

RESOLUTION NO. _____

A RESOLUTION AUTHORIZING THE MAYOR TO ENTER INTO AN AGREEMENT WITH THE U.S. ARMY CORPS OF ENGINEERS FOR SCOPE OF WORK RELATIVE TO THE FLOOD PLAIN MANAGEMENT SERVICES PROGRAM, CONTRACT NO. S-13-003, NORTH CHICKAMAUGA AND LOOKOUT CREEKS AND HEC-RTS COMPUTER DEVELOPMENT FOR ALL WATERSHEDS, AUTHORIZING A FIFTY-SIX (56%) PERCENT MATCH, FOR AN AMOUNT NOT TO EXCEED ONE HUNDRED NINETY-FIVE THOUSAND DOLLARS (\$195,000.00).

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHATTANOOGA, it is hereby authorizing the Mayor to enter into an agreement with the U.S. Army Corps of Engineers for scope of work relative to the Flood Plain Management Services Program, Contract No. S-13-003, North Chickamauga and Lookout Creeks and HEC-RTS computer development for all watersheds, authorizing a 56% match, for an amount not to exceed \$195,000.00.

ADOPTED: _____, 2013.

/mms

City of Chattanooga



Resolution Request Form

(This form is only required for resolutions requiring expenditure of City funds)

Date: June 3, 2013

Preparer: William C. Payne

Department: Public Works - Engineering

Brief Description of Purpose for Resolution:

Resolution Number (if approved by Council): _____

A City Council Action is requested to authorize the Mayor to execute an agreement with the U.S. Army Corps of Engineers for scope of work relative to the Flood Plain Management Services Program, Contract No. S-13-003, North Chickamauga & Lookout Creeks and HEC-RTS computer development for all watersheds, authorizing a 99% match in the amount not to exceed ~~\$345,000.00-~~

56%

\$195,000.00

Name of Vendor/Contractor/Grant, etc.	<u>US Army Corp of Engineers</u>	New Contract/Project? (Yes or No)	<u>Yes</u>
Total project cost \$	<u>345,000.00 195,000</u>	Funds Budgeted? (YES or NO)	<u>Yes</u>
Total City of Chattanooga Portion \$	<u>345,000.00 195,000</u>	Provide Fund	<u>6031</u>
City Amount Funded \$	<u>345,000.00- 195,000</u>	Provide Cost Center	<u>K80111</u>
New City Funding Required \$	<u>0.00</u>	Proposed Funding Source if not budgeted	<u>N/A</u>
City's Match Percentage %	<u>99% 56%</u>	Grant Period (if applicable)	<u>N/A</u>

List all other funding sources and amount for each contributor.

Amount(s)	Grantor(s)

Agency Grant Number _____
 CFDA Number if known _____

Other comments: (Include contingency amount, contractor, and other information useful in preparing resolution)

Approved by:

Reviewed by: FINANCE OFFICE DESIGNATED OFFICIAL/ADMINISTRATOR
 Please submit completed form to @budget, City Attorney and City Finance Officer

RESOLUTION NO. 27129

A RESOLUTION AUTHORIZING THE ADMINISTRATOR OF THE DEPARTMENT OF PUBLIC WORKS TO ENTER INTO AN AGREEMENT WITH THE U.S. ARMY CORPS OF ENGINEERS FOR SCOPE OF WORK RELATIVE TO THE FLOOD PLAIN MANAGEMENT SERVICES PROGRAM, CONTRACT NO. S-12-006, AND AUTHORIZING THE CITY TO PAY ONE HUNDRED FIFTY THOUSAND DOLLARS (\$150,000.00) AS A FIFTY (50%) PERCENT MATCH, FOR A TOTAL PROJECT COST IN THE AMOUNT OF THREE HUNDRED THOUSAND DOLLARS (\$300,000.00)

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHATTANOOGA, it is hereby authorizing the Administrator of the Department of Public Works to enter into an agreement with the U.S. Army Corps of Engineers for scope of work relative to the Flood Plain Management Services Program, Contract No. S-12-006, and authorizing the City to pay \$150,000.00 as a 50% match, for a total project cost in the amount of \$300,000.00.

ADOPTED: June 5, 2012.

/mms

**LETTER OF AGREEMENT
FOR
FLOOD PLAIN MANAGEMENT SERVICES
BETWEEN
THE US ARMY CORPS OF ENGINEERS AND
THE CITY OF CHATTANOOGA**

THIS LETTER OF AGREEMENT is entered into this _____ day of _____, _____, by and between the Department of the Army (hereinafter called the "Government"), represented by the U.S. Army Engineer, Nashville District, the City of Chattanooga, Tennessee (hereinafter called the "Non-Federal Sponsor"), represented by the Mayor of Chattanooga, Tennessee, collectively referred to as the "Parties."

