

NORTH CAROLINA  
WAKE COUNTY

**MEMORANDUM OF AGREEMENT**

BETWEEN

NORTH CAROLINA  
DEPARTMENT OF  
TRANSPORTATION

NORTH CAROLINA  
FLOODPLAIN MAPPING  
PROGRAM

This MEMORANDUM OF AGREEMENT (hereinafter, "MOA" or "Agreement"), made and entered into this the 5th day of June, 2008, between the DEPARTMENT OF TRANSPORTATION, an agency of the State of North Carolina, hereinafter referred to as the Department, or NCDOT, and the NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM, an office within the Division of Emergency Management in the Department of Crime Control and Public Safety of the State of North Carolina, hereinafter referred to as the NCFMP;

WITNESSETH:

WHEREAS, in 1977 the President issued Executive Order 11988 which directed Federal Agencies to take certain steps to avoid adverse impacts associated with the occupancy and modification of floodplains; and

WHEREAS, in 1979 the Governor issued State Executive Order 123 which required by agreement between the Department and the NC Department of Administration, that the Department shall work directly with the Federal Department of Transportation and Federal Emergency Management Agency (FEMA) to apply appropriate standards and management to comply with the Floodplain Management Policy relevant to highway construction within floodplains; and

WHEREAS, the 1989 General Assembly created the North Carolina Highway Trust Fund for the construction and improvement of North Carolina roadways; and

WHEREAS, in 1992 the Federal Highway Administration issued Federal-Aid Policy Guide NS 23 CFR 650A Attachment 2, "PROCEDURES FOR COORDINATING HIGHWAY ENCROACHMENTS ON FLOODPLAINS WITH FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)", which requires consistency with National Flood Insurance Program (NFIP) standards for Federal-aid highway actions involving regulatory floodways; and

WHEREAS, 23 CFR Part 650A contains design standards for areas within identified and unidentified floodplains; and

WHEREAS, the Federal Highway Administration, the Federal Emergency Management Agency, the Department and the NCFMP met on August 17, 2006 to discuss the requirements of the documents listed above; and

WHEREAS, the State of North Carolina has established the Floodplain Mapping Program in the North Carolina Department of Crime Control and Public Safety (CCPS) to update and maintain the Special Flood Hazard Areas (SFHAs) and the associated Flood Insurance Rate Maps (FIRMs) for North Carolina; and

WHEREAS, the Federal Emergency Management Agency (FEMA) has delegated the responsibility for all Letter of Map Changes (LOMCs) in North Carolina to the NCFMP; and

WHEREAS, both the Department and the NCFMP recognize the need to function as a cooperative team in order to move the Department's Bridge and Maintenance Replacement Program expeditiously to completion and to reduce costs of operation; and

WHEREAS, the Department and the NCFMP mutually agree this Agreement allows for efficient use of both agencies' resources and has been developed in a manner to realize efficiencies with project schedule and cost; and

WHEREAS, the Department and the NCFMP have developed this Agreement to satisfy the requirements listed above and to keep the NCFMP's FIRMs current in regard to Department projects; and

WHEREAS, the Department and the NCFMP in accordance with the provisions hereinafter set forth propose to enter into an agreement for services that are essential in project development.

NOW, THEREFORE, the parties hereto, each in consideration of the promises and undertakings of the other as herein provided, do hereby covenant and agree, each with the other, as follows:

1. The Department shall retain the services of the NCFMP, as specified in the attached Exhibit A, to: 1) provide updates to the FIRMs to maintain NFIP compliance associated with projects with NO-RISE/NO-IMPACTS and MINOR IMPACTS, as defined in Exhibit A; 2) complete Letter of Map Revisions (LOMRs) for projects with MEASURABLE IMPACTS, as defined in Exhibit A; and 3a) update the Flood Insurance Study and Draft Flood Insurance Rate Maps (DFIRM) for the Department's LOMR submittals that are submitted following an NCFMP DFIRM update that supersedes the then effective FIRM mapping used by the Department in its Conditional Letter of Map Revision (CLOMR) submittal; 3b) update the Flood Insurance Study and DFIRM Mapping for the Department's LOMR submittals that are submitted following an NCFMP DFIRM update that supersedes the then effective hydrology and hydraulic (H&H) analysis used by the Department in its CLOMR submittal.
2. Exhibit A contains a list of the "Estimated Annual Number of Projects" and a "Reimbursement Schedule." Both parties understand and agree the

“Estimated Annual Number of Projects” and “Total Annual Estimated Cost” are estimates, and that the Department may ask NCFMP to process more or less requests than the estimated number in each category. Compensation will be based on the actual number of requests generated by the Department.

