

**Map Modernization Business Plan for  
The State of Ohio  
2006 Update**

**Prepared by  
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Division of Water  
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**November 2005**

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## **I. VISION**

### **Background**

The Federal Emergency Management Agency's Flood Insurance Rate Maps are used nationwide for many purposes. First, they are used to administer the nation's largest single line of property/casualty insurance – flood insurance provided through the National Flood Insurance Program. Last year, over 30 million flood zone determinations were made nationally to determine whether flood insurance was required for those structures. Currently, nearly 4.5 million flood insurance policies are in effect in the United States. In Ohio, there are over 35,000 flood insurance policies in effect for over \$3.8 billion in coverage.

In addition to their usefulness in writing, rating and determining risk from a flood insurance standpoint, FIRMs are also important to the more than 700 Ohio communities who have adopted flood damage reduction regulations. These regulations are adopted to prevent loss of life, damage to property, and encourage sustainable community development. The determination as to whether the regulations apply is based on whether a development site is in or out of the floodplain. Accurate, updated, and accessible FIRMs are key to this decision-making. Also, the mapping information is essential to community and infrastructure planning, emergency management actions, and recreational/open space creation.

Flood insurance maps were first produced around 1968 by FEMA. The first versions showed shaded areas likely to experience some level of flooding during a 100-year (or 1% chance flood). Later, in the mid to late 1970's flood maps were produced with more detailed information. Base (100-year) flood elevations were shown and floodways were identified. This data helped in showing the extent of risk on a particular property and was a vast improvement over previous maps. From the mid 1970's to the mid 1980's, the first significant effort to map the nation's flood hazards was undertaken. Although this effort didn't identify all of the flood hazard areas and their extent of the risk (detailed information) it was an improvement over the previous maps. Since the mid 1980's, however, flood mapping was only done at a "maintenance" level using funds collected as part of the fees associated with flood insurance policies. This resulted in a few new flood studies each year and detailed flood data for only the most critical reaches of rivers and streams.

*A Map Modernization Plan for the State of Ohio* was prepared in 2002 by FEMA's MCC, PBS&J. This plan, created with ODNR's input, was the precursor to the first "business plan" following a standardized FEMA format in 2004. A partial update was completed in February 2005. This (November 2005) edition is a 2006-update.

**FEMA's Vision**

FEMA's vision for map modernization, as well as its implementation (sequencing and deliverables) is contained in the recently released Multi-Year Flood Hazard Implementation Plan (MHIP). The following was taken from the Executive Summary of the June 2005 MHIP: "In recognition of the connection between damage reduction and accurate flood maps, the President and the U.S. Congress has provided funding in fiscal year (FY) 02 through FY05, with additional funding anticipated through FY08, for Flood Map Modernization. The goal of Flood Map Modernization to update the Nation's inventory of Flood Insurance Rate Maps (FIRMs)." Specifically, FEMA has identified that their Map Modernization Program will do the following:

- Network the Nation using the latest Internet portal technology to provide access to general flood hazard, risk, and mitigation information. The information and functionality will be tailored to meet the needs of mapping partners, stakeholders, and the general public.
- Maximize the use of local, state, and federal resources, and transfer ownership and use of maps and data to localities and states by building and maintaining effective partnerships with community, state, and regional entities before and during development of maps and data. FEMA has already experienced considerable success with such transfers through the Cooperating Technical Partners (CTP) program.
- Reduce processing time and cost of map updates and increase accountability for spending by implementing results-oriented systems and standards that will facilitate the rapid exchange of data between partners, stakeholders, FEMA staff, FEMA contractors, and other users.
- Communicate with partners, stakeholders, and users effectively, consistently, and continuously to maximize understanding of flood hazards and the risks that these hazards pose to life and property.
- Continue to improve the quality and accuracy of national flood hazard data by developing Geographic Information Systems (GIS)-based products with reliable technologies that meet enhanced technical standards.

The MHIP identifies Map Modernization as a \$1.4 billion program; however, that number includes funds for traditional map maintenance activities that would occur whether or not the Map Modernization initiative was in place. Approximately \$1 billion is being requested in new Congressional appropriations for the Map Modernization initiative.

**Ohio's Map Modernization Vision**

Ultimately the state's vision for Map Modernization is that Ohio communities would have accurate, up-to-date flood maps. This vision is consistent with the original Congressional recognition that accurate flood maps are important to risk management decisions in the nation. Accurate and up-to-date information will result in better decisions concerning the flood risk and development alternatives for flood hazard areas across Ohio. At the same time the state's vision includes using Map Modernization as an

opportunity for outreach to communities and technical assistance to improve local floodplain management programs.

