

DAVIS & FLOYD

SINCE 1954

February 28, 2020

via US Mail and e-mail

Mr. Mike Smith
Town Administrator
Cheraw Administrative Office
200 Market Street
Cheraw, South Carolina 29520

RE: Master Services Agreement Amendment No. 3 and Proposed Task Order No. 20
Stormwater Master Plan
Town of Cheraw, SC
Davis & Floyd Project No. 040004.20

Dear Mr. Smith:

Davis & Floyd appreciates the opportunity to continue to provide assistance to the Town with professional consulting engineering services. As discussed earlier this week, we are excited about the stormwater drainage master plan study grant awarded to the Town by the SC Emergency Management Division and appreciate the opportunity to provide the services for the Town to complete this study of the Town's drainage networks and systems.

We have prepared a new Task Order No. 20 for the services to perform the study based upon the March 28, 2019 proposal letter submitted to the Town for the stormwater drainage study. The task order references the scope of services provided in the 3-28-19 proposal letter with the fee remaining as originally proposed. If you are in agreement with the proposed scope and fee, please sign and date the task order and return one copy for our records.

In review of our master agreement originally executed in 2009 and extended by two prior amendments, we would like to have the master agreement formally extended as well so that we are current with our agreements. Therefore, we have provided an amendment to the master services consulting agreement which will extend the agreement to 2023. We have also requested a modification to our standard markup on reimbursable type expenses from ten (10) to fifteen (15) percent which is in keeping with Davis & Floyd's current standard rates of service.

If you are in agreement with the amendment of terms as proposed by Amendment No. 3, please sign and date this amendment and return one copy for our records.

We have scheduled an internal kick-off meeting next Wednesday to discuss staffing, scope and schedule for the Town's drainage study and we will get with you afterwards to schedule a project kick off meeting with the Town as well as propose a date for conducting a drop in type public meeting for the Town's citizenry to provide their input on the drainage study.

If you should have any questions, please don't hesitate to call us at (843) 519-1050.

Sincerely,

Davis & Floyd, Inc.

A handwritten signature in blue ink, appearing to read "John E. Reynolds", with a long horizontal flourish extending to the right.

John E. Reynolds, PE
Associate & Senior Project Manager

Enclosure as Noted:

TASK ORDER AGREEMENT

Davis & Floyd, Inc.

Task Order No. 20

Agreement No. 1 Amendment 3

Client: Town of Cheraw, SC (Client)

Consultant: Davis & Floyd, Inc. (D&F)


Project: Stormwater Master Plan

Client and D&F entered into a Master Services Consulting Agreement for Task Order services dated 09-09-09 and which has been extended from time to time by amendment. This Task Order is made for the procurement of said services for the stated Project in accordance with that Agreement. Except as otherwise specified herein, the terms and conditions of that Agreement are incorporated in this Task Order by reference.

1. **Scope of Work:** The Consultant shall furnish qualified personnel, equipment, materials and supplies necessary to perform general engineering consulting services as requested by the Client for the project stated above and as defined in Davis & Floyd's 3-28-2019 proposal letter and attachments, which together for Exhibit A are attached and incorporated in this Task Order.
2. **Period of Performance:** The period of performance shall commence upon the date of execution of this Task Order by both parties.
3. **Compensation:** The Consultant shall be compensated in accordance with the terms of the Master Services Consulting Agreement, a Lump Sum Fee of \$ 263,450.00 for the Services indicated on Exhibit A to this task order.
4. **Communications:** The Consultant's contact for this Task Order shall be D&F's Project Manager John Reynolds. The Client's Representative for this TASK ORDER shall be Mike Smith.
5. **Task Order Modifications:** Modifications or change orders to this Task Order are governed by Article 12 of the Master Services Consulting Agreement.

CLIENT:

Town of Cheraw, S.C.

By: 
Michael D. Smith

Title: Administrator

Date: 2/28/20

CONSULTANT:

Davis & Floyd, Inc.

By: 
John E. Reynolds, PE

Title: Project Manager

Approved :


Michael V. Horton, PE, CFM, LEED AP

Title: Chief Engineering Officer

Date: 3/2/2020

DAVIS & FLOYD

SINCE 1954

March 28, 2019

Michael Smith
Town Administrator
Town of Cheraw
200 Market Street
PO Box 219
Cheraw, SC 29520

Re: Town of Cheraw Stormwater Master Plan
Scope of Services
D&F Job Number: 000110.00 / 0007

Dear Mr. Smith:

Davis & Floyd (D&F) is pleased to offer a proposal to perform a town-wide stormwater master plan. This study will help identify and quantify existing flood hazards associated with stormwater runoff and recommend and prioritize hazard mitigation solutions. The scope has been prepared to investigate areas of known flooding initially and then expand to other areas of the Town as necessary. Field inventories, data collection, and hydrologic and hydraulic stormwater modeling have been included in this scope. We anticipate this master plan to take approximately nine (9) months to complete after issuance of a notice to proceed.

