

# **APPENDIX**

**LOUISVILLE/JEFFERSON COUNTY, KENTUCKY**

**FLOODPLAIN MANAGEMENT PLAN**

**2002 REVISED FIVE-YEAR ACTION PLAN**

## REGULATIONS & PREVENTION MEASURES WORK GROUP

### FIVE-YEAR ACTION PLAN

Mitigation Category	Issue Or Hazard	Type of Activity and Project Description	Lead Implementer	Proposed Responsible Partners	Proposed Implementation Schedule	Funding & Budget Considerations	Performance Measure
Regulations & Prevention Measures	<b><u>Floodplain Ordinance</u></b> Parking lots built in the floodplain	<b>Regulation change required to address parking in flash flood and floodprone areas.</b> Recommended Activities: <ul style="list-style-type: none"> <li>Floodplain Ordinance change</li> <li>Require signage in floodprone areas</li> </ul>	Derek Guthrie, MSD	MSD, Metro Council Planning Commission	4th qtr 2003	\$10,000 – MSD for all ordinance revisions	Passage of ordinance by Metro Council
Regulations & Prevention Measures	<b><u>Floodplain Ordinance</u></b> Substantial Damage (SD) and Substantial Improvement (SI) requirements	<b>Regulation change required for SI/SD.</b> Change ordinance language to reconcile inconsistencies in state and local regulations.	Derek Guthrie, MSD	MSD Metro Council, Division of Water	4th qtr 2003	\$10,000 – MSD for all ordinance revisions	Passage of ordinance by Metro Council
Regulations & Prevention Measures	<b><u>Floodplain Ordinance</u></b> Floodplain filling in the Ohio River	<b>Regulation change required for filling in Ohio River floodplain.</b> <ul style="list-style-type: none"> <li>Rather than granting a variance, recommend eliminating compensatory storage ordinance requirement for the Ohio River floodplain –instead charge a Regional Fee as an option.</li> </ul> Option will allow for other mitigation steps, such as the Regional Fee being used to acquire repetitive loss properties.	Derek Guthrie, MSD	MSD Metro Council	4 <sup>th</sup> qtr 2003  MSD to implement a Regional Fee Option	\$10,000 – MSD for all ordinance revisions.	Passage of ordinance by Metro council
Regulations & Prevention Measures	<b><u>HAZ-Mat Ordinance &amp; Floodplain Ordinance</u></b> Mitigation of Propane Storage Units	<b>Mitigation of Propane Storage Units (100 gallons or more)</b> <ul style="list-style-type: none"> <li>Recommend the revision of existing floodplain ordinance to <b>REQUIRE</b> tie downs of tanks greater than or equal to 100 gallons.</li> </ul>	MSD	EMA; IPL, Planning and Zoning	4th qtr 2003	\$10,000 – MSD for all ordinance revisions	Passage of ordinance by Metro Council

Mitigation Category	Issue Or Hazard	Type of Activity and Project Description	Lead Implementer	Proposed Responsible Partners	Proposed Implementation Schedule	Funding & Budget Considerations	Performance Measure
Regulations & Prevention Measures	<b><u>Hazardous Material Ordinance</u></b>	<b>Modify Hazardous Material Ordinance</b> <ul style="list-style-type: none"> <li>Modify requirement for safe storage practices for new &amp; existing to protect from flooding.</li> <li>Have MSD Legal Dept. determine if Hazmat Ordinance should be modified or new separate ordinance developed.</li> </ul>	MSD	MSD	4 <sup>th</sup> qtr 2003	\$10,000 – MSD for all ordinance revisions	Minimal Cost / TBD Passage of ordinance by Metro Council
Regulations & Prevention Measures	<b><u>Floodplain Ordinance</u></b> Inaccessibility to homes to fight fire due to flooding	<b>Inaccessibility to homes to fight fire due to flooding</b> <ul style="list-style-type: none"> <li>Recommend that floodplain ordinance <b>REQUIRE</b> fire sprinkler system in all new residential construction in floodplain without access above 100-year flood elevation.</li> </ul>	MSD	IPL, and Planning and Zoning; Fire Chief's Assoc.	4th qtr 2003	\$10,000 – MSD for all ordinance revisions	Passage of ordinance by Metro Council
Regulations & Prevention Measures	Repetitive Losses	<b>Mitigation for repetitive loss properties</b> <ul style="list-style-type: none"> <li>Update LOJIC w/FEMA repetitive loss database</li> <li>Needs to be standardized and established uniform technical requirements</li> </ul>	MSD	MSD LOJIC	4th qtr 2002	NOB	- LOJIC has been updated - Need to standardize and establish uniform technical requirements
Regulations & Prevention Measures	Document & Codify Technical Requirements	<b>Regulations are unclear/vague:</b> Needs to be standardized and established, uniform technical requirements.	MSD	MSD	1st qtr 2003		On-going, and reviewed case-by-case
Regulations & Prevention Measures	Enforcement of floodplain regulations	<b>Inconsistent enforcement of floodplain regs.</b> <ul style="list-style-type: none"> <li>Need more manpower</li> <li>Pay specific attention to illegal and below flood level enclosures.</li> </ul>	MSD	MSD	2 <sup>nd</sup> qtr 2002 - No additional manpower assigned yet	Minimal Cost / TBD	
Regulations & Prevention Measures	Facility and Dam Maintenance Inspection Frequency	<b>Need clarification of maintenance:</b> Need improved documentation of current process and actions. Use MSD Hansen system. Meet w/ Jack Clark early in process (regional CRS Specialist).	MSD	MSD	4th qtr 2001 - Meeting with Mr. Clark has occurred.	TBD	- MSD approval of documented procedures