WITNESSETH, THAT:

WHEREAS, Section 206 of the Flood Control Act of 1960, 33 U.S.C. § 709a (as amended) authorizes the Secretary of the Army, acting through the Chief of Engineers, to compile and disseminate information on floods and flood damages and to provide engineering advice in planning to ameliorate the flood hazard to Federal and non-Federal interests, referred to as the "Flood Plain Management Services Program;" and to collect from Federal agencies and private persons fees for the purpose of recovering the cost of providing the requested services and to accept funds voluntarily contributed by state, regional, or local governments for the purpose of expanding the scope of the services requested by the entities; and

WHEREAS, the Government and the Non-Federal Sponsor have the full authority and capability to perform as hereinafter set forth and intend to cooperate with the terms of this Letter of Agreement ("LOA").

NOW, THEREFORE, the Parties agree to the following:

1. The Government, using funds contributed by the Non-Federal Sponsor, shall use its best efforts to expeditiously complete the Chattanooga Regional Flood Preparedness Study – Real Time Simulation ("Floodplain Services") in compliance with the Scope of Work attached as Exhibit A, in conformity with applicable federal laws and regulations, and mutually acceptable standards of engineering practice. This LOA shall become effective upon the signature of the District Engineer. The period of performance for this LOA shall mean the time from the effective date of the LOA to the date that the Floodplain Management Services are completed, but shall not exceed five (5) years.
2. The Non-Federal Sponsor shall pay in advance as required by OMB Circular A-97. The Non-Federal Sponsor certifies that the Floodplain Services being requested pursuant to this LOA cannot be procured reasonably and expeditiously through ordinary business channels.

3. The total cost of the Floodplain Services estimated for this LOA is \$348,485. As of the effective date of this LOA, \$153,485 of Federal funds is currently available for the Floodplain Services Project. The total cost to the Non-Federal Sponsor is estimated to be \$195,000. The Non-Federal Sponsor shall voluntarily contribute in cash approximately 56 percent of the estimated costs of the Floodplain Services; provided that the Government shall not obligate any cash contribution by the Non-Federal Sponsor toward costs of the Floodplain Services until such cash contribution has actually been made available to it by the Non-Federal Sponsor.
4. Within thirty (30) days after the effective date of this LOA, the Non-Federal Sponsor agrees to provide a cashier or certified check or an Electronic Funds Transfer in accordance with procedures established by the Government in the amount of \$195,000. Payments shall be made payable to FOA, USAED, Nashville District.
5. The Government shall draw from the funds provided by the Non-Federal Sponsor as needed to expeditiously complete the Floodplain Services in accordance with the Scope of Work.
6. If at any time the Government forecasts its actual costs for providing the agreed upon level of service will exceed the amount of funds available, the Government will promptly notify the Non-Federal Sponsor of the additional funds needed to complete the work under this LOA. The Non-Federal Sponsor will either initiate an amendment to this LOA to increase the funding amount, agree to a reduced level of service, or direct termination of work under this LOA pursuant to paragraph 9.
7. The Government will carry over any unobligated funds from year to year, or will return such unobligated funds if this LOA is terminated.
8. The Government and the Non-Federal sponsor shall keep books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this LOA to the extent and in such detail as will properly reflect total costs for the Floodplain Services. The Government and the Non-Federal Sponsor shall maintain such items for a minimum of three years after completion of services and resolution of any claims and shall make available at their offices at reasonable times such items for inspection and audit by authorized representatives of the Parties to this LOA.
9. Upon thirty (30) days written notice, either Party may terminate or suspend performance of future Floodplain Services without penalty. Upon receipt of such notice from the Non-Federal Sponsor, the Government will stop performance of the Floodplain Services under the LOA immediately. If the Floodplain Services are terminated, the LOA shall terminate within sixty (60) days after the completion of the final accounting as provided in paragraph 10.
10. Within ninety (90) days following the end of the period of performance or notice of early termination of this LOA pursuant to paragraph 9 above, whichever occurs first, the Government shall prepare a final accounting of the costs of the Floodplain Services,

which shall display: (1) funds provided by the Non-Federal Sponsor, and (2) disbursements by the Government of those funds. Within thirty (30) days after the final accounting, the Government shall return to the Non-Federal Sponsor any funds advanced in excess of the actual costs as then known. Such an accounting shall in no way limit the Non-Federal Sponsor's duty in accordance with Paragraph 14 to pay for any costs, such as contract claims or other liability, which may become known after the final accounting.