To implement the mapping component of this vision, the following mapping guidelines are recommended:

1. All watercourses with a drainage area greater than two square miles should have the associated flood hazard area identified.
2. All flood hazard areas that are currently identified as Zone A (Approximate) should (at a minimum) be converted to Zone A (Enhanced) using automated techniques. In rural, and sparsely developed areas (especially in counties) the level of study is appropriate.
3. Detailed flood studies should be conducted on all watercourses within incorporated municipalities and within the extraterritorial jurisdiction of those communities (excepting watercourses whose flood hazard areas are wholly contained within parks or dedicated open space areas).
4. Existing detailed flood studies in areas with significant growth rates during the past ten years should have the hydrology and hydraulics rechecked.
5. All flood hazard areas should match best available topography.
6. All flood maps should be converted into digital Flood Insurance Rate Maps for ease of use, future updates, and congruency of studies.
7. All mapping needs should be collected and stored in FEMA's database. Mapping needs that will be met as a result of a map update should be identified and tracked independently from unmet needs (to show success in addressing mapping needs). Unmet needs should be used to estimate future funding and update priorities and mapping needs that will not be met should be maintained in the database until they are met.
8. The sequencing of counties to be mapped should be in accordance with FEMA's sequencing identified in the MHIP.

The vision above does not represent the unlimited resource scenario; rather, it is a pragmatic approach that balances the need for flood hazard data with the reality of the costs of conducting extensive, detailed flood studies. Feedback from FEMA Region V on the plan in May 2005 requested that ODNR think of activities that could be helpful in realizing this vision. For example, an activity that ODNR could undertake would be to use GIS resources to identify all stream segments that have drainage areas greater than two square miles but not identified as a flood hazard area. This information could be presented at the scoping meeting to identify the extent of new flood mapping (newly identified flood hazard areas) that needs to be done.

The original *Map Modernization Plan for The State of Ohio* prepared by the Division of Water (DOW) in August 2002 provided a plan for addressing many of the mapping needs of the state, and progressing towards the vision stated above. The 2002 plan identified a preliminary cost of \$41.1 million (see Appendix A for cost spreadsheet). This cost incorporated an assessment based on the mapping needs collected at that time. The

January 2004 Business Plan referred to the 2002 plan as the framework for implementing map modernization in Ohio.

Using FEMA's 2004 projections, Ohio will receive between \$13 and 15 million for Map Modernization. Even when an assumption is made that 20% of those costs will be leveraged through state and local partner contributions—as reflected in FEMA's Key Performance Indicator (KPI) #3—the total federal-state-local contribution towards map modernization would only come to \$17 to \$18 million. This amount is insufficient to implement Ohio's vision for map modernization. The table below compares Ohio's vision elements for Map Modernization (discussed above) with MHIP (FEMA's vision for Map Modernization) to identify the adequacy of MHIP to help meet Ohio's vision.

<b>Ohio Vision Element</b>	<b>MHIP Adequacy (Meets, Partially Meets, Does Not Meet, Not Sure)</b>	<b>Comments</b>
ID flood hazard areas on all watercourses with a drainage area greater than two square miles	Does Not Meet	Many county areas have streams with six or more square miles of drainage before the flood hazard area is identified. Many flood losses occur in these unidentified areas. The MHIP-budget does not provide for many of these additional areas to be identified. Usually, the amount allocated will be sufficient to do little more than convert the flood data to a GIS-format. This is especially true in rural, lower priority counties.
Approximate A zones converted to Enhanced A Zones using automated methods	Not sure	Chapter 7 of the MHIP identifies various FIRM risk classes. Minimally, almost all of Ohio would at least fall under Risk Class C. While Chapter 7 does not preclude the conversion of Approximate A zones to Enhanced A zones using automated methods, this has not yet occurred. However, ODNR understands that FEMA Region V is now requiring this in all of its FY05 contracts because it is actually less expensive than rubber sheeting and matching best available topography.
Detailed flood studies should be conducted on all watercourses within municipalities and within their extraterritorial jurisdiction areas	Partially Meets	Chapter 7 of the MHIP identifies these areas as risk classes A and B. Many municipalities have at least some detailed flood studies. It is likely that Map Modernization will not update most of these studies. This is primarily due to the

		budget allocation as identified for each county in the MHIP. There are many Ohio villages with only approximate A Zones where detailed flood hazard data is needed, yet in many cases, the MHIP-budget will not result in any new studies.
Existing detailed flood studies rechecked for accuracy in growth areas	Not Sure	A flood study may be accurate for many years in areas with little or no growth. In high-growth areas, flood studies could be outdated in 5 years or less. Of the recently issued flood maps that are being counted as part of the Map Modernization program, many existing detailed studies have not been checked for accuracy.
Flood hazard areas “fit” to best available topography	Partially Meets	This standard is required in Chapter 7 of the MHIP. However, it is just now being required for restudies that are contracted in FY 05. Maps completed prior to that time will not have been required to meet this standard. Ohio has approximately 10-15% of its counties that will not meet this standard due to maps that are already being processed.
DFIRM Conversion	Meets	Based on the MHIP, all counties will have a countywide DFIRM produced. However, studies produced early in the Map Modernization program are not fully compliant DFIRMs and it isn't clear how these will be converted given the proposed MHIP-budget.
Collection of mapping needs, storing unmet needs in database for future updates	Not Sure	The MHIP does not appear to address the longer term issues of collecting and cataloging unmet mapping needs for future map updates. However, no counties currently in the study process or that have been recently completed meet the Chapter 7 quality standards in the MHIP. This needs to be identified as a future mapping need.
Sequencing of counties	Meets	In theory, all counties will eventually be funded. Sequence in MHIP is not seen as problematic for prioritization.

