

**NORTH CAROLINA
BRUNSWICK COUNTY**

**PROFESSIONAL SERVICES AGREEMENT
FOR ENGINEERING SERVICES
(Mini-Brooks Act/Qualification Based Selection)**

THIS PROFESSIONAL SERVICES AGREEMENT (hereinafter referred to as the “Agreement”) is made and entered into by and between Brunswick County, a body politic and corporate of the State of North Carolina, (hereinafter referred to as “County” or “Owner”), party of the first part and McKim & Creed, Inc., (hereinafter referred to as “Provider” or “Engineer”), party of the second part.

WITNESSETH:

1. SERVICES; FEES

Provider agrees to perform the services (hereinafter referred to as the “Services”) in connection with the project (hereinafter referred to as the “Project”), as more fully set forth on Exhibit “A” and Exhibit “B” attached hereto.

Any exhibits or attachments referenced herein are hereby incorporated by reference and made a part of this Agreement. Any conflict between the language in an exhibit or attachment and the main body of this Agreement shall be resolved in favor of the main body of this Agreement.

2. TERM OF AGREEMENT; TIME OF COMPLETION

The term of this Agreement begins one (1) business day after approval by the Brunswick County Board of Commissioners (the “Effective Date”) and continues in effect for three (3) years, unless extended or sooner terminated as provided for herein or in the General Conditions of the Contract. Notwithstanding the foregoing, Provider shall complete the Services in accordance with the schedule set forth on Exhibit “B” (the “Time of Completion”), unless extended as provided for in the General Conditions of the Contract.

3. TERMINATION

County may terminate this Agreement at any time without cause by giving written notice to Provider. County may set the effective date of termination at a time up to thirty (30) days following notice to Provider to allow Provider ample time to complete tasks for which value would otherwise be lost, to prepare notes as to the status of completed and uncompleted tasks and/or to assemble Project materials in orderly files. As soon as practicable after receipt of a written notice of termination without cause, Provider shall submit a statement to County showing in detail the work performed under this Agreement through the effective date of termination. County may terminate this Agreement for cause by giving written notice of a breach of the Agreement. Provider shall have fifteen (15) days to cure the breach following receipt of the notification. Failure to cure the breach within the fifteen (15) days shall result in the immediate termination of the Agreement. Notwithstanding the foregoing, County may terminate this Agreement immediately and without notice to Provider if Provider becomes insolvent, makes or has made an

assignment for the benefit of creditors, is the subject of proceedings in voluntary or involuntary bankruptcy instituted on behalf of or against Provider, or has a receiver or trustee appointed for substantially all of its property, or if Provider allows any final judgment to stand against it unsatisfied for a period of forty-eight (48) hours.

4. BRUNSWICK COUNTY GENERAL CONDITIONS OF THE CONTRACT

This Agreement, in addition to any construction documents prepared hereunder, shall be subject to the Brunswick County, North Carolina General Conditions of the Contract (for construction contracts), unless County directs otherwise. In the event of a conflict between the General Conditions of the Contract and this Agreement, this Agreement shall prevail.

5. NONAPPROPRIATION

If the Board of County Commissioners does not appropriate the funding needed by County to make payments under this Agreement for a given fiscal year, County will not be obligated to pay amounts due beyond the end of the last fiscal year for which funds were appropriated. In such event, County will promptly notify Provider of the non-appropriation and this Agreement will be terminated at the end of the last fiscal year for which funds were appropriated. No act or omission by County which is attributable to non-appropriation of funds shall constitute a breach of or default under this Agreement.

6. COMPENSATION

County agrees to pay Provider as specified in the Exhibits attached hereto or as set out above for the Services satisfactorily performed in accordance with this Agreement. Unless otherwise specified, Provider shall submit monthly invoices to County and include detail of all Services delivered or performed under the terms of this Agreement. County shall pay all undisputed and properly completed invoices within forty-five (45) days of receipt. Notwithstanding the foregoing, County will not pay late fees on any charges under this Agreement. If County disputes any portion of the charges on any invoice received from Provider, County shall inform Provider in writing of the disputed charges. Once the dispute has been resolved, Provider shall re-invoice County for the previously disputed charges, and, per any resolution between County and Provider, County shall pay those charges in full at that time. No advance payment shall be made for the Services to be performed by Provider under this Agreement.

7. INDEPENDENT CONTRACTOR

Both County and Provider agree that Provider shall act as an independent contractor and shall not represent itself as an agent or employee of County for any purpose in the performance of its duties under this Agreement. Provider represents that it has or will secure, at its own expense, all personnel required in performing the Services under this Agreement. Accordingly, Provider shall be responsible for payment of all federal, state and local taxes arising out of its activities in accordance with this Agreement, including, without limitation, federal and state income tax, social security tax, unemployment insurance taxes and any other taxes or business license fees as required. Provider shall not be entitled to participate in any plans, arrangements or distributions by County

pertaining to or in connection with any pension, stock, bonus, profit sharing or other benefit extended to County employees.

In the event the Internal Revenue Service should determine that Provider is, according to Internal Revenue Service guidelines, an employee subject to withholding and social security contributions, then Provider hereby acknowledges that all payments hereunder are gross payments, and Provider is responsible for all income taxes and social security payments thereon.

8. OPINIONS OF COST

If applicable, Provider shall provide opinions of probable construction costs, including but not limited to, designer fees, costs of construction, costs of equipment, furnishings, signage, permit fees and appropriate contingencies, at Project intervals determined by County. Such opinions of costs shall be representative of Provider's best judgment as an experienced and qualified professional generally familiar with the construction industry. The parties acknowledge that actual bids, proposals and costs may vary from Provider's opinions of costs based on the cost of labor, materials, equipment or services furnished by others, differing methods for determining prices, competitive bidding or other market conditions. When requested by County, Provider shall participate in rebidding, renegotiation and design adjustments to the extent such are necessary to reduce Project costs. Such services shall be performed by Provider without additional compensation.

9. ACCOUNTING RECORDS

Provider shall maintain accounting records in accordance with generally accepted accounting practices and shall make such records available for inspection by County upon reasonable request and during normal business hours for a period of three (3) years following completion of the Services.

10. PERMITS AND APPROVALS

Provider shall provide County with a schedule of all required approvals and the dates by which application for such approvals must be made in order to avoid any risk of delay to the Project. Provider shall prepare the necessary application forms, present documents requiring approval by County and submit documents with County approval to appropriate federal, state and local government or other agencies in a timely manner.

11. ENVIRONMENTAL CONDITIONS

County shall disclose to Provider the existence of all known and suspected hazardous substances, including, without limitation: asbestos; polychlorinated biphenyls (PCBs); petroleum; hazardous waste; or radioactive material located at or near the site where the Services are to be performed. If Provider discovers any undisclosed hazardous substances, or if investigative or remedial action or other professional services are necessary, Provider may, at its option and without liability for damages, suspend performance of the Services hereunder until County: (1) retains an appropriate specialist consultant or contractor to identify and, as appropriate, abate,

remediate or remove the hazardous substances; and (2) warrants that the site where the Services are to be performed are in full compliance with applicable laws and regulations. Notwithstanding the foregoing, if the presence of any hazardous materials adversely affects the performance of Provider's duties under this Agreement, then Provider shall have the option of: (1) accepting an equitable adjustment in its compensation or in the time of completion, or both; or (2) terminating this Agreement for cause upon thirty (30) days' written notice to County.

12. PROVIDER REPRESENTATIONS

- (1) Provider is a duly organized entity or corporation qualified to do business and in good standing under the laws of the State of North Carolina;
- (2) Provider has all requisite corporate power and authority to execute, deliver and perform its obligations under this Agreement;
- (3) No approval, authorization or consent of any governmental or regulatory authority is required to be obtained or made by it in order for Provider to enter into and perform its obligations under this Agreement;
- (4) In connection with Provider's obligations under this Agreement, it shall comply with all applicable federal, state and local laws and regulations and shall obtain all applicable permits and licenses;
- (5) Provider shall not violate any agreement with any third party by entering into or performing the Services under this Agreement;
- (6) Provider has not engaged in corrupt, fraudulent or coercive practices in competing for or executing this Agreement;
- (7) Provider will perform all Services in conformity with the specifications and requirements of this Agreement;
- (8) The Services provided by Provider under this Agreement will not violate, infringe or misappropriate any patent, copyright, trademark or trade secret rights of any third party, or any other third-party rights (including, without limitation, non-compete agreements);
- (9) Provider shall exercise reasonable care and diligence when performing the Services hereunder and will ensure that it adheres to the highest generally accepted standards in the industry when performing said Services;
- (10) Provider shall be responsible for all errors, omissions or deficiencies in technical accuracy in any drawings, specifications or other documents prepared or services rendered by Provider, its subcontractors or consultants and shall correct, at no additional cost to County, any and all errors, omissions, discrepancies, ambiguities, mistakes, deficiencies or conflicts;

- (11) Provider acknowledges that if any specific licenses, certifications or related credentials are required in its performance of the Services, it will ensure that such credentials remain current and active and not in a state of suspension or revocation; and
- (12) Provider shall ensure that whenever its employees or agents are on County property, they will strictly abide by all instructions and directions issued by County with respect to rules, regulations, policies and security procedures applicable to work on County's premises. Such rules, regulations, policies and security procedures shall include, but not be limited to: (i) not possessing any controlled substances; (ii) smoking only in designated smoking areas, if any; and (iii) not possessing weapons, except for weapons possessed by law enforcement officials.

