

**THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION**



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**CHRISTOPHER D. CLEMENT, SR.
COMMISSIONER**

**JEFF BRILLHART, P.E.
ASSISTANT COMMISSIONER**

Bureau of Highway Design
November 5, 2014

Her Excellency, Governor Margaret Wood Hassan
and the Honorable Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the Department of Transportation to amend PO #4003160, with Parsons Brinckerhoff, Inc., New York, NY, and Manchester, NH, Vendor #164158, to complete the final design of the roadway and bridges comprising the northern section of the Salem-Manchester I-93 improvement project beginning in the Town of Windham and ending in the City of Manchester, by increasing the total amount payable by \$975,664.17 (from \$9,358,904.06 to \$10,334,568.23) for additional design services that were not anticipated in the original scope of work, effective upon Governor and Council approval through the contract's original completion date of February 28, 2018. 100% Other Funds.

Funding is available as follows:

04-96-96-963515-1843	<u>FY 2015</u>
Garvee I-93 Construction Project	
046-500463 Eng Consultants Non-Benefit	\$975,664.17

EXPLANATION

This project, Salem-Manchester 10418V (Northern Design Section), begins in the vicinity of the existing weigh stations located approximately one mile south of North Lowell Road in the Town of Windham and runs northerly approximately twelve miles to the I-93/I-293 split in the City of Manchester. The above limits exclude a segment in the Town of Londonderry in the vicinity of Exit 5 that is currently under construction. Funding for this design effort is currently included in the State's Ten-Year Transportation Improvement Plan.

On February 20, 2013, the Governor and Council authorized the subject engineering and environmental consultant services Agreement (Item #88; copy of Resolution attached) in the amount of \$9,358,904.06 to complete the final design for the five (5) individual construction projects by preparing contract plans, specifications, special provisions, estimates of quantities and costs, right-of-way plans, and supplying construction support services. A previous 2005 final design services Agreement that was completed in 2011 brought the final design to an approximately 50% complete stage. At the time, given the funding uncertainties for constructing the remaining capacity improvements associated with this northern section, it was deemed prudent to delay pursuing the remaining design effort until needed. In addition to the typical final design tasks, this Agreement also includes Right-of-Way Acquisition services. More specifically, the Agreement includes: project management and coordination; public involvement and support; Right-of-Way procurement; calculation and documentation of environmental impacts; Phase III Archaeological Evaluations; sound wall evaluations; traffic capacity analysis and traffic demand management; drainage design, including pollutant loading and construction stormwater assessments; geotechnical services; river hydraulics with LOMR; utility relocation and coordination; traffic control for construction; constructability evaluations; CPM scheduling; in-depth cost estimating; and ITS accommodations. The intermediate completion date for the design services is October 31, 2015. The final completion date for the R.O.W. acquisition and construction support services is February 28, 2018.

This amendment to the Agreement is for additional work associated with the following items:

Recreation Trail Design (Contract 14633B) – The Windham Greenway trail improvements will provide a means to connect the existing trail on the west side of I-93 to the Windham Depot on the east side of I-93. Providing this connectivity is a project commitment. The revised design will construct a 135'-long x 12'-wide x 12'-high box culvert under the NB and SB barrels to provide the connectivity in lieu of 1900'-long trail connection included in the original scope of work. The construction costs are similar for both alternatives, but the revised design provides a safer solution by eliminating travel along the shoulder of North Lowell Rd. (\$70,365)

Beaver Brook Bridges (Contract 14633D) – The original scope included design efforts to extend the existing northbound and southbound culverts to accommodate the widening of the mainline. A rating analysis of the existing culverts identified structural deficiencies. Hydraulic studies also identified unacceptable headwater conditions due to the limited size and conveyance of the culverts. These factors resulted in the decision to replace the culverts with conventional steel stringer bridges. (\$450,331)

Cohas Brook Culverts 41 & 42 (Contract 14633H) - Culvert #41 – The original scope of work excluded this structure. Mainline roadway widening resulted in steep slopes and additional fill on the concrete box culvert. A rating analysis of the existing culvert identified structural deficiencies. This task will design a solution to resolve the structural deficiencies. Culvert #42 – The original scope for Culvert #42 included development of a precast concrete T-Wall on and off the existing culvert. Preliminary Plans were submitted utilizing a precast concrete T-Wall. Department review of the Preliminary Plan submission determined a T-Wall on soil off the culvert is not viable and other options needed to be evaluated. This task will design a viable solution. (\$132,136)

Bridges 38, 39 & 40 (Contract 14633H) - Br. No 38 (NB/Cohas Bk), Br. No 39 (NB/Bodwell Rd) and Br. No. 40 (SB/Bodwell Rd) all require additional bridge design efforts, not originally anticipated, to widen an additional 2 feet to account for new LRFD requirements relative to impact loads on soundwalls. (\$107,895)

Soundwall Evaluation/Design (Contract 14633H) - Additional highway design efforts are required to accommodate soundwall revisions resulting from further noise analysis. The revisions result in an additional 2,250 feet of soundwall design and related elements, which were not originally anticipated. (\$50,158)

Overhead Sign Structure (OHSS) Relocations and Choice Lane at NB I-93/I-293 Split (Contract 14633H) - The project design originally proposed to maintain two dedicated left turn lanes onto I-293 WB and to provide a third through lane to continue on I-93 NB. After review with the Preliminary Design section and the Bureau of Traffic, the Department decided to revise the design to provide a "choice" lane that provides motorists with additional "decision" time at the I-93/I-293 split. This modification results in revised locations for the OHSS (guide signs) to accommodate the new striping layout. The additional design efforts include striping redesign, guardrail and drainage modifications to accommodate the new OHSS locations, cross section updates, and sign modifications. (\$15,640)

Kendall Pond Access Road (Contract 14633B) – This effort relates to design refinements to the BMP access road that is designed along the west side of I-93 between Kendall Pond Road and BMP 3558. The efforts are beyond the scope of typical BMP access road designs, considering the length (1500') and resultant drainage requirements and cross section development (both mainline and access road). (\$30,687)

Project Management Resources – This task provides for a continuation of technical services related to Public Outreach, Traffic Management and the Financial Plan on the I-93 Salem to Manchester project. (\$85,420)

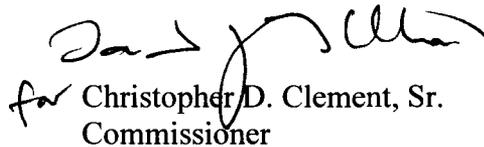
Wheeler Brook CLOMR – Impacts to a floodway near Exit 4 requires a Conditional Letter of Map Revision (CLOMR) to the FEMA Flood Insurance Rate Map for the area. These impacts were not known prior to the start of the design effort and therefore these efforts are beyond the existing scope of work. (\$33,032)

The increase in fee as proposed is commensurate with the revised scope of work and the corresponding additional engineering and technical services to be furnished. Preliminary Engineering and Right-of-Way costs will be funded with 2012 Garvee Bond proceeds. Debt Service will be paid with 100% Federal funds at 80% reimbursement rate and 20% match using Turnpike Toll Credits.

This amended 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 amended 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 amend this Agreement for consulting services as outlined above.

Sincerely,


for Christopher D. Clement, Sr.
Commissioner



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



CHRISTOPHER D. CLEMENT, SR.
COMMISSIONER

JEFF BRILLHART, P.E.
ASSISTANT COMMISSIONER

SALEM-MANCHESTER

IM-IR-0931(174)

10418C (Northern Section - 2013 Contract)
 (Agreement Dated February 20, 2013, PO 4003160)

Room 200 (CMF)
 Tel. (603) 271-2171
 Fax: (603) 271-7025

October 14, 2014

Mr. Andrew B. Boyd, P.E.
 Parsons Brinckerhoff, Inc.
 650 Elm Street
 Manchester, NH 03101

Dear Mr. Boyd:

This letter amends Article I – Description of Professional Services to be Rendered and Article II – Firm Fixed Price Line Item Compensation of Consultant in the above-referenced Agreement. This amendment increases the total fee not to exceed for this Agreement by \$975,664.17 (from \$9,358,904.06 to \$10,334,568.23) as payment for additional design services not anticipated under the original agreement.

Article I, Section A – Location and Description of Project, pages 3 and 4, is being amended to add the following bridges to the table:

I-93 Northern Segment Bridges	Contract	Type of Work	Bridge ID	Design Stage
I-93 NB over Greenway Trail	14633B	New Structure	N/A	N/A
I-93 SB over Greenway Trail	14633B	New Structure	N/A	N/A
I-93 NB over Beaver Brook	14633D	Replacement	22	N/A
I-93 SB over Beaver Brook	14633D	Replacement	27	N/A
I-93 SB over Cohas Brook (Culvert)	14633H	Extension	41	N/A

Article I, Section E – Scope of Work (Final Design), page 12, is being amended to include Attachment A, dated September 8, 2014, a detailed description of additional services for this contract amendment.

Article II, Section A - General Fee, page 37, is being amended to add the following elements to the table specifying the Elements of Work:

Item	Element of Work Description	Quantity	Unit Price	Total
A1-1	Recreational Trail Culverts	1	\$70,364.64	\$70,364.64
A1-2	NB/SB Beaver Brook Bridges	2	\$225,165.69	\$450,331.37
A1-3	Cohas Culverts 41,42, + Hwy	1	\$132,135.45	\$132,135.45
A1-4	Bridges 38,39, 40 + Hwy	1	\$107,895.36	\$107,895.36
A1-5	Soundwall 27/28	1	\$50,157.78	\$50,157.78
A1-6	OHSS/Choice Lane	1	\$15,640.27	\$15,640.27
A1-7	Kendall Pond Access Rd	1	\$30,687.29	\$30,687.29
A1-8	Direct Expenses – Misc. Tech. Services	N/A*	N/A*	\$85,419.99
A1-9	Wheeler Brook CLOMR/LOMR	1	\$33,032.02	\$33,032.02
			Amendment #1 Total	\$975,664.17
			Revised Total Compensation	\$10,334,568.23

*Miscellaneous Technical Services will be paid using a cost-plus-fixed-fee method of compensation.

