

HAZARD MITIGATION PLAN for Sylvan Township

November 2004



HAZARD MITIGATION PLAN ADOPTION AND RESOLUTION
FOR SYLVAN TOWNSHIP

WHEREAS, Sylvan Township has experienced disasters that have resulted in loss of life or injury, damaged commercial, residential and public properties, displaced citizens and businesses, closed streets and bridges, and presented general public health and safety concerns; and

WHEREAS, as of November of 2004 the Federal Emergency Management Agency (FEMA) requires that communities have an adopted Hazard Mitigation Plan as a requirement of receiving funding under certain FEMA programs,

WHEREAS, the Hazardous Mitigation Plan ranks hazards for the community, and identifies goals, objectives and strategies to reduce overall damage and impact from natural and technological hazards; and

WHEREAS, Sylvan Township has worked with Washtenaw County to prepare a Hazard Mitigation Plan, by participating in the planning process and providing comments with respect to hazards, vulnerable areas and strategies,

WHEREAS, residents, community officials, business owners, educational institutions neighboring jurisdictions and the Michigan State Police Division of Emergency Management have had the opportunity to review the plan and their comments have been incorporated;

NOW, THEREFORE, BE IT RESOLVED THAT,

1. The Hazard Mitigation Plan is hereby adopted as an official plan of Sylvan Township
2. The Hazard Mitigation Plan will be an annual agenda item for the Sylvan Township Board to review. The annual review shall include the following:
 - a. A review of the original plan
 - b. A review of any disasters or emergencies that occurred during the previous calendar year.
 - c. A review of actions taken, including what was accomplished during the previous year.
 - d. A discussion of any implementation problems.
 - e. Recommendations for new projects or revised action items. Such recommendations shall be subject to approval by this Sylvan Township Board.
3. The Hazard Mitigation Plan will be updated every five years as required by FEMA, with the assistance of Washtenaw County.

4. The Sylvan Township Board will be responsible for ensuring that the strategies in the Plan are implemented, with the understanding that implementation is based on the availability of funding and staff resources.

The foregoing Resolution offered by Board member Mikel, supported by board member Brau.

Upon roll call vote, the following voted: Aye 5

Nay 0

Absent 0

The Supervisor declared the Resolution adopted.

LuAnn S. Koch
LuAnn S. Koch, Sylvan Township Clerk

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- Attachment 1: County Hazard Plan
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1.0 INTRODUCTION

Hazard Mitigation is defined as any action taken before, during or after a disaster to permanently eliminate or reduce risks to human life and property from natural, technical or societal hazards. Sylvan Township has experienced hazards at varying degrees, and can expect to encounter hazards in the future. The value of a Multi-Hazard Mitigation Plan (Plan) lies in reducing future emergencies to events; by implementing mitigation strategies set forth in this Plan, the expectation is for hazard occurrences to result in fewer deaths and injuries to people, and lessened damage or destruction to structures and the environment. Response and recovery costs should also be reduced.

The Federal Emergency Management Agency (FEMA) provides assistance to local units of government when faced with disasters through the Robert T. Stafford Disaster Relief and Emergency Assistance Act the Stafford Act. Recognizing that planning for hazards is an important component of hazard preparedness, response and recovery programs, the Stafford Act was amended in 2000 to require governments to have an adopted Hazard Mitigation Plan as condition of receiving financial assistance through the FEMA Hazard Mitigation Grant Program by November of 2004.

1.1 Purpose

There are three purposes of this Plan: 1) to identify and rank hazards in Sylvan Township; 2) to analyze areas particularly vulnerable to hazards; and 3) to identify feasible mitigation strategies that can be acted upon after adoption of the Plan. The mitigation goals and strategies should also be incorporated into the Sylvan Township General Development Plan, and other plans, as applicable.

1.2 Plan Organization

This Plan was prepared by Washtenaw County on behalf of Sylvan Township. Individual plans were prepared for each local unit of government in recognition of their unique circumstances and potential differences in priorities, goals and mitigation strategies. General information, such as community profile data and hazard descriptions, is contained in the County plan (Attachment 1).