We truly appreciate the opportunity to offer our services in this capacity. Please do not hesitate to contact us should you have any questions regarding our project approach, scope of services, and corresponding lump sum fee and schedule that are currently proposed. We look forward to hearing from you.

Very truly yours,

DAVIS & FLOYD



Jared T. Bramblett, PE
Senior Civil Engineer



Michael V. Horton, PE
Chief Engineering Officer

Enclosures:
Scope of Services, Fee Schedule, Drainage Basin Exhibit

c: John Reynolds, D&F

DAVIS & FLOYD

SINCE 1954

Summary of Scope

Davis & Floyd, Inc. (D&F) will provide professional engineering services to support the development of a Stormwater Master Plan (SWMP) for the Town of Cheraw. The SWMP will help identify and quantify existing flood hazards associated with stormwater runoff and recommend hazard mitigation solutions. Services to support master planning, as outlined in this scope, shall include data gathering and field investigations; existing condition hydrologic and hydraulic modeling services; identification, evaluation, and prioritization of flood hazard mitigation practices; and project reporting.

A preliminary watershed delineation has been performed for the areas encompassing the Town and areas of known flooding have been identified (*Exhibit A*). Ten (10) drainage basins, totaling approximately 7,800-acres, encompass the Town limits. This scope of services has been based upon this information. The initial efforts of this scope will focus on areas of known flooding within the Town. D&F will then investigate additional areas of the Town at a discretionary level of detail to adequately assess the flood hazards.

Task 1 – Data Gathering & Field Investigation

The project will initiate with a project kickoff meeting held at the Town. This meeting will allow the Town to provide an overview of areas with flood concerns and provide documentation of drainage infrastructure and flooding history. A desktop level analysis will be performed to gather pertinent data and background information to assist in the development of the SWMP. Such data may include, but may not be limited to, available LiDAR and digital elevation/terrain data; USDA soils data; land cover data products; SCDOT record drawings; engineering studies and reports; historical flood data; and other available records and plans. Each of the aforementioned data sets will be used to generate hydrologic basin parameters and identification of significant hydraulic features (i.e., channels, culverts, and bridges). Map exhibits, geodatabases, and a summary of data collected will be provided.

D&F will develop geospatial inventories of significant and apparent hydraulic features (e.g. inlets, culvert, and channels) to supplement and expand the datasets generated during the desktop analysis. These inventories will be developed by performing a two-pass field inventory. The first pass will locate and document horizontal locations and conditions of hydraulic features. The results of the first pass will be reviewed with the desktop level analysis to identify/select hydraulic features that are required to develop a representative hydraulic model of the Town. Hydraulic properties, including invert elevations, size, and material of each selected feature will be collected during the second-pass. Field investigations will prioritize the drainage infrastructure in areas of known flooding, and it will be expanded as the study progresses to include other areas of the Town.

Full topographic surveys, detailed stormwater system inventories, and a complete conditions assessment are not included in this scope. All data collected will be provided in map exhibits, geodatabases, and documentation summarizing the means, methods, and results of the field investigation.

Task 2 – Existing Condition Hydrologic and Hydraulic Modeling

An existing conditions hydrologic and hydraulic stormwater model will be developed to evaluate the performance of the current infrastructure. A geospatially integrated stormwater modeling software built on the EPA SWMM computational engine will be utilized for this stormwater master plan. This will allow dynamic modeling parameters to be investigated, including varying rainfall-runoff patterns, pipe flow simulations, and variable riverine conditions (i.e., stages in the Pee Dee River). Existing hydrologic

parameters of the drainage basins encompassing the Town and various design storm events, including the 2-, 10-, 25-, 50-, & 100-year, 24-hours storms, will be developed.

The existing conditions model will be developed to investigate stormwater conveyance system performance within major drainage paths including channels, culvert crossings, and significant underground conveyances. Initial model efforts will focus on areas of known flooding, and then expand to include other portions of the study area as warranted. Model results may be presented in tabular, profile, and/or inundation map form. Areas at risk of flooding will be identified Upon completion of the existing conditions model, a meeting will be held at the Town to review and discuss the results.

Task 3 – Evaluation of Flood Hazard Mitigation Practices

Mitigation practices to reduce flood hazards identified in Task 2 will be investigated through an improvement alternatives analysis. Improvements may include increasing conveyance capacities (i.e., larger pipe size), implementation of storage facilities (e.g. ponds), and channel diversions. Proposed improvement practices will be incorporated into the existing conditions model to consider impacts to upstream, downstream, and adjacent properties. Potential level of service improvements to the regional stormwater network will be quantified based on water surface elevations and inundation limits. These results will be compared to existing flood conditions. Results from the improvement alternatives analysis may be presented in tabular, profile, and/or inundation map form. Opinions of probable construction costs will be developed for recommended improvements. A meeting will be held at the Town to review the results. This will allow D&F and the Town to collectively evaluate and prioritize mitigation projects.

The results of this SWMP will be documented in a report. This document will outline the processes, details, assumptions, and results of this flood hazard mitigation investigation. Model inputs and results will be provided in this document. Additionally, D&F will utilize ESRI's ArcGIS On-Line (AGOL) platform to deliver model results. This platform will allow for efficient communication of the project status with Town staff, and it will provide a portal to project information for external agencies and the public. Upon completion of the SWMP, a public meeting will be held at the Town.

Project Deliverables:

- *Project Kickoff Meeting*
- *Field Inventory Exhibits*
- *Hydrologic Basin Map(s)*
- *System Inventory Map(s)*
- *Geodatabase of Existing Features*
- *Existing Conditions Model Input & Results*
- *Existing Conditions Model Review Meeting*
- *Flood Hazard Mitigation Practices Model Inputs & Results*
- *Project Prioritization Matrix*
- *Flood Hazard Mitigation Review Meeting*
- *Town of Cheraw Stormwater Master Plan (PDF and hard copy)*
- *Town of Cheraw Stormwater Master Plan Online Mapping & Communication Tool(s)*
- *Public Meeting*
- *Three (3) Meetings with the Town*

(End of Scope of Services)

Cost Summary

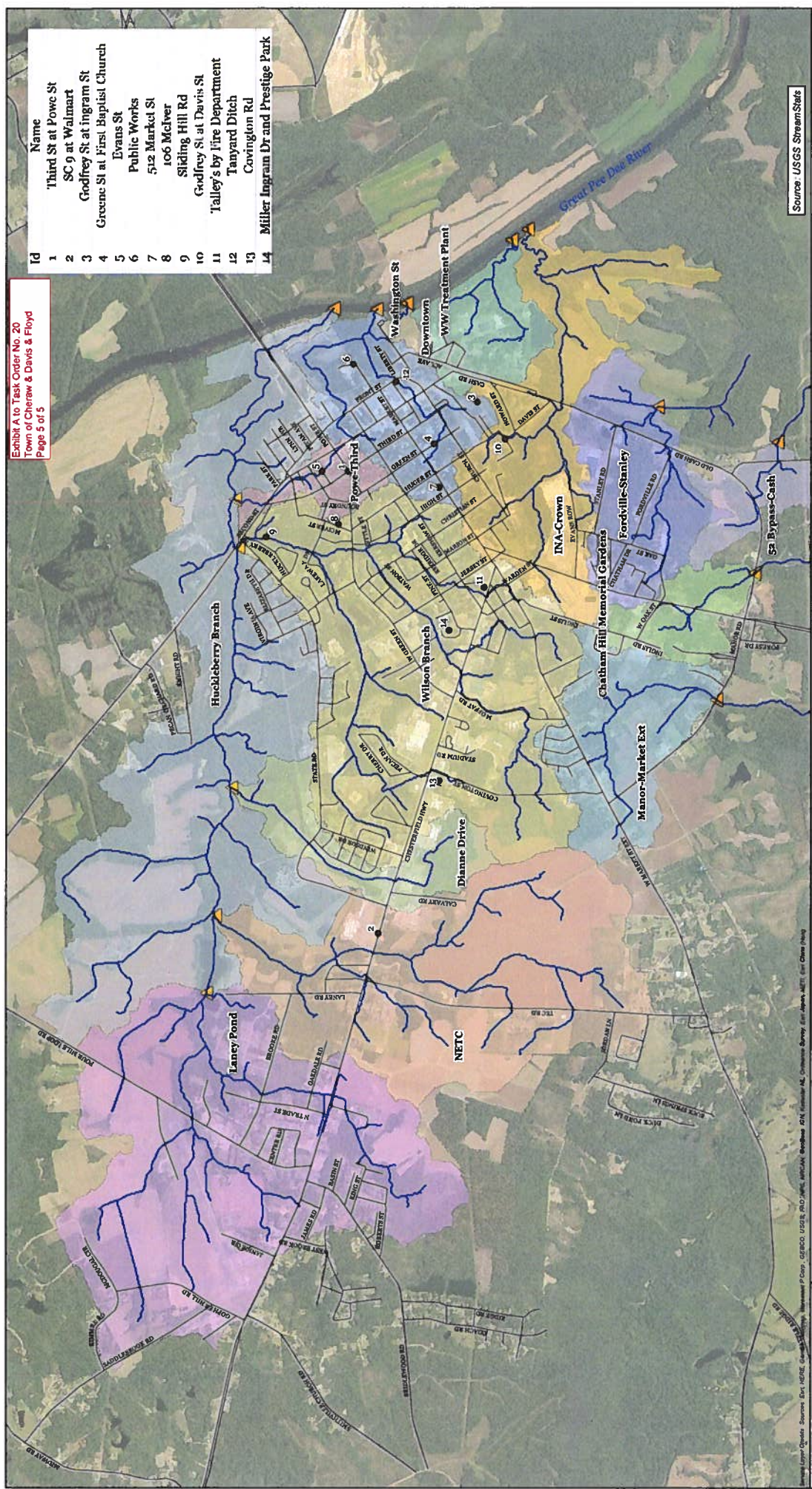
Project Name: Cheraw Stormwater Master Plan
D&F Project #: 00110000
Date: 3/28/2019

Task	Description	Cost
1	Data Gathering & Field Investigation	\$ 91,780.00
2	Modeling & Flood Hazard Assessment	\$ 80,560.00
3	Flood Hazard Mitigation Plan	\$ 91,110.00

Lump Sum Fee = \$ 263,450.00

Exhibit A to Task Order No. 20
 Town of Cheraw & Davis & Floyd
 Page 3 of 5

Id	Name
1	Third St at Powe St
2	SC 9 at Walmart
3	Godfrey St at Ingram St
4	Greene St at First Baptist Church
5	Evans St
6	Public Works
7	512 Market St
8	106 McIver
9	Sliding Hill Rd
10	Godfrey St at Davis St
11	Talley's by Fire Department
12	Tanyard Ditch
13	Covington Rd
14	Miller Ingram Dr and Prestige Park



Source: USGS StreamStats
DAVIS & FLOYD
 SINCE 1834
 Town of Cheraw
 Stormwater Master Plan
Preliminary Basin Map
 3/28/2019
 0 1,000 2,000 4,000 Feet
 D&F Proj. No. 001100.00

- Legend**
- Flooding Concerns
 - Roadways
 - USGS Streams
 - ▲ Watershed Delineation Points



**PROFESSIONAL ENGINEERING/ARCHITECTURAL
MASTER SERVICES CONSULTING
AGREEMENT AMENDMENT No. 3**

This **AMENDMENT** made as of the 2nd day of March in the year 2020 by and between Town of Cheraw, SC (hereinafter called the **CLIENT**) and Davis & Floyd, Inc. (hereinafter called the **CONSULTANT**).

WHEREAS, the Professional Engineering/Architectural Master Services Consulting Agreement dated September 9, 2009 and subsequent amendments to extend the term of the agreement is due to expire, it shall be amended according to the following:

ARTICLE 3 - CONTRACT TIME

3.1 Term: The term of the Master Services Consulting Agreement shall be extended three (3) years from the date of this Agreement Amendment through March 02, 2023. This **AGREEMENT AMENDMENT** may be terminated by either party with thirty (30) days written notice. Termination of the **AGREEMENT AMENDMENT** does not terminate any task orders which have been approved but not completed.

APPENDIX A CONSULTANT RATE SCHEDULE

Revise the Appendix A - Consultant Rate Schedule terms related to Direct cost and Sub-consultants as follows:

Direct cost (i.e., direct non-payroll expenses) and reimbursable expenses, including but not limited to, the cost of reproduction, travel, postage, and parking will be charged on the basis of direct or actual costs times a factor of 1.15.

Sub-consultants will be charged on the basis of direct or actual costs times a factor of 1.15.

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

Client: Town of Cheraw, SC

Consultant: Davis & Floyd, Inc.

By: 
Michael D. Smith

By: 
Michael V. Horton, PE, CFM, LEED AP

Title: Administrator

Title: Chief Engineering Officer

Date: 2/23/20

Date: 3/2/2020