Article II, Section D Schedule of Payments, page 39, is being amended to add the following as sub-section:

- 1-A(6) "Elements A1-5 through A1-7 & A1-9 shall be paid on a percent complete basis by element."
- 1-B(1) "Elements A1-1 through A1-4 shall be paid on a percent complete basis by element."
- 6-A "Element A1-8 – Miscellaneous Technical Services shall be paid on a cost plus fixed fee basis for each task identified including Public Website Development, Traffic Management Plan, Public Outreach, and Financial Plan & Graphics."

The above fee increase revises the total amount payable under this Agreement, which increases from \$9,358,904.06 to \$10,334,568.23 by this amendment.

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

Sincerely,



Peter E. Stamnas, P.E.
Project Manager



Approved: William J. Cass, P.E.
Director of Project Development

We concur in the above Amendment.

PARSONS BRINCKERHOFF, INC.

By: Robert F. O'Brien

Title: Vice President

PES/wjh
attachments

AGREEMENT AMENDMENT

SALEM-MANCHESTER, IM-IR-0931(174), 10418-C

PARSONS BRINCKERHOFF, INC.

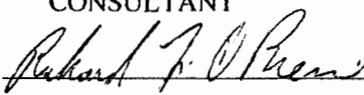
IN WITNESS WHEREOF the parties hereto have executed this amended AGREEMENT on the day and year first above written.

Consultant

WITNESS TO THE CONSULTANT

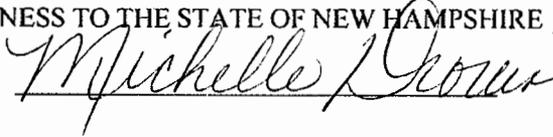
By: 
CHERYL L. MYERS
Dated: October 15, 2014

CONSULTANT

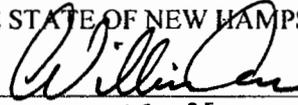
By: 
Vice President (Title)
Dated: October 15, 2014

Department of Transportation

WITNESS TO THE STATE OF NEW HAMPSHIRE

By: 
Dated: 10/23/14

THE STATE OF NEW HAMPSHIRE

By: 
William J. Cass, P.E.
Director of Project Development
Per DOT COMMISSIONER
Dated: 10/23/14

Attorney General

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

Dated: 11/13/14

By: 
Assistant Attorney General
John J. Conforti

Secretary of State

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

Dated: _____

Attest:

By: _____
Secretary of State

**I-93 Widening – North
Salem – Manchester 10418V
Amendment 1, Attachment A
9/8/2014**

A1-1 : Recreational Trail Culverts

As requested by the Department, CHA is submitting the following scope for preparation of plans, specifications and estimate for incorporation of a culvert structure to carry the Greenway Recreation Trail under I-93, in the area of North Lowell Road in the town of Windham, into Contract 14633B.

Recreation Trail

The Design Team met with NHDOT personnel on March 6, 2014 to discuss the alternatives regarding the Recreation Trail located in the Town of Windham. Currently the existing recreation trail discontinues on the west side of I-93 Southbound in the vicinity of Station 3463+50 and unofficially parallels the southbound barrel inside the LAROW until it intersects with North Lowell Road. Town officials along with NHDOT and NHDRED personnel have conducted meetings regarding the future of the trail and determined that connectivity with the existing trail system located at Windham Depot would be beneficial to the community. The construction of a pedestrian underpass will be included in the contract to accommodate the trail connection.

Description and Scope of Work

The work includes providing plan accommodations for a precast concrete box culvert as a pedestrian underpass. The box culvert and associated appurtenances will be designed by the contractor.

- Trail connections are within the proposed LAROW limits. The crossing is located at approximately 3459+50 southbound and 1458+00 northbound. Approximately 800 ft. of the proposed recreation trail layout from the intersection of the existing trail located to the west of I-93 Southbound (Station 3463+50 +/-) to a point located to the east of I-93 Northbound (Station 1458+00 +/-); Limits of work will be as shown on the draft update of the Pre-PS&E plans.
- Two 12'x12' Concrete Box Culverts each approximately 135' in length will cross perpendicularly under each barrel of I-93 with a 20' opening in the median.

Specific Scope of Work will include:

- Develop plan and profile (longitudinal section / skewed section of mainline) of the Box Culvert Option Recreation Trail Layout;
- Development of Rec Trail Typical Section;
- Develop grading plans at the Pedestrian Underpass / I-93 interface and along trail;

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9/8/2014**

- Develop culvert plans containing a site plan, general plan, longitudinal section (including NB & SB mainline), and typical cross section of the box including details of the bedding material to be placed within box culvert;
- Develop masonry elevation plans and typical sections depicting wingwalls and headwalls at the entry and exit points of each box culvert (4 locations). Adequate information will be detailed for a contractor-designed solution. Develop masonry details for retaining walls at the gap between culverts in the median and address any slope grading needed to tie into the retaining walls and headwalls. CHA will make any slope adjustments necessary to accommodate the box culvert.
- All construction notes for the box culvert installation will be included on the plans.
- Design of drainage is anticipated to include analysis of open drainage for trailside ditch and one minor cross culvert;
- Develop quantities and estimate (PS&E, Draft Contract Plans, and Contract Plans).

Project Development Process

The design work related to this recreation trail will be done after the Pre-PS&E submission for the 14633B Contract. Draft updates of the Pre-PS&E plans, in the area of the recreation trail, along with details specific to the trail and box culvert will be prepared and submitted to the Department. The preparation of the draft plans will follow what is usual and customary however, quantities will not be developed until the PS&E Submission. One “Over the Shoulder” (OTS) working sessions will be held with the Department. The intent of the draft submission and the OTS meeting is to expedite the design and review process required to progress the recreation trail design to a level of detail matching the overall corridor design phase (PS&E). The OTS meeting will consist of the Design Team presenting progress to date to the Department with ensuing discussion and subsequent written comments from the Department. Based on this meeting and the written comments, CHA will update the plans and resubmit to the DOT for final comments prior to incorporation of the recreation trail into the PS&E submission.

ASSUMPTIONS

1. The structures will be two 12’x12’ Concrete Box Culverts each approximately 135’ in length. The culvert size has been provided by NHDOT and confirmed by DRED as appropriate for the anticipated trail use.
2. The box culvert and associated appurtenances (wings, headwalls, connection walls) will be designed by the fabricator per standard specifications.

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3. -The culvert floor and walls will be continuous in the median with an open top. Retaining walls will form a rectangular opening in the embankment to provide daylight to the culvert. The retaining walls will be attached to the walls and top of the culverts by continuing reinforcing by use of threaded inserts in the culvert or by extending reinforcing out of the culvert concrete. The retaining walls will be designed and engineering calculations for the elevations, size, shape and reinforcing of the wall will be included along with detailed bar lists.
4. Limits of Cofferdams will be detailed as required to facilitate phased construction of the box culvert under both barrels.
5. Foundation requirements will be conveyed through the detailing provided in the plans. Foundation recommendations will be provided by the Department. Boring plans and boring logs will be prepared as required. DOT will perform borings and provide results and foundation recommendations to CHA. It is assumed that a minimum of two borings will be completed by the Department, with the results being incorporated into the plan set by CHA.
6. The Recreation Trail Typical Section is assumed to be a gravel surface. Adjustments to ROW fencing and detailing around culvert ends on both the east and west sides of the highway will be needed.
7. No Sight Distance calculations are anticipated.
8. An allowance of hours for work to detail lighting and electrical work is included.
9. Trail signing is not included and would be the responsibility of the Town or others.
10. The Town of Windham has requested the culverts to include wireless (cell phone) coverage capabilities. This would be the responsibility of the Town or others and is not included.
11. 2:1 side slope from I-93 will be used instead of the 1.5:1 slope as shown on the sample plans provided at the March 6, 2014 meeting.
12. Updates will be made as required to:
 - a. ROW Plans
 - b. Wetland Impact Plans

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Salem – Manchester 10418V
Amendment 1, Attachment A
9/8/2014**

A1-2 : NB/SB Beaver Brook Bridges

The original scope and fee which was submitted February 22, 2013 assumed that the I-93 NB and SB culverts over Beaver Brook would need to be widened to accommodate the proposed I-93 roadway widening. In the development of the Preliminary Plan submission, a structural rating analysis was performed on the existing structures to determine if the additional roadway fill that would be placed on the structure would adversely affect the load rating of the bridges. The results of this rating resulted in the finding that not only did the existing structures not meet the minimum rating requirements for the roadway, but the structures in their current condition were not adequate.

An updated hydraulic study and HEC-RAS analysis was performed utilizing updated survey information collected by the Department. It was determined that the existing I-93 culverts over Beaver Brook are constraining the flow of water and contribute to an unacceptable headwater condition upstream of the culverts. If the Beaver Brook culverts were replaced with a wider opening, this headwater condition would be greatly reduced.

These two factors contributed to the Department deciding to change the scope of these crossings from a culvert widening to two new bridges, I-93 NB over Beaver Brook and I-93 SB over Beaver Brook.

Scope of Work (Bridge Design Submissions) - Work Performed by PB

While there will be differences in the two structures, such as construction phasing and wing wall configurations, the studies, design and development of the contract documents shall be progressed concurrently assuming both bridges are of the same span and structure type. The plan submissions for the bridge structures shall follow in general, the "Instructions for Consulting Engineers Concerning the Routine Procedures on Bridge Design Projects", prepared by the Department.

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

PB will perform a load-rating analysis for each bridge using the AASHTO Load Resistance Factor Rating method (LRFR), to be submitted on a form provided by the Department. The phases for the development of the project are as follows:

TS&L (Type-Span-Location) Study

Boring Layout

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Amendment 1, Attachment A
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Preliminary Plans -Bridge

Preliminary PS&E Plans (80% complete)

PS&E Plans (95% complete)

Draft Contract Plans

Final Contract Plans (100% complete)

Each bridge will be designed using the 2012 edition of the AASHTO LRFD Bridge Design Guidelines, with interims. PB will be responsible for detailing the reinforcing steel layout and for producing the reinforcing schedule.