13. DAMAGE TO EQUIPMENT, FACILITIES, PROPERTY OR DATA

Provider shall be solely responsible for any damage to or loss of County's equipment, facilities, property and/or data arising out of the negligent or willful act or omission of Provider or its subcontractors or consultants. In the event that Provider causes damage to County's equipment or facilities, Provider shall, at its own expense, promptly repair or replace such damaged items to restore them to the same level of functionality that they possessed prior to such damage.

14. NON-ENDORSEMENT AND PUBLICITY

County is not endorsing Provider or its Services, and Provider is not permitted to reference this Agreement or County in any manner without the prior written consent of County. Notwithstanding the foregoing, the parties agree that Provider may list County as a reference in response to requests for proposals and may identify County as a customer in presentations to potential customers.

15. NON-EXCLUSIVITY

Provider acknowledges that County is not obligated to contract solely with Provider for the Services covered under this Agreement.

16. DIVESTMENT FROM COMPANIES THAT BOYCOTT ISRAEL

Provider hereby certifies that it has not been designated by the North Carolina State Treasurer as a company engaged in the boycott of Israel pursuant to N.C.G.S. § 147-86.81.

17. DEBARMENT

Provider hereby certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this Agreement by any governmental department or agency. Provider must notify County within thirty (30) days if debarred by any governmental entity during this Agreement.

18. INDEMNIFICATION

Provider shall indemnify and hold harmless County, its officers, officials, agents and employees from and against all actions, liability, claims, suits, damages, costs or expenses of any kind (collectively, "Claims") which may be brought or made against County or which County must pay and incur arising out of this Agreement should fault or negligence on the part of Provider or its subcontractors or consultants be the proximate cause of such Claims. Provider shall be fully responsible to County for the acts and omissions of its subcontractors or consultants and of persons either directly or indirectly employed by it. This Section shall survive any expiration or termination of this Agreement.

19. INSURANCE

Provider shall procure and maintain in full force and effect at all times and at its sole cost and expense, and shall ensure that any of its consultants maintains in full force and effect at all times and at its sole cost and expense, Commercial General Liability, Commercial Automobile Liability, Professional Liability and Workers' Compensation insurance, if applicable, and any additional insurance as may be required by County with limits acceptable to County. All insurance policies (with the exception of Workers' Compensation, if applicable, and Professional Liability) shall be endorsed, specifically or generally, to include County as an additional insured and as a certificate holder. Provider shall furnish a Certificate of Insurance from a licensed insurance agent in North Carolina with a rating of A-VII or better by A.M. Best verifying the existence of any insurance coverage required by County. The Certificate will provide for thirty (30) days' advance notice in the event of termination or cancellation of coverage. Provider shall have no right of recovery or subrogation against County (including its officers, agents and employees), it being the intention of the parties that the insurance policies so affected shall protect both parties and be primary coverage for any and all losses covered by the aforementioned insurance.

20. WORKERS' COMPENSATION

To the extent required by law, Provider shall comply with the North Carolina Workers' Compensation Act and shall provide for the payment of workers' compensation to its employees in the manner and to the extent required by such Act. In the event Provider is excluded from the requirements of such Act and does not voluntarily carry workers' compensation coverage, Provider shall carry or cause its employees to carry adequate medical/accident insurance to cover any injuries sustained by its employees or agents while fulfilling Provider's obligations under this Agreement.

Provider agrees to furnish County proof of compliance with said Act or adequate medical/accident insurance coverage upon request.

21. REMEDIES

- (1) **RIGHT TO COVER.** If Provider fails to meet any completion date or resolution time set forth, due to no fault of County, County may take any of the following actions with

or without terminating this Agreement, and in addition to, and without limiting, any other remedies it may have:

- i. Employ such means as it may deem advisable and appropriate to perform itself or obtain the Services from a third party until the matter is resolved and Provider is again able to resume performance under this Agreement; and
- ii. Deduct any and all expenses incurred by County in obtaining or performing the Services from any money then due or to become due Provider and, should County's cost of obtaining or performing the Services exceed the amount due Provider, collect the amount due from Provider.

(2) **RIGHT TO WITHHOLD PAYMENT.** County reserves the right to withhold any portion, or all, of a scheduled payment if Provider fails to perform under this Agreement until such breach has been fully cured.

(3) **SETOFF.** Each party shall be entitled to set off and deduct from any amounts owed to the other party pursuant to this Agreement all damages and expenses incurred or reasonably anticipated as a result of the other party's breach of this Agreement.

(4) **OTHER REMEDIES.** Upon breach of this Agreement, each party may seek all legal and equitable remedies to which it is entitled. The remedies set forth herein shall be deemed cumulative and not exclusive and may be exercised successively or concurrently in addition to any other available remedy.

(5) **NO SUSPENSION.** In the event that County disputes in good faith an allegation of breach by Provider, notwithstanding anything to the contrary in this Agreement, Provider agrees that it will not terminate this Agreement or suspend or limit any Services or warranties, unless: (i) the parties agree in writing; or (ii) an order of a court of competent jurisdiction determines otherwise; provided, however, this dispute period shall be limited to ninety (90) days.

22. TAXES

Provider shall be responsible for paying all taxes, fees, assessments and premiums of any kind payable on its employees and operations. Provider shall substantiate, on demand by County, that all taxes and other charges are being properly paid.

23. HEALTH AND SAFETY

Provider shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with performing the Services. Provider shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees in connection with performing the Services and other persons who may be affected thereby.

24. NON-DISCRIMINATION IN EMPLOYMENT

Provider shall not discriminate against any employee or applicant for employment because of race, ethnicity, gender, gender identity, sexual orientation, age, religion, national origin, disability, color, ancestry, citizenship, genetic information, political affiliation or military/veteran status, or any other status protected by federal, state or local law or other unlawful form of discrimination. Provider shall take affirmative action to ensure that applicants are employed and that employees are treated fairly during employment. In the event Provider is determined by the final order of an appropriate agency or court of competent jurisdiction to be in violation of any non-discrimination provision of federal, state or local law or this provision, this Agreement may be cancelled, terminated or suspended in whole or in part by County, and Provider may be declared ineligible for further County agreements.

25. COMPLIANCE WITH E-VERIFY PROGRAM

Pursuant to N.C.G.S. § 143-133.3, Provider understands that it is a requirement of this Agreement that Provider and its subcontractors or consultants must comply with the provisions of Article 2 of Chapter 64 of the North Carolina General Statutes. In doing so, Provider agrees that, unless it is exempt by law, it shall verify the work authorization of its employees utilizing the federal E-Verify program and standards as promulgated and operated by the United States Department of Homeland Security, and Provider shall require its subcontractors and consultants to do the same. Upon request, Provider agrees to provide County with an affidavit of compliance or exemption.

26. CONFIDENTIAL INFORMATION

For purposes of this Agreement, the party disclosing Confidential Information is the “Discloser,” and the party receiving Confidential Information is the “Recipient.” “Confidential Information” shall mean any nonpublic information concerning the parties’ respective businesses including, but not limited to, all tangible, intangible, visual, electronic, present or future information such as: (a) trade secrets; (b) financial information, including pricing; (c) technical information, including research, development, procedures, algorithms, data, designs and know-how; (d) business information, including operations, planning, marketing interests and products; and (e) the terms of any agreement between the parties and the discussions, negotiations and proposals related thereto. Confidential Information disclosed to the other party must be clearly identified. Written Confidential Information must be clearly marked in a conspicuous place with an appropriate legend identifying the information as “Confidential.” Confidential Information that is not written must be identified as confidential at the time of disclosure and confirmed in writing delivered to Recipient within fifteen (15) days of disclosure.

