

RESOLUTION NO. 2012- 106

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, AMENDING THE FISCAL YEAR 2012 BUDGET TO RECOGNIZE UNANTICIPATED REVENUE TO THE TRANSPORTATION TRUST FUND AND AUTHORIZE ITS EXPENDITURE IN THE CAPITAL IMPROVEMENTS DEPARTMENT (1114).

WHEREAS, the Federal Emergency Management Agency (FEMA) announces the Notice of Funding Availability to St. Johns County, a Cooperating Technical Partners (CTP), in the amount of \$200,000.00, which requires no local match or leverage of funds; and

WHEREAS, St. Johns County, Florida (the "County"), recognizes the importance of the program to provide accurate Digital Flood Insurance Rate Map (DFIRM) and serve the needs of the County and the benefits of the eligible uses of the funds of the Program; and

WHEREAS, the County has previously entered into a Federally-Funded Mapping Action Statement (MAS) agreement with the Federal Emergency Management Agency as authorized by Board Resolution 2011-7; and

WHEREAS, these revenues were not anticipated during preparation of the 2012 Fiscal Year budget; and

WHEREAS, the recognition of these funds as current year revenue is required to enable their appropriation to pay for improvements as identified in the previously approved and signed agreement identified as MAS 2011-001.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA:

**Section 1. Incorporation of Recitals**

The above Recitals are incorporated by reference into the body of this Resolution, and such Recitals are adopted as Findings of Fact.

**Section 2. Authority to Approve**

The Board of County Commissioners hereby approves amending the Fiscal Year 2012 Transportation Trust Fund to receive unanticipated revenue and authorize its expenditure in the Capital Improvements Department (1114).

**Section 3. Correction of Errors**

To the extent that there are typographical, administrative or scrivener's errors that do not change the tone, tenor or concept of this Resolution, then this Resolution may be revised without further action by the Board of County Commissioners.


**Section 4. Effective Date**

This Resolution shall be effective upon its execution.

PASSED AND ADOPTED by the Board of County Commissioners of St. Johns County, State of Florida, on this 3<sup>rd</sup> day of April 2012.

BOARD OF COUNTY COMMISSIONERS  
OF ST. JOHNS COUNTY, FLORIDA

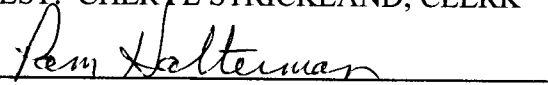
By:



**Mark P. Miner, Chair**

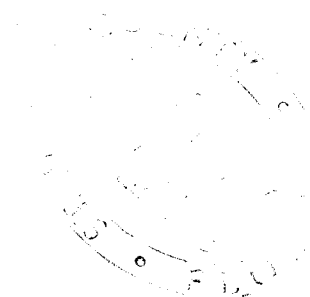
ATTEST: CHERYL STRICKLAND, CLERK

By:



**Deputy Clerk**

RENDITION DATE 4/5/12



RESOLUTION NO. 2011- 7

**A RESOLUTION BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, AUTHORIZING THE COUNTY ADMINISTRATOR, OR DESIGNEE, TO EXECUTE A PARTNERSHIP AGREEMENT BETWEEN THE FEDERAL EMERGENCY MANAGEMENT AGENCY AND THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, TO AGREE IN PRINCIPLE TO WORK TOGETHER TO CREATE AND MAINTAIN FLOOD HAZARD DATA.**

**RECITALS**

**WHEREAS**, the parties shall collaborate on flood hazard identification activities and shall consult with each other to fully integrate each other's contributions into the flood hazard identification efforts. Questions regarding the execution of this Agreement, attached hereto as Exhibit "A", incorporated by reference and made a part hereof, will be resolved by an implementation committee consisting of a FEMA representative and a St. Johns County representative. In states where statutory and/or regulatory requirements require State review and/or approval of new flood hazard data, a State representative also will serve on the implementation committee as appropriate. If the implementation committee is unable to resolve technical issues, the issues may be resolved through alternative dispute resolution procedures; and

**WHEREAS**, the parties shall, on an annual basis, review the partnership created by this agreement to determine and document the activities undertaken to maintain accurate flood hazard data and to revise the Agreement as necessary; and

**WHEREAS**, the parties agree to commit the appropriate and available human, technical, and financial resources sufficient to coordinate effectively will all entities impacted by flood hazard identification efforts to implement this Agreement; and

**WHEREAS**, unless otherwise agreed to by the parties, all flood hazard identification will be accomplished in accordance with the standards documented in Guidelines and Specifications for Flood Hazard Mapping Partners, dated April 2003, and all subsequent revisions; and

**WHEREAS**, specific initiatives or projects to be performed under this Agreement are to be documented in Mapping Activity Statement(s), which will be attached to this Agreement when they are signed. The parties will be obligated to perform as described in the signed Mapping Activity Statement(s); and

**WHEREAS**, the respective duties, responsibilities, and commitments of the parties in this Agreement shall begin on the date this Agreement is signed by the parties and may be periodically renewed, revised, or terminated at the option of any of the parties. The parties agree that a 60-day notice shall be given prior to the termination of this Agreement; and

**WHEREAS**, the County has determined that entering into the above-referenced Agreement will serve the overall interests of the County.

**NOW, THEREFORE BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA**, as follows:

Section 1. The above Recitals are incorporated by reference into the body of this Resolution and such Recitals are adopted as finds of fact.

Section 2. The County Administrator, or designee, is hereby authorized to execute the Agreement on behalf of the County for the purposes mentioned above, and to the extent necessary, execute any other documents or paperwork associated with the Agreement.

Section 3. The Clerk is instructed to have four (4) copies of the original Contract executed by the County Administrator.

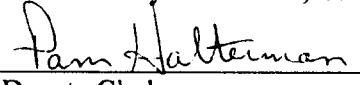
Section 4. To the extent that there are typographical and/or administrative errors that do not change the tone, tenor, or concept of this Resolution, then this Resolution may be revised without subsequent approval by the Board of County Commissioners.

**PASSED AND ADOPTED** by the Board of County Commissioners of St. Johns County, Florida, this 19<sup>th</sup> day of January, 2011.

**BOARD OF COUNTY COMMISSIONERS  
OF ST. JOHNS COUNTY, FLORIDA**

By:   
J. Ken Bryan, Chair

**ATTEST:** Cheryl Strickland, Clerk

By:   
Deputy Clerk

**RENDITION DATE** 1/20/11

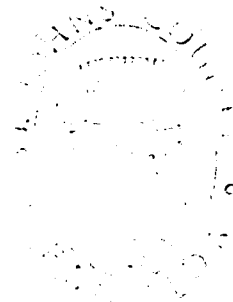


EXHIBIT  
"A"



FEMA

COOPERATING TECHNICAL PARTNERS  
PARTNERSHIP AGREEMENT

AGREEMENT is made on \_\_\_\_\_, by these parties: St. Johns County, Florida, and the Federal Emergency Management Agency (FEMA).

BECAUSE the National Flood Insurance Program (NFIP) established by the National Flood Insurance Act of 1968 has several purposes, the most significant being

- To better indemnify individuals from losses through the availability of flood insurance;
- To reduce future flood damages through community floodplain management regulations; and
- To reduce costs for disaster assistance and flood control;

BECAUSE a critical component of the NFIP is the identification and mapping of the nation's floodplains to create a broad-based awareness of flood hazards and to provide the data necessary for community floodplain management programs and to actuarially rate flood insurance:

BECAUSE FEMA administers the NFIP and is authorized by §1360 of the National Flood Insurance Act of 1968, as amended (42 U.S.C. 4101), to establish and update flood-risk zone data in floodplain areas:

BECAUSE, in the identification of floodprone areas, FEMA is authorized to consult with, receive information from, and enter into agreements or other arrangements with the head of any State, regional or local agency:

BECAUSE FEMA encourages strong Federal, State, regional, and local partnerships for the purposes of reducing flood losses and disaster assistance: FEMA and its State, regional, and local partners have determined that it is advantageous to encourage and formalize greater cooperation in the flood hazard identification and mapping processes; and many communities and the agencies that serve them have developed considerable technical capabilities and resources that provide the opportunity to improve and expand the collection, development, and evaluation of flood hazard data: and

BECAUSE St. Johns County participates in the NFIP (*or shares flood protection and/or floodplain management responsibilities with communities that participate in the NFIP*), St. Johns County has been deemed by FEMA to be in good standing in the NFIP; and

BECAUSE St. Johns County has expressed a desire to perform certain functions in the flood hazard identification process and has provided evidence that it has sufficient technical capability and will dedicate the resources necessary to perform those functions.

NOW THEREFORE, it is mutually agreed that the parties enter into this Agreement to work together to create and maintain accurate, up-to-date flood hazard data for St. Johns County subject to the terms and conditions recited below.

**1. CONSULTATIONS**

The parties shall collaborate on flood hazard identification activities and shall consult with each other to fully integrate each other's contributions into flood hazard identification efforts. Questions regarding the execution of this Agreement will be resolved by an implementation committee consisting of a FEMA representative and a St. Johns County representative. In states where statutory and/or regulatory requirements require State review and/or approval of new flood hazard data, a State representative also will serve on the implementation committee as appropriate. If the implementation committee is unable to resolve technical issues, the issues may be resolved through alternative dispute resolution procedures.

**2. EVALUATION AND REPORTING**

The parties shall, on an annual basis, review the partnership created by this Agreement to determine and document the activities undertaken to maintain accurate flood hazard data and to revise the Agreement as necessary.

**3. RESOURCE COMMITMENT**

The parties agree to commit the appropriate and available human, technical, and financial resources sufficient to coordinate effectively with all entities impacted by flood hazard identification efforts to implement this Agreement.

**4. STANDARDS**

Unless otherwise agreed to by the parties, all flood hazard identification activities will be accomplished in accordance with the standards documented in *Guidelines and Specifications for Flood Hazard Mapping Partners*, dated April 2003, and all subsequent revisions.

**5. SPECIFIC INITIATIVES OR PROJECTS**

Specific initiatives or projects to be performed under this Agreement are to be documented in Mapping Activity Statement(s), which will be attached to this Agreement when they are signed. The parties will be obligated to perform as described in the signed Mapping Activity Statement(s).

**6. TERM**

The respective duties, responsibilities, and commitments of the parties in this Agreement shall begin on the date this Agreement is signed by the parties and may be periodically renewed, revised, or terminated at the option of any of the parties. The parties agree that a 60-day notice shall be given prior to the termination of this Agreement.

**THEREFORE**, each party has caused this Agreement to be executed by its duly authorized representatives on the date mentioned above.

\_\_\_\_\_  
Michael D. Wauchick  
St. Johns County Chief Executive Officer

\_\_\_\_\_  
Date (Printed)

\_\_\_\_\_  
Brad G. Loar  
FEMA Region IV Mitigation Division Director

\_\_\_\_\_  
Date (Printed)



**FEMA**

January 3, 2012

**RECEIVED**

JAN 10 2012

St. Johns County  
Engineering

Mr. Douglas Tarbox  
County Engineer, St. John's County  
2740 Industry Center Road  
St. Augustine, FL 32084

Dear Mr. Tarbox:

I am very pleased to announce that the St. John's County, Florida has now fully executed its Fiscal Year 2011 Cooperating Technical Partners (CTP) Program Agreements. Attached is your signed original Mapping Activity Statements (MAS), for Risk MAP Flood Studies (MAS No. 2011-001. This MAS details the combined floodplain mapping effort between St. John's County and the Federal Emergency Management Agency (FEMA). We are pleased that the County is undertaking these activities as part of its CTP collaboration. We look forward to receiving your first submittals in accordance with your detailed schedule. The date that you received your funding through the Cooperative Agreement was September 26, 2011. Your MAS agreements were fully executed on December 7, 2011; please use September 26, 2011 as your Notice to Proceed from FEMA.

We anticipate continuing to work closely with your office throughout this project. We will be glad to provide any assistance we can to help with this groundbreaking program. If you need any assistance, please call Ms. Laura Algeo at (770)220-5515 or Ms. Kristen Martinenza, at (770) 220-3174, for more information.

Sincerely,

A handwritten signature in black ink that reads "Brad Loar".

Brad G. Loar, CFM, Director  
Mitigation Division

Enclosure



**FEMA**

**ST JOHNS COUNTY, FLORIDA  
COOPERATING TECHNICAL PARTNERS  
RISK MAP FLOOD STUDY MAPPING ACTIVITY  
STATEMENT**

**Mapping Activity Statement No. 2011-001**

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated April 8, 2011 between St. Johns County, Florida (unincorporated areas) and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement (MAS) No. 2011-001 is as follows:

The County will be the responsible party for tasks up to and including *Develop DFIRM Database*. FEMA will be the responsible party for the remaining tasks (*Develop Non-Regulatory Products, Produce Preliminary Map Products, Perform Independent QA/QC of Preliminary Map Products, Distribute Preliminary Map Products, and Post-Preliminary Map Production*).



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## SECTION 1—OBJECTIVE AND SCOPE

The objective of the Risk MAP Project documented in this MAS is to develop and / or support a Digital Flood Insurance Rate Map (DFIRM) and Flood Insurance Study (FIS) report, for the unincorporated portions of St. Johns County, Florida (The County). All processes and deliverables shall be completed in accordance to the Federal Emergency Management Agency's (FEMA's) Guidelines and Specifications (G&S) for Flood Hazard Mapping Partners, formally issued guidance documents, and effective Procedure Memoranda (PMs) effective the date of this MAS. These documents can be found on FEMA's website at [http://www.fema.gov/plan/prevent/fhm/gs\\_main.shtml](http://www.fema.gov/plan/prevent/fhm/gs_main.shtml) and [http://www.fema.gov/plan/prevent/fhm/gs\\_memos.shtml](http://www.fema.gov/plan/prevent/fhm/gs_memos.shtml). PMs are used to implement updates to the G&S, to provide additional clarification of procedures that are not documented in published guidance documents, and to establish procedures and policies. Should a PM require a scope change, CTPs should work through the change process by submitting Special Problem Reports (SPR) to the appropriate Regional office.

The DFIRM products (modeling and floodplain delineations) and FIS report will be produced for the "Daytona-St. Augustine" HUC 8 Watershed (03080201), in the North American Vertical Datum of 1988 (NAVD88). MAS No. 2011-001 will clearly ensure that the modeling and floodplain delineations will be for the entire watershed within the HUC 8 boundary described in Section 1 – Objective and Scope. This MAS will encompass the watershed covering the southeastern quadrant of the County (see Figure 1), which is within the designated HUC 8 boundary, as required. Due to the undulating low-lying terrain in the Southeast Quadrant, as described in the *Develop Hydraulic Data* task description in Section 1, the 1-dimensional unsteady ICPR hydrologic and hydraulic model will be used to develop peak discharges and peak water surface elevations. ICPR has been widely applied in Florida Flood Insurance Studies (most recently in Marion, Seminole, and Orange Counties), therefore the fundamental technical approach for this MAS will be consistent with these precedents and will conform with RiskMAP objectives and the latest FEMA Procedure Memoranda.

The DFIRM products and FIS report update will only affect areas within the unincorporated limits of the County. Since only the unincorporated areas of the County will be affected, a watershed report for HUC 03080201 will NOT be created and distributed to identified counties/parishes. The counties/parishes that will be studied and their applicable watersheds are summarized in **Table 1.1, Counties/Parishes and Watersheds Included in Study.**

**Table 1.1 – Counties/Parishes and Watersheds Included in Study**

County/Parish	Watershed	HUC-8 Code
St. Johns County, Florida (unincorporated areas)	Daytona-St. Augustine	03080201

In addition, the Mapping Partners involved in this project will develop new and/or updated flood hazard data, as summarized in **Table 1.2, Total Stream Mile Counts by Type of Study.**

**Table 1.2 – Total Stream Mile Counts by Type of Study (within HUC 03080201)**

	Coastal	Zone A/ Basic Study	Zone AE, AII/ Enhanced Study	Revisions due to Updated topographic data
Miles of Effective Flood Insurance Study	N/A	27.9 mi/ 34.9 sq mi	27.7 mi/ 0.1 sq mi	
Updated Effective Studies	N/A	0	0	
New Studies Identified	N/A	0	0 mi/ 73 sq mi	

\*Details on type of study will be documented in Full Project Scope Deliverable from Scoping task identified in an attached Appendix.