Mitigation Category	Issue Or Hazard	Type of Activity and Project Description	Lead Implementer	Proposed Responsible Partners	Proposed Implementation Schedule	Funding & Budget Considerations	Performance Measure
Regulations & Prevention Measures	Water Quality Regulations & Sinkhole Regulations	<b>Regulations to protect water quality:</b> Set standards for construction to protect water quality practices around sensitive features, such as sinkholes.	Planning Commission	MSD Planning Commission	2 <sup>nd</sup> Quarter 2002 (Actual Completion Date)	Work is underway by Consultant working for the Planning Commission	Adoption by the Planning Commission and Fiscal Court Complete
Regulations & Prevention Measures	Foundation Standards/ Inspections	<b>Adoption of the International Building Code</b> , which has standards for foundation protection: Requires commitment from numerous agencies.	Derek Guthrie, MSD	MSD, IPL, Code Enforcement	1 <sup>st</sup> qtr 2002 No progress to-date		
Regulations & Prevention Measures	Standardize Open Space & Deed Restrictions	<b>Work toward FEMA acceptable criteria for deed restrictions to attain open space credit:</b> Requires commitment from numerous agencies. Private conservation groups, MSD, Parks Dept. Planning Commission, City, County.	Derek Guthrie, MSD	MSD Parks Dept. Planning Commission City, County	2 <sup>nd</sup> qtr 2002  No progress to-date	Low Minimal Cost / TBD	
Regulations & Prevention Measures	<b><u>Floodplain Ordinance</u></b> Definition of Lowest Finished Floor	<b>Revise definition of Lowest Finished Floor to include HVAC and Ductwork</b> <ul style="list-style-type: none"> <li>Definition needs to match new FEMA criteria</li> </ul>	Derek Guthrie, MSD	MSD Planning Commission Metro Council	4 <sup>th</sup> qtr 2003	\$10,000 – MSD for all ordinance revisions	Passage of ordinance by Metro Council