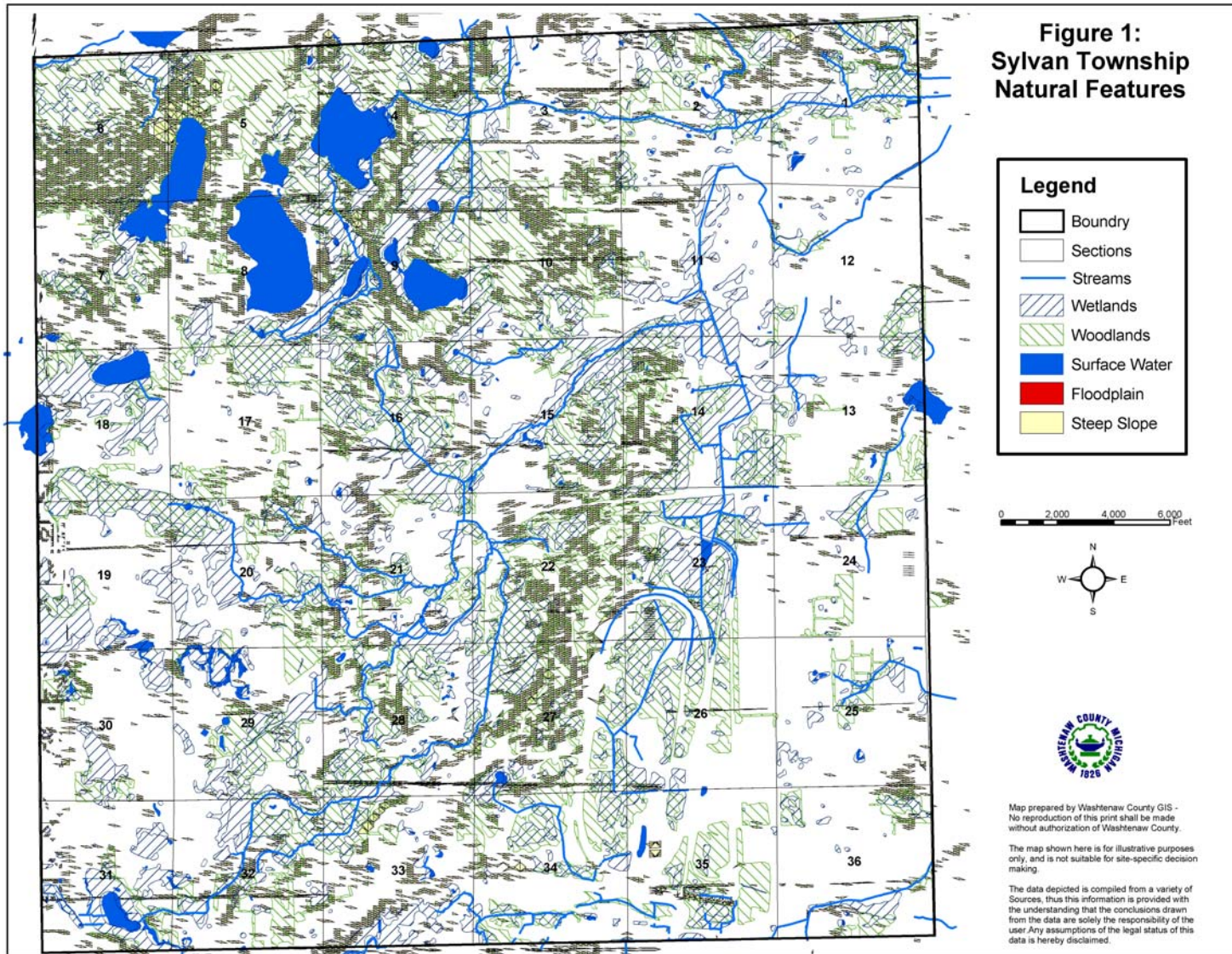
1.3 Public Participation

Representatives from Sylvan Township worked with the Washtenaw County Emergency Management Division and Department of Planning and Environment to draft the hazard mitigation plan. An opportunity for the citizens of Township to comment on the draft plan was provided in June of 2004, when five regional planning workshops were held at various locations around the county in conjunction with the Comprehensive Plan for Washtenaw County. Another workshop was held on June 9, 2004 for commission, board and council members from every community. The draft plan was introduced and copies were available for review at every workshop. Regional workshops were advertised in the local newspapers.

The Township Board of Trustees also provided an opportunity for public comment prior to adopting the plan.

Continued public participation is encouraged through Washtenaw County through website postings, emails, and general contact with local governments. Any comments received by the County on the plan concerning Sylvan Township will be shared with the Township.

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2.0 Community Profile

2.1 Historic Overview

Sylvan Township was part of Dexter Township, along with Dexter, Webster, Scio, Lima, Freedom, Bridgewater, Manchester, Sharon, and Lyndon Townships, and portions of Livingston and Jackson Counties until it was established in 1835. The region was attractive to settlers for its lakes and agricultural land. Today Sylvan Township continues to have a rural character, while offering a variety of land uses.

2.2 Natural Features

The Township is rich with natural features. Concentrations of lakes are located in the northeast portion of the Township; Letts Creek flows diagonally southwest to northeast (out of Goose Lake and into the Huron River). There are no reported floodplains in the community. Two larger areas of groundwater recharge can be found in the area; one in the northwest area and a second one in Section 14 and 15.

Many “pockets” of woodlands and wetlands are scattered throughout the area. The greatest concentrations of wetlands are in the north; the greatest concentrations of woodlands are in the northwest (Waterloo Recreation Area). The topography ranges from gently to moderately rolling (12% or more slopes at the northern boundary). Erodible soils, steep slopes and soils with severe septic limitations are scattered throughout the Township. The Chrysler Proving Grounds are situated on a larger portion of the sensitive soil types.