TS&L (Type-Span-Location) Studies

Per the CLOMR documentation, an opening of 52' by 12' has been established as the design opening for these bridges. PB will develop a design based on this assumption.

Plans shall be prepared for each bridge showing the potential alternatives and shall include the span, elevation, and typical bridge section. The plans shall be developed to accurately depict the proposed project; however a TS&L plan will not be submitted to the Department for review.

For developing this scope and fee proposal, PB assumes that a pre-cast superstructure, such as a NEXT Beam, will be the preferred alternative. However, further design development and input from NHDOT will determine the final alternative as stated below.

Foundation design parameters and recommendations will be provided by NHDOT.

In lieu of an official TS&L submission and design review, PB will schedule an “over the shoulder” meeting with the Department to determine the preferred alternative. After a consensus preferred alternative is selected, PB will proceed to the Preliminary Plans submission.

As part of the TS&L phase the roadway traffic control plans will be revised to reflect the construction of two new bridge structures where culvert widenings were previously expected. This will require revisions to multiple phases of the currently proposed traffic control plan that was included with the highway Slope and Drain Submission.

Boring Layout

Following the review and acceptance for the TS&L study plan by the Department, a boring layout plan shall be prepared for each bridge, the layout being based on the approved TS&L Plan. The results of the

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9/8/2014**

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

Preliminary Plans –Bridge

Preliminary plans for each bridge shall be prepared following acceptance of the TS&L Study plan and Boring Layout by the Department, the completion of the subsurface explorations and the preparation of the subsurface data sheets.

The preliminary structural designs completed, as part of the TS&L phase, shall be refined to incorporate the review comments and the results of soils investigations. Also included in this phase shall be the development of the site plan for the bridge location, and this plan shall include the existing surface contours, boring location, substructure and superstructure, slope limits and major topographical items.

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

Additional items to be included are channel treatments under the bridge, if necessary, and masonry elevations of the abutments showing foundation treatment and rock lines, as appropriate.

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

Preliminary PS&E –Bridge

Upon receipt of written approval of the Preliminary Plans, final design and preparation of contract plans shall commence. The final design shall incorporate revisions, if any, in the Preliminary plans as approved by the Department.

The plan and elevation, survey plan and profiles, and boring logs as submitted for the Preliminary Plans shall be refined as necessary and become part of the final contract plans.

Estimates of quantities shall be prepared for all materials of construction and shall be summarized for each bridge. The design shall include complete details, calculations, and schedules for all reinforcing steel (i.e. reinforcing steel will be a final pay items and will not be Contractor detailed).

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

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PS&E –Bridge

Comments resulting from the Department's review of the Preliminary PS&E submission shall be incorporated into the design and contract plans. The estimate of quantities shall be completed and tabulated. Reinforcing details, including reinforcing schedules shall be included in this submission.

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

Draft Contract Plans and Final Contract Plans

Comments resulting from the Department's review of the PS&E submission shall be incorporated into the design and Draft Contract plans will be prepared. The estimate of quantities shall be completed and tabulated.

Following review of the Draft Contract Plans, Contract Plans will be prepared and submitted to the Department. The plans at this stage represent 100% completion of the project.

Scope of Work (Construction Support Services) - Work Performed by PB

PB will provide construction support services to the Department, as follows:

Construction

If and when required by the Department during the construction of the project, PB shall:

1. At PB's sole expense, correct and resolve errors and/or omissions, due to PB's own negligence, within the contract plans and specifications found during construction.
2. Render interpretations, as necessary, of the contract plans and specifications and submit recommendations for necessary modifications in either or both and, upon approval of recommendations by the Department, revise the contract plan and specifications to cover same and prepare other detailed drawings as may be needed to supplement the contract plans in order to permit the proper completion of the project. This work effort, if required, will be viewed as additional services, subject to an adjustment in the fee.

Shop Drawings

PB shall:

1. Review, check and approve all working drawings prepared by others including the construction contractors or their subcontractors subject to the provisions of Section 105 for the purpose of

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Salem – Manchester 10418V
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9/8/2014**

checking for conformance with the information given and the design concept expressed in the Contract documents.

Scope of Work (Hydraulic Analysis) - Work Performed by CLD

Following submittal of the original CLOMR analyses and documents for NHDOT review, a meeting was held on November 19, 2013 to review the documents and determine how to proceed. Concern was raised that the original project direction of widening the existing Beaver Brook culverts would not meet NHDOT hydraulic opening requirements. In order for DOT to evaluate the best solution at the Beaver Brook crossing, additional Hydraulic Analyses were requested to compare three options, including a replacement bridge at I-93, a replacement bridge at Gilcreast Road (downstream structure), and the current proposal of culvert extensions at I-93. Work associated with this task to be performed by CLD includes the following:

- Determine span length requirements for the replacement bridge options per NHDES/NHDOT requirements. Coordinate with PB and NHDOT, and confirm agreement prior to proceeding.
- Update CAD model with topographic 2-foot contour GIS mapping to allow for georeferencing and development of additional cross-sections for improved correlation of modeling and Certified Topographic Mapping.
- Georeference the CADD terrain model with HEC-RAS models. Incorporate oxbow and cut additional cross-sections between I-93 and Gilcreast to improve mapping and match to effective floodplain lines at model boundaries.
- Prepare 100-year floodplain HEC-RAS steady flow models for the three options and comparison water surface elevation (WSEL) profiles (as required by FEMA).
- Determine freeboard and relief to roadway elevation at each bridge for each option.
- Prepare comparison map for 100-year floodplain boundary.
- Prepare submittal information including narrative; review PB estimate information for the three options and incorporate into submittal documents.
- Coordinate with NHDOT Hydraulic staff, review modeling issues and resolution of same to match effective FIS BFE & Flood Hazard Lines at model boundaries.
- Coordinate with NHDOT to complete an unsteady flow model for the 100-year Floodplain analysis which includes:
 1. Developing a 100 year hydrograph in the HEC RAS file format for the upstream boundary conditions;
 2. Running the unsteady flow processor & post processor
 3. Troubleshooting model stability & iteratively making adjustments; and
 4. Reporting results & producing deliverables (narrative, tables, plots, model and animations).

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- Revise steady flow CLOMR models (including Floodway and 500-year models) for the new project limits/update to address comments and incorporate recommended bridge solution (dependent on Front office solution).

Scour analysis will not be required for the bridge, as the proposed span is significantly greater than the stream width therefore contraction and/or local abutment scour are anticipated to be negligible. Stone Fill Class B (Bridge) will be designated within the limits of disturbance for abutment construction for foundation protection.

Standard NHDOT Hydraulics Report will not be required for the subject project. NHDOT will review and approve the structures' hydraulic sizing/modeling based upon materials prepared for the CLOMR documentation.

- Additional coordination with CLD, PB and NHDOT staff.

A1-3: Cohas Culverts 41, 42, + Hwy

Culvert #41

Although not in the original scope and fee, NHDOT has requested that CLD investigate a steep slope issue immediately adjacent to this culvert. The TSL scope is to evaluate the issue, analyze the existing condition and develop potential solution alternatives. The hours shown assume development of a TSL report that looks at various potential options including:

- Several bridging over the culvert options;
- A permanent sheet pile wall option;
- Strengthening of the existing culvert including concrete and FRP;
- An MSE wall on the culvert;
- An MSE wall with lightweight fill on the culvert;
- MSE walls on the culvert and on the sides of the culvert with culvert strengthening; and,
- Removing and replacing sections of the existing culvert.

This work includes extensive structural analysis, plan and report preparation, quantity and cost estimating and meetings and coordination with NHDOT. All evaluations of the existing culvert with the various structural additions will be done using Load Factor Design (LFD). Time has been included to prepare an LFD rating including preparation of a Form 4.

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At the Preliminary Plan phase, an additional evaluation of the existing culvert is needed using criteria spelled out in this document. Earth pressure loads on the culvert will be provided by NHDOT Materials and Research (M&R). Scope assumes one analysis of the fully loaded condition. Additional analysis will be extra work not included in this scope. CLD will also re-evaluate the existing culvert for its existing configuration with revised loads provided by M&R to compare to the half load case for the chosen option. It is our understanding that the half load case is for comparison to the existing condition only. Per our discussions, this proposal assumes that the final load is less than existing. Therefore, any additional analysis is outside of the scope of this proposal.

Submissions for Culvert No. 41 shall include Preliminary Plans, PS&E plans, Draft Contract Plans and Contract Plans. Pre-PS&E Plans will not be developed in order to expedite the schedule.

Scope for Additional Highway Coordination for Culvert 41

Culvert #41:

Additional coordination will be required due to the culvert extension at Culvert #41, where there previously was no work anticipated. The following discusses coordination tasks that will be necessary to incorporate the design into the project.

A. PS&E Phase

1. Bridge PPS&E Phase

This work will be occurring during the Highway PS&E Phase as both culverts are on a separate design timeline from the Highway Design. During this phase, additional efforts include:

- General internal coordination with Bridge staff
- Updating plans and slope lines accordingly
- Update TCP and coordinate with Bridge construction timing.
- Update wetland impacts
- Update cross sections
- Establish quantity match lines and update quantities accordingly.

2. Bridge PS&E Phase

It is anticipated that the culvert PS&E submission will be in mid-February and will be during the Highway Draft Contract Plans phase. This effort will consist of general refinements to the Highway elements listed above.

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B. Draft Contract Plans Phase

It is anticipated that Highway and Bridge design phases will be joined at this point. Effort will consist of general refinements to the Highway elements such as TCP, cross section modifications, and updating quantities.

C. Contract Plans Phase

It is anticipated that Highway and Bridge design phases will be joined at this point. Effort will consist of general refinements to the Highway elements such as TCP, cross section modifications, and updating quantities.

Culvert #42

The original scope of Culvert #42 included development of a precast concrete T-Wall on and off the existing culvert. Preliminary Plans were submitted utilizing a precast concrete T-Wall. The Preliminary Plan comments from NHDOT Materials and Research (M&R) stated that a T-Wall on soil off the culvert is not viable and other options needed to be evaluated. CLD is to assist M&R with the evaluation of other options including:

- Determining existing wingwall bearing pressures;
- Determining culvert bearing pressures with extended headwalls; and,
- Performing a preliminary MSE wall design to determine bearing pressures for soil remediation evaluation by M&R.

