

REQUEST FOR STATEMENT OF QUALIFICATIONS  
For

**Floodplain Standards Update and  
Watershed Modeling and Mapping**



**Fiscal Year 2026  
Charlotte-Mecklenburg Storm Water Services (CMSWS) Projects  
Mecklenburg County, North Carolina**

**March 4, 2026**

**Submittal Deadline:**  
April 1, 2026 / 2:00 PM

**Submittal Location:**  
Electronic Only  
[Mathew.Hornack@mecklenburgcountync.gov](mailto:Mathew.Hornack@mecklenburgcountync.gov)

NOTE: UPON REQUEST THIS INFORMATION IS AVAILABLE IN AN ALTERNATIVE  
FORMAT FOR PEOPLE WITH DISABILITIES

## I. INTRODUCTION

Charlotte-Mecklenburg Storm Water Services (CMSWS) intends to award one or more contracts to qualified professional engineering firm(s) for floodplain mapping services. The first requested task will finalize updates to the Mecklenburg County floodplain analysis and mapping standards guidance document that reflect a two-dimensional (2D) modeling and mapping approach and provide technical direction for the stakeholder feedback and approval process. Following this update, the first phase of Countywide remapping will be completed in accordance with the new guidance document. The firm(s) retained under this Request for Statement of Qualifications will be awarded a contract to support CMSWS's goal of maintaining accurate and updated floodplain maps.

CMSWS is nationally recognized for our pro-active floodplain management strategies and the use of current state-of-the-art floodplain mapping technologies. Through cooperation with government agencies and private firms, CMSWS utilizes new and existing technologies to support our flood mitigation efforts and more accurately model our watersheds. As a Cooperating Technical Partner (CTP), CMSWS assumes primary ownership and responsibility of the Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) for the entire County. These responsibilities also include administering floodplain ordinances for the City of Charlotte, Towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill, Pineville, and the unincorporated areas of Mecklenburg County; acquiring and processing new, detailed, accurate elevation data; conducting flood hazard analyses; and producing updated regulatory and non-regulatory flood map products.

## II. BACKGROUND & PURPOSE

In 1997, CMSWS began countywide flood hazard data and floodplain mapping studies which became effective on February 4, 2004. These maps were repaneled by the North Carolina Floodplain Mapping Program (a.k.a. NCFMP or the State) in 2009 and became effective on March 2, 2009. The 2004 FIRMs and FIS provided state-of-the-art technical and mapping information in Mecklenburg County at the time of issuance.

In 2007, CMSWS began the map maintenance process of reviewing and remapping the floodplains throughout the County. The goal of this process is to ensure that our flood maps are reviewed periodically and updated appropriately. In pursuit of this objective, CMSWS developed the *Mecklenburg County, North Carolina Floodplain Analysis and Mapping Standards Guidance Document* to ensure consistency among mapping consultants when creating FIRMs and supporting technical data.

In 2023, CMSWS initiated a pilot study to examine 2D Hydrologic and Hydraulic (H&H) methods for analyzing regulatory flood maps. As part of this project, draft 2D standards were developed to reflect the pilot study approach. To support the move to 2D modeling and facilitate changes in the mapping and regulatory products, this project will require a review and update to Mecklenburg County's existing guidance document prior to initiation of floodplain analysis. The resulting document shall be the primary technical guidance document to be used for floodplain mapping efforts associated with this and future projects. It is imperative that the standards presented in this document are consistent with guidance specified in the Federal Emergency Management Agency (FEMA) Guidelines and Standards for Flood Risk Analysis and Mapping Activities (G&S).

Previously, CMSWS has used a watershed-based approach to remapping which divided the county into three sections – southeastern corner, western corridor, and the northeastern corner. This division of the county watersheds is shown in Figure 1 and will be used for the planned countywide remapping using 2D H&H methods.