\* NOB = Normal Operational Budget

## PROPERTY PROTECTION & STRUCTURAL PROJECTS WORK GROUP

### FIVE-YEAR ACTION PLAN

Mitigation Category	Issue Or Hazard	Type of Activity and Project Description	Lead Implementer	Proposed Responsible Partners	Proposed Implementation Schedule	Funding & Budget Considerations	Performance Measure
Property Protection & Structural Projects	Properties not in compliance with FEMA/NFIP criteria that have flood insurance claims	<b>Develop potential funding alternatives to allow compliance:</b> Research potential funding alternatives like ICC, grants, loans, etc. to assist properties out of compliance with FEMA/NFIP regulations to bring structure into compliance.	Project Impact Staff	City County MSD	2 <sup>nd</sup> qtr 2002	Potential additional staff for Project Impact	
Property Protection & Structural Projects	Properties with periodic/chronic flooding problems	<b>Develop a plan for the next flooding event:</b> Develop a plan to identify potential candidates for buyouts or assistance from disaster agencies. Components may include: <ul style="list-style-type: none"> <li>• Identify funding alternatives,</li> <li>• Coordination with disaster assistance agencies to ensure efficient use of funds,</li> <li>• Define/prioritize potential acquisitions.</li> </ul>	MSD	City, County & MSD, EMA	Phase I – Pond Creek - 4 <sup>th</sup> qtr 2001	Task to be completed by existing staff (NOB and existing work orders) HMGP Funds	Homes purchased through Program
Property Protection & Structural Projects	MSD Design Manual policy for acquisitions in a floodplain	<b>Need to clarify language in Design Manual:</b> Research and clarify language in acquisition section in Appendix H.	MSD	MSD	4 <sup>th</sup> qtr 2001	Task to be completed using existing staff and committee volunteer time.	Design Manual Updated
Property Protection & Structural Projects	Property owners rebuilding without proper authorization	<b>Identify target properties for observation:</b> Identify potential properties or hot spots for observation after flooding events to stop improvements and repairs in the floodplain without the proper permits. List of repetitive loss properties to be supplied to IPL and Code Enforcement for review of building permits.	MSD	MSD, IPL & Code Enforcement	4 <sup>th</sup> qtr 2001	Completed by existing staff. Temporary staff may be needed during post flood events	List supplied to Code Enforcement and IPL
Property Protection & Structural Projects	Properties that flood due to basement backups	<b>Backflow Prevention Program:</b> MSD to continue funding and implementing Backflow Prevention Program	MSD	MSD	On Going	NOB -- Unless participation increases	

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Property Protection & Structural Projects	Properties that flood due to stream flooding	<b>Large flood control projects:</b> Support large flood control projects with USACE	MSD	MSD, USACE	On Going	Provide matching funds as necessary	
Property Protection & Structural Projects	Properties that flood from surface water	<b>Develop a floodproofing program and standards</b> <ul style="list-style-type: none"> <li>• Develop a floodproofing program and library as a cost effective solution to structural flooding.</li> <li>• Develop floodproofing standards by researching local successful projects to showcase projects that work.</li> </ul>	MSD	MSD, HBAL Greater Louisville Assoc. Realtors	2002	Could use existing staff. Additional dollars may be needed to fund consultants. Research current programs to fund the program.	
Property Protection & Structural Projects	Individual Flooding Problems	<b>Continue to evaluate problems</b> <ul style="list-style-type: none"> <li>• Properties that do not fit into traditional projects should be evaluated separately.</li> <li>• Develop potential solutions both on an individual and watershed level.</li> </ul>	MSD	MSD	On Going	NOB	
Property Protection & Structural Projects	Individual Flooding Problems	<b>Continue to evaluate problems</b> <ul style="list-style-type: none"> <li>• Properties that do not fit into traditional projects should be evaluated separately.</li> <li>• Develop potential solutions both on an individual and watershed level.</li> </ul>	MSD	MSD	On Going	NOB	
Property Protection & Structural Projects	Regional Solutions to Flooding	<b>Detention Alternatives:</b> Consider additional alternatives regarding Regional Detention Banking or credits in applicable locations	MSD	MSD	2003	NOB	
Property Protection & Structural Projects	Assisting in compliance w/FEMA/NFIP regulations	<b>Non-profit retrofitting:</b> Investigate non-profit/humanitarian home building entities for low-income floodproofing /retrofitting projects in a floodprone area.	MSD	MSD City County	2004	Additional temporary staff may be needed to identify funding sources.	