2.3 Land Use Patterns

Sylvan Township consists of approximately 22,260 acres. The State of Michigan recreation lands account for nearly 12% of the land area (2,600 acres), and are located in the northwest corner of the Township. Single family residential accounts for 10% of

the land area, and are located among other uses: agriculture in the southwest and southeast corners of the Township, and Chrysler’s Industrial Research and Proving Grounds in the south-central/east area of the Township (15% of Township lands). The Village of Chelsea in the northeast area of the Township.

2.4 Transportation Network

The transportation network consists of Interstate highway, minor arterial, collector and local streets and roads. I-94 runs east-west through the center of the Township, and M-52 north-south along the western portion of the Township. There are three interchanges along I-94, offering access at various points in the Township. The southeast quarter of the Township is the least accessible – this area consists of a local road network only.

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3.0 HAZARDS

Sylvan Township is susceptible to a variety of natural, technological, and societal hazards. The purpose of this section is to rank the hazards for Sylvan Township, analyze the risks for each hazard, and identify vulnerable areas for the Township, and appropriate goals and mitigation strategies for certain hazards.

3.1 Hazard Ranking

The ranking of hazards for Sylvan Township is presented as Table 1. The ranking of hazards was determined on a county-wide basis, and adjusted based on input from Local Units of Government. The ranking order was developed by the Washtenaw County Emergency Management Division using a program provided by the Michigan State Police Emergency Management Division. The model takes into account worst-case scenario data for frequency of occurrence, likelihood of occurrence, significance of impact/threat, potential size of geographic area impacted and total population impacted.

3.2 Hazard Assessment

The purpose of the hazard assessment is to map out where hazards exist and gain information about their frequency of occurrence, and potential for harm using worst-case scenario estimates. Different levels of risk analysis are performed, depending on the significance of the hazard for the community:

- **Cursory:** A short statement explaining why the hazard is not a threat, prepared for hazards that have little impact or are unlikely to occur.
- **Standard:** An explanation of concerns with limited quantitative research, prepared for hazards likely to occur and impact our communities.

Table 1: Hazard Ranking

Hazard	Rank
Convective Weather (Severe Winds, Tornadoes, Lightning, Hail)	1
Hazardous Materials Incidents: Transportation	2
Infrastructure Failures	3
Severe Winter Weather Hazards (Snow Storms and Ice/Sleet Storms)	4
Hazardous Materials Incidents: Fixed Site	5
Transportation Accidents: Air and Land	6
Extreme Temperatures	7
Flood Hazards: Riverine/Urban Flooding	8
Public Health Emergencies	9
Petroleum and Natural Gas Pipeline Accidents	10
Fire Hazards: Wildfires	11
Fire Hazards: Structural Fires	12
Flood Hazards: Dam Failures	13
Sabotage & Terrorism	14
Drought	15
Earthquakes	16
Nuclear Attack	17
Nuclear Power Plant Accidents	18
Civil Disturbances	19
Oil and Gas Well Accidents	20
Fire Hazards: Scrap Tire Fires	21

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- **Advanced (Vulnerability):** A vulnerability determination using probabilities, prepared for hazards that have the highest frequency of occurrence and/or the most potential to cause death, injury or damage to personal property.