11. This LOA shall not affect any pre-existing or independent relationships or obligations between the Non-Federal Sponsor and the Government. The provisions of this LOA which require performance after the expiration or termination of this LOA shall remain in force notwithstanding the expiration or termination of this LOA.

12. This LOA and all documents and actions pursuant to it shall be governed by the applicable statutes, regulations, directives, and procedures of the United States. Unless otherwise required by law, all contract work undertaken by the Government shall be governed by applicable Federal regulations, policies, and procedures unless specified otherwise. The authority of the Non-Federal Sponsor to enter into this LOA shall be governed by applicable Tennessee law.

13. All claims and disputes by third party contractors arising under or relating to contracts awarded by the Government shall be resolved in accordance with Federal law and the terms of the individual contract. The Government shall have dispute resolution authority for these claims; shall be responsible for handling all litigation involving disputes and appeals; and for coordinating with the Department of Justice as appropriate. The Government shall notify the Non-Federal Sponsor of any such litigation and afford the Non-Federal Sponsor an opportunity to review and comment on the litigation proceedings and any resulting settlement negotiations.

14. If liability of any kind is imposed on the United States relating to the Government's provision of goods or services under this LOA, except for liability based upon the Government's or its contractors negligence or other fault, the Non-Federal Sponsor shall remain responsible as the program component for providing such funds as are necessary to discharge the liability, and all related costs. Notwithstanding the above, this LOA does not confer any liability upon the Non-Federal Sponsor for claims payable by the Government under the Federal Tort Claims Act. Provided further that nothing in this LOA is intended or will be construed to create any rights or remedies for any third party and no third party is intended to be a beneficiary of this LOA.

15. Before any Party to this LOA may bring suit in any court concerning any issues relating to this LOA, such Party must first seek in good faith to resolve the issue through negotiation or other form of non-binding alternate dispute resolution mutually acceptable to the Parties.

16. The Non-Federal Sponsor shall hold and save the Government free from all damages arising from the activities of this LOA, except for damages due to the fault or

negligence of the Government or its contractors.

17. In the event that any of the provisions of this LOA are found to be invalid, illegal, or unenforceable by a court of competent jurisdiction, the validity of the remaining provisions shall not in any way be affected or impaired, and the remaining provisions shall continue in effect until the LOA is completed.

18. In the exercise of the Non-Federal Sponsor's rights and obligations under this LOA, the Non-Federal Sponsor agrees to comply with all applicable Federal and State laws and regulations, including Section 601 of Title VI of the Civil Rights Act of 1964 (Pub. L. No. 88-352) and Department of Defense Directive 5500.11 issued pursuant thereto and published in 32 C.F.R. Part 195, as well as Army Regulations 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Government."

19. The Floodplain Services, including any guides, pamphlets, supporting studies, and reports, as well as non-Corps publications furnished by the U.S. Army Corps of Engineers, Headquarters, shall be disseminated or made available to Federal, state, area-wide, and local planning agencies, libraries, universities, clearing houses, and others, as appropriate, and shall not be considered proprietary.

20. The Parties may modify this LOA by written amendment, signed by the Parties.

For the Department of the Army:

For the City of Chattanooga

IN WITNESS WHEREOF, the parties have executed this LOA that shall become effective upon the date it is signed by the District Engineer.

BY _____

BY _____

James A. DeLapp
Lieutenant Colonel
District Engineer
Corps of Engineers
Nashville District

Andy Berke, Mayor
City of Chattanooga, Tennessee

Date _____

Date _____

CERTIFICATE OF AUTHORITY

I, _____, do hereby certify that I am the principal legal officer of the City of Chattanooga, Tennessee, that the City of Chattanooga, Tennessee is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the Government and the City of Chattanooga, Tennessee in connection with the Floodplain Services, and to pay damages, if necessary, in the event of the failure to perform in accordance with the terms of this Agreement and that the persons who have executed this Agreement on behalf of the City of Chattanooga, Tennessee have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this _____ day of _____, _____.