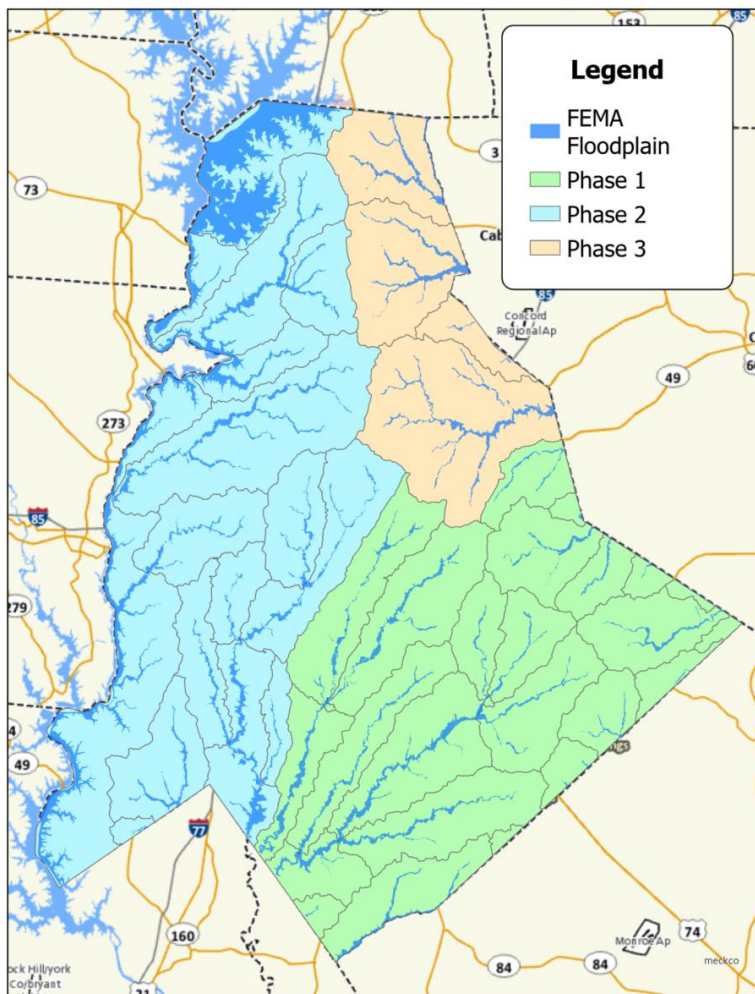


Figure 1: Floodplain Remapping Phases

The purpose for this Request for Statement of Qualifications is to solicit responses from professional engineering firms interested in finalizing Mecklenburg County’s Floodplain Analysis and Mapping Standards Guidance document (to reflect 2D methods) and performing the professional services required for Phase 1 floodplain mapping. The Phase 1 mapping area lies in the southeastern corner of Mecklenburg County and generally consists of 76 current FIRM panels covering approximately 153 regulated stream miles. Approximately 38 of those miles were modeled as part of the 2D pilot study that covered the Little Sugar Creek and Briar Creek basins. These pilot watersheds will need to be made compliant with adopted 2D standards, and additional Phase 1 watersheds will be included based on available budgets and watershed prioritization. Selected firm(s) will perform floodplain mapping Quality Assurance and Quality Control (QA/QC) professional services.

The selected firm(s) shall perform under the direction of CMSWS and may be required to coordinate with FEMA and FEMA’s contractors, the State and the

State’s contractors, along with other Federal, State, and local agencies. To ensure the quality of the project, the models, reports, map revisions, or other flood hazard mapping information developed by the selected firm may be independently reviewed for accuracy and integrity by staff and/or separate QA/QC consultants as determined by CMSWS.

This project is expected to involve the use of FEMA’s Mapping Information Platform (MIP) by CMSWS, and/or CMSWS’s mapping consultant for uploading all completed activities/deliverables. Changes to this schedule shall be made through coordination between the responsible Mapping Partners and FEMA in a timely manner. FEMA will provide download/upload capability for data submittals through the MIP. Assistance with the MIP may be requested at [FEMA-RiskMAP-IT@fema.dhs.gov](mailto:FEMA-RiskMAP-IT@fema.dhs.gov).