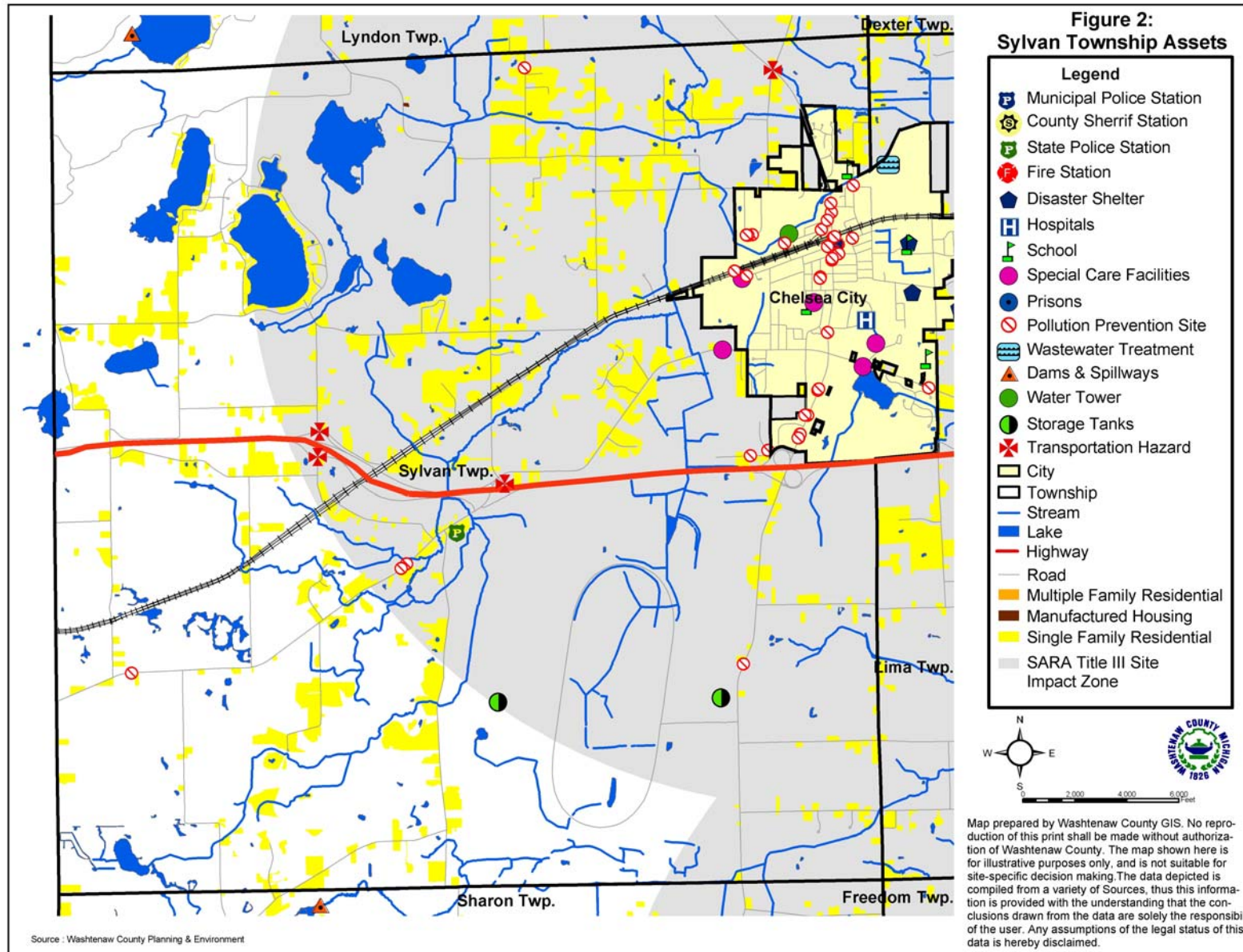
Vulnerability assessments were prepared for convective weather, hazardous materials transportation incidents, hazardous materials fixed site incidents, infrastructure failures and severe winter weather hazards. The goal is to quantitatively measure the threat experienced by Washtenaw County communities. By placing a monetary value on a hazard, a cost-benefit comparison can be made: the benefit of implementing a mitigation strategy compared to the cost of the hazard event.

Table 2 presents the results of the vulnerability assessment. The value of the vulnerability assessment is to provide a cost by which the mitigation strategies may be compared. A discussion of the determination is provided in the hazard section of the County Plan (Section 3.2). The methodology for each is presented in Appendix A of the County Plan.

Table 2. Vulnerability Assessment Summary

Rank	Hazard	Estimated Annual Cost
#1	Convective Weather	
	Tornado	\$5,078,755
	Severe Winds and Lightning	\$90,242,418
	Hail Storm	\$3,738,153
#2	Hazardous Material Transportation Incidents	\$6,838,963
#3	Hazardous Material Fixed Site Incidents	\$2,913,038
#4	Severe Winter Weather	\$36,191,763
#5	Infrastructure Failure	\$6,139,214

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4.0 Hazard Goals, Objectives and Strategies

The following sections present goals and strategies by hazard. Figure 2 presents the assets and hazards identified for Sylvan Township, and may be referred to in the following sections. The goals, objectives and strategies are not an inclusive list; rather the goals, objectives and strategies are those that the Township is focusing on at this time.

The repetition of strategies reflects the need for their implementation, not the duplication of services. For example, distribution of educational materials should not be performed several times, throughout the year per hazard, rather one mailing regarding family preparedness kits would address all hazards for which this strategy is listed.

4.1 Non-Hazard Specific Goals, Objectives and Strategies

Goal: Integrate mitigation strategies into the Township General Development Plan

Mitigation Strategy: Plans

- Establish a committee charged with amending the General Development Plan to include hazard mitigation goals and strategies, as applicable.

4.2 Hazard-Specific Goals, Objectives and Strategies Convective Weather

Goal: Reduce the Township's vulnerability to convective weather storm hazards, minimize loss of life and injury, and damage to public property

A vulnerable area in Sylvan Township is the St. Louis organization. It is a special needs facility, and includes two buildings in which 65 residents may be cared for. The facility is equipped with emergency generators. The pumping stations, also vulnerable areas, are also equipped with generators.

Mitigation Strategy: Warning Sirens

- Evaluate the need for warning sirens with each Plan update. A portion of Sylvan Township population is covered by warning sirens from the City of Chelsea, which reaches approximately 10% of the Township population (487 persons). The Township is predominantly rural; residences are dispersed throughout. Therefore, a warning siren is not presently a high-priority mitigation strategy, but the Township recognizes that sirens may be needed in the future.