A goal of FEMA's Map Modernization initiative is to produce a digital flood hazard map (Digital Flood Insurance Rate Map or DFIRM) for all of Ohio's 88 counties. This could be difficult—given current budget constraints—even though FEMA's KPIs indicate that the whole country will be mapped. Having digital flood maps will allow many users to access and utilize the maps more easily.

Beginning in FFY2005, DFIRMs will match flood hazards with best available topography. This is important to the quality and legitimacy of these maps. FIRMs using earlier cartographic methods depict flood hazard areas going 40 feet up a hillside. Still, it is unclear whether countywide DFIRMs in production prior to 2005 will be revisited to ensure this standard has been met.

Beyond accurate and up-to-date flood mapping, DOW also envisions that communities updating their local regulations to reference flood maps will use that opportunity to review their regulations and overall floodplain management programs. Through new and innovative outreach activities, DOW believes it can make significant progress in improving floodplain management overall – from more effective local regulations to better mapping and data systems.

### **Ohio DNR Division of Water's Role**

Traditionally, the Ohio Department of Natural Resources, Division of Water had participated in the updating of FEMA flood maps. That participation focused on community technical assistance to a large extent and on flood mapping production to a much lesser extent. Typical activities include:

- Coordination with FEMA on annual mapping priorities.
- Participation in Time and Cost Meetings (precursor to scoping meetings).
- In-office file review and some community contact to assist with determining mapping needs.
- QA/QC review of preliminary maps primarily for typographic and planimetric errors – not for H&H review.
- Coordination with FEMA and community officials for setting final meeting.
- Attendance at and participation in final meeting.
- Provision of technical assistance to communities and other interested parties on map update process, explaining changes/new data on preliminary maps, *etc.*
- Coordinated local regulations update process including sending letters to communities reinforcing FEMA's reminders to them of regulation-updates, working with local officials on regulation-updates, ensuring that local regulations met state criteria, and provision of technical assistance on the update process.
- Attending other meetings as needed.
- Sporadically, conduct small mapping studies to be incorporated in future updates of FEMA flood maps. Studies included surveying, H&H, mapping, and preparing data in format compatible for FEMA's FIRMs and FISs.

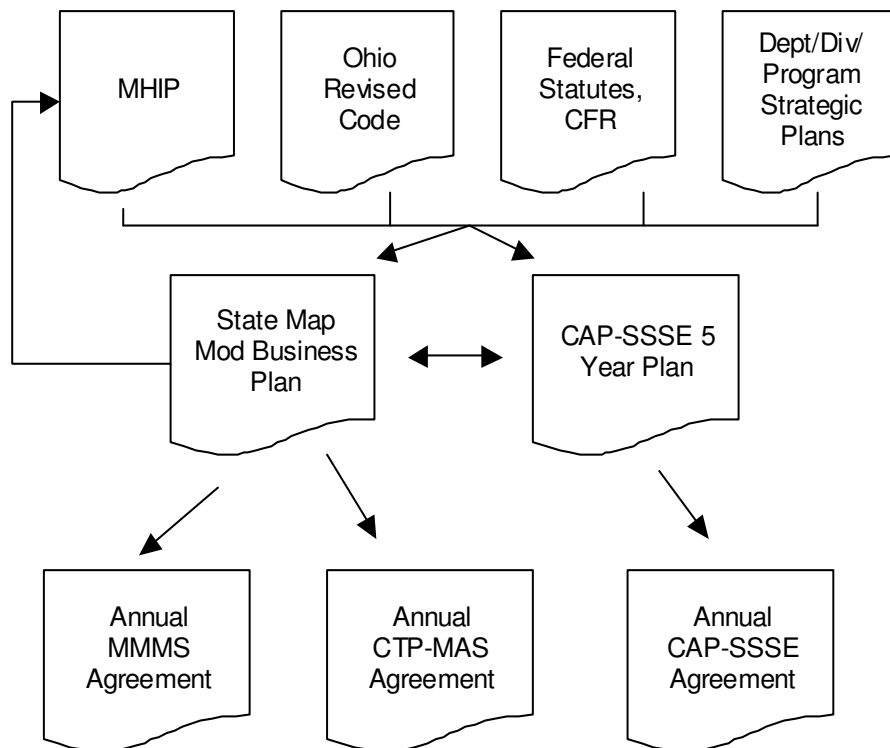
As the map modernization program began to unfold, DOW participated in several ways. From 1998 to 2000, we participated in collecting mapping update needs to help estimate Ohio's true mapping concerns and support the FEMA Map Modernization Program to help identify program costs. The 2002 state map modernization plan identified costs of

updating the state’s flood maps based on an evaluation of the identified needs as compiled through that time. As part of that process, DOW assisted with the collection of detailed mapping needs for 150 communities. In 2003, DOW developed its first state “business plan” and a 5-year CAP workplan. DOW identified resource gaps, potential roadblocks, and opportunities to coordinate activities to ensure that Map Modernization would be implemented successfully.