Frequent coordination with the CMSWS, as well as on-site visits at the prime firm’s office is essential to this project. The prime firm must also be able to respond on short notice to requests to attend meetings, provide data and other technical materials, and answer questions regarding project status.

### III. PROJECT DESCRIPTION

The selected firm(s) will receive a draft copy of the Mecklenburg County Floodplain Analysis and Mapping Standards Guidance document for review of 2D modeling and mapping methods. The firm(s) will support

stakeholder group meetings intended to guide and direct the process of finalizing and updating the modeling and mapping standards. These meetings will be managed and led through the County with selected firm(s) providing technical guidance and direction. One key element of the update to the modeling and mapping standards will be defining the process required to manage map revisions in a way that maintains seamless floodplain boundaries and up-to-date modeling files. Once CMSWS and the selected firm(s) have finalized the modeling and mapping standards, the selected firm(s) will lead the community adoption efforts through stakeholder meetings and public comments and responses.

CMSWS expects the selected firm(s) to develop regulatory and non-regulatory flood hazard data and flood maps for the streams within the Phase 1 watersheds shown in Figure 1. CMSWS reserves the right to retain a qualified firm for QA/QC of project deliverables in lieu of a separate solicitation for the same qualifications. The watersheds which may be completed as part of this Phase 1 study include Briar Creek, Little Sugar Creek, Caldwell Creek, Crooked Creek, Reedy Creek, McKee Creek, Back Creek, Goose Creek, Clear Creek, Clems Branch, McMullen Creek, Six Mile Creek, Four Mile Creek, and McAlpine Creek along with any contributing flooding sources contained within these watersheds.

CMSWS will provide processed lidar data (2025) capable of generating the topographic information necessary to create the updated flood hazard maps. Additionally, CMSWS will provide local land use data needed to develop the existing and future conditions land use for H&H modeling. The selected consultant shall be responsible for creating and labeling flood hazard maps and associated FIRMs, models, GIS shapefiles, FIS reports, SFHA Change Map and related digital information. The selected consultant should be familiar with existing methods as well as methods developed during prior floodplain mapping of the County's watersheds.

It is anticipated CMSWS will fund (through this contract) all work associated with the Hydraulics, Hydrology, and digital floodplain data associated database, while the State will incorporate the data into a larger Yadkin and Catawba Basin digital remapping and post-preliminary processing. The specifics of this arrangement should be finalized prior to the contracting of the Phase 1 floodplain mapping.

The floodplain mapping in Phase 1 will be required to follow CMSWS, NCFMP, and FEMA protocols. The mapping consultant will be required to produce 10 sq-ft depth grid raster products for eight profiles (50-, 20-, 10-, 4-, 2-, 1-, and 0.2-percent annual chance events as well as the 1-percent annual chance future conditions event). The 2D depth grids must reflect backwater at confluences and should reflect flooding produced by the main stem, i.e. depth grids should not reflect local pluvial flooding into the floodplain. Raster products will be delivered per basin and as a single "stitched" together coverage for the entire Phase 1 area. The floodplain polygons for each of the eight profiles must be corrected to ensure accuracy and must match the depth grids delivered.

The consultant is expected to provide internal QA/QC review as part of their work prior to any deliverables. Third party (external) QA/QC will likely be done on the following deliverables:

- Terrain/Base Data
- Land Use Datasets
- Hydrology
- Hydraulics
- Final regulatory & non-regulatory products (polygons, FIRM database, etc.)

CMSWS expects the selected consultant(s) to complete draft data within 12 months of guidance document approval. Draft data will consist of digital floodplain polygons for all eight profiles. The draft

data will also include Risk MAP “changes since last map” products for the 1-percent annual chance and 1-percent annual chance future conditions profiles. These products will also be required to match the backwater-corrected floodplain polygons and will be required to be delivered for each model extent and as a single “stitched” together polygon covering the entire Phase 1 area.

Upon delivery of the Draft data, CMSWS will hold meetings and gather public comments. Within 6 months of the delivery of the Draft data, the consultant(s) will complete Preliminary Data and deliver it to CMSWS and the State. The State is expected to conduct the Post Preliminary processing for this project. It is anticipated the final deliverable and action under CMSWS’s contract will be the delivery of a populated database to the State.

Consultants that cannot deliver high quality products within the allotted schedule shown herein should not submit a Statement of Qualifications.

#### **IV. PROJECT GOALS & OBJECTIVES**

CMSWS desires to contract with a North Carolina licensed professional engineering firm that can demonstrate extensive experience and expertise in developing community guidance documents and 2D floodplain modeling and mapping procedures. The selected consultant(s) will be expected to consistently deliver high quality work within schedule and budget. A critical goal of this project is identifying a practical and efficient method for managing the Letter of Map Change (LOMC) process with 2D watershed models.

The selected consultant(s) shall work closely with CMSWS, FEMA, the State, other City and County departments, and other appropriate parties throughout this contract.

At a minimum, the selected consultant(s) should be thoroughly familiar with the following documents:

1. City of Charlotte, Mecklenburg County, and Town Floodplain Ordinances;
2. Mecklenburg County Floodplain Analysis and Mapping Standards Guidance document;
3. FEMA Guidelines and Standards for Flood Risk Analysis and Mapping Activities available via <https://www.fema.gov/flood-maps/guidance-reports/guidelines-standards>;
4. Chapter 44 of the Code of Federal Regulations, Parts 59-77, which defines the NFIP and its mapping rules and regulations.

All project deliverables shall be in accordance with *Mecklenburg County Floodplain Analysis and Mapping Standards Guidance* document and FEMA’s G&S. Project deliverables to be submitted outside of the MIP shall be provided in several formats to include but not limited to:

- Digital Documents (Word, Excel, Access, HEC-RAS, HEC-HMS etc.)
- Internet-ready Documents (GIF, JPG, and PDF etc.)
- GIS-ready data (ESRI format)
- All formats necessary to be consistent with FEMA digital mapping standards.

#### **V. SCOPE OF SERVICES**

At a minimum this contract will involve the following tasks:

- Supporting stakeholder group meetings and presentations with advisory committees.

- Updating the *Mecklenburg County Floodplain Analysis and Mapping Standards Guidance* document to reflect a 2D modeling and mapping approach and receiving stakeholder adoption.
- Performing tasks in accordance with applicable FEMA G&S, FEMA PMs, MAS, *Mecklenburg County Floodplain Analysis and Mapping Standards Guidance* document, etc.
- Possible use of FEMA MIP workflow and reporting tools for data exchange between the responsible parties.
- Conducting riverine flood hazard analyses and modeling and producing floodplain boundary mapping. These analyses will be performed using detailed modeling on all scoped watersheds.
- Field surveys may be required to obtain stream channel and hydraulic structure geometry.
- Merging new flood hazard data (e.g. flood profiles, floodplain boundaries, floodway boundaries, base flood elevations) for updated areas with previously studied areas to produce seamless FIRMs and FIS reports.

Additional services may be considered on an as-needed basis.

## VI. SUBMISSION REQUIREMENTS

The selected firm will be expected to consistently deliver high quality work within schedule and budget. Please take note of the following requirements:

- **All materials shall be submitted electronically** in Adobe Acrobat PDF format (preferably in one file) by the date indicated in the schedule below (Section VII). **Paper submittals will not be accepted.**
- Submittals may be color or black/white; they should be concise and to the point; not elaborate productions. The PDF submittal is limited to a maximum of **30 total pages** inclusive of the cover letter and any other additional pages. The submittal may include maps, spreadsheets, graphics, and logos, but these objects will all be included in the 30-page limit. It shall be typed using a font size 12 or larger on 8 ½" x 11" sheets, single-spaced, with no less than one-inch margins. Proposals exceeding the page limit will be rejected.
- Submittal must include required forms for Business Diversity and Inclusion (BDI) and other information requested in Section IX. These forms do not count towards the page limit.
- Clearly list website URL and e-mail address for each firm participating in the submittal.
- Scanned signatures shall be valid for this submittal. E-mail routing and IP information will be logged to verify authenticity and becomes a part of your submittal signature as well as date-time logging.
- If applicable, clearly disclose the firm's or team member's potential conflict of interest for this project; include (1) present or prior relationships, (2) work in same or different discipline, (3) work in local area or elsewhere, (4) work as prime or sub-consultant, etc.
- Joint Ventures will not be permitted under this contract. Each Statement of Qualification submitted must designate a firm that will be solely under contract with, and report directly to, CMSWS. This firm will be considered the prime firm and, as such, will be responsible for subcontracting with and managing its project team member firms.

The submission shall address each of the following:

## **A. PROJECT APPROACH**

Please provide a brief description of firm's understanding of project approach (including the update to the guidance document) and an overview of any innovative approaches (i.e. custom tools, software, etc.) to be used for this floodplain mapping project. The current floodplain maps exceed FEMA standards. CMSWS intends to maintain higher standards by following the standards outlined in the *Mecklenburg County Floodplain Analysis and Mapping Standards Guidance* document. The firm's proposed project approach must be consistent within these guidelines.

## **B. SIMILAR EXPERIENCE**

In detail, describe any applicable experience of your firm in the following areas:

- Updating guidance documents and supporting public stakeholder input and approval.
- Implementing floodplain mapping projects.
- 2D H&H analyses and modeling, including future conditions.
- Tying 2D models into existing modeled elevations, especially considering challenges and impacts on future mapping.
- Key variables and methods for calibrating and validating H&H floodplain models.
- Familiarity with the NFIP, FIS production through a local CTP, FEMA's flood study specifications, methodologies, and regulations.
- Field survey of channels and structures for detailed hydraulic analyses.
- Specific experience and expertise with automated, GIS-based modeling and mapping to include compliant raster development for elevation and depth grids as well as non-regulatory products essential to Mecklenburg County applications (e.g. percent-annual-chance grids).
- QA/QC of hydraulic modeling, hydrologic modeling, and floodplain mapping to FEMA and/or State of North Carolina Standards.
- The Minority and Women Enterprise (MWBE) participation that your firm was able to achieve on each project. (List the percent of participation by MBE and WBE to total cost).

Include specific projects, names and description of the work completed, client names and individuals with telephone numbers to contact for references.

## **C. PROJECT TEAM**

The following items must be addressed regarding the project team:

- Provide a graphical representation of your team (organizational chart), including the firm's name, individuals involved (and their primary office location), and the role they will perform (principal-in-charge, project manager, engineer, developer, planner, etc.).
- Provide a description of the qualifications and experience of the specific individuals that will be involved in this project, including their specific experience in the following areas:
  - ◆ Use of GIS, with emphasis on spatial data production, evaluation, analysis, and creation of soft and hard copy flood hazard and related products that are in accordance with relevant standards and specifications (e.g., FEMA, FGDC, OpenGIS).
  - ◆ 2D H&H analyses and modeling.
  - ◆ Field surveys, particularly as related to river and stream channels, floodplains, and hydraulic structure (e.g., culverts, bridges) geometry. Include experience of the project team members in the use of current remote sensing technologies (i.e. lidar data used for

terrain processing and floodplain mapping).

- ◆ Floodplain mapping using the results of 2D H&H modeling.
  - ◆ Production of FIRMs and accompanying data to FEMA digital mapping standards.
  - ◆ Developing and implementing local outreach programs informing and educating the public and local officials regarding technical issues.
  - ◆ QA/QC of hydraulic modeling, hydrologic modeling, and floodplain mapping to FEMA and/or State of North Carolina Standards.
- For any team members, please indicate diversity and list any Office of Historically Underutilized Business Statewide Uniform Certifications (MBE/WBE). Provide a description of the project team with an organizational chart listing key individuals, job classification, and responsibilities.

#### **D. COST CONTROL & SCHEDULING**

Describe your firm's method of maintaining project performance schedules and budgets. Creative techniques that minimize research and work redundancy while providing a comprehensive effort should be described. The firm shall assure sufficient staff is available and assigned to the project. Providing a potential project schedule based on previous project experience is helpful.

### **VII. ANTICIPATED SCHEDULE**

Qualification submittals are to be received by CMSWS **no later than 2:00 PM on Wednesday, April 1, 2026**. The Selection Committee will review all submittals received by the deadline. Submittals received after the deadline will not be evaluated. The County has size limits on e-mail attachments, so receipt of larger attachments should be confirmed.

Submittals should be e-mailed to Mathew Hornack, PE, CFM (contact information below). Questions may be submitted only via the email provided below. The deadline for questions is 2:00 pm on Wednesday, March 18, 2026. Valid questions will include the reference to the RFQ title and applicable section and page number. CMSWS will post an addendum to address any questions received prior to the deadline.

Contact information:            2145 Suttle Avenue  
    Charlotte, NC 28208  
    Telephone: 980-314-3236  
    **Mathew.Hornack@mecklenburgcountync.gov**

- **Firms are strongly encouraged to test-submit proposals to themselves to review format and integrity of the submittal. Submittals that cannot be opened or are otherwise corrupt will not be evaluated.**
- **Firms are strongly encouraged not to wait until the deadline. Submittals that are received after the deadline due to Internet delays, firewalls, large file delivery times, etc. will not be considered.**
- **Firms will receive an e-mail confirmation upon receipt and successful opening of their submittal indicating that submittal was received before the deadline.**

After a review of the submittals, firms may be short-listed for personal interviews. The final selection may be determined by a committee comprised of representatives from CMSWS and a citizen representative appointed by the Board of County Commissioners.

## VIII. SELECTION CRITERIA

The selection of the Floodplain Standards Update and Watershed Modeling and Mapping consultant will be based on demonstrated competence and qualification for the professional services required without regard to cost in accordance with N.C. Gen. Stat. §143-64.31. Thereafter, CMSWS will negotiate a contract for the engineering and related services described herein with the best-qualified firm. If the contract cannot be negotiated with the best-qualified firm, negotiations with that firm shall be terminated and initiated with the next best-qualified firm. Please note that this RFQ is not a commitment to complete this project.

The Engineer in responsible charge of the work must be a licensed Professional Engineer in the State of North Carolina and must have good professional standing with the North Carolina Board of Examiners for Engineers and Surveyors. In addition, the prime firm, any of its corporate subsidiaries proposed to be used on the project, and all proposed subcontractors on its team wishing to perform the engineering and land surveying work must be properly licensed to practice in the State of North Carolina as required by Chapter 89C of the North Carolina General Statutes. Additionally, the prime firms, any corporate subsidiaries to be used on the project, and subcontractors must be properly registered with the Office of the Secretary of State.

The selection of the firm shall be based on proposal information exhibited in both written and graphic form and personal interviews (if conducted). Criteria for selection will include, but not necessarily be limited to the following:

- Relevant experience of the same or similar type projects in content and scope.
- Firm's understanding of the purpose of the studies including the firm's approach to floodplain mapping.
- The qualifications and experience of the firm's key project team members who will **actually be actively involved in the project**. Both firm AND team members must have relevant experience with similar studies.
- Approach to cost control and scheduling, including ability to deliver within the desired timeframe.
- Reference checks.
- The submittal itself is an example of the quality of the firm's work.

**Prohibited Communications:** From the issuance date of this RFQ through the date the contract is awarded, each offeror (including its subcontractors and/or suppliers) is prohibited from having any communications with any person inside or outside the using agency, issuing agency, or other County agency office where the communication discusses the content of offeror's statement of qualifications, the contents of another offeror's statement of qualifications, another offeror's qualifications or ability to perform the contract, and/or the transmittal of any other communication of information that has the effect of directly or indirectly influencing the evaluation of proposals and/or award of the contract. Offerors not in compliance with this provision shall be disqualified from contract award, unless it is determined that the best interest of the County would not be served by the disqualification. Only the

discussions, communications, or transmittals of information authorized by the issuing agency in this RFQ or general inquiries to the purchaser regarding the status of the contract award are exempt from this provision.

## **IX. MISCELLANEOUS PROJECT REQUIREMENTS**

### **A. PROMOTION OF EQUAL OPPORTUNITY**

The Business Diversity & Inclusion (BDI) division of the County endeavors to ensure that any firm desiring to participate in contracting and procurement services with the County will not be prevented from doing so based on the race, color, national origin, or gender of the firm's owners. It is the intent of the BDI Program that no firm, business enterprise, or person be denied the benefit of, or otherwise be discriminated against, based on the grounds of race, color, national origin, or gender in connection with the award or performance of any contract paid for, in whole or in part, with funding from Mecklenburg County.

### **B. BUSINESS DIVERSITY & INCLUSION (BDI) – CONTRACT COMPLIANCE REPORTING**

Mecklenburg County is committed to the promotion of equal opportunity in all contracting activities. No specific minority- or woman-owned business participation goals are established for this solicitation; however, the awarded firm or firms will be required to follow comprehensive post-award tracking and reporting requirements to ensure accurate data collection in the use of third-party business partners (subcontractors, subconsultants, suppliers). The awarded firm must submit contracting data using the standard BDI forms. This includes, but is not limited to, the reporting of prime and subcontractor/subconsultant/supplier participation, payment verification, and real time utilization data. By submitting a response, the firm acknowledges and agrees to this obligation and commits to maintain accurate records and provide all required documentation to verify all subcontractors, subconsultants, and/or suppliers used throughout the duration of the contract.

### **C. ADA COMPLIANCE**

Mecklenburg County will comply with the Americans with Disabilities Act (ADA) which prohibits discrimination on the basis of a disability. Mecklenburg County will make reasonable accommodations in all programs to enable participation by an individual with a disability who meets essential eligibility requirements. Mecklenburg County programs will be available in the most integrated setting for each individual. If any accommodations are necessary for participation in any program or services, participants are encouraged to notify County Staff.

### **D. INDEMNITY AND INSURANCE REQUIREMENTS**

To the extent permitted by law, the firm shall indemnify and save harmless Mecklenburg County, its officers, agents, employees and assigns from and against all loss, cost, damages, expense and liability caused by an accident or other occurrence resulting in bodily injury, including death, sickness and disease to any person; or damage or destruction to property, real or personal; arising directly or indirectly from operations, products or services rendered or purchased under this contract. The following requirements should be noted:

- Evidence of adequate insurance or ability to obtain insurance must be included in the bid/response.

- Provide one of the following documents for the required insurance minimums marked below:
  - A Certificate of Insurance.
  - A signed and dated letter from your insurance provider on their company letterhead stating your ability to obtain coverage.
  - Mecklenburg County must be listed as Certificate Holder on the accord.
  - Required insurance minimums:
    - Commercial General Liability**
      - Minimum \$1,000,000
      - Mecklenburg County must be listed as additionally insured.
    - Automobile Liability**
      - Minimum \$1,000,000
    - Worker's Compensation and Vendors Liability**
      - State of North Carolina statutory requirements.
      - If less than three (3) employees (including the owner(s)), provide signed statement on business letterhead that Worker's Compensation not required and state the number of full-time and part-time employees including owner(s).

Certificates of such insurance will be furnished and shall contain the provision that Mecklenburg County will be given 30 days written notice of any intent to amend or terminate by either the firm or the insuring company.

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**END OF REQUEST FOR PROPOSAL**

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