The restrictions regarding the use and disclosure of Confidential Information do not apply to information that is:

- a. in the public domain through no fault of the Recipient;

- b. within the legitimate possession of the Recipient, with no confidentiality obligations to a third party;
- c. lawfully received from a third party having rights in the information without restriction, and without notice of any restriction against its further disclosure;
- d. independently developed by the Recipient without breaching this Agreement or by parties who have not had, either directly or indirectly, access to or knowledge of the Confidential Information;
- e. disclosed with the prior written consent of the Discloser; or
- f. required to be disclosed by law, regulation or court or governmental order, specifically including requests pursuant to the Public Records Laws of North Carolina contained in Chapter 132 of the North Carolina General Statutes. In the event Recipient receives such a request, it shall notify Discloser and Discloser shall have the opportunity to defend against production of such records at Discloser's sole expense.

27. OWNERSHIP OF WORK PRODUCT

- (1) All work product created by Provider pursuant to this Agreement, including, without limitation, design drawings, construction documents, photographs and models and any derivative works and compilations, and whether or not such work product is considered a "work made for hire" or an employment to invent (hereinafter referred to collectively as "Work Product") shall be the exclusive property of County. County and Provider agree that such original works of authorship are "works made for hire" of which County is the author within the meaning of the United States Copyright Act. To the extent that County is not the owner of the intellectual property rights in and to such Work Product, Provider hereby irrevocably assigns to County any and all of its rights, title and interest in and to all original Work Product created pursuant to this Agreement, whether arising from copyright, patent, trademark, trade secret or any other state or federal intellectual property law or doctrine. Upon County's request, Provider shall execute such further documents and instruments or obtain such documents from third parties, including consultants and subcontractors, if applicable, necessary to fully vest such rights in County. Provider forever waives any and all rights relating to original Work Product created pursuant to this Agreement, including without limitation, any and all rights arising under 17 U.S.C. § 106A or any other rights of identification of authorship or rights of approval, restriction or limitation on use or subsequent modifications.
- (2) In the event the use of any of Provider's intellectual property, including any derivative work created with the use of third-party intellectual property, is necessary for the use of any Work Product, Provider hereby grants to County an irrevocable, non-exclusive, non-transferable, perpetual, royalty-free license to use the intellectual property for the purposes set forth in this Agreement and will ensure that any third-party grants the same.

- (3) County may use Work Product for any other purpose and on any other project without additional compensation to Provider. Notwithstanding the foregoing, the use of Work Product by County for any purpose other than as set forth in this Agreement shall be at County's risk.

28. NO ASSIGNMENT WITHOUT CONSENT

Neither party shall assign this Agreement (or assign any right or delegate any obligation contained herein whether such assignment is of service, of payment or otherwise) without the prior written consent of the other party hereto. Any such assignment without the prior written consent of the other party hereto shall be void. An assignee shall acquire no rights, and County shall not recognize any assignment in violation of this provision.

29. GOVERNING LAW AND VENUE

This Agreement shall be governed by applicable federal law and by the laws of the State of North Carolina without regard for its choice of law provisions. All actions relating in any way to this Agreement shall be brought in the General Court of Justice of the State of North Carolina in Brunswick County or in the Federal District Court for the Eastern District of North Carolina, Wilmington division.

30. DISPUTE RESOLUTION

Should a dispute arise as to the terms of this Agreement, both parties agree that neither may initiate binding arbitration. The parties may agree to non-binding mediation of any dispute prior to the bringing of any suit or action.

31. GOVERNMENTAL IMMUNITY

County, to the extent applicable, does not waive its governmental immunity by entering into this Agreement and fully retains all immunities and defenses provided by law with regard to any action based on this Agreement.

32. NON-WAIVER

Failure by County at any time to require the performance by Provider of any of the provisions of this Agreement shall in no way affect County's right hereunder to enforce the same, nor shall any waiver by County of any breach be held to be a waiver of any succeeding breach or a waiver of this Section.

33. ENTIRE AGREEMENT

This Agreement constitutes the entire agreement between the parties with respect to the subject matter herein. There are no other representations, understandings or agreements between the parties with respect to such subject matter. This Agreement supersedes all prior agreements, negotiations, representations and proposals, written or oral. Notwithstanding the foregoing, all documents included in the Request for Qualifications and the qualifications statement submitted

by Provider, if applicable, including, but not necessarily limited to: General Conditions; Supplementary General Conditions; Scope of Work; Specifications; Addenda; Accepted Proposal; Notice to Proceed; Performance Bond; Payment Bond; MBE forms; Power of Attorney; Insurance Certificates; Approval by County Commissioners; Tax Statement and Certification; Notice of Substantial Completion; Notice of Final Completion and Acceptance; and Drawings are incorporated herein by reference and made an integral part of this Agreement. To the extent the terms of such documents conflict with the terms of this Agreement, the terms of this Agreement shall prevail.

34. HEADINGS

The headings in this Agreement are for convenience of reference only and shall not define or limit any of the terms or provisions hereof.

35. SEVERABILITY

The invalidity of one or more of the phrases, sentences, clauses or sections contained in this Agreement shall not affect the validity of the remaining portion of the Agreement so long as the material purposes of this Agreement can be determined and effectuated. If a provision of this Agreement is held to be unenforceable, then both parties shall be relieved of all obligations arising under such provision, but only to the extent that such provision is unenforceable, and this Agreement shall be deemed amended by modifying such provision to the extent necessary to make it enforceable while preserving its intent.

36. AMENDMENTS

No amendments or changes to this Agreement, or additional Proposals or Statements of Work, shall be valid unless in writing and signed by authorized agents of both Provider and County.

37. NOTICES

- (1) **DELIVERY OF NOTICES.** Any notice, consent or other communication required or contemplated by this Agreement shall be in writing, and shall be delivered in person, by U.S. mail, by overnight courier, by electronic mail or by facsimile to the intended recipient at the address set forth below.
- (2) **EFFECTIVE DATE OF NOTICES.** Any notice shall be effective upon the date of receipt by the intended recipient; provided that any notice which is sent by facsimile or electronic mail shall also be simultaneously sent by mail deposited with the U.S. Postal Service or by overnight courier.

(3) **NOTICE ADDRESS.** Communications that relate to any breach, default, termination, delay in performance, prevention of performance, modification, extension, amendment or waiver of any provision of this Agreement shall be sent to:

i. For the County: Brunswick County Manager
P.O. Box 249
Bolivia, NC 28422
Fax: 910-253-2022

ii. For the Provider: McKim & Creed, Inc.
243 North Front Street
Wilmington, NC 28401

With a copy to: McKim & Creed, Inc.
Attn: Registered Agent
1730 Varsity Drive, Suite 500
Raleigh, NC 27606-2689

38. SIGNATURES

This Agreement, together with any amendments or modifications, may be executed in one or more counterparts, each of which shall be deemed an original and all of which shall be considered one and the same agreement. This Agreement may also be executed electronically. By signing electronically, the parties indicate their intent to comply with the Electronic Commerce in Government Act (N.C.G.S § 66-58.1 et seq.) and the Uniform Electronic Transactions Act (N.C.G.S § 66-311 et seq.). Delivery of an executed counterpart of this Agreement by either electronic means or by facsimile shall be as effective as a manually executed counterpart.

ATTEST:

BRUNSWICK COUNTY

Clerk to the Board

By: _____
Chairman, Board of Commissioners

[SEAL]

MCKIM & CREED, INC.

By: _____

Printed Name: Anthony Boahn

Title: Vice President

Date: _____

“This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.”

Aaron C. Smith, Director of Fiscal Operations
Brunswick County, North Carolina

APPROVED AS TO FORM

Robert V. Shaver, Jr., County Attorney /
Bryan W. Batton, Assistant County Attorney

EXHIBIT “A”
SCOPE OF WORK
(McKim & Creed Proposal No. 221776)

**NORTHEAST BRUNSWICK REGIONAL WASTEWATER TREATMENT PLANT –
PHASE III EXPANSION**

I. PROJECT UNDERSTANDING AND PURPOSE

The following presents the Scope of Work to provide professional engineering services for a “Base-Bid” 3.75 MGD expansion of the County’s Northeast Brunswick Regional Wastewater Treatment Plant (WWTP) from its current permitted capacity of 4.975 MGD to a “phased total capacity” of 8.725 MGD. Additionally, the Scope of Work will provide for a Deductive Alternate Bid item to remove the third 1.25 MGD train. For the purposes of this proposal the capacity expansion for this configuration will be referred to herein as “3.75 MGD”. McKim & Creed, Inc. will provide the following major services for expansion of the WWTP:

- Cape Fear River Assimilative Capacity Analysis & Dilution Modeling
- Preparation of an Engineering Alternatives Analysis (EAA)
- Preparation of an SEPA Environmental Assessment (SEPA)
- Preparation of a Basis of Design Report
- Preliminary design
- Final design
- Permitting Assistance
- Prequalification of Bidders Assistance
- Formal Bid & Award Services
- Construction Administration
- Construction Observation
- Post Construction Services

The Scope of Work described herein is based upon providing treatment for municipal grade, domestic strength wastewater, of which final influent parameters will be determined during the preliminary design phase of the Project. The Phase III 3.75 MGD expansion will be designed to adhere to the current parameters of the existing NPDES Permit No. NC0086819. The current NPDES permit for the WWTP does not require nitrogen or phosphorous removal. If nitrogen and/or phosphorous removal is required as part of the permit modification to expand the WWTP, additional services will be required in order to accommodate design changes necessary to provide treatment for these constituents. Such additional services must be approved by County in advance and will require a written amendment signed by both parties.

