



# University of Massachusetts COOPERATING TECHNICAL PARTNERS MAPPING ACTIVITY STATEMENT

## Mapping Activity Statement No. EMB-2003-CA-0791 - Digital Flood Insurance Rate Map Production and Development of Updated Flood Data

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated September 24, 2003 between the University of Massachusetts and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement (MAS) No. EMB-2003-CA-0791 is as follows.

### SECTION 1—OBJECTIVE AND SCOPE

The objective of the Flood Map Project documented in this MAS is to develop Digital Flood Insurance Rate Maps (DFIRM) for twelve (12) municipalities in Hamden county Massachusetts, a total of 100 panels in the towns of Agawam, Chicopee, East Longmeadow, Granville, Hampden, Holland, Holyoke, Longmeadow, Russell, Southwick, Springfield, Westfield, and Wilbraham. These DFIRMs will be produced in the FEMA Countywide Format.

This Flood Map Project will be completed by the following:

- University of Massachusetts at Amherst (UMA); Office of State Geologist and Office of Geographic Information and Analysis;

The activities for this Flood Map Project and the Mapping Partners that will complete them are summarized in the table below. The sections of this MAS that follow the table below describe the specific activities, responsible Mapping Partner(s), FEMA standards that must be met, and resultant map components.

Activities	CTP
Activity 1 – Base Map Acquisition	UMA
Activity 2 – DFIRM Production (Non-Revised Areas)	UMA

## Activity 1 – Base Map Acquisition

Responsible Mapping Partner: UMA – Office of Geographic Information and Analysis

Scope: Activity 1 consists of obtaining the digital base map, the Massachusetts digital orthophotos at 1/5000 scale, for the project. UMA shall provide the digital base map. The required activities are as follows:

- Obtain digital raster files of the base map.
- Secure necessary permissions from the map source to allow FEMA's use and distribution of hardcopy and digital map products using the digital base map, free of charge.
- Certify that the digital data meets the minimum standards and specifications that FEMA requires for DFIRM production.
- Populate the DFIRM database with the information required by FEMA.
- Process the digital image to allow it to function as an effective base map without obscuring the flood plain data as derived from the FIRMs.

Standards: All work under Activity 1 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: In accordance with the TSDN format described in described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, UMA shall make the following products available to FEMA:

- Written certification that the digital data meet the minimum standards and specifications and
- Documentation that FEMA can use the digital base map.

Appendix M may be downloaded from the FEMA Flood Hazard Mapping Web site at [http://www.fema.gov/pdf/fhm/frm\\_gsam.pdf](http://www.fema.gov/pdf/fhm/frm_gsam.pdf).

## Activity 2 – DFIRM Production (Non-Revised Areas)

Responsible Mapping Partner: UMA - Office of Geographic Information and Analysis

Scope: For all flooding sources except those segments for which updated flood data will be developed under Activities 1 through 9, UMA shall convert the information shown on the effective FIRM and Flood Boundary Floodway Map (FBFM) panels for all incorporated and unincorporated areas of twelve (12) municipalities in Hamden County Massachusetts, a total of 100 panels in the towns of Agawam, Chicopee, East Longmeadow, Granville, Hampden, Holland, Holyoke, Longmeadow, Russell, Southwick, Springfield, Westfield, and Wilbraham, to digital format in conformance with FEMA DFIRM specifications. UMA shall use the base map acquired under Activity 1 for the conversion. The scope of Activity 2 covers the digitization of 100 FIRM panels. UMA also shall incorporate the results of LOMCs issued by FEMA since the date of the current effective FIRM for each affected community. Standards: All work under Activity 2 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: In accordance with the TSDN format described in described in Appendix M of *Guidelines and Specifications for Flood Hazard Mapping Partners*, UMA shall make the following products available to FEMA:

- Digital work maps showing the 1- and 0.2-percent-annual-chance floodplain boundary delineations, regulatory floodway boundary delineations, cross sections, BFEs, flood insurance risk zone labels, and all applicable base map features;
- DFIRM mapping files, prepared in accordance with the requirements in *Guidelines and Specifications for Flood Hazard Mapping Partners*;
- Metadata files describing the DFIRM data, including all required information shown in *Guidelines and Specifications for Flood Hazard Mapping Partners*;
- Complete set of plots of DFIRM panels showing all detailed flood hazard information at a suitable scale; and
- A Summary Report that describes and provides the results of all automated or manual QA/QC review steps taken during the preparation of the DFIRM, including a check that the road and floodplain relationship is maintained for all non-revised areas.

Appendix M may be downloaded from the FEMA Flood Hazard Mapping Web site at [http://www.fema.gov/pdf/fhm/frm\\_gsam.pdf](http://www.fema.gov/pdf/fhm/frm_gsam.pdf).

## **SECTION 2—TECHNICAL AND ADMINISTRATIVE SUPPORT DATA SUBMITTAL**

The Project Team members for this Flood Map Project that have responsibilities for activities included in this MAS shall comply with the data submittal requirements summarized below.

All supporting documentation for the activities in this Mapping Activity Statement shall be submitted in the TSDN format in accordance with Appendix M of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners*, dated February 2002. Appendix M is available for viewing or download on the FEMA Web site at [http://www.fema.gov/pdf/fhm/frm\\_gsam.pdf](http://www.fema.gov/pdf/fhm/frm_gsam.pdf). Table 2-1 indicates the sections of the TSDN that apply to each mapping activity.

If any issues arise that could affect the completion of an activity within the proposed scope or budget, the responsible Mapping Partner shall complete a Special Problem Report (SPR) as soon as possible after the issue is identified and submitted to FEMA. The SPR is to describe the issue and propose possible resolutions. (For additional information on SPRs, refer to Appendix M, Subsection M.2.1.1 of *Guidelines and Specifications for Flood Hazard Mapping Partners*.)

