



SCOPE OF WORK
Flood Management Study
for
Dillon County

January 12, 2021

AECOM Technical Services, Inc. (AECOM) is pleased to submit to Dillon County (Owner / Client) this scope of work for engineering and surveying services related to the development of a Flood Management Study. Over the past decade, the Dillon County has experienced numerous hurricanes and high-intensity rainfall events that have caused repetitive flooding of streets, residences, and businesses. This had included all areas of the County including the municipalities of Dillon, Latta, and Lake View.

On January 14, 2020, the County received a \$100,000 grant from FEMA for the development of a Flood Management Study. This study will serve as an annex to the existing Dillon County Hazard Mitigation Plan and include a public involvement process that may include surveys, public meetings, and interviews. Information will additionally be obtained through field investigation. Limited hydrology and hydraulic modeling will be conducted to evaluate areas of repetitive flooding and identify potential flood mitigation solutions.

AECOM's proposed scope of work for the Flood Management Study consists of the following tasks:

Task 1 – Public Engagement

1. AECOM will schedule meetings and interviews with representatives from Dillon County departments, the municipalities of Dillon, Latta, and Lake View to document institutional history of flooding issues and public needs. We assume one (1) face-to-face meeting with these stakeholders and one (1) virtual meeting.
2. Based on input received from the stakeholders, AECOM will identify critical areas of the County to be included in detailed hydrologic and hydraulic modeling.
3. AECOM will develop an outreach process that promotes the active engagement of a broad cross-section of stakeholders in the community, with efforts and accommodations made to include low-to-moderate income, minority, elderly or disabled citizens. AECOM will conduct an outreach process that successfully translates technical information and is capable of being presented in an understandable way that engages the public.
4. AECOM will host a public workshop (face to face or virtual) to hear about flooding concerns from the public, develop goals and objectives, and explore alternative standpoints.
5. AECOM will maintain records of information gathered through the public engagement task for inclusion with deliverables.

Task 2 – Assessment of Conditions

1. AECOM will conduct an assessment of conditions for the five (5) most critical flooding areas in the County, as determined by the stakeholders.

2. AECOM will collect relevant base data, facility inventories, maps, aerial imagery, and previously developed stormwater plans.
3. AECOM will observe the storm drainage system, as necessary, to identify attributes of new, replaced, or removed infrastructure, including material and condition. AECOM may verify existing conditions with field surveys and CCTV inspections. AECOM will utilize previously developed stormwater construction documents (such as SCDOT plans).
4. AECOM will assess the existing GIS inventory (Dillon County) to determine the extent of work necessary for modifying the data to enable accurate hydraulic modeling.
5. AECOM will conduct an assessment of the current community characteristics and how they have evolved over the past 20 years.

Task 3 – Facility Inventory & Mapping

1. To the best of our ability, AECOM will verify the accuracy of existing GIS storm drainage inventory through field surveys of a statistically significant number of drainage features.
2. AECOM will develop a GIS storm drainage inventory of the critical flood areas to include new, replaced, modified, removed, and omitted GIS features and GIS attributes for surface flows, inlets, pipes, detention vaults, basins, and sub-basins necessary for hydraulic modeling. After acceptable accuracy is verified, existing facility information will provide a base condition to be supplemented with inspections performed during the assessment of conditions. Mapping of facilities will be digitized in a format consistent with the mapping procedures, computer system and format used by County engineering staff. The final deliverable product will be in ArcGIS format.

Task 4 – Hydrologic & Hydraulic Analysis

1. AECOM will predict present and future land uses and development patterns through coordination with County staff.
2. AECOM will assist the County in verifying the desired level of service for storm drainage facilities.
3. AECOM will provide required technical guidance by summarizing performance criteria or guidelines used by comparable jurisdictions.
4. AECOM will estimate peak flow demands for the desired level of service from hydrological data (e.g., soils, present and future land use, and topography, etc.), with calculations appropriate to the conditions being evaluated.
5. AECOM will identify areas without sufficient infrastructure to achieve the desired level of service based on drainage patterns, tributary areas, and maximum zoning coverage.
6. AECOM will calculate peak flows for major public and private system points, including surface concentrated flows, inlets, water quality features, pipes, junctions, detention vaults, channels, culverts, creeks, stream crossings, and other major system components.
7. AECOM will estimate the hydraulic capacity of existing storm drainage facilities using normal flow relationships for full pipe flow, open channel flow, weir flow, or orifice flow as appropriate with backwater profile procedures for non-uniform flow conditions, including tailwater conditions for major public and private system points.

Task 5 – Development of the Flood Management Study

AECOM will develop a Flood Management Study with recommendations based on the outcomes of community engagement, assessment of conditions, hydrologic & hydraulic modeling, and future land use trends. Recommendations, at a minimum, will include the following:

1. AECOM will conduct a qualitative assessment of flooding problem areas. This information will be prepared from interviews with County officials, complaint files, citizens' forums, and workshops that will allow residents an opportunity to share their concerns about storm drainage, flooding and water quality. Specific areas should be identified, with a priority ranking for analysis and possible remedial actions to be recommended in the Flood Management Study.
2. AECOM will provide conceptual alternatives for ideas received during public engagement and for areas identified as not meeting the desired level and/or scope of services during the H&H analysis, including modifications to existing infrastructure and new infrastructure. Conceptual alternatives should include Green Infrastructure /Low Impact Development ideas consistent with the desired level of commitment or explanation for deviations.
3. AECOM will combine conceptual alternatives into a prioritized capital projects list, including a ranking by importance. Considerations for rankings should include severity of the deficiency, area of impact, public safety benefits, project scale, effected individuals, properties, businesses, organizations, and other metrics deemed necessary by the AECOM and County staff to achieve the optimal level and scope of service.
4. AECOM will develop a conceptual 10-year implementation schedule for the highest priority flood mitigation projects.
5. AECOM will develop a detailed list of actions to implement the flood mitigation projects identified. The actions should include a start date, completion date, preliminary cost estimates, financing options and responsible parties.
6. AECOM will include a description of the changes necessary within the comprehensive plan, zoning ordinance, development regulations or other locally adopted plans of Dillon County to support the Flood Management Study, including a committed schedule for adopting such changes.

COMPENSATION: The services for Tasks 1 through 5 are proposed to be provided as a lump sum per the following breakdown:

Task	Total
Task 1 – Public Engagement	\$ 14,000
Task 2 – Assessment of Conditions	\$ 23,000
Task 3 – Facility Inventory and Mapping	\$ 18,000
Task 4 – Hydrologic & Hydraulic Analysis	\$ 20,000
Task 5 – Development of the Flood Management Study	\$ 25,000
Lump Sum Total:	\$ 100,000



WORK AUTHORIZATION No. 2
January 12, 2021

In accordance with the Agreement for Professional Services between the Dillon County ("Client"), and AECOM Technical Services, Inc. (AECOM), a California corporation, dated January 12, 2021, this Work Authorization describes the Services, Schedule, and Payment Conditions for Services to be provided by AECOM ("Consultant") on the Project known as:

Flood Management Study
for Dillon County

Client Authorized Representative: Clay Young, County Administrator
Address: 109 S. Third Avenue
Dillon, SC 29536
Telephone No.: (843) 774-1400

Consultant Authorized Representative: Gary L. Freeman, Sr., PE, Vice President
Address: 101 Research Drive
Columbia, SC 29203
Telephone No.: (803) 254-4400

SERVICES. Scope of work includes the development of a Flood Management Study to determine the best course of action to mitigate and alleviate flood water damage experienced by home owners and business owners in Dillon County as outlined in Attachment A.

SCHEDULE. It is anticipated that the project will be completed in 9 months, prior to the November 22, 2021 grant deadline of completion. Because of the uncertainties inherent in the Services, schedules are estimated and are subject to revision unless otherwise specifically described herein.


PAYMENT AND EQUITABLE ADJUSTMENTS. This is a lump sum Work Authorization. Total compensation for the work is a lump sum of \$100,000.00 and will be billed monthly. Consultant shall give Client prompt written notice of unanticipated conditions or conditions which are materially different from those anticipated by Consultant at the time the lump sum compensation was agreed upon. If Client wishes Consultant to proceed, Consultant's lump sum compensation shall be subject to equitable adjustment for such conditions.

TERMS AND CONDITIONS. The terms and conditions of the Agreement referenced above shall apply to this Work Authorization, except as expressly modified herein.

ACCEPTANCE of the terms of this Work Authorization is acknowledged by the following signatures of the Authorized Representatives.

DILLON COUNTY, SOUTH CAROLINA

AECOM TECHNICAL SERVICES, INC.


Signature


Signature

Clay Young
County Administrator
Typed Name/Title

Gary L. Freeman, Sr., PE, Vice President
Typed Name/Title

1/29/21
Date of Signature

January 13, 2021
Date of Signature