Major treatment components are anticipated to include:

- New Headworks
- New Equalization Storage Tank
- New Flow Splitter Box

- Single, common wall 2.5/3.75 MGD Triple Train Oxidation Ditch
- Secondary Clarifiers
- UV Disinfection System
- Autothermal Thermophilic Aerobic Digestion (ATAD)
- Returned Activated Sludge/Waste Activated Sludge Pump Station
- Waste Activated Sludge Handling Facilities
- Effluent Flow Metering
- Effluent Pump Station Improvements
- New Parallel Effluent Force Main
- New Diffuser for Effluent Discharge in Cape Fear River
- Addition of a Diffuser on the Existing Effluent Discharge Outfall in Cape Fear River

Based on these parameters, our detailed Scope of Work is provided as follows:

II. SCOPE OF WORK

The Project components described below comprise our proposed Scope of Work.

Task 1 – Planning Charrette, Lessons Learned Workshop, Basis of Design Report

McKim & Creed will conduct an initial Planning Charrette with Brunswick County staff to develop Project goals and milestones. The Planning Charrette will include a “Lessons Learned” discussion from the previously completed 2.5 MGD Expansion. Major Project components will be reviewed and input from County staff will be incorporated as part of the Project design. Based on the decisions made during the Planning Charette and Lessons Learned discussion, McKim & Creed will prepare a Basis of Design Document for the Project. The Basis of Design (BOD) Document will include the design parameters that will be used to design each unit process in the proposed 3.75 MGD expansion treatment trains and a preliminary list of technical specifications that will be written for the Project. As part of the BOD preparation, we will evaluate sizing of structures to accommodate future phases in order to determine if upsizing certain facilities to meet future capacity needs is cost-effective for the proposed 3.75 MGD expansion. Design parameters for wastewater influent characteristics will be based upon the most recent 12-months of Daily Monitoring Reports (DMRs) for the WWTP (to be provided by Brunswick County). Additionally, it is anticipated that determinations will be made during the Basis of Design development with respect to sole source of process equipment and pre-purchase of extended lead-time items such as generators and switchgear. Notwithstanding the foregoing, no purchases shall be made without the prior written approval of County.

The Basis of Design Document will include a series of technical memoranda describing key design aspects and calculations for the unit treatment process elements and the major disciplines (civil, electrical, instrumentation and control (I&C), mechanical, and structural). McKim & Creed will submit the Basis of Design to the County for review and comment. Task 1 includes one (1) review meeting to receive comments from County staff for the Draft Basis of Design Document.

Comments received will be incorporated into a Final Basis of Design report that will be utilized for design and permitting as further detailed in this proposal.

Task 2 – Engineering Alternatives Analysis (EAA)

McKim & Creed will utilize the Engineering Alternatives Analysis (EAA) prepared in September 2018 for the previously completed 2.5 MGD expansion to prepare a current EAA for the proposed Phase III 3.75 MGD expansion. The previous EAA will be utilized as a basis for alternatives evaluated and updated for justification and demonstration of need for the requested wastewater flow volume. The revised EAA will be prepared in accordance with current NC Division of Water Resources (NCDWR) guidelines and regulations for expansions of wastewater treatment systems. The EAA will be submitted to the County for review and comment and subsequently submitted to NCDWR for review after incorporating staff input. Comments received from NCDWR will be incorporated and a final EAA document will be prepared and submitted.

Task 2A – Existing Administration Building Wind Rating Study & Evaluation

Task 2A will include development of a wind rating study for the existing on-site administration building. The purpose of this study will be to determine what wind rating the building would be rated for and provide recommendations to modify the structure to meet current NC Building Code requirements for wind rating. Tasks will include:

- 1) Detailed structural drawings are not available for this WWTP, therefore, an examination of the WWTP by a structural engineer will be conducted.
- 2) Conduct an evaluation of the walls and roof construction to determine applicable wind load rating.
- 3) Preparation of brief Technical Memorandum to detail findings and recommendations to modify the structure to meet the desired wind load rating.
- 4) A budgetary opinion of probable cost will be prepared based on the recommendations.
- 5) A comparative budgetary cost analysis will be provided for the following alternatives:
 - a) A new administrative building
 - b) Addition of a wind-rated facility to other proposed structures such as the ATAD or Thickener buildings to provide ancillary operations center (restroom, SCADA center, break/sleep area).

This Scope of Work does not include design modifications to the existing administration building or design of a new administration building.

Task 3 – State Environmental Policy Act (SEPA) Review

The proposed Phase III 3.75 MGD expansion exceeds the minimum NCDWR SEPA guidelines, which stipulate that an expansion of an existing discharge facility of 0.5 MGD requires a SEPA review. The purpose of the SEPA review is to determine the Project's direct, secondary, and cumulative impacts to the environment and natural resources. The SEPA process requires either an Environmental Impact Statement (EIS) or an Environmental Assessment (EA) to determine such impacts. Based on the scope of this Project, it is anticipated that an EA will be required. Therefore, this Scope of Work includes the preparation of a SEPA-level EA document to be

prepared in accordance with current NCDWR SEPA guidelines and regulations. McKim & Creed completed an EA for the previously completed 2.5 MGD expansion in February 2019, which will be incorporated as appropriate for the Phase III expansion. The EA will be submitted to the County for review and comment and subsequently submitted to NCDWR for review upon incorporating staff input. Comments received from NCDWR will be incorporated and a final EAA document will be prepared and submitted.

In parallel with the preparation of the SEPA document, McKim & Creed will assist Brunswick County with preparation of a Speculative Limits Letter request through NCDEQ. It is anticipated that the request will include an NPDES capacity to meet the total build-out of 13.725 MGD, which would be phased as shown in the following table:

Current Capacity	4.975 MGD
Phase III	8.725 MGD
Phase IV	9.975 MGD
Phase V	13.725 MGD

Task 3A – Assimilative Capacity Analysis & Dilution Modeling

In order to support the proposed NPDES Speculative Limits Letter request identified in Task 2 of this proposal, modeling will be conducted for current discharge location associated with the NE Brunswick WWTP. The modeling effort will be accomplished in the following three-phase approach:

- **Phase 1: Development of Modeling Plan for the Lower Cape Fear River Estuary**
 Utilize the most recent NCDWR Cape Fear River Estuary model on the platform Environmental Fluid Dynamics Code (EFDC) to the extent possible to inform our most recent modeling effort conducted for Cape Fear Public Utility Authority in 2018. McKim & Creed’s sub-consultant, Tetra Tech, has developed the most recent version of the estuary model that represents an update and refinement on hydraulic, temperature, and salinity representation throughout the system, focused on Northeast Cape Fear River, with a simulation period 1992 – 2018, calibrated to calendar year 2011. A review of the NCDWR EFDC model and gap analysis will be conducted relative to employing the most recent Tetra Tech EFDC model related to spatial simulation near the Northeast Brunswick discharge, and overall water chemistry calibration. After review, we will draft a Modeling Plan summarizing the proposed approach to submit and meet with DWR for their buy-in prior to expending additional resources. The Modeling Plan may propose additional field data collection (e.g., refined hydrogeographic survey in vicinity of the outfall), which are not included in this Scope of Work and would be an additional service if required by NCDWR. These services can be provided via addendum if desired by Brunswick County upon development of an appropriate scope and fee.
- **Phase 2: Receiving Water Modeling of Cape Fear River Estuary**
 With at least two (2) local EFDC models already available of the Lower Cape Fear River and estuary to consider as a baseline, resources will be focused on refining the spatial extent of the model, incorporating any other dischargers locally that the State will require for

potential interaction, and parameterizing and calibrating the model for water chemistry. Model calibration will be completed with best available datasets both instream and for boundary conditions from the Lower Cape Fear River Program, United States Geological Survey, NCDEQ Ambient Monitoring System, and Discharge Monitoring Records, with a focus on accurate simulation of observed conditions for hydraulics, dissolved oxygen (DO) parameters, nutrients, and metals.

