



## STAFF REPORT

Agenda Title: Contract for Stormwater Infrastructure Inventory & Analysis

Staff Contact: Adrienne Isenhower, Project Manager

Meeting Date: December 20, 2022

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### Summary:

Review of a contract for services with Anchor QEA of North Carolina for professional services related to identification, mapping, and assessment of the town's stormwater (public) infrastructure.

### Background:

In 2019 the Town of Woodfin received notice from the state of North Carolina Department of Environmental Quality (DEQ) regarding the status of the town's Municipal Separate Storm Sewer System (MS4) permit. Additional correspondence was received regarding deficiencies in early 2020. The town responded with the requested documentation related to the stormwater program, along with a commitment to assess and improve the stormwater system. A Request for Qualifications (RFQ) was posted in July 2021 and interviews were held in September, with the engineering firm of Anchor QEA selected as the town's consultant. The proposed contract amount is \$95,950 and, per the town's Contracts and Purchasing Policy, council approval is required for all contracts over \$90,000.

### Context & Staff Analysis:

The current FY 2023 budget included funds for this work; however, budgeted funds were based on the costs associated with the recent street inventory and assessment. The scope of the stormwater inventory and assessment proved more extensive and this, combined with escalating costs associated with professional services, resulted in a budget shortfall. Staff have been working with the consultants on refining the draft contract, including the scope of services and other considerations, resulting in a cost adjustment; however, a budget amendment is still required.

### Staff Recommendation:

Staff recommends approval of the draft contract with Anchor QEA. A separate budget amendment is also proposed.

### Suggested Motion:

I recommend approval of the proposed contract for professional services with Anchor QEA in the amount of \$95,950 for work included in the scope of services proposed.

### Attachments:

- (1) Draft Contract and Scope of Services



## STANDARD AGREEMENT

This agreement is entered into on the full execution date indicated on the signature page by and between Anchor QEA of North Carolina, PLLC, a North Carolina Professional Limited Liability Company with a location at 231 Haywood Street, Asheville, North Carolina 28801, and affiliated companies, hereinafter referred to as "Anchor QEA," and Town of Woodfin, 90 Elk Mountain Road, Woodfin, North Carolina 28804, hereinafter called "CLIENT."

This AGREEMENT is for the Stormwater Infrastructure Assessment Services project.

### PROVISIONS

#### ARTICLE 1: TERMS OF PAYMENT

##### A. Invoicing

Monthly invoices will be issued to the CLIENT for payment and will represent the value of the Scope of Services completed to date.

##### B. Payment

Payment is due within 30 calendar days of date of the invoice for the entire invoice amount. Any invoice not paid within 30 days shall bear interest at the equivalent of 18 percent per year.

##### C. Final Payment

Final payment of any balance will be made upon completion of the Scope of Services, and receipt of all deliverables and all PROJECT-related documents and data that are required to be furnished under this AGREEMENT.

#### ARTICLE 2: OBLIGATION OF ANCHOR QEA

##### A. Independent Contractor

Anchor QEA is an independent contractor and will maintain complete control of and responsibility for its employees, agents, and operations.

##### B. Lower Tier Subcontracts

Anchor QEA shall not sublet or assign any of the work covered by this Agreement, except with the prior written approval of the CLIENT and in compliance with the terms, provisions, and conditions of this Agreement. Anchor QEA will bind all Lower Tier Subconsultants to the Provisions of this AGREEMENT.

Neither this AGREEMENT nor any Lower Tier subcontract will create any contractual relationship between any Lower Tier Subconsultant and the CLIENT nor any liability of the CLIENT to any Lower Tier Subconsultant.

##### C. Standard of Care

In providing services under this Agreement, Anchor QEA will endeavor to perform in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

#### **D. Notice of Delay**

The time schedule for the performance of services as set forth under this Agreement is based on Anchor QEA's anticipation of the orderly and continuous progress of the project. If Anchor QEA is delayed in the performance of services by conditions that are beyond its control, Anchor QEA shall notify the CLIENT in writing of the cause of delay and the amount of delay anticipated. Such notice shall be delivered to the CLIENT within five (5) days of the time Anchor QEA is aware of the delay.