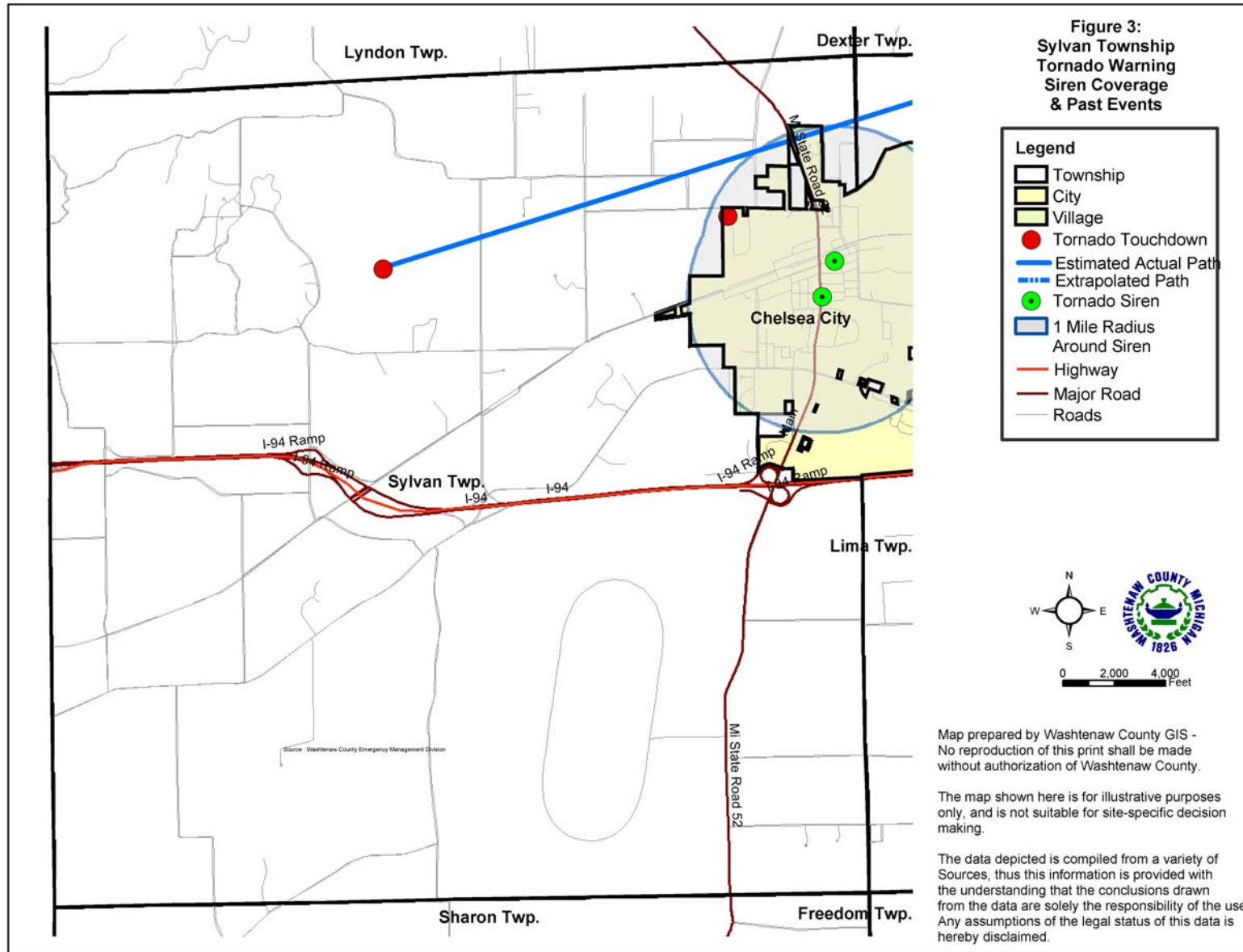
Mitigation Strategy: Emergency Generators

- Secure funding to install emergency generators. An emergency generator should be installed at the Township Hall so that it may continue to function and provide assistance to residents and travelers the event of a disaster. The Township has already proactively equipped their pumping stations with emergency generators.

Mitigation Strategy: Public Education

- Distribute Emergency Preparedness materials to Township residents, informing them on actions to take during an event, or actions to minimize damage caused by an event (see Family Preparedness Kit information box). Methods to disseminate the information include: an on-line link to Washtenaw County's Emergency Management Division website; mention within an existing newsletter; a separate mailing; or an enclosure in an annual Township mailing (e.g. tax bills).

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Mitigation Strategy: Maintenance

- Distribute annual reminders to ground utility providers, specifying the locations of areas to keep power lines clear of trees and tree limbs. This would reduce the chance of electrical power failure for Townships residents and businesses

Mitigation Strategy: Training

- Encourage residents to attend the Washtenaw County Emergency Management Division Skywarn Spotter training program. Training is free to residents 18 years of age or older who is interested in being trained in severe weather identification, protection, and reporting procedures.

Hazardous Material Transportation Incidents

The most vulnerable areas in Sylvan Township with regard to hazardous materials transportation incidents are Interstate 94 and interchanges along it, M-52, and Kalmbach Road. In particular, I-94 is the major east-west corridor for all of southeast Michigan, and untold amounts of hazardous material travel this road daily.