3. The NCFMP, on a monthly basis, shall meet with the Department to review MOA candidate projects and provide to the Department the design information, such as engineering models, and services as specified in the attached Exhibit A.
4. At least 10 months prior to the commencement of project construction, except in the event of emergency repairs, the Department shall review with the NCFMP the candidate projects’ eligibility for this MOA and the associated reimbursement in accordance with the “Reimbursement Schedule” included in Exhibit A herein. Then the NCFMP shall submit, within two (2) months of this project review, to the Department an invoice for each of the eligible MOA projects. The NCFMP shall submit each invoice to the Department with appropriate documentation accompanying each invoice as requested by the Departments’ Fiscal Branch. The Department will process each invoice for payment within thirty (30) days of receiving appropriate documentation for each invoice. The NCFMP shall be responsible for maintaining appropriate records in accordance with state accounting procedures and regulations.
5. The Department and the NCFMP understand and agree that proper administration of this MOA ensures that the Department is consistent with FEMA’s NFIP Regulations for its replacement of bridges and culverts located over or in regulated SFHAs streams, as long as the replacement structures do not cause an increase in the flood elevation during a 100 year flood event. A CLOMR will not be required for projects subject to this MOA. Projects that result in increases in the 100 year flood elevation will continue to require an individual CLOMR.
6. All work will be performed in accordance with federal and state guidelines, regulations, policies and procedures.
7. This Agreement shall remain in effect from the date of execution of this agreement unless cancelled by mutual agreement. It is anticipated that this Agreement may be revisited annually, or at a time mutually agreed upon by both parties, to determine if changes are needed to the “Annual Estimated Number of Projects” and “Reimbursement Schedule” contained in Exhibit A. In the event either party to this Agreement should choose to withdraw from this Agreement, written notification must be given to the Director and/or Section Chief of the other Agency ninety (90) days prior to withdrawal.

IN WITNESS WHEREOF, this Agreement has been executed, in duplicate, the day and year heretofore set out, on the part of the Department and the NCFMP by authority duly given.

NORTH CAROLINA DEPARTMENT  
OF TRANSPORTATION

BY: William F. Rosser

William F. Rosser  
STATE HIGHWAY ADMINISTRATOR

NORTH CAROLIN FLOODPLAIN  
MAPPING PROGRAM

BY: John Kay Dorman

John Kay Dorman  
DIRECTOR

APPROVED AS TO EXECUTION:

BY: Lisa C. Glover

Lisa C. Glover  
ASSISTANT ATTORNEY GENERAL

## **EXHIBIT A COST ESTIMATE AND DATA REQUIREMENTS**

Through this Reimbursement Agreement, the Department and the NCFMP mutually agree that the data sharing agreements and services provided herein are conducive to efficient cooperation and project timelines for the two agencies. The NCFMP will provide to the Department, at no cost, necessary hydrologic and hydraulic information, such as engineering models, maps, etc. In addition, three (3) distinct tasks are identified as services to be provided by the NCFMP as part of this agreement:

1. The NCFMP will review the Department's Bridge and Maintenance Replacement Program's NO-RISE/NO-IMPACT submittals and certifications. At the onset of this agreement it was estimated that 10 projects will be reviewed annually. Reimbursement is for NCFMP's costs to review the Department's submittals.
2. The NCFMP will use the Department's hydraulic and topographic data for the Department's Bridge and Maintenance Replacement projects with Base Flood Elevation (BFE) decreases to update the DFIRMs using one of the following methods:
  - a. For projects with MINOR IMPACTS, as defined below, the NCFMP will utilize the data to supplement map maintenance studies and DFIRM updates. At the onset of this agreement it was estimated that 80 projects will be provided to the NCFMP annually. Reimbursement costs are for offsetting map maintenance costs for inclusion of the bridge projects.
  - b. For projects with MEASURABLE IMPACTS, as defined below, the NCFMP will prepare and process a LOMR submittal following construction per the agreements contained herein. At the onset of this agreement it was estimated that 5 LOMRs will be generated annually. Reimbursement costs are for development of the LOMR package and the corresponding FEMA fee.
3. The NCFMP will update the Flood Insurance Study (FIS) components and DFIRM mapping for the Department's LOMR submittals that are submitted following an NCFMP DFIRM update that supersedes the effective FIRM mapping used for the Department's CLOMR. At the onset of this agreement it was estimated that 5 LOMRs will require this task annually. Reimbursement is for the NCFMPs cost to update the DFIRM mapping and FIS components and the corresponding FEMA fee.

FEMA has provided guidance beyond the items shown in the Reimbursement Agreement, specifically that all Department projects resulting in (BFE) decreases of more than 0.5 feet (defined herein as MEASURABLE IMPACTS) will require a LOMR submittal. Additionally, FEMA has agreed, at the NCFMP's request, to allow NFIP compliance of Department projects resulting in BFE decreases between 0.1 and 0.5 feet (defined herein as MINOR IMPACTS), to be met by including these projects in NCFMP map maintenance updates. Any Department project with increases in base flood elevations

will continue to be required to follow the Conditional Letter of Map Revision (CLOMR) and subsequent LOMR submittal process, as required by NFIP regulations.

### ESTIMATED ANNUAL NUMBER OF PROJECTS

The Department replaces annually approximately 100 bridge / culvert projects on streams that are regulated by the NFIP. Projects may be categorized as: BFE No-Rise/No-Impact, BFE Decrease, or BFE Increase. The Department estimates approximately 10% of projects are No-Rise/No-Impact. About 80% are Minor Impact and 5% are Measurable Impact, having BFE decreases between 0 and 0.5 feet and greater than 0.5 feet, respectively. Approximately 5% of these projects will result in BFE increases.

1. Estimated Annual Number of No-Rise/No-Impact Reviews:  
 $100 * 10\% = 10$  projects
- 2.a. Estimated Annual Number of Bridge Maintenance Projects with BFE decreases of 0.1 to 0.5 feet (MINOR IMPACT):  
 $100 * 80\% = 80$  projects
- 2.b. Estimated Annual Number of Bridge Maintenance Projects with BFE decreases greater than 0.5 feet (MEASURABLE IMPACT):  
 $100 * 5\% = 5$  projects
- 3.a. Estimated Annual Number of LOMR submittals resulting from previously approved CLOMRs requiring updated DFIRM mapping and FIS component: 3 projects
- 3.b. Estimated Annual Number of LOMR submittals resulting from previously approved CLOMRs requiring updated hydrology and/or hydraulic modeling, DFIRM, and FIS components: 2 projects

### REIMBURSEMENT SCHEDULE

1. Total Estimated Number of No-Rise/No-Impact Reviews:  
  
Total Reimbursement cost at \$1,000/project –  $10 * \$1,000 = \$10,000$
- 2.a Total Estimated Number of Minor Impact Projects to be updated in Map Maintenance:  
  
Total Reimbursement cost at \$2,000/project –  $80 * \$2,000 = \$160,000$

Total Reimbursement cost at \$11,000/project – 5 x \$11,000 = \$55,000

3.a Total Estimated Number of LOMR submittals requiring updated DFIRM mapping and FIS component updates:

Total Reimbursement cost at \$6,000/project – 3 x \$6,000 = \$18,000

3.b Total Estimated Number of LOMR submittals requiring updated H&H, DFIRM mapping and FIS component updates:

Total Reimbursement cost at \$11,000/project - 2 x \$11,000 = \$ 22,000

Total Annual Estimated Cost - \$265,000

### SUBMITTAL REQUIREMENTS

#### Department Data Submittal Requirements:

1. Projects with NO-RISE/NO-IMPACTS:  
Initial Submittal: within 180 days prior to construction  
Final Submittal: within 180 days of completion of construction
  
- 2.a. Projects with MINOR IMPACTS:  
Initial Submittal: within 180 days prior to construction  
Final Submittal: within 180 days of completion of construction
  
- 2.b. Projects with MEASURABLE IMPACTS:  
Initial Submittal: within 180 days prior to construction  
Final Submittal: within 180 days of completion of construction
  
- 3.a.b. Projects with LOMR submittals requiring updated DFIRM mapping and FIS component updates:  
Final Submittal: within 180 days of completion of construction

#### Department Data Deliverable Requirements:

1. Projects with NO-RISE/NO-IMPACTS:

The Initial Submittal is defined to be submittal of modeling and design data, such as:

- NCDOT Bridge / Culvert Survey Reports
- Electronic Format Project Location and Topographic Data
- No-Rise/No Impact Certification

The Final Submittal is to submit NCDOT As-Built Plans.

2.a. Projects with MINOR IMPACTS:

The Initial Submittal is defined to be submittal of modeling and design data, such as:

- NCDOT Bridge / Culvert Survey Reports
- Electronic Format Project Location and Topographic Data

The Final Submittal is to submit NCDOT As-Built Plans.

2.b. Projects with MEASURABLE IMPACTS:

The Initial Submittal is defined to be submittal of modeling and design data, such as:

- NCDOT Bridge / Culvert Survey Reports
- Electronic Format Project Location and Topographic Data
- Parcel boundaries and property owners
- NCDOT signature on appropriate MT2 forms

The Final Submittal is to submit NCDOT As-Built Plans.

3.a.b. Projects with LOMR submittals requiring updated DFIRM mapping and FIS component updates:

The initial submittal is defined to be:

- Electronic Format Project Location and Topographic Data
- Parcel boundaries and property owners
- NCDOT signature on appropriate MT2 forms

The Final Submittal is to submit NCDOT As-Built Plans.