Each state with interest and capability to assist with FEMA’s multi-hazard flood map modernization effort has been asked to prepare and update a Business Plan detailing how the state and local mapping activities will contribute to FEMA’s multi-hazard flood map modernization goals and objectives. We understand that implementation of FEMA’s Map Modernization effort will utilize the national business plan (the Multi-Year Flood Hazard Implementation Plan or MHIP) as a blueprint, which was developed from FEMA regional business plans which in turn were developed from state business plans.

Today, to a greater or lesser extent, DOW performs all of the activities identified earlier.

By using Ohio’s business plan as a decision-making tool, FEMA’s Region V and headquarters staff can help ensure that Ohio’s Map Modernization activities are efficient and consistent with FEMA’s objectives. It is our understanding that each state’s business plan is a formal but flexible process for managing the partners, data, projects, and outreach associated with updating the nation’s flood hazard maps. Ohio’s business plan has also been developed to be consistent with the Ohio Revised Code and the ODNR Strategic Plan. As a result of FEMA prioritizing map modernization, the business plan is also aligned with the CAP-SSSE 5 Year Workplan. Both are then used to develop an annual workplan for the FEMA grants utilized by DOW: CAP-SSSE, MMMS, and MAS. A diagram illustrating these relationships is below.



DOW is participating in the Map Modernization initiative because we have value to add to the process through technical assistance to and coordination with communities, applying engineering expertise to assist in flood map production and our mandate to coordinate flood risk reduction for Ohio. Our participation can be divided into three broad categories:

1. Map Modernization Management and Support Activities
2. Physical Mapping / DFIRM Production Activities
3. GIMS Support (LOMCs, logging and storing of maps/images in an information management system).

At this time, the State of Ohio has no plans to be significantly involved in the storage and maintenance of the FEMA flood maps. The MHIP does not clearly identify FEMA's vision for this phase of the map modernization program and DOW does not currently have the infrastructure or resources to participate to any great extent.

The planned participation is to be extensive in Map Modernization Management and Support and less extensive in Physical Mapping/DFIRM Production. The decision to be involved in this way is reflective of current staff resources, expertise, and capability desired in DOW, and expected staffing/resource issues. With this approach, DOW can maintain the essential capacity for successfully implementing Map Modernization and the expertise we have built up as the state's floodplain management program. Overall capacity and capability gaps for the program are detailed in the *2005 Program Assessment and 5-Year CAP Workplan 2006-2010*.

It is important to note that the activities outlined in this plan will improve the capability and capacity for managing and implementing certain aspects of the Map Modernization program. These activities are funded primarily by four sources: Map Modernization Management Support (MMMS), Cooperating Technical Partners Mapping Activity Statement (CTP-MAS), Community Assistance Program (CAP), and Ohio General Revenue Fund (GRF). Should funding be reduced by FEMA, currently there is no ability to absorb those costs. Reduced funding will lead to reduced capacity and participation in Map Modernization.

Beyond the Map Modernization program, it is unclear as to what role that DOW will take in the flood mapping update and management process. We do not envision the state taking over the map update and maintenance functions from FEMA; however, we will continue to be willing partners in these roles as long as there are state and federal resources available to do so. We plan on achieving and maintaining expertise in DFIRM production and map maintenance; however, our strategic direction at this time does not call for a significant build-up of staff or dedication of resources to flood mapping. Our strategic focus will continue to be on building community capability and capacity for managing flood hazard areas.

## II. PLAN/STRATEGY FOR DOW'S PARTICIPATION IN MAP MODERNIZATION

This section links DOW's proposed actions with Ohio's strategic goals / objectives and describes DOW's overall strategy to participate in Map Modernization followed by specific activities that will be undertaken. The strategies and activities are intended to help meet FEMA's vision for Map Modernization and, where possible, activities are meant to realize Ohio's vision as well. This section addresses elements II and III of the FEMA outline for creating state business plans.

### **Ohio Department of Natural Resources Strategic Goals**

The Map Modernization program is compatible with the Floodplain Management Program's, the Division of Water's, and the Ohio Department of Natural Resource's strategic plans and goals. In a time of tight budgets and limited resources, these planning documents—along with the activities undertaken in this plan—must be aligned. DOW customers have an expectation of quality products and service from the Floodplain Management Program (FMP). The FMP is faced with an increasing demand for products and services yet limited resources and staff. Reducing flood risk and protecting floodplain resources statewide requires collaboration and cooperation at multiple levels. Flood damage costs are rising, and local development decisions are neither always sustainable nor directed at balancing the floodplain resource value and flood risk. DOW has statutory mandates and National Flood Insurance Program (NFIP) Coordinator responsibilities for floodplain management. These mandates and regulations require actions and resources from the FMP. The FMP has outlined the following three overarching strategic goals:

- **The FMP will implement High Performance Work Place tools, strategies, and processes to ensure efficiency, outstanding customer service, and high employee satisfaction.**
- **The FMP will use partnerships, education / public awareness, technical assistance, and integration of technology to effectively influence land use and development decisions statewide.**
- **DOW will have a clear understanding of the FMP's mandates along with the actions and resources required to support them.**

These goals are reflected in DOW's goals, and aligned with the *Ohio Department of Natural Resources Strategic Plan*, which identifies the following strategic themes:

- **OUTDOOR RECREATION:** We will provide and promote safe, enjoyable, accessible and diverse outdoor recreation opportunities that meet customer expectations.