This Risk MAP Project will be completed by the following Mapping Partners:

- The County;
- The County Contractors; and
- FEMA Region IV.
- FEMA Region IV Production & Technical Services (PTS) Contractor

The Mapping Partner shall notify FEMA and all applicable parties of all meetings with community officials, and other relevant meetings, at least two weeks prior to the meeting (with as much notice as possible). FEMA and/or its contractor may or may not attend the community meetings.

The Mapping Partner shall maintain an archive of all data submitted. (All supporting data must be retained for three years from the date a funding recipient submits its final expenditure report to FEMA.)

The County is responsible for the implementation of an independent Quality Assurance/Quality Control (QA/QC) plan for all assigned activities. The County will submit a Summary Report that describes and provides the results of all automated or manual QA/QC review steps. The report should include the process for all assigned activities.

Independent QC review activities may be performed by the County or FEMA's contractor at the discretion of FEMA. If the County will be utilizing its contractors to do the QC review, this should be identified during scoping. The County will need to submit its QC plan to the Regional Project Officer for approval. Please note FEMA will also be performing periodic audits and overall study/project management to ensure study quality. Whether or not the County performs the QC review, the County will be responsible for addressing any and all comments resulting from independent QC reviews, including re-submittal of deliverables as needed to pass technical review. The County will submit Risk MAP products to FEMA's designated reviewer for QC prior to public issuance.

Metadata is required for all activities. Mapping Partners are required to comply with *Appendix M: Data Capture Standards (DCS)*, March 2009 of *FEMA's Guidelines and Specifications for Flood Hazard Mapping Partners* and *Draft User Guide for Appendix M*, March 2009 to provide a consistent framework for submittal, storage, and retrieval of the technical and administrative data needed for the Flood Insurance Study (FIS) or Flood Insurance Rate Map (FIRM) revisions. *Appendix M: Data Capture Standards*, March 2009 replaces the previously published *Appendix M: Guidance for Preparing and Maintaining Technical and Administrative Support Data*; *Appendix N: Data Capture Standards*; and *Appendix N: Data Capture Guidelines*. Mapping Partners are required to upload deliverables complying with this guidance at each of the major production data capture points in the Mapping Information Platform (MIP) workflow. Major production data capture points include: scoping, base map, terrain, survey, hydrologic analysis, hydraulic analysis, alluvial fan analysis, coastal analysis, floodplain mapping for redelineation and digital conversion, and post-preliminary data for studies. National Flood Insurance Program (NFIP) metadata are required for orthoimagery, terrain, survey, hydrology, hydraulics, alluvial fans, coastal, and floodplain mapping. Certification of submitted data for FEMA-funded studies is required. Although certification requirements are included for each workflow step, each Mapping Partner would need to complete and submit only one product certification when their work on a project is complete.

DFIRM-related tasks require a passing QC Report from FEMA's National DFIRM database auto-validation tool for Quality Review (QR) #1, #2, and #5 as described in PM 42. Training materials for this step are available on the Mapping Information Platform (MIP) at MIP User Care>Training Materials.

FEMA will provide download/upload capability for data submittals through the MIP located at <https://hazards.fema.gov>. As each activity is completed, the data must be submitted to the MIP.

The Mapping Partner assigned the activity will respond to any comments generated as a result of the mandatory quality control checks by the Production and Technical Services contractor (PTS) as described in PM 42. The PTS QC process is nationally funded and required on each study.

In cooperation with the FEMA Project Officer, a Project Management Team (PMT) will be established by the County consisting of representatives from the County, the County's contractor, FEMA's regional engineer, the Regional Support Center (RSC), and other appropriate parties. The PMT will be responsible for coordinating the activities identified in this MAS. The FEMA Region will be provided with documentation identifying the established PMT.

Earned Value Data Entry: The MIP Workflow is designed to track the Earned Value of mapping projects. This information is automatically calculated by the MIP, using the Actual cost and schedule of work performed, or "actuals" and comparing them to the expected cost and schedule of work performed, or "baseline".

Once the FEMA Regional office has funded a project, FEMA Region IV will complete the "Obligate Project Funds" screen in the MIP. This step establishes the baseline for the project in the MIP, using the cost and schedule information for each task as outlined in this document and agreed to at the completion of the scoping process.

The MIP study workflow allows the County to manage the status of these projects at a task level. The cost and schedule information, updated by the County for each contracted task, is compared to the baseline established for those tasks. This information is rolled up to a project level and monitored by the FEMA Region to assess progress and Earned Value.

Earned Value data entry involves updating cost, schedule and performance (physical percent complete) in the MIP by the County.

The County shall contact the Region / RSC lead to obtain the guidance document Risk MAP Products in the MIP which explains how Non-Regulatory Products shall be submitted through the MIP. The guidance also explains how performance will be tracked for Non-Regulatory Products.

Once the baseline has been established in the MIP, the County shall input the performance and actual cost to date for each contracted task for each project. This must be completed at a minimum by every thirty days and at the completion of the task. When a task is completed, including all QA/QC activities in this MAS plus the Quality Control Reviews established in PM 42, the County shall enter 100% complete, enter the actual completion cost, and the actual completion date within the Manage Data Development, Manage Preliminary Map Production, or Manage Post Preliminary Processing, as applicable. The "Manage" tasks will be open and accepting updates for up to 90 days after the completion of the last producer task in each module. The MIP shall also be populated with appropriate leverage information regarding who paid for the data provided and the amount of data used by the Risk MAP Project. The County will make all efforts to maintain a Schedule Performance Index (SPI) and Cost Performance Index (CPI) of at least .92. SPRs must be submitted in a timely manner as required.

The Project Officer, as needed, may request additional information on status on an ad hoc basis.

## **Project Management**

Responsible Mapping Partner: The County

Scope: Project Management is the active process of planning, organizing, and managing resources toward the successful accomplishment of pre-defined project goals and objectives. The County will coordinate with the FEMA Regional Office with respect to Project Management activities and technical mapping activities.

Standards: All Project Management work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables:

- Monthly Earned Value data reporting through the MIP with variance explanations to support management of technical mapping activities within specified timeframe, for both Regulatory and Non-Regulatory Products;
- Management of SPI/CPI performance for an organization;
- Management of adherence to scope of work and quality of work for an organization;
- Possible attendance at CTP conferences; and
- Participation in project update/progress meetings by their contractor and/or FEMA Region IV, as needed.

## Project Risk Identification and Mitigation

Responsible Mapping Partner: The County

Threats to the planned completion of a project may come from various sources. Risks should be identified during the planning phase and monitored throughout the project so that potential impact can be assessed and solution strategies developed and implemented as needed.

**Table 1.3 – Project Risk Identification**

Project Risk	Potential Impact	Solution Strategy
Natural Disasters	Schedule Delay	Coordinate reasonable revised schedule with Region upon completion of post-disaster assessment
Project Team Staff Turnover	Schedule Delay	The County and the County Contractor have established redundancy plans in place to account for staff turnover during the course of this MAS. FEMA Region IV and the FEMA PTS Contractor will also ensure continuity of staff where general project coordination and technical reviews are affected.
Changes to FEMA Guidelines	Schedule Delay and Cost Overrun	Requirements of this MAS and the MAS deliverables will comply with effective FEMA guidance throughout the life of the project. Substantial changes in effective guidance that occur after the effective date of this MAS will be coordinated between St. Johns County and FEMA as how to incorporate.



## Perform Discovery

**Responsible Mapping Partner:** The County and FEMA

**Scope:** Discovery begins once a watershed has been prioritized and sequenced. Discovery is the process of evaluating a watershed in order to determine whether a Risk MAP Project is appropriate. A Risk MAP project may include regulatory mapping, risk assessment, Mitigation Planning Technical Assistance, and outreach and communications assistance; the Risk MAP project may include one of these elements or all of these elements, depending on the need in the watershed. Discovery is divided into five main activities – Watershed Stakeholder Engagement, Data Analysis, Discovery Meeting and follow-up, Post Meeting Coordination, and Scope Refinement. The County will implement the Data Analysis activity, FEMA will implement the other activities.

Numerous templates have been created to aid the County during Discovery. The templates include a Discovery Meeting presentation, invitation letters, sign-in sheets, meeting agenda, talking points, etc. Please contact the Region / RSC lead to obtain the templates. These templates shall be utilized during Discovery as necessary and appropriate for the project. Mapping Partners may revise or change templates as needed.

### Stakeholder Engagement

FEMA shall conduct the Watershed Stakeholder Engagement Phase of Discovery, as described in Appendix I of FEMA's guidelines and in the document, *Risk MAP Meetings Guidance*. One output of this process will be a Discovery Map. Discovery Map guidelines are found in Appendix I and *Risk MAP Meetings Guidance*. The Discovery Map shall be shared with stakeholders before or during the Discovery Meeting.

FEMA considers mitigation planning to be critical, and Mitigation Planning Technical Assistance needs must be identified starting at Stakeholder Engagement. Please contact the Region/RSC lead to obtain FEMA's guidance document, *Risk MAP Guidance for Incorporating Mitigation Planning Technical Assistance and Training into Flood Risk Projects*, to learn more about what types of assistance will be offered for Risk MAP projects.

Numerous templates have been created to aid during this phase. The templates include a Discovery tri-fold, email text describing the process, newsletter text for associations, talking points, etc. Please contact the Region / RSC lead to obtain the templates. These templates may be utilized during Discovery as necessary and appropriate for the project. Mapping Partners may also revise templates as needed.

### Data Analysis

The Mapping Partner shall conduct the Data Analysis Phase of Discovery, as described in Appendix I of FEMA's guidelines and in the document, *Risk MAP Meetings Guidance*. As described in these guidance documents, one output of the Data Analysis phase of Discovery is a Discovery Report. A Discovery Report template and other guidance are included in the document, *Interim Guidance for Flood Risk Product Preparation*. Mapping Partners may revise the Discovery Report template as needed; however, the Discovery Report shall contain, in some format:

- 1) A list of the data and information collected during Stakeholder Engagement and whether the data is useful for regulatory or non-regulatory Risk MAP products (in text or in tables referring back to the Discovery Map),

- 2) A thoughtful analysis of the data and information collected, and,
- 3) A list of stakeholders contacted, as deemed appropriate for this MAS.

**Standards:** All Discovery process work shall be performed in accordance with the standards specified in Section 5 - Standards.

**Deliverables:** The County shall make the following products available to FEMA by uploading the digital data to the MIP.

- Final Discovery Report for project documented in MAS will be delivered in accordance with the schedule outlined in Section 6 - Schedule to the Regional Project Officer for approval.
- Final Discovery Map.
- A report that should include a list of watersheds and affected communities to undergo Risk MAP projects and a clear assessment of ability of the proposed project to meet metrics.
- QA/QC Plan for the review of the mapping project outlined in this MAS. This will include the checklists developed for that review in accordance with the schedule included in Section 6 - Schedule.
- Updated list of CEO or local FPA contacts or a report from CIS showing this information has been updated.
- Update leverage data in MIP.
- Report documenting levee information transmitted to the FEMA Regional office and/or the PMT.
- CNMS Regional File Geodatabase updated to reflect changes to the existing inventory in study extents and attributes as identified during the Discovery process. Updates to include, but are not limited to, identification of streams scoped for new study or restudy, reattribution of requests addressed by scope of study, identification of additional requests identified during Scoping, and requests not addressed by the proposed scope of study. Full instructions and requirements for updating the CNMS Regional File Geodatabase can be found in the document "NVUE: Calculation Guidance under Risk MAP", a part of the CNMS User's Guidance Package. The updated CNMS Regional File Geodatabase shall be delivered to the respective FEMA Region or its designee within 15 days of completion of the Scoping effort. All CNMS data collection and population activities shall be performed in accordance with the standards and guidance presented in Section 5-Standards.
- Report showing that, if obtained from non-Federal sources, information on available terrain and ortho-imagery data has been entered into the NDEP and NDOP project tracking Web sites, respectively.
- Other deliverables including reports, correspondence, maps, agenda, meeting summaries, tabular data, and geospatial files to be submitted throughout the discovery process.

- For leverage data, evidence that the providing partner is aware of the delivery deadlines and scope for deliverable products, and that they are capable of meeting those requirements.

### **Discovery Meeting**

St. Johns County in coordination with FEMA shall hold a Discovery Meeting(s), as described in Appendix I of FEMA's guidelines and in the document, Risk MAP Meetings Guidance. Numerous templates have been created to aid during Discovery. The templates include a Discovery Meeting presentation, invitation letters, sign-in sheets, meeting agenda, talking points, etc. Please contact the Region / RSC lead to obtain the templates. These templates may be utilized during Perform Discovery as necessary and appropriate for the project. Mapping Partners may revise or change templates as needed.

After the Discovery Meeting, Mapping Partners shall update the Discovery Map with any revisions/decisions made at the Discovery Meeting and supply the revised Discovery Map to stakeholders. In addition, the Discovery Report shall be updated to reflect the Discovery Meeting (sign in sheets, meeting notes, and other documents may be added as text or inserted as an appendix to the report) and Mapping Partners shall distribute the final report to stakeholders.

Needs and existing mapping and flood hazard data requests for HUC, county, or area of interest shall be identified in the Coordinated Needs Management Strategy (CNMS) Regional File Geodatabase. The Regional File Geodatabase for the area of interest will be provided by the Regional Support Center (RSC) prior to meeting. Instructions on how to interpret CNMS data are detailed in the CNMS User's Guidance Package.

After the Discovery Meeting, the CNMS Regional File Geodatabase shall be updated to reflect study scope and other information gathered during the scoping effort including, stream reaches identified for study /restudy and any areas with remaining needs and/or requests as appropriate. Data attribution and line work update instructions are explained in detail in the CNMS User's Guidance Package.

### **First Pass Analysis**

If it is decided that a Risk MAP project may be appropriate, St. Johns County in coordination with FEMA shall perform a First Pass Analysis as described in Appendix I of FEMA's guidelines and in *Risk MAP Meetings Guidance*.

### **Scope Refinement**

If, after First Pass Analysis and subsequent coordination/engagement with the impacted communities, it is decided that a Risk MAP project will move forward, St. Johns County shall work with communities to refine the scope of the project, as described in Appendix I of FEMA's guidelines and in *Risk MAP Meetings Guidance*.

### **Charters**

If it is decided that a Risk MAP project is appropriate, and the scope of the project has been refined through coordination with the stakeholders, St. Johns County shall use a charter to document the agreed-upon elements of the scope, the project timeline, and other items such as data collection deadlines, if appropriate. St. Johns County shall report the number of communities that were offered a charter and the number of signed charters that resulted from the effort.

Standards: All Discovery process work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: FEMA shall make the following products available by uploading the digital data to the MIP.