This scope and fee assumes a new MSE wall will be constructed on the existing culvert with a permanent sheet pile wall off the culvert. Changes in the traffic control phasing now allow enough room for an MSE wall to be constructed. CLD will re-evaluate the existing culvert with an MSE wall constructed on top which is expected to meet the capacity requirements. Time for further analysis of the existing culvert or any other options is not included. Time has been included to prepare an LFD rating of the existing culvert with and MSE wall on top including preparation of a Form 4.

Geotechnical parameters for the design of the MSE wall, sheet pile wall and tie-backs for the sheet pile wall will be provided by M&R. These parameters include, but are not limited to, MSE wall strap lengths, soil properties and tie-back capacities.

A moment slab for the bridge rail above the wall is required. Design and detailing of a moment slab, including reinforcing, was not included in the original scope and fee, but has been included herein.

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Submissions for Culvert No. 42 include Pre-PS&E plans, PS&E Plans, Draft Contract Plans and Contract Plans. The Preliminary Plans previously developed using a T-Wall will not be revised nor resubmitted in order to expedite the schedule.

Scope for Additional Highway Coordination for Culvert 42

Culvert #42:

Additional coordination will be required due to the revisions to Culvert #42 design. The following discusses coordination tasks that will be necessary to incorporate the design into the project. No additional work is anticipated beyond Draft Contract Plans phase.

A. PS&E Phase

1. Bridge PS&E Phase

This work will be occurring during the Highway PS&E Phase as both culverts are on a separate design timeline from the Highway Design. During this phase, additional efforts include:

- General internal coordination with Bridge staff
- Updating plans and slope lines accordingly
- Update TCP and coordinate with Bridge construction timing.
- Update cross sections
- Establish quantity match lines and update quantities accordingly.

2. Bridge PS&E Phase

It is anticipated that the culvert PS&E submission will be in mid-February and will be during the Highway Draft Contract Plans phase. This effort will consist of general refinements to the Highway elements listed above.

B. Draft Contract Plans Phase

It is anticipated that Highway and Bridge design phases will be joined at this point. Effort will consist of general refinements to the Highway design due to PS&E Bridge comments that impact elements such as TCP, cross section modifications, and updating quantities.

A1-4 : Bridges 38, 39, 40, + Hwy

In order to meet current AASHTO design requirements for soundwalls on bridges, these bridges will be widened to accommodate a 4-foot offset from the face of bridge rail to the face of the soundwall. This will require an approximate 2-foot increase in the current amount of bridge widening. The bridge widths were established in the original scope and were detailed in the preliminary plans. CLD has previously

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prepared and submitted PPS&E Plans. Adding two feet to the bridge width will require a redo to almost all aspects of the superstructure and substructure design, geometry and PPS&E plans.

It was previously decided that the SB Bodwell bridge will not require widening of the piers as the deck overhang will simply be increased and the current girder layout will be kept as is. The deck will be notched around the existing wingwalls so further changes to the abutments or wingwalls are not anticipated.

It is assumed that both the NB Bodwell and Cohas superstructures and substructures will be widened approximately 2 feet more. This will necessitate a new beam layout and widened abutments and piers.

CLD will prepare one informal/draft submission of some of the revised PPS&E Plans to NHDOT for review and comment.

It is assumed that a 12-foot tall soundwall will be used on the widened sides of the bridges and no evaluations of other heights are included. Time is included for designing the posts and connections for the 12-foot tall soundwall. A T3 bridge rail will be added to the non-widened side of each bridge. It is assumed no bridge rail layout is needed for the non-widened side as the existing anchor bolt layout will be reused. This work will be covered in a note.

It is assumed that the SB Bodwell Bridge girder size, splice, and pier footing sizes will not change. It is also assumed the pier geometry and the concrete barrier/retaining wall in front of the pier will not change. The soundwall location/layout will be revised as well as the rail support slab layout off each end of the bridge. The edges of the deck, approach slab, and rail support slab will be moved out to accommodate the offset distance from the face of rail to face of soundwall. Deck details will be added to notch the deck around the existing wingwall. It is anticipated that the additional weight of the deck will change the girder dead load deflection and the bottom of slab elevations and camber tables will be revised. The loads transmitted to each of the proposed and existing bearing will be re-evaluated and the load table provided will be updated.

The girder spacing will increase for both the NB Bodwell and NB Cohas Bridges to accommodate the widened deck. The superstructure details, including the girder elevation, shear connector layout, bolted splice, diaphragms, bottom of slab elevations, and camber table will all be revised. The loads transmitted to each of the proposed and existing bearing will be re-evaluated and the load table provided will be updated. The substructure elements will be revised for the new girder configuration, widening both the abutments and piers. The wingwall orientation/length will be re-evaluated. It is assumed that the piers will be modified to include two columns due to the increase in the pier cap length. All of the applicable pile designs will be re-evaluated. The layout of the rail support slab and approach slab will be modified to

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match the widened deck width. On the NB Bodwell Bridge the concrete barrier/retaining wall located in front of the pier columns will be revised to match the new pier geometry.

Scope for Additional Highway Coordination for Bridges #38, #39, and #40

It has been determined that Bridges #38 (NB over Cohas Brook), #39 (NB over Bodwell Road), and #40 (SB over Bodwell Road) will need to be widened approximately another 2 feet to account for LRFD requirements.

Coordination for Cohas Brook Bridge Widening (Bridge #38)

Additional coordination will be required due to additional widening of Bridge 38. The following discusses coordination tasks that will be necessary to incorporate the design into the project. No additional work is anticipated beyond Draft Contract Plans phase.

D. PS&E Phase

3. Bridge PPS&E Phase

This work will be occurring during the Highway PS&E Phase as these bridges are on a separate design timeline from the Highway Design. During this phase, additional efforts include:

- General internal coordination with Bridge staff.
- Update plans and slope lines accordingly.
- Update TCP and coordinate with Bridge construction timing.
- Update cross sections.
- Establish quantity match lines and update quantities accordingly.
- Updates related to T3 bridge rail on non-widened side.

4. Bridge PS&E Phase

It is anticipated that the bridge PS&E submission will be in mid-February and will be in the middle of the Highway Draft Contract design phase. This effort will consist of general refinements to the Highway elements listed above.

E. Draft Contract Plans Phase

It is anticipated that Highway and Bridge design phases will be joined at this point. Effort will consist of general refinements to the Highway elements such as TCP, cross section modifications, and updating quantities.

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Coordination for NB Bodwell Road Bridge Widening (Bridge #39)

Additional coordination will be required due to additional widening of Bridge 39. The following discusses coordination tasks that will be necessary to incorporate the design into the project. No additional work is anticipated beyond Draft Contract Plans phase.

C. PS&E Phase

3. Bridge PPS&E Phase

This work will be occurring during the Highway PS&E Phase as both culverts are on a separate design timeline from the Highway Design. During this phase, additional efforts include:

- General internal coordination with Bridge staff.
- Update plans and slope lines accordingly.
- Update TCP along Bodwell Road and coordinate with Bridge construction timing.
- Update cross sections on I-93 and Bodwell Road.
- Establish quantity match lines and update quantities accordingly.
- Update Utility impacts based upon new foundation limits.
- Update proposed curb and sidewalk and other work along Bodwell Road to account for new foundation limits.
- Updates related to T3 bridge rail on non-widened side.

4. Bridge PS&E Phase

It is anticipated that the bridge PS&E submission will be in mid-February and will be in the middle of the Highway Draft Contract design phase. This effort will consist of general refinements to the Highway elements listed above.

D. Draft Contract Plans Phase

It is anticipated that Highway and Bridge design phases will be joined at this point. Effort will consist of general refinements to the Highway design due to PS&E Bridge comments that impact elements such as TCP, cross section modifications, and updating quantities.

Coordination for SB Bodwell Road Bridge Widening (Bridge #40)

Additional coordination will be required due to additional widening of Bridge 40. The following discusses coordination tasks that will be necessary to incorporate the design into the project. No additional work is anticipated beyond Draft Contract Plans phase.

A. PS&E Phase

1. Bridge PPS&E Phase

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This work will be occurring during the Highway PS&E Phase as both culverts are on a separate design timeline from the Highway Design. During this phase, additional efforts include:

- General internal coordination with Bridge staff
- Update plans and slope lines accordingly
- Update TCP along Bodwell Road and coordinate with Bridge construction timing.
- Update cross sections on I-93 and Bodwell Road.
- Establish quantity match lines and update quantities accordingly.
- Update Utility impacts based upon new foundation limits.
- Update proposed curb and sidewalk and other work along Bodwell Road to account for new foundation limits.
- Updates related to T3 bridge rail on non-widened side.

2. Bridge PS&E Phase

It is anticipated that the bridge PS&E submission will be in mid-February and will be in the middle of the Highway Draft Contract design phase. This effort will consist of general refinements to the Highway elements listed above.

B. Draft Contract Plans Phase

It is anticipated that Highway and Bridge design phases will be joined at this point. Effort will consist of general refinements to the Highway design due to PS&E Bridge comments that impact elements such as TCP, cross section modifications, and updating quantities.

A1-5 : Soundwall 27/28

The project scope included development of final plans for two separate soundwalls (Barriers 27 and 28) at prescribed limits set forth by the study performed by VHB. The total length of the two separate structures was approximately 4,650 feet (Barrier 27 – 1,400 feet and Barrier 28 – 3,250 feet). As part of the design, CLD originally developed two independent wall alignments, which provided consistent 12'-9" segments. Post locations for Barrier 28 had to tie into post locations on the Cohas and Bodwell Road Bridge structures that were determined based on the bridge rail and joints. The northern terminus was to extend approximately 100 feet into an existing ledge cut area.