- **Phase 3: Development of Speculative Limits via Model Scenario Application**

After confirming model calibration with reasonable accuracy in simulation of existing conditions, we will conduct a two-fold assimilative capacity analysis including a dilution analysis for copper using the Jet Plume module of EFDC (JPEFDC), and a fate and transport evaluation using the water quality calibrated EFDC for nutrients and DO-related parameters to assess the impact of proposed speculative limits for the NPDES permit. Once modeling is complete in simulating the relative change in existing and proposed permitted waste flow, the modeling report and scenario results will be submitted to NCDWR with seasonal speculative limits for primary constituents including five-day biochemical oxygen demand, ammonia, DO, zinc, copper, and nickel. The resulting analysis for NCDWR to review will provide an engineering solution based in science to illustrate a *de minimus* impact to the estuarine environment relative to existing conditions.

Task 4 – Preliminary Design Phase

Pre-Design Phase

1. Field Topographic Surveys: Survey work will be performed to the Standards of Practice for Land Surveying in North Carolina. Horizontal survey control will be referenced to NC Grid NAD 83 or otherwise specified. Vertical control will be referenced to NAVD88 or otherwise specified. McKim & Creed will utilize conventional surveys to develop base maps with sufficient accuracy to allow completion of engineered design drawings for the specific infrastructure designs described by this Agreement. The scope of survey shall include:
 - The County owned property immediately west of and adjacent to the existing WWTP. This area is estimated at approximately six (6) acres.
 - Limited surveys of existing structures at the WWTP to verify critical elevations and/or dimensions necessary to incorporate the new expansion facilities with the existing plant.
 - Five (5) Level A Subsurface Utility Engineering (SUE) investigation. The SUE Investigations will be utilized to locate critical underground infrastructure at the existing plant site for integration of the new facility design with the existing infrastructure.
 - Set horizontal and vertical control at the WWTP.
2. Hydro-Graphic Surveys Cape Fear River Discharge: McKim & Creed will conduct a bathymetric survey of the existing Cape Fear River at the current effluent discharge pipe location. This survey will be “bank to bank” for an approximate 100-foot section of the river. Note that this Scope of Work assumes that the existing 16-inch and 24-inch effluent discharge piping is sufficient to accommodate the Phase III 3.75 MGD expansion;

therefore, survey or SUE will not be conducted along the existing effluent force main corridor.

3. Geotechnical Investigations: Conduct thirty-one (31) cone penetration tests to depths of 20 to 35 feet at the proposed plant site to ascertain soil conditions for design purposes. Provide field survey to determine the horizontal location and vertical elevation for each soil bore. Additionally, two (2) soil test bores will be provided at a depth of 40 feet within the Cape Fear River at the diffuser location.
4. Wetlands Delineations: Conduct wetlands delineation of the proposed plant site expansion area. The proposed plant expansion configuration will incorporate the required setbacks and buffers per NCDEQ regulations for publicly owned wastewater treatment facilities.

30% Preliminary Design

As identified in Task 1 and part of the BOD preparation, we will evaluate sizing of structures to accommodate future phases in order to determine if upsizing certain facilities to meet future capacity needs is cost-effective for the proposed 3.75 MGD expansion. The 30% Preliminary Design Phase will incorporate the proposed structure sizing developed in the BOD phase.

1. Process Design Computations: Develop process design computations for unit treatment processes.
2. Establish Preliminary Equipment Sizing: Work with vendors and suppliers to develop preliminary process equipment selection and sizing.
3. Select and Size Auxiliary Equipment: Develop preliminary SCADA and electrical systems.
4. Basis of Design Update: Update the Basis of Design Document as required based on the 30% preliminary design effort.
5. Process Schematic, Hydraulic Profile, and Flow Diagrams: Prepare a system schematic, hydraulic profile and flow diagram for the proposed wastewater treatment facility.
6. Wastewater Treatment Facility Site Plan: Prepare a preliminary site plan showing location of major treatment units, tanks, structures and process piping on the proposed site. This scope of work assumes that circular tanks for clarifiers, equalization basin, ATAD tanks will be designed as pre-stressed composite concrete.
7. ATAD or Thickening Building Operational Area: The ATAD, or the Thickening Building, will be designed to provide an operations area designed to meet applicable codes and regulations for habitation by personnel during storm events or inclement weather. This is anticipated to include:
 - Workstation/desk
 - SCADA Computer, monitors
 - Associated electrical, fiber
 - Restroom (handicap accessible)
 - Break room with water, refrigerator, and food preparation area

- Area designated for sleeping quarters for two staff members.
 - Storage area.
8. Electrical: Prepare preliminary sizing, one-line diagrams and/or schematics for electrical design at the proposed facility. McKim & Creed will coordinate with County electrical staff and conduct a workshop as required to ascertain electrical preferences and needs for the expanded facility.
 9. Instrumentation & Controls: Prepare schematics as required for integration for the expansion to be monitored and controlled through the County's county-wide SCADA. McKim & Creed will coordinate with County I&C staff and conduct a workshop as required to ascertain I&C preferences and needs for the expanded facility.
 10. Effluent Pump Station Improvements: A new effluent pump station is assumed for the new 3.75 MGD Phase III expansion to be operated in parallel with the existing effluent pump stations to provide a total average daily capacity of 8.725 MGD capacity. The effluent force main for the new station will manifold to the existing 24-inch force main constructed as part of the previous 2.5 MGD expansion Project. The details of the effluent pumping arrangement and piping will be defined as part of the Basis of Design.
 11. Effluent Diffuser & Outfall Improvements: This Scope of Work assumes that the existing 16-inch and 24-inch effluent discharge piping is sufficient to accommodate the Phase III 3.75 MGD expansion; therefore, detailed design, survey, or SUE will not be conducted along the existing effluent force main corridor. This Scope of Work does include the addition of a diffuser extension on the existing 30-inch outfall as well as a new parallel diffuser to be co-located in proximity with the existing diffuser. McKim & Creed will evaluate initial parameters for outfall improvements, in conjunction with Task 3A of this scope, and determine preliminary design concepts to modify the existing outfall and add a new parallel diffuser for the increase NPDES discharge capacity. Design concept will be based on the required diffuser to meet the Phase III 8.725 MGD capacity as well as 13.725 MGD build-out.
 12. Sole Source Process Package Development: Consult with selected process equipment vendor to develop preliminary equipment requirements, scope of supply, schedule, and budgetary estimates. Engineer expressly acknowledges and agrees that the requirements of North Carolina General Statutes § 143-129(e)(6) apply to all sole source procurements, including, without limitation, approval of the County's governing board.
 13. Standby Generator Pre-Purchase Package: Prepare preliminary specification package for County pre-purchase of standby generator. Consult with generator vendors to determine scope of supply, schedule, and budgetary estimates.
 14. Preliminary Engineer's Opinion of Probable Construction Cost: Prepare an updated preliminary construction cost opinion using the various preliminary design documents to improve the accuracy of the initial, conceptual construction cost opinion.

15. Submit Preliminary Design Documents for Review: Compile and submit the updated basis of design document, process schematics, hydraulic profile, preliminary site plan, and cost opinion to the County for review and approval as part of the 30% stage of design completion. Technical specifications are not included as part of the 30% preliminary design submittals.
16. Conduct Workshop Meeting to Review 30% Submittal with County: Meet with the County staff to review, discuss and receive owner input on the 30% design submittal.
17. Revise & Address County Comments on 30% Submittal: Revise the appropriate preliminary design documents (as necessary within the original scope of the Project) to address the County's 30% design review comments. The updated Basis for Design document will be finalized and included as part of the Authorization to Construct (ATC) application package to be submitted at final design.