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## EMERGENCY SERVICES AND PUBLIC OUTREACH & INFORMATION WORK GROUP

### FIVE-YEAR ACTION PLAN

Mitigation Category	Issue Or Hazard	Type of Activity and Project Description	Lead Implementer	Proposed Responsible Partners	Proposed Implementation Schedule	Funding & Budget Considerations	Performance Measure
Public Outreach & Information	Transportation during high water and underpass safety	<p><b>Design Flooded Gauge Road Signs</b> (pvc pipe to fit over road signs that measures the depth of floodwater in inches so motorist will know risk of hazard)</p> <ul style="list-style-type: none"> <li>MSD to target placement of signs</li> <li>Develop outreach materials &amp; distribute</li> </ul>	Bud Schardein, MSD	MSD NWS (Mike Callahan) City of Lyndon	2001	MSD to fund	Pilot located in City of Lyndon 5/01.
Public Outreach & Information	All hazard issues Education & information about disaster resistance, flood protection, dumping, clean waterways, & water quality.	<p><b>Establish Public Awareness in a neighborhood</b> (include topics such as Debris, Maintain a Drain or Drainage Ditch, and a Disaster Resistant Neighborhood): Begin w/one pilot neighborhood. Introduce concepts of disaster resistance w/EMA. Work w/MSD's Area Team Leaders.</p> <ul style="list-style-type: none"> <li>MSD to donate flood protection video for distribution.</li> <li>Volunteers visit Hot Spot in targeted area where debris in streams and catch basins is a problem (check with MSD)</li> <li>Volunteers split up: some remove debris and clean, while others go door to door to inform residents.</li> <li>Educate neighborhood on hazards of dumping in streams and mowing banks.</li> <li>Provide information on protecting streams &amp; wetlands from contamination to alleviate water quality problems.</li> <li>Stencil drain covers to educate public about drains emptying into waterways.</li> </ul>	Project Impact EMA Red Cross MSD	Project Impact Red Cross EMA MSD Possibly NRCS Volunteers MSD's Area Team Leader JCPS	2001	Shared: MSD, Red Cross, Project Impact	

Mitigation Category	Issue Or Hazard	Type of Activity and Project Description	Lead Implementer	Proposed Responsible Partners	Proposed Implementation Schedule	Funding & Budget Considerations	Performance Measure
Public Outreach & Information	All hazard issues	<p><b>Launch the CERT program.</b></p> <ul style="list-style-type: none"> <li>• Training &amp; Education for disasters, recovery and preparedness</li> <li>• Introduce concepts of disaster resistance w/EMA.</li> </ul>	Jim McKinney, EMA	Neighborhoods	2001 and beyond	EMA/Project Impact	Two pilot neighborhood, trainers in training
Public Outreach & Information	All hazards	<p><b>Develop a Standard Flood Protection Library:</b> Distribute to appropriate agencies/ organizations and public libraries (e.g., HBAL, Board of Realtors, etc).</p>		MSD Red Cross HBAL Board of Realtors, etc.	2002-2003	Staff time to assemble and distribute	
Public Outreach & Information	All hazards	<p><b>Info about available funding for projects:</b></p> <ul style="list-style-type: none"> <li>• For those seeking 319 Grants, and information about other grant programs</li> <li>• Information on the Clean Water Act</li> </ul>					
Public Outreach & Information	All hazard issues & repetitive loss	<p><b>One-page “fact sheets”</b> -- focused on various topics that are to the point and user-friendly.</p> <ul style="list-style-type: none"> <li>• Distribute to media, emergency services, &amp; library. Request to be used as public service announcements (psa’s). Also to be disseminated during water quality, emergency or flood events.</li> <li>• Use as handouts for all outreach projects.</li> </ul>		Red Cross MSD Health Dept.	On-going	NOB	
Public Outreach & Information	All hazard issues & repetitive loss	<p><b>One-page fact sheet: Pilot Project</b></p> <p>Entire page newspaper article showing the 100-year floodplain in Jefferson County, history of flooding, and list of phone numbers to call for flood protection and map information.</p>	Bud Schardein, MSD	MSD	COMPLETED And on-going	NOB	Completed. Article in CJ (3/22/01). Posters distributed by MSD

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Public Outreach & Information	Animal care & feeding during disaster	<p><b>Pets:</b> Maintain communication with Humane Society and Jeff. Co. Animal Control about disaster plans:</p> <ul style="list-style-type: none"> <li>• Follow-up w/ info to vet offices, etc.</li> <li>• Distribute outreach about shelters</li> <li>• Media to give info during storm warnings/events.</li> </ul>	George Betz, Red Cross	Humane Society Jefferson County Animal Control Red Cross	On-going	NOB MSD, Red Cross psa's	
Public Outreach & Information	All hazards	<p><b>Media Education Day</b> (TV, radio &amp; print):</p> <ul style="list-style-type: none"> <li>• Utilize Red Cross and MSD's meetings with media. MSD meets with media 4 times a year to distribute info.</li> <li>• Could be a series of light meals – w/speakers, provide handouts / fact sheets.</li> </ul>		Red Cross MSD	On-going	Shared	
Public Outreach & Information	All hazards & repetitive loss	<p><b>Elected officials outreach (local and state):</b></p> <ul style="list-style-type: none"> <li>• Expand standard pkg for new officials by MSD</li> <li>• Develop tours</li> <li>• Inform about benefits of an acquisition program, mitigation, enforcing regulations, locations of repetitive loss, flood insurance, etc.</li> <li>• Utilize Aldermanic and Mayor's Night-In and other governmental listening/exchange meetings to get messages to public &amp; officials.</li> <li>• In 2003, Plan targeted informational meetings with newly elected Metro Council Members with flood history in their Districts.</li> </ul>	Work Group	MSD	On-going; and 2003 for the new Metro Council.	Shared	