Goal: Reduce the risk of damage, loss of life, and other costs resulting from hazardous material transportation incidents

Mitigation Strategy: Road Regulations

- Work with the Washtenaw County Road Commission and the State of Michigan to provide safer roadways, resulting in the decrease of accident frequency and severity.
- Ensure that enforcement officers are following and enforcing Michigan Department of Transportation MDOT regulations for Hazardous Material transportation, as well as being diligent in enforcement of weight and travel restrictions will reduce the hazardous materials transportation accidents in Sylvan Township.

Family Preparedness Kits

1. Have Emergency Supplies at the ready:
 - A three-day supply of water one gallon/person/day and food that won't spoil
 - One change of clothing, footwear, and blanket/sleeping bag per person
 - First aid kit including family prescription medications
 - Tools: flashlight, battery-powered radio and extra batteries
 - Extra car keys, credit cards, cash or travelers checks
 - Sanitation supplies
 - Special items for infant, elderly or disabled family members
 - Extra pair of glasses
 - Locate the fuse box water service main and natural gas main and learn how to turn on and off.
2. Create a disaster plan where to meet, contact numbers, who will take care of the family pet, take first aid, learn how to use a fire extinguisher, etc.
3. Practice the Plan and maintain supplies!

If having electric power is extremely important to you, consider having a qualified electrician install an emergency generator before a disaster strikes!

For more information, see FEMA's website at <http://www.fema.gov/pdf/library/yfdp.pdf>

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- Continue diligent enforcement of weight and travel restrictions.

Mitigation Strategy: Hazardous Spills Expense Recovery Ordinance

- Adopt the Hazardous Spills Expense Recovery Ordinance, a vehicle whereby a local unit of government may recover costs of response and recovery to a release of hazardous materials.

Mitigation Strategy: Emergency Generators

- Secure funding to install emergency generators. See strategy under Convective Weather for further information.

Hazardous Materials Fixed Site Incidents

The potential area of concern with regard to fixed site incidences is the Chrysler Cooperation proving grounds. Surrounding land uses could be impacted by an event.

Goal: Reduce the risks of hazardous material fixed site incidents in the Township

Mitigation Strategy: Training and Support

- Continue to train, equip and maintain the Chelsea Area Fire Authority for responses to hazardous materials incidents.
- Support and work with the Washtenaw County Pollution Prevention Program.
- Continue to participate in the Washtenaw County Emergency Action Guidelines.

Mitigation Strategy: Enforcement

- Continue to enforce industrial, fire and safety regulations.

Mitigation Strategy: Emergency Generators

- Secure funding to install emergency generators. See strategy under Convective Weather for further information.

Mitigation Strategy: Hazardous Spills Expense Recovery Ordinance

Adopt the Hazardous Spills Expense Recovery Ordinance, a vehicle whereby a local unit of government may recover costs of response and recovery to a release of hazardous materials.

Mitigation Strategy: Public Education

- Distribute information regarding safety measures in case of a hazardous material fixed site incident. See strategy under Convective Weather for further information.

Severe Winter Weather Hazard

Above ground power supply, coupled with mature trees can be a disaster when heavy snows or freezing rain occurs. The weight of the frozen precipitation causes tree limbs to fall on power lines, causing power outages, which is a significant problem. Loss of power in the winter generally means loss of heat for citizens. Falling tree limbs also damage property, block emergency routes and roadways, endanger lives and are very costly to clean up and remove.

Goal: Reduce the damage and impacts caused by severe winter weather hazards continue to reduce the impact of such an event on the community.

Mitigation Strategy: Maintenance

- Distribute annual reminders to ground utility providers, encouraging them to keep power lines clear of trees and tree limbs, specifying addresses and locations of problem trees.

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Mitigation Strategy: Public Education

- Distribute Emergency Preparedness information to residents. See strategy under Convective Weather for further information.

Mitigation Strategy: Shelter Locations, Generators and Disseminate Information to Vulnerable Populations

- Establish shelter/warming locations for residents in the event of heat loss. Warning shelters should be equipped with emergency generators. At a minimum, an emergency generator should be installed at the Township Hall, allowing it to function during storms.

Transportation Accidents: Air and Land

There are several intersections that present a hazardous situation with regard to transportation accidents. Interstate 94 (I-94), particularly east-bound at Kalmbach, and Werkner Road at M-52. The Werkner/M-52 intersection has the highest accident rate in the Township; 44 accidents between 1997 and 1992 occurred, with nearly half due to an angled crash. I94/Kalmbach is second with 20 accidents between 1992 and 1997. Eighty percent (80%) of the accidents involved a single car. Both are known locations for serious transportation accidents to occur.

Goal: Increase the Township's ability to respond to transportation accidents, reducing the impact of such incidents on the community.

Mitigation Strategy: Transportation Planning

- Work with the Washtenaw County Road Commission, the Washtenaw Area Transportation Study, the Michigan Department of Transportation and Norfolk Railroad to plan road improvements at Kalmbach/I-94 and Werkner Road/M-52. Then secure funding to implement the projects.

Mitigation Strategy: Training

- Continually train and equip emergency responders to handle transportation accidents, aircraft accidents and mass casualty accidents involving all modes of transportation.
- Encourage residents to attend boaters safety classes for residents, offered by the County Sheriff. Activities may include notices in newsletters or mailings.