Task 5 – Final Design & Specifications Phase

60%, 90% and Final Design

1. Prepare 60%, 90% and final design drawings and construction documents based on a **single** prime construction contract.
2. Complete final design and prepare bid and construction documents for a single prime construction contract. The final design documents will generally include the following:
 - Civil/Site for Plant
 - Mechanical
 - Electrical
 - Plant I&C
 - Structural
 - HVAC
 - Effluent Outfall & Diffuser Modifications
3. 60% and 90% Submittals: Prepare and submit drawings at completion stages for review by the County at 60% and 90% stages.
4. Workshop & Review Meetings: McKim & Creed will conduct periodic (once monthly) regular meetings with the County staff during Project design to provide status updates, review Project documents and receive comments. In addition, we will schedule and participate in formal workshop review meeting with the County's Project review team at the 60%, 90% stage of Final Design preparation.
5. Prepare Opinions of Probable Cost: Updated opinions of probable cost will be prepared for the Project to be submitted at the 60%, 90% and Final design submittal stage.
6. Prepare technical specifications: Technical specifications will be prepared for the construction contract. The document shall include a comprehensive table of contents followed by technical specifications to be included in the Construction Documents.

7. Bidding & Contract Documents: Prepare appropriate bid and contract documents for the construction contract based on current Brunswick County standards and requirements. All bid and contract documents are subject to approval by Brunswick County.
8. Prepare “Released for Regulatory Review”: drawings based upon County review comments from the 90% submission.
9. Engineer’s Design Computations Manual: Design assumptions, computations, equipment selections, hydraulic capacity, process sizes, equipment requirements, and associated information will be prepared as part of the design and compiled into a three-ring binder titled “Design Manual” for submission to appropriate regulatory agencies during the permitting process.

Project Meetings

Periodic Project meetings will be held at critical points during Project design, but no less than at the 30%, 60%, and 90% completion levels. McKim & Creed will conduct one (1)-day workshops with County staff at the noted completion levels to provide detailed Project review and obtain staff input on current design. Basic information to be provided at each completion level is outlined as follows:

30% Design Submittal

- Preliminary design of component sizing
- Preliminary outline drawings

60% Design Submittal

- Final component sizing
- Design drawings of major structures
- Preliminary technical specifications
- Preliminary drawing details
- Opinion of Probable Cost

90% Design Submittal

- Design drawings for all Project components
- Drawing details
- Technical Specifications
- Contract Documents
- Opinion of Probable Cost

Quality Assurance and Quality Control

Provider will include an in-house quality assurance/quality control (QA/QC-Value Engineering Review) review with staff members not involved in the Project. The QA/QC review will be entirely separate from the normal in-house reviews conducted by the Project team and the County’s staff. The QA/QC review will be conducted after the 30%, 60% and 90% design submittals and its findings presented to the design team along with comments from the County’s 30%, 60% and 90% design review. Prior to bid a final QA/QC will be conducted for the Contract Documents.

Design Phase Major Deliverables

McKim & Creed will provide the following for the Design Phase Scope of Work:

1. On the basis of approved preliminary drawings and basis of design, prepare 100 percent final drawings indicating the scope, extent, and character of the work to be performed and furnished by contractor.
2. Prepare and furnish bidding documents for review and approval by County, its legal counsel, and other advisors, as appropriate and assist County in the preparation of other related documents. Note that preparation of the bidding documents is based on funding provided via Brunswick County and does not include provisions for outside funding agencies or sources. If other funding mechanisms are utilized, additional services will be required to incorporate the funding agencies requirements into the bid documents and obtain funding approvals.
3. Submit three (3) final copies, one reproducible set, and electronic files of the bidding documents and a revised opinion of probable construction cost to County.

Task 6 – Permitting Phase Services

Provider will assist the County with obtaining all permits required for the Project. The permits required for this Project are anticipated to include the following.

- NPDES Permitting & Authorization to Construct
- NCDOT Encroachment Agreement
- NCDOT Driveway Permit
- Brunswick County Planning and Zoning Review
- Brunswick County Fire Marshall Review
- Cursory Submittal to Town of Navassa & Brunswick County Inspections (prior to Bid)
- NCDEQ Soil & Erosion Control
- NCDEQ Stormwater
- US Army Corps of Engineers Nationwide 12/14
- CAMA
- NCDEQ Public Water Supply Permitting & Authorization to Construct

Provider will prepare the applications and following execution by Brunswick County, will submit the applications to the appropriate agency for approval. Provider will address comments from the agencies and assist the County with negotiations concerning permitting issues that may arise. Permit fees to be paid by McKim & Creed are detailed in Exhibit “B.”

Note that this Scope of Work assumes that the property is properly zoned for the intended use of a wastewater treatment plant and that review by Brunswick County Planning and Zoning is limited to the County’s standard review process. Rezoning and/or subsequent additional planning and zoning review is not included in this Scope of Work.

Task 7 – Bidder Pre-Qualification Assistance

McKim & Creed will assist the County in conducting a pre-qualification process for potential bidders in order to develop a list of qualified construction contractors for the Project. The pre-qualification process will adhere to “*Brunswick County Utilities Policy on the Prequalification of Bidders for Construction and Repair Work*”. Specific tasks include the following:

1. Assist in the preparation of an Invitation to Prequalify and Bid advertisement for the Project, subject to review and approval by County.
2. Review the list of pre-qualification standard requirements with County staff and incorporate suggested revisions to the list that may be beneficial to the proposed Project.
3. Schedule and conduct a pre-submittal meeting, receive questions from prospective attendees, prepare and distribute minutes.
4. Respond to bidder inquiries and prepare Addenda as required. Addenda shall be submitted in reproducible format to the agreed upon media outlets and all bidders to whom the pre-qualification package has been issued.
5. Review all bidder documentation and request clarifications to determine if bidder has met the requirements of the pre-qualification solicitation.
6. Review the list of proposed pre-qualified bidders with County staff and make any final edits and revisions to the pre-qualified list of bidders. McKim & Creed will work jointly with County staff to assist in developing the pre-qualified bidders list; however, the County shall be responsible for the final determination of which bidders will be deemed as pre-qualified. Note that assistance or responses to protests from prospective contractors is not included in this Scope of Work and is considered an additional service. These services can be provided via addendum if desired by Brunswick County upon development of an appropriate scope and fee.

Task 8 – Bidding & Award Phase

Bid Document Administration

The final contract documents will consist of the plans (drawings) and specifications for the expansion of the NE Brunswick Regional WWTP. The proposed contract documents (bid documents) will be structured to provide a “Base Bid” for the 3.75 MGD Expansion. A “Deductive Alternate Bid” will be included for the removal of a single 1.25 MGD train referenced previously in this Scope of Work. The contract documents will be used by the contractor to prepare bids for the work detailed on the plans and described in the specifications. The final contract documents will include, if needed, such items as pre-purchased and/or pre-qualified equipment. Other tasks to be performed by Provider will include preparation of a final opinion of construction cost. The contract documents will include the following disciplines.

- Civil Site
- Structural
- Mechanical
- Environmental / Sanitary
- Electrical Power
- Electrical Controls / Instrumentation / SCADA

Our Scope of Work for Bid Phase services is premised on our understanding that McKim & Creed will be responsible for managing the bid and contracting process for one (1) construction contract. Our role in the bid phase will include working with the County staff to assist with the pre-bid conference, preparation of pre-bid meeting minutes for distribution to bidders, responding to written questions from bidders, preparing written responses to bidder questions, assisting with bid evaluations, and working with County Staff to coordinate and conduct the bid opening. The documents for bidding will be provided to the County by McKim & Creed for County's review and approval, including necessary addenda.

Specifically Bid Phase tasks will include:

1. Provide necessary information to Brunswick County for the preparation of Project bid advertisement.
2. Provide necessary information for the preparation of the bid package that will be utilized for bid solicitation.
3. Conduct the Pre-Bid meeting and issue minutes.
4. Assist in answering bidder's questions concerning elements designed by McKim & Creed and prepare technical information as necessary for inclusion in addenda if required.
5. Provide Brunswick County with written responses for publishing of addenda. All addenda will be published by the County.
6. Provide Brunswick County with one set of official, signed and sealed construction document sets for their file.
7. Attend and/or conduct the bid opening.
8. Review bid packages and prepare the certified bid tabulations.
9. Provide written letter of recommendation of award.
10. Compile contract documents to provide to County for execution of same.
11. Provide for three (3) sets of documents for execution for the Owner, Engineer, and Contractor. Said documents to be used subject to approval by County.

The Bid Phase will conclude upon Brunswick County's issuance of a notice of award to the selected construction contractor.

Task 9 – Construction Administration

Our Scope of Work for Construction Administration services is premised on administering one (1) construction contract over a thirty (30)-month consecutive construction period. The construction period is based on twenty-seven (27) months to reach Substantial Completion and an additional three (3) months to reach Final Completion. If the contract duration extends beyond this construction period or is delayed, the Engineer shall be entitled to adjustment of the scope and fee associated with this task upon mutual written agreement of the parties.

Engineer's construction administration services will include:

1. Conduct pre-construction meeting and issue minutes.
2. Schedule and hold regular monthly construction meetings with the Owner and contractor. Prepare and distribute construction meeting minutes to document discussions and responsibilities.
3. Receive, log, track and perform shop drawing reviews. Compare shop drawings to the plans and technical specifications, note deficiencies or compliance issues, and issue comments to the contractor within ten (10) business days of receipt.
4. Receive, log, track, & respond to contractor's written requests for information or clarification of the contract documents.
5. Provide clarification of requirements as indicated on the construction plans and specifications if/when questions arise during construction.
6. Receive, log, track, and respond to notifications from contractor of changes to work conditions and requests for change orders.
7. Review materials testing for conformance to the specifications.
8. Receive, log, track, & review contractor's monthly invoices and make recommendations for payment.
9. Conduct site visits with County staff as often as necessary to review Project status, and to confirm/certify that work is progressing in accordance with the approved construction documents.
10. Schedule and conduct the substantial completion evaluation. Prepare the substantial completion punchlist and submit for Owner concurrence, and work with the contractor to ensure outstanding work is completed.
11. Upon satisfactory completion of the Substantial Completion punchlist and after reviewing test results from the Contractor, prepare the Engineer's Substantial Completion Certification.

12. Schedule and conduct the final completion evaluation. Prepare the final completion punchlist and work with the contractor to ensure work is fully complete.
13. After the contractor has satisfactorily completed the final punchlist, submitted all test results, as-built redlined drawings, and release of waivers and claims, McKim & Creed will prepare the Engineer's Final Completion Certification.

Construction Administration Services will also include the following:

1. System Startup and Commissioning

McKim & Creed will assist the Owner, in the startup, testing, and commissioning the new wastewater treatment facility. Owner will be responsible for coordinating with the contractor and identifying deficiencies or corrective measures necessary to startup and operate the facility in accordance with the approved NPDES permit and Contract Documents. McKim & Creed will provide technical guidance and assistance to the County in support of the startup and commissioning process.

2. Record Drawings

McKim & Creed's effort for Record Drawing preparation services is premised on the understanding that the contractor will be responsible for continuously maintaining red-lined "as-built" markups on the approved construction drawings. McKim & Creed will utilize the red-line markups provided by the contractor to prepare the final Record Drawings.

3. Limited Operations and Maintenance Manual Update

McKim & Creed will prepare a limited update to the current WWTP O&M manual to include compiling the vendor provided individual equipment O&M manuals and written description of new processes that differ from the current WWTP. This Scope of Work assumes that the proposed facility will be an expansion of the current oxidation ditch process, therefore, only basic edits to the existing O&M manual will be provided by McKim & Creed:

1. Update manual to include a brief description of new unit treatment processes.
2. Update the manual for startup, shut down, or normal operational procedures specific to the new facility configuration.
3. Add a list of new vendor-supplied O&M Manuals.

Task 10 – Construction Observation (Resident Project Representative)

- 1) McKim & Creed will provide a Resident Project Representative (RPR) who is well-qualified and experienced in constructing municipal water and wastewater treatment facilities. The construction period is based on twenty-seven (27) months to reach Substantial Completion and an additional three (3) months to reach Final Completion for a total of thirty (30) months. The Scope of Work assumes an average of forty (40) hours per week for the thirty (30)-month construction period. If the contract duration extends beyond this construction period or is delayed, the Engineer shall be entitled to adjustment of the scope and fee associated with this task.

- 2) The RPR shall prepare reports for each day he is on-site and submit them to McKim & Creed's Project Engineer for review on a weekly basis.
- 3) The RPR will maintain a photographic record during construction to document aspects of the construction process.
- 4) The RPR will immediately call the contractor's attention to work that is being completed that does not comply with the approved plans and specifications. Should the contractor fail to remedy the situation, then the RPR will immediately contact the Engineer.
- 5) The RPR shall document field conditions and will maintain a record as to the weather, contractor's personnel on-site, contractor's equipment on-site and the specific work completed since the last site visit.
- 6) The RPR shall confirm that contractor's red-lined As-Built Drawings are continuously being kept up to date.
- 7) The RPR shall review the contractor's monthly pay requests to confirm that all quantities are accurate and shall recommend payment.
- 8) The RPR shall participate in monthly construction meetings and will represent the Engineer in responding to technical questions.

Task 10A – Project Contingency

Task 10A is included as a contingency for unforeseen conditions or scope changes directed by the County. McKim & Creed will not utilize or expend effort on Task 10A without prior written authorization of Brunswick County.

Task 11 – Post Construction Phase Services

One Year Assistance

McKim & Creed will assist the County with operational and warranty assistance on fixed fee basis as may be needed. Generally, the services will be as follow:

1. Provide a mid-year warranty inspection with County personnel and the contractor to develop a warranty punchlist and then review the completed work of the contractor to verify items have been corrected.
2. Provide for final warranty inspection with County personnel and the contractor at eleven (11) months after Substantial Completion to develop a warranty punchlist and then review the completed work of the Contractor to verify items have been corrected.
3. Provide process support assistance and associated administrative support to assist with operational questions and optimization of the plant process.

Task 12 – Special Inspections & Construction Materials Testing

Special Inspections

McKim & Creed will provide for Special Inspections as will be required by the County’s Inspection Department. Construction material testing will be performed in general accordance with the applicable ASTM, AASHTO, and/or other industry standards, unless noted otherwise. Special Inspections will be performed in general accordance with Chapter 17 of the 2018 North Carolina Building Code, as amended, (2015 International). These services will include the following major Project components.

- a. Soils
- b. Cast-in-place concrete
- c. Structural steel
- d. Structural Masonry

Reporting & Meetings

- **Daily Reports:** Daily Reports of the observations and tests performed will be distributed electronically according to the Project distribution list after review.
- **Interim Reports/Test Results:** Compressive strength test reports and other laboratory results will be issued in electronic format via email, as applicable.
- **Pre-Installation Meetings:** Attend pre-installation meetings will be held for various scopes of work (concrete, steel, etc.) where requested and/or required.

Task 13 – Unit Price Services

Task 13 includes Unit Price based services for the following tasks (which are in addition to the quantities included in the Task 4 written description and fixed fee):

Unit Price Service	Estimated Quantity
SUE Level “A” Investigations	Five (5)
Easement Survey & Mapping	Five (5)

Refer to Exhibit “B” for a unit price breakdown for each of these services.

Task 14 – SCADA Integration Allowance

Task 14 includes an allowance to perform SCADA Integration of the new expanded facility. McKim & Creed will contract directly with *R.L. Haire Electrical & Controls, LLC* to perform the required services. A final scope and detailed fee will be developed upon completion of final design documents and will be invoiced through this allowance. Fees, expenses, and costs invoiced under this task will include a 10% markup.

Task 15 – Asset Management & Integration Allowance

Task 15 includes an allowance to integrate assets and equipment provided as part of the new facility expansion into the County’s asset management system. McKim & Creed will contract directly with *Madrid’s Maintenance Management Solutions* to perform the required services. A final scope and detailed fee will be developed upon completion of final design documents and will

be invoiced through this allowance. Fees, expenses, and costs invoiced under this task will include a 10% markup.

III. ADDITIONAL SERVICES

Additional professional services can be provided (within the qualifications of the Engineer and associate firms) upon request by the County, or upon authorization by the County following recommendation of the Engineer. These services shall include but not limited to the follow:

1. Expert witness or technical support concerning property surveying or engineering matters for which the Engineer has no direct liability.
2. Preparation of plats or designs for rezoning purposes.
3. Tree surveys or tree removal permitting.
4. Testing for soil or groundwater contamination.
5. Assistance with protests by prospective bidders associated with the County's pre-qualification process.
6. Providing additional soil borings or geotechnical analyses beyond the identified Scope of Work.
7. Providing an environmental impact statement (EIS).
8. Providing detailed investigations and/or surveys for archaeological sites, protected/threatened/endangered species of shellfish, fish, wildlife and natural vegetation.
9. Providing Phase 1 or Phase 2 Environmental Site Assessment for the Project area.
10. Providing for determining, evaluating and assistance with contaminated soils for the Project area.
11. Providing assistance for wetland mitigation, if required, as determined by the wetlands delineation and permitting services forth in Task 4.
12. Providing assistance with easement acquisitions.
13. Preparing for, coordinating with, participating in and responding to structured independent review processes for construction management, cost estimating, value engineering and constructability reviews requested by the County and performing of furnishing services required to revise studies, reports, drawings, specifications, or other bidding documents as a result of such review processes.