#### **E. Insurance**

Anchor QEA will maintain throughout this AGREEMENT the following insurance and will submit certificates verifying such to the CLIENT when requested:

- (1) Worker's compensation insurance as required by the state or province where the work is performed and Employers Liability as follows:
  - \$1,000,000 each accident
  - \$1,000,000 each employee
  - \$1,000,000 disease aggregate
- (2) Comprehensive automobile liability insurance covering claims for injuries to members of the public and/or damages to property of others arising from use of motor vehicles, including onsite and offsite operations, and owned, non-owned, or hired vehicles, with \$1,000,000 combined single limits.
- (3) Commercial general liability insurance covering claims for injuries arising out of any negligent act or omission of Anchor QEA or of any of its employees, agents, or subconsultants, with \$1,000,000 per occurrence/general aggregate.
- (4) Professional liability insurance of \$1,000,000, per claim and in the aggregate.

Anchor QEA will give the CLIENT thirty (30) days notice of any cancellation of the policies.

#### **F. Limitation of Liability**

To the maximum extent permitted by law, the CLIENT agrees to limit Anchor QEA's liability for the CLIENT's damages and legal costs to Anchor QEA's fees for the services provided under this AGREEMENT.

#### **G. Indemnification**

Anchor QEA and the CLIENT mutually agree, to the fullest extent permitted by law, to indemnify and hold each other harmless from any and all damage, liability, or cost, including reasonable attorneys' fees and costs of defense, arising from their own negligent acts, errors or omissions in the performance of their services under this AGREEMENT, to the extent that each party is responsible for such damages, liabilities and costs on a comparative basis of fault.

#### **H. Consequential Damages**

Notwithstanding any other provision of this AGREEMENT, and to the fullest extent permitted by law, neither the CLIENT nor Anchor QEA, their respective officers, directors, partners, employees, contractors or subconsultants shall be liable to the other or shall make any claim for any incidental, indirect or consequential damages arising out of or connected in any way to the project or to this AGREEMENT. This

mutual waiver of consequential damages shall include, but is not limited to, loss of use, loss of profit, loss of business, loss of income, loss of reputation or any other consequential damages that either party may have incurred from any cause of action including negligence, strict liability, breach of contract and breach of strict or implied warranty. Both the CLIENT and Anchor QEA shall require similar waivers of consequential damages protecting all the entities or persons named herein in all contracts and subcontracts with others involved in this project.

**I. Permits, Licenses, and Fees**

Anchor QEA will obtain and pay for all permits and licenses required by law that are associated with Anchor QEA's performance of the Scope of Services and will give all necessary notices.

**J. Access to Records**

Anchor QEA will maintain accounting records, in accordance with generally accepted accounting principles and practices to substantiate all invoiced amounts. Said records will be available for examination by the CLIENT during Anchor QEA's normal business hours for a period of 3 years after the final invoice to the extent required to verify the costs incurred hereunder.

**K. Ownership**

CLIENT retains ownership of all instruments of professional service developed by Anchor QEA under this AGREEMENT. Anchor QEA shall not be liable for any reuse or modification of these work products for purposes not anticipated by Anchor QEA under this AGREEMENT.

**L. Equal Employment Opportunity**

Anchor QEA, with regard to the work performed by it after approval and/or award and prior to completion of this contract, shall comply with all applicable provisions of Executive Agreement 11246 of September 24, 1965, as amended, the terms of which are incorporated herein by this reference and made a part of this AGREEMENT. Anchor QEA will provide equal employment opportunity and adhere to federal, state and local laws pertaining thereto. Appropriate action will be taken by Anchor QEA, with respect to itself and any of its subconsultants, vendors and suppliers to ensure compliance with such laws. All federal, state and local equal opportunity and affirmative action requirements with regard to race, gender, creed, color, age, religion, national origin, disability or veteran status are incorporated into this AGREEMENT by reference. Anchor QEA will give all notices, pay all fees and take all other action which may be necessary to conduct its business in accordance with all applicable statutes, ordinances, rules and regulations including, without limitation, the above stated standards and acts, any statutes regarding qualification to do business and any statutes prohibiting discrimination among employees because of race, creed, color, national origin, age, or sex.