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Public Outreach & Information	Pre-flood safety issues:	<p><b>Communication about pre-flood issues:</b></p> <ul style="list-style-type: none"> <li>• Develop better communication &amp; information between: Water Company, Emergency Services, Health Department, NWS, MSD, and media.</li> <li>• Create links between websites</li> </ul>	MSD, EMA	Begin w/MSD – website	On-going	Shared	
Public Outreach & Information	Mitigation, floodproofing & repetitive loss thru Public Awareness Days	<p><b>Sponsor a Community Awareness Day:</b></p> <ul style="list-style-type: none"> <li>• To inform about flooding and floodproofing methods, including backflow valves, downspouts and sump pump removal.</li> <li>• Explain various topics such as homeowner safety for utilities, flood insurance, flood safety...</li> </ul>		Red Cross, HBAL, MSD	2002	Shared	
Public Outreach & Information	Post-flood safety & health issues:	<p><b>Communication about post-flood issues:</b></p> <ul style="list-style-type: none"> <li>• Develop better communication &amp; information between: Water Company, Emergency Services, Health Department, MSD, and Red Cross with media.</li> <li>• Issues are drinking water; health &amp; safety of gray water/ floodwaters; food storage &amp; possible contamination; location of shelters; and mental health.</li> </ul>	Work Group	Red Cross, MSD, Health Department	On-going	Shared	
Public Outreach & Information	All hazards and identified issues	<p><b>Funding for Public Information projects:</b></p> <ul style="list-style-type: none"> <li>• For those seeking 319 Grants, and information about other grant programs</li> <li>• Information on the Clean Water Act</li> </ul>	Shared	Work Group	2002	Shared	

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Public Outreach & Information	All hazard and identified issues & topics	<p><b>Develop a Speakers Bureau:</b> MSD &amp; Red Cross are frequently speakers. Seek expansion to a larger Speakers Bureau to include: Health Dept., Water Co., LG&amp;E, and Chamber.</p> <ul style="list-style-type: none"> <li>• To visit small groups &amp; organizations (e.g., Homemaker's Clubs, Community Associations, Garden Clubs, Churches, Schools, Neighborhood Assoc. and County Coops).</li> <li>• Increase Communication w/ environmental groups (Sierra Club, KWA).</li> <li>• Develop articles/info about common issues Place articles, and provide fact sheets.</li> </ul>	Red Cross, MSD	Red Cross MSD	On-going	Shared	
Public Outreach & Information	Mitigation, floodproofing & repetitive loss	<p><b>Hands-on Mitigation in floodprone areas:</b></p> <ul style="list-style-type: none"> <li>• Organize volunteer groups to retrofit/floodproof homes to help poor families or elderly.</li> <li>• Possibly, work w/ Habitat for Humanity, HBAL, AmeriCorp, Red Cross, and religious groups.</li> </ul>	Red Cross	Red Cross, AmeriCorp	On-going	Shared	
Public Outreach & Information	Mitigation, floodproofing & repetitive loss	<p><b>Communication w/home builder community:</b></p> <ul style="list-style-type: none"> <li>• Outreach to HBAL, plumbers, &amp; contractors.</li> <li>• Focus on benefits of floodproofing, elevating appliances, and general floodproofing.</li> <li>• Explain code enforcement, permits, and repairing a flood-damaged structure.</li> <li>• Develop articles for related magazines and newsletter</li> </ul>	MSD	MSD Board of Realtors Home Builders Assoc. of Louisville	On-going	Shared	

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		<ul style="list-style-type: none"> <li>Set up info at Homearama or Remodeler Shows and Realtors.</li> </ul>					
Public Outreach & Information	Water safety during a flood or boil advisory	<b>Potable water:</b> Develop an advisory fact sheet on potable water. Place fact sheet in water aisle of grocery stores	Paul Cuffe, Work Group	Health Dept Water Co.	2002	Unknown	
Public Outreach & Information	Water quality for properties out of Water Co. service area	<b>Non-public water users:</b> <ul style="list-style-type: none"> <li>Determine location of non-public water users (i.e. cisterns, springhouse &amp; wells). Use LOJIC to determine locations and addresses.</li> <li>Develop targeted outreach materials for these residents about water quality and maintenance of water sources.</li> </ul>	Paul Cuffe, Work Group Bud Schardein, MSD	Health Dept LOJIC MSD	2002	Unknown	
Public Outreach & Information	Educational issues about floodproofing and mitigation	<b>Vocational School program:</b> Develop a program with Vocational Schools to encourage students to design retrofitting or floodproofing projects/products or demos.	Work Group	Work Group JCPS	2002-2003	Shared	
Public Outreach & Information	Youth outreach and education	<b>Youth Outreach:</b> Support the interpretive exhibit and rafting programs that orient middle school students on the issues of flooding and water quality on Beargrass Creek.	JCPS	Louisville, JCPS MSD	2002-2003; Ongoing		
Emergency Services	Water Rescue	<b>Procure Adequate Boat Resources</b> to provide water rescue during flooding events: Inventory of existing Boats available; Purchase of additional boats; maintenance plan to ensure boat resources remain current.	Emergency Management Agency (EMA)	Ohio River Rescue; Jefferson Co. Fire Chief's Association	Completed	N/A	Completed
Emergency Services	Post Flooding Cleanup	<b>Develop a Comprehensive Cleanup Plan:</b> Plan will guide recovery and removal of debris (how it will be collected, where it will be taken, what are the alternatives for removing silt/debris).	EMA	MSD, Public Works, LG&E	2002-2003	NOB	
Emergency Services	Shelter Issues for Special Populations	<b>Determine Needs of Special Population</b> <ul style="list-style-type: none"> <li>Evaluate existing Shelter Plans for adequacy</li> <li>Create a "Registry " or "Invalid List" with the Fire Dept and Red Cross, so first</li> </ul>	Red Cross	Red Cross, EMA, JCPS; Health Dept.; Louisville	2003	NOB; apply for grant funding to meet any shelter modifications deemed	

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		<p>response and appropriate shelter care can be planned for these people</p> <ul style="list-style-type: none"> <li>• Check w/ Nursing Assoc., Sr. day care centers, Inspectors Assoc., Red Cross Wheels, Meals on Wheels, and County &amp; City</li> <li>• Consider digitizing this list for pre-disaster route planning.</li> </ul>		Area Ministries		necessary	
Emergency Services	Shelter Site Designation	<p><b>Shelter Site Designation</b> Determine a second tier and third tier set of shelter sites that may be available should first choice sites be flooded or inaccessible.</p>	EMA	EMA; Red Cross; JCPS District	On-going	NOB	
Emergency Services	Swift Water Rescue Training	<p><b>Swift Water Rescue Training:</b></p> <ul style="list-style-type: none"> <li>• Recommend additional fire personnel receive swift water rescue training.</li> <li>• Seek funding for any equipment and material needed to perform swift water rescue (beyond boats).</li> </ul>	Jefferson County Fire Chiefs Association	Fire Chief's Sub-committee on Training and Education	2002-2003	NOB, seek other sources outside sources for capital equipment/materials	
Emergency Services	On-Going Inter-Agency Drills	<p><b>Develop Inter-Agency Drills:</b> Recommend that the MSD, EMA, and local fire departments create and participate in an annual Flood Drill that will test communication capabilities and flood gate operations; Drill will rotate each year to a different set of gates</p>	EMA MSD	MSD EMA; Jefferson Co. Fire Chief's Association	On-going	NOB	
Emergency Services	Use of Advanced Technology	<p><b>Update LOJIC</b> Recommend that LOJIC include a lat./long. layer in its database. <b>Use GPS Technology</b> Encourage all appropriate agencies to implement the use of GPS to locate critical items/facilities that would be later input into the LOJIC database and available for planning and response</p>	LOJIC and all Agencies	All local government and public agencies	On-going	NOB	

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Emergency Services	Consistent and accurate property addressing and signage	<p><b>Accurate property addressing</b></p> <ul style="list-style-type: none"> <li>• Create one-time task force to identify and resolve all duplicate/ non-standard addressing and revise for Master Address file.</li> <li>• Resolve issue of addressing on private versus public roadways;</li> <li>• Resolve issue of signage (numbering and visibility for public works/ safety needs).</li> </ul>	Jefferson County Public Works or EMA	Public Works; US Postal Service; Planning Commission; EMA	On-going	NOB	
Emergency Services	Evacuation Orders for Flooded Areas	<p><b>Evacuation Orders</b></p> <p>Create template for rapid drafting of evacuation orders in flooded areas.</p>	EMA	EMA	On-going; updated as necessary	NOB	
Emergency Services	Grant Requests on File	<p><b>Maintain Grant Requests on File</b></p> <p>Recommend all agencies tasked with preparedness or response activities relating to the floodplain management plan to have a draft grant request ready for revision and rapid submission when and if the funds are available (e.g., HMGP funding).</p>	EMA MSD	EMA; MSD; others as are interested	On-going	NOB	

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## NATURAL RESOURCE PROTECTION WORK GROUP

### FIVE-YEAR ACTION PLAN

Mitigation Category	Issue Or Hazard	Type of Activity and Project Description	Lead Implementer	Proposed Responsible Partners	Proposed Implementation Schedule	Funding & Budget Considerations	Performance Measure
Natural Resource Protection	Stormwater Water Quality (MS4) Permit Compliance	<b>MS4- Municipal Separate Storm Sewer System Permit.</b> Compliance with KPDES MS4 Permit. MSD acts as an agent for the City and County for the NPDES MS4 permit. Typical activities covered by the permit include environmental education and outreach, erosion protection and sediment control, and implementation of stormwater water quality BMP's.	MSD's Wet Weather/ Water Quality Team	MSD	Ongoing with Annual Compliance Reporting	\$25,000	MSD's Wet-Weather Area Team Budget - Water Quality Monitoring
Natural Resource Protection	Open Space	<b>Obtain Open Space CRS credit</b> greater than the default value. <ul style="list-style-type: none"> <li>Maximize credit for open space including identifying, quantifying existing protected properties: school properties, golf courses, parklands, greenway and land conservancy properties.</li> <li>Maximize CRS credit for deed restrictions: Local regulated flood control lands / wetlands / flood mitigation projects</li> <li>Maximize CRS credit for natural and beneficial functions: new locally regulated flood control lands and wetlands.</li> </ul>	MSD's Development Team	CRS Advisory Committee	Ongoing	\$50,000	MSD / USACE
Natural Resource Protection	Establish County Watershed Master Plan	<b>Watershed Master Planning Tasks:</b> <ul style="list-style-type: none"> <li>Determine the impacts to the watershed from areas outside of Jefferson County water quantity and water quality related.</li> <li>Determine the impact of development on base stream flow and the impacts on groundwater regeneration.</li> <li>Identify all conservation properties that are legally restricted from development or</li> </ul>	MSD	Various MSD Watershed Area Teams	2003-10		MSD Planning Commission Other local governments USACE EPA Division of Water

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		<p>held by property conservation organizations.</p> <ul style="list-style-type: none"> <li>• Create Water Quantity Models</li> <li>• Create Water Quality Models</li> <li>• Create consistent land code development standards that address water quality and quantity</li> <li>• Educate local agencies and development interests in concert with MS4 requirements</li> </ul>					
Natural Resource Protection	Post Construction BMP for water quantity and quality management	<b>Expand EPSC certification process:</b> to BMP training / education component	MSD	MSD and other MS-4 Co-permittees	2003-04		MSD – Cost viewed as incidental to existing EPSC training process
Natural Resource Protection	Construction site water quality protection	<b>Construction site water quality protection:</b> Continued implementation of EPSC Program	MSD	MSD / NRCS	Ongoing		MSD EPSC Program NOB
Natural Resource Protection	Natural Disaster Planning	<b>Natural Disaster Planning:</b> Promote integration of water quality into disaster planning as secondary benefit.	MSD	MSD / City EMA/KY DEM, NRCS	November 2003		MSD / City / KY DEM
Natural Resource Protection	Floodplain Special Assessment	<b>Floodplain Special Assessment:</b> Investigate creation of a special district to share costs and benefits of proactive floodplain management between floodplain residence and floodplain manager (MSD).	MSD	MSD	2006	MSD future budget item, budget impact to be determined	.

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