- **LAND STEWARDSHIP:** We will improve the stewardship of Ohio's lands, soils, forests, and minerals through sound conservation practices and watershed management decisions to foster sustainable use of natural resources.
- **WATER STEWARDSHIP:** We will improve Ohio's ground and surface water resources to ensure the quality and quantity of all waters are ecologically healthy and provide for sustainable use, recreation, and economic vitality.
- **LAKE ERIE:** We will protect, conserve, and improve Lake Erie and its coastal resources to enhance outdoor recreational opportunities, support economic development, and nurture a safer, healthier Great Lakes ecosystem.
- **WILDLIFE AND PLANT COMMUNITIES:** We will improve the quality and health of Ohio's ecosystems to conserve, protect, and enjoy the state's fish, wildlife, woodland, wetland, and plant communities.

#### **Meeting FEMA's Map Modernization Goals and Objectives**

The state business plan identifies strategies and activities that will be undertaken by DOW to address FEMA's Map Modernization objectives.

- **Establish and maintain a premier data collection and delivery system:**
  - DOW will assist in ensuring that appropriate information is available to users and stakeholders in a public domain environment. This may be accomplished through the development of a website and possibly the acquisition of hardware, software, and technical training to accept and distribute modernized flood insurance products.
  - DOW will participate, to a limited degree, in the development and evaluation of flood risk data to ensure it meets FEMA and other national standards.
  - DOW will assist with providing data during pre-scoping that can be fed into FEMA's system for managing map needs and scoping tools to establish clear and realistic assessment of mapping needs.
- **Achieve effective program management:**
  - DOW will monitor and track progress on activities undertaken using FEMA-developed tools (MIP, CIS).
  - DOW will assist Ohio communities to enact effective, updated local regulations by the prescribed deadline.
  - DOW will fully utilize and update the 5-year CAP Plan, State Business Plan, and annual Cooperative Agreements for Map Modernization

Management Support and Cooperating Technical Partners program. Quarterly reports and progress updates will be provided.

- **Build and maintain mutually beneficial partnerships:**
  - DOW will develop partnerships with federal and state agencies that share a common interest in mapping, data development, and GIS.
  - DOW will foster local communities as Cooperating Technical Partners (CTP).
  - DOW will assist with the identification of available base mapping and attempt to obtain user agreements.
  
- **Expand and better inform the user community:**
  - DOW will participate in and conduct workshops addressing various Map Modernization components.
  - DOW will develop risk communication materials and methods of presentation for community officials, including format/content for final meetings, notification of FIRM-releases, scoping meetings, *etc.*
  - DOW will support a web feature for flood study information. This feature will track communities and CTPs involved in the process, study needs, project schedules, *etc.*

### III. IMPLEMENTATION: ACTIVITY GROUPS FOR DOW'S PARTICIPATION IN MAP MODERNIZATION

This section combines elements from Sections II and III of the FEMA Business Plan template.

#### **Specific Activities Related to DOW's Participation in Map Modernization**

DOW plans to work toward being an active partner by providing the following services, activities, and data as part of the Map Modernization initiative. The following several pages identify the major activities related to Map Modernization. For each broad activity, several subtasks are identified – some are being undertaken and some are possible activities DOW has identified as possible depending on resource and other constraints. The activities are organized in a sequential fashion since the map update process is sequential. This assists in project/activity planning, and helps identify future opportunities. The activity groups include:

1. Pre-Scoping & Scoping
2. Map Production
3. Post Production: Preliminary & Final Release
4. Administration, Management, and Ongoing Activities

This section also identifies:

- More specific *activity descriptions and subtasks* that contain a discussion of traditional roles and new roles under Map Modernization.
- *Staff capabilities* are categorized as either (T) for trained staff in the activity group, (E) for staff experience in actually conducting the activities, or (M) for staff mastery of the activities in the activity group.
- *Resources and Gap* refers to an analysis of existing and full funding resource scenarios and the gap between the two. The full funding scenario is roughly equivalent to the "Desired Service Level" in the *2005 Program Assessment and 5-Year CAP Workplan 2006-2010*.
- *Funding Sources* that will be used to fund specific activities. General Revenue Funds (GRF) are state funds.
- *Training needs* identify possible training staff will need to perform activities identified in the activity group.
- *Relationship to existing ODNR/Division/Program Strategic Plans* shows the linkage between the activities identified and the strategic direction of the Department and Division.

- *Benefit to State* identifies the overall benefit to the State of Ohio by DOW's participation in identified activities.
- *Support of FEMA's Map Modernization Objectives*. Since FEMA is providing funding for many of the activities, it is important to demonstrate that activities also support FEMA's four Map Modernization objectives identified in the MHIP.
- *Performance Measurement* identifies those measures used for specific activities. These will be described in detail as part of annual Cooperative Agreements.