Petroleum and Natural Pipeline Gas Accidents

There are pipelines traversing the Township. Incidences have the ability to impact large numbers of residents.

Goal: Reduce the potential harm from petroleum and natural gas pipeline accidents.

Mitigation Strategy: Training

- Continue to train, equip and maintain the Chelsea Area Fire Authority for responses to hazardous materials incidents.

Mitigation Strategy: Public Education

- Disseminate information regarding indicators of a leak, and safety measures in the event of a pipeline accident. This information could be distributed with the Emergency Preparedness information (see Public Education strategy under Convective Weather).

Mitigation Strategy: Enforcement

- Support and enforce buffer distances from pipelines to minimize the population impacted in the event of a Petroleum and Natural Gas Pipeline Accident. Maintaining clear markers for easements around petroleum and natural gas pipelines is a growing issue.

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Mitigation Strategy: Hazardous Spills Expense Recovery Ordinance

- Adopt the Hazardous Spills Expense Recovery Ordinance, a vehicle whereby a local unit of government may recover costs of response and recovery to a release of hazardous materials.

Mitigation Strategy: Emergency Generators

- Secure funding to install emergency generators. See strategy under Convective Weather for further discussion.

5.0 Implementation, Funding and Monitoring

The purpose of this plan is to identify mitigation strategies that will be implemented before, during or after a disaster to permanently eliminate or reduce risks to human life and property from natural, technical or societal hazards. The following sections present implementation actions, funding sources, and the method for monitoring the plan.

5.1 Implementation

The following schedule is given for hazard mitigation strategies described in Section 4.0. Completion dates have not been included as such dates are subject to uncertain factors, and will only begin after the mitigation strategy has been approved. While all strategies are important, priority is has been given to those that may be funded by a FEMA hazard mitigation grant program (see Section 5.2). Action on strategies will depend upon staff, resource and funding availability.

High Priority Strategies

Emergency Generators

Responsible Agency: Sylvan Township

Estimated Cost: \$18,000 per generator, with a \$500 annual maintenance fee..

Transportation Planning: work with WCRC, WATS and MDOT to plan road improvements at Kalmbach/I/94 and Werkner Road/M-52 Intersections to prevent severe transportation accidents

Responsible Agency: Sylvan Township

Estimated Cost: Costs of implementing remedies will be based on recommendations of planning effort.

Other Important Strategies

Public Education: dissemination of family preparedness information

Responsible Agency: Sylvan Township

Estimated Cost: \$1,000 annually.

Adopt Spill Expense Recovery Ordinance

Responsible Agency: Sylvan Township

Estimated Cost: Staff time.

Maintenance Reminders to Utility Providers

Responsible Agency: Sylvan Township

Estimated Cost: Staff time.

Ensure pipeline easements are clearly marked

Responsible Agency: Sylvan Township

Estimated Cost: Staff time.

Training and Support

- Encourage residents to attend Skywarn Spotter program
- Continue to train, equip and maintain Hazardous Materials Response Teams through CAFA and Washtenaw County
- Support and work with the Washtenaw County Pollution Prevention Program.
- Continue to participate in the Washtenaw County Emergency Action Guidelines.

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Responsible Agency: Sylvan Township
Estimated Cost: NA

Amend Master Plan to incorporate hazard mitigation goals, strategies

Responsible Agency: Sylvan Township
Estimated Cost: Staff time.

5.2 Sources of Financial Assistance

Implementation of the mitigation strategies is often dependent on funding assistance from Federal and State sources. FEMA provides funding for structural projects through the hazard mitigation grant programs. These include the Hazard Mitigation Grant Program, Pre-Disaster Mitigation Assistance Program, and the Flood Mitigation Assistance Program.

FEMA emphasizes the implementation of structural mitigation strategies. The strategies that are a priority for FEMA are not a priority for Sylvan Township at this time. The strategies listed in this plan that qualify for FEMA funds include emergency generators.

Financial support for other mitigation strategies proposed in this plan may be sought through alternative funding sources. For example, funds for public outreach, equipment and training may be obtained through the FEMA Emergency Management Performance Grant (EMPG). Projects may be implemented with the assistance of non-profit organizations, or funds secured from Community Foundations. There are many State and Federal programs that are available to local governments, as provided in Attachment 2.

5.3 Monitoring of the Plan

The plan will be monitored on a regular basis, and is the responsibility of the Sylvan Township Supervisor. The plan will be an annual agenda item for the Sylvan Board of Trustees.

*Hazard Mitigation Plan
November 2004*

At a minimum, during its review, the Board will discuss the monitoring of the plan, the number of projects pursued, or reasons for lack of pursuit for approved projects. Prior to the meeting, the Washtenaw County Emergency Management Division can be contacted for updates or recommended amendments to the plan.

To assist with the annual evaluation and review of the plan, the Township may consider forming a local hazard mitigation committee. The committee could also be charged with identifying methods of obtaining public input.

Although review of the plan will occur annually, and a formal revision may not be needed each year, an update of the plan will be prepared every five years, based on annual reviews, amendments, monitoring, evaluation and accumulation of official feedback and public input. The revised plan will again be adopted by the Sylvan Township Board of Trustees.

