
	Other Employees	1,636	
	Total	9,728	97

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a Profile Code	b Experience	c. Revenue Index Number (see below)
A04	Air Pollution Control	5
A06	Airports; Terminals & Hangers; Freight Handling	8
B02	Bridges	10
C15	Construction Management	10
D01	Dams; (Concrete; Arch)	8
D02	Dams; (Earth; Rock); Dikes; Levees	10
E09	Enviro. Impact Studies, Assessments, or Stmts	10
E12	Environmental Remediation	10
H07	Highways: Streets; Airfield Paving; Parking Lots	10
I01	Industrial Buildings; Manufacturing Plants	7
P06	Planning (Site, Installation, and Project)	10
P12	Power Generation, Transmission, Distribution	10
R03	Railroad: Rapid Transit	10
R11	Rivers: Canals; Waterways; Flood Control	9
S04	Sewage Collection; Treatment and Disposal	10
S07	Solid Wastes; Incineration; Landfill	10
S10	Surveying; Platting; Mapping; Flood Plain Studies	8
S13	Storm Water Handling & Facilities	9
T02	Testing & Inspection Services	9
T03	Traffic & Transportation Engineering	10
W02	Water Resources; Hydrology; Ground Water	10
W03	Water Supply; Treatment and Distribution	10

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right)

a. Federal Work	5
b. Non-Federal Work	8
c. Total Work	8

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100 000
2. $100 000 to less than $250,000
3. $250 000 to less than $500,000
4. $500 000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE The foregoing is a statement of facts.

a. SIGNATURE: George A. Little

b. DATE: 5/27/2016

c. NAME AND TITLE: George A. Little, PE, CEO

Jim Murphy, PE

Project Manager/Sr. Structural Engineer/Bridge Inspector

Mr. Murphy is a Project Manager and Senior Structural Engineer in HDR's Boston office with 11 years of progressive engineering experience. Jim's responsibilities include the management of multidisciplinary infrastructure projects, with a technical focus on bridges. He is experienced in managing and coordinating all aspects of infrastucture design projects including technical disciplines (such as structural, mechanical, electrical, civil/highway, traffic, geotechnical, hydraulic and hydrology), as well as cost/benefit and life-cycle studies, environmental permitting, historic mitigation, public/stakeholder outreach, plan and specification development, cost estimation and construction phase services.

Jim's technical expertise includes all phases of structural design from conceptual through final, as well as feasibility studies, type selection studies and life-cycle cost analyses. He is experienced in the inspection, design and analysis of a wide array of bridge types for highway, rail and transit clients, including concrete and steel girder, steel truss, moveable (bascule and vertical lift), timber stringer, as well as precast concrete and deck beam bridges.

EDUCATION
Bachelor of Science, Civil Engineering, Villanova University, 2005

REGISTRATIONS
Professional Engineer, New Hampshire, No. 15269

Professional Engineer, Massachusetts, No. 49034

FHWA Tunnel Inspector, United States National Registration, FHWA Tunnel Safety Inspection

FHWA Bridge Inspector, United States National Registration, FHWA Safety Inspection of In-Service Bridges

Society of Professional Rope Access Technicians - SPRAT, United States National Registration, No. 100142, Level 2

Industrial Rope Access Trade Association – IRATA International Registration, No. 101807, Level 1

INDUSTRY TENURE
11 years

HDR TENURE
11 years

RELEVANT EXPERIENCE

NHDOT, New Castle-Rye Bridge Project, *New Castle-Rye, NH*
HDR is leading a design team for the Preliminary Engineering services for the replacement of a bridge carrying NH Route 1B between the Towns of New Castle and Rye, NH. HDR investigated various replacement and rehabilitation alternatives for the existing structure, which is comprised of a bascule moveable span and five multi-stringer approach spans. Extensive coordination with multiple state agencies and the public is being performed during the study and design processes, as this structure is critical to local infrastructure, spans over a navigable channel and is also eligible for the National Historic Register. The bridge has been designated for replacement, and preliminary design is underway. Jim is Project Manager for these efforts, leading a multi-discipline team in the study and preliminary design of the replacement bridge. Jim also acted as Inspection Team Leader for the in-depth inspection of the existing bridge under a separate contract, and lead planning efforts for the structural, mechanical and electrical inspection of the existing bridge.
Role: Project Manager

NHDOT, Newington-Dover (aka General Sullivan) Bridge Project, *Newington, NH*
As a subconsultant, HDR was asked to provide engineering services for this historic through-arch truss bridge with deck truss approach spans over the Little Bay. As a subconsultant, HDR performed bridge inspection, load rating and a Type, Size & Location (TSL) Study. The inspection was in-depth and fracture critical, using rope access techniques and the Harcon bucket boat, as restricted load limits would not allow for an under-bridge inspection vehicle or boom lift. HDR utilized the Load Factor Method in the rating of the three span, continuous arch truss. HDR also performed the TS&L Study, which utilized information from the inspection and load rating to investigate several rehabilitation and replacement alternatives for the structure. Capital cost and life cycle cost estimates were performed on each alternative.
Role: HDR Project Manager and Bridge Inspection Team Leader

NHDOT, Sarah Mildred Long Bridge Emergency Repairs, *Portsmouth, NH*
On April 1, 2013 a vessel collision with the Sarah Mildred Long Bridge carrying Route 1 Bypass over the Piscataqua River caused structural damage to the bridge. Following the collision, respondents from both the Maine Department of Transportation (MaineDOT) and New Hampshire Department of Transportation (NHDOT) closed the bridge to vehicular traffic and railroad traffic. As a sub consultant HDR Engineering Inc.(HDR) was asked to be part of a team to perform a special inspection of the bridge to determine the extent of damage to the structure. Jim performed a hands-on inspection of the damaged bridge members using a manlift, boat and industrial rope access. Jim lead design efforts to repair three damaged truss members and truss gusset plates, producing and reviewing design calculations and plans. Jim also performed construction inspection of repairs, along with staff from the prime consultant. The use of heat-straightening was incorporated in the repair design for the bottom chord and several gusset plates. Damage to the bridge deck, fascia beams and railings were caused by the collision, and were mitigated by installing barriers to isolate the damaged locations from vehicular and pedestrian traffic.
Role: Structural Engineer and Bridge Inspection Team Leader.

NHDOT, Portsmouth-Kittery Bridge Inspection and Cost Analysis (BICA),
Portsmouth, NH-Kittery, ME
HDR inspected the main spans, lift towers and approach spans of the Sarah Mildred Long and Memorial Bridges spanning between Portsmouth, NH and Kittery, ME., as well as the mechanical and electrical components of these two vertical lift movable bridges. ritical inspection of the truss spans for both bridges. He was the primary inspector in areas accessed by a bucket boat. These areas included the bottom chord and floor system for the three through-truss spans of the Memorial Bridge, as well as the truHDR also inspected, as part of this contract, the I-95 High-Level steel through arch bridge. Jim acted as a Bridge Inspection Team Leader on an In-Depth and Fracture Csses and rail deck system of for the five truss spans of the Sarah Mildred Long Bridge. Jim was responsible for evaluating the schedule of inspection teams for the inspection of these three main bridges crossing the Piscataqua River, as the work needed to concur sequentially; as well as performing the bridge inspections.
Role: Structural Engineer and Bridge Inspection Team Leader

MassDOT, Project SPAN Life Cycle Maintenance Cost Study, *Cape Cod, MA*
The Massachusetts Department of Transportation retained the services of HDR to perform a life cycle cost analysis for the maintenance of fourteen alternatives addressing the transportation needs of Cape Cod. This analysis studied life cycle costs of existing and conceptual replacement bridges crossing the Cape Cod Canal, as well as developing conceptual layouts and life cycle costs estimates for twenty-two new or replacement bridges carrying connector roadways and interchanges.
Role: Project Manager and Sr. Structural Engineer

TABLE OF CONTENTS

ATTACHMENTS

A. **SCOPE OF SERVICES FOR PART A PRELIMINARY DESIGN** Prepared by HDR Engineering, Inc. dated October 4, 2017

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

SEABROOK-HAMPTON
X-A001(026)
15904
(PART A)

AGREEMENT
FOR PROFESSIONAL SERVICES

PREAMBLE

THIS AGREEMENT made this 2 day of April in the year 2018 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 HDR Engineering, Inc., with principal place of business at 8404 Indian Hills Drive, in the City of Omaha, State of Nebraska, and a local branch office at 250 Commercial Street, in the City of Manchester, 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 rehabilitate or replace the redlisted bridge (Br. No. 235/025) carrying NH Route 1A over Hampton River in the Town of Hampton and to perform roadway work as required in the Towns of Seabrook and Hampton.

The DEPARTMENT requires professional engineering and environmental services for the preparation of environmental documents, bridge plans, and other project plans as needed to progress through the permitting and public hearing process for this project. These services are outlined in the CONSULTANT'S Scope of Services (Attachment A) dated October 4, 2017 and Fee Assumptions dated March 14, 2018, 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 - 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 the rehabilitation or replacement of the bridge (NHDOT Br. No. 235/025) carrying NH Route 1A over Hampton River in the Town of Hampton and approach roadway work in the Towns of Seabrook and Hampton. This is a 13-span, 1,199-foot, steel girder bridge, built in 1949, which has a concrete deck and incorporates a single leaf bascule movable span to allow access for larger vessels into Hampton Harbor. The abutments and piers are to be rehabilitated or replaced as required. This project is in the STATE'S Bridge Rehabilitation/Replacement Program and is scheduled as to advertise in Fiscal Year 2024.

B. SCOPE OF WORK (GENERAL)

The purpose of this project is 1) Part A, to study and prepare preliminary engineering plans suitable for a Design Public Hearing and develop a NEPA document, and 2) Part B, to prepare final plans, specifications and estimates for the bridge rehabilitation or replacement and associated roadway improvements. Part B is not included in this scope of work.

Assuming a successful Public Hearing, the DEPARTMENT reserves the right to either negotiate a scope and fee for Part B or proceed with a new solicitation.

The rehabilitated/replacement structure is anticipated to accommodate 2-lanes of traffic (one lane in each direction) with sidewalk(s) and shoulders. This bridge is on the DEPARTMENT's Red List of structurally deficient bridges.

The following general tasks are included in Part A:

- Evaluate three bridge options: rehabilitation, replacement on new horizontal and vertical alignment to possibly remove the need for a movable bridge, and replacement on new horizontal alignment with a movable structure.
- Evaluate construction schedules and timeframes for all options, with consideration for accelerated bridge elements and methods.
- Review and compare Traffic Control alternatives for each alternative.
- Complete an Engineering Report summarizing concepts and recommendations.
- Review sidewalk and shoulder options and their environmental impacts.
- Environmental efforts for documentation to comply with the National Environmental Policy Act (including Cultural Resource investigations in accordance with Section 106 of the National Historic Preservation Act) and the identification of any permitting requirements.

- Identify any permitting requirements for the options considered (including, but not limited to, Shoreland, River Management, Wetlands, US Coast Guard, US Army Corp, US Fish and Wildlife, NOAA).
- Research and preparation of an existing Right-of-Way plan suitable for recording at the county registry. Work will be performed based on survey and boundary control standards of practice and the current NHLSA Ethics and Standards by a certified New Hampshire Licensed Land Surveyor.
- Assist the Department in the public involvement process, including Public Informational Meetings and a Public Hearing. It is anticipated that the public involvement process for this project will include Communication Plan, Stakeholder Groups, Advisory Committee, four Public Informational Meetings, Newsletters, electronically formatted files of relevant project information for the DEPARTMENT to post in the "Project Center" section of the "Project Specific Information" subsection of the DEPARTMENT's website, and communication activities.
- Support such efforts as required in the coordination between the DEPARTMENT and the Towns of Seabrook and Hampton including preparation of illustrative plans and exhibits for any meetings.
- After DEPARTMENT approval of the preferred option, develop the roadway design for the Preferred Alternative, through line & grade, roadway template, pavement layout, traffic control plan, and conceptual surface drainage.

After DEPARTMENT approval of the preferred option, develop the bridge design for the Preferred Alternative, through enhanced preliminary bridge plans that include mechanical, electrical, and control house drawings if a movable bridge option is selected.

C. SCOPE OF WORK (PRELIMINARY ENGINEERING)

The CONSULTANT shall be responsible for developing engineered alternatives through an iterative process of design and review involving the DEPARTMENT, STATE and Federal environmental resource agencies, regional planning commissions, the local community, and the public. The work requires the development and refinement of engineering plans and technical documentation in accordance with the following criteria and involving the following work efforts:

1. Engineering Criteria

   The CONSULTANT shall follow appropriate engineering criteria based on the latest AASHTO Policy on Geometric Design of Highways and Streets, AASHTO LRFD Bridge Design Specifications, NHDOT Highway Design Manual, and NHDOT Bridge Design Manual, as amended. Engineering shall take into account the functional classification of the roadways being addressed; volumes of traffic; methods of construction; erosion control; traffic control; cost;

right-of-way needs and impacts to private property; and environmental constraints and the need to avoid or minimize impacts to environmental resources.

2. Design Site Reviews

On-site field reconnaissance of existing conditions within the study area shall be performed by the CONSULTANT to supplement available data, and to become familiar with the Hampton Harbor Bridge and NH Route 1A as well as the adjoining roadway network anticipated to be affected. These field investigations shall be used to evaluate the feasibility of proposed improvements.

3. Traffic Analysis

The CONSULTANT shall recommend potential methods of traffic control during construction based on traffic analysis. Details of the traffic gathering, analysis and forecast to be used will be agreed upon between the CONSULTANT and the DEPARTMENT. The analysis effort shall provide the statistics required for both the design aspects and the environmental aspects of the proposed improvements.

4. Technical Reports

The CONSULTANT shall prepare Technical Reports to address engineering issues outlined here within that, to varying degrees, will be incorporated into the Draft Environmental document (Environmental Assessment anticipated) serving as the major milestones during the various phases of the study process. Technical support and writing shall be required to address the engineering aspects of the study as required to supplement and complete environmental documentation. In addition, an Engineering Report explaining in summary fashion all pertinent issues, recommendations and decisions relative to the design as proposed shall be required.

5. Public Participation

The study shall require that the CONSULTANT provide services for the public participation process, in accordance with the DEPARTMENT'S Public Involvement Process for New Hampshire Transportation Improvement Projects. The CONSULTANT shall prepare presentation graphics, handouts and support displays, and be available to make presentations.

D. MATERIAL FURNISHED BY THE DEPARTMENT OF TRANSPORTATION

The DEPARTMENT will furnish the following data to the CONSULTANT:

1. Electronic files of the following information in accordance with the DEPARTMENT'S CAD/D Procedures and Requirements for incorporation into the plans by the CONSULTANT:
   a. All existing survey and baseline data, 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.).

b. Electronic survey-data-file notes (meaning an unprocessed, survey-data dump) of all additional surveys requested by any party during the design process. The CONSULTANT shall be responsible for the reduction, editing, and incorporation of this data into the ground-terrain model and the plans. This data will be provided in a format as indicated in paragraph 1.a. above. Upon completion, the CONSULTANT shall confirm that the survey is correct by conducting appropriate field inspections.

c. 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.

d. 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.

f. 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.

g. Electronic drawings in MicroStation format of the existing right-of-way data, property lines and parcel owners which shall then be verified and incorporated by the CONSULTANT into the plans.

2. Latest structural inspection and underwater inspection of the bridge.

3. Prints or electronic documents containing the following information, for incorporation into the plans by the CONSULTANT.

   a. Existing bridge and highway plans.

   b. All survey data and field notes of all surveys requested by any party during the design process. The CONSULTANT shall be responsible for the incorporation of this data into the plans.

   c. Any additional surveys of adjacent parcels, mitigation sites, wetland boundaries, or other pertinent items deemed necessary. Incorporation of this information into the plans will be the responsibility of the CONSULTANT.

   d. Roadway typical sections and other detail sheets shall be provided upon request by the CONSULTANT.

4. Prints of the following information:
   a. Any additional information (e.g., abstracting, utilities, etc.) for the CONSULTANT to incorporate into the plans in conformance with the current DEPARTMENT CAD/D Procedures and Requirements.
   b. Available critical cross-sections within the current limits of ground data.
5. Prints and data-exchange files of existing conditions not previously provided to the CONSULTANT. Reduction and incorporation of this material shall be the responsibility of the CONSULTANT.
6. Right-of-way data, property lines and parcel owners. The information provided by the DEPARTMENT shall be verified and confirmed by the CONSULTANT prior to the development of right-or-way registry plans.
7. All required permits. The CONSULTANT shall be responsible for plans and computations for impacted areas. These plans shall provide all necessary data, area hatching (according to DEPARTMENT standards) and detail so that these plans can be forwarded to the respective regulatory agencies as appropriate attachments for the permit applications.
8. Geotechnical information as needed.
9. The location of all existing utilities through direct contact with the various utility companies. Following the determination by the CONSULTANT of all unavoidable conflicts between existing utilities and the proposed construction, the DEPARTMENT will coordinate the necessary relocation of the conflicting utilities. The CONSULTANT shall be prepared to furnish CAD/D files in the current DEPARTMENT format to the DEPARTMENT for use in assisting utilities' design.
10. Conceptual design and layout of highway 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.
11. Conceptual design and layout of ITS features, if deemed necessary. The CONSULTANT shall be responsible for incorporating the design, layout, details and estimates into the project documents and for recommending adjustments required to avoid conflicts.
12. Any updates of the DEPARTMENT-supplied CAD/D information will be released to the CONSULTANT throughout the duration of the AGREEMENT, as appropriate. The DEPARTMENT shall be held harmless from any and all loss, damage, expense or liability whatsoever resulting from the use of these programs and macros or translated information. The DEPARTMENT may supply the documentation for use with these programs and macros but shall not be responsible for any training in their use.

E. 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 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. Monthly progress reports shall be submitted by the CONSULTANT to the Project Manager, giving the percentage of completion of the work required by this AGREEMENT. Separate progress reports for bridge design(s) shall be required. These monthly progress reports shall be received by the DEPARTMENT by the 10th day of each month. All correspondence shall include the STATE and Federal project numbers as well as the municipality's name.

F. SUBMISSION OF REPORTS, PLANS AND DOCUMENTS

During the prosecution of this AGREEMENT, the CONSULTANT shall prepare and submit to the DEPARTMENT separate submissions as described hereinafter.

The submissions shall be as necessary in accordance with the study process and Environmental analysis as outlined above. Each submission shall be supplemented with such drawings, illustrations and descriptive matter as are necessary to facilitate a comprehensive review of proposed concepts.

The CONSULTANT will be expected to support their design proposals and any issues resulting from review by the DEPARTMENT or in the public participation phase, (including agency coordination), with alternative studies and reasonably itemized study cost comparisons for alternate concepts.

The CONSULTANT'S final submission shall include hard copy of a colored geometric base plan annotated to depict all geometric elements of the proposed layout (dimensions, tapers, corner radii, driveway matches, curve data, stationing, significant design controls, special or non-standard elements etc.), profiles, and full series of cross sections of the recommended concept, as well as CAD/D files for all plans. The cross sections should support the impacts shown on the Hearing Plan, include all drive sections, and be annotated as needed to convey design intent. The CAD/D files shall conform to the DEPARTMENT'S CAD/D Procedures and Requirements. The CONSULTANT shall also furnish coordinate summary of all survey control points with a corresponding plot of controls and alignments (including all curve data) superimposed over the detail plan as appropriate.

The CONSULTANT, with each submission, shall submit a transmittal describing the "design issues" addressed in that submission. In addition, the transmittal shall include anticipated or outstanding issues and the CONSULTANT'S recommendation. All issues shall be noted as to whether the CONSULTANT feels 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.

All plan drawings, including size of sheets, lettering, symbols and scale of said drawings, shall be in conformance with the requirements and standards of the DEPARTMENT. Electronic documents shall be delivered to the DEPARTMENT according to the following formats:

Electronic Transfer of Data: The DEPARTMENT requires the following to ensure compatibility with software used by the DEPARTMENT and to ensure the efficient and timely exchange of computer files between the DEPARTMENT and the CONSULTANT.

All files submitted must be fully compatible with the formats listed in this document without any conversion or editing by the DEPARTMENT. Any files requiring conversion and/or editing by the DEPARTMENT will not be accepted. All files shall be virus free. All files shall use the DEPARTMENT'S file naming convention.

Computer Aided Design/Drafting (CAD/D) files: All CAD/D files shall be in accordance with the Deliverable Requirements described in the DEPARTMENT'S CAD/D Procedures and Requirements in effect at the time this AGREEMENT was executed, or any later version. All files submitted must be fully compatible with the current version of MicroStation being used by the DEPARTMENT. (The DEPARTMENT'S CAD/D Procedures and Requirements document can be found on the CAD/D website by following the "Downloads" link at www.nh.gov/dot/cadd/.)

Word Processing, Spreadsheet, and Database Files: For each Phase, all relevant files shall be provided in a format fully compatible, as appropriate, with the following:

Word Processing:	Microsoft Word 2010 or NHDOT compatible version
Spreadsheets:	Microsoft Excel 2010 or NHDOT compatible version
Databases:	Microsoft Access 2003 or NHDOT compatible version

These specifications will be updated as necessary to reflect changes in DEPARTMENT software such as adding new software or updating to new versions of existing software. In such instances, the CONSULTANT will be promptly notified.

Computer File Exchange Media: Electronic files shall be exchanged between the DEPARTMENT and the CONSULTANT using the following media as appropriate for Windows Operating Systems:

FTP: Files posted to the DEPARTMENT'S FTP site can be actual size or compressed. Contact the Project Manager for instructions for accessing the FTP site.

Compact Disc (CD): Files on CD(s) should be actual size, not compressed.

DVD: Files on DVD(s) should be actual size, not compressed.

Email: Files 10 MB or smaller may be transferred via Email. If compressed, the files should be self-extracting and encrypted based on content.

Copies: The CONSULTANT shall provide hard (paper) and electronic copies of the deliverables for each Phase of Work. For all deliverables, provide electronic copies in two electronic versions; an electronic version in the original electronic file format (i.e., MicroStation (*.dgn), Microsoft Word (*.docx), Microsoft Excel (*.xlsx), etc.) and an electronic version in Adobe Acrobat (*.pdf) file format.

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").

Upon completion of the AGREEMENT, the CONSULTANT shall turn over all documentation,

H. DATE OF COMPLETION

In accordance with the Governor and Council Resolution authorizing this AGREEMENT, the date of completion for the Part A professional design services rendered under this AGREEMENT is June 30, 2021.

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 services 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, 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 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, 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 this AGREEMENT shall not exceed **$1,896,169.39**, the sum of the amounts shown in Article II, Section B (which amount is based on the CONSULTANT'S fee and manhour estimates of March 14, 2018), 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 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 $1,037,216.89. For billing purposes, salary burden and overhead costs are currently estimated at 156.48% of actual salaries.

b. A fixed fee to cover profit and non-reimbursed costs at $103,721.69.

c. Reimbursement for direct, out-of-pocket expenses estimated at $50,977.85.

d. Reimbursement for actual cost* of subconsultants estimated as follows:

- Fitzgerald & Halliday, Inc. (Environmental and Public Involvement) $676,884.38.
- Doucet Survey Inc. (Survey Services) $27,368.58.

NOTE: See Article IV.G – SUBLETTING for subconsultant Professional Liability Insurance information.

The actual amount payable under each category (a), (c) and (d) 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 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 this AGREEMENT shall not exceed **$1,896,169.39** 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, 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, Section A.
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, 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.

ARTICLE III - GENERAL PROVISIONS

A. HEARINGS, ETC.

The DEPARTMENT will make all arrangements for and hold all necessary hearings in connection with the project, including recording and filing of surveys and plats, enter into all necessary agreements with railroads, public utilities, municipalities, agencies of the Federal Government or others, and make orders of takings and financial settlements with owners of properties affected.

B. CONTRACT PROPOSALS

(Not applicable to this AGREEMENT.)

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 250 Commercial Street, Manchester, 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 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. <u>REVISIONS TO REPORTS, PLANS OR DOCUMENTS</u>

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 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.

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.

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 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 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

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.

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:

(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 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).

15904 Seabrook-Hampton, NH
Part A – Preliminary Design
Scope of Services and Fee Assumptions
New Hampshire Department of Transportation (NHDOT)

1.0 PROJECT MANAGEMENT

1.1 Project Initiation and Coordination with NHDOT

The HDR Team will perform the following tasks as a part of the Project Initiation and Coordination with NHDOT:

- Project startup, team coordination meetings including meeting minutes and prepare contract agreements.
- Coordination with NHDOT to identify additional activities (if any) or necessary modifications to contract.

1.2 Coordination with Subconsultants

The HDR Team will coordinate approved project scope with subconsultants and track progress compared to approved budgets and schedules. Subconsultants will be included in meetings, as required, during the design progress.

1.3 Project Schedule Management

The HDR Team will perform the following tasks as part of Project Schedule Management:

- Prepare the initial project schedule for design and reviews.
- Periodically update the design schedule, bi-monthly.
- The Part A project duration is expected to be 18 months with notice to proceed anticipated in Fall 2017.

The project schedule will provide tasks, task durations, identify task precedents and dependents, as well as project milestones. The project schedule will not be resource loaded.

1.4 Project Cost Management

The HDR Team will manage project costs for HDR and subconsultants, tracking costs compared to project progress and approved budgets.

1.5 Develop and Prepare Monthly Progress Reports and Invoices

The HDR Team will develop and provide monthly invoicing and progress reports. Subconsultant invoices will be reviewed by HDR prior to inclusion in the HDR Team invoice.

1.6 Design Criteria Document

The HDR Team will produce a Design Criteria Document, providing a summary of design goals, codes to be adhered to, and software to be utilized in design. This document will be submitted to NHDOT for review and comment.

1.7 Project Closeout

Coordinate closeout of project, Part A phase, including satisfactory delivery of electronic files, reports, plans etc.

1.8 Project Management Plan and Quality Assurance Plan

The HDR Team will develop a Project Management Plan, which will include key contacts, organizational chart, any safety requirements and the project schedule, with a list of deliverables.
The HDR Team will also develop a Quality Assurance/Quality Control Plan, including a schedule of QC reviews, identify required credentials for QC reviewers, and provide requirements for documentation of QC reviews.

Deliverables:

- Project Schedule
- Draft Design Criteria Document
- Revised Design Criteria Document

2.0 PUBLIC ENGAGEMENT & COMMUNICATIONS

HDR will submit the Engineering report for presentation at both the public information meeting and hearings.

HDR will develop graphics of the bridge alternatives presented in the Engineering Report. These graphics are assumed to be used at public information meetings and hearing.

2.1 Stakeholder Outreach/Site Visit

At the initiation of the project, one site visit will be made to view the project area and meet one-on-one with town officials and key stakeholders to understand key issues and identify effective methods of communicating with the public. Potential locations for public and stakeholder meetings will be examined as well as locations for informal communications such as bulletin boards at local marinas and retail shops, library, town hall, social clubs, markets, etc. The Hampton Beach area population swells in the summer months, so inquiries will be made as to the best method of keeping people informed on a year-round basis. Information gathered from the site visit will provide the foundation for developing a Public Outreach and Communications Plan. It sends a message that the project team will place a high priority on public involvement.

2.2 Public Outreach and Communications Plan

Within 30 days of the initial site visit, the consultant will develop a Public Outreach and Communications Plan. The consultant will identify stakeholders, key issues, and existing communications networks, such as newspapers, newsletters, radio stations, and electronic communication/social media tools. A draft public involvement plan will be developed and reviewed by NHDOT. Following NHDOT approval, it will be shared with the Project Advisory Committee (PAC) at its first meeting to solicit ideas and recommendations. Following the PAC meeting, the plan will be finalized and implementation will begin immediately.

2.3 Project Advisory Committee (PAC)

A Project Advisory Committee will be established for this project in collaboration with NHDOT and the consultant. The primary responsibility of the PAC will be to participate in the overall project process, provide and disseminate information, review and comment on draft documents and Section 106-related issues and address specific environmental, social and economic issues associated with the development of project recommendations. The consultant will provide PAC members a reasonable opportunity to

review materials in advance of a scheduled advisory committee meeting. All project information will be e-mailed or a hard copy will be sent via mail.

In addition to appropriate NHDOT staff, the following will be invited to participate in the project PAC:

- Officials from the Towns of Hampton and Seabrook;
- A representative of the Hampton Beach Village District Commission;
- A representative from the Seabrook Beach Village District;
- A representative from the Rockingham Planning Commission;
- A representative from Hampton Area Chamber of Commerce;
- A representative from Coastal Economic Development Corporation;
- A representative from the Hampton Harbor State Pier/NH Port Authority;
- A representative from NH State Parks Division (Hampton Beach State Park);
- A representative from Seacoast Area Bicycle Riders (SABR);
- A representative from local boards and commissions such as the Hampton Historical Society and Seabrook Historical Society and Town Conservation Commissions;
- Members from other interested parties including area marinas, businesses and residents;
- Others as identified and approved by NHDOT

It is anticipated that the PAC will meet up to eight (8) times during this project. It is assumed that there will be 4 attendees at four PAC meetings, and three attendees at four PAC meetings.

The Consultant will:

- Fully develop the role and objectives of the PAC with NHDOT, so that the advisory role is clearly understood by all.
- Work with NHDOT and the PAC to ensure that representation is appropriate.
- Develop a tentative PAC meeting schedule, corresponding to key decision points in the project. Plan eight meetings of the PAC.
- Maintain a database of PAC members.
- Be responsible for scheduling the date and time, identifying the meeting location, and developing draft meeting notices for NHDOT approval.
- Prepare a draft agenda for each PAC meeting.
- Revise and finalize each PAC meeting agenda.
- Develop and coordinate meeting materials (i.e. reports, slides, illustrations, graphics, designs, and maps).
- Send (via mailed postcard or email) meeting reminders to each of the PAC members three days prior to each meeting;
- Distribute/publish (ground mail, email) PAC meeting notices and agenda to PAC Members, all draft documents to each PAC member and posting meeting notices and agenda on the project web site, two weeks prior to the scheduled meeting.
- Facilitate each PAC meeting (At the first PAC meeting, present the objectives of the project, answer questions to clarify the objectives, and respond to general questions about the project).
- Revise and finalize meeting notes.
- Distribute meeting notes to PAC members.
- Make meeting notes available on a project webpage.

2.4 Public Information Meetings

The purpose of these meetings is to obtain input from the public regarding the development of this project and its recommendations. These meetings will be planned to coordinate public participation in the NEPA process (including Section 106 requirements), both for public scoping and review of the Environmental

Assessment (EA). Public Information Meetings will be developed as "open house" style with brief presentations. This scope includes up to four (4) Public Information Meetings held at key project milestones. It is assumed that there will be five attendees at two PAC meetings, and three attendees at two PAC meetings. These meetings are expected to last up to two hours each.

For each of these meetings, the Consultant will be responsible for:

- Scheduling the date, time and meeting location;
- Developing an agenda for meetings for NHDOT approval;
- Developing handout material, including display graphics for NHDOT review and approval prior to publication. It is assumed that materials for the PIM will utilize information developed for corresponding PAC meetings;
- Conducting a dry-run of presentation for NHDOT before meeting;
- Presenting the project materials at the meeting;
- Developing draft meeting minutes and summary of the comments received at each meeting and making changes based on NHDOT review and comments;
- Publishing/posting the approved meeting minutes on the project webpage;
- Maintaining a log of each meeting; and
- Posting any PowerPoint presentations from meetings on the project webpage.

No formal stenographer or audio recording is assumed for this task.

2.5 Stakeholder Meetings

While the Consultant will develop a formal outreach process with the establishment of Public Outreach and Communications Plan, a Project Advisory Committee and Public Meetings, additional public engagement is anticipated with individuals and civic groups. Members of the HDR Team will, in conjunction with NHDOT, meet one-on-one with affected residents and businesses as well as provide briefings to civic groups or local governmental entities. Meetings will include NHDOT personnel as appropriate. Up to eight (8) meetings are included in this scope.

For each of these meetings the Consultant will be responsible for:

- Scheduling the date, time and meeting location;
- Reviewing the agenda and handout material and/or presentation with NHDOT prior to the meeting;
- Presenting the project materials at the meeting; and
- Developing minutes and summary of the comments received at each meeting and distributing to NHDOT.

2.6 Communication Materials and Activities

2.6.1 Mailings/Newsletters

The Consultant will produce four (4) mailer/newsletters at the following milestones:

- At the beginning of the project, announcing the project and advertising the first public meeting.
- At development of preliminary draft alternatives phase when alternatives are ready for public review and a public informational meeting is scheduled.
- At development of final draft alternatives phase when alternatives are ready for public review and a public informational meeting is scheduled.
- At the conclusion of the design phase announcing the preferred design and next steps, including schedule for construction.

Deliverables: Four (4) sets of flyers/newsletters prepared for advertising public meetings.

2.6.2 Contact list

The Consultant shall maintain a mailing list of Interested Parties throughout the project process. The Interested Parties mailing list shall include, but may not be limited to:

- Legislators from US Congress, Executive Council, State Representative and Senate;
- Individuals or organizations that have indicated an interest in this project;
- Stakeholders;
- Media;
- Abutters;
- Section 106 Consulting Parties;
- Local Municipal Officials; and
- Others.

2.6.3 Media Relations

The Consultant will provide supportive materials to NHDOT communications staff to assist the department with publicizing public meetings in newspapers, radio and TV stations that cover the Hampton-Seabrook area. The Consultant will provide a draft media advisory to NHDOT for four (4) public meetings with pertinent information on the date, time, location and purpose of the public meetings and project status. Outreach to media outlets will occur within two weeks in advance of four (4) public meetings. NHDOT will be responsible for initiating all media contact.

2.6.4 Website

The Consultant will provide NHDOT relevant project information in electronically formatted files for the agency to post in the "Project Center" section "Project Specific Information" subsection of the NHDOT website - http://www.nh.gov/dot/projects/index.htm. Information provided may include notices of upcoming public meetings, meeting presentations, newsletters, project reports and contact information on how to communicate with the project team. The Consultant will also review project page and update monthly, for the duration of the project.

In addition, the Consultant will provide information about the project for posting on the Town of Hampton and Seabrook websites.

2.6.5 Other Communication Activities

Throughout the course of Part A, miscellaneous communication activities will occur with members of the public, especially during the periods leading up to and following public meetings. A sampling of communication tasks we anticipate are:

- Coordination with the Towns of Hampton and Seabrook to send out e-alerts in advance of upcoming meetings;
- Design and mailing of flyers to community gathering locations;
- Develop and maintain a database of all comments received;
- Directly respond to comments or coordinate a response from another member of the study team
- Track all comments and responses within database; and
- Provide reports of comments for NHDOT within the monthly progress report.

It is assumed that these communication activities will not exceed 2 hours per month.

2.7 Public Hearing

The HDR Team will perform support NHDOT in conducting one (1) Public Hearing, in the event that the project has Right-of-Way impacts. For this meeting, the Consultant will be responsible for:

- Preparation of colored Hearing Plans
- Preparing up to three (3) boards for use at the hearing;
- Conducting a dry-run of presentation for NHDOT before the hearing;
- Support DOT in presenting the project materials at the hearing;
- Publishing/posting the approved meeting minutes on the project webpage; and Posting any PowerPoint presentations from meeting on the project webpage.

It is assumed that the HDR Team will not provide a formal stenographer or audio recording for this task.

Deliverables:

- One (1) Public Outreach and Communication Plan in electronic copy.
- Eight (8) Public Advisory Committee Meetings, up to eight (8) PowerPoint presentations, and eight (8) meeting summaries.
- Documentation and appropriate (email, PowerPoint, memorandum, meeting summary) of up to eight (8) stakeholder meetings.
- One public hearing, up to three (3) boards, PowerPoint presentation, and meeting summary.
- An excel file of project stakeholders will be available for review by NHDOT throughout the project.
- Four (4) Public Information Meetings, four (4) PowerPoint presentations, and four (4) meeting summaries.
- Four (4) draft press releases.
- One (1) comment log in electronic format.

3.0 ENVIRONMENTAL COORDINATION

Under the Part A work effort, the HDR Team will undertake the following environmental tasks, as outlined below. Agency coordination will occur first, followed by more detailed studies as identified during the agency coordination task. For the purposes of this proposal, it is assumed all these tasks will be required.

3.1 Natural Resource Coordination Meetings, Site Walks, and Agency Coordination

The HDR Team will conduct agency coordination required for the NEPA document (and future environmental permits under Part B) with the National Oceanographic and Atmospheric Administration (NOAA) Habitat and Resource Protection Divisions, U.S. Fish and Wildlife Service (FWS), U.S. Army Corps of Engineers New England District (both Regulatory and Navigation Divisions), Hampton Harbor Master, New Hampshire Fish and Game (NHFG), and the New Hampshire Natural Heritage Bureau (NHNHB). Coordination with the U.S. Coast Guard (USCG) is scoped separately under Section 6 of this scope. Cultural resources coordination is scoped separately under Section 4.0. For these coordination letters, existing project and site information will be used if available; however, the HDR Team will conduct two site walks early in the project schedule to verify any existing information and mapping materials used for coordination. One site walk will be with the project team and NHDOT, and the second site walk will be with the regulatory agencies. In addition, the HDR Team will attend five (5) environmental Agency Meetings held by the NHDOT to present the environmental aspects of the project at major milestones and as new site information is obtained.

New Hampshire Natural Heritage Bureau Review

The HDR Team will conduct a screening of the project area using the New Hampshire Natural Heritage Bureau (NHNHB) web-based tool. If required, based on the results of this web-based screening, the HDR Team will prepare a request letter, including supporting documentation/maps, for a NHNHB review. Plans and engineering information required under this coordination will be included in the request. A site walk with NHNHB will be undertaken as part of Task 3.11.

National Oceanographic and Atmospheric Administration

The HDR Team will prepare a request letter, including supporting documentation/maps, for a National Oceanographic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) review. Plans and engineering information required under this coordination will be included in the request. Information on potential species of concern will be requested. No field surveys will be conducted under this task. In addition, information on Essential Fish Habitat (EFH) species will also be requested.

U.S. Fish and Wildlife Service Review

The HDR Team will conduct a web-based IPac consultation for the project. It is assumed there will be listed species in the project area, therefore, it is assumed a request letter, including supporting documentation/maps, will subsequently be prepared for a U.S. Fish and Wildlife (FWS) review. This letter will be prepared by the HDR Team for submission by NHDOT. Plans and engineering information required under this coordination will be included in the request.

As part of this work, it is assumed that the HDR Team will conduct a field survey of the bridge structure for signs of the Northern Long-eared Bat (*Myotis septentrionalis*) (NLEB). . A one-day field assessment with boat rental is assumed for this inspection. A Field Memorandum will be prepared discussing methodologies and results of the field survey. This memorandum will include the bridge/structure survey form in accordance with the FHWA programmatic consultation for NLEB.

U.S. Army Corps of Engineers (USACE) Regulatory and Navigation Divisions

The HDR Team will prepare a coordination letter, including supporting documentation/maps, for a USACE review. Plans and engineering information required under this coordination will be included in the request. Specific guidance and information relative to additional USACE coordination, navigation issues and permitting requirements under Section 404 and Section 408 for the project will be requested.

Hampton Harbor Master

The HDR Team will prepare a coordination letter, including supporting documentation/maps, for a Hampton Harbor Master review. Plans and engineering information required under this coordination will be included in the request. Specific guidance and information relative to additional Harbor Master coordination and navigation issues will be requested.

New Hampshire Fish and Game

The HDR Team will prepare a coordination letter for New Hampshire Fish and Game (NHFG). It is assumed there will be listed species in the project area, therefore, it is assumed a request letter, including supporting documentation/maps, will subsequently be prepared for a NHFG review. The Biological Assessment and Essential Fish Habitat documents will also be submitted to NHFG for review, after the

initial coordination, in a second letter. Plans and engineering information required under this coordination will be included in the request.

3.2 Wetland Delineation and Assessment

As part of the preliminary design, delineation of wetlands and watercourses that may be impacted by construction is required. The delineation will be conducted in accordance with the U.S. Army Corps of Engineers (USACE) 1987 Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region and the definitions contained in 33 CFR 3.23.2(a) through (f). Additionally, wetland resources will be delineated in accordance with State of New Hampshire regulations and guidelines by a New Hampshire Certified Wetland Scientist (NHCWS). In addition, all wetland resources will be assessed for their respective functions and values. This assessment will be conducted in accordance with the U.S. Army Corps of Engineers New England District Highway Methodology Supplement dated 1999. The HDR Team will review available resource information such as the National Wetlands Inventory (NWI) map, waterways or watercourses maps, Soil Survey data, and appropriate Hydric Soil Lists before conducting the wetland delineation. The HDR Team assumes 2 field days to conduct the wetland delineation.

As part of the scope of work for Wetlands Delineation and Assessment, the following tasks will be completed by the HDR Team:

- Conduct a field investigation to identify and delineate wetlands within the proposed project area. The three (3) parameters utilized to identify wetlands -- hydrophytic vegetation, hydric soils and wetlands hydrology -- will be evaluated. This effort will include the preparation of four (4) Delineation Field Sheets, for two (2) transects, within wetland areas.
- Upon survey completion, the wetlands limits and Cowardin wetland type, in accordance with NHDOT standards, will be shown on plans for identification.
- Flag the wetlands/non-wetlands boundaries. Once flagged, this scope assumes that flagged boundaries will be surveyed by NHDOT.
- Prepare a Wetland Delineation Report detailing the results of the delineation. The Report will contain a narrative, site location map, site photographs, wetland/upland data sheets, and applicable mapping. The Wetland Delineation Report will be stamped by a New Hampshire Certified Wetland Scientist.
- The HDR Team will also identify the Highest Observable Tide Line (HOTL), using GPS, for inclusion in design documents. This will be done in accordance with NHDES requirements.
- Mean High Water (MHW) and Mean Low Water (MLW) elevations will be obtained from NOAA or NHDES, and not marked in the field.

3.3 Biological Assessment

It is assumed formal coordination under Section 7 of the Endangered Species Act (ESA) will be required for this project for the following three species only: Piping Plover (*Charadrius melodus*), Short-nose Sturgeon (*Acipenser brevirostrum*) and redknot (*Calidris canutus*). It is assumed a formal Biological Assessment (BA) will not be required for the NLEB; if required this would be additional work. The following scope details the work required for the BA, with a work effort reflecting three species (assumed to be *Charadrius melodus, Calidris canutus* and *A. brevirostrum* for the purposes of this scope). In the event that more than three species need to be assessed pursuant to Section 7, the additional work

required would be considered supplemental to this scope.

Research and Data Compilation

Verify, document and compile existing information on *Charadrius melodus, calidris canutus and A. brevirostrum* within the project vicinity to develop study baseline. Research efforts will be coordinated with the regulatory agencies (USFWS, NOAA, and NHFG) and local conservation organizations in the project area.

Records will be compiled to show abundance as well as to assist in identifying habitat use areas in the vicinity of the project site. Any information on the home ranges of the species will be included if available.

Habitat Characterization and Mapping

Research will be undertaken to describe (characterize) *Charadrius melodus, calidris canutus and A. brevirostrum* habitat and document potential habitat in the immediate vicinity of the project area. A literature review, contact with experts and relevant anecdotal information obtained in the Research and Data Compilation Task will be used to characterize habitat. Characterization will include such information as typical habitat features, breeding characteristics, distance from disturbance, major food sources and other critical habitat features. In addition, relevant existing physical, chemical and biological features within the project study area including general floral and faunal associations will be investigated and characterized.

Charadrius melodus, calidris canutus and A. brevirostrum habitat, if present within the project study area, will be portrayed on project maps or other suitable maps. Habitat will be defined by the use areas identified by the Research and Data Compilation Task. Potential/available habitat in the immediate project vicinity will also be mapped, based on results of habitat characterization. Such mapping will portray any habitat features frequently present at other documented habitat locations as a preliminary means to estimate potential use areas and evaluate the relative importance of the area for regional *Charadrius melodus, calidris canutus and A. brevirostrum* populations.

Impact Assessment

The Build alternative will be evaluated to assess potential *Charadrius melodus, calidris canutus and A. brevirostrum* habitat impacts. Temporary impacts to *Charadrius melodus, calidris canutus and A. brevirostrum* habitat resulting during and immediately following construction activities will be estimated and characterized. Permanent or chronic *Charadrius melodus, calidris canutus and A. brevirostrum* habitat impacts will be evaluated based on information obtained in the Research and Data Compilation, and Habitat Characterization Tasks. Cumulative and secondary *Charadrius melodus, calidris canutus and A. brevirostrum* habitat impacts will be estimated for both the local habitat and populations and regional *Charadrius melodus, calidris canutus and A. brevirostrum* populations. A detailed quantitative noise study is not part of this scope; only a qualitative noise assessment will be conducted based on existing information and literature. This scope does not include a quantitative sediment plume analysis; if required this would be additional work.

Impact Mitigation

Measures to mitigate temporary, permanent and/or secondary habitat and/or population impacts will be investigated. The HDR Team will consult with regulatory agencies and other subject matter authorities to determine appropriate mitigation measures. These mitigation measures will be vetted with the NHDOT

and discussed in the BA Document.

Report Preparation

The initial biological assessment report will be compiled to present the results of all identified tasks, including written summaries, maps, and references. This report will be submitted to the NHDOT for submission to FHWA, who will forward it to the USFWS and NOAA to continue the ESA Section 7 interagency cooperation process. The NHFG will also receive a copy of the BA. The report will include:

- a description of the alternative being evaluated
- a description of the specific area that may be affected by the alternative
- a description of any listed species, critical habitat or suitable habitat that may be affected by the alternative (*Charadrius melodus, calidris canutus* and A. brevirostrum)
- a description of the manner in which the action may affect listed species, critical habitat or suitable habitat, and an analysis of cumulative effects
- an analysis and description of measures to avoid, minimize and/or mitigate potential impacts
- copies of relevant reports from other, nearby projects, including environmental impact statements, environmental assessments, or biological assessments pursuant to Section 7(c) of the ESA, and
- other relevant studies or other information available on the proposed project, the affected listed species, or critical habitat
- References and citations

Following review by the NHDOT, USFWS, NOAA and NHFG, any comments will be incorporated as appropriate. It is assumed that one meeting will be required with the regulatory agencies and NHDOT to discuss review comments and revisions. Following generation of the USFWS's biological opinion pertaining to the proposed action, a response will be prepared if necessary.

3.4 Essential Fish Habitat Assessment

The 1996 amendments to the Magnuson-Stevens Act strengthened the ability of NMFS and the Councils to protect and conserve the habitat of marine, estuarine, and anadromous finfish, mollusks, and crustaceans. The Act establishes measures to protect EFH. NMFS must coordinate with other federal agencies to conserve and enhance EFH, and federal agencies must consult with NMFS on all actions or proposed actions authorized, funded, or undertaken by the agency that may adversely affect EFH. In turn NMFS must provide recommendations to federal and state agencies on such activities to conserve EFH. As a Federally-funded activity, the NHDOT is required to comply with the Magnuson-Stevens Act for this project. It is assumed that an EFH Assessment Form will be required for this project, however, the Agency Coordination Task will define all NMFS requirements based on the preferred alternative which is developed.

The EFH Assessment will contain all data used and generated in the study, survey methodology, results of the study, and a discussion of conclusions, findings and recommendations including mitigative measures that might be necessary to reduce project related impacts. Data shall be reported in a manner which allows for easy interpretation.

The following tasks will be undertaken for preparation of the EFH Assessment Form.

- Existing Data Collection
- Field Work
- Report Preparation

The EFH will be prepared by the HDR Team for submission by NHDOT.

Existing Data Collection

In support of the EFH Assessment Form, existing information will be collected. Information will include, but not be limited to, EFH species information, existing mapping, guidance documents, other EFHs in the vicinity of the project area.

Field Work

Field work will be conducted to assess the project area for specific EFH relative to the management species. Field work will consist of a visual assessment of the project area, and will not include detailed mapping of underwater habitat.

EFH Assessment Form Preparation

The HDR Team will prepare a draft EFH Assessment Form for the proposed project and will provide it to NHDOT for review and comment. The Form will include text and graphics to support the assessment. Upon receipt of comments, the Form will be finalized and submitted by NHDOT to NMFS.

This scope does not include a public hearing, professional testimony, or any fees associated with public notices for the EFH Assessment Form.

3.5 Sediment and Water Quality Sampling Support

The HDR Team will provide support services for sediment sampling of sediment materials under the - Hampton-Seabrook bridge structure. It is assumed for this scope that twelve (12) sediment samples will be obtained for the project area. Two (2) water quality samples will be taken within the project area to provide a baseline for water quality to be used in the impact assessment. (See Attachment A for methodologies, testing parameters and additional scope description).

The HDR Team will coordinate with NHDOT's contamination Program Manager and the regulatory agencies in the development of a sampling plan for the work, and also provide oversight of the field sampling of sediment materials under the bridge to ensure the field sampling is in accordance with the sampling plan and appropriate methodologies. The HDR Team will provide a Summary report describing the results of the sediment sampling activities, for use in support of the EA, BA, EFH, and other documents/applications in the future.

3.6 Environmental Assessment

The HDR Team will prepare an EA document in accordance with the National Environmental Policy Act (NEPA), the Council of Environmental Quality (CEQ) Guidelines, FHWA Guidelines and NHDOT Guidelines. The EA will draw upon analysis prepared under other tasks and supplement it as necessary to develop the required NEPA document.

In general, the EA Process will:

- provide for project notification to Federal, state and local agencies
- provide for cooperative consultation among agencies through agency coordination
- provide for public dissemination of project information and public comment
- assess the environmental impacts, both adverse and beneficial, of the Proposed Action and No

Action on the natural, cultural, and social environment
- identify unavoidable adverse environmental effects
- identify secondary and cumulative environmental impacts
- identify irreversible and irretrievable commitment of resources necessary to implement the project
- evaluate the relationship between the local short-term use of the environment and the long-term productivity
- identify mitigation measures to address and minimize adverse environmental impacts from the construction, operation, and maintenance of the Proposed Action.
- identify potential permits and certifications needed to complete the project.

Additionally, the environmental process will address specific legislative requirements (Executive Orders, agency coordination, Section 4(f), Section 6(f), Section 106, and Section 404 among others), by identifying specific findings and necessary follow-on actions within the environmental document.

The EA will assess the environmental impacts associated with two Build Alternatives, which will be selected from those alternatives analyzed in the Type, Size and Location Study. The HDR Team will consult with NHDOT on which alternatives will be selected for study in the EA. The EA will also assess a No-Build Alternative. Alternatives considered during the planning process but eliminated from detailed analysis will also be discussed in the EA. A 30% conceptual design of the bridge will serve as the basis for deriving impacts attributed to the Build Alternative.

3.6.1 Project Description, Purpose and Need and Agency Coordination

The HDR Team will prepare a written description of the project and a concise Purpose and Need statement. The project description and statement of Purpose and Need will be submitted to NHDOT and FHWA for review and concurrence. Revisions will be made based on comments received. The approved project description and Purpose and Need statement will be included in the EA as well as in all public and agency notifications issued relative to NEPA processing.

3.6.2 Alternatives

The EA will evaluate three (3) project alternatives, two Build Alternatives, comprised of two of the alternatives studied in the TS&L Study and the No-Build Alternative. The process and decisions leading to the selection of the preferred Build Alternative will be summarized in the EA. The discussion of project alternatives will be submitted to NHDOT for review and concurrence.

3.6.3 Affected Environmental and Environmental Consequences

The EA will document all existing built and natural conditions within the project area. The extent and detail of this documentation will be dependent on the specific resource and its likelihood of being affected by the Proposed Action or No Action. The EA process will then evaluate the potential direct and indirect, permanent and temporary, adverse and beneficial impacts to social, economic, and natural resources. The assessment of potential impacts for each environmental resource topic will include exploration of reasonable cost-effective measures to avoid, minimize, and/or mitigate adverse impacts. Topics to be addressed are outlined below. Additional resource areas that would not be impacted, such as farm and conservation lands, and wild and scenic rivers, will be identified as not requiring additional study.

Land Use

Existing land uses in the study area will be described. Potential impacts that will be explored include changes in land use, and consistency with local, regional, and state plans of development. The existing conditions discussion will provide the foundation for the discussion of Secondary and Cumulative Impacts.

Environmental Justice Impacts

No work is carried under this scope for assessing and describing Environmental Justice Impacts. It is assumed that NHDOT will complete this section of the EA, and provide it to the HDR Team for inclusion in the document.

Economic Impacts

Information on the local and regional economy will be obtained from the 2010 U.S. Census for the most immediate geographic area available. In addition, information available from the Towns of Hampton and Seabrook, the Rockingham Planning Commission, local chamber of commerce, and state reports will be researched. Economic factors considered will include:

- Regional transportation patterns such as accessibility to businesses, markets, suppliers, and recreational and cultural facilities
- Income, employment, and economic activity within the study area
- Planned and programmed development projects that may affect the community's social and/or economic values
- Description of economic impacts of bridge openings. (Work associated with analysis included in Task 14.0)

Potential economic impacts on the regional and/or local economy will be qualitatively identified and the effects of the project on development, tax revenues, public expenditures, and employment opportunities will be investigated based on the Benefit-Cost Analysis to be completed under Task 13.0. No economic modeling will be included in this scope.

Traffic and Transportation

Existing traffic conditions and the impacts of the Build and No-Build Alternatives on traffic and transportation will be summarized in the EA based on the findings in the Traffic Impact Study conducted under Task 10.0. The existing roadway network in the project area will be described including information on traffic volumes, vehicle mix, and circulation patterns. The potential for impacts to the transportation system due to construction, as well as any operational impacts, will be identified and described. This includes impacts to emergency access. Measures to mitigate these impacts will be presented in the EA. In addition, potential impacts to navigability and boat traffic will also be assessed.

Considerations Relating to Pedestrians and Bicyclists

The Seabrook-Hampton Bridge is located on a segment of the on-road alignment of the East Coast Greenway. Existing pedestrian and bicyclist facilities in the project vicinity and existing safety issues will be described within the EA. Potential impacts to these facilities due to the construction and implementation of the project will also be described in the EA and mitigation measures will be identified.

Air Quality

Based on the findings of the Air Quality Assessment, undertaken as part of Task 3.7, existing air quality conditions and impacts of the Build and No-Build Alternatives will be summarized in the EA. The analysis will include impacts related to both construction and operation of the bridge. Appropriate mitigation measures will also be identified.

Noise

Based on the findings of the Noise Assessment, undertaken as part of Task 3.8, existing noise conditions and impacts of the Build and No-Build Alternatives will be summarized in the EA. The analysis will include impacts related to both construction and operation of the bridge. Appropriate mitigation measures will also be identified.

Water Resources and Water Quality

The existing quality of surface water and ground water resources in the study area will be identified and existing documents, data and maps will be consulted to determine the quality of these resources.

There are no public or community drinking water supply wells, reservoirs, or aquifers in the project study area and thus it is not anticipated that a detailed analysis of these resources will be necessary. Existing TMDL limits will be identified and discussed, and potential water quality impacts assessed based on TMDL load. Analysis of stormwater and stormwater BMPs will be assessed for compliance with MS4 and AoT requirements. This analysis is scoped under Tasks 12.0 and 13.0. A narrative summarizing this analysis will be included in the EA.

The effect that bridge construction will have on Hampton Harbor will be described. Any locations where roadway runoff or other nonpoint source pollution may occur will be identified, and impacts to stormwater quality and quantity will be assessed. Stream Crossing Rules as they pertain to the project site will be evaluated.

Wetlands

The findings of the wetland delineation conducted under Task 3.2 will be summarized in the EA. Direct and indirect and temporary and permanent impacts of the Build Alternative will be assessed in terms of both quantity (acreage and volume) and quality (functions and values). Methods to avoid and minimize wetland impacts will be assessed and described. If there are no practicable alternatives to avoid impacting wetlands, potential mitigation options will be discussed. The EA will summarize resource agency coordination on mitigation requirements.

Wildlife and Aquatic Habitat Impacts Including Endangered and Threatened Species

Existing terrestrial and aquatic habitats in the study area, and wildlife and vegetation within them, will be identified and described in terms of location and characteristics. In addition, the presence and/or absence of endangered and threatened species and habitats will be documented in the EA. Results of the Essential Fish Habitat (EFH) assessment, ESA Section 7 Biological Assessment (BA), and habitat assessment will also be summarized in this section of the EA. Coordination with NHFG will also be summarized. Potential impacts from the project will be identified and described and

measures to avoid, minimize and mitigate impacts will be presented. A summary of coordination with regulatory agencies and mitigation discussions will be included in this narrative.

Floodplains and Floodways

The HDR Team will identify and describe regulatory floodways and 100-year floodplain zones in the study area using National Flood Insurance Program (NFIP) maps and/or information developed by the Federal Emergency Management Agency (FEMA) and/or the state of New Hampshire. Potential project encroachments into floodplains and floodways will be identified and described and measures proposed to minimize flood risks and to mitigate adverse impacts will be suggested, as required by Executive Order 11988.

Climate Change/Resilience

The two Build Alternatives and No Build Alternative will be assessed in terms of their overall resiliency and potential to withstand impacts that could arise due to climate change, in accordance with NHDOT guidelines. Topics that will be addressed include sea level rise and the potential for an increase in and severity of storm events, and the potential affect these factors will have on the two Build Alternatives and No-Build Alternative.

Coastal Zone Consistency

The HDR Team will identify and describe coastal resources in the project study area, and then assess potential impacts to coastal resources from project construction and operation. Also, applicable coastal policies will be identified and the consistency of the Build Alternatives will be evaluated for the applicable policies.

Historic and Archaeological Resources

As part of Task 4.1, the HDR Team will define a Draft Area of Potential Effects (APE) for the project. The EA will describe the APE and historic and archaeological resources located within this area, as identified through a windshield survey, research at the New Hampshire Division of Historical Resources (NHDHR), the Phase 1A Archaeological Survey, an Individual Inventory Form for the bridge, and a Project Area Form. The HDR Team will also summarize the effects of the Build Alternative on these resources, and identify mitigation measures agreed upon through the Section 106 consultation process.

Section 4(f) Resources

Section 4(f) of the Department of Transportation Act of 1966 (23 CFR 771.135) protects public parks and recreation areas as well as national wildlife and waterfowl refuges. Historic resources listed on or eligible for the NHRP and archaeological resources determined to be valuable if preserved in place are also protected under Section 4(f). Under Task 4.6, an Individual 4(f) Evaluation will be prepared for the project. The HDR Team will summarize the findings of the Individual 4(f) Evaluation in the EA and the full Evaluation will be included as an Appendix to the EA.

Section 6(f) Resources

Section 6(f) of The *Land and Water Conservation Fund Act (LWCFA)* of 1965 (16 USC 4601-4 et seq.) requires that all properties "acquired or developed, either partially or wholly, with LWCF funds"

must be maintained as such in perpetuity. Section 6(f) of the Act prohibits the conversion of property acquired or developed with LWCF grants to a non-recreational purpose without the approval of the Department of the Interior's National Park Service. If the bridge replacement requires the conversion of any portion of the Hampton Beach State Park to a non-recreational use, a 6(f) Evaluation will be undertaken in Task 3.9. The HDR Team will summarize the findings of this evaluation in the EA.

Visual Impacts

In Task 3.10, the HDR Team will complete a Visual Analysis which will define the viewshed, document existing visual conditions within the viewshed, and assess impacts to visual resources resulting from the Build Alternative. This analysis will be summarized within the EA and mitigation measures will be identified, if needed.

Hazardous Waste Sites/Contamination

The HDR Team will identify contaminated/hazardous materials sites located within 1,000 ft of the project area. Review of local, state, and Federal inventories/databases of confirmed and potential hazardous waste/release sites will be conducted, including data contained within the New Hampshire Department of Environmental Services OneStop Database. Limited field investigations will consist of a windshield survey of the properties identified in the environmental database search. Identification of hazardous materials/release sites will be completed using available records, documents, maps and aerial photographs. The Federal, state, and local records will be reviewed, evaluated and compiled in a records search report documenting the environmental database search. The HDR Team will also summarize the finding of the sediment sampling undertaken in Task 3.5. The potential for project impacts from hazardous materials/contaminated sites will be documented in the EA. Assessments of and mitigation for LRS, lead paint and asbestos are anticipated.

Public Utilities and Services

The HDR Team will review existing public utilities and services information provided by NHDOT in the project area to determine if any public utilities will be removed, replaced or relocated under the two Build Alternatives. Impacts and mitigation measures will be summarized. Developing utility information is not included in this scope.

Construction Impacts

Impacts associated with construction of the Build Alternative will be discussed, including those related to:

- Land use
- Neighborhoods
- Access/Vehicular Traffic Circulation
- Maritime Traffic and Navigation
- Business vitality
- Air Quality
- Noise
- Water quality/wetlands
- Floodplains and resiliency
- Coastal Resources
- Fisheries and Aquatic Habitat

- Provision of Emergency Services
- Hazardous Waste/Contamination

This analysis will consider potential impacts from construction activities and necessary avoidance, minimization and mitigation measures. It is assumed that at a minimum, one lane of traffic and one sidewalk will be maintained at all times during construction.

Secondary and Cumulative Impacts

Secondary impacts are defined as reasonably foreseeable indirect consequences to the environment caused by a Proposed Action. These indirect impacts occur either later in time or at a greater distance than the direct impacts. Cumulative impacts are defined as the total impacts to environmental resources resulting from the incremental effects of the Proposed Action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes these actions. The following defines the analysis technique that will be employed to assess the secondary (indirect) and cumulative impacts from the Seabrook-Hampton Bridge Replacement:

During the data collection phase, the overall parameters of the secondary and cumulative impacts analysis will be defined. Steps will include:

- Defining the geographic area and time frame appropriate to the secondary and cumulative impacts analyses, based on the findings of the individual impact analyses for resources, ecosystems, and human community elements conducted for the EA.
- Identifying which resources are affected by the project, either directly or indirectly (again, based on the findings of the individual impact analyses for resources, ecosystems, and human community elements).
- Characterizing the existing stresses on the affected resources and their capacity to absorb additional stress or impact.
- Conducting additional research regarding reasonably foreseeable future actions that could affect the pertinent resources.

The impact analysis for secondary impacts will generally follow the guidelines outlined in the Federal Highway Administration's *Position Paper on Secondary and Cumulative Impact Assessment* (August 20, 1992). The cumulative impact analysis will generally follow that same guidance, plus the Council on Environmental Quality (CEQ) *Cumulative Effects Handbook* (January 1997). For both analyses, the general steps will include:

- Identifying the important cause-and-effect relationships between the project activities and impacts to resources
- Determining the magnitude and significance of the effects over the relevant time frames, based on the resource characterizations from the data collection phase.
- Identifying relevant minimization, avoidance and mitigation measures, evolving as general or regulatory trends in the affected area.
- Summarizing any unmitigated adverse impacts and their significance.

3.6.4 Permits, Approvals and Certifications

The HDR Team will identify a list of potential required permits for construction and operation of the Proposed Action, including state and federal permits and approvals.

It is anticipated that, at a minimum, the following permits, approvals and certifications will be discussed in the EA:

- USCG Bridge Permit
- USCG Lighting Permit
- Water Quality Certification/ Individual Section 401
- Section 404 Individual Permit
- Section 408 Permit
- MS4 Permit and Construction General Stormwater Permit
- Coastal Zone Consistency (RGP)
- Shoreland Permit

3.6.5 References, Citations and Appendices

The HDR Team will develop a list of sources and gather relevant appendices for inclusion within the EA. Appendices may include supporting studies and agency coordination letters.

3.6.6 Preparation of Supporting Graphics

Standard 8.5x11 inch and 11x17 inch report graphics will be prepared to illustrate relevant project elements for the EA document. Where necessary, this mapping will be supplemented by existing GIS information. A maximum of twenty (20) base report graphics are estimated for this scope of work.

3.6.7 Administrative Draft EA

Prior to release of the EA document for public review and comment, the HDR Team will prepare and provide five (5) copies of an Administrative Draft EA, along with an electronic copy in MS Word format for purposes of utilizing Track Changes, to NHDOT for their internal review and comment, and for their distribution to FHWA for comment, as appropriate.

3.6.8 Public EA

Upon completion of the internal review process, the HDR Team will modify the Administrative Draft EA to address comments from Task 3.6.7 above and provide five (5) copies to NHDOT/FHWA for review, along with an electronic copy in MS Word format for purposes of utilizing Track Changes. The HDR Team will respond to NHDOT and FHWA comments and issue a revised internal draft for final review. This task includes one (1) additional revision of the EA document based on final comments received. Following approval of this draft, the HDR Team will provide NHDOT with ten (10) copies of the Public EA for its signature and public distribution, as well as 15 CDs. In addition, the HDR Team will provide NHDOT with one unbound, "camera ready" copy of the Public EA suitable for reproduction as well as an electronic file in PDF format. It is assumed that NHDOT will prepare a distribution list for the document and will handle the actual distribution.

3.6.9 Response to Comments and Final EA/Finding of No Significant Impact (FONSI)

Upon completion of the public review process, the HDR Team will prepare, in coordination with NHDOT and FHWA, responses to substantive comments received and amend the document as necessary to

include and reflect comments and responses. No revisions or only minor revisions to graphics are assumed. The HDR Team will prepare and provide five (5) copies of the Draft FONSI to NHDOT for distribution internally and to FHWA for review and comment, along with an electronic copy in MS Word format for purposes of utilizing Track Changes. The HDR Team will respond to NHDOT and FHWA comments and issue a revised internal draft for final review.

3.6.10 Document Finalization and NEPA Process Close Out

The HDR Team will make any final revisions based on the NHDOT/FHWA review conducted as part of Task 3.6.9 above and will submit the completed NEPA document (presumed to be a FONSI) to NHDOT in hard copy as well as electronic (PDF) format. Ten (10) hard copies and 15 CDs will be provided.

3.6.11 Meetings and Coordination

The HDR Team will attend up to three (3) meetings and up to three (3) conference calls with NHDOT in support of the preparation of the EA. It is assumed that two (2) meetings and two (2) calls would occur for the preparation of the Draft EA, and an additional meeting and call would occur for the preparation of the Final EA/FONSI. It is assumed that one of the public information meetings (see Task 2.4) will serve as a Public Scoping Meeting under NEPA, and that a second public information meeting will be timed to allow for public comments on the EA.

3.7 Air Quality Assessment

The Seabrook-Hampton bridge project would generate air pollutant emissions from both construction and operation of the project. With respect to National Ambient Air Quality Standards, the project area is designated by EPA as in attainment for all criteria air pollutants, and is expected to remain in attainment with respect to all NAAQS, including the newest NAAQS, the 2015 ozone standard of 70 parts per billion. No NAAQS maintenance area status currently exists in the project area.

Based on the current NAAQS status of the project area (i.e., no nonattainment or maintenance status), the project is not subject to Transportation Conformity requirements under 40 CFR 93, Subpart A. Therefore, a qualitative air quality assessment is proposed for documenting the impacts of this project under the National Environmental Policy Act. The air quality assessment would summarize attainment status and existing monitoring data from similar or worse condition projects which were monitored but did not result in any AQ impacts. It is assumed that NHDOT will provide the HDR Team with this data. The air quality study area is proposed to include the bridge and areas within one kilometer of the rebuilt or rehabilitated bridge and ramp infrastructure.

3.8 Noise Analysis

The HDR Team will complete an assessment of the project area to determine whether it meets the definition of a Type I Project, and if a noise analysis will be required. For purposes of this scope, it is assumed that one will be required.

Should a noise analysis be required, the HDR Team will complete a Noise Analysis of the project area. The proposed Noise Analysis will follow the New Hampshire Department of Transportation (NHDOT)

Policy and Procedural Guidelines for the Assessment and Abatement of Highway Traffic Noise for Type I or Type II Highway Projects (April 2016).

- Existing noise measurements will be taken to validate the accuracy of the TNM (traffic noise model). This work will entail travel to the project area and performance of validation noise monitoring at up to 3 locations throughout the project area.
    - This work will utilize CADD files of the proposed alignments and other data made available to the HDR Team (GIS parcel information, aerials, etc.).
- The HDR Team will predict the noise levels for the existing year and proposed design year for the no-build alternative and the build alternative (preferred alternative selected in TS&L Study). To determine if potential mitigation options are feasible and reasonable.
    - This analysis will use the Federal Highway Administration (FHWA) Traffic Noise Model (TNM), Version 2.5, predict the noise levels for the existing year and the proposed design year (typically 20 years in the future) for the no-build alternative and the build alternative along the entire project limits.
    - If necessary, model and determine if noise barriers are feasible and reasonable. Public outreach is not considered part of this scope and can be added as additional services.
    - This analysis will utilize information made available to HDR, as well as data developed during Type, Size & Location study. This will include peak hourly traffic volumes, Vehicle mix in % autos, % medium trucks, % heavy trucks, % buses, and % motorcycles, posted speeds, alignments, as well as roadway, receiver and terrain elevations.
- The HDR Team will develop a draft noise technical report and implement comments into a final report.
- Perform QA/QC reviews of the analysis and report.

3.9 6(f) Evaluation

If the bridge replacement requires the conversion under Section 6(f) of The *Land and Water Conservation Fund Act* of any portion of the Hampton Beach State Park to a non-recreational use, a 6(f) Evaluation will be prepared in accordance with this Act. This includes both permanent incorporation or temporary use of more than six months. This Evaluation will discuss the regulatory framework, applicability of the determination, coordination with agencies that have jurisdiction, alternatives evaluated, appraisal of fair market value, and a discussion of long-term park viability after conversion. Two (2) rounds of comments from NHDOT and FHWA are assumed. It is assumed that required coordination with agencies and stakeholders will be performed by NHDOT.

3.10 Visual Analysis Memorandum

Due to the potential for visual impacts resulting from the implementation of Alternatives, a Visual Analysis Memorandum will be undertaken for the two Build Alternatives selected for analysis in the EA. The analysis will be undertaken in accordance with the FHWA Memorandum entitled Visual Quality Guidance Information dated August 20, 1990. The viewshed will be defined for Build Alternative and visual quality will be assessed by field observation and interpretation of photographs and maps. Areas particularly sensitive to visual intrusions and areas with important visual resources will be identified. Impacts will be evaluated in terms of both the "views of" and "views from" the proposed Build Alternative. This scope assumes up to twelve (12) photo-simulations (6 for each alternative) will be prepared to document visual

conditions under the Build Alternatives. Two (2) rounds of comments from NHDOT and FHWA are assumed.

3.11 State Listed Species Habitat Review

Based on review of the existing document "*Hampton Beach Master Plan*", dated November 7, 2001, it is highly likely the site contains critical habitat, and listed plant and wildlife species. The HDR Team will conduct a field assessment to characterize wildlife and vegetation habitat within the project area, with a focus on state and federal listed species. NHNHB will be invited to participate in the field survey. Coordination will also be undertaken with NHFG. The assessment will be conducted during the growing season (likely June-July) to ensure vegetation is in full growth and can be characterized, and that avian species are active in the area. The HDR Team will document different habitat types, the condition of these different habitats, and document all vegetation and wildlife species observed during the field work. Any plant populations discovered will be mapped in the field with a hand-held GPS, and maps created. Photographs will be taken of all habitat areas. Two days of field work will be undertaken – one day in June and one in July. The results of this field survey will be summarized in a memorandum.

This task does not include detailed surveys for specific target species; however, any listed species observed during the field work will be reported. Detailed field surveys for listed species will be additional work.

The HDR Team will integrate this information into the NEPA document. A separate report will not be prepared.

3.12 Invasive Species Inventory

The invasive species inventory will identify locations within the areas of activity that are dominated by invasive species and identify which invasive species are present. The HDR Team will conduct an invasive species inventory in the field of the prominent invasive species within the areas of proposed activity in the study area based on the Invasive Plant Atlas of New England (IPANE) species list. It is important to note that this work should be performed during the growing season. The HDR Team will map (onto the 40-scale hard-copy plans) all occurrences of populations, or patches, of the above-listed invasive species within all proposed construction areas associated with the project. Scattered individuals of invasive species will not be mapped.

Species density, aerial coverage and/or stem counts will not be collected or estimated as part of the inventory. The HDR Team will document the boundary of invasive species in the field with a hand-held GPS Unit. We will then transfer the invasive species management area GIS layers to digital plans which will be called "Invasive Species Management Plan" sheets. It is assumed the NHDOT will provide invasive species management specifications.

Deliverables:

- Up to ten (10) coordination letters.
- One (1) electronic copy of the listed species survey field memo and mapping; two (2) hard copies and one digital PDF format file of the Final Listed Species Survey Memo.
- One (1) electronic copy of the Draft Wetland Delineation Report; two (2) hard copies and one digital PDF format file of the Final Wetland Delineation Report.
- Biological Assessment - up to three (3) hardcopy draft reports and one digital PDF format file to NHDOT for review and comment: up to fifteen (15) hardcopies and five (5) digital CDs of the final

report for distribution to the regulatory agencies and team members.

- Essential Fish Habitat - up to three (3) hardcopy draft reports and one digital PDF format file to NHDOT for review and comment; up to fifteen (15) hardcopies and up to five (5) digital CDs in PDF format of the final report for distribution to the regulatory agencies and team members.
- One (1) digital copy of a Sampling plan. Three (3) hardcopy draft reports and one digital copy of the Summary Sediment Sample Report.
- Draft Noise technical report – electronic submission in PDF
- Final noise technical report – electronic submission in PDF
- Five (5) hard copies of an Administrative Draft EA (including 4(f) evaluation prepared under Task 4.6), along with an electronic copy in MS Word format for purposes of utilizing Track Changes; ten (10) hard copies and fifteen (15) CDs of the Public EA and an electronic copy in PDF format; five (5) copies of the Draft FONSI along with an electronic copy in MS Word format for purposes of utilizing Track Changes; and ten (10) hard copies and fifteen (15) CDs of the Final FONSI and an electronic copy in PDF format.
- Five (5) hard copies of the Draft 6(f) Evaluation, along with an electronic copy in MS Word format for purposes of utilizing Track Changes; Ten (10) hard copies of the Final 6(f) Evaluation and an electronic copy in PDF format.
- Five (5) hard copies of the Draft Visual Analysis Memorandum, along with an electronic copy in MS Word format for purposes of utilizing Track Changes; Ten (10) hard copies of the Final Visual Analysis Memorandum and an electronic copy in PDF format.
- Five (5) hard copies of the Invasive Species Management Plans and one electronic copy in PDF format
- Meeting Minutes from Natural Resource Agency Coordination Meetings and site walks with regulatory agencies; electronic copies in PDF format of all minutes will be included.

4.0 CULTURAL RESOURCES COORDINATION

4.1 Request for Project Review Form

The HDR Team will initiate the Section 106 process by preparing a Request for Project Review (RPR) form for submission to the New Hampshire Division of Historical Resources (NHDHR). The form will include a description of the project with supporting documentation/maps, a defined project boundary, documentation of architectural resources within the project area, and description of potential ground-disturbing activity and known archeological resources. A preliminary Area of Potential Effect (APE) will be proposed at this time for SHPO review. This task will require a site visit to determine the APE and to photograph properties within the APE. In addition, a file review will be conducted at NHDHR for previously identified historic resources, both architectural and archeological, and research on construction dates will be undertaken through the Hampton and Seabrook online assessor's data. Two rounds of comments on the Draft Form are assumed.

4.2 Individual Historic Resource Inventory Form and Project Area Form

The HDR Team will prepare an Individual Historic Resource Inventory Form for the bridge to record and to understand its appearance, history, and significance per the NHDHR standards. This form will be prepared based on research, visual inspection, and photographic information.
It is assumed an Individual Historic Resource Inventory Form will not be required for Hampton Beach State Park because a Project Area Form was completed in 2009 for the park as part of a separate project.

Per the NHDHR standards, major narrative sections will include Historical Background and Role in the Towns' Development; Applicable NHDHR Historic Context(s), Architectural Description and Comparative Evaluation, Statement of Significance per National Register of Historic Places criteria, Period(s) of Significance, Statement of Integrity, and Bibliography/References. All important features of the historic resource and its setting will be shown in photographs. The HDR Team will prepare the Draft Individual Historic Resource Inventory Form for review by NHDOT and FHWA, respond to two rounds of comments on the form, and deliver a Final form for transmission to NHDHR. This task includes one (1) site visit to observe and photograph the bridge.

The HDR Team will also prepare a Project Area Form which will encompass portions of both Seabrook and Hampton. Major narrative sections will include Historical Background and Role in the Towns' Development, Applicable NHDHR Historic Context(s), Architectural Description and Comparative Evaluation, Statement of Significance per National Register of Historic Places criteria, Period(s) of Significance, Statement of Integrity, and Bibliography/References. The extent of the area evaluated will be determined based on the Visual APE defined for the project. It is assumed the Project Area Form will evaluate up to 300 buildings and structures.

4.3 Archeological Sensitivity Assessment

The HDR Team will conduct an archeological sensitivity assessment. Methods for the assessment will include background research, pedestrian and vehicular surface surveys of the project alignment, photo-documentation, and a predictive analysis of potential precontact and historic below-ground cultural resources based on the location of previously recorded sites and a suite of landscape sensitivity criteria. The surface survey will be conducted in order to confirm the existing condition of previously recorded precontact and historic resources, and to potentially identify previously unrecorded resources. Underwater archeological resources will be addressed through review of reported archeological sites and assessment of the potential for archeological deposits to be preserved in the high-energy environment of the APE.
Sensitivity maps will be prepared for precontact and historic resources using three rankings: low, moderate, and high sensitivity.

Following NHDOT's and NHDHR's *Archaeological Standards and Guidelines*, the Phase IA "field investigations also include soil coring and, if useful, a small number of judgmentally placed 0.5 x 0.5-meter shovel tests to understand the soil types, stratigraphy, and drainage and evaluate the level of soil disturbances" (2004:10). The shovel tests are to be excavated by strata and by 10-cm increments within strata; the dirt will be screened through ¼ inch mesh. If artifacts are recovered during the Phase IA investigation, they are to undergo proper cleaning, cataloging, and identification. An artifact catalog will appear in an appendix. The HDR Team will prepare the Draft Phase 1A for review by NHDOT and FHWA, respond to two (2) rounds of comments on the report, and deliver a Final report for transmission to NHDHR. Should the Phase IA investigation determine that a Phase IB Intensive Archeological Investigation would be necessary, such work would be undertaken in subsequent phases of design.

4.4 Cultural Resource Impact Analysis

The HDR Team will prepare a coordination packet, including an introductory letter, existing conditions documentation, the Determination of Effect, Effects Forms, and supporting project documentation for submission to NHDHR. Up to four (4) Effects Forms are assumed. Two rounds of review by NHDOT and

FHWA are also assumed. This packet will be adapted for submission to the Advisory Council on Historic Preservation (ACHP). It is assumed NHDOT and FHWA will coordinate Native consultation, if any, with support provided by the HDR Team.

4.5 Section 106 Coordination and Meetings

The HDR Team will assist with the preparations for and attend up to six (6) Cultural Resources Agency Coordination Meetings to discuss eligibility and effects determinations for the project. This will include the preparation of PowerPoint presentations and handouts. The HDR Team will prepare minutes for each meeting documenting the topics of discussion, comments and issues, follow-up action items, and any agreements or resolutions discussed. Minutes of the meeting will be distributed electronically. It is assumed that six (6) conference calls will be required to prepare for these meetings.

4.6 Section 4(f) Documentation

This task assumes that the bridge is deemed National Register eligible and thus that a proposed replacement, if determined to be the preferred alternative, constitutes a use under Section 4(f) of the Department of Transportation Act. There is also the potential for a Section 4(f) use of a portion of the Hampton Beach State Park. The HDR Team will prepare an Individual Section 4(f) evaluation for the bridge which will include a discussion of the applicability of Section 4(f) to the project, alternatives, findings, and measures to minimize harm. A Draft Individual Section 4(f) Evaluation will be provided to FHWA and NHDOT for review. The HDR Team will then revise the Draft Evaluation to address comments received by NHDOT and FHWA, resubmit the documentation to NHDOT and FHWA for their final review, and issue a Final Individual Section 4(f) Evaluation.

4.7 Memorandum of Agreement

The HDR Team will work with NHDOT, FHWA, NHDHR, and ACHP to prepare a Memorandum of Agreement (MOA) for the Project, if required. Two rounds of comments are assumed on the MOA. It is assumed NHDOT will coordinate signature of the MOA.

Deliverables:

- Draft and Final RPR Forms.
- Two (2) hard copies and one (1) electronic Draft Individual Historic Resource Inventory Form and Project Area Form with copies of photographs for NHDOT and FHWA review; Two (2) hard copies and one (1) electronic Final Individual Historic Resource Inventory Form and Project Area Form with photographs for submittal to NHDHR.
- Two (2) hard copies and one (1) electronic Draft Archeological Assessment Report for NHDOT review; and Two (2) hard copies and one (1) electronic Final Archeological Assessment Report. The report will include a description of all research methods, results, and recommendations, including the sensitivity maps.
- Draft and Final Effects Packages.
- PowerPoint Presentations, handouts and meeting minutes for the six (6) meetings.
- Two (2) hard copies and one (1) electronic Draft Individual Section 4(f) Evaluation for NHDOT and FHWA review; and Two (2) hard copies and one (1) electronic Final Individual Section 4(f) Evaluation.
- One (1) electronic Draft MOA for review; One (1) electronic Final MOA

5.0 SURVEY AND RIGHT-OF-WAY

5.1 ROW Facilitation Meeting

The HDR Team will host two facilitation meetings to coordinate between the HDR Team and NHDOT. The first meeting will be at initiation of survey and right-of-way efforts and will include:

- Project overview
- Turnover of DOT project data and ROW files
- Establish project limits

The second meeting will review the preliminary existing right-of-way plan submission outlined in section 5.4.

5.2 Records Research

The HDR Team will research town, county and state records, including the following:

- Town road and property records
- State right-of-way and archive records
- County road, court, registry and probate records.
- Abutter's deeds and plans

5.3 Survey

The HDR Team will provide services under the supervision of a Professional Licensed Surveyor (PLS). Efforts associated with survey will include the following:

- Field recovery of right-of-way and abutting boundary monuments
- Establish geodetic control network on NH State Plane Coordinate System
- Perform boundary survey of existing right-of-way.
- Process survey control data using least squares adjustment at 95% confidence level. Side shot data will be processed on adjusted controls and verified.
- Develop legacy alignments and establish right-of-way limits based on survey and boundary control standards of practice at the current NHLSA Ethics and Standards

5.4 Plan Development

The HDR Team will develop a preliminary existing right-of-way plan to NHDOT for review. The plans will incorporate NHDOT survey information and information developed as part of Tasks 5.2 and 5.3.

5.5 Develop Final Existing Right-of-Way Plan

After receipt of NHDOT comments, the HDR Team will develop final existing right-of-way plans. The submission of plans will include the plan as well as a written narrative describing how comments were addressed.

The right-of-way plan will be submitted in both CADD format (DWG or DGN) as well as in PDF. Hard copies will not be provided.

A plan showing existing boundary monumentation and survey traverse will be submitted in CAD format (DGN or DWG). Geodetic control data will be submitted in ASCII file format.

The existing right-of-way plan will be recorded with the county registry.

Deliverables:

- Existing Right-of-Way Plan in CADD format (DWG or DGN) and in PDF.
- Plan showing existing boundary monumentation and survey traverse in CADD format.
- Geodetic data control in ASCII file format.

6.0 USCG COORDINATION DESIGN

The HDR Team will provide services for development of the USCG bridge and bridge lighting permit. These efforts will adhere to the memorandum of agreement executed in 2016 between the USCG and FHWA. These efforts will include:

6.1 Research Navigational Information

The HDR Team will review lift logs and develop information on frequency of lifts for using in traffic studies. Since vessel height is not provided in lift logs, vessels which have owner information publicly available on the USCG registration website will be contacted to determine vessel height, draft and width. As the bridge lifts as much as 260 times a month, it is anticipated that upwards of 700 vessel owners will be contacted.

This effort will also include coordination with the USCG to determine required channel widths and underclearance for development of alternatives.

6.2 Development of USCG Permit

- Correspondence and coordination with the USCG
- Development of information required for a navigational survey
- Development of the USCG permit, upon selection of a preferred alternative. The draft permits will include information available through preliminary design phase:
    - Completion of permit narrative
    - Preliminary design plans
    - Draft NEPA document
    - Inclusion of hydraulic and hydrology analysis
    - Fender system design criteria
- Attendance at one USCG-hosted meeting (1 HDR attendee)

Assumptions:
The NHDOT will be responsible for any permit application fees associated with filing the USCG Bridge Permit Application.

Deliverables:

- Summary of Navigational Information with detailed appendices – PDF Submission
- Draft USCG permit completed with information available through preliminary design phase.

7.0 GEOTECHNICAL COORDINATION

This scope assumes that NHDOT will perform geotechnical investigation and design, including:

- NHDOT will perform necessary subsurface investigation.
- It is assumed that NHDOT Geotechnical Section will perform geotechnical design of the foundations and prepare draft geotechnical recommendations.
- The HDR Team will provide required plans, alignment and coordinate information, and other necessary documentation for the Department to complete the subsurface investigations and reports.

Two (2) meetings with NHDOT Geotechnical staff is assumed. Meetings will be attended by one structural engineer and one roadway engineer.

Deliverables:

- Coordination with NHDOT Geotechnical Section

8.0 HYDRAULIC ANALYSIS

8.1 Coordination

This task covers conference calls, day-to-day communications, and overall coordination between NHDOT and HDR Team members for coastal engineering and structural design. Four (4) conference calls are assumed.

8.2 Hydrodynamic Modeling

Hydrodynamic modeling will be performed for characterization of waves and currents at the bridge during storm surge conditions. Wave modeling will be performed with a two-dimensional spectral model such as MIKE21 SW. Currents and water level will be modeled with a two-dimensional, depth-averaged model such as MIKE21 HD. The model domain(s) will be limited to Hampton Harbor (including Hampton Harbor Inlet) and will have a length of approximately 3 to 5 miles; a regional-scale domain extending a significant distance into the Atlantic Ocean will not be included. Model forcing (i.e., waves and storm surge) will be determined after gathering and compiling existing readily-available information on tides, storm surge, bathymetry and topography, wind, and waves. Potential data sources to be explored include NHDOT, NOAA, FEMA, USGS, and USACE. These data will be processed as needed for development of design parameters and application to the numerical modeling, in addition to the hydrodynamic load analysis and scour analysis, and bridge embankment protection analysis described under Tasks 8.3 through 8.5. The storm return periods considered for design will be based on coastal bridge design guidance published by FHWA and as otherwise directed by NHDOT. Statistics on extreme waves and storm surge to be applied for model forcing will be obtained from FEMA, USACE, and NOAA. It is assumed that no bathymetric survey will be included in Part A services.

8.3 Hydrodynamic Loads on Bridge

Results of the hydrodynamic modeling will be applied to calculate design loads on the bridge sub-structure and superstructure (as applicable) from waves and currents. Calculation methodologies will follow guidance published by AASHTO for coastal bridges.

8.4 Scour Analysis

Results of the hydrodynamic modeling will be applied to calculate scour around the bridge foundations from waves and currents. Calculation methodologies will follow guidance published by FHWA for coastal bridges. This guidance will be supplemented with USACE methodologies, as applicable, and results will be incorporated within the foundation designs.

8.5 Bridge Embankment Protection

Results of the hydrodynamic modeling will be applied for riprap hydraulic stability calculations following guidance in the USACE Coastal Engineering Manual and from the Federal Highway Administration. Results will include a design riprap gradation and cross-section at the bridge abutments and proposed wingwalls/retaining walls if applicable.

8.6 Hydraulic Report

The HDR Team will provide a report summarizing results of analyses performed on the bridge, including scour analysis, hydrodynamic modeling and loading, as well as summaries of information applied for the analyses. A draft report will be electronically submitted to NHDOT for review and comment; and then a final report will be submitted electronically, along with two hard copies.

8.7 QA/QC

The HDR Team will perform QA/QC reviews of the draft and final hydraulic reports in accordance with the Quality Management Plan.

Deliverables:

- Draft Hydraulic Report containing results of hydrodynamic modeling, scour analysis, embankment protection analysis – PDF Submission
- Final Hydraulic Report – PDF Submission and two (2) hard copies

9.0 REHABILITATION STUDY REPORT

The HDR Team will develop a Rehabilitation Study Report, which will incorporate the existing condition reviews typically done in NHDOT Draft Engineering Reports with a study of bridge rehabilitation in one document.

9.1 Field Review

The HDR Team will conduct a field review of the structure in two phases. The first phase will be a visual observation of the bridge using an unmanned aerial vehicle (UAV), also known as a drone. The second phase will be a visual observation of portions of the structure by engineering staff. The visual observation by engineering staff is assumed to be one-day in duration and will consist of the following:

- Observation of mechanical and electrical systems, including traffic lights and gates
- Visual observation of the bridge deck surface and railings
- Rope access inspection of locations identified as significant defects during the visual observation by UAV
- Visual review of approach roadways
- Develop a Summary of Findings, with notes addressing general observations, including a photolog.

Assumptions:

- UAV photographs will be taken of east and west fascias, underside of structure and topside of the bridge.
- The UAV will be operated by a licensed pilot, who will provide necessary coordination with local police and Pease International Airport.
- The UAV pilot will adhere to applicable FAA regulations.
- DOT personnel will provide necessary access to the machinery platform and operators house for the M&E system observations.
- Rope access inspection will be done from the sidewalk and boat below. Neither traffic control nor lane closures are assumed. The HDR Team will coordinate with NHDOT to avoid inspection during peak traffic season.
- Detailed measurements will only be taken for defects considered critical.

Review of available plans, studies and reports on the bridge and site will be reviewed by HDR staff prior to the visual observation.

9.2 Roadway and Traffic

The Rehabilitation Study Report will incorporate the requirements of the Draft Preliminary Engineering Report (per Chapter 2 of the NHDOT Highway Design Manual), review existing roadway and bridge conditions, and develop conceptual roadway improvement designs under rehabilitation. These efforts will consist of the following:

- Description of existing roadway geometry and Guardrail
- Description of proposed roadway geometry for the rehabilitated structure
- Description of existing stormwater treatment
- Description of Utilities based on information provided by NHDOT
- Description of existing traffic
- Description of available ROW information
- Identify potential problems with the project site and propose solutions
- Conceptual design of temporary bridge alignment, if required
- Conceptual design of roadway improvements under rehabilitation
- Description of Maintenance of Traffic

9.3 Environmental and Cultural Resources

The Rehabilitation Study Report will review existing resources in the area, specifically the following:

- Description of harbor and waterway
- Description of known wetlands
- Description of historic and archeological resources
- Description of known endangered species

9.4 Bridge Rehabilitation Study and Analysis/Draft Engineering Report

The HDR Team will study the bridge for potential rehabilitation. These efforts will include:

- Description of Structural, Mechanical and Electrical condition

- Load rating for HL-93, using section losses identified in previous inspection reports and proposed roadway width.
- In addition to members that are found to have insufficient capacity, members known to have section loss and pack rust will be designated for repair or replacement.
- Evaluate bridge mechanical, HVAC, plumbing and electrical systems.
- Provide architectural evaluation for the control house and serviceability of other systems.
- Evaluate construction impacts
    - Determine whether bridge can be rehabilitated under live loading
    - Review feasibility and costs associated with temporary bridge, if required
- Identify problems with existing structure proposed solutions
    - Only one type of electrical drive/control system will be investigated should the system require replacement.

9.5 Rehabilitation Study Report

Develop report document. Draft and Final document will be submitted.

9.6 QA/QC

The HDR Team will perform QA/QC Reviews of deliverables.

9.7 Design Coordination Meetings

- Two (2) coordination meetings with NHDOT are assumed for this design phase.
- Two (2) coordination meeting with design engineers and environmental and cultural specialists are assumed for this design phase.

Assumptions:

- Roadway and drainage will be designed to the 2011 AASHTO "Green Book", 2011 AASHTO Roadside Design Guide, NHDOT Design Manual Volumes 1 and 2, the 2009 Manual On Uniform Traffic Control Devices (MUTCD) and the NHDOT Standard Specifications for Road and Bridge Construction.
- Bridge structures will be designed using the Load and Resistance Factor Design (LRFD) method in accordance with the NHDOT Bridge Manual, the AASHTO LRFD Bridge Design Specifications, 7th Edition with 2016 interim revisions and AASHTO Movable Bridge Code, 2nd Edition with 2016 interim revisions, as required.
- Temporary Bridge will be developed at this stage for purposes of reviewing impacts only. This will be further developed at the TS&L phase, upon completion of the Alignment and Profile Study.
- Profile for a temporary bridge is assumed to be at a similar profile to the existing bridge at this phase of design.
- Cost estimates will not be developed in this phase. Cost estimates will be developed during the TS&L phase.

Deliverables:

- Draft Rehabilitation Study Report – PDF Submission
- Final Rehabilitation Study Report – PDF Submission and two (2) hard copies

10.0 TRAFFIC

10.1 Traffic Data

The traffic impact study will analyze the Seabrook-Hampton bridge operations within five distinct traffic conditions including:

- Existing
- Future 2023 No-Build
- Future 2023 Build
- Construction Phasing (1 alternative)

The traffic analysis study area is bounded by the intersection of Ocean Boulevard (Route 1A) and State Park Road to the north and the intersection of Ocean Boulevard and Campton Street (Pedestrian Staircase Access) to the south. The route is shared by vehicles, pedestrians and bicyclists and therefore the data collection and analysis will included all these travel modes along with maritime traffic, as described below.

Data Collection

The data collection program will include Automatic Traffic Recorders (ATRs), Video Turning Movement Counts (VTMCs), field inventories and field observations within the study area along Ocean Boulevard.

AUTOMATIC TRAFFIC RECORDER (ATR)

ATR data will be provided by NHDOT from their permanent Continuous Count Station located south of the bridge for the last three years. The ATR data will be used to validate manual turning movement counts, calibrate traffic analysis and determine the growth rate (as detailed in section 10.2).

VIDEO TURNING MOVEMENT COUNTS (VTMC)

Video Turning Movement Counts (VTMC) for all travel modes will be collected for one representative weekday (Tuesday, Wednesday or Thursday) and one representative weekend (Saturday or Sunday) during good weather conditions at three locations identified within the study area:

- Ocean Boulevard at State Park Road
- Southbound approach of the bridge
- Northbound approach of the bridge

The turning movement counts will be collected during the following peak periods:

- AM peak period (6:00AM – 10:00 AM).
- PM peak period (3:00PM-7:00PM)
- Weekend peak period (12:00pm-4:00pm)

Unless otherwise noted, all VTMCs will identify vehicle classifications to include:

- Passenger cars (include 4-tire vans and pick-up trucks);

- Medium trucks (2 axles /6 tires or 3 axles);
- Heavy trucks (4+ axles) - including WB40, WB50, WB 62 and WB 65;
- Pedestrians;
- Bicyclists; and
- Buses.

NOTE: A concurrent master plan study is ongoing and being prepared by the Hampton Beach. The Department will provide available information including traffic volumes, turning movement counts, and traffic modeling for use on the Seabrook-Hampton project.

FIELD INVENTORY

The following data will be collected at the locations identified in study area section above:

- Overall roadway and pavement marking conditions;
- Roadway Signage;
- Existing traffic control/ITS equipment;
- Roadway geometry;
- Roadway land configurations and lane widths;
- Truck routes;
- Field traffic operation observations;
- Driver/pedestrian behavior leading up, during and after bridge lift operation;
- Pedestrian and bicycle accommodations.

10.2 Base and Alternative Traffic Modeling

10.2.1 Existing Conditions

To establish the existing conditions, the ATR data received from NHDOT, TMCs and pedestrian/bicycle volumes collected by the VTMC's will be assessed and used to determine the weekday AM, PM and Weekend midday peak hours, create volume diagrams, calculate Peak Hour Factors, truck percentages, calculate queue lengths and traffic impacts for the existing conditions. The analysis will also include documentation of traffic signal cycle length and frequency of the existing bascule bridge operations.

A traffic operations analysis will be conducted at the study area using Synchro 9.0. Results of these analyses will provide a quantitative assessment of existing vehicular traffic operations, including levels-of-service (LOS), average delays, volume-to-capacity (v/c) ratios and average queue lengths for all three peak hours. A qualitative assessment of bicycle and pedestrian operations will also be performed.

10.2.2 2023 No-Build Conditions

HDR will analyze one future 2023 No-Build alternative. In order to establish the "No-Build" condition, traffic growth will include two components:

- Growth rate - NHDOT ATR data will be used to calculate the growth rate for the last 3 years. The calculated growth rate will be compared to Rockingham County's

RPA/NHDOT annual background growth rate of 1.0% and the agreed growth rate will be applied to the existing volumes to generate future 2023 no-build year traffic volumes.

- Known Developments - The towns of Seabrook and Hampton will be contacted to obtain a list of known developments in the area. If there are identified known development that will affect the study area and no traffic study has been completed, ITE trip generation values will be used to determine the number of vehicle and pedestrian trips that these developments will generate.

Using 2010 U.S. Census data along with current travel patterns, these future trips will be distributed and added to the existing traffic network along with the applied future year growth rate in order to yield to a future 2023 no-build traffic alternative.

10.2.3 2023 Build Conditions

HDR will analyze two 2023 Build Alternatives, as outlined in NEPA– fixed bridge alternative and bascule bridge alternative. Capacity analysis, using Syncro 9.0, will be conducted for the three peak periods, for each alternative.

NOTE: Based on discussions with NHDOT staff it was determined that a future 20-year traffic analysis is not required to determine operational or capacity improvements for the roadway corridor and intersections within the study area.

10.2.4 Construction Conditions

One construction scenario will be analyzed to understand and document the bridge construction impacts on Ocean Boulevard.

Construction conditions will assume a bridge in some configuration will remain operational to accommodate all travel modes and will not be closed and require a regional detour. If such detours are determined to be necessary, HDR will require a scope modification to analyze viable detour routes and impact on surrounding traffic and land uses at that time. It is assumed that in both conditions, listed above, the bridge will accommodate bicyclists and pedestrians, in additional to vehicles.

10.3 Safety Analysis, Accident Data Request and Review

Crash data will be requested from NHDOT for the study area. Period of crash data analysis will be determined in coordination with NHDOT, but it is anticipated that 10 years of data will be made available to the HDR Team. The NHDOT will tabulate and sort crash data collected from Department of Safety for HDRs use in the preliminary engineering documentation. A qualitative analysis of the available crash data will be performed for the study area listed in section 10.1.1 to determine crash patterns, crash issues, identify pedestrian and bicycle related crashes, and recognize any potential improvements that may be implemented to reduce and prevent crashes occurring along Ocean Boulevard in proximity to the bridge.

10.4 Incident Management Plan

Formal incident management plans for the bridge preferred alternative will be prepared in Part B, which will include signing and pavement markings design plans along with signal plans as required.

Within Part A of this project, HDR anticipates collecting and reviewing existing Incident Management plans and procedures for the Route 1A corridor, available detour routes, and evaluation of the traffic management required during construction and the potential impacts. Two workshop style meetings are expected to understand and examine the project impacts – the first, an over-the-shoulder meeting with NHDOT design and operations staff and a second, to evaluate impacts and perspectives with stakeholders and emergency services.

Scope associated with Traffic Management Plan development will be covered in Tasks 12 and 13.

10.5 Data Coordination for Environmental Planners and Economists

The HDR Team will coordinate traffic data collection and analysis to assist with the preparation of traffic related Environmental Permit planning and Economic analysis. As listed in section 10.1.1, traffic data compiled from NHDOT sources and collected by HDR will include traffic volumes, truck percentages and delay data for air quality, noise and economic analysis. No additional data will be collected to support air quality, noise and economic analysis. Coordination will be performed as needed for other type of environmental permitting such as Wetlands, Flood Hazard Areas, Wellhead Protection Areas, Priority and Estimated Habitats for Rare Species, Fish Habitats, Impaired Waterways, Shorelands, Areas of Critical Environmental Concern (ACEC), Army Corps of Engineers (ACOE) property, United States Coast Guard (USCG) jurisdiction areas, Open Space, Hazardous Materials, Environmental Justice (EJ) Populations and Historic Resources.

10.6 Vessel Demand and analysis performed as part of USCG Navigational Survey

HDR will ccollect bridge opening data from NHDOT to estimate the length of time that NH 1A traffic is delayed due to bridge openings. This information will be used to calculate the average queue length and average delay per vehicle before, during and after openings.

Deliverables:

- Traffic data and land-use compilation for inclusion in the Rehabilitation Study Report
- Base and Alternative Traffic Modelling for inclusion with Type, Size & Location Study
- Safety Analysis, Crash Data Review for inclusion with Type, Size & Location Study
- Memorandum summarizing Incident Management Plan review

11.0 TYPE, SIZE & LOCATION STUDY

The HDR Team will develop a Type, Size & Location Study, which will review alternatives for rehabilitation and replacement of the Seabrook-Hampton Bridge. This study will adhere to guidelines provided in the NHDOT Bridge Manual. Prior to developing the TS&L Study, the HDR Team will perform a high-level study reviewing various alignments and profiles for the alternatives. The preferred alternative selected from this study will be reviewed as the "Build Alternative" in the NEPA process, and further developed during the Preliminary Design Submission and Slope and Drain Submission.

11.1 Alignment and Profile Study

The Alignment and Profile Study will provide a high level review of the various alignments and profiles that can be considered for this bridge site. Its purpose will be selecting the preferred alignment and profile for each of three alternatives (rehabilitation, replacement with fixed bridge and replacement with bascule bridge) for study in the Type, Size & Location Study. Efforts associated with the Alignment and Profile Study include:

- Review vessel usage of channel to determine a vertical channel clearance of the replacement with bascule alternative that effectively minimizes bridge lifts. Vessel usage information will be gathered and processed under Task 6.1. It is anticipated that a probabilistic analysis of the information will be performed, estimating the number of lifts required for a range of given vessel heights.
- Review required profile for fixed bridge based on vessel usage information developed in Task 6.1
- Review impacts of potential alignments
    - East, West of existing bridge
    - Review for fixed, replacement bascule and temporary bridge (if required)
    - Evaluation of conceptual typical sections and roadway and bridge layouts
- Impacts on ROW and resources will be evaluated
- Estimate order-of-magnitude capital cost differences using available square-foot costs and costs for similar projects.
- Evaluation of constructability, traffic management and traffic control impacts of each alternative
- Develop decision matrix with Opportunities, Challenges and Costs

11.2 Type, Size & Location Study

The TS&L Study will assess alternatives for rehabilitation or replacement of the Seabrook-Hampton Bridge. This study will provide design of these alternatives to an approximately 15% design level for structural, mechanical, electrical, roadway/civil and traffic disciplines. The study will review four alternatives:

- Bridge Rehabilitation
- Replacement with a fixed bridge – Steel superstructure
- Replacement with a fixed bridge – Concrete superstructure
- Replacement with a bascule bridge

Efforts associated with bridge design for the TS&L include:

- Alternative Analysis and Conceptual Design – Rehabilitation
    - The TS&L Study will utilize information developed in the Rehabilitation Study Report when assessing the rehabilitation alternative.
    - Further development of a temporary bridge (if required) based on the Alignment and Profile Study
- Alternative Analysis and Conceptual Design - Bascule Bridge Replacement
    - Replacement with bascule assumed for this phase, using profile and alignment determined during Alignment and Profile Study
    - Structural design of moveable span
    - Structural design of approach spans
    - Structural design of substructure units
    - Conceptual design of mechanical, HVAC, plumbing and electrical systems for the bridge

        - Only one type of electrical drive/control system will be investigated
    - Conceptual architectural design of operator house
    - Design will be advanced to 15% design level
    - Construction Phasing
    - Conceptual Fender Design
- Alternative Analysis and Conceptual Design - Fixed Bridge Replacement (Steel and Concrete Superstructures)
    - Design to utilize profile and alignment determined during Alignment and Profile Study
    - Structural Design – Steel Superstructure
    - Structural Design – Concrete Superstructure
    - Structural Design – Substructure
    - Design will be developed to 15% design level
    - Construction Phasing
    - Conceptual Fender Design
- Design sketches will be developed for each alternative
- Renderings will be developed for each alternative, for use in public meetings and in visual impact studies
- Coordination with Civil, Traffic, Geotechnical, Hydraulic/Scour
- Rapid construction techniques will be reviewed, for purposes of completing off-alignment replacements with the existing roadway (i.e. slide-in span, if needed)
- TS&L Quantities and Estimate (including temporary bridge, as required)
    - See Task 14 for efforts associated with Life Cycle Cost Estimates
- Develop a decision matrix with opportunities, challenges and costs
- Draft TS&L Study Report
- Final TS&L Study Report

Efforts associated with roadway and traffic design will evaluate the four alternatives. For purposes of highway design, the two Replacement with Fixed Bridge alternatives (steel and concrete) are similar. Efforts associated with roadway design will include

- Alternative Analysis and Conceptual Design – Rehabilitation
    - Incorporate information developed in Rehabilitation Study Report
- Alternative Analysis and Conceptual Design - Movable Bridge Replacement
    - Progress development of alignment and profile selected in the Alignment and Profile Study to 15% design level
- Alternative Analysis and Conceptual Design - Fixed Bridge Replacement
    - Progress development of alignment and profile selected in the Alignment and Profile Study to 15% design level
- Plan development will include the following
    - Roll plans (Existing Conditions, General, Pavement Layout);
    - Roadway profile;
    - Roadway Typical Section;
    - Cross Sections;
    - Bulleted design narrative
- Highway design will take into account the functional classification of the roadways being addressed; volumes of traffic; methods of construction; erosion control; traffic control; cost; right-of-way needs and impacts to private property; and environmental constraints and the need to avoid or minimize impacts to environmental resources.

- Implement utility information provided by DOT & ROW info from Surveyor
- Implement Traffic Data Compilation, Analysis – developed under Task 10
- Implement Accident Data Review – developed under Task 10
- Detour Plan & Narrative if required
- TS&L Quantities and Estimate
- Design Coord. (Bridge, Envir., Maint. & Concept. Drainage Discussion)
- Revise Design Based on Public Input
- Develop conceptual plans for each alternative
- Incorporate NHDOT from the Rehabilitation Study Report/Draft Engineering Report

Environmental and cultural resource impacts will be evaluated for each alternative and discussed in the report. Information developed for environmental and cultural impacts in Tasks 3 and 4 will be incorporated into the TS&L report.

11.3 QA/QC

The HDR Team will perform QA/QC on the draft and final TS&L Study deliverables.

11.4 Field Visits and Coordination Meetings

- One (1) field visit is assumed during this phase by a structural, civil, traffic, mechanical and electrical engineer
- Three (3) design coordination meetings are assumed during this phase of design
- Two (2) coordination meeting with design engineers and environmental and cultural specialists are assumed for this design phase.
- One (1) Over-the-Shoulder Meeting to discuss alternatives, strategies, and decision matrix

Assumptions

- Other moveable bridge types (vertical lift, swing, etc.) are not included in this scope.
- Roadway and drainage will be designed to the 2011 AASHTO "Green Book", 2011 AASHTO Roadside Design Guide, NHDOT Design Manual Volumes 1 and 2, the 2009 Manual On Uniform Traffic Control Devices (MUTCD) and the NHDOT Standard Specifications for Road and Bridge Construction.
- Bridge structures will be designed using the Load and Resistance Factor Design (LRFD) method in accordance with the NHDOT Bridge Manual, the AASHTO LRFD Bridge Design Specifications, 7th Edition with 2016 interim revisions and AASHTO Movable Bridge Code as required.

Deliverables

- Draft Alignment and Profile Study – PDF Submission
- Final Alignment and Profile Study – PDF Submission
- Draft Type, Size and Location Study – PDF Submission
- Final Type, Size and Location Study – PDF Submission and two (2) hard copies

12.0 PRELIMINARY DESIGN

Upon approval of the TS&L Study, the design will be advanced to the 30% level. For scoping purposes, it is assumed that replacement with a bascule bridge will be the preferred alternative.

12.1 Bridge Design

The preliminary structural analysis and design will be performed on the proposed bridge superstructures and substructures.

- Preliminary design of the bridge abutments and approach span piers will be performed. It is assumed these piers will be comprised of reinforced concrete.
- Preliminary design of approach span superstructure.
- Preliminary design of bascule span
- Preliminary design of bascule and rest pier
- Provide preliminary design of the bridge mechanical and electrical systems.
- Provide preliminary architectural design of the bridge.
- Preliminary design of fender system.

Preliminary bridge plans will be prepared, estimated as follows:

- Front Sheet (1 sheet)
- Key plan & Elevation with Profile and Hydraulic Data (1 sheet)
- General Notes (1 sheet)
- Construction Staging (1 sheet)
- Approach Span Structural – Plan and Elevation (2 sheets)
- Approach Span Structural – Typical Cross Section (1 sheet)
- Approach Span Structural – Longitudinal Section (2 sheets)
- Approach Span Structural – Abutment Details (1 sheet)
- Approach Span Structural – Pier Details (1 sheet)
- Movable Span Structural: General Plan and Elevation (including fender) (1 sheet)
- Movable Span Structural: Typical Cross-section (1 sheet)
- Movable Span Structural: Longitudinal Section (1 sheet)
- Movable Span Structural: Pier - Substructure Elevation (Fender elevation) (1 sheet)
- Movable Span Structural: Pier - Substructure Cross-Section (1 sheet)
- Movable Span Structural: Rest Pier (Plan and Elevation) (1 sheet)
- Movable Span Mechanical: Notes and Machinery GPE (1 sheet)
- Movable Span Machinery Layout (2 sheets)
- Movable Span Electrical: Notes and Console Layout (2 sheets)
- Movable Span Electrical: System Block Diagraph (1 sheet)

Prepare estimate with contingencies for the bridge items will be provided.

The HDR Team will address TS&L comments under this task.

12.2 Roadway/Traffic Design

- The roadway design will support the Bridge Preliminary (30%) submittal. For this project the roadway design will be advanced to establish line & grade, road template, pavement layout, detour plan, conceptual surface drainage, side slopes, and an itemized estimate with incidental item contingencies in order to advance the environmental documents and support the request for a Preliminary Bridge Submittal.

- Utility information will be incorporated on Plans and cross sections during preparation of drainage design on roadway plans supporting the Bridge Preliminary Submittal.
- Existing sign inventory and drainage structure condition analysis with recommendations for replacement, rehabilitation, or further study. The sign inventory will be provided to the Bureau of Traffic for the final sign design
- Feasibility of stormwater improvements will be discussed within the design Narrative. It is anticipated that the project will need to adhere to MS4 requirements, and up to three stormwater best management practices (BMP's) will be considered in the narrative.
- A pollutant loading analysis will be performed for phosphorus, suspended solids and nitrogen. Up to three stormwater best management practices (BMPs) will be considered for the site to treat water to levels required under MS4. The HDR Team will consult with NHDOT to determine the preferred BMP.
- Traffic Management Plan (TMP) for construction
- Preliminary Roadway Plans will be comprised of:
    - Roll plans: Existing Conditions, General Plan with Drainage Design, and Pavement Layout (1 sheet)
    - Roadway profile (1 sheet)
    - Preliminary Roadway Typical Section (1 sheet)
    - Cross Sections (10 sheets)
    - Preliminary Traffic Control Plans (5 sheets) – Assumes no regional detour or bridge closure, minimum 3 phases of construction and a preliminary advanced sign package efforts.
- Bulleted design narrative.
- Estimate with contingencies.

NHDOT Review comments on Roadway/Traffic submission will be addressed under Task 13.

12.3 QA/QC

The HDR Team will perform QA/QC on the draft and preliminary design submission

12.4 Coordination Meetings

- Three (3) coordination meeting with design engineers and environmental and cultural specialists are assumed for this design phase.

Deliverables

- Draft Preliminary Bridge Submission
- Revise Preliminary Bridge Submission
- Draft Highway Submission
  (Revisions to Highway Submission to be made under Task 13, and will be completed prior to the Public Hearing, if required)

13.0 SLOPE AND DRAIN

13.1 Slope and Drain

The HDR Team will begin by addressing the NHDOT comments on the Revised Preliminary Plan Submission and orient the plan set to meet the Highway Design Manual Volume II. Thereafter, the Team will begin preparing a Slope & Drain Submission. These efforts will be coordinated with the Public Hearing, and will occur upon completion of the Public Hearing (if required), in order to incorporate additional direction from NHDOT. Slope and Drain will include the following major efforts:

- Revise and advance typical sections; General Plans; profiles; cross sections;, details & cross sections
- Prepare Front Sheet; Alignment, Pavement Layout, Marking, & Signing Sheets
- Advance drainage design, prepare drainage calculations & report
- Revise quantities and prepare Opinion of Probable Construction Cost
- Review Construction Schedule and TCP sequencing; prepare draft POW & TCP documents
- Prepare for and attend Traffic Control Committee meeting
- Coordinate Submission (including bridge design elements); prepare submittal documents & perform QC/QA review

The total number of estimated roadway and TCP sheets is fifty-six (56) sheets, as follows:

- Front Sheet (1 sheet)
- General Notes (1 sheet)
- Standard Symbols (2 sheet)
- Typical Sections (2 sheet)
- Roadway and Drainage Detail Sheets (6 sheets)
- BMP Grading Plans and Detail Sheets (2 sheets)
- General Plans (3 sheets)
- Profiles (3 sheets)
- Intersection and Driveway Grading Plans (2 sheets)
- Drainage and Utility Plans (3 sheets)
- Drainage Notes (1 sheet)
- Curbing, Marking, Signing and Pavement Layout Plans (3 sheets)
- TCP Sequencing (9 sheet)
- TCP Details (2 sheet)
- Cross Sections (16 sheets) – Assumed vertically oriented; 800 linear feet and 1000 linear feet for southern and northern approaches respectively (including existing sections); BMP cross sections, and no bridge cross sections

Slope & Drain Assumptions

- The S&D general assumptions anticipate closely matching the Department's project development process and expanding and building upon the Preliminary submittals. The project is not anticipated to require General Plans, Drainage and Utility, Pavement Marking and Signing Plans, as well as Curbing and Pavement Layout Plans per Highway Design Manual Volume II. The assumed scope provides plans to be flexible depending on utility and layout requirements.
- Plans and profiles will be prepared at 50 scale and cross sections will be prepared at 10 scale.
- While an Alteration of Terrain Permit is not needed due to an existing MOA with DES, the project must comply with the intent of AOT Administrative Rules (Env-Wq 1500). Protection of water quality will be made to the maximum extent practical and documented in accordance with the environmental documentation and MOA. The drainage design is anticipated to mimic the existing conditions to minimize offsite properties.

- The Drainage Design will adhere to the NHDOT's Manual on Drainage Design for Highways meeting the requirements for stormwater management, closed hydraulic analysis, and culverts as required, following the recommendations determined during the environmental coordination and preliminary design.
- It is anticipated a drainage report containing an explanation of existing and proposed conditions, calculation methodology, Hydraulic Soil Groups (HSG), pre vs. post hydrology analysis, pre and post subcatchment plans, hydraulic analysis, update BMP design calculations for the preferred BMP, outlet protection calculations, design and plan incorporation and project conclusions will be prepared.
- A Pre vs. Post hydrology study (2, 10, and 50 year) using HydroCAD™ will be completed for the Slope and Drain Submission.
- A bridge closure and regional detour is not assumed for this scope, however construction sequencing will be evaluated during the TS&L.

13.2 QA/QC

The HDR Team will perform QA/QC on the draft slope and drain submission

13.3 Coordination Meetings

- Two (2) design coordination meetings with NHDOT are assumed during this phase of design
- Two (2) coordination meeting with design engineers and environmental and cultural specialists are assumed for this design phase.

Deliverables

- Draft Slope and Drain Submission

Final Slope and Drain plans will be provided under Part B

14.0 ECONOMICS/FINANCE

14.1 Life-Cycle Cost Analysis

In support of the TS&L study, the HDR team will conduct a life-cycle cost analysis (LCCA) to evaluate the capital, operating, maintenance and user costs associated with each of the alternatives: rehabilitation, replacement with moveable bridge, replacement with fixed steel bridge and replacement with fixed concrete bridge.

The LCCA will include analysis of the initial capital expenditures of each alternative, as well as the construction related impacts and the long-term operating and maintenance costs associated with maintaining the bridge for future use. The economic analysis will utilize the findings from the order of magnitude cost estimates and industry established assumptions related to discount rates and maintenance schedules to estimate overall costs of each alternative. Tables providing the analytical findings will be provided as part of a technical memorandum describing the LCCA approach, key assumptions, and conclusions as related to the TS&L study.

14.2 Benefit-Cost Analysis

In addition to the LCCA, a benefit-cost analysis will be conducted to qualitatively and quantitatively (when possible) evaluate the benefits or dis-benefits of each proposed bridge type and alternative. The primary

differences are expected to reflect differences in travel time due to bridge opening, as well as differences between fixed and moveable bridges. The frequency of bridge openings, and the associated traffic delay impacts, will be considered as part of the benefit-cost analysis.

In addition to potential differences in traffic conditions between fixed and movable bridges, there may also be impacts to marine traffic if a fixed alternative is considered. If marine traffic is limited, this may result in negative impacts in the mid- to longer-term. The benefit-cost analysis will provide a better understanding of the differences between fixed and moveable bridge options.

Construction of a fixed bridge may limit the vessel size that can readily navigate the waterway. This may have impacts on nearby property values or other quality of life considerations. A traditional benefit-cost analysis, with monetized benefits and costs, net present value calculations, and a benefit-cost ratio for each alternative, requires considerable data that may not be available. If insufficient data are available, HDR will conduct a hybrid qualitative and quantitative analysis to evaluate the overall benefits and costs of each alternative. A qualitative assessment of the positive and negative attributes of an alternative will be undertaken where specific numeric or monetary data is not available.

This is likely to result in the utilization of a hybrid analytical approach, which HDR has successfully utilized to rank project alternatives in the past. This hybrid approach quantifies what can be quantified and monetized, and qualitatively assessing order of magnitude impacts as low, medium, or high for each criteria. The final result of this analysis will be a technical memorandum that identifies the categories of benefits and differentiators between the bridge alternatives, and tables and figures that depict the similarities and differences between the proposed alternatives. This assessment will provide additional insight into the "big picture" to help NHDOT select the alternative that will best meet the project goals and objectives.

14.3 QA/QC

The economic analysis component will include quality assurance and quality control reviews throughout the process. These reviews will verify the project approach, the input data, and the technical memoranda.

Deliverables

- Draft Life Cycle Cost Analysis
- Revised Life Cycle Cost Analysis
- Draft Benefit-Cost Analysis
- Revised Benefit-Cost Analysis

15.0 CONSTRUCTION SPECIALIST

Detailed Construction Schedule of Bridge

HDR will prepare a preconstruction Critical Path Method (CPM) schedule for the selected alternative using Primavera P6, Version 8.3. The CPM schedule will be developed in accordance with industry accepted standards for CPM scheduling. The initial preconstruction CPM schedule will be prepared following completion of the Preliminary (30%) plan set.

The CPM schedule will utilize a work breakdown structure (WBS) to organize the activities in logical groupings such as administration, substructure, superstructure and approach, etc.

Project calendars will be created for each major item of Work affected by weather or seasonal limitations. Each calendar will include the holidays, and weather contingency days.

Activities and logic will be added within each WBS item to define the work to be accomplished. This is accomplished in conjunction with detailed review of the plans for each element of the work. Required predecessor and successor logic will be added to define the relationships between the specific work activity and other activities in the schedule that either drive, or are dependent on the activity. Required logic is logic that must exist based on the natural or required progression of the work; shafts must be drilled before building the pier column, the column and abutments must be completed before girders are set for example.

Activity durations will be established based on rough quantity take-offs of the work represented by the activity divided by a production rate. The production rates will be the rates established by the estimator performing the cost estimate.

The schedule will then be reviewed for the need for preferential logic. Preferential logic is added to ensure that the schedule does not represent performing an unreasonable volume of work at the same time.

Assumptions will be documented in the CPM Schedule Development Document.

Deliverables

- Draft Construction Schedule
- Revised Construction Schedule

Services Not Included

- In-depth inspection

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 ✓, proposed subconsultant ____, hereby certifies that it has ✓, 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 ✓, 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.

HDR Engineering, Inc
(Company)

By: C Caleb

Vice President
(Title)

Date: 4/2/18

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.

4/2/18
(Date)

(Signature)

Attachment 3

CERTIFICATION OF CONSULTANT/SUBCONSULTANT

I hereby certify that I am the Vice President and duly-authorized representative of the firm of HDR Engineering, 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 ineligibility 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.

4/2/18
(Date)

(Signature)

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):

4/9/18
(Date)

(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.

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

Consultant

WITNESS TO THE CONSULTANT

By: _____

Project Manager

Dated: 4/2/18

CONSULTANT

By: _____

VICE PRESIDENT

(TITLE)

Dated: 4/2/18

Department of Transportation

WITNESS TO THE STATE OF NEW HAMPSHIRE

By: _____

Dated: 4/9/18

THE STATE OF NEW HAMPSHIRE

By: _____

Director of Project Development

FOR DOT COMMISSIONER

Dated: 4/9/18

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: 4/11/18

By: _____

~~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

CERTIFICATE

RE: SEABROOK-HAMPTON X-A001 (026), 15904 (PART A – PRELIMINARY DESIGN)

The undersigned hereby certifies that she is the Assistant Secretary of HDR Engineering, Inc., a Nebraska corporation (the "Corporation"), and that, as such, has custody of the minute books of the Corporation, and that, by Consent and Agreement of the Board of Directors, the following resolution was unanimously adopted:

> **"RESOLVED,** that effective immediately, and until termination of said individual from the Corporation, or until recision by the Corporation's Board of Directors, whichever occurs first, the following individuals are hereby granted the nondelegable authority to execute or approve on behalf of the Corporation, contracts, amendments or change orders for engineering services and architectural services incidental to engineering services to be rendered by the Corporation, . . . , or releases of claim or lien in connection with such services, such contracts, amendments, change orders or releases so executed or approved shall be binding upon the Corporation:
>
> . . . Cynthia L. Carleo – Vice President . . ."

The undersigned further certifies that the foregoing resolution has been spread in full upon the minute books of the Corporation and is in full force and effect.

DATED April 2, 2018.

(CORPORATE SEAL)

Bonnie J. Kudron

Bonnie J. Kudron, Assistant Secretary

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 HDR ENGINEERING, INC. is a Nebraska Profit Corporation registered to transact business in New Hampshire on June 17, 1985. 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: **84977**

Certificate Number : **0004075637**

IN TESTIMONY WHEREOF,

I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire, this 5th day of April A.D. 2018.

William M. Gardner

Secretary of State

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
03/29/2018

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	CONTACT NAME:	
Willis of Minnesota, Inc. c/o 26 Century Blvd P.O. Box 305191 Nashville, TN 372305191 USA	PHONE (A/C, No, Ext): 1-877-945-7378	FAX (A/C, No): 1-888-467-2378
	E-MAIL ADDRESS: certificates@willis.com	

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A :	Liberty Mutual Fire Insurance Company	23035
INSURER B :	Liberty Mutual Insurance Company	23043
INSURER C :		
INSURER D :		
INSURER E :		
INSURER F :		

INSURED
HDR Engineering, Inc.
8404 Indian Hills Drive
Omaha, NE 68114

COVERAGES **CERTIFICATE NUMBER:** W5691670 **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.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR [X] Contractual Liability GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [X] LOC [ ] OTHER:	Y	Y	TB2-641-444950-037	06/01/2017	06/01/2018	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 2,000,000 $ 1,000,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000 $
A	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY	Y	Y	AS2-641-444950-047	06/01/2017	06/01/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 2,000,000 $ $ $ $
B	[X] UMBRELLA LIAB [X] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $	Y	Y	TH7-641-444950-067	06/01/2017	06/01/2018	EACH OCCURRENCE AGGREGATE $	$ 5,000,000 $ 5,000,000 $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [No] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	WA7-64D-444950-017	06/01/2017	06/01/2018	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: Seabrook-Hampton X-A001(026) 15904 (Part A) Bridge Rehabilitation/Replacement.

Certificate Holder is named as Additional Insured on General Liability, Automobile Liability and Umbrella/Excess Liability on a Primary, Non-contributory basis where required by written contract. Waiver of Subrogation applies on General Liability, Automobile Liability, Umbrella/Excess Liability and Workers Compensation where required by written contract. Umbrella/Excess policy is Follows Form over General Liability, Auto Liability and Employers Liability.

CERTIFICATE HOLDER

F Hampshire Department of Transportation
A : Michelle Drouin, Contracts Administrator
PO Box 483
Concord, NH 03302-0483

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

Kit J. Hor

SR ID: 15882092 BATCH: 653237

CERTIFICATE OF LIABILITY INSURANCE

6/1/2018

DATE (MM/DD/YYYY) 3/29/2018

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 Lockton Companies 444 W. 47th Street, Suite 900 Kansas City MO 64112-1906 (816) 960-9000	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Lexington Insurance Company	19437
INSURED 1444881 HDR ENGINEERING, INC. 8404 INDIAN HILLS DRIVE OMAHA, NE 68114-4049	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES *HDRIN01 **CERTIFICATE NUMBER:** 15298177 **REVISION NUMBER:** XXXXXXX

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.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ XXXXXXX
							MED EXP (Any one person)	$ XXXXXXX
							PERSONAL & ADV INJURY	$ XXXXXXX
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ XXXXXXX
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$ XXXXXXX
	☐ OTHER:							$
	AUTOMOBILE LIABILITY			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident)	$ XXXXXXX
	☐ ANY AUTO						BODILY INJURY (Per person)	$ XXXXXXX
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$ XXXXXXX
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$ XXXXXXX
	☐ UMBRELLA LIAB ☐ OCCUR			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$ XXXXXXX
	☐ DED ☐ RETENTION $							$ XXXXXXX
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N			NOT APPLICABLE			☐ PER STATUTE ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ (Mandatory in NH)	N/A					E.L. EACH ACCIDENT	$ XXXXXXX
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ XXXXXXX
							E.L. DISEASE - POLICY LIMIT	$ XXXXXXX
A	ARCH & ENG PROFESSIONAL LIABILITY	N	N	061853691	6/1/2017	6/1/2018	PER CLAIM: $2,000,000 AGGREGATE: $2,000,000 DEDUCTIBLE: $75,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

SEABROOK-HAMPTON X-A001(026) 15904 (PART A) BRIDGE REHABILITATION/REPLACEMENT. 30 DAYS NOTICE OF CANCELLATION APPLIES, 10 DAYS NOTICE FOR NON-PAYMENT OF PREMIUM.

CERTIFICATE HOLDER

15298177
New Hampshire Department of Transportation
Attention: Michelle Drouin,
Contracts Administrator
PO Box 483
Concord NH 03302-0483

CANCELLATION

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AUTHORIZED REPRESENTATIVE

Joseph M Agnello