Wade Hinton
City Attorney
City of Chattanooga, Tennessee

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Andy Berke, Mayor
City of Chattanooga, Tennessee

DATE: _____

Attachment I
Chattanooga Regional Flood Preparedness Study Phase II – Real Time Simulation
Flood Plain Management Services (FPMS) - Scope of Work
May 2013

1. State/District/Project Location: Tennessee/Nashville District/Chattanooga and Hamilton County and vicinity.

2. Background/Introduction/Project Objectives:

After middle and western Tennessee experienced record flooding in May 2010, the Tennessee Valley Authority (TVA) ran models of the Tennessee River with a storm of similar magnitude centered in eastern Tennessee, upstream of the City of Chattanooga (Chattanooga). The results indicate that if the May 2010 storm was centered just a few hundred miles to the east and south, the flooding in Chattanooga would exceed that experienced in the City of Nashville (Nashville), where damages were greater than \$2 billion and eleven fatalities occurred. This captured Chattanooga's attention and that of a group of federal and state agencies that had met to further the Silver Jackets initiative in Tennessee. The group recommended Chattanooga be considered as the next focus area for a multi-agency approach to flood preparedness. Nashville has been the focus of an aggressive flood risk management venture that includes multiple federal, state and local agencies to address the weaknesses in Nashville's flood preparedness.

The Chattanooga initiative has built upon the lessons learned in Nashville and focuses the efforts of a group of federal, state, and local partners on managing flood risk in the Chattanooga and Hamilton County area. Federal partners committed to the effort include TVA, National Weather Service (NWS) offices in Nashville and Morristown, Tennessee and the Ohio River Forecast Center, US Geological Survey (USGS) and US Army Corps of Engineers (USACE) Nashville District. State partners include the Tennessee Emergency Management Agency (TEMA) and Tennessee Department of Transportation (TDOT). Local partners include Nashville (who will share lessons learned) and the following cities in Hamilton County: Chattanooga, East Ridge, East Brainerd, Collegedale, Red Bank, Lookout Mountain, and Signal Mountain. Additionally, communities in north Georgia including Walker and Catoosa Counties and the cities of Ringold and Fort Oglethorpe may participate.

This Planning Assistance to States (PAS) initiative builds upon the Silver Jackets Pilot Study and the Flood Plain Management Services (FPMS) Study, collectively called Phase I of the Chattanooga Regional Flood Preparedness Study. The goal of Phase I was to provide real time data and information to emergency management decision makers in the community in sufficient time to allow them to warn local residents and the media. Phase I developed static inundation products for the Tennessee River Chattanooga and for streams in the South Chickamauga Creek Watershed. Concurrent with development of these modeling products is the development of a web-based viewer and improvements in the real-time gauging and data retrieving process. Lastly, ongoing goals of the Chattanooga Regional Flood Preparedness Study include increasing coverage of these products to the rest of Chattanooga and ultimately developing HEC-RTS models for these areas, including Phase I areas.

Goals of Phase II, to be completed under USACE's FPMS authority, are to 1) develop static inundation and timing products for North Chickamauga Creek and Lookout Creek; 2) use the South Chickamauga Creek Watershed as a pilot basin for developing HEC-RTS in Chattanooga; 3) support the continued development of the web-based viewer or other interface with the flood preparedness data 4) support the continued development of the gage network and corresponding real time data retrieval 5) continue to develop the study team and established lines of

communication for the future. The remaining goals of Phase II will be completed under USACE's PAS Authority pursuant to a separate agreement between the parties (Chattanooga Creek, Citico Creek, Mountain Creek, Local Tributaries).

3. Work to Be Performed/Tasks/Deliverables:

Task 1. Develop flood preparedness information for the North Chickamauga Creek Watershed.

North Chickamauga Creek flows about 18.1 miles from Dunlap County, Tennessee through multiple political jurisdictions to the Tennessee River in Hamilton County, Tennessee. The watershed is about 121 square miles. The following streams will be included in the analysis: North Chickamauga Creek (18.1 miles to limits of detailed study), Ninemile Branch (3.9 miles to limits of detailed study), Rogers Branch, #27 (1.7 miles), North Chickamauga Creek Right Bank Trib in the vicinity of Grubb Road, both forks, #26 (3.2 miles), and North Chickamauga Creek Right Bank Trib in the vicinity of North Access Road, #25 (2.2 miles). The analysis will include collecting data, assessing existing models and GIS information, and updating and connecting the models such that they can be used to develop inundation scenarios and later for Real Time Simulation (RTS) Modeling. New hydrologic modeling for the entire watershed will also be developed. The hydraulic models will be used to develop flood alert inundation mapping for the portion of the watershed in the area of interest referenced to stream gages for five flood alert categories (No Action, Action, Flood Stage, Moderate Stage and Major Stage).

Deliverables: The following products will be delivered for the North Chickamauga Creek Watershed for the action levels, or alert categories. All Geographical Information System (GIS) data for the North Chickamauga Creek Watershed will be provided in the Universal Transverse Mercator Zone 16 (UTM16 NAD83) horizontal map projection and North American Vertical Datum of 1988 (NAVD 88).

- Flood alert level inundation GIS Data (water surface, depth, and area)
- Inundation data will be based on the most recent City of Chattanooga-provided LIDAR
- Hydrologic and Hydraulic Analysis Summary Report

Task 2: Develop flood preparedness information for Lookout Creek Watersheds.

Lookout Creek stretches for 8.1 miles, from northern Georgia to its confluence with the Tennessee River in Chattanooga. The Lookout Creek Watershed is 187 square miles. The following streams will be included in the analysis: Lookout Creek (5.3 miles, or from confluence to State line), Black Creek (2 miles), and Left Bank Trib in the vicinity of Browns Ferry Road (2.8 miles). The analysis will include collecting data, assessing existing models and GIS information, and updating and connecting the models such that they can be used to develop inundation scenarios and later for Real Time Simulation (RTS) Modeling. New hydrologic modeling for the entire watershed will also be developed. The hydraulic models will be used to develop flood alert inundation mapping for the Tennessee portion of the watershed referenced to stream gages for five flood alert categories (No Action, Action, Flood Stage, Moderate Stage and Major Stage).

Deliverables: See Task 1 for deliverable list. Note, we will add additional watersheds if funding allows.

Task 3. HEC-RTS Development for all modeled watersheds. This task involves compilation of Phase I and Phase II (Silver Jackets, PAS, and FPMS) products under a pilot effort for the development of the Hydrologic Engineering Center's Real Time Simulation (HEC-RTS)

software for use in Chattanooga. This pilot effort will focus on developing the HEC-RTS software for the South Chickamauga Creek Watershed first, using the modeling and inundation products that were developed in Phase I of the Chattanooga Regional Flood Preparedness Study. As additional modeling from Phase II PAS and FPMS efforts become available, they will be incorporated into the RTS model. This task involves continued development and customization of the HEC-RTS software for use in Chattanooga and Hamilton County and all associated training to turn over the software products to Chattanooga. HEC-HMS and HEC-RAS models that were developed in Phase I as well as Phase II PAS and this FPMS effort will be used in the HEC-RTS model.

Deliverables: HEC-RTS model built for the all available watersheds, training necessary for delivering the model to Chattanooga and Hamilton County, and a corresponding documentation report for the HEC-RTS pilot.

Task 4. Coordination and Communication. Develop and maintain multi-agency/multi-community team to promote and advance flood preparedness in the Chattanooga. The team will include all the partners involved in this proposal and reach out to the other cities in Hamilton County and those communities in north Georgia in the Tennessee River Basin. One goal will be to maximize the use of the tools being developed and maximize the sharing of information and resources. Another goal will be to facilitate communication between federal, state and local agencies before an emergency which will help the communication during an emergency.

4. Project Delivery Team/Stake Holders Roles and Responsibilities:

Chattanooga will do the bridge surveys to support the USACE modeling efforts. Hamilton County, which has the primary responsibility for emergency warnings in the county, will participate with staff time and GIS support. In addition, they have an emergency warning system that can notify the public thru calls to home phones as well as registered cell phones. Nashville offered to share their Nashville SAFE tool with Chattanooga and share their lessons learned in the process of developing the tool and improving their flood preparedness. TVA has the primary responsibility for managing the Tennessee River and would assist with modeling, mapping and notifications. The USGS would assist Chattanooga and Hamilton County with review of their gauging programs, installation of new gages, coordination of hardware installation, and the reporting and managing of real time data. NWS would evaluate its forecast points and consider whether additional points are needed and if so would models be available for them to use. USACE Nashville District would share their experiences with the Morristown office, which forecasts for Chattanooga. TDOT would provide bridge data for model updates as well as supply gage and other data. TEMA would participate as a stakeholder.

5. Schedule/Milestones/Cost Estimate

Title	Cost (\$1000)		Schedule	
	Federal	Non-Federal*	Start	Finish
Scope and Agreement Negotiations				
Task 1 – Modeling and Inundation Layers for North Chickamauga Creek Watershed	97	41		
Task 2 – Modeling and Inundation Layers for Lookout Creek Watershed	56			
Task 3 – Real Time Simulation Software Development for All Modeled Areas		135		
Task 4 – Coordination & Communication	—	<u>19</u>		
Total	153	195		