Additionally, the MCC shall collect and maintain a set of products for all Activities and shall compile a comprehensive TSDN for the entire project.

**Table 2-1. Mapping Activities and Applicable TSDN Sections**

TSDN Section	Mapping Activities											
	1	2										
General Documentation												
Special Problem Reports	X	X										
Telephone Conversation Reports	X	X										
Meeting Minutes/Reports	X	X										
General Correspondence	X	X										
Mapping Information	X	X										
Miscellaneous Reference Information	X	X										

**SECTION 3—PERIOD OF PERFORMANCE**

The mapping activities outlined in this MAS will begin on November 3, 2003, and will be completed no later than October 31, 2004. The mapping activities may be terminated at the option of FEMA or UMA in accordance with the provisions of the Partnership Agreement dated September 24, 2003.

**SECTION 4—FUNDING/COST-SHARING**

FEMA is providing funding, in the amount of \$ \_\_\_\_\_ to UMA for the completion of this Flood Map Project. UMA shall provide any additional resources required to complete the assigned activities for this Flood Map Project.

**SECTION 5—STANDARDS**

The standards relevant to this Mapping Activity Statement are provided in Tables 5-1 and 5-2. Information on the correct volume, appendix, section, or subsection of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners* to be referenced for each mapping activity are summarized in Table 5-2.

These Guidelines are available for viewing or download from the FEMA Flood Hazard Mapping Web site at [http://www.fema.gov/fhm/dl\\_cgs.shtm](http://www.fema.gov/fhm/dl_cgs.shtm).

**Table 5-1. Applicable Standards for Project Activities**

Applicable Standards	Activities												
	1	2											
<i>Guidelines and Specifications for Flood Hazard Mapping Partners</i> , February 2002	X	X											
<i>Content Standards for Digital Geospatial Metadata</i> (Federal Geographic Data Committee, 1998)	X	X											

**Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications**

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
1	Base Map Acquisition and Preparation	Volume 1, Section 1.3 (specifically Subsection 1.3.1.8) and 1.4 (specifically Subsection 1.4.3) Appendices A and B
2	DFIRM Production (Non-Revised Areas)	Volume 1, Section 1.4 (specifically Subsection 1.4.2.3 and 1.4.3.2) Appendices K, L, and M

## SECTION 6—SCHEDULE

The activities documented in this MAS shall be completed in accordance with the project schedule below. If changes to this schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner.

ACTIVITIES	RESPONSIBLE PARTNER(S)	DATE DUE
Activity 1 – Base Map Acquisition	UMA - OGIA	April 30, 2004
Activity 2 – DFIRM Production (Non-Revised Areas)	UMA - OGIA	Oct. 31, 2004

## SECTION 7 - CERTIFICATION

The following certifications apply to this mapping activity statement:

### Activity 1 (Base Map Acquisition and Preparation)

- A community official or responsible party will provide written certification that the digital data meet FEMA minimum standards and specifications.
- The responsible Mapping Partner will provide documentation that the digital base map can be used by FEMA.

### Activity 2: DFIRM Production (Non-Revised Areas)

The DFIRM metadata files will include a description of the horizontal and vertical accuracy of the DFIRM base map and floodplain information.

## SECTION 8—TECHNICAL ASSISTANCE AND RESOURCES

Project Team members may obtain copies of FEMA-issued LOMCs, archived engineering backup data, and data collected as part of the Mapping Needs Assessment Process from the MCC, who may be contacted by telephone at 1-877-336-2627.

General technical and programmatic information, such as FEMA 265 and the Quick-2 computer program, can be downloaded from the FEMA Web site ([www.fema.gov/mit/tsd/](http://www.fema.gov/mit/tsd/)). Specific technical and

programmatic support may be provided through the MCC; such assistance should be requested through the FEMA Project Officer specified in Section 11 of this MAS.

Project Team members also may consult with the FEMA Regional Project Officer to request support in the areas of selection of data sources, digital data accuracy standards, assessment of vertical data accuracy, data collection methods or subcontractors, and GIS-based engineering and modeling training.

## **SECTION 9—CONTRACTORS**

UMA intends to use the services of no external organizations as a contractor for this Flood Map Project. UMA shall ensure that the procurement for all contractors used for this Flood Map Project complies with the requirements of 44 CFR 13.36.

Part 13 may be downloaded in PDF or text format from the U.S. Government Printing Office Web site at [http://www.access.gpo.gov/nara/cfr/waisidx\\_02/44cfr13\\_02.html](http://www.access.gpo.gov/nara/cfr/waisidx_02/44cfr13_02.html).

## **SECTION 10—financial Reporting**

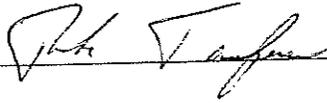
Because funding has been provided to UMA by FEMA, financial reporting requirements for UMA will be in accordance with Cooperative Agreement Articles V and VI.

UMA shall provide financial reports to the FEMA Regional Project Officer and Assistance Officer in accordance with the terms of Contract No. EMB-2003-CA-0791.

## **SECTION 11—POINTS OF CONTACT**

The points of contact for this Flood Map Project are Mike Goetz, FEMA Project Officer; Dr. Richard Taupier the Project Manager for UMA or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, the assistance of the MCC should be requested through the FEMA Project Officer, Mike Goetz.

Each party has caused this MAS to be executed by its duly authorized representative.



\_\_\_\_\_  
Rick Taupier  
Project Manager  
University of Massachusetts

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Date



\_\_\_\_\_  
Mike Goetz  
Regional Project Officer  
Federal Emergency Management Agency, Region I

\_\_\_\_\_  
Date

9/29/03