- Final Discovery Report for project documented in MAS or SOW will be delivered in accordance with the schedule outlined in Section 6 - Schedule to the Regional Project Officer for approval.
- Final Discovery Map.
- Charter records: the number of communities that were offered a charter and the number of signed charters returned to the Mapping Partner from communities.
- A report that should include a list of watersheds and affected communities to undergo Risk MAP projects and a clear assessment of ability of the proposed project to meet metrics.
- QA/QC Plan for the review of the mapping project outlined in this MAS. This will include the checklists developed for that review in accordance with the schedule included in Section 6 - Schedule.
- Updated list of CEO or local FPA contacts or a report from CIS showing this information has been updated.
- Update leverage data in MIP.
- Report documenting levee information transmitted to the FEMA Regional office and/or the PMT.
- CNMS Regional File Geodatabase updated to reflect changes to the existing inventory in study extents and attributes as identified during the Discovery process. Updates to include, but are not limited to, identification of streams scoped for new study or restudy, reattribution of requests addressed by scope of study, identification of additional requests identified during Scoping, and requests not addressed by the proposed scope of study. Full instructions and requirements for updating the CNMS Regional File Geodatabase can be found in the document "NVUE: Calculation Guidance under Risk MAP", a part of the CNMS User's Guidance Package. The updated CNMS Regional File Geodatabase shall be delivered to the respective FEMA Region or its designee within 15 days of completion of the Scoping effort. All CNMS data collection and population activities shall be performed in accordance with the standards and guidance presented in Section 5-Standards.
- Report showing that, if obtained from non-Federal sources, information on available terrain and ortho-imagery data has been entered into the NDEP and NDOP project tracking Web sites, respectively.
- Other deliverables including reports, correspondence, maps, agenda, meeting summaries, tabular data, and geospatial files to be submitted throughout the discovery process.

- For leverage data, evidence that the providing partner is aware of the delivery deadlines and scope for deliverable products, and that they are capable of meeting those requirements.

## Perform Project Outreach

*(NOTE: The performance of outreach takes place throughout the life of the flood study project. Work with your Region to develop a Project Outreach Plan (POP). An alternate tracking method is acceptable with approval from the FEMA Regional Office.)*

*FEMA's outreach program includes the following meetings (on average): Discovery Meeting, Flood Risk Review Meeting, Resilience Meeting, and Final CCO Meeting/Public Open House.*

Watershed stakeholder coordination and engagement is necessary throughout the Risk MAP project timeline. FEMA has developed guidance for how Risk MAP meetings shall be conducted. FEMA shall contact the Region/RSC lead to obtain the document *Risk MAP Meetings Guidance* at the beginning of this task. This document includes guidance for FEMA personnel, contractors, and CTPs for use in engaging watershed stakeholders throughout the Risk MAP timeline and in conducting Risk MAP meetings. Although watershed stakeholder engagement occurs throughout the project timeline, it is one of the absolute focal points of Discovery.

### **Four outreach meetings**

Risk communication to the state and local officials will begin during pre-discovery. As indicated earlier, traditional pre-scoping will be enhanced to obtain and review information regarding existing hazard mitigation plans and other data to support risk assessment and potential planning efforts. It will also be used to initiate risk discussions with the community, and obtain critical information regarding local communication protocols. This Risk MAP project will include no in-person opportunities to build risk awareness at the local level. The actual number of meetings will be determined based on the risk and need at the local level and determined as part of developing the project-based communication plan. Provisions may be made for remote access video/audio feeds for those that cannot attend in person. These opportunities consist of:

- **Discovery Meeting.** This meeting is held to engage communities, understand the communities' and watershed's needs, inform the purpose of FEMA's engagement, balance FEMA resources, and plan project execution.
- **Flood Risk Review Meeting (optional).** This meeting will serve two purposes. First it will provide communities with engineering data and drafts of flood risk products as they are developed, collect feedback, and revise as needed. Second, it will help build the communities' confidence in the Risk MAP Products by showing how the Products may be used to make communities more resilient by prioritizing mitigation actions, assistance understanding risk data and improving mitigation plans, especially risk assessments and mitigation strategies.
- **Resilience Meeting.** The meeting will provide a comprehensive view of mitigation planning, mitigation options available to communities, sharing of success stories, and potential mitigation actions that communities can initiate.
- **Preliminary DFIRM Community Coordination (PDCC)/open house.** If regulatory products are included in a Risk MAP project, this meeting will provide local officials an opportunity to verify the appropriate revisions have been made to previously demonstrated information, take ownership of the products, and deliver the results of the project to the local citizenry. Risk MAP production team support will be provided to support the local officials, or deliver the messages, if the local officials are unwilling. Also, communities will be encouraged to identify short- and long-term efforts to progress towards increasing flood risk awareness and management.

To facilitate information sharing and a continuing dialogue between the PMT and the community, FEMA will provide communities with a regular status reports outlining the current project status, key accomplishments to date, identified risks, if any and next steps (template to be provided from FEMA).

The overarching goal is to create a climate of understanding and ownership of the mapping process at the State and local levels. Well-planned and executed community engagement can reduce political stress, confrontation in the media, and public controversy, which can arise from lack of information, misunderstanding, or misinformation. These outreach activities also can assist FEMA, and other members of the PMT in responding to congressional inquiries.

St. Johns County will work with the Regional Office during the initiation of this activity to develop the Project Communications Plan to support the implementation of the mapping project. The Regional Office will have access to many customizable outreach tools that have been developed for this process to support each touchpoint that the PMT has with the community. Volume 1 of the G&S provides specific outreach goals that can be considered

All communication with local governments will be done in accordance with 44 CFR Part 66.

Deliverables: Upon development of a Project Communications Plan, FEMA shall deliver the following to the FEMA Regional Project Officer in accordance with the schedule outlined in Section 6 – Schedule and include within the TSDN:

- A report detailing outreach and coordination activities
- Backup or supplemental information used in writing this report

## Perform Field Survey

Responsible Mapping Partner: The County

Scope: To supplement any field reconnaissance conducted during the Project Discovery phase of this project, the County shall conduct a detailed field reconnaissance of the specific study area to determine conditions along the floodplain(s), types and numbers of hydraulic and/or flood-control structures, apparent maintenance or lack thereof of existing hydraulic structures, locations of cross sections to be surveyed, and other parameters needed for the hydrologic and hydraulic analyses.

The County shall conduct field surveys, including obtaining channel and floodplain cross sections, identifying or establishing temporary or permanent bench marks, and obtaining the physical dimensions of hydraulic and flood-control structures. The County also shall coordinate with other Mapping Partners that are involved in the Topographic Data Development process regarding ongoing activities and deliverables.

Although the Perform Field Survey Task has been completed by the County outside of this MAS, the deliverables will be prepared according to the requirements in this MAS.

Standards: All Field Survey work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: The County shall make the following products available to FEMA by uploading the digital data to the MIP. A metadata file complying with the NFIP Metadata Profiles Specifications must accompany the G&S compliant digital data. Additionally, support documentation and Certification of Work shall be submitted according to Appendix M. Where the Technical Support Data Notebook (TSDN) format is used, such shall be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule. Where paper documentation is required by State Law for Professional certifications, you shall submit the paper in addition to a scanned version of the paper for the digital record. Please coordinate with the Regional and/or State representative to verify reporting requirements for your state.

Please note that data files must be organized under an applicable 8-digit Hydrologic Unit Code (HUC-8), in accordance with G&S.

- A report summarizing the findings of the field reconnaissance;
- Maps and drawings that provide the detailed survey results, as available;
- Survey notebook containing cross section and structure data, as available;
- Documentation of the horizontal and vertical datum;
- Digital versions of draft text for inclusion in the FIS report;
- Digital survey data consistent with the DCS (see draft DCS language and coordinate with the Region regarding its appropriate usage) as described in the G&S, 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 as outlined in the approved QA/QC Plan.



## Develop Topographic Data

Responsible Mapping Partner: The County

Scope: Topographic/elevation data may be new or existing. New is defined as data that will be flown and processed for the areas specified in this MAS according to the referenced specifications. Existing topographic/elevation data (previously flown and/or processed) may be used to produce flood studies and related products. However, if new data is not to be collected, the FEMA Region should be consulted before leveraging the best available existing topography to ensure acceptability for the intended level of flood hazard study.

The County shall obtain additional topographic data for the floodplain areas to be studied including overbank areas. These data will be used for hydrologic analysis, hydraulic analysis, floodplain boundary delineation and/or testing of floodplain boundary standard compliance. The County shall gather availability, currency, and accuracy information for existing topographic data covering the communities in this MAS. The County shall use topographic data for work in this MAS only if it is better quality than that of the original study or effective studies. In coordination with the partner who performed the discovery task in conjunction with this MAS, ensure that the FEMA Geospatial Data Coordination Policy and Implementation Guide is followed and the data obtained or to be produced are documented properly as per those policies and guidelines.

Requirements for leveraging existing Topographic Data:

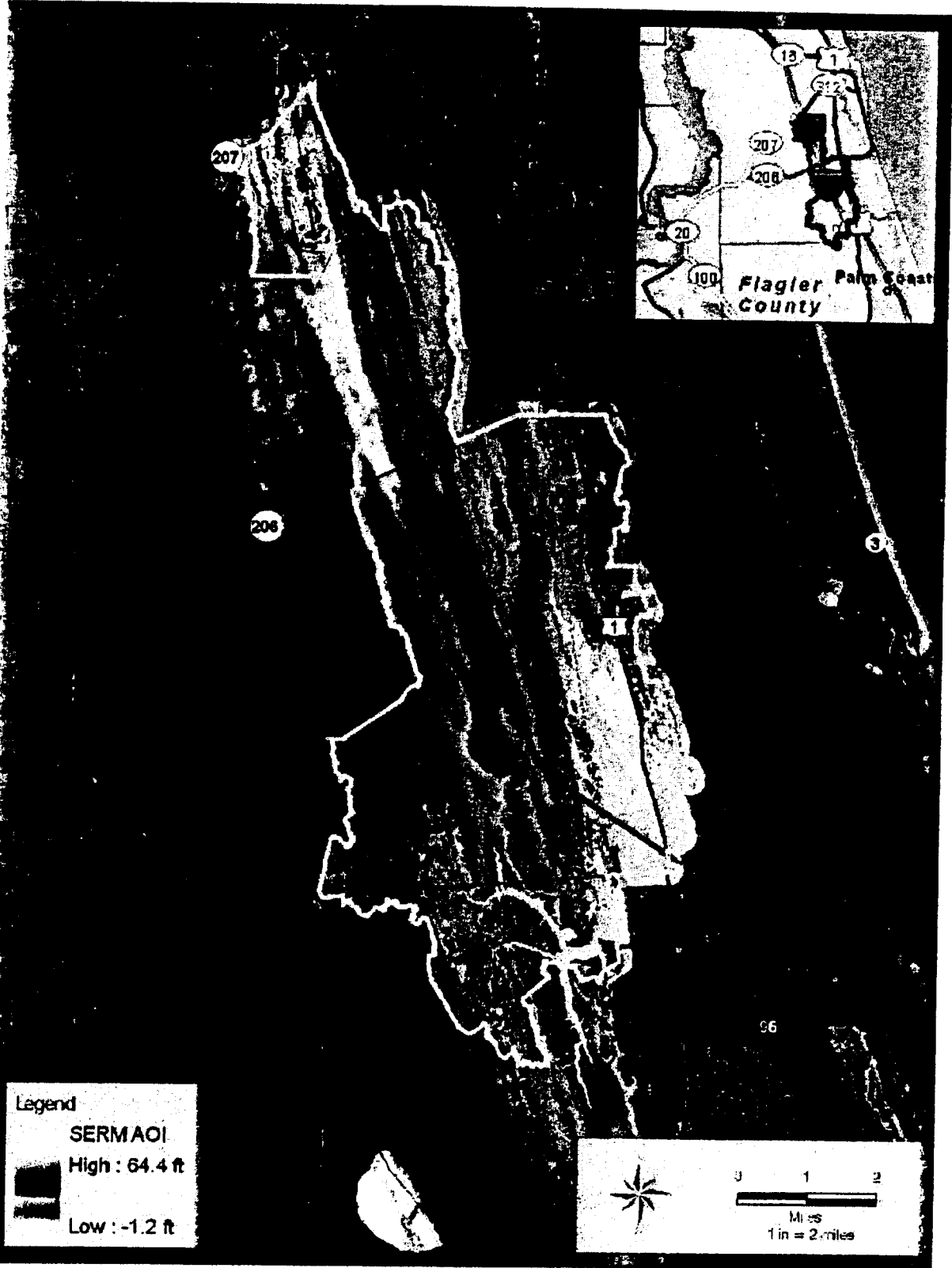
The County shall use topographic data for the areas described in **Table 1.4 Summary of Topographic Data** table. The source of the topographic data must be listed as well. The County shall coordinate with other team members conducting field surveys as part of this MAS. Accuracy for the topographic data shall be evaluated based on the current FEMA requirements for flood hazard study level of detail as documented in G&S Appendix A and Procedure Memorandum 61.

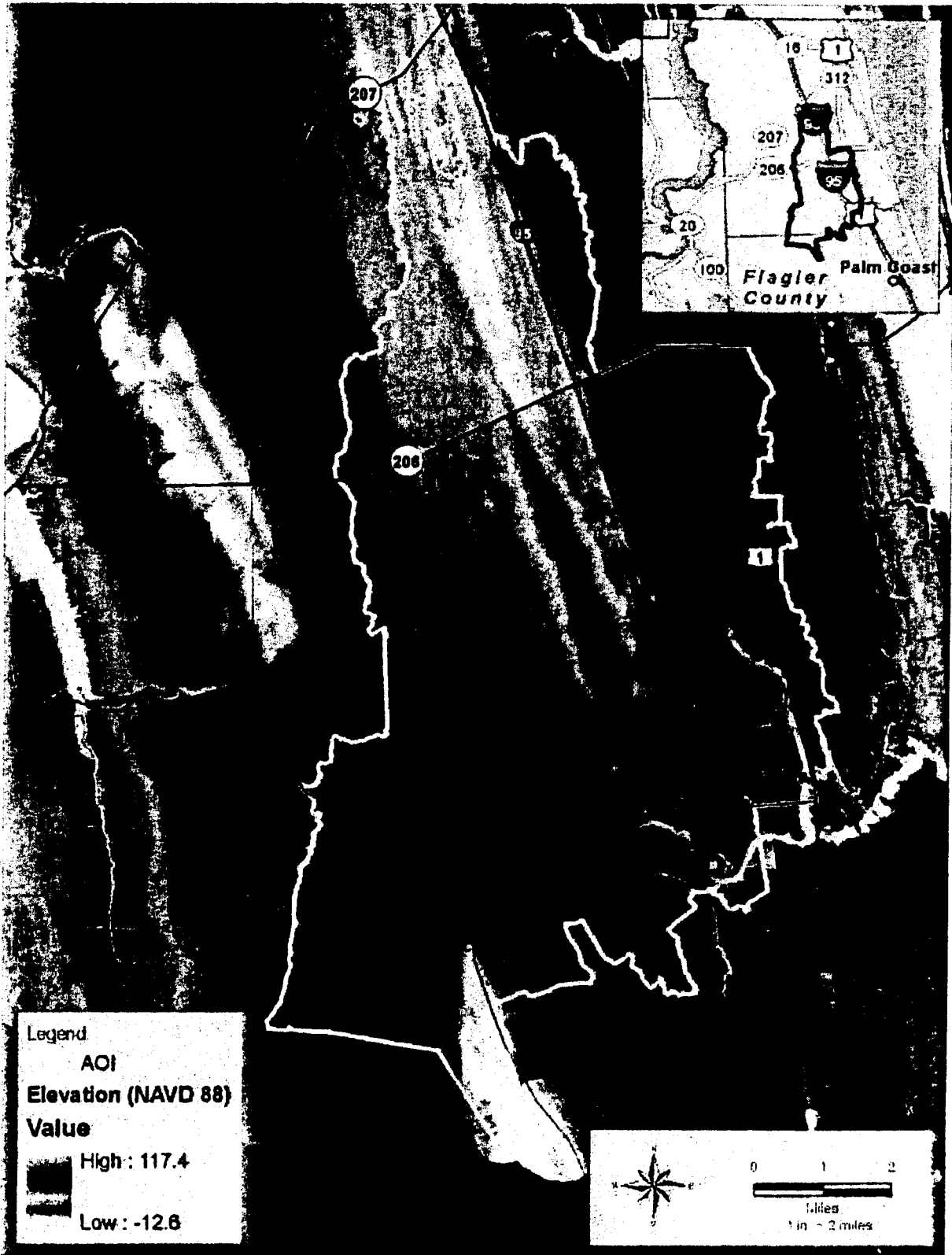
The County also shall update the topographic maps and/or DEMs for the subject flooding sources using the data collected under this Topographic Data Development process and via field surveys. In addition, the County shall address all concerns or questions regarding the topographic data development that are raised during the independent QC review or during the PM 42 defined Validation Process.