**ARTICLE 3: GENERAL PROVISIONS**

**A. Waivers**

No waiver by either party of any default by the other party in the performance of any provision of this AGREEMENT will operate as, or be construed as, a waiver of any future default, whether like or different in character.

**B. Force Majeure**

Neither party to this AGREEMENT will be liable to the other party for delays in performing the Scope of Services, or for the direct or indirect costs resulting from such delays, that may result from labor strikes, riots, war, acts of governmental authorities, extraordinary weather conditions or other natural catastrophe, or any other cause beyond the reasonable control or contemplation of either party.

**C. Authorization to Proceed**

Execution of the AGREEMENT by the CLIENT will be authorization for Anchor QEA to proceed with the Scope of Services, unless otherwise provided for in this AGREEMENT.

**D. No Third Party Beneficiaries**

This AGREEMENT gives no rights or benefits to anyone other than Anchor QEA and the CLIENT and has no third-party beneficiaries.

**E. Jurisdiction**

The laws of the state in which the project is located shall govern the validity of this AGREEMENT, its interpretation and performance, and any other claims related to it; venue of any lawsuit shall also be in the jurisdiction of that office location.

**F. Disputes**

In the event of any dispute arising out of this Agreement, the parties agree to submit the dispute to non-binding mediation and binding arbitration under the then prevailing rules of the American Arbitration Association (AAA) for construction industry disputes, provided that no party objects to arbitration within 30 days after a demand for arbitration is filed with AAA. In any action brought for such dispute, the prevailing party shall be entitled to recover its reasonable costs and attorney fees.

**G. Severability and Survival**

If any of the provisions contained in this AGREEMENT are held for any reason to be invalid, illegal, or unenforceable in any respect, unenforceability will not affect any other provision of this AGREEMENT. The provisions of this AGREEMENT shall survive its termination and completion of services.

**H. Termination/Cancellation**

The CLIENT will have the right to terminate this AGREEMENT for its convenience. After termination, Anchor QEA will be reimbursed for services rendered and necessary expenses incurred to the termination date upon submission to the CLIENT of detailed supporting invoices.

**I. Complete Agreement**

This AGREEMENT constitutes the complete and final understanding between the parties. The CLIENT may adjust the Scope of Services by either adding to or deleting from the services to be performed. If such adjustment increases or decreases the cost or time required for Anchor QEA's Scope of Services, adjusting compensation and/or time will be mutually agreed upon in writing. Additional Services provided by Anchor QEA will be entitled to additional compensation or extension of time only as authorized in writing by the CLIENT.

**J. Attachments and Schedules**

The following attachments and schedules are hereby made a part of this AGREEMENT:

Attachment 1: Scope of Services and Budget

Attachment 2: Billing Rates

This Agreement represents the entire agreement between the parties, supersedes all prior agreements and understandings, and may be changed only by written amendment executed by both parties.

**Approved for Anchor QEA**

**Accepted for CLIENT**

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

# Attachment 1

## Scope of Services and Budget

# Scope of Work

## Stormwater Infrastructure Assessment

Town of Woodfin – Version 2

### 1. Project Understanding

Anchor QEA of North Carolina, PLLC (Anchor QEA) is pleased to provide this scope of work (SOW) to support the Town of Woodfin (the Town) with an evaluation of current stormwater infrastructure, including stormwater control measures (SCMs) and conveyance pipes and structures, and identification of infrastructure for maintenance, possible upgrades, or replacement.

### 2. Scope of Work and Deliverables

The following section describes this SOW and related deliverables to be completed by Anchor QEA. The below tasks may occur concurrently, as appropriate.