On 11/8/13, in response to the soundwall noise analysis by PB (memorandum dated 10/18/13), NHDOT gave the direction to consolidate the two walls into one contiguous wall and to extend the southern limits by 200 feet. These changes would increase the total length to 6,900 feet. This equates to an increase of 2,250 feet (a 48% increase). NHDOT also directed the PB Team to relocate the northern terminus

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alignment to tie into the existing ledge cut. On 6/6/14, NHDOT directed the PB Team to provide approximately 2 feet of additional offset between the soundwall and the bridge rail on the NB and SB Bodwell Road Bridges and Cohas Bridge to meet current LRFD requirements. Once these changes are completed, PB has been authorized to conduct an additional noise analysis to ensure the wall heights in the northern limits are appropriately sized for their proposed offset to the roadway.

Work Tasks

The scope is to address all the changes to the plans and estimates referenced above. The following tasks are necessary to complete the redesign of the soundwalls. This scope reflects additional effort will be required to carry forward the increased soundwall length through Contract Plans.

PS&E Plans

Soundwall Alignment Revisions: The NB soundwall alignments will be combined into one alignment consisting of 12'-9" sections representing the panel lengths. The post locations on and between the Cohas and Bodwell Road Bridges will be revised to meet LRFD offset requirements. Once the post locations on the structures have been set, these will be used as known points and the alignment will extend southward and northward of the structures with PIs located every 12'-9". The southern terminus will be extended approximately 200 feet per the Department's direction. For the northern terminus, upon resolution of a preferred method for connecting the soundwall to the existing ledge, CLD will modify the alignment. The SB soundwall alignment will also be revised to accommodate the LRFD requirements.

Soundwall Within Gap Area: Previous guidance from the Department was to design a berm ditch between the two noise barrier sections (approx. Sta. 1926+50 to 1946+50) in order to accept a soundwall should it be determined to be appropriate at a later time. Although this was provided, there is a substantial amount of additional work required to implement the soundwall design onto the plans. The followings tasks will be performed:

- **Develop Soundwall Profile Sheets:** CLD will develop soundwall profiles within this area reflecting the minimum soundwall height recommendations from PB and NHDOT. The gap area is approximately 2,000 feet, which will require approximately 157 panels of varying height. Variations in height between panels will not exceed 8 inches per NHDOT standard details.
- **Wall Height Transition Modifications:** An allowance is provided in the event that the variation limit is increased to 1'-4".
- **Drainage Pipe Clearance Confirmation:** There are two proposed pipes within this stretch of soundwall. These will be checked to confirm that there are no conflicts with the proposed post foundations when they are made available from the Department.

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- Soundwall Symbology: Show soundwall symbology with appropriate height for the soundwall based upon NHDOT's and PB's recommendations.
- Post Location Tables: Develop Post Location Tables for the approximately 2,000 foot gap area.

Northern Terminus Modifications: Per NHDOT's request, CLD will investigate alternatives to the originally proposed northern terminus located approximately 100 feet beyond the beginning of ledge cut. The following tasks will be performed:

- Investigate two alternatives that tie the soundwall barrier into the existing ledge cut. Both options will use the recommended wall height per NHDOT recommendations in the design. Any design must be contained within the existing right-of-way and provide for positive drainage.
 - The first will include creating a method of tying the last panel into the rock ledge by creating a groove in the ledge and doweling the panel into the ledge.
 - The second will entail avoiding the structural connection to the ledge and building up the earthen berm to near the proposed top of wall, and extending the berm to the existing ledge, thereby closing the gap in the acoustical profile.
- CLD will meet with NHDOT to discuss the preferred alternative for concurrence prior to implementing said alternative into the construction drawings.
- Upon receiving concurrence from the Department, CLD will finalize the soundwall plan. As part of this effort CLD will:
 - Update the Soundwall Plan and Profile sheet;
 - Update slope lines and make necessary revisions to the drainage design to ensure drainage isn't getting trapped and minimizing point flows;
 - Clean up affected drawings (General, Drainage and Utility, Typical Sections) and update the Post Location Table;
 - Update affected cross sections and show proposed soundwall height (4 cross sections);
 - Update the post location tables.

Coordination with PB: Since the wall alignment is moving away from the roadway, another noise analysis will need to be performed to ensure the wall is appropriately sized. CLD will coordinate with PB to provide them with the updated soundwall alignment and wall heights for their additional noise analysis.

Additional Modifications: CLD will update the soundwall profiles and tables, if required, to reflect recommendations by PB and agreed to by NHDOT for minimum wall height in this area. Soundwall height transitions will be developed per NHDOT's direction.

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Update Quantities and Estimate: Additional effort is required due to the increase in total soundwall length and various changes in height that affect the associated quantities.

Draft Contract Plans

Soundwall Coordination and Refinements: The additional 2,250 feet of soundwall length (including gap area and southern terminus extension) requires additional effort to make refinements through Draft Contract Plans that previously would not have been required. These tasks include minor edits to soundwall plans and profiles and post location tables, cross sections and associated quantities.

Contract Plans

Soundwall Coordination and Refinements: The additional 2,250 feet of soundwall length (including gap area and southern terminus extension) will require additional design hours for normal refinement through Draft Contract Plans that previously would not have been required. These tasks include minor edits to soundwall plans and profiles and post location tables, cross sections and associated quantities.

A1-6 : OHSS/Choice Lane

The project scope for this section of the project involved widening to the right side of I-93 NB. The existing lane configuration approaching the split has four travel lanes with the two left lanes splitting to I-293 and the right two lanes staying on I-93 NB. The project originally proposed to maintain the two dedicated left lanes onto I-293, and to provide a third through lane to continue on I-93 NB. As part of the Bureau of Traffic's PPS&E review, a decision was made to revise the striping layout to provide a choice lane for the second lane from the left. As part of this change in lane assignment, the overhead sign structure (OHSS) at the split (Sta. 1972+50) is to be replaced with two separate structures, which are now proposed at Sta. 1961+00 and 1980+00 (per NHDOT guidance). Several modifications to the project will be required to accommodate this new direction.

Work Tasks

The following tasks are necessary to complete the redesign of the striping and signing layout for this choice lane configuration.

PS&E Plans

- Striping Redesign: NHDOT Bureau of Traffic provided a marked up roll plan indicating the desired striping and sign layout in this area, which is described above. CLD will develop the

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proposed striping layout on the plans and adjust all labeling / call outs on the Signing and Pavement Marking Plans and quantities to reflect the new striping layout. The plans will also reflect the two new OHSSs with appropriate call outs.

- Guardrail Modifications:

- The placement of a new OHSS at Sta. 1961+00 will require the extension of guardrail and related shoulder widening on the right side of the roadway to protect the new structure. The modification will impact approximately 400 feet of shoulder area. CLD will determine the length of need and update guardrail calculations, quantities and schedules.
- The OHSS foundations at Sta. 1980+00 will be impacting existing drainage systems that are proposed to be maintained. The foundations will need to be shifted closer to the roadway in order to minimize the impacts to the existing drainage, which will require guardrail design modifications. Depending on the size of the footing required, modifications to the existing drainage systems may be required.

- Drainage Modifications:

- The proposed OHSS foundation at Sta. 1980+00, Lt. and Rt. appears to conflict with existing 18" RCP storm drains. CLD will modify the storm drain system in this area to accommodate the new proposed structure footing. Additional coordination may be necessary depending on the size of the footing required for the OHSS, and will be noted in further submission efforts.
- The proposed OHSS foundation at Sta. 1961+00, Rt. will require re-grading of an additional 400 feet of ditch due to the extension of proposed guardrail. The closed storm drain system will be modified in this area to accommodate the shift in ditch location.
- Update storm drain modeling in Storm and Sanitary, plans, drainage notes, quantities, summary tables and the drainage report.

- Cross Section Updates:

- The addition of guardrail will necessitate re-grading the foreslopes and ditches at the approach to Sta. 1961+00, Rt. This affects approximately ten cross sections. Revisions will include addition and removal of guardrail, finished grade modifications, pavement and earthwork quantity updates, and changes to the ditch elevations.
- Approximately 8 cross sections in the vicinity of Sta. 1980+00 will be updated to reflect any necessary drainage relocations and the proposed overhead sign structure foundations.

- Signing Modifications: New sign packages were recommended by the Department to address the new traffic pattern. Effort will include the following:

- Coordinate with PB, who will develop new overhead sign details.

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- Update Sign Text Layout Sheet.
- Include additional Sign Detail Cross Section to account for the additional structure.
- Update signing quantities.

A1-7 : Kendall Pond Access Rd

CHA will refine the design of approximately 1500 LF of road to provide access to BMP 3558. This effort is beyond the scope of typical BMP access road designs, considering the length, resultant drainage requirements, and cross section development needs for both the mainline and access road. Alignment and Profile will be further developed and refined during the development of the PS&E submission. Design of the subject road will include the updating of BMP 3588, drainage systems, mainline cross-sections and general plans. CHA will provide the DOT with one progress plan set, which will be reviewed and commented on by DOT. An “Over the Shoulder” meeting will not be required to complete this work. At this time CHA will also update any other related plans, such as General Plans and cross-sections and incorporate into the PS&E submission. See the associated Fee Matrix for a detailed task list.

A1-8 : Direct Expenses – Misc. Tech. Services (Cost Plus Assignment)

Time period: December 1, 2014 to October 31, 2015

1) Public Website

CHA will provide standard application/web hosting features which include data storage, daily backup of data, site monitoring, maintenance, hardware, software, applicable upgrades and ongoing technical support for the www.rebuildingi93.com website and the mobile version thereof.

CHA will update/process construction alerts as needed so that email notifications are delivered to subscribers. CHA will update information as appropriate to include posting factsheets and newsletters, the milestones section, adding new construction/project photos, reviewing material on the website to remain current, updating the “What’s New” and “Favorites” sections, project schedule/graphics, and construction status/traffic updates. It is anticipated that updates to the website will be done on a bimonthly basis (every other month).

2) Traffic Management Plan (TMP)

CHA will work with the Department to collect, analyze and summarize data used in monitoring TMP activities, including the Incident Management activities that fall under the TMP. Efforts will include preparing summary documents, developing/updating current data collection spreadsheets, analyzing data (crash data, service patrol data, etc.). List of reports/deliverables

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and frequency of submissions:

- TMP Workgroup Meetings: CHA will prepare materials for and attend two meetings of the TMP Work Group and prepare meeting minutes.
- TSC Meetings: CHA will prepare materials for and attend four TSC meetings and prepare minutes.
- Service patrol: CHA will receive Service Patrol contact results from the Department and update summary charts on a quarterly basis to coincide with TSC meetings.
- Crash Data: CHA will review the crash data provided by Department's Bureau of Planning and Community Assistance and prepare an update of the I-93 Salem to Manchester, Summary of Crash Data.
- Town Incident Data: CHA will update data and graphics based on receipt of information from the towns. It is anticipated that two updates will be performed. One based on data through the end of 2014 and a second based on data through the end of June 2015.

3) Public Outreach

CHA will prepare material to provide the public with timely information about the project. Efforts will include developing newsletters and updating factsheets, developing of project graphics, distributing materials to local communities, gathering updated construction information and keeping information on the project website up to date.

Bimonthly (every other month) Updates

- Construction Updates: CHA, every other month, will continue to gather construction information from the active projects and update the construction status/traffic updates on the website and project fact sheets. As noted under Task 1, construction alerts will be sent to email update to subscribers as needed.
- Update ongoing construction project factsheets on a bimonthly basis based on construction activities.
- Website content will be reviewed on a bimonthly basis to ensure that existing materials are up to date and that current issues are being addressed.

Specific Deliverables include:

- Newsletters: Create two new newsletters – winter 2015 and summer 2015.
- Factsheets: Create updates to factsheets previously created for (13933H, 13933I, 14633B, 14633D, 14633I and 14633H).

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4) Financial Plan & Graphics

CHA will assist the Department with preparing the project financial plan annual update. Assistance will include preparation of graphics, development of spreadsheets for tracking/ projection of project costs. Based on input and data provided by the Department, CHA will prepare a draft Financial Plan update for the Department's review. Based on Department feedback CHA will finalize the Plan, and provide the Department with updated electronic files (Word documents, Excel spreadsheets and complete PDF version).

A1-9 : Wheeler Brook CLOMR/LOMR

Background

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) indicates a Zone AE Floodplain and Floodway for the subject stream (defined as Tributary O to Beaver Brook on the FIRM). Limits of detailed study and mapped boundaries of the Floodplain and Floodway extend to the downstream end of the existing 60" RCP crossing under I-93 at the Pillsbury Street (Ash Street) crossing. The project includes widening of I-93, filling in the upper extents of the Floodplain and Floodway, and extending the existing culvert down the median and under the new Northbound barrel of I-93.

A FEMA Letter of Map Change (LOMC) could be required to facilitate environmental approvals for the subject project. A Conditional application will need to be filed because this is a proposed construction project (vs. already built). It appears that this proposed improvement would not fall under the FEMA Conditional Letter of Map Revision-Fill (CLOMR-F) because the Floodway itself will be filled; therefore, a CLOMR will be required.

Forms need to certify that the downstream Floodplain and Floodway boundaries will not be affected or increased by the change. The upstream end of the brook beyond the culvert is not a mapped Floodplain or Floodway so there is not a FEMA restriction on the upstream effect of the project. However, there may be Town and/or NHDOT requirements for the upstream effects which are not included in this Scope of Work.

Hydrology and Hydraulics

The 2005 Rockingham County Flood Insurance Study (FIS) provides flow values at the Derry/Londonderry corporate limits for Tributary O; however, this is downstream from the I-93 crossing. Therefore, flow values in accordance with NHDOT accepted hydrologic methodologies will be prepared to support the proposed hydraulic analyses. In order to support the LOMC request to FEMA, hydraulic

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analyses in compliance with their regulations and submission requirements will be prepared. The original FEMA hydraulic modeling for this stream is anticipated to have been completed at the time of the Beaver Brook modeling, in 1985. The FEMA HEC-2 models for Tributary O will be obtained from FEMA in order to prepare the first required hydraulic models called “Duplicate Effective Model”, using the FIS published hydrologic flow values. This model will be prepared in HEC-RAS using the data from the 1985 HEC-2 model and obtaining water surface elevations within 0.5-feet of the published values. It is assumed that the model can be obtained and duplicated, and that there is no discrepancy between the published values and limits of the floodway / floodplain to actual current conditions.

Following correlation of the Duplicate Effective model, a “Corrected Effective Model” will be prepared using the CLD-calculated hydrologic flows. The “Post-project Conditions” model will be developed by modifying the “Corrected Effective Model” to adjust the data to incorporate the proposed fill and culvert extensions associated with the project. Following establishment of an initial HEC-RAS model, CHECK-RAS will be utilized to verify the validity of the various model parameters. It is anticipated that the analyses will be run for the 100-year and 500-year flood events (aka 1% and 0.2%-annual-chance flood events respectively), as well as the Floodway run.

Flood Mapping

Per FEMA requirements, the new mapping will entail a certified topographic map to include the boundaries of the 1% and 0.2%-annual-chance floodplains and regulatory floodway; location and alignment of all cross-sections with stationing control indicated; current community easements and boundaries; boundaries of the requester’s property (i.e., Right-of-Way); certification of a registered professional engineer registered in the subject State; location and description of reference marks and the referenced vertical datum (NGVD, NAVD, etc.).

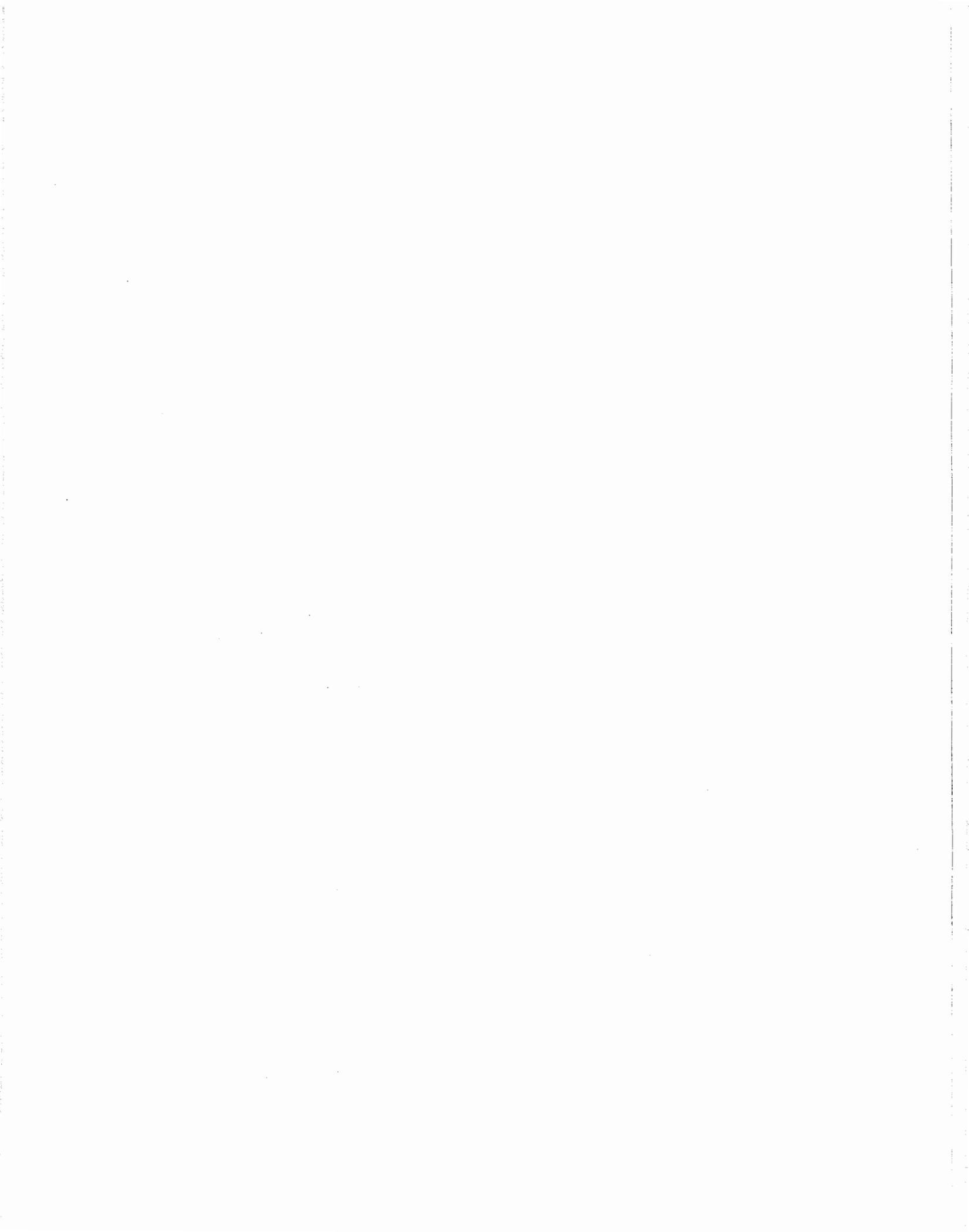
Deliverables

The Conditional Letter of Map Revision (CLOMR) application will be prepared for the subject location. The application will include the following materials:

- FEMA Overview and Concurrence Form MT-2
- FEMA Riverine Hydraulics and Hydrology Form 2 (*if new or revised discharges or water surface elevations*)
- FEMA Riverine Structures Form 3 (for culvert extension)
- Hydraulic Calculations (HEC-RAS and CHECK-RAS)
- Effective FIRM Panel 33015C0338E (*annotated to show the boundaries of the revised mapping that tie-in with the boundaries of the effective mapping at the upstream and downstream limits of the area of revision*)
- Certified Topographic Map for Revised FIRM Panel 33015C0338E

**I-93 Widening – North
Salem – Manchester 10418V
Amendment 1, Attachment A
9/8/2014**

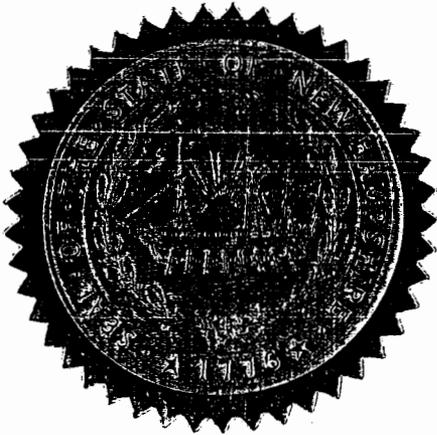
The draft CLOMR will be prepared for review and comment by the Department. Any comments from the review will be addressed and a revised draft CLOMR will be submitted to the Towns for comment. These comments will also be addressed and incorporated into a final CLOMR to be submitted to the Towns for forwarding to FEMA.



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 Parsons Brinckerhoff, Inc., a(n) New York corporation, is authorized to transact business in New Hampshire and qualified on June 20, 1977. I further certify that all fees and annual reports required by the Secretary of State's office have been received and that the attached is a true copy of the list of documents on file in this office.



In TESTIMONY WHEREOF, I hereto
set my hand and cause to be affixed
the Seal of the State of New Hampshire,
this 17th day of October, A.D. 2014

A handwritten signature in cursive script, appearing to read "William M. Gardner".

William M. Gardner
Secretary of State

PARSONS BRINCKERHOFF, INC.

ASSISTANT SECRETARY'S CERTIFICATE

I, Hillary F. Jassey, Assistant Secretary of Parsons Brinckerhoff, Inc. (the "Company"), do hereby certify on behalf of the Company and not in my individual capacity that on June 5, 2014 the Board of Directors of the Company adopted the following resolution:

"Resolved, that Richard O'Brien is hereby elected a Vice President of Parsons Brinckerhoff, Inc., to hold office, subject to the by-laws, until his successor is duly elected and qualified."

I further certify that the resolution has not been revoked, that as a Vice President of the Company, Richard O'Brien is authorized to sign the Agreement Amendment for Salem-Manchester, IM-IR-093(174), 10418-C (Northern Section – 2013 Contract) (Agreement Dated February 20, 2013, PO 4003160) between the Department of Transportation, State of New Hampshire and the Company.


Hillary F. Jassey
Assistant Secretary

October 15, 2014
Date



CERTIFICATE OF LIABILITY INSURANCE

10/1/2015

DATE (MM/DD/YYYY)

10/16/2014

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 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: Liberty Insurance Corporation		42404
INSURER B:		
INSURER C:		
INSURER D:		
INSURER E:		
INSURER F:		

COVERAGES PARBR02 **CERTIFICATE NUMBER:** 12132355 **REVISION NUMBER:** XXXXXXXX

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	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> CONTRACTUAL LIAB GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:	Y	N	TB7-621-094060-024	10/1/2014	10/1/2015	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 5,000,000 PRODUCTS - COMP/OP AGG \$ 5,000,000 \$
	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	N	N	AS7-621-094060-034	10/1/2014	10/1/2015	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$ XXXXXXXX
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX AGGREGATE \$ XXXXXXXX \$ XXXXXXXX
A	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY <input type="checkbox"/> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	WA7-62D-094060-014 (AOS) WC7-621-094060-044 (WI)	10/1/2014 10/1/2014	10/1/2015 10/1/2015	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 (PB #52625); I-93 SALEM/MANCHESTER; SALEM-MANCHESTER IM-IR-0931(174) 10418C (NORTHERN SECTION) (2013 CONTRACT). STATE OF NEW HAMPSHIRE IS ADDITIONALLY INSURED AS RESPECTS TO GENERAL LIABILITY, AS REQUIRED BY WRITTEN CONTRACT.

CERTIFICATE HOLDER 12132355 NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION JOHN O. MORTON BUILDING 7 HAZEN DRIVE P.O. BOX 483 CONCORD NH 03302	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 
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CERTIFICATE OF LIABILITY INSURANCE

11/1/2015

DATE (MM/DD/YYYY)
10/14/2014

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 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	
INSURED 1326709 PARSONS BRINCKERHOFF, INC. ONE PENN PLAZA NEW YORK NY 10119	INSURER A : Zurich American Insurance Company	
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES PARBR02 **CERTIFICATE NUMBER:** 12132359 **REVISION NUMBER:** XXXXXXXX

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 <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER: _____			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX DAMAGE TO RENTED PREMISES (Ea occurrence) \$ XXXXXXXX MED EXP (Any one person) \$ XXXXXXXX PERSONAL & ADV INJURY \$ XXXXXXXX GENERAL AGGREGATE \$ XXXXXXXX PRODUCTS - COMP/OP AGG \$ XXXXXXXX \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident) \$ XXXXXXXX BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$
	UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX AGGREGATE \$ XXXXXXXX \$ XXXXXXXX
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			NOT APPLICABLE			PER STATUTE OTH-ER E.L. EACH ACCIDENT \$ XXXXXXXX E.L. DISEASE - EA EMPLOYEE \$ XXXXXXXX E.L. DISEASE - POLICY LIMIT \$ XXXXXXXX
A	PROFESSIONAL LIABILITY	N	N	EOC587103611	11/1/2014	11/1/2015	\$2,000,000 PER CLAIM \$2,000,000 AGGREGATE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 (PB #52625); I-93 SALEM0MANCHESTER; SALEM-MANCHESTER IM-IR-0931(174) 10418C (NORTHERN SECTION) (2013 CONTRACT). \$75,000 DEDUCTIBLE APPLIES.

CERTIFICATE HOLDER 12132359 NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION JOHN O. MORTON BUILDING 7 HAZEN DRIVE P.O. BOX 483 CONCORD NH 03302	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 
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THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



#88

CHRISTOPHER D. CLEMENT, SR.
COMMISSIONER

JEFF BRILLHART, P.E.
ASSISTANT COMMISSIONER

Bureau of Highway Design
January 4, 2013

Her Excellency, Governor Margaret Wood Hassan
and the Honorable Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the Department of Transportation to enter into an Agreement with Parsons Brinckerhoff, Inc., New York, NY, and Manchester, NH, Vendor #164158, for a total fee not to exceed \$9,358,904.06, to complete the final design of the roadway and bridges comprising the northern section of the Salem-Manchester I-93 improvement project beginning in the Town of Windham and ending in the City of Manchester, effective upon Governor and Council approval, through February-28, 2018. 100% Other Funds.

Funding is available as follows:

04-96-96-963515-1843 FY 2013
Garvee I-93 Construction Project
046-500463 Eng Consultants Non-Benefit \$9,358,904.06

EXPLANATION

This project, Salem-Manchester 10418V (Northern Design Section), begins in the vicinity of the existing weigh stations located approximately one mile south of North Lowell Road in the Town of Windham and runs northerly approximately twelve miles to the I-93/I-293 split in the City of Manchester. The above limits exclude a segment in the Town of Londonderry in the vicinity of Exit 5 that is currently under construction. Funding for this design effort is currently included in the State's Ten-Year Transportation Improvement Plan.

The Department requires professional engineering design and environmental consultant services to complete the final design for the five (5) individual construction projects by preparing contract plans, specifications, special provisions, estimates of quantities and costs, right-of-way plans, and supplying construction support services. A previous 2005 final design services Agreement that was completed in 2011 brought the final design to an approximately 50% complete stage. At the time, given the funding uncertainties for constructing the remaining capacity improvements associated with this northern section, it was deemed prudent to delay pursuing the remaining design effort until needed. In addition to the typical final design tasks, this Agreement also includes Right-of-Way Acquisition services. More specifically, the Agreement includes: project management and coordination; public involvement and support; Right-of-Way procurement; calculation and documentation of environmental impacts; Phase III Archaeological Evaluations; sound wall evaluations; traffic capacity analysis and traffic demand management; drainage design, including pollutant loading and construction stormwater assessments; geotechnical services; river hydraulics with LOMR; utility relocation and coordination; traffic control for construction; constructability evaluations; CPM scheduling; in-depth cost estimating; and ITS accommodations. The intermediate completion date for the design services is October 31, 2015. The final completion date for the R.O.W. acquisition and construction support services is February 28, 2018.

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

Project Manager, the Administrators of the Bureaus of Highway Design, Bridge Design, Environment, and Materials and Research, and the Municipal Highways Engineer.

The consultant selection process for this qualifications-based contract was initiated by a solicitation for consultant services for preliminary engineering design and associated environmental services for the Salem-Manchester 10418C I-93 Improvements – North project. The assignment was listed as a "Project Soliciting for Interest" on the Department's website on December 9, 2011, 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 December 28, 2011 for consideration and approval by the Assistant Commissioner. Upon receipt of that approval, three shortlisted firms were notified on December 29, 2011 through a technical "Request For Proposal" (RFP). Committee members individually rated the firms on February 3, 2012 using a written ballot to score each firm on the basis of comprehension of the assignment, clarity of the proposal, capacity to perform in a timely manner, quality and experience of the project manager and the team, previous performance, and overall suitability for the assignment. (A compilation of the completed individual rating ballots and the ranking summary form is attached.) The individual rankings were then totaled to provide an overall ranking of the three firms, and the Committee's ranking was submitted to the Assistant Commissioner for consideration and approval. Upon receipt of that approval, the short listed firms were notified of the results and the highest-ranking firm was asked to submit a fee proposal for negotiations.

The long list of six (6) consultant firms that were considered for this assignment, with the three short-listed firms shown in bold, is as follows:

Consultant Firm

Office Location

The Louis Berger Group
 Fay, Spofford & Thorndike, LLC
 Maguire Group, Inc.
McFarland-Johnson, Inc.
Parsons Brinckerhoff, Inc.
Vanasse Hangen Brustlin, Inc.

Manchester, NH
 Bedford, NH
 Portsmouth, NH
Concord, NH
Manchester, NH
 Bedford, NH

The firm of Parsons Brinckerhoff, Inc. has been recommended for this contract. This firm has an excellent reputation and has demonstrated their capability to perform the necessary engineering and technical services for this assignment. Background information on this firm is attached.

Parsons Brinckerhoff, Inc. has agreed to furnish the required services for a total fee not to exceed \$9,358,904.06. This is a reasonable fee and is commensurate with the complexity of the project and the scope of engineering and technical services to be furnished.

Preliminary Engineering and Right-of -Way costs will be funded with 2012 Garvee Bond proceeds. Debt Service will be paid with 100% Federal funds at 80% reimbursement rate and 20% match using Turnpike Toll Credits.

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,

Christopher D. Clement, Sr.
 Commissioner

PROJECT: Salem-Manchester 10418C I-93 - Improvements - North

DESCRIPTION: Complete the final design of the roadway and bridges comprising the northern section of the I-93 improvement project beginning at the weigh stations in Windham and ending approximately 5000 feet north of Bodwell Road at the I-293 split in Manchester, including all associated ROW acquisitions and related services. The project involves the reconstruction and widening of approximately 12 miles of I-93 from two lanes of travel in each direction to four lanes of travel in each direction, and also includes interchange reconstruction. This effort will utilize, as a starting point, existing design work and plans that have been advanced to approximately the slope and drain phase for the mainline roadway design, and through preliminary design for the majority of the bridges. Existing contract breakouts will be advanced to final contract drawing stage and prepared for advertisement.

Services Required: RDWY, BRDG, ROW, HYD, ENV, TRAF, UTIL, ITS, ARCY, NOIS, GEOT, Project Management

SUMMARY

McFarland-Johnson, Inc.	3	3	3	3	3	3	3	21
Parsons Brinckerhoff, Inc.	2	1	1	2	1	1	2	10
Vanasse Hangen Brustlin, Inc.	1	2	2	1	2	2	1	11

EVALUATION OF TECHNICAL PROPOSALS

Rating Considerations	WEIGHT	Scoring of Firms		
		McFarland-Johnson, Inc.	Parsons Brinckerhoff, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	16	20	18
Clarity of the Proposal	20%	16	17	18
Capacity to Perform in a Timely Manner	20%	16	16	18
Quality & Experience of Project Manager/Team	20%	17	18	20
Previous Performance	10%	8	7	9
Overall Suitability for the Assignment*	10%	6	7	9
Total	100%	79	85	92

*Includes: Proximity to project; usage, quality and experience of subconsult municipalities or other third party.

- Ranking of Firms:
1. VHB
 2. PB
 3. MJ

Rating Considerations	WEIGHT	Scoring of Firms		
		McFarland-Johnson, Inc.	Parsons Brinckerhoff, Inc.	Vanasse Hangen Brustlin, Inc.
Comprehension of the Assignment	20%	19	20	19
Clarity of the Proposal	20%	17	19	18
Capacity to Perform in a Timely Manner	20%	16	20	17
Quality & Experience of Project Manager/Team	20%	19	20	20
Previous Performance	10%	8	10	9
Overall Suitability for the Assignment*	10%	9	10	9
Total	100%	90	99	92

*Includes: Proximity to project; usage, quality and experience of subconsult municipalities or other third party.

- Ranking of Firms:
1. PB
 2. VHB
 3. MJ

EVALUATION OF TECHNICAL PROPOSALS (continued)

Rating Considerations		Scoring of Firms		
		W E I G H T	McFarland-Johnson, Inc.	Parsons Brinckerhoff, Inc.
Comprehension of the Assignment	20%	16	20	19
Clarity of the Proposal	20%	12	15	14
Capacity to Perform in a Timely Manner	20%	12	18	18
Quality & Experience of Project Manager/Team	20%	18	14	18
Previous Performance	10%	8	9	9
Overall Suitability for the Assignment*	10%	8	9	9
Total	100%	86	94	92

*Includes: Proximity to project; usage, quality and experience of subconsult municipalities or other third party.

- Ranking of Firms:
1. *FPB*
 2. *VHB*
 3. *MTJ*

Rating Considerations		Scoring of Firms		
		W E I G H T	McFarland-Johnson, Inc.	Parsons Brinckerhoff, Inc.
Comprehension of the Assignment	20%	15	17	17
Clarity of the Proposal	20%	15	17	17
Capacity to Perform in a Timely Manner	20%	17	18	18
Quality & Experience of Project Manager/Team	20%	16	17	18
Previous Performance	10%	10	9	10
Overall Suitability for the Assignment*	10%	7	8	8
Total	100%	80	85	86

*Includes: Proximity to project; usage, quality and experience of subconsult municipalities or other third party.

- Ranking of Firms:
1. *Vanasse Hangen Brustlin Inc*
 2. *Parson Brinckerhoff, Inc*
 3. *McFarland-Johnson, Inc.*

Rating Considerations		Scoring of Firms		
		W E I G H T	McFarland-Johnson, Inc.	Parsons Brinckerhoff, Inc.
Comprehension of the Assignment	20%	16	20	18
Clarity of the Proposal	20%	18	18	18
Capacity to Perform in a Timely Manner	20%	18	20	18
Quality & Experience of Project Manager/Team	20%	18	20	18
Previous Performance	10%	10	8	10
Overall Suitability for the Assignment*	10%	8	10	8
Total	100%	88	96	90

*Includes: Proximity to project; usage, quality and experience of subconsult municipalities or other third party.

- Ranking of Firms:
1. *PB*
 2. *VHB*
 3. *MTJ*

Rating Considerations		Scoring of Firms		
		W E I G H T	McFarland-Johnson, Inc.	Parsons Brinckerhoff, Inc.
Comprehension of the Assignment	20%	15	20	18
Clarity of the Proposal	20%	14	18	18
Capacity to Perform in a Timely Manner	20%	18	18	17
Quality & Experience of Project Manager/Team	20%	18	20	20
Previous Performance	10%	7	10	7
Overall Suitability for the Assignment*	10%	7	10	7
Total	100%	81	94	89

*Includes: Proximity to project; usage, quality and experience of subconsult municipalities or other third party.

- Ranking of Firms:
1. *PB*
 2. *VHB*
 3. *MTJ*

Rating Considerations		Scoring of Firms		
		W E I G H T	McFarland-Johnson, Inc.	Parsons Brinckerhoff, Inc.
Comprehension of the Assignment	20%	17	19	18
Clarity of the Proposal	20%	17	19	19
Capacity to Perform in a Timely Manner	20%	16	18	20
Quality & Experience of Project Manager/Team	20%	18	18	19
Previous Performance	10%	8	8	9
Overall Suitability for the Assignment*	10%	7	9	9
Total	100%	83	91	91

*Includes: Proximity to project; usage, quality and experience of subconsult municipalities or other third party.

- Ranking of Firms:
1. *VHB*
 2. *PB*
 3. *MTJ*

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)
n/a

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME Parsons Brinckerhoff, Inc.			3. YEAR ESTABLISHED Boston Office - 1966	4. DUNS NUMBER 07-638-9421
2b. STREET 75 Arlington Street, 9th Floor 650 Elm Street			5. OWNERSHIP <i>11-8-12</i>	
2c. CITY Boston Manchester			2d. STATE MA NH	2e. ZIP CODE 02116 03101
6a. POINT OF CONTACT NAME AND TITLE Richard F. O'Brien, Vice President, Area Manager -- 617 428 7330 Robert D. Klimm, Manchester Office Manager -- 603 647 2012			7. NAME OF FIRM (If block 2a is a branch office) Parsons Brinckerhoff, Inc.	
8b. TELEPHONE NUMBER (see 6a above)		8c. EMAIL ADDRESS Obrien@pbworld.com Klimm@pbworld.com		
8a. FORMER FIRM NAME(S) (If any) PB Americas, Inc. Parsons Brinckerhoff Quade & Douglas, Inc.			8b. YR. ESTABLISHED 1885	8c. DUNS NUMBER 07-536-9421

9. EMPLOYEES BY DISCIPLINE

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

a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (See below)
		(1) FIRM	(2) BRANCH (B-Boston) (M-Manchester)			
01	Acoustical Engineer	24	(B) 2	A06	Airports; Terminals and Hangers; Freight Handling	6
08	Architect	375	(B) 8	B02	Bridges	6
08	CADD Technician	885	(B) 17 (M) 2	D01	Dams (Concrete; Arch)	4
12	Civil Engineer	1817	(B) 47 (M) 4	D02	Dams (Earth; Rock); Dikes; Levees	4
16	Construction Inspector	490	(B) 2	E02	Educational Facilities; Classrooms	4
16	Construction Manager	470	(B) 9 (M) 1	E09	Environmental Impact Studies; Assessments or	4
21	Electrical Engineer	817	(B) 15	G01	Garages; Vehicle Maintenance Facilities; Parking	4
24	Environmental Scientist	430	(B) 2	H01	Harbors; Jetties; Piers; Ship Terminal Facilities	4
27	Foundation/Geotech Eng.	229	(B) 3	H04	Heating; Ventilating; Air Conditioning	3
30	Geologist	38	(B) 1	H07	Highways; Streets; Airfield Paving; Parking Lots	6
34	Hydrologist	46	(B) 1	L03	Landscape Architecture	3
42	Mechanical Engineer	975	(B) 10	P05	Planning (Community, Regional, Area wide and State)	4
47	Planner: Urban / Regional	261	(B) 3	P08	Planning (Site, Installation, and Project)	4
63	Scheduler/Project Controls	89	(B) 8 (M) 1	P12	Power Generation, Transmission, Distribution	6
67	Structural Engineer	726	(B) 20 (M) 4	R03	Railroad; Rapid Transit	6
60	Transportation Engineer	674	(B) 4 (M) 2	S05	Soils & Geologic Studies; Foundations	6
62	Water Resources Engineer	195	(B) 2 (M) 1	T09	Traffic and Transportation Engineering	4
	Engineering Designers	60	(B) 2	T06	Tunnels & Subways	6
	Econ/Financial Analysts	70	(B) 3	W03	Water Supply; Treatment and Distribution	4
	Estimators	60	(B) 6			
	Other Employees	6484	(B) 29 (M) 1			
	Total	14,016	(B) 191 (M) 16			

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

a. Federal Work	4
b. Non-Federal Work	9
c. Total Work	9

- PROFESSIONAL SERVICES REVENUE INDEX BY 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 <i>Richard F. O'Brien</i>	b. DATE November 1, 2012
c. NAME AND TITLE Richard F. O'Brien, Vice President, Area Manager	