**Table 1.4 Summary of Topographic Data**

New / Existing	Leveraged	Study Area	Accuracy & Year Acquired	Source/ Data Vendor	Contact Information	Use Restrictions
Existing	Leveraged	See Figure 1	0.6' vertical accuracy; 3.8' horizontal accuracy; Acquired 2003, 2008	Community supplied	County Surveying and Mapping Division	None

Standards: All Topographic Data Development work shall be performed in accordance with the standards specified in Section 5 - Standards.





Deliverables: In accordance with the G&S, St. Johns County shall make the following products available to FEMA by uploading the digital data to the MIP and submit support documentation and Certification of

Work according to Appendix M (where Technical Support Data Notebook (TSDN) format is used, such shall be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal) so that all parties that needs it can access it as needed in accordance with the schedule outlined in Section 6 - Schedule. St. Johns County is responsible for confirming and/or obtaining any revised or updated guidance from the Region or RSC lead. A metadata file complying with the NFIP Metadata Profiles, must accompany the uploaded G&S compliant digital data. Where paper documentation is required by State Law for Professional certifications, you shall submit the paper in addition to a scanned version of the paper for the digital record. Please coordinate with the Regional and/or State representative to verify reporting requirements for your state.

Please note that data files must be organized under an applicable 8-digit Hydrologic Unit Code (HUC-8), in accordance with G&S.

- Report summarizing methodology and results;
- Mass points and breaklines data;
- Gridded digital elevation model data;
- ESRI Terrain File Geodatabase;
- Checkpoint analyses to assess the accuracy of data, including Root Mean Square Error calculations to support vertical accuracy;
- Identification of data voids and methods used to supplement data voids;
- National Geodetic Survey data sheets for Network Control Points used to control remote-sensing and ground surveys;
- Other supporting files consistent with the DCS in the G&S (see draft DCS language and coordinate with the Region regarding its appropriate use);
- 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 as outlined in the approved QA/QC Plan;
- A narrative describing the scope of work, direction from FEMA, issues, information for next mapping partner, etc.
- Updates to the National Digital Elevation Program (NDEP) project tracking at <http://www.ndep.gov/>

## **Perform Independent QA/QC: Topographic Data**

Responsible Mapping Partner: The County

Scope: The County's independent QC contractor shall perform an impartial review of the mapping data generated under Develop Topographic Data to ensure that these data are consistent with FEMA standards and standard engineering practice, and are sufficient to prepare the DFIRM. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer.

Please note FEMA will also be performing periodic audits and overall study/project management to ensure study quality. The CTP will be responsible for addressing any and all comments resulting from independent QC, including re-submittal of deliverables as needed to pass technical review.

Standards: All Topographic Data Development work shall be reviewed in accordance with the standards specified in Procedure Memorandum 61 and in Section 5 – Standards .

Deliverables: In accordance with the G&S, the County shall make the following products available to FEMA by uploading the digital data to the MIP. The County shall verify that the data was submitted under the applicable HUC-8 folders. The County also shall confirm the updates to the National Digital Elevation Program (NDEP) website under project tracking. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule.

- A Summary Report that describes the findings of the independent QA/QC review; and
- Recommendations to resolve any problems that are identified during the independent QA/QC review.

## Acquire Base Map

**Responsible Mapping Partner:** The County

**Scope:** Base Map Acquisition consists of obtaining the digital base map vector data for the project and as necessary, preparing the base map for use. The County shall provide the digital base map.

Please note that Non-Regulatory Products are not included in this task. Please refer to the "Non-Regulatory Products" section for more information.

**Standards:** All Base Map Acquisition work shall be performed in accordance with the standards specified in Section 5 - Standards. The DCS must be met for this deliverable to be acceptable.

**Requirements:**

- Obtain digital files (raster or vector) of the base map. In coordination with the partner who performed Project Discovery, ensure that the FEMA Geospatial Data Coordination Policy and Implementation Guide are followed.
- 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.
- Review and supplement the content of the acquired base map to comply with the requirements of the G&S.
- For the base map components that have a mandatory data structure, convert the base map data to the format required in the G&S.
- Certify that the digital data meets the minimum standards and specifications that FEMA requires for DFIRM production.

In addition, the County shall address all concerns or questions regarding the base map that are raised during the Independent QC review performed by FEMA Region IV, or during the PTS's Validate Content Submission Process. The base map that will be used is provided in **Table 1.5 Summary of Base Map**.

**Table 1.5 Summary of Planned Base Map: (Any additional base map information that is discovered after the MAS has been completed shall be recorded in the Discovery Report)**

Orthophotos/ Aerial Photographs	Existing	Yes	2008 1 ft. resolution	St. Johns County Geograp hic Informati on Systems Division	<a href="http://www.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx">http://www.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx</a>	None	Existing
Hydrography	Existing	No	2011	St. Johns	<a href="http://www">http://www</a>	None	Existing

				County Geographic Information Systems Division	<a href="http://www.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx">w.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx</a>		
PLSS	Existing	Yes	2011	St. Johns County Geographic Information Systems Division	<a href="http://www.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx">http://www.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx</a>	None	Existing
Corporate Boundaries	Existing	Yes	2011	St. Johns County Geographic Information Systems Division	<a href="http://www.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx">http://www.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx</a>	None	Existing
Transportation Features	Existing	Yes	2011	St. Johns County Geographic Information Systems Division	<a href="http://www.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx">http://www.co.st-johns.fl.us/BCC/Land_Management/GIS/index.aspx</a>	None	Existing

High Water Marks

Benchmarks

(Enter additional base map data as necessary)

**Deliverables:** In accordance with the G&S Volume 1 and Appendices K, L, N and O, the County shall make the following products available to FEMA by uploading the digital data to the MIP. A metadata file complying with the FEMA NFIP Metadata Profile for Base Map Datasets, must accompany the uploaded digital data. The County is responsible for confirming and/or obtaining any revised or updated guidance or Base Map profile specifications from the Region or RSC lead. Additionally, the TSDN format

described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

Please note that data files must be organized under an applicable 8-digit Hydrologic Unit Code (HUC-8), in accordance with the draft March 2009 version of Appendix M.

- Metadata file complying with the NFIP Metadata Profiles Specifications
- Digital base map files that comply with the G&S requirements
- Written certification that the digital data meet the minimum standards and specifications;
- Digital versions of draft text for inclusion in the FIS report;
- Documentation that FEMA can use the digital base map;
- Documentation of the Horizontal and Vertical Datums
- Additional Base Map acquisition correspondence; and
- Updates to the National Digital Orthophoto Program (NDOP) project tracking at <http://www.ndop.gov/> (This is required for new data collection only.)



## **Perform Independent QA/QC: Base Map**

**Responsible Mapping Partner:** The County

**Scope:** The County's independent QC contractor shall perform an impartial review of the base map to ensure it includes data consistent with FEMA standards and sufficient to include on the DFIRM. Any needed edits should be made to the product to comply with FEMA standards.

Please note FEMA will also be performing periodic audits and overall study/project management to ensure study quality. The CTP will be responsible for addressing any and all reasonable comments resulting from independent QC of the Base Map, including re-submittal of deliverables as needed to pass technical review.

**Standards:** All Independent QA/QC work shall be performed in accordance with the standards specified in Section 5 - Standards.

**Deliverables:** In accordance with the G&S, the County shall make the following products available to FEMA by uploading the digital data to the MIP. FEMA Region IV shall verify that the data was submitted under the applicable HUC-8 folders. The County also shall confirm the updates to the National Digital Orthophoto Program (NDOP) website under project tracking, which is required for new data collection only. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule.

- A Summary Report that describes the findings of the independent QA/QC review;
- Recommendations to resolve any problems that are identified during the independent QA/QC review; and
- If the data is changed during review, then updated deliverables from previous tasks will be submitted at this time.

## Develop Hydrologic Data

Responsible Mapping Partner: The County

Scope: The County shall perform hydrologic analyses for approximately 42 square miles of drainage area for the flooding source(s) identified in Discovery Report. This MAS will encompass the watershed covering the southeastern quadrant of the County (see Figure 1), which is within the designated HUC 8 boundary, as required. For new enhanced level studies, the County shall calculate peak flood discharges for the 10-, 4-, 2-, 1- and 0.2- percent-annual-chance events using the ICPR computer program. These flood discharges will be the basis for subsequent Hydraulic Analyses performed under this MAS. In addition, the County shall address all concerns or questions regarding the hydrologic analyses that are raised during the independent QA/QC review performed by the County's independent QC contractor during the QA/QC review. Please note that the Discovery Report should be referenced for details on the modeling approach and deliverables.

If GIS-based modeling is used, the County shall document automated data processing and modeling algorithms, and provide the data to FEMA to ensure these are consistent with FEMA standards. Digital datasets (such as elevation, basin, or land use data) are to be documented and provided to FEMA for approval before performing the hydrologic analyses to ensure the datasets meet minimum requirements.

**Table 1.6 Summary of Hydrologic Analysis**

Study Area	Method	Square Miles of New Hydrology
See Figure 2	ICPR version 3.10	73

Standards: All Hydrologic Analyses work shall be performed in accordance with the standards specified in Section 5 - Standards.

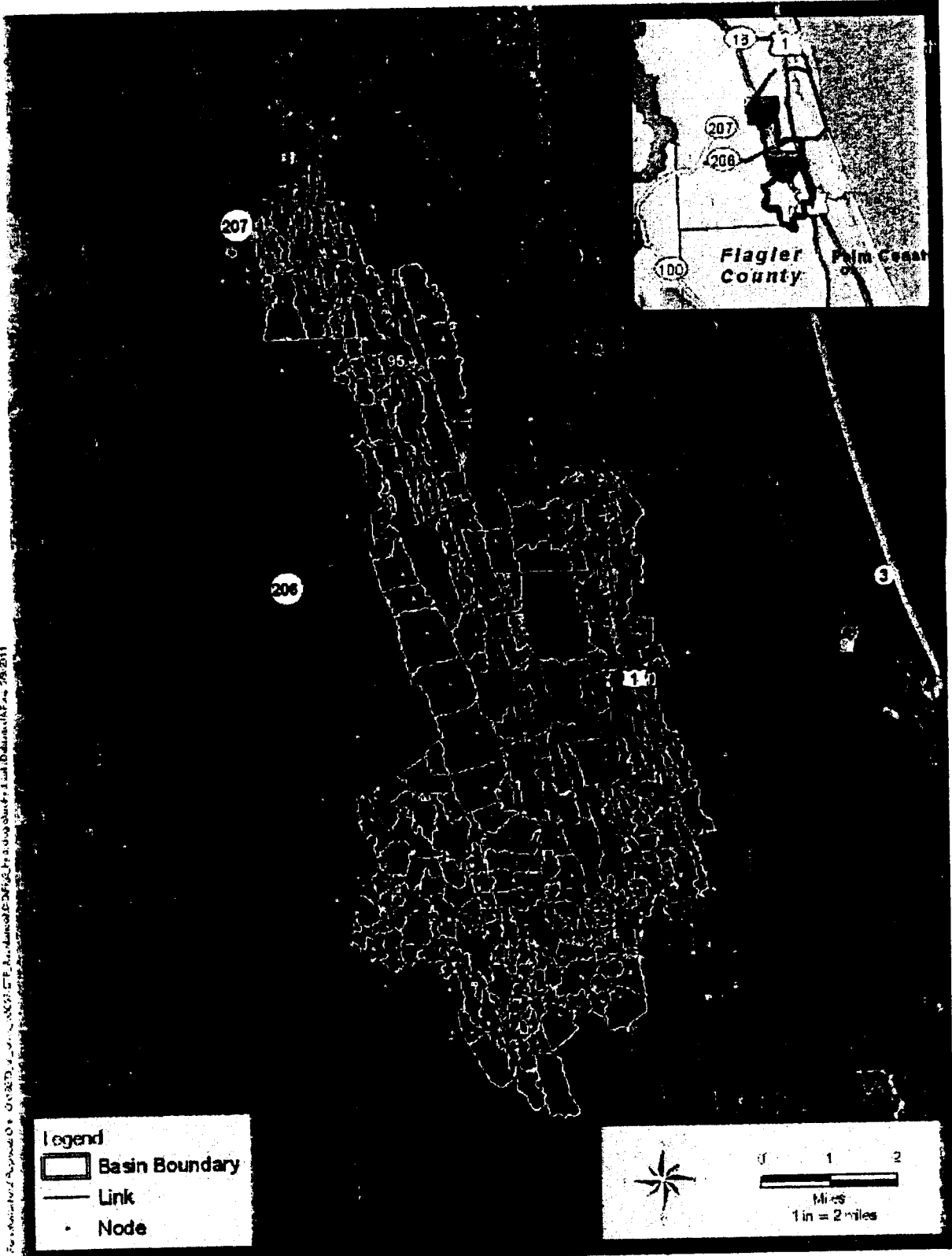
Deliverables: In accordance with the G&S, the County shall make the following products available to FEMA by uploading the digital data to the MIP so that the County's independent QC contractor can access it for an independent QA/QC review in accordance with the schedule outlined in Section 6 - Schedule. A metadata file complying with the NFIP Metadata Profiles Specifications, must accompany the uploaded digital data. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

Please note that data files must be organized under an applicable 8-digit Hydrologic Unit Code (HUC-8), in accordance with the draft version of Appendix M.