### **Summary of Previous Activities & Self Assessment / Adjustment of the Business Plan**

The business plan and subsequent Cooperative Agreements shall be reviewed and adjusted annually. This review shall be conducted by both FEMA and DOW. The Cooperative Agreements will contain a summary of these adjustments and highlight accomplishments.

### **Activity Group 1: Pre-Scoping and Scoping Participation**

*Description and Subtasks:* Accurate flood maps are dependent on a thorough identification of flood mapping needs. In 2002, DOW provided FEMA with MCC-input to the Mapping Needs Update Support System (MNUSS) database for approximately 150 Ohio communities. These initial efforts toward needs identification will pay significant dividends as new flood maps are being developed.

DOW has been a longstanding participant in Time and Cost meetings (precursor to scoping meetings) and will continue to have significant participation in the pre-scoping and scoping participation. As Ohio's NFIP-State Coordinator, DOW has considerable knowledge of Ohio communities' flood data update and map maintenance needs. Also, DOW's technical assistance to Ohio communities while building strong relationships with them has been a consistent strength of the division. DOW has also developed a robust GIS system with a wealth of information. Some of that data, FEMA may not currently have, such as PDFs of all LOMCs. The activities identified in this group take advantage of DOW's strengths.

Activities include an in-house map needs data collection to support MNUSS, performing community outreach activities during the pre-scoping and scoping phases to improve community participation and buy-in, base map and LOMC inventories, and participation in and/or coordination of scoping meetings. Other possible activities ODNR is currently evaluating include GIS analysis to determine: 1) the extent of unmapped flood hazard areas with drainage areas greater than two square miles (Section I guidelines), and 2) the need for detailed studies based on population density and / or growth.

*Staff Capabilities:* (T), (E). Some staff have been trained in MNUSS data collection but training of additional staff may be desirable and necessary due to inclusion in MIP. Staff also have experience in completing the in-house mapping needs collection, base map inventory, and participation in scoping meetings.

<i>Existing Resources:</i>	1.25 FTE.
<i>Full Funding Level Resources:</i>	2.00 FTEs
<i>Gap:</i>	0.75 FTEs

*Funding:* MMMS, GRF

*Training Needs:* MNUSS access and updating and/or MIP training (if MNUSS is incorporated into the MIP)

*Relationship to ODNR/Division/Program Strategic Plans:* Technical assistance and partnerships identified as priority in FMP strategic goal. Aligns with Department strategic plan through its Water Stewardship Strategic Theme.

*Benefit to State:* Helps to accurately identify flood mapping needs in Ohio. Tracks needs, both met and unmet by Map Modernization.

*Support of FEMA's Map Mod Objectives:* This activity group supports all four of FEMA's Map Modernization objectives identified in Section II.

*Performance Measurement:*

Specific performance measures will be identified in annual Cooperative Agreements.

## Activity Group 2: Map Production

*Description and Subtasks:* DOW has had only a minor involvement in flood map production. This involvement included the development of detailed flood data on small reaches of watercourses, and the cost-sharing of flood studies. For example, using over \$300,000 of ODNr funds, the USACE's Planning Assistance to States (PAS) program was used to leverage a similar amount of funds to delineate a floodway for the entire Ohio River where such data didn't exist. Also, in the past two years, ODNr provided over \$100,000 in cost share for small flood studies in participating Appalachian Flood Risk Reduction Initiative (AFRRI) communities. These studies will eventually be incorporated into the countywide FIRMs. DOW has devoted about 2.5 FTEs including engineering, surveying, and GIS support to the AFRRI project over the past two years.

DOW has executed a CTP-agreement with FEMA and intends to create annual Mapping Activity Statement agreements. The overall approach by DOW is to continue some map production involvement; however, this involvement will be more sensitive to staffing and resource issues than involvement in other activity groups where DOW anticipates a much more active role. The activities in the annual CTP - MAS CA will vary but are generally described below:

- Conducting detailed and approximate studies and mapping for limited stream reaches through topographic data development, hydrologic analysis, hydraulic analysis, floodplain mapping, base map acquisition and preparation, and DFIRM production.
- Sharing Data. Currently, DOW has the following GIS (digital) products available:
  - 100-year Floodplain Boundary coverage by county
  - 500-year Floodplain Boundary coverage by county
  - Floodway Boundary coverage by county
  - Cross-section location coverage by county
  - Annotated Letter of Map Revision point-coverage by county
  - Metadata files describing the digital data
- DFIRM conversion of one or more rural counties, where little or no new H&H is needed.

*Staff Capabilities:* (E). Staff are experienced in conducting flood studies and converting them into a DFIRM compliant format. Staff have some experienced and are trained in using the FPGIS application 3 for automated H&H generation.

<i>Existing Resources:</i>	1 FTE
<i>Full Funding Level Resources:</i>	2.5 FTEs
<i>Gap:</i>	1.5 FTE

*Funding:* MAS, GRF

*Training Needs:* Possibly WISE and MIP map production tools and project tracking training.

*Relationship to ODNR/Division/Program Strategic Plans:* Aligns with Department strategic plan through its Water Stewardship Strategic Theme – Conservation and Protection of Streams and Wetlands objective. This objective is further described as ODNR leading in the development and implementation of stream and wetlands conservation initiatives, applying advanced science, technology, and research to restore and protect stream and wetlands habitat. Specifically the activities in the 2004 CTP-MAS are identified in the ODNR strategic plan.

*Benefit to State:* As indicated earlier in this plan, there are many flood mapping needs in Ohio. Mapping produced under this activity will give communities powerful decision-making tools for risk management. This activity will be beneficial as it will increase the DOW engineers' capability to undertake flood mapping projects as FEMA transforms the mapping process and products to a digital environment.

*Support of FEMA's Map Mod Objectives:* The overarching objective of map modernization is to improve the accuracy and currency of the nation's flood maps.

*Performance Measurement:* Specific performance measures will be identified in annual Cooperative Agreements.

### **Activity Group 3: Post Production: Preliminary and Final Release**

*Description and Subtasks:* For a long time, DOW has been involved in post-production support. Traditional activities include providing comments on Preliminary FIRMS (focus on planimetric and typographical issues), attending and participating in final meetings (now called Flood Risk Information Open Houses), providing follow-up technical assistance (after the final meeting), and supplement FEMA's sequence of letters (regarding the update of local regulations) with letters, technical assistance, and ultimately review and approval of their updated regulations. We also work with newly mapped communities to join the NFIP.

After new flood maps have been released, it is also important to properly log them into the state's repository and make them available to the larger user-community. DOW's FPGIS—the FMP's geographic information management system—is updated every time a new flood map is issued. It has the ability to store and update database information, shape files, and coverages. DOW also updates the effective LOMCs in its FPGIS database.

DOW plans on continuing to be significantly involved in this capacity. DOW envisions—in addition to continuing to be involved in the tasks identified above—creating new methods, materials, *etc.* to make the post-production process more successful and increase community interest. DOW actively encourages communities to consider upgrading local regulations to incorporate higher regulatory standards to improve community sustainability and become better informed overall of flood risk.

*Staff Capabilities:* (E), (M). Senior staff have mastery in participating in the Open Houses and ordinance assistance (even newer staff have had training and some experience). Staff have experience in all other activities related to this activity group.

<i>Existing Resources*:</i>	1.25
<i>Full Funding Level Resources*:</i>	2.75
<i>Gap:</i>	1.50

\* Existing and Full Funding Level Resources include 1 FTE for Map Modernization related ordinance assistance. That is also the reason for CAP-SSSE funding identified below.

*Funding:* MMMS, CAP-SSSE, GRF

*Training Needs:* Possibly WISE and MIP map production tools and project-tracking training.

*Relationship to ODNR/Division/Program Strategic Plans:* Technical assistance is identified as a priority in the FMP strategic goal. Aligns with Department strategic plan through its Water Stewardship Strategic Theme – specifically aligns with measurable objectives under “conservation and protection of streams and wetlands”.

*Benefit to State:* As indicated earlier in this plan there are many flood mapping needs in Ohio. As with the Map Production activity, this also will increase the DOW engineers' capability to undertake digitally-compatible flood mapping projects.

*Support of FEMA's Map Mod Objectives:* The overarching objective of map modernization is to improve the accuracy and currency of the nation's flood maps.

*Performance Measurement:* Specific performance measures will be identified in annual Cooperative Agreements.

#### **Activity Group 4: Administration, Management & Ongoing Activities**

*Description and Subtasks:* Administration and management activities includes MMMS and CTP MAS Cooperative Agreement Management, State Business Plan development and update, 5-year CAP Workplan update, activity reporting and tracking (DOW closely tracks the progress of the activities and their associated budget amounts), attending Map Modernization coordination meetings (regional meetings and/or stakeholder meetings), and Minimum Support Activities (as identified in the 2004 and 2005 MMMS Guidance). Ongoing Map Modernization activities include CTP Technical Assistance (including assisting Ohio communities that are interested in the CTP program with the development of their CTP agreements), and the update of Ohio's Map Modernization website (available through *ohiodnr.com*).

*Staff Capabilities:* Existing staff are fully capable of managing such Cooperative Agreements. Expertise has been developed through many years of administering FEMA's CAP-SSSE program.

<i>Existing Resources:</i>	0.25 FTE.
<i>Full Funding Level Resources*:</i>	2.00 FTEs
<i>Gap:</i>	1.75 FTEs

\* The Full Funding Level Resources is based on the *2005 Program Assessment and 5 Year CAP Workplan 2006-2010* that identifies two FTEs for participating in and coordination of the CTP program. The FFY2005 MMMS CA proposes a significant scaling back of this activity and it will be necessary to evaluate the desired service level when the Program Assessment is updated.

*Funding:* MMMS, CAP-SSSE, GRF

*Training Needs:* Use of FEMA's tracking and project management tools that are being developed as part of Map Modernization, CTP training offered at EMI.

*Relationship to ODNR/Division/Program Strategic Plans:* Program, Division and Department have all identified effective program management as priority. The ODNR Strategic Plan has identified the utilization of information technologies that improve the services of the department and improving the public's understanding of issues critical to the department's mission through the use of *ohiodnr.com* as operational strategies. CTP technical assistance aligns with the ODNR financial stewardship operational strategy—exploring financial, organizational, and administrative alternatives to maximize program successes.

*Benefit to State:* Effectively managed programs save time and money. Competent administration will lead to a more effectively implemented Map Modernization program. Attendance at Map Modernization coordination meetings improves the FMP's ability to respond to changes in the program and take advantage of upcoming opportunities.

Finally, the use of the Map Modernization website will better enable users to be aware of upcoming mapping projects and milestones.

*Support of FEMA's Map Mod Objectives:* This activity group supports all four of FEMA's Map Modernization objectives identified in Section II.

*Performance Measurement:* Specific performance measures will be identified in annual Cooperative Agreements. The national KPI of 20% leveraged digital GIS flood data will be tracked through FEMA's tools.

## IV. ALTERNATIVES / VARYING FUNDING LEVELS

Section III indicates the following:

Total Existing Resources for Map Modernization:	3.75
Total Full Funding Level Resources Needed:	9.25
Total Gap:	5.50

The existing resources for Map Modernization (current condition) represent  $\approx 40\%$  of the full funding level. The *Map Modernization Business Plan guidance document* indicates that an analysis of state participation should be conducted based on four levels of FEMA funding—full funding (100%), medium funding (66%), low funding (33%), or no federal funding fully funded by the state or localities.

### Full Funding Scenario

This business plan reflects activities based on the existing resource scenario. To have an idea of what could be accomplished with full funding (FEMA and state) it is necessary to review the *2005 Program Assessment and 5-Year CAP Workplan 2006-2010*. The program assessment contained therein indicates that if fully funded—as compared to the current scenario—there would be increased participation in the Pre-Scoping and Scoping Activity Group such as a complete mapping needs assessment, a more concentrated focus and effort on the CTP program (identified in the Administration, Management and Ongoing Activity Group) a doubling of resources for performing flood studies (Map Production Activity Group), and a complete QA/QC review (as opposed to the more limited review that we are doing now under the Post-Production: Preliminary and Final Release Activity Group).

### 2/3 Funding Scenario

This scenario is 25% more funding than the current condition. As compared to the full funding scenario, this scenario would likely reduce effort in the CTP-program and likely cut back in map production. Efforts in the Pre-Scoping & Scoping Activity Group and the Post Production: Preliminary and Final Release Activity Group would be comparable to those in the full funding scenario.

### 1/3 Funding Scenario

This scenario is approximately 7% less than the current condition. It is likely that some of the activities under the Pre-Scoping and Scoping Activity Group would be reduced, as would the some of the Map Production Activity Group

### Fully State or Local Funding

This scenario is approximately 75% less than the current condition. The Map Production Activity Group would be eliminated, any CTP assistance under the Administration, Management & Ongoing Activity Group would be eliminated, and most tasks under the Pre-Scoping and Scoping Activity Group would be eliminated, leaving only some of the Post Production Preliminary & Final Release Activity Group activities. Activities that

would continue include ordinance update assistance, and possibly some form of QA/QC review.

As can be seen above, FEMA-funding is important to maintain the current condition scenario. Current conditions FEMA-funding includes \$100,000 for MMMS, \$90,000 for CTP-MAS, and approximately \$75,000 for ordinance assistance through CAP-SSSE. Increased FEMA-funding will allow for increased participation in all four activity groups identified above. Decreased FEMA-funding will result in reduced activity level – there are no state resources available to make up for reduced FEMA-funding. Elimination of FEMA-funding would effectively eliminate DOW’s participation in Map Modernization.

DOW has attempted to seek additional funding for Map Modernization efforts in state biennial budget proposals. However, the state budget proposal for the upcoming biennium (state FY06 and 07) represents flat funding and a small cut. At the earliest, state FY08 would be the next opportunity to seek additional state funding. Currently, DOW provides in excess of the 25% required match for CAP-SSSE and is going to provide  $\approx 35\%$  match for MMMS. We do not provide any hard match for the CTP-MAS; however, the 2004-CA for CTP-MAS reflects a soft match (existing data developed by ODNR) well in excess of 100% of the 2004-CA.

## **V. SEQUENCING OF MAP UPDATES**

In the MHIP, FEMA has identified a planned sequence for flood studies throughout the United States. In adding to or adjusting critical sequencing factors, FEMA has been responsive to FMP staff input. Ohio generally supports FEMA's current MHIP-plan with the following caveat:

- Because Ohio is promoting the development of county CTP-agreements with FEMA, we think that when a county is ready to execute a CTP-agreement, the sequencing should be adjusted (if necessary) to take advantage of the partnership. Prospective CTP-counties at this time include: Miami, Medina, Preble, Mahoning, Allen, Holmes, and the counties that are under the jurisdiction of the Miami Conservancy District. At this time we do not have specific recommendations for a re-sequencing; however, we will make specific recommendations in MHIP-updates as CTP-agreement development warrants.

## **VI. APPENDIXES**

Appendix A: Cost comparison spreadsheet identifying gap between MHIP Allocations and 2002 State Business Plan estimated costs

Appendix B: FEMA's Sequencing spreadsheet for Ohio counties. FEMA has and may yet add or adjust critical sequencing factors.