**Attachment 1
County Hazard Plan**

**Attachment 2
Alternative Funding Sources**

Sylvan Township

Funding Source	Civil Disturbance	Drought	Earthquake	Extreme Temperature	Scrap Tire Facilities	Structural Fire	Wildfire	Dam Failure	Flooding: Riverine	Flooding: Urban	Hazardous Materials Incidents - Fixed Site	Hazardous Materials Incidents - Transportation	Infrastructure Failure	Nuclear Attack	Nuclear Power Plant Incidents	Oil/Nat Gas Well Incidents	Petrol/Nat Gas Pipeline Incidents	Public Health Emergencies	Sabotage/Terrorism	Hail	Lightning	Severe Winds	Severe Winter Weather	Transportation Accidents	Tornado	Financial Assistance	Technical Assistance
FEDERAL SOURCES																											
Business and Industry Loans	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
CDC-Investigations and Technical Assistance																		√								√	
CEPP Technical Assistance Grants Program											√	√						√								√	√
Community Assistance Program-State Support Services Element (NFIP)								√	√	√																	√
Community Development Block Grant/Economic Development Initiative									√	√			√										√			√	
Community Development Block Grant/Entitlement Grants	√	√	√	√	√	√	√	√	√	√	√	√	√					√	√	√	√	√	√	√	√	√	√
Community Development Block Grant/Small Cities Program	√	√	√	√	√	√	√	√	√	√	√	√	√					√	√	√	√	√	√	√	√	√	√
Community Development Block Grant/State's Program	√	√	√	√	√	√	√	√	√	√	√	√	√					√	√	√	√	√	√	√	√	√	√
Community Disaster Loans	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Community Facilities Loans and Grants	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Community Outreach Partnership Center Program	√	√	√	√	√	√	√	√	√	√	√	√						√	√	√	√	√	√	√	√	√	√
Conservation Reserve Program									√	√															√	√	√
Cooperative Forestry Research							√																			√	
Cora Brown Fund	√	√	√	√	√	√	√	√	√	√	√	√			√	√	√	√	√	√	√	√	√	√	√	√	√
Direct Housing Natural Disaster (Very Low/Low Income Loans)							√	√													√	√			√	√	
Disaster Housing Program	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Disposal of Federal Surplus Property (Transfers)									√																	√	
Economic Adjustment Assistance								√	√	√													√		√	√	
Economic Development Tech Assistance									√																	√	√
Emergency Advance Measures for Flood Protection								√	√	√																√	√

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Funding Source	Civil Disturbance	Drought	Earthquake	Extreme Temperature	Scrap Tire Facilities	Structural Fire	Wildfire	Dam Failure	Flooding: Riverine	Flooding: Urban	Hazardous Materials Incidents - Fixed Site	Hazardous Materials Incidents - Transportation	Infrastructure Failure	Nuclear Attack	Nuclear Power Plant Incidents	Oil/Nat Gas Well Incidents	Petrol/Nat Gas Pipeline Incidents	Public Health Emergencies	Sabotage/Terrorism	Hail	Lightning	Severe Winds	Severe Winter Weather	Transportation Accidents	Tornado	Financial Assistance	Technical Assistance
FEDERAL SOURCES																											
Emergency Community Water Assistance Grants		√							√		√		√					√	√							√	
Emergency Conservation Program		√							√													√			√	√	
Emergency Flood and Shelter National Board Program	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Emergency Management Institute-Resident Ed Program	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Emergency Management Institute-Training Assistance	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Emergency Management Performance Grants	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Emergency Management-State and Local Assistance	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Emergency Operations Flood Response and Post-Flood Response								√	√	√																√	
Emergency Rehabilitation of Flood Control Works								√	√																	√	
Engineering Grants	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Farmland Protection Program									√																	√	
Fire Suppression Assistance							√																			√	
Fisheries Disaster Relief		√					√	√	√	√	√	√							√							√	
Flood Insurance								√	√	√																	√
Flood Mitigation Assistance									√	√																√	
Flood Plain Management Services								√	√	√																√	
Food Control Projects								√	√																	√	
Forestry Incentives Program																						√			√	√	
Forestry Research									√	√												√			√	√	
Grants for Public Works and Economic Development								√	√	√			√													√	

Sylvan Township

Funding Source	Civil Disturbance	Drought	Earthquake	Extreme Temperature	Scrap Tire Facilities	Structural Fire	Wildfire	Dam Failure	Flooding: Riverine	Flooding: Urban	Hazardous Materials Incidents - Fixed Site	Hazardous Materials Incidents - Transportation	Infrastructure Failure	Nuclear Attack	Nuclear Power Plant Incidents	Oil/Nat Gas Well Incidents	Petrol/Nat Gas Pipeline Incidents	Public Health Emergencies	Sabotage/Terrorism	Hail	Lightning	Severe Winds	Severe Winter Weather	Transportation Accidents	Tornado	Financial Assistance	Technical Assistance
FