Amendment to Professional Services Agreement – See Attached Exhibit Amendment 7 Attachments A and B

Description of Amendment

1. Engineer shall perform Professional Services for the fees shown as provided in the detailed proposal and scope entitled Amendment 7 Attachments A and B.

2. All other terms and conditions of the Agreement dated July 26, 2017 for New French Broad River Intake shall remain in full force and effect.

3. Payment for the services described in Amendment 7 Attachments A and B will be at the rates provided in the Amendment 7 Attachments A and B and shall not exceed $255,733.00.

The Effective Date of this Amendment is _____.

OWNER: City of Hendersonville	ENGINEER: Black & Veatch International Company
By: _____	By: _____
Title: _____	Title: _____
Date Signed: _____	Date Signed: _____

I hereby certify that this contract has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

_____ _____

Finance Director Date

AMENDMENT 7
ATTACHMENT A
SCOPE OF SERVICES

Project: French Broad River Intake and Pumping Station

Project Description

The French Broad River Intake and Pumping Station project (Project) generally consists of the construction of intake, pumping station, and connection to existing 30" raw water transmission main to supply raw water to the City of Hendersonville Water Treatment Plant. The intake is located on the bank of the French Broad River and includes raw water screening, micro-pile supported foundation, and pipe/sheet pile bank stabilization and erosion protection system. Amendment 5, effective Date January 7, 2021, identified the scope of construction phase services and schedule (April 2021 to December 2022) anticipated for the project. The Owner received Bids on January 14, 2021 and decided to reject all bids and conduct a Value Engineering exercise in an attempt to reduce cost. The project was rebid on October 14, 2021 and the low bid was accepted. As part of the Value Engineering process the construction schedule for the project was extended from 20 months to 26 months. This will result in additional effort for project management and administration, monthly progress meetings, site visits, RPR observation time and Specialty Inspections for the additional 6 months of construction time.

Resident Field Observation

In Amendment 5, Section B Resident Field Observation budgeted RPR duties for a 16-month (70 Week) timeframe. The additional construction period will increase the period of RPR services to 22 months (95 weeks), or an additional 25 weeks of RPR duties for both the Senior RPR employed by Engineer at one (1) site visit site for one (1) day every other week, and the subconsultant RPR at an average of 20 hours per week (Not to exceed 500 additional hours) plus subconsultant expenses.

Materials Testing and Inspections: Engineer has included an allowance of $65,500.00 for the testing services identified below. Costs above this allowance will be provided as a Supplemental Service. Through a subcontract with S&ME, the Engineer will provide the services of a part-time materials testing and inspection subconsultant to perform materials testing and specialty inspection services during construction. Scope of services may include:

A. Subgrade Evaluations:

Services will consist of an evaluation of the subgrade soils prior to proceeding with:

- Site grading activities in proposed building and pavement areas; and
- Aggregate base course stone placement in proposed building slab and pavement areas.

Services will consist of visually evaluating subgrade soil conditions by proofrolling prior to fill placement or base course and construction of floor slabs to help identify soft/ unstable areas which pump, rut, or deflect under passage of construction equipment. The evaluation could also consist of test pit observations, probing, and/or hand auger borings supplemented with Dynamic Cone Penetrometer testing. These services will also include observation of undercutting of the existing fill in the building pad as planned and of the subgrade soils when necessary.

B. Engineered Fill Testing:

Services will consist of periodic classification and testing of compacted fill materials and continuous observations of materials used, lift thicknesses, and randomly performing field density tests to estimate the compaction of the fill placed in the following locations:

- Building pad areas;
- Roadways; and
- Utility line trenches.

Density testing will be performed by nuclear density gauge, drive tube, or sand cone methods. In addition, material tester will perform classification tests and standard Proctor (ASTM D698) moisture-density relationships on the different materials used as fill, as necessary.

C. Foundation Bearing Material Evaluation:

Services will consist of periodic visual observations of the foundation subgrade soils. The near-surface bearing materials will then be evaluated with hand auger borings and dynamic cone penetration (DCP) testing for adequate bearing capacity and consistency with the project documents. Recommendations for removal and replacement of loose or soft foundation bearing soils (where necessary) will be provided based on the DCP test results and engineering judgment.

D. Concrete Sampling and Testing:

Services during reinforced concrete construction will consist of the following (periodic unless otherwise noted):

- Sampling of fresh concrete for slump, air content, temperature and unit weight tests, and preparing 4”x8” laboratory-cured concrete specimens for concrete placed in at a frequency determined by the specifications.

E. Masonry Sampling and Testing:

Services during reinforced masonry construction will consist of the following (periodic unless otherwise noted):

- Sampling concrete masonry units for compressive strength testing at a frequency determined by the specifications.
- Sampling fresh grout for slump tests and preparing grout prisms for compressive strength testing at a frequency determined by the specifications.
- Sampling fresh mortar and preparing mortar cube samples for compressive strength testing at a frequency determined by the specifications.

F. Structural Steel/Aluminum Observations:

Services during structural steel, steel joist, metal decking, and aluminum structure construction will consist of the following:

- Collecting (from the general contractor, provided by the fabricator) material and welder certifications, and Certified Mill Test Reports for structural steel;
- Collecting (from the general contractor, provided by the fabricator) a Certificate of Compliance at the completion of the fabrication of structural steel (for steel fabricators that are AISC “approved”). If the project steel fabricator is not an AISC approved fabricator, then steel shop inspections may be required per the NC Building Code, but are excluded from this proposal;
- Periodic observations of high strength bolts, nuts, washers, and structural steel to observe that the materials used are as specified in the project documents;
- Evaluations of high strength bolting;
  - Full tension and/or slip critical connections require a continuous observation;
  - Bearing type and/or non-slip critical connections are a periodic observation;
- Evaluations of welding and reinforcing steel;
  - Continuous observation of partial and full penetration welds, multi pass fillet welds and fillet welds ≥ 5/16”;
  - Periodic observation of fillet welds < 5/16”; and
- Periodic observations of steel frame joint details and metal decking to observe compliance with approved construction documents;
- Material Verification of weld filler material;

- Liquid penetrant (PT), magnetic particle (MT), ultrasonic (UT), and radiographic testing of field welds, if required.

G. Pavement Construction Testing

a. Subgrade Evaluations:

Services will consist of visually evaluating subgrade soil conditions by proofrolling prior to preparation of concrete pavement areas to help identify soft / unstable areas which pump, rut, or deflect under passage of construction equipment. The evaluation could also consist of test pit observations, probing, and/or hand auger borings supplemented with Dynamic Cone Penetrometer testing. These services could include observations of undercutting or over-excavation of the subgrade soils and/or installation of stabilization layers.

b. Pavement Aggregate Base Course (ABC) Stone Testing:

Our services can consist of evaluating stone base thickness (by digging a test hole and measuring the depth with a tape measure) and performing nuclear or sand cone density tests to estimate the compaction of the material as outlined in the project specifications. In addition, Proctor moisture-density relationships can be performed on the aggregate base course, if required.

c. Concrete Pavement Testing Services

- Check batch tickets for the use of approved concrete mix designs.
- Prior to placement of concrete for pavements, our field representative can observe and document reinforcing steel for correct layout, size, support, cleanliness, and clearance with respect to the project plans and specifications.
- Sampling of fresh concrete for slump, air content, temperature and unit weight tests, and preparing 4”x8” laboratory-cured concrete specimens for concrete placed in at a frequency determined by the specifications.

H. Field Reports

Field reports will be prepared by subconsultant’s technicians and draft copies can be provided to the on-site representative daily if requested. Formal reports summarizing our test results will be distributed according to a project distribution list directed by the Owner after review.

I. Discrepancies

Discrepancies are defined as deviations of material, installation, fabrication, erection, or placement of components and connections from the project design drawings,

specifications, direction provided by the designers, or industry standards referenced in the project documents. A "deviation" identified and corrected in accordance with the design during the same shift under the observation of the same Special Inspector that identified the deviation will not be logged as a Discrepancy. If it is not corrected before the end of the shift, it will be logged as a Discrepancy.

A Discrepancy Notice will be prepared for each discrepancy on a standard form documenting the discrepancy and providing additional information. The Discrepancy Notice will be distributed to the project designer and construction team (typically the Contractor, Owner, Architect, SER, and Building Official).

J. Completion Report

At completion of the project, a Special Inspection Final Report can be issued indicating compliance of inspected items to the design documents to the best of the Special Inspectors' knowledge and belief. The Final Report will be signed and sealed by the Special Inspector Coordinator. The submittal is conditionally dependent on the previous scope of services being implemented and on all discrepancies having been resolved.

K. Excluded Services

Without attempting to provide a complete list of all services or potential services that will be excluded from this proposal, the following services are specifically excluded. Some of these services can be performed by S&ME if desired; however, a separate proposal for these services would be required.

- Directing of any contractor's or subcontractor's work.
- Any aspect of site safety other than safety of subconsultant's employees.
- Providing a conformance letter for any fill if our services are requested on a part-time basis.
- Special Inspections or Construction Materials Testing of construction items not listed above.
- Exterior Insulation and Finish Systems observations.
- Sedimentation and erosion control inspections.
- Surveying.
- X-Ray testing of welds is not anticipated to be required and is excluded from this scope.

AMENDMENT 7

ATTACHMENT B

Project: French Broad River Intake and Pumping Station

COMPENSATION

For the modified Scope of Services identified in Amendment 7 Attachment A, Owner will compensate Engineer a fee not-exceed $255,733.00 unless authorized by the Owner in writing. Engineer will invoice Owner in accordance with the attached Budget Estimate, plus reimbursable expenses times 1.0, plus subconsultant expenses times 1.10. The estimated cost of each phase of work is included in the Budget Estimate following this page. Owner agrees Engineer may alter the distribution of compensation between individual phases of the work noted herein to be consistent with services actually rendered, but not exceed the total amount unless approved in writing by the Owner. Standard hourly rates are subject to review and adjustment annually.

For Supplemental Services, City and Engineer will negotiate a written amendment to this Agreement for the additional services.

Engineer will submit to City invoices for Services performed over a monthly period. City agrees to pay Engineer's invoice upon receipt. Invoices will be in Engineer's standard format.

AMENDMENT 7 - ATTACHMENT B
Billing Rate Schedule

For the Scope of Services, Owner will compensate ENGINEER in accordance with the Bill Rate Schedule below, plus reimbursable expenses times 1.0, plus subconsultant expenses times 1.10. The maximum billed for these services shall not exceed the amount shown in the Task Order without further written approval from the Owner. Standard hourly rates are subject to review and adjustment annually. Hourly rates effective on the date of this Agreement are as follows:

HOURLY RATE SCHEDULE Effective through December 31, 2022	
Principal	$255-310
Sr. Planning Manager	$220-280
Sr. Project Manager	$220-280
Project Manager	$190-250
Sr. Engineering Manager	$225-295
Engineering Manager	$180-230
Sr. Engineer/ Planning Sr. Engineer	$185-290
Project Engineer	$155-210
Staff/Planning Engineer 4	$145-180
Staff/Planning Engineer 3	$135-170
Staff/Planning Engineer 2	$125-150
Staff/Planning Engineer 1	$100-135
Sr. Architect	$160-240
Architect	$140-190
Sr. Construction Manager	$175-240
Construction Manager	$150-190
Resident Project Representative	$120-180
Construction Inspector	$80-150
Technical Specialist	$170-280
Sr. Engineering Technician	$155-190
Engineering Technician	$105-155
Sr. Drafter	$95-150
Drafter	$80-120
Project Controls	$100-185
Finance/Accountant	$95-175
Project Administrator	$95-135
Clerical	$74-105

The following expenses are reimbursable work items and will be billed at cost: bulk reproduction of documents (outside reproduction services will be treated as a subconsultant); charges for review of drawings and specifications by government agencies, if any; vehicular transportation costs at the rate established by the Internal Revenue Service; airline tickets, meals, and lodging with out-of-town travel.

Owner: Hendersonville, City of

Project: New French Broad River Intake and Pumping Station A

PHASE/Task		Sr. Project Manager	Admin	Sr. Engineering Manager	Civil Engineer	Resident Project Representative	Electrical Engineer	Finance	Project Controls	HC Civil Sr. Engineer		SUBTOTAL, hours	SUBTOTAL, Billings $	SUBTOTAL, EXPENSES	SUBCON Ellum	S&ME	SUBTOTAL, SUBCONTRACTS	TOTAL Billings
(Billing Rate, $$,Hr.)		$260.00	$110.00	$240.00	$175.00	$155.00	$250.00	$130.00	$125.00	$235.00								
WORK BREAKDOWN STRUCTURE	**PHASE**																	
PROJECT ADMINISTRATION	4000	8	6	12	-	-	-	12	20	-		58	$ 9,680	$ 1,000			$ -	$ 10,680
		-	-	-	-	-	-	-	-	-		-	$ -	$ -			$ -	$ -
CONSTRUCTION ADMINISTRATION	4100	-	-	-	-	-	-	-	-	-		-	$ -	$ -			$ -	$ -
Submittal Review		-	-	3	15	-	-	-	-	-		18	$ 3,345	$ -			$ -	$ 3,345
Requests for Information		-	-	5	15	-	-	-	-	-		20	$ 3,825	$ -			$ -	$ 3,825
Contractor Schedule Review		-	-	-	5	-	-	-	12	-		17	$ 2,375	$ -			$ -	$ 2,375
Change Orders Management		2	-	2	8	-	-	-	-	-		12	$ 2,400	$ -			$ -	$ 2,400
		-	-	-	-	-	-	-	-	-		-	$ -	$ -			$ -	$ -
FIELD SUPPORT		-	-	-	-	-	-	-	-	-		-	$ -	$ -			$ -	$ -
Construction Progress Review Meetings		6	20	10	12	-	6	-	-	-		54	$ 9,760	$ 5,023			$ -	$ 14,783
Site Visits		6	-	-	26	-	9	-	-	-		41	$ 8,360	$ 5,000			$ -	$ 13,360
Specialty Inspections		-	-	-	-	24	-	-	-	12		36	$ 6,540	$ 2,000	$ 9,100		$ 10,010	$ 18,550
		-	-	-	-	-	-	-	-	-		-	$ -	$ -			$ -	$ -
		-	-	-	-	-	-	-	-	-		-	$ -	$ -			$ -	$ -
RESIDENT PROJECT REPRESENTATIVE		-	-	-	-	55	-	-	-	-		55	$ 8,525	$ 5,000	$ 80,000		$ 88,000	$ 101,525
MATERIALS TESTING SUBCONSULTANT		6	-	4	16	-	-	-	-	32		58	$ 12,840	$ -		$ 65,500	$ 72,050	$ 84,890
		-	-	-	-	-	-	-	-	-		-	$ -	$ -			$ -	$ -
	---	-	-	-	-	-	-	-	-	-		-	$ -	$ -			$ -	$ -
Total, Hours		**28**	**26**	**36**	**97**	**79**	**15**	**12**	**32**	**44**		**369**						
Total, Billings		**$ 7,280**	**$ 2,860**	**$ 8,640**	**$ 16,975**	**$ 12,245**	**$ 3,750**	**$ 1,560**	**$ 4,000**	**$ 10,340**			**$ 67,650**	**$ 18,023**	**$ 98,010**	**$ 72,050**	**$ 170,060**	**$ 255,733**