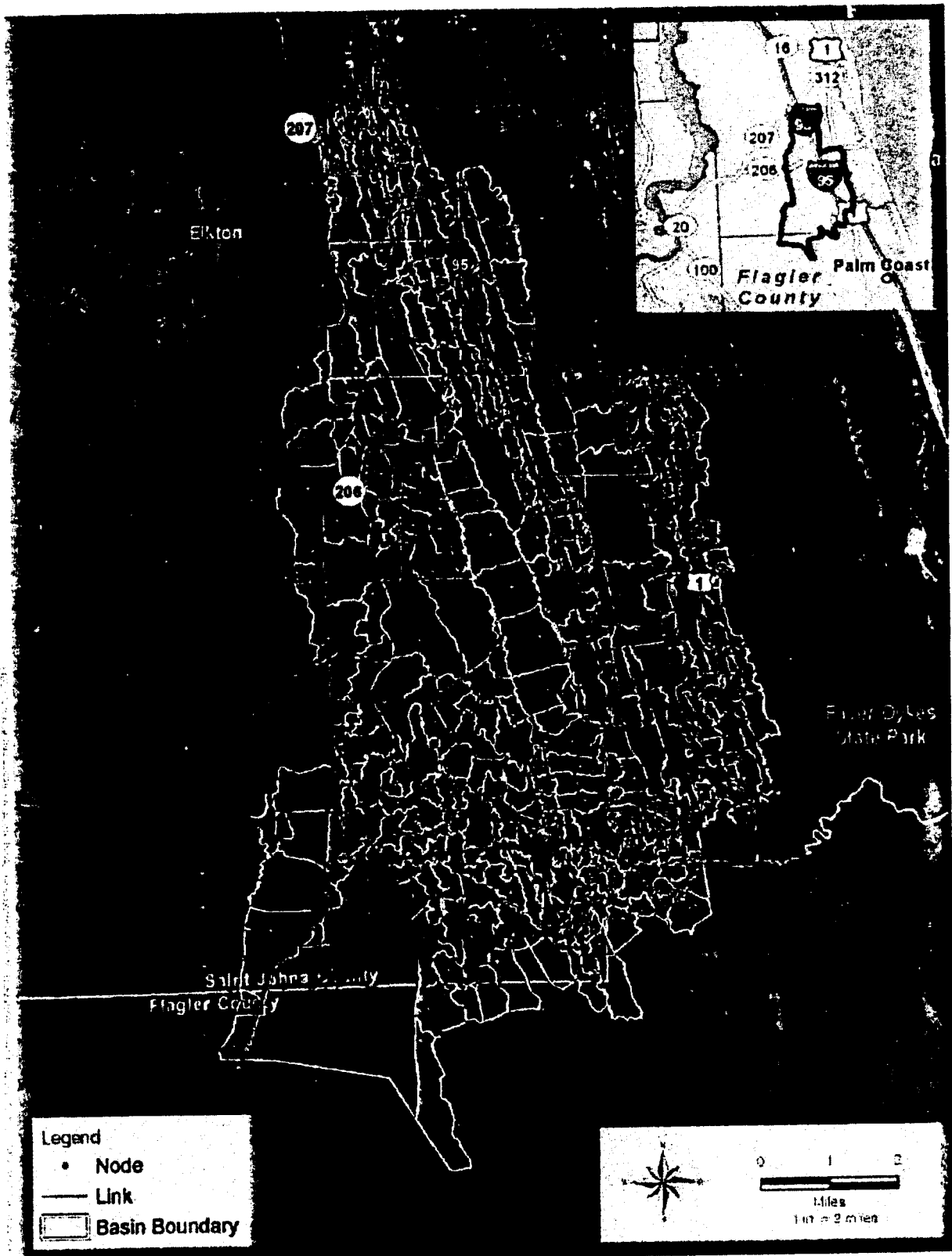
For enhanced level studies, digital copies of all hydrologic modeling (input and output) files for the 10-, 4-, 2-, 1- and 0.2-percent-annual-chance events must be provided, along with

- Digital Summary of Discharges Tables presenting discharge data for the flooding sources for which hydrologic analyses were performed;
- Digital versions of draft text for inclusion in the FIS report;
- Digital versions of all backup data used in the analysis including work maps, as appropriate;
- Format Hydrology Database or Data Delivery consistent with the DCS—in the G&S of all return periods (see draft DCS language and coordinate with the Region regarding its appropriate use);

- 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 as outlined in the approved QA/QC Plan;
- For GIS-based modeling, deliverables shall include all input and output data, and GIS data layers.
- Where paper documentation is required by State Law for Professional certifications, you shall submit the paper in addition to a scanned version of the paper for the digital record. Please coordinate with the Regional and/or State representative to verify reporting requirements for your state.
- The County shall summarize the hydrologic analysis for each study area in optional **Table 1.6 Summary of Hydrologic Analysis**.



For information purposes only. This map is a simplified representation of the actual terrain and is not intended for use as a navigation aid.



## Perform Independent QA/QC: Hydrologic Data

Responsible Mapping Partner: The County

Scope: The County's independent QC contractor shall perform an impartial review of the technical, scientific, and other information specific to the hydrologic analyses to ensure that the data and modeling are consistent with FEMA standards and standard engineering practice, and are sufficient to prepare the DFIRM. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer. This work shall include, at a minimum, the activities listed below.

Please note FEMA will also be performing periodic audits and overall study/project management to ensure study quality. The CTP will be responsible for addressing any and all comments resulting from independent QC, including re-submittal of deliverables as needed to pass technical review.

- Review the submittal for technical and regulatory adequacy, completeness of required information, and supporting data and documentation. The technical review is to focus on the following:
  - Use of acceptable models;
  - Use of appropriate methodology(ies);
  - Correctly applied methodology(ies)/model(s), including QC of input parameters;
  - Comparison with gage data and/or regression equations, if appropriate; and
  - Comparison with discharges for contiguous reaches or flooding sources throughout the watershed.
- Verify that the data was submitted under the applicable HUC-8 folders;
- Maintain records of all contacts, reviews, recommendations, and actions and make the data readily available to FEMA; and
- If data changed during review, then updated deliverables for previous tasks will be submitted at this time.

Standards: All Independent QA/QC work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the G&S, the County shall make the following products available to FEMA by uploading the digital data to the MIP. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule.

- A Summary Report that describes the findings of the independent QA/QC review.
- Recommendations to resolve any problems that are identified during the independent QA/QC review.
- Where paper documentation is required by State Law for Professional certifications, you may submit the paper in addition to a scanned version of the paper for the digital record. Please coordinate with the Regional and/or State representative to verify reporting requirements for your state.

## Develop Hydraulic Data

Responsible Mapping Partner: The County

Scope: The County shall perform hydraulic analyses for approximately 42 square miles of the flooding sources listed earlier in **Table 1.1**. New enhanced level studies will include the 10-, 4-, 2-, 1- and 0.2-percent-annual-chance events based on peak discharges computed under Hydrologic Analyses. The hydraulic methods used for this analysis will include base level and enhanced level hydraulic modeling. The base level will use an automated hydraulic model, and use the best available elevation data. It will not include field surveys, floodways, or mapped BFEs. The enhanced level may include field surveys, floodways, and the 10-, 4-, 2-, 1- and 0.2- percent-annual-chance events. ICPR version 3.10 will be used for the hydraulic calculations affecting lacustrine flooding sources. A combination of ICPR (for hydrology) and HEC-RAS is anticipated to be used for riverine flooding sources. Please note that the Discovery Report should be referenced for details on the modeling approach and deliverables.

In addition, a depth grid for all recurrence interval will be developed for newly studied areas and existing studied areas that are considered valid. Please contact the Region/RCS lead to obtain the draft versions of Appendix N and O, which explain how to create depth grids and list specifications.

The County shall use the cross-section and field data collected during Field Survey and the topographic data collected during the Topographic Data Collection, when appropriate, to perform the hydraulic analyses. The hydraulic analyses will be used to establish flood elevations and regulatory floodways (as appropriate) for the subject flooding sources.

The County shall document automated data processing and modeling algorithms for GIS-based modeling and provide the data to FEMA for review to ensure these are consistent with the standards outlined above. Digital datasets are to be documented and provided to FEMA for approval before performing the hydraulic analyses to ensure the datasets meet minimum requirements.

Any flooding sources associated with a levee that are mapped as providing protection on effective FIRMs, but will not meet certification requirements for the new FIRMs, will require revised hydraulic analysis. This revised analysis should be done in accordance with the G&S, PMs 34, 43, 51, 52, 53, 59, 63 and others that may be appropriate. No levees will affect the study to be performed in this MAS.

**Table 1.7 Summary of Hydraulic Data**

Study Area	Method	Total Miles of New Base level or Enhanced Level Hydraulics
See Figure 2	ICPR version 3.10	42 73 square miles

Standards: All Hydraulic Data work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the G&S, the County shall make the following products available to FEMA by uploading the digital data to the MIP so that the County's independent QC contractor can access it for an independent QA/QC review in accordance with the schedule outlined in Section 6 - Schedule. A metadata file complying with the NFIP Metadata Profiles Specifications, must accompany the uploaded compliant digital data. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.



Please note that data files must be organized under an applicable 8-digit Hydrologic Unit Code (HUC-8), in accordance with the draft version of Appendix M.

- Digital profiles of the 10-, 4-, 2-, 1- and 0.2-percent-annual-chance events, representing existing conditions using the FEMA RASPLOTT program or similar software;
- Digital Floodway Data Tables for each flooding source that is compatible with the DFIRM database, as appropriate;
- Digital hydraulic modeling (input and output) files;
- Digital tables with range of Manning's "n" values;
- Digital versions of all backup data used in the analyses;
- Digital versions of draft text for inclusion in the FIS report;
- Format Hydraulic Database or Data Delivery consistent with the Data Capture Standards--in the G&S (see draft DCS language and coordinate with the Region regarding its appropriate use); 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 as outlined in the approved QA/QC Plan.
- For GIS-based modeling, deliverables include all input and output data, GIS data layers, and final products in the format of the DFIRM database structure;
- Depth grids for all flood frequencies, as required.
- Where paper documentation is required by State Law for Professional certifications, you shall submit the paper in addition to a scanned version of the paper for the digital record. Please coordinate with the Regional and/or State representative to verify reporting requirements for your state.
- Appropriate leverage information includes who paid for the data and the amount of data used by the Risk MAP Project.
- The County shall summarize the hydraulic data for each study area in optional **Table 1.7 Summary of Hydraulic Data**.

## Perform Independent QA/QC: Hydraulic Data

Responsible Mapping Partner: The County

Scope: The County's independent QC contractor shall perform an impartial review of the technical, scientific, and other information under Hydraulic Analysis to ensure that the data and modeling are consistent with FEMA standards and standard engineering practice, and are sufficient to revise the FIRM. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer. This work shall include, at a minimum, the activities listed below.

Please note FEMA will also be performing periodic audits and overall study/project management to ensure study quality. The CTP will be responsible for addressing any and all comments resulting from independent QC, including re-submittal of deliverables as needed to pass technical review.

- Review the submittal for technical and regulatory adequacy, completeness of required information, and supporting data and documentation. The technical review is to focus on the following:
  - Use of acceptable model(s);
  - Starting water-surface elevations;
  - Cross-section geometry;
  - Manning's "n" values and expansion/contraction coefficients;
  - Bridge and culvert modeling;
  - Flood discharges;
  - Regulatory floodway computation methods, as appropriate;
  - Tie-in to upstream and downstream non-revised Flood Profiles; and
  - Depth grids
- Verify that the data was submitted under the applicable HUC-8 folders.
- Maintain records of all contacts, reviews, recommendations, and actions and make the data readily available to FEMA.
- Maintain an archive of all data submitted for hydraulic modeling review. (All supporting data must be retained for three years from the date a funding recipient submits its final expenditure report to FEMA, and once the study is effective all associated data should be submitted to the FEMA library); and
- If data changed during review, then updated deliverables for previous tasks will be submitted at this time.

Standards: All Independent QA/QC work shall be performed in accordance with the standards specified in Section 5 - Standards.

**Deliverables:** In accordance with the G&S, the County shall make the following products available to FEMA by uploading the digital data to the MIP. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule.

- A Summary Report that describes the findings of the independent QA/QC review;
- Recommendations to resolve any problems that are identified during the independent QA/QC review; and
- If the data changed during the Hydrologic and/or Hydraulic Analyses QA/QC process, then the updated and verified deliverables from these activities will be resubmitted at this time.

## **Perform Floodplain Mapping**

**Responsible Mapping Partner:** The County

**Scope for Base Level Study:** The County shall delineate the 1 percent-annual-chance floodplain boundaries and any other applicable elements for the flooding sources for which hydrologic, enhanced hydraulic, and/or coastal analyses were performed. The County shall incorporate all new or revised hydrologic and hydraulic modeling and shall use the topographic data acquired under Develop Topographic Data to delineate the floodplain and regulatory floodway boundaries (as necessary) in an accepted GIS format.

**Scope for Enhanced Riverine:** The County shall delineate the 1- (and 0.2-percent-annual-chance, as appropriate) floodplain boundaries and the regulatory floodway boundaries (as appropriate) and any other applicable elements for the flooding sources for which hydrologic and/or enhanced hydraulic analyses were performed. The County shall incorporate all new or revised hydrologic and/or hydraulic modeling and shall use the topographic data acquired under Develop Topographic Data to delineate the floodplain (and regulatory floodway, as required) boundaries on a digital work map.

**Scope for Refinement or Creation of Zone A:** The County shall delineate the 1-percent-annual-chance floodplain boundaries in where the project DTM or the H&H model results required additional professional interpretation. These estimated floodplains are normally in areas of shallow sheet flow (typically less than 1-foot deep) and wetlands which were not covered by the modeling results. Further details on these specific instances of Zone A creation will be outlined in the Discovery report.

The County shall incorporate the results of all effective Letters of Map Change (LOMCs) for all affected communities on the DFIRM and provide to the appropriate PTS the required submittals for incorporation into the National Flood Hazard Layer (NFHL). Also, the County shall address all concerns or questions regarding Floodplain Mapping that are raised by the County's independent QC contractor during the independent QA/QC review.

The County shall capture flood hazard engineering and/or mapping data quality issues encountered during this activity in the CNMS data model for the area of interest. These issues will be entered as "Requests" or "Needs" in the CNMS data model based on the nature of the deficiency encountered. Detailed

information on performing this task can be found in the relevant standards specified in Section 5 - Standards.

The County will provide the data to FEMA, at the time of DFIRM data submission, to update the Mid-Term Levee Inventory (MLI).

**Standards:** All Floodplain Mapping work shall be performed in accordance with the standards specified in Section 5 - Standards. Mapping quality standards must be consistent with PM 38, dated October 17, 2007. The County will perform self-certification audits for the Floodplain Boundary Standards, as described in PM 38 and all subsequent revisions, for all flood hazard areas.

**Deliverables:** In accordance with the G&S, and upon completion of floodplain mapping for all flooding sources in this project, the County shall make the following products available to FEMA by uploading the digital data to the MIP so that the County's independent QC contractor can access it for the independent QA/QC review in accordance with the schedule outlined in Section 6 – Schedule.

Please note that data files must be organized under an applicable 8-digit Hydrologic Unit Code (HUC-8), in accordance with the draft version of Appendix M.

- A metadata file complying with the NFIP Metadata Profiles Specifications, must accompany the compliant digital data;
- Additionally, support documentation and Certification of Work shall be submitted according to Appendix M. Where Technical Support Data Notebook (TSDN) format is used, such shall be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal. The mapping for the remaining flooding sources including any non-revised digital panels and all merged revised and non-revised floodplain mapping data is to be submitted for the Independent QA/QC review at the completion of this activity;
- Digital work map showing the 1- (and 0.2-percent-annual-chance, as required) floodplain boundary delineations, regulatory floodway boundary delineations (as required), cross sections, BFEs, flood insurance risk zone designation labels, and all applicable base map features;
- Draft DFIRM database prepared in accordance with the requirements in G&S;
- Digital versions of input and output for any computer programs that were used consistent with the DCS—in the G&S (see draft language and coordinate with the Region regarding its appropriate usage);
- 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 as outlined in the approved QA/QC Plan;
- Any backup or supplemental information including supporting calculations and assumptions used in the mapping required for the independent QA/QC review of Hydrologic and Hydraulic Analyses and Floodplain Mapping consistent with the DCS—in the G&S (see draft language and coordinate with the Region regarding its appropriate usage);
- An explanation for the use of existing topography for the studied reaches, if appropriate;
- Written summary of the analysis methodologies;
- Digital versions of draft FIS report, Floodway Data Tables (as required) and updated profiles (as required) including all profiles and tables converted appropriate datum, as well as any other necessary items for the finalization of the preliminary FIS;

- If automated GIS-based models are applied, all input data, output data, intermediate data processing products, and GIS data layers shall be submitted consistent with the DCS—in the G&S (see draft language and coordinate with the Region regarding its appropriate usage);
- Where paper documentation is required by State Law for Professional certifications, you may submit the paper in addition to a scanned version of the paper for the digital record. Please coordinate with the Regional and/or State representative to verify reporting requirements for your state.

## **Perform Independent QA/QC: Floodplain Mapping**

**Responsible Mapping Partner:** The County

**Scope:** The County's independent QC contractor shall perform impartial review of the floodplain mapping submitted by the County under Floodplain Mapping to ensure that the results of the analyses performed are accurately represented and the Redelineation of existing data on new, updated topography is appropriate. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer. This work shall include, at a minimum, the activities listed below.

Please note FEMA will also be performing periodic audits and overall study/project management to ensure study quality. The CTP will be responsible for addressing any and all comments resulting from independent QC, including re-submittal of deliverables as needed to pass technical review.

- Review the cross sections for proper location and orientation on the work map and agreement with the Floodway Data Table (as required).
- Review the regulatory floodway widths for agreement with the widths shown in the Floodway Data Table and the results of the hydraulic modeling (as required).
- Review the floodplain boundaries as shown on the work maps to ensure the data matches the Flood Profiles.
- For non-revised floodplain areas, the 1- and 0.2-percent-annual-chance floodplain boundaries agree with the floodplain boundaries shown on the FIRM, the contour lines, other topographic information, and planimetric information shown on the DFIRM base.
- Review the floodplain boundaries as shown on the work maps to ensure floodplain to ground relationships are maintained for all unrevised areas.
- Review the flood insurance risk zones as shown on the work maps to ensure the data are labeled properly.
- Review the DFIRM mapping files to ensure the data were prepared in accordance with the requirements in G&S.
- Review the metadata files to ensure the data includes all required information shown in the NFIP Metadata Profiles Specifications.
- Review that effective Letters of Map Change (LOMCs) for all affected communities on the DFIRM were accounted for.
- Verify that the data was submitted under the applicable HUC-8 folders.

**Standards:** All Independent QA/QC work shall be performed in accordance with the standards specified in Section 5 - Standards.

**Deliverables:** In accordance with the G&S, the County shall make the following products available to FEMA by uploading the digital data to MIP. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule.

- A Summary Report that describes the findings of the QA/QC review, noting any deficiencies in or agreeing with the mapping results;
- Recommendations to resolve any problems that are identified during the independent QA/QC review;
- An annotated work map with all questions and/or concerns indicated, if necessary; and
- If data changed during review, then updated deliverables for previous tasks will be submitted at this time.

## Develop DFIRM Database

Responsible Mapping Partner: The County

Scope: The County shall prepare the database in accordance with G&S, for upload to the MIP. The County is responsible for confirming and/or obtaining any revised or updated guidance from the Region or RSC lead. The County will be preparing the database for this project in the Enhanced format. The database shall be produced in accordance with the G&S. The database will include only those areas to be revised for this MAS, with all appropriate mapping tie-ins addressed. The County shall coordinate with appropriate Mapping Partners, as necessary, to resolve any problems that are identified during development of the DFIRM Database.

Standards: All DFIRM Database work shall be performed in accordance with the standards specified in Section 5 - Standards. Perform appropriate QR activitie(s).

Deliverables: In accordance with G&S, the County shall make the following products available to FEMA by uploading the digital data to the MIP. The County is responsible for confirming and/or obtaining any revised or updated guidance from the Region or RSC lead. Additionally, the Technical Support Data Notebook format described in G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

Please note that data files must be organized under an applicable 8-digit Hydrologic Unit Code (HUC-8), in accordance with the draft version of Appendix M.

- DFIRM database files prepared in accordance with the requirements in G&S and in the required format(s).
- A metadata file complying with the FEMA NFIP Metadata Profile Specifications.



## Develop Non-Regulatory Products

### Responsible Mapping Partner: FEMA

**Scope:** Prior to 2010, FEMA and the National Flood Insurance Program have focused on the identification and mapping of flood hazards as well as the modernization of the mapping program. Beginning in FY 2010, the Risk Mapping, Assessment, and Planning (Risk MAP) program was initiated by FEMA with a vision “to deliver quality data that increases public awareness and leads to mitigation actions that reduce risk to life and property.” To achieve this vision, FEMA is integrating risk assessment, risk communication, risk planning, and risk mitigation into its traditional flood hazard identification and mapping efforts.

Risk assessment data and analyses are defined as processes for analyzing or evaluating the risk associated with a hazard, and using that information to make informed decisions on the appropriate ways to reduce the impacts of the hazard on people and property. As part of the Risk MAP Program, non-regulatory Flood Risk Products shall be developed for study areas based upon the latest guidance available including the following Procedure Memorandums and appendices:

- PM 57: Guidance for Fiscal Year 2010 Contracting
- PM 58: Guidance for Acquisition of Flood Risk Data and Products in FY-2010.
- PM 59: Guidance for Implementation of Watershed-Based Studies
- PM 60: Guidance for Development of Flood Risk Assessment Data and Analysis
- G&S Appendix N & O\*. FEMA is responsible for confirming and/or obtaining any revised or updated guidance from the Region or RSC lead.

*\*Appendices still in draft format.*

**Outreach:** Outreach shall be performed in accordance with the Outreach activities identified within the CTP’s primary Mapping Activities Statement; Statement of Work template.

**Mitigation Planning:** FEMA considers mitigation planning to be critical, and mitigation planning technical assistance should have been identified starting at Perform Discovery.

During the initial plan development or for a five-year plan update, FEMA identifies four phases of the planning process:

- Planning Process
- Risk Assessment
- Mitigation Strategy
- Plan Maintenance

Hazard Mitigation Planning technical assistance and training provided through Risk MAP should focus on building a community’s capability to plan for and reduce risk. The following steps are to be emphasized:

- Incorporating new flood hazard and risk information;
- Updating and refining mitigation strategies, especially as related to new flood hazard/risk information;
- Training mitigation planning teams; and
- Incorporating mitigation into existing community plans, programs, and policies.

Please contact the Region/RSC lead to obtain FEMA's guidance document Risk MAP Guidance for Incorporating Mitigation Planning Technical Assistance and Training into Flood Risk Projects.

**Flood Risk Products:** The standard non-regulatory products that will be created as a part of this MAS include:

**Flood Risk Database**

- Flood Risk Report
- Flood Risk Map

Flood Risk Products serve as the delivery mechanisms for the Flood Risk Datasets and information developed within a flood risk study. Typically these Flood Risk Datasets include but are not limited to:

- Changes Since Last FIRM – This dataset will be shared during Proposed NFIP Map Changes and Impacts.
- Depth & Analysis Grids – The grids will be presented at the Flood Risk Review Meeting.
- Flood Risk Assessment data – This data will be presented at the Flood Risk Review Meeting.

Although this program is conceived on a HUC-8 watershed flood hazard and flood risk analysis framework, it is also recognized that there will be occasions where a watershed approach is not appropriate. Examples include site-specific levee analysis, coastal analysis, As a result, Flood Risk Products and Flood Risk Datasets are intended to be scalable to support the variability of project requirements and available funding. CTPs should work with their respective Regions to identify most appropriate approaches for determining which Products and associated Datasets are developed.

**Flood Risk Datasets:** While Flood Risk Products are standard (i.e. Flood Risk Report, Flood Risk Map, and Flood Risk Database), Flood Risk Datasets are not. Flood Risk Datasets do include standard elements, but the database may be enhanced. Flood Risk Datasets shall be developed during the process of a new or revised Risk MAP project. Please contact the Region / RSC lead to obtain guidance on Flood Risk Datasets. On a discretionary basis, enhanced Flood Risk Datasets may also be developed for project areas depending on several factors, including, but not limited to the following:

- The project area has been identified as having a high relative flood risk
- Readily available local data
- Additional non-FEMA funding contributions

The following list highlights standard Flood Risk Datasets

- Changes Since Last FIRM analysis and data development
- Flood Depth & Analysis Grids development
- Flood Risk Assessment analysis and data development

- Areas of Mitigation Interest (optional/enhanced, but **strongly** encouraged)

Flood Risk Datasets shall be incorporated into the standard Flood Risk Products (i.e. Flood Risk Assessment Database, Flood Risk Report, and Flood Risk Map). For additional information and examples of standard and Enhanced Flood Risk Datasets, please refer to FEMA's Operating Guidance: Guidance for Acquisition of Flood Risk Data and Products in FY-2010 and Guidance for Development of Flood Risk Assessment Data and Analysis. FEMA is responsible for confirming and/or obtaining any revised or updated guidance from the Region or RSC lead.

**Scope of Flood Risk Products and Flood Risk Datasets Development:** FEMA will develop standard Flood Risk Products for areas identified in this MAS as they are identified for the watershed and funding is available. These products will be derived from 'Base' Flood Risk Datasets developed as part of this MAS.

**Quality Control and Quality Assurance:** FEMA is responsible for the implementation of an independent Quality Assurance/Quality Control (QA/QC) plan for all assigned activities. FEMA will submit a Summary Report that describes and provides the results of all automated or manual QA/QC review steps. The report should include the process for all assigned activities.

**Standards:** All Risk MAP work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables should be submitted through the MIP or with coordination of the Regional Service Center (RSC). FEMA is responsible for confirming and/or obtaining any revised or updated guidance from the Region or RSC lead.

## Produce Preliminary Map Products

<Mapping Partners may consider including and completing this task in the MIP if FEMA believes data will need to be submitted during the course of the project, even if this task was not included in the SOW. In addition, leveraged data used for the creation of Preliminary Map Products must be documented and submitted for this task. Failure to submit this task when data should have been submitted could result in the workflow being reverted back to production tasks and could lead to a delay in the schedule. If the Responsible Mapping Partner obtains Preliminary Map Products data that was not included in the SOW, the Responsible Mapping Partner shall contact the Region/RCS Lead to request that this task be added to the MIP workflow.>

Responsible Mapping Partner: FEMA (as funding is available in conjunction with the concurrent coastal study)

Scope: FEMA shall apply the final FEMA DFIRM graphic and database specifications to the DFIRM files produced under Floodplain Mapping. This work shall include adding all required annotation, line pattern, area shading, and map collar information (e.g., map borders, title blocks, legends, notes to user). FEMA shall coordinate with those Mapping Partners responsible for Floodplain Mapping and/or Redelineation, as necessary, to resolve any problems that are identified during development of the DFIRM Database and graphics.

*Preliminary Summary of Map Actions (SOMA) Preparation:* FEMA in consultation with St. Johns County shall prepare Preliminary SOMAs for all affected communities, if appropriate. The SOMA shall list pertinent information regarding LOMCs that will be affected by the issuance of the DFIRM (i.e., superseded, incorporated, revalidated).

Standards: All DFIRM Database work shall be performed in accordance with the standards specified in Section 5 - Standards. All work must pass the automated and visual "National QA/QC" reviews prior to the distribution of the preliminary copies of the DFIRM and FIS report and the Preliminary SOMA. Perform appropriate QR activitie(s).

Deliverables: In accordance with the G&S, FEMA shall make the following products available to FEMA by uploading the digital data to the MIP. A metadata file complying with the NFIP Metadata Profiles Specifications, must accompany the compliant digital data. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule.

- Preliminary DFIRM database or revised Preliminary DFIRM database prepared in accordance with the requirements in G&S;
- Provide assessment products as defined during Project Discovery;
- FIS Report and the Preliminary SOMA prepared using the SOMA Tool on the MIP;
- Complete set of plots of DFIRM panels showing all detailed flood hazard information at a suitable scale;
- 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 as outlined in approved QA/QC Plan;
- Passing Quality Review report;

- **QUALITY REVIEW 2: Auto Validation of Preliminary DFIRM Database;**
- **QUALITY REVIEW 3: Visual Review of Preliminary Map Panels and FIS; and**
- **QUALITY REVIEW 4: Validate BFE Notice and CEO Letters; Publish Proposed Base Flood Elevations (BFEs) in Federal Register.**
- **CNMS Regional File Geodatabase updated to reflect changes to the existing inventory in study extents and attributes as of Preliminary Issuance. St. Johns county will provide data files of the updated streams to include in the regional CNMS. Updates to include, but are not limited to, identification of streams scoped for new study or restudy, identification of stream reaches for which flood risk products were developed, resolution of requests addressed by scope of study, identification of additional requests identified during Scoping or production, and requests not addressed by the proposed scope of study. Full instructions and requirements for updating the CNMS Regional File Geodatabase can be found in the document “NVUE: Calculation Guidance under Risk MAP”, a part of the CNMS User’s Guidance Package. The updated CNMS Regional File Geodatabase shall be delivered to the respective FEMA Region or its designee within 15 days of completion of preliminary issuance. All CNMS data collection and population activities shall be performed in accordance with the standards and guidance presented in Section 5- Standards.**
- **Refined HAZUS deliverable (see Risk Assessment Procedure Memorandum for details)**
- **Risk Assessment Suite (see Risk Assessment Procedure Memorandum for details)**
  - **Depth Grids**
  - **‘Changes Since Last Map’ map**
  - **Contributing Flood Risk Factors**
  - **Watershed Report and Database**

## **Perform Independent QA/QC: Produce Preliminary Map Products**

Responsible Mapping Partner: FEMA (as funding is available in conjunction with the concurrent coastal study)

Scope: Upon completion of the floodplain mapping and redelineation activities, FEMA shall perform an impartial review of the DFIRM spatial database to determine if it meets current FEMA database specifications. In addition, FEMA shall review the DFIRM to ensure it meets current FEMA graphic specifications. FEMA shall coordinate with other Mapping Partners, as necessary, to resolve any problems identified during this QA/QC review. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer.

Please note FEMA will also be performing periodic audits and overall study/project management to ensure study quality. FEMA will be responsible for addressing any and all comments resulting from independent QC, including re-submittal of deliverables as needed to pass technical review.

This work shall ensure that the requirements below are met.

- All required DFIRM features are accurately and legibly labeled and following the examples shown in the FEMA DFIRM specifications. This includes all flood insurance risk zones, BFEs, gutters, cross sections, transects, studied streams and shorelines, mapped political entities, and all roads within and adjacent to the 1-percent-annual-chance floodplains.
- All DFIRM features are correctly symbolized with the appropriate symbol, line pattern, or area shading and follow the requirements in G&S.
- All map collar information is complete, correct, and follows the requirements specified in G&S.
- Preliminary DFIRM database is in a GIS file and database format as specified in FEMA's G&S, and conform to those specifications for content and attribution.
- DFIRM database files are in one of the database formats specified in FEMA's G&S, and conform to those specifications for content and attribution.
- Assess risk assessment products for compliance with Guidance documents.
- Review that Preliminary SOMAs were created for applicable communities.

Standards: All DFIRM Database Development work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the G&S, FEMA shall make the following products available to FEMA by uploading the digital data to the MIP. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 – Schedule.

- A Summary Report that describes the findings of the QA/QC review noting any deficiencies in or agreeing with the mapping results and the results of all automated or manual QA/QC steps taken during the independent QA/QC review;

- Recommendations to resolve any problems that are identified during the independent QA/QC review;
- An annotated copy of the DFIRM with all questions and/or concerns indicated, if necessary; and
- If the data changed during the QA/QC process, then the updated deliverables from Floodplain Mapping and Redelineation will be resubmitted at this time.

## Distribute Preliminary Map Products

**Responsible Mapping Partners:** FEMA (as funding is available in conjunction with the concurrent coastal study)

**Scope:** Preliminary Map Products consists of the final preparation, review, and distribution of the Preliminary copies of the DFIRM and FIS report and the Preliminary SOMA and Risk Assessment products for community officials and the general public review and comment. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer. The activities to be performed are summarized below.

**Preliminary Transmittal Letter Preparation:** FEMA shall prepare letters and transmit the Preliminary copies of the DFIRM and FIS report and related enclosures to all affected communities, all other Project Team members, the State NFIP Coordinator, the FEMA Regional Office, and others as directed by FEMA. This letter may be prepared for FEMA only or for signature by FEMA and FEMA.

**Distribution of Preliminary DFIRM and FIS Report:** FEMA shall distribute the Preliminary copies of the DFIRM and FIS report (FIS report sections pertinent to the studies completed by St. Johns county will be developed by St. Johns County and provided to FEMA for inclusion) to all affected communities, all other Project Team members, the State NFIP Coordinator, the FEMA Regional Office, and others as directed by FEMA.

**News Release Preparation:** FEMA shall use the BFEs on the Web tool in accordance with PM 44 to create BFE notices for studies that result in new or modified BFEs. FEMA shall prepare the BFE determination letters as well as the news release notifications of BFE changes for all affected communities. FEMA shall perform QA/QC reviews of the notices for accuracy and compliance with FEMA format requirements. FEMA shall file the notifications for later submittal to FEMA for review.

**Deliverables:** In accordance with the G&S, FEMA shall make the appropriate deliverables available to FEMA by uploading the digital data to the MIP. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule. Preliminary transmittal letters shall be prepared and transmitted. These letters and any additional letters requested by FEMA shall be prepared in accordance with the current version of the FEMA *Document Control Procedures Manual* and in conjunction with Guidance provided by the Region and/or its contractor.

- A preliminary copy of the DFIRM and FIS report, including all updated data tables and Flood Profiles shall be mailed to the Chief Executive Officer (CEO) and floodplain administrator of each affected community, all other Project Team members, the State NFIP Coordinator, the FEMA Regional Office, and others as directed by FEMA.
- Preliminary SOMAs, prepared in accordance with FEMA requirements, shall be provided as appropriate.
- A Summary Report that describes and provides the results of all automated or manual QA/QC review steps taken during the final preparation of the preliminary DFIRM shall be provided as outlined in the approved QA/QC Plan.
- FEMA will submit a summary of outreach activities and any changes made in the outreach approach based on the actual implementation.



- Update CNMS Regional File Geodatabase with final documentation identifying stream reaches scoped for study /restudy and any areas with remaining needs and requests as appropriate. Updated File Geodatabase to be delivered to the Region according to timeline defined in the document “NVUE: Calculation Guidance under Risk MAP”.

## **Post-Preliminary Map Production**

**Responsible Mapping Partners:** FEMA (as funding is available in conjunction with the concurrent coastal study)

**Scope:** Post-Preliminary Map Production includes coordination with FEMA and the Community to schedule a Community Meeting(s) for review of the Preliminary DFIRM, if required. This activity consists of finalizing the DFIRM and FIS report after the Preliminary copies of the DFIRM and FIS report have been issued to community officials and the public for review and comment. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer. The activities to be performed are summarized below.

***Community Coordination Meeting:*** If a community coordination meeting is required it is recommended that it be held within 60 days of the issuance of the Preliminary DFIRM and, FEMA shall arrange for and verify that the following activities are completed:

- Notify FEMA that a Preliminary map was released;
- Notify FEMA when Community Coordination Meeting scheduling begins;
- Community Coordination Meeting scheduling must be done in coordination with the Region and State;
- FEMA requires at least 3 weeks before a meeting for outreach efforts;
- Establish invitee list;
- Schedule meeting date and place. FEMA must make sure the meeting room is an appropriate size. Also, make sure equipment, such as a projectors, computers, extension cords, tables, etc. are available for the meeting;
- Coordinate project presentation and meeting deliverables with Region prior to meeting, giving appropriate notice.
- Complete and Distribute Meeting Notice/Letter. E-mail officials invitations (PDF or DOC) to FEMA when the documents are mailed to the officials;
- Record Meeting Minutes;
- Identify any/all communities with BFE changes for required appeal period; and
- E-mail scanned sign-in sheets and Meeting Minutes to FEMA after the meeting.

***Initiation of Statutory 90-Day Appeal Period:*** When required, upon completion of a 30-day community comment period and/or final coordination meeting with the affected communities, FEMA shall arrange

for and verify that the following activities are completed in accordance with the current version of the FEMA G&S, appropriate PMs and Document Control Procedures Manual:

- FEMA shall prepare the appropriate notices (Proposed Rules) that are to be published in the *Federal Register*. FEMA shall then deliver those notices to FEMA for publication.
- Proposed BFE determination letters are sent to the community CEOs and floodplain administrators.
- Ensure that news release notifications of BFE changes are published in prominent newspapers with local circulation in accordance with 44 CFR.
- When FEMA holds public meetings to present and discuss the results of this Risk MAP Project, St Johns county staff will attend the meetings and assist where possible,

*Resolution of Appeals and Protests:* FEMA will administer the appeals and protest period. St. Johns County shall assist in the review and resolution of appeals and protests received during the 90-day appeal period. For each appeal and protest, the following activities shall be conducted as appropriate:

- Initial processing and acknowledgment of submittal;
- Technical review of submittal;
- Preparation of letter(s) requesting additional supporting data;
- Performance of revised analyses;
- Preparation of a draft resolution letter for appeals and protests for signature with FEMA and revised DFIRM and FIS report materials for FEMA review;
- Update CNMS as appropriate when resolving appeals/protests; and
- Update the Risk Assessment Suite as needed for appeal resolutions.

FEMA shall mail all associated correspondence. While protests may be signed by a partner only, appeals must have at least a FEMA co-signature.

*Preparation of Special Correspondence:* FEMA shall support FEMA in responding to comments not received within the 90-day appeal period (referred to as “special correspondence”) including drafting responses for FEMA review when appropriate and finalizing responses for co-signature. FEMA also shall mail the final correspondence (and enclosures, if appropriate) and distribute appropriate copies of the correspondence and enclosures upon receipt of authorization from FEMA.

*Revision of FIRM and FIS Report:* If necessary, St. Johns County shall work together with FEMA to revise the DFIRM and FIS report and shall distribute revised Preliminary copies of the DFIRM and FIS report to the CEO and floodplain administrator of each affected community, all other Project Team members, the State NFIP Coordinator, the FEMA Regional Office, and others as directed by FEMA.

*Final SOMA Preparation:* FEMA shall prepare Final SOMAs for the affected communities with assistance from St. Johns County, as appropriate.

*Processing of Letter of Final Determination:* FEMA shall work to establish the effective date for the DFIRM and FIS report, and shall prepare Letters of Final Determination (LFDs) for each affected

community for FEMA review in coordination with the Region and its contractor, and in accordance with the FEMA *Document Control Procedures Manual*. FEMA or its designated contractor shall mail the final signed LFDs and enclosures and distribute appropriate copies of the signed LFDs. All work must pass the automated and visual "National QA/QC" reviews and review of LFD prior to the distribution of the LFD.

FEMA shall prepare the appropriate notices (Final Rules) that are to be published in the *Federal Register*. FEMA shall then deliver those notices for publication.

*Sustainability Meeting:* The final Risk MAP project outreach and communication effort will occur sometime between the LFD and shortly after adoption. Its purpose will be to provide final results of the project to the local stakeholders, develop an action plan so they can use the results of the Risk MAP project to implement risk reduction measures, and obtain feedback on how the project could have been implemented better, including how risk communications could be improved in the future. From a planning perspective, the sustainability meeting will be used for future scenario planning, updating of local mitigation plans if they were not updated during the Risk MAP project, and setting the stage for a more process-oriented approach for the next update of flood hazard data. A detailed meeting plans that describes the objective, activities, audiences, timeline, and outcomes this meeting will be provided by FEMA.

*Processing of Final DFIRM and FIS Report for Printing:* FEMA shall prepare final reproduction materials for the DFIRM and FIS report in accordance with appropriate Procedure Memorandums for printing by the Map Service Center. FEMA shall also prepare the appropriate paperwork to accompany the DFIRM and FIS report (including Print Processing Worksheet, Printing Requisition Forms, and Community Map Actions Form) and transmittal letters to the community CEOs.

*Revalidation Letter Processing:* FEMA shall prepare and distribute letters for FEMA signature to the community CEOs and floodplain administrators to notify the affected communities about LOMCs for which determinations will remain in effect after the DFIRM and FIS report become effective.

*Archiving Data:* FEMA shall ensure that technical and administrative support data are packaged in the FEMA required format and stored properly in the library archives until transmitted to the FEMA Engineering Study Data Package Facility. In addition, FEMA will maintain copies of all data for a period of no less than three years.

**Standards:** All Post Preliminary DFIRM work shall be performed in accordance with the standards specified in Section 5 - Standards. Perform appropriate QR activitie(s).

**Deliverables:** In accordance with the G&S, FEMA shall make the following products available to FEMA by uploading the digital data to the MIP. A metadata file complying with the NFIP Metadata Profiles Specifications, must accompany the compliant digital data. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule.

- Documentation that the news releases were published in accordance with FEMA requirements;
- Documentation that the appropriate *Federal Register* notices (Proposed and Final Rules) were published in accordance with FEMA requirements;
- Draft and final Special Correspondence (and all associated enclosures, backup data, and other related information) for FEMA review and signature, as appropriate;

- Draft and final Appeal and Protest acknowledgment, additional data, and resolution letters (and all associated enclosures, backup data, and other related information) for FEMA review and signature, as appropriate;
- Draft and final LFDs (and all associated enclosures, backup data, and other related information) for FEMA review and signature;
- DFIRM digital files and final FIS report materials including all updated data tables and Flood Profiles;
- Provide one hard copy and digital DFIRM products to the community;
- Paperwork for the final DFIRM and FIS report materials;
- Transmittal letters for the printed DFIRM and FIS report;
- LOMC Revalidation Letters, if appropriate;
- Completed, organized, and archived technical and administrative support data;
- Completed, organized, and archived case files and flood elevation docket; and
- CNMS Regional File Geodatabase updated to reflect changes to the existing inventory in study extents and attributes as of LFD Issuance. Updates to include, but are not limited to, identification of streams newly studied or restudied, identification of stream reaches for which flood risk products were developed, resolution of requests addressed by scope of study, identification of additional requests identified during Scoping, production, or appeal period, and requests not addressed by the proposed scope of study. Full instructions and requirements for updating the CNMS Regional File Geodatabase can be found in the document "NVUE: Calculation Guidance under Risk MAP", a part of the CNMS User's Guidance Package. The updated CNMS Regional File Geodatabase shall be delivered to the respective FEMA Region or its designee within 15 days of LFD issuance. All CNMS data collection and population activities shall be performed in accordance with the standards and guidance presented in Section 5- Standards.

## SECTION 2—TECHNICAL AND ADMINISTRATIVE SUPPORT DATA SUBMITTAL

The Project Team members for this Risk MAP Project that have responsibilities for activities included in this MAS shall comply with the data submittal requirements summarized below and in appropriate Procedure Memorandums.

All supporting documentation for the activities in this MAS shall be submitted according to Appendix M, and will include a flood elevation determination docket (FEDD) folder. Where Technical Support Data Notebook (TSDN) format is used, such shall be submitted in accordance with Section 2 – Technical and Administrative Support Data Submittal. **Table 2.1** Mapping Activities and Applicable TSDN Sections indicates the sections of the TSDN that apply to each mapping activity. Submittals must be made to the appropriate PTS for a review of required materials. As needed, the CTP will work with the PTS to ensure that all required documents are included in the TSDN and will respond to requests from the PTS for additional information.

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 the G&S or consult the Region / RSC lead.)

Please refer to Procedure Memorandum 62 – TSDN and FEDD File Protocol for Mapping Projects.

**Table 2.1- Mapping Activities and Applicable TSDN Sections**

Mapping Activities	TSDN Section												
	General Documentation	Change Requests	Telephone Conversation Reports	Meeting Minutes Reports	General Correspondence	Hydrologic Analyses	Engineering Analyses	Hydraulic Analyses	Key to Contour Symbols Labeling	Key to Transverse Labeling	Draft PTS Report	Mapping Information	Miscellaneous Reference Information
Perform Discoveries		X	X	X	X							X	X
Outreach													
Perform Field Survey		X	X	X	X	X		X	X	X			X
Develop Topographic Data		X	X	X	X							X	X
Perform Independent QA/QC Topographic Data		X	X	X	X							X	X
Acquire Base Map		X	X	X	X	X		X	X	X	X	X	X

Develop Hydrology		X	X	X	X	X	X	X	X	X	X		X
Perform Independent QA/QC Hydrologic Data		X	X	X	X	X		X	X	X	X		X
Develop Hydraulic Data		X	X	X	X	X	X	X	X	X	X		X
Perform Independent QA/QC Hydraulic Data		X	X	X	X	X		X	X	X	X		X
Perform Flood plain Mapping (and Re-definition)		X	X	X	X	X		X	X	X		X	X
Perform Independent QA/QC Flood Plain Mapping		X	X	X	X	X		X	X	X		X	X
Develop DFIRM Database		X	X	X	X							X	X

### SECTION 3—PERIOD OF PERFORMANCE

The mapping activities outlined in this MAS will be completed as specified in the Agreement Articles of the Cooperative Agreement. The Mapping Activities may be terminated at the option of FEMA or the County in accordance with the provisions of the Partnership Agreement dated April 8, 2011. If these mapping activities are terminated, all products produced to date must be returned and updated into the MIP and the remaining funds from uncompleted activities, provided by FEMA for this MAS, will be returned to FEMA.

### SECTION 4—FUNDING/LEVERAGE

FEMA is providing funding, in the amount of \$200,000, to St. Johns County, Florida for the completion of this Risk MAP Project. The County shall provide any additional resources required to complete the assigned activities for this Risk MAP Project. During the Discovery process, additional needs may be identified. Activities associated with any additional needs would be performed based on availability of additional funds. The leverage listed below includes in-kind services and blue book values for acquired information (i.e. base map data, hydrologic and hydraulic analyses, etc.). These values should also be reported in the MIP by the appropriate task owner. The current Blue Book (2.0) is dated January 2009 and can be downloaded from FEMA's Information Resource Library at [http://www.fema.gov/plan/prevent/fhm/ctp\\_info.shtm#4](http://www.fema.gov/plan/prevent/fhm/ctp_info.shtm#4). Leverage information is provided below in Table 4.1 Contribution and Leverage.

**Table 4.1 Contribution and Leverage**

Project Task	FEMA Contribution	Partner Contribution	% Partner Leverage (of total project cost)	Total Project Cost
Project Management	\$15,000	\$0	0%	\$15,000
Perform Discovery	\$15,000	\$0	0%	\$15,000
Outreach	N/A	N/A	N/A	N/A
Perform Field Survey	\$7,000	\$315,700	98%	\$322,700
Develop Topographic Data	\$8,000	\$36,500	82%	\$44,500
Perform Independent QA/QC: Topographic Data	\$6,000	\$0	0%	\$6,000
Acquire Base Map	\$4,800	\$8,030	63%	\$12,830
Develop Hydrology	\$8,600	\$137,240	94%	\$145,840

Project Task	FEMA Contribution	Partner Contribution	% Partner Leverage	Total Project Cost
			(of total project cost)	
Perform Independent QA/QC: Hydrologic Data	\$17,000	\$0	0%	\$17,000
Develop Hydraulic Data	\$8,600	\$286,890	97%	\$295,490
Perform Independent QA/QC: Hydraulic Data	\$20,000	\$0	0%	\$20,000
Perform Flood-plain Mapping (and Re-delineation)	\$72,000	\$281,780	80%	\$353,780
Perform Independent QA/QC: Flood Plain Mapping	\$15,000	\$0	0%	\$15,000
Develop DFIRM Database	\$3,000	\$0	0%	\$2,000
Develop Non-Regulatory Products	N/A	N/A	N/A	N/A
Produce/Distribute Preliminary Map Products	N/A	N/A	N/A	N/A
Post-Preliminary Map Production	N/A	N/A	N/A	N/A
<b>TOTAL FUNDING AMOUNTS</b>	<b>\$200,000</b>	<b>\$1,066,140</b>	<b>84%</b>	<b>\$1,265,140</b>

Final leverage dollars or units shall be entered as applicable within the Manage Data Development task in the MIP workflow. Leverage data shall be an estimate of available leverage data at the time the MAS is prepared and shall be further defined in the Discovery Report.



## SECTION 5—STANDARDS

The standards relevant to this MAS are provided in **Tables 5.1** Applicable Standards for Project Activities and **5.2** Project Activities and Applicable Portions of FEMA G&S. Information on the correct volume and appendix of the G&S to be referenced for each mapping activity are summarized in **Table 5.2** for convenience. However, all mapping partners working on a Risk MAP Project are responsible for complying with all appropriate requirements in FEMA's G&S including published draft guidelines and PMs.

These guidelines may be downloaded from the FEMA Flood Hazard Mapping website at [http://www.fema.gov/plan/prevent/fhm/dl\\_cgs.shtm](http://www.fema.gov/plan/prevent/fhm/dl_cgs.shtm). The Geospatial Data Coordination Policy and the Geospatial Data Coordination Implementation Guide are located at <https://hazards.fema.gov> under "Tools & Links."

**Table 5.1- Applicable Standards for Project Activities**

Applicable Standards	Activities																	
	Perform Discovery	Outreach	Perform Field Survey	Develop Topographic Data	Perform Independent QA/QC: Topographic Data	Acquire Base Map	Coastal Analysis	Perform Independent QA/QC: Coastal Analysis	Develop Hydrologic Data	Perform Independent QA/QC: Hydrologic Data	Develop Hydraulic Data	Perform Independent QA/QC: Hydraulic Data	Perform Floodplain Mapping (inc. Redelineation)	Perform Independent QA/QC: Floodplain Mapping	Develop DFIRM Database	Develop Non-Regulatory Products	Produce/Distribute Preliminary Map Products	Post-Preliminary Map Production
<i>Guidelines and Specifications for Flood Hazard Mapping Partners and Procedure Memorandums</i>	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FEMA's Geospatial Data Coordination Policy	X			X		X												
FEMA's Geospatial Data Coordination Implementation Guide	X			X		X												
Engineer Manual 1110-2-1003, <i>Hydrographic Surveys</i> (USACE), January 1, 2002	X		X															
"Numerical Models Accepted by FEMA for NFIP Usage," Updated April 2003	X						X	X	X	X	X	X						
NFIP Metadata Profile Specifications	X			X	X								X	X	X	X	X	X
<i>Document Control Procedures Manual</i>	X	X														X		X

Applicable Standards	Activities																	
	Perform Discovery	Outreach	Perform Field Survey	Develop Topographic Data	Perform Independent QA/QC: Topographic Data	Acquire Base Map	Coastal Analysis	Perform Independent QA/QC: Coastal Analysis	Develop Hydrologic Data	Perform Independent QA/QC: Hydrologic Data	Develop Hydraulic Data	Perform Independent QA/QC: Hydraulic Data	Perform Floodplain Mapping (if Redelineation)	Perform Independent QA/QC: Floodplain Mapping	Develop DFIRM Database	Develop Non-Regulatory Products	Produce/Distribute Preliminary Map Products	Post-Preliminary Map Production
44 Code of Federal Regulations Parts 65, 66 and 67	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Data Sharing Agreement																		

**Table 5.2- Project Activities and Applicable Portions of FEMA Guidelines and Specifications**

Activity Description	Applicable Volume, Section/Subsection, and Appendix
Perform Discovery	Volume 1 Appendix I Discovery Report document Risk Map Meetings Guidance <u>Interim Guidance for Flood Risk Product Preparation</u> <u>Risk MAP Guidance for Incorporating Mitigation Planning Technical Assistance and Training into Flood Risk Projects</u> PM 56, 59, 63 CNMS User's Guide CNMS data model "NVUE: Calculation Guidance under Risk MAP" 44 Code of Federal Regulations Part 66 and 67
Outreach	Volume 1 Appendix I
Perform Field Survey	Volume 1 Appendices A, B, C, F, and M
Develop Topographic Data and Perform Independent QA/QC: Topographic Data	Volume 1, Appendices A and M PM 61
Acquire Base Map and Perform Independent QA/QC: Base Map	Volume 1 Appendices A, K, L, N and O
Develop Hydrologic Data and Perform Independent QA/QC: Hydrologic Data	Volume 1 Appendices A, C, E, F, G, H, and M PM 59
Develop Hydraulic Data and Perform Independent QA/QC:	Volume 1

Activity Description	Applicable Volume, Section/Subsection, and Appendix
Hydraulic Data	Appendices A, B, C, E, F, G, H, and M PM 34, 43, 51, 52, 53, 59 63
Perform Coastal Analysis Hazard Analyses and Perform Independent QA/QC: Coastal Analysis	Volume 1 Appendices A, B, C, D, H, and M Coastal Guidelines Updates” PM 47
Perform Floodplain Mapping and Perform Independent QA/QC: Floodplain Mapping (including Redelineation/Digitization)	Volume 1 Appendices C, D, E, F, G, H, K, L, and M PM 51, 52, 53 and 56 CNMS User’s Guide CNMS data model “NVUE: Calculation Guidance under Risk MAP”
Develop DFIRM Database	Volume 1 Appendices K, L and M PM 42, 49, 56
Develop Non-Regulatory Products	Appendices N and O (draft) PM 57, 58, 59 and 60
Produce Preliminary Map Products and Perform Independent QA/QC: Produce Preliminary Map Products	Volume 1 Appendices K, L, and M PM 50, 51 and 56 CNMS User’s Guide CNMS data model “NVUE: Calculation Guidance under Risk MAP”
Distribute Preliminary Map Products and Perform Independent QA/QC: Distribute Preliminary Map Products	Volume 1 Appendices J, K, L, and M PM 56

Activity Description	Applicable Volume, Section/Subsection, and Appendix
	CNMS User's Guide
	CNMS data model
	"NVUE: Calculation Guidance under Risk MAP"
Post-Preliminary Map Production	Volume 1
	Appendices J, K, L, and M
	PM 42, 44, 45, 56, 62
	CNMS User's Guide
	CNMS data model
	"NVUE: Calculation Guidance under Risk MAP"

## SECTION 6— SCHEDULE

The activities documented in this MAS shall be completed in accordance with **Table 6.1 Mapping Activities Schedule**, which should drive the schedule within the MIP. If changes to this schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner. Please also identify to whom the products associated with each task are to be submitted to (i.e. the MIP, FEMA Regional Office, etc.).

**Table 6.1 Mapping Activities Schedule**

ACTIVITIES	RESPONSIBLE PARTNER(S)	Estimated START DATE	Estimated END DATE	Estimated COST
Project Management	County	10/01/2011	06/01/2012	\$15,000
Perform Discovery	County	10/01/2011	02/01/2012	\$15,000
Outreach	N/A	N/A	N/A	N/A
Perform Field Surveys	County	02/01/2012	03/01/2012	\$7,000
Develop Topographic Data	County	02/01/2012	04/01/2012	\$8,000
Perform Independent QA/QC: Topographic Data	County	04/01/2012	05/01/2012	\$6,000
Acquire Base Map	County	02/01/2012	03/01/2012	\$4,800
Develop Hydrologic Data	County	01/01/2012	02/01/2012	\$8,600
Perform Independent QA/QC: Hydrologic Data	County/FEMA	02/01/2012	03/01/2012	\$17,000
Develop Hydraulic Data	County	01/01/2012	02/01/2012	\$8,600
Perform Independent QA/QC: Hydraulic Data	County/FEMA	02/01/2012	03/01/2012	\$20,000
Perform Floodplain Mapping: Enhanced level	County	03/01/2012	05/01/2012	\$72,000
Perform Floodplain Mapping: Refinement or Creation of Zone A	County	03/01/2012	05/01/2012	\$15,000
Perform Floodplain Mapping: Merging Revised and Unrevised Areas	County	03/01/2012	05/01/2012	\$3,000
Perform Independent QA/QC: Floodplain Mapping	County/FEMA	05/01/2012	06/01/2012	\$7,000
Develop DFIRM Database	County	03/01/2012	06/01/2012	\$8,000
Develop Non-Regulatory Products	FEMA	N/A	N/A	N/A
Produce/Distribute Preliminary Map Products	FEMA	N/A	N/A	N/A
Post-Preliminary Map Products	FEMA	N/A	N/A	N/A

ACTIVITIES	RESPONSIBLE PARTNER(S)	Estimated START DATE	Estimated END DATE	Estimated COST
<b>TOTAL COST</b>				<b>\$200,000</b>

Please note that an updated, more accurate schedule and estimated cost will be provided with the Discovery Report.

The County shall make updates to the MIP workflow tasks with schedule and cost information within 30 days once funds are awarded.

## SECTION 7—CERTIFICATIONS

### Data Capture Standards

- **DCS Certification Form** FEMA-funded data development tasks must be certified using the DCS Certification form provided in revised version of Appendix M. A PDF of the form with the signature, data, and seal affixed to the form must be submitted digitally. This form must be signed by a registered Professional Engineer (or Surveyor if appropriate) from the firm contracted to perform the work, or by the responsible official of a government agency. A digital version of this form is available at [www.fema.gov](http://www.fema.gov).
- All deliverables for this MAS will be certified to meet the DCS standards that are effective as of the date of this MAS for those portions completed by the County.

### Perform Field Surveys and Develop Topographic Data

A Registered Professional Engineer or Licensed Land Surveyor shall provide an accuracy statement for field surveys and/or topographic data used and shall certify these data meet the accuracy statement provided. Data accuracy should be stated used the Federal Geographic Data Committee National Standards for Spatial Data Accuracy, but the American Society for Photogrammetry and Remote Sensing accuracy reporting standards are acceptable.

### Acquire Base Map

- A community official or responsible party shall provide written certification that the digital data meet FEMA minimum standards and specifications.
- The responsible Mapping Partner shall provide documentation that the digital base map can be used by FEMA. Please note that uploading base map data to the MIP does not constitute agreement that the digital base map can be used by FEMA. Documentation that the digital base map can be used by FEMA is still required.
- Certifications must be made at the time the intermediate data is submitted. For example, if hydrologic data is submitted, certification will be required at the time it is submitted.

### Develop Hydrologic Data, Develop Hydraulic Data, and Perform Floodplain Mapping

- A Registered Professional Engineer shall certify hydrologic and hydraulic analyses and data in accordance with 44 CFR 65.6(f).



## **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 and/or CNMS process from FEMA and/or your Regional Project Officer.

General technical and programmatic information can be downloaded from the FEMA website at [http://www.fema.gov/plan/prevent/fhm/frm\\_soft.shtm](http://www.fema.gov/plan/prevent/fhm/frm_soft.shtm) Specific technical and programmatic support may be provided through FEMA and/or its contractor; such assistance should be requested through the FEMA Project Officer specified in Section 12 – Points of Contact.

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.

Please contact the Region / RSC lead to obtain the most recent version of the Risk MAP Timeline.

Assistance with the MIP may be requested at [miphelp@riskmapcds.com](mailto:miphelp@riskmapcds.com)

## **SECTION 9—CONTRACTORS**

The County intends to use the services of Jones, Edmunds & Associates, Inc. as a contractor for this Risk MAP Project. The County shall ensure that the procurement for all contractors used for this Risk MAP Project complies with the requirements of 44 CFR 13.36.

Part 13 may be downloaded in PDF or text format from the United States Government Printing Office website at [http://www.access.gpo.gov/nara/cfr/waisidx\\_04/44cfr13\\_04.html](http://www.access.gpo.gov/nara/cfr/waisidx_04/44cfr13_04.html).

## **SECTION 10—REPORTING**

Financial Reporting: Because funding has been provided to the County by FEMA, financial reporting requirements will be in accordance with Cooperative Agreement Articles. The County shall also refer to 44 CFR 13.41.

The County shall communicate with communities throughout the life of each project. Continued engagement is necessary and appropriate and will build upon the relationships established or enhanced during Discovery and provide transparency into the Risk MAP process. This may occur through monthly or quarterly updates or project status calls with community leaders, project websites including updates at several milestones or along a specific timeline, or other methods.

The County shall provide financial reports to the FEMA Regional Project Officer and Assistance Officer in accordance with the terms of the signed Cooperative Agreement for this MAS.

Status Reporting: Status reports will be submitted on a quarterly basis in accordance with the financial reporting submittals. The County shall refer to 44 CFR 13.4 to obtain minimum requirements for status reporting. The Project Officer, as needed, may request additional information on status.

The County may meet with FEMA and/or its contractor up to bi-weekly, or more frequently if needed, to review the progress of the project in addition to the quarterly financial and status submittals. These meetings will alternate between FEMA's Regional Office, the County office, and conference calls, as necessary.

### Earned Value Data Entry:

The MIP Workflow is designed to track the Earned Value of mapping projects. This information is automatically calculated by the MIP, using the Actual cost and schedule of work performed, or "actuals" and comparing them to the expected cost and schedule of work performed, or "baseline".

Once the FEMA Regional office has funded a project, FEMA will complete the "Obligate Project Funds" screen in the MIP. This step establishes the baseline for the project in the MIP, using the cost and schedule information for each task as outlined in this document and agreed to at the completion of the scoping process.

The MIP study workflow allows the County and/or its contractors to report on the status of these projects at a task level. The cost and schedule information, updated by the County for each contracted task, is compared to the baseline established for those tasks. This information is rolled up to a project level and monitored by the FEMA Region to assess progress and Earned Value.

Earned Value reporting involves the reporting of cost, schedule and performance (physical percent complete) in the MIP by the County.

Once the baseline has been established in the MIP, the County shall input the performance and actual cost to date for each contracted task for each project. This must be completed at minimum every thirty days and at the completion of the task. The "As of" date must be updated not less than every thirty days even if the reported percent complete and money spent have not changed from previous month. When a task is completed, including all QA/QC activities in this MAS plus the Quality Control Reviews established in PM 42. The County shall enter 100% complete, enter the actual completion cost, and the actual completion date within the Manage Data Development.



## SECTION 11—PROJECT COORDINATION

Throughout the project, all members of the Project Team will coordinate, as necessary, to ensure the products meet the technical and format specifications required and contain accurate, up-to-date information. Coordination activities may include:

- Meetings, teleconferences, and video conferences with FEMA and other Project Team members as required;
- Telephone conversations with FEMA and other Project Team members on a scheduled basis as required, and an ad hoc basis, as required;
- Updates to the MIP and other FEMA status information systems in accordance with requirements in Volumes 1 and 3 of G&S; and
- E-mail, facsimile transmissions, and letters, as required.

## SECTION 12—POINTS OF CONTACT

The points of contact for this Risk MAP Project are Laura Algeo, P.E., the FEMA Regional Project Officer; Douglas Tarbox, the Project Manager for the County; or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, any additional FEMA assistance should be requested through the FEMA Regional Project Officer.

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

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St. Johns County Engineer  
Project Manager  
St. Johns County, Florida

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Date

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Laura Algeo, P.E.  
Regional Project Officer  
Federal Emergency Management Agency, Region IV

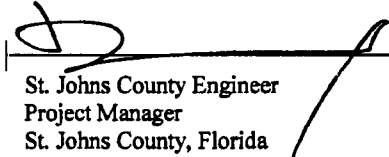
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Date

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The points of contact for this Risk MAP Project are Laura Algeo, P.E., the FEMA Regional Project Officer; Douglas Tarbox, the Project Manager for the County; or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, any additional FEMA assistance should be requested through the FEMA Regional Project Officer.

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

  
\_\_\_\_\_  
St. Johns County Engineer  
Project Manager  
St. Johns County, Florida

11-15-11  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Laura Algeo, P.E.  
Regional Project Officer  
Federal Emergency Management Agency, Region IV

12/2/11  
\_\_\_\_\_  
Date