#### Task 1: Development of Draft Condition Rating System and Level of Service Strategies

Prior to field mobilization, a condition rating system and a level of service (LOS) strategy will be drafted to facilitate field data collection. Both tools may be modified during implementation, and it is not anticipated that the LOS strategy will be finalized until latter stages of the project.

##### Subtask 1.1: Research Case Studies

Anchor QEA will collate and review case studies from various sources, including the City of Greenville, South Carolina, and City of Charlotte North Carolina; national projects performed by other Anchor QEA offices, and national best practices. Due to the volume of possible case studies, Anchor QEA will limit itself to 8 hours for research and review. We will also review the MS4 requirements for a stormwater system inventory map to better understand the goals of the stormwater infrastructure mapping and assessments.

A bibliography, with a very brief summary of the applicable information included in each, will be developed for internal use by Anchor QEA and the Town.

##### Subtask 1.2: Draft Condition Rating and LOS Strategy

Based on Anchor QEA's professional experience supplemented by the case study research, Anchor QEA will draft the condition rating and LOS strategy tools to facilitate appropriate field collection of data. It is likely that this draft will be modified during the project as the Town's infrastructure is better understood. Examples of factors in the LOS criteria are existing pipe capacity (design storm), desired pipe performance based on town/county design criteria, and maintenance frequency.



### **Subtask 1.3: Review Draft Tools with Town**

Prior to field mobilization, the Subtask 1.2 elements will be presented to the Town's representatives. This will include an up-to-2-hour workshop (plus 30 minutes of travel) with an anticipated 4 hours of follow-up time.

### **Subtask 1.4: Develop Field Recording Form and Infrastructure Naming Convention**

Based on the preceding subtasks, field data collection forms will be developed to ensure the correct data is collected. Additionally, prior to mobilization, Anchor QEA will collaborate with the Town to develop a naming system for infrastructure to be assessed, which may be based on existing formats from the Town or Land of Sky Regional Council (Land of Sky). The field data collection form will be integrated into the GIS software to allow field data collection directly into a tablet for real-time upload to the GIS geodatabase.

### **Deliverables**

- A bibliography with summation of case studies of other municipalities' stormwater asset management strategies
- Draft condition rating and LOS strategy
- Field forms, including infrastructure naming convention

## **Task 2: Collation and Review of Existing Data**

This task will include a collation and review of any existing data that may be held by other stakeholders.

### **Subtask 2.1: Review Woodfin Records and Meet with Town Stakeholders**

Anchor QEA assumes that the Town will provide a summary of existing Town records regarding stormwater infrastructure (including private SCMs with deed restrictions), easements and rights-of-ways, documentation of problem areas or complaints, etc. We have assumed 1 hour to review this summary.

We will also perform a tour of the Town with Department of Public Works staff (up to 4 hours) to gain familiarity with known maintenance and operational challenges, such as those caused by areas of consistent flooding, deterioration of storm systems, etc.

### **Subtask 2.2: Review Land of Sky Data**

Anchor QEA understands that the Town will perform all liaison with Land of Sky representatives who performed the 2022 stormwater infrastructure mapping services to better understand the extent of their work, the spatial coverage of their assessment, the field data collected, and the management of

their GIS data. Anchor QEA estimates 5 hours to further assess the Land of Sky data to provide an understanding of existing data prior to mobilizing for Task 4.

### **Task 3: Develop GIS Geodatabase and Basemap**

Based on the findings from Tasks 1, 2, and 4, Anchor QEA will develop an updated geodatabase to include both existing, edited, and new stormwater features, plus relevant related data within the boundaries of the Town. Work in this task will be collaborative and shared via an online web map throughout the process.

#### **Subtask 3.1: Develop Project Geodatabase**

Anchor QEA will compile a list of existing GIS data from the discovery process in Task 1. Data may include elevation contours, land parcels, hydrology, etc. This list will be delivered to the Town to review and finalize needed data. Included with the list will be the assumptions on which data will be included in the deliverable.