14. Providing for the design of an administration building or maintenance building for the wastewater treatment facilities.
15. Providing for design of any pretreatment or collection system.
16. Providing for any re-designs requested by the County after final design drawings have been approved.
17. Surveys to locate and delineate the 100-year flood plain.
18. Boundary or easement surveys for the wastewater plant site .
19. Construction survey and staking.
20. Preparing for multi-prime contracts and bidding.
21. Providing funding assistance for grant or loan applications that the County may decide to seek funding.
22. Development of design or bid documents to comply with alternate funding agencies or other funding mechanisms.
23. Providing for a detailed Operation & Maintenance Manual above and beyond what is detailed and outlined in this proposal.
24. Providing assistance for specialized special inspections services like ultrasonic weld testing.
25. Providing for a hydrogeological site evaluation.
26. Operator training on equipment, processes, or other miscellaneous training related to the existing or proposed facilities.

IV. COUNTY RESPONSIBILITIES

The following items shall be the responsibility of the County:

1. Provide Engineer with all criteria and full information as to County's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which County will require to be included in the Drawings and Specifications; and furnish copies of County's standard forms, conditions and related documents for Engineer to include in the Bidding Documents, when applicable.
2. The County shall obtain and make available to the Engineer a complete wastewater characterization for wastewater influent to the existing WWTP.
3. The timely provision of all available information, data, reports, records, and maps to which the County has access and which are needed by the Engineer for the performance of the services provided herein.
4. Providing assistance and cooperation for the Engineer in obtaining any other needed material which the County does not have in its possession.
5. Making available the services of the County as may be necessary to obtain information as needed to perform the work program set forth in the Scope of Work.
6. The designation of a single representative who will be authorized to make necessary decisions required on behalf of the County and will serve to provide the necessary direction and coordination for the Project.
 - County's Representative – John Nichols, PE, Director of Public Utilities
 - Engineer's Representative – Tony Boahn, PE, Vice-President
7. Advise Engineer of the identity and scope of services of any independent consultants employed by County to perform or furnish services in regard to the Project, including, but not limited to, cost estimating, Project peer review, value engineering and constructability review.
8. Attend the pre-bid conference, bid opening, pre-construction conferences, construction progress and other job related meetings and Substantial Completion, Final Completion, and warranty inspections.
9. The County shall provide for mailing any required certified notification letters to the property owners, including the mailing costs, for notification for access to perform the Scope of Work.
10. The County shall pay for all costs of publishing the Advertisement for Bid.

11. The County shall provide for acquisition of all fee-simple properties and easements for the Project.
12. The County shall pay for all recording fees for fee simple properties and easements.

V. MISCELLANEOUS PROVISIONS

1. Opinion of Probable Construction Costs: Engineer's opinion of probable construction costs is based on assumed labor costs and approximate quantities of material and equipment, and therefore is of a conditional character. Engineer cannot and does not guarantee the cost of work to be performed by others since market or bidding conditions can change at any time and changes in the scope or quality of the Project may affect estimates. County waives and releases Engineer from any loss, liability, or claim arising out of or in any way related to Engineer's opinion of probable construction costs.
2. Hourly rates are subject to adjustment on January 1st of each calendar year. Any rate change must be communicated to County in writing at least thirty (30) days prior to the effective date of such rate.
3. Fixed fee tasks are predicated on the Project proceeding in accordance with the indicated schedule. Should delays or suspension of activity in excess of ninety (90) days occur, the remaining fee balances will be subject to an equitable adjustment equivalent to the increase in the ENR Construction Cost Index over the period corresponding to the suspension of activity.

VI. ANTICIPATED PROJECT SCHEDULE

The following schedule is proposed for the Scope of Services described above, with the assumption of an Authorization to Proceed date of July 18, 2023 and provides for a 27-month construction schedule and additional 3-months to achieve final completion for a total of 30 months:

Task	Anticipated Start Date	Anticipated Completion Date	Approximate Duration	Remarks
Notice to Proceed	July 2023	N/A	N/A	
Dilution Modeling	July 2023	July 2024	12 Months	
SEPA/EA Preparation for Clearinghouse Review	July 2023	October 2024	3 Months	Concurrent with Dilution Modeling
Engineering Alternatives Analysis	July 2023	October 2024	3 Months	
Submit EA Review & Obtain FONSI	October 2023	April 2024	6 Months	FONSI Approval 5-9 Months per NCDEQ Guidelines
30% Design	July 2023	October 2023	3 Months	Concurrent with Dilution Modeling, SEPA EA and EAA Preparation
60% Design	October 2023	January 2024	3 Months	
90% Design	January 2024	April 2024	3 Months	
Submit All Non-ATC Permits	April 2024	October 2024	6 Months	Erosion Control, Stormwater, NCDOT, CAMA, Corps of Engineers, etc.
Submit NPDES Permit (after FONSI is approved)	May 2024	October 2024	6 Months	NPDES Permit Approval - 6 Months per NCDEQ Guidelines
Submit Plans for ATC Permit	December 2024	March 2025	3 Months	ATC Approval 3 Months per NCDEQ Guidelines
Bid Phase	April 2025	July 2025	3 Months	Advertise, Open Bids, Notice of Award
Construction Phase	August 2025	January 2028	30 Months	27 Months Substantial/3 Months Final

- 1) *The proposed schedule assumes concurrent design with preparation of Dilution Modeling Analysis, SEPA and EAA documents as well as submittal of the NPDES permit application. The scope of work is based upon a design that meets the current WWTP NPDES permit parameters. Revisions to the current permit parameters could necessitate additional services for design modifications to comply with the revised parameters.*
- 2) *Note the schedule provided is approximate and may vary depending upon Owner review and regulatory approval. It is noted that NPDES permitting guidelines indicated 3 months for approval of the NPDES permit, however, review times are not guaranteed and may extend beyond the published guideline timelines.*

END OF EXHIBIT "A"

EXHIBIT “B”
FEE COMPENSATION
(McKim & Creed Proposal No. 221776)

**NORTHEAST BRUNSWICK REGIONAL WASTEWATER TREATMENT PLANT –
PHASE III EXPANSION**

McKim & Creed, Inc. will perform the services outlined in Exhibit “A” as indicated below:

Item	Fee	Fee Type
Task 1: Planning Charrette, Lessons Learned, Basis of Design	\$54,600	Fixed Fee
Task 2: Engineering Alternatives Analysis (EAA)	\$43,750	Fixed Fee
Task 2A: Existing Administration Building Wind Rating Study	\$24,200	Fixed Fee
Task 3: SEPA Document (EA)	\$105,600	Fixed Fee
Task 3A: Assimilative Capacity Analysis & Dilution Modeling	\$292,000	Fixed Fee
Task 4: Preliminary Design Phase	\$473,100	Fixed Fee
Task 5: Final Design & Specifications Phase	\$1,113,970	Fixed Fee
Task 6: Permitting Phase	\$71,400	Fixed Fee
Task 7: Bidder Pre-Qualification Phase	\$11,900	Fixed Fee
Task 8: Bidding & Award Phase	\$99,850	Fixed Fee
Task 9: Construction Administration (1)	\$917,425	Fixed Fee
Task 10: Construction Observation (2)	\$658,450	Fixed Fee
Task 10A: Project Contingency	\$75,000	Contingency
Task 11: Post Construction Phase Services	\$20,000	Fixed Fee
Task 12: Special Inspections & Construction Materials Testing	\$240,400	Fixed Fee
Task 13: Unit Price Services <i>(See breakdown below)</i>	\$9,000	Unit Price
Task 14: SCADA Integration Allowance	\$85,000	Allowance
Task 15: Asset Management & Integration Allowance	\$45,000	Allowance
Total Estimated Fee (Tasks 1-15)	\$4,340,645	

- 1) *Daily Rate for Construction Administration Services is \$1,480.00 per 8-hour day per person assigned. Mileage will be billed at the current IRS rate.*
- 2) *Daily Rate for Construction Observation Services is \$1,000.00 per 8-hour day per person assigned. Mileage will be billed at the current IRS rate.*

Task 13 – Unit Price Services Breakdown

Unit Price Service	Unit Price Fee	Estimated Quantity	Total Fee Estimate
SUE Level “A” Investigations	\$900/Each	Five (5)	\$4,500
Easement Surveys	\$900/Each	Five (5)	\$4,500
Total Estimated Unit Price Services Fee			\$9,000

Note: Task 13 services are in addition to the SUE Level “A” Services identified in Exhibit A, Schedule I, Task 4. Task 13 services will only be utilized at the authorization and approval of Brunswick County.

END OF EXHIBIT “B”