In support of additional tasks, the stormwater feature classes will be presented in Esri format and incorporate additional information as identified in Tasks 1, 2, and 4. All data decisions will be recorded in GIS and made available to all project team members, as well as the Town, in the web map application as defined in Subtask 3.2. This information includes, but is not limited to, Task 1 condition ratings and criteria identified for field forms, Task 2 data discovery (existing Land of Sky data schema), and Task 4 field data collection.

It is assumed that feature classes will be archived and versioned as appropriate so data is not lost throughout the process, allowing multiple editors to review the data with edits being tracked. The geodatabase will not include public data, unless identified as important to capture a snapshot in time. Feature classes may exclude data fields present during the development stage and are considered temporary during the data collection and quality control processes.

#### **Subtask 3.2: Develop Dynamic, Online Web Map Application**

As the project moves out of the discovery phase, an online web map application will be made available to the project team and Town throughout the life cycle of the project. The map will be dynamic and collaborative. At various stages throughout the project, team members and the Town's representatives will have the ability to review and update the data to provide input and quality control in real time.

Based on the use of the web map serving as a collaboration medium, Anchor QEA has not included time for creating static, standalone PDF maps; however, these can be produced as requested as an out-of-scope item.

### **Subtask 3.3: Present Draft GIS Geodatabase to Town**

Anchor QEA will present the geodatabase to the Town via a combination of in-person communication and conference calls. It is assumed that an up-to-2-hour workshop (plus 30 minutes of travel) will be hosted by Anchor QEA.

#### **Deliverables**

- Document list of GIS feature classes for geodatabase and web map development
- GIS geodatabase
- Stormwater conveyance map book in PDF

### **Task 4: Stormwater System Inspections**

To effectively manage assets, the Town must first know where those assets are located and their size, material, condition, and other key attributes. Based on the draft condition rating system developed in Task 1, Anchor QEA will mobilize to the field to collect relevant data. The below subtask descriptions outline the assumptions used by Anchor QEA to develop this SOW and the associated effort; however, the challenges in quantifying should be noted. Quantifying the SOW for performing these field assessments is difficult due to the uncertainty of quantity, access, and condition of the infrastructure. Based on discussions with the Town, Anchor QEA has assumed the infrastructure identified by Land of Sky will need to be assessed further but that no additional identification or geospatial locating will be requested.

To further clarify the costs, Anchor QEA proposes that an initial neighborhood (or multiple neighborhoods) is selected to pilot the field inspection effort so modifications of the process that may result in a modification to this SOW and budget can be made.

#### **Subtask 4.1: Prioritization of Areas for Data Collection**

Anchor QEA will work with the Town to divide the Town into assessment neighborhoods (or watersheds) based on spatial factors (such as roads), history of development (e.g., group neighborhoods by similar age of development), emergency access routes, water quality critical areas, watershed subbasin, and areas with multiple sizable stream culvert crossings. It is anticipated that up to 25 assessment neighborhoods will be identified.

Once the neighborhoods have been identified, Anchor QEA will work with the Town to create a prioritization process, including identification of an appropriate neighborhood (or multiple neighborhoods) for piloting the field assessment.

### Subtask 4.2: Mobilization

Prior to entering the field, Anchor QEA will perform the following mobilization tasks to improve efficiency in the field:

- Collaboration between Anchor QEA senior engineers with field staff
- Development of field inspection methodology with equipment collation and/or procurement
- A summary of photograph-taking guidelines
- Development of a health and safety plan, including protocol for inspection of culverts and confined-space entry

### Subtask 4.3: Field Inspections

For the purposes of quantifying possible field inspection effort, Anchor QEA has based our understanding on discussions with the Town that infrastructure presented in the web map provided by Land of Sky is complete but that an evaluation of the status of the infrastructure is required. For development of the costs associated with this task, Anchor QEA has assumed the following:

- All infrastructure identified by Land of Sky data will be assessed, excluding 332 inlets/outlets and associated piping and three SCMs that have been identified by the Town as not being maintained by Woodfin. If additional infrastructure is identified during field work, then additional time will be required to assess.
- Regarding infrastructure, based on the available data collected by Land of Sky and the above assumption, we have assumed the following:
  - 583 inlets/outfalls at 10 minutes each for one inspector
  - 195 pipes/culverts,<sup>1</sup> including the following:
    - 165 pipes/culverts < 48 inches in diameter that will be visually inspected with potential use of a camera to a depth of  $\leq 15$  feet with no corners at 15 minutes each for one inspector
    - 30 pipes/culverts > 48 inches in diameter that will require a 20-minute inspection with inside access (if deemed safe to do so) for two inspectors
  - 26 SCMs at 20 minutes each for one inspector
- Up to 50% of the field time will require a second person for health and safety when working in remote areas for traffic control, when opening structures, or when clearing vegetation. We have assumed this second person will be a field technician. An alternative cost reduction approach is for the Town providing a second field technician.
- While travel between infrastructure is captured in the above estimates, an additional 1 hour per day is anticipated for mobilization/demobilization and travel to the field. Fifty miles of mileage is assumed per day.
- Each day is assumed to be 8 hours long, including mobilization/demobilization.

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<sup>1</sup> It is assumed there will be a third of the total number of pipes of the total 915 inlets/outlets identified by Land of Sky.

- Equipment rental is assumed to extend for a total of 2 months (i.e., mobilization of two teams will result in two sets of equipment for 1 month) and includes the following:
  - Manhole and stormwater grate opening tools
  - A real-time kinematic differential global (RTK) positioning system survey equipment unit with submeter accuracy paired with a tablet for capturing field data and photographs
  - A handheld camera for pipe inspections up to 15 feet deep
  - Four-gas meters for health and safety monitoring during the opening of stormwater infrastructure

Other assumptions include the following:

- All field work will be performed during winter months when infrastructure is not impeded by excessive vegetation or snow. If maintenance support is needed by field inspectors to improve access or visibility, Anchor QEA can provide subcontracted staff at a rate of approximately \$50 to \$80 per hour or request support from the Town's maintenance staff.
- No confined spaces will be entered, but arrangements can be made to do so. Note that, in general, it is anticipated that most culverts will not be a confined space if entry and exit are not limited or restricted, they are short, they are dry, they have ample daylight and draft, they are structurally sound, and they are otherwise free from recognized hazards. Field staff will decide in the field to determine an appropriate inspection action.
- This SOW does not include any land surveying or geophysical or video inspection of subsurface conditions, sampling, testing, or hiring of subcontractors.
- Systems that extend outside of the interpreted right-of-way will not be inspected without assistance and approval from the Town.
- Ancillary stormwater infrastructure such as streams, ditches, curb and gutter, and driveway pipes will not be included in the condition assessment.

#### **Subtask 4.4: Senior and GIS Oversight of Field Inspections**

During the field inspections, the following senior oversight and quality control review will be provided:

- 10 hours for review and modification of procedures for the pilot neighborhood
- An average of 1 hour per field day for Anchor QEA senior engineer review of field-collected data and 0.4 hour per day over 6 weeks by a GIS specialist
- An additional two 2-hour in-field spot checks per week to confirm methodology, inspect health and safety compliance, and respond to challenges

#### **Deliverable**

- A database within the GIS geodatabase of the Town's stormwater infrastructure attributes and condition

## **Task 5: Project Management and Meetings**

Due to the number of unknowns and assumptions used for the development of this SOW, Anchor QEA proposes a project management approach with regular budget review and communication to the Town, to include the following subtasks.

### **Subtask 5.1: Client Meetings**

For the purposes of cost estimating, it is assumed the following meetings will be held between Anchor QEA and the Town during the course of this project:

- In-person meetings: two 1-hour (plus 30 minutes of travel) in-person meetings at the Town offices, attended by Rob Cork and Andy Widenhouse
- Conference call updates: five 1-hour conference calls, attended by Rob Cork and Andy Widenhouse

### **Subtask 5.2: Budget Management and Scheduling**

On a biweekly basis for a period of 2 months during the Task 4 and less regularly otherwise, Anchor QEA will review budget status and schedule against the assumptions made within this document. A simple earned value analysis will be performed to track budget utilization against an estimate of the total work completed. It is assumed this weekly to biweekly assessment will also be used to review the costs identified during the pilot test neighborhood.

## **3. Next Steps**

Anchor QEA will work the Town to develop next steps as this project progresses. In general, next steps will include identification and prioritization of operation and maintenance (O&M) activities (such as minor repairs, maintenance,<sup>2</sup> or scheduled inspections) or structural activities (such as replacement or rehabilitation). This process will allow for efficient design and bidding to appropriate contractors and ultimately identify the need for preparation of engineering plans or specifications, or development of submissions to stakeholders other than the Town.

Due to the uncertainty of the need and the challenge in quantifying the SOW at this early stage of the project, Anchor QEA has not proposed performing hydrologic analysis of any watersheds for storm system design calculations. If this analysis is deemed relevant, it may be performed to provide an approximation of whether culverts and pipe systems within a neighborhood appear appropriately sized and identify those that may be undersized. The identification of potential undersized pipes will be overlaid with the field-collected data (such as condition) to allow incorporation into the LOS

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<sup>2</sup> Recommended maintenance activities may include cleaning, mowing, tree removal, and other tasks associated with routine maintenance of detention ponds and similar SCMs

strategy. If the LOS strategy identifies the need for replacement of infrastructure, then more accurate hydrology and hydraulic modeling may be recommended under an amendment to this SOW.

## 4. Budget

Based on this SOW, our estimated fees are summarized in Table 1. No contingency has been included within these estimates.

The project will be invoiced on a time-and-materials basis for a total budget not to exceed without prior authorization from the Town. If, during the work, we identify conditions that differ from those addressed in this proposal, Anchor QEA will notify the Town in advance and obtain written approval prior to continuation of out-of-scope services. Invoicing for work from this project will be provided monthly. Invoicing conditions are stated in the Standard Agreement.

**Table 1  
 Cost Estimate**

<b>Task No.</b>	<b>Task Name</b>	<b>Estimated Cost</b>
1	Development of Draft Condition Rating System and Level of Service Strategies	\$8,600
2	Collation and Review of Existing Data	\$2,050
3	Develop GIS Geodatabase and Basemap	\$13,700
4	Stormwater System Inspections	\$53,000
	Optional Second Person for Field Inspections	\$12,300
5	Project Management and Meetings	\$6,300
<b>Total:</b>		<b>\$95,950</b>

## 5. Schedule

Anchor QEA's goal is to perform field assessments during the winter months, when less vegetation will improve visibility of structures. Therefore, Anchor QEA anticipates the Task 4 field activities will be initiated by early January 2023, with the the SOW identified above completed by April 2023.

## Attachment 2 Billing Rates



# Anchor QEA of North Carolina, PLLC

## 2022 BILLING RATES USED FOR 2023

### Professional Level Hourly Rates

Principal.....	\$206
Senior Manager.....	\$194
Manager.....	\$186
Senior Staff.....	\$178
Staff 3.....	\$157
Staff 2.....	\$147
Staff 1.....	\$118
Senior CAD <sup>1</sup> Designer.....	\$124
CAD Designer.....	\$107
Technician.....	\$113
Senior Technical Editor.....	\$124
Technical Editor.....	\$107
Senior Project Coordinator.....	\$107
Project Coordinator.....	\$ 86

### Special Hourly Rates

National expert consultant.....	\$474
All work by a testifying expert.....	1.5 times professional level rate
Expert Advisor.....	\$364

## EXPENSE BILLING RATES

### Expense Rates

Computer Modeling (per hour).....	\$10.00
Graphic Plots (varies with plot size).....	\$3-\$6/sf
Mileage (per mile).....	Current Federal Standard

## FEE ON LABOR AND EXPENSE CHARGES

Subcontracts/subconsultants.....	10%
Travel and other direct costs.....	10%
Field equipment and supplies.....	10%

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<sup>1</sup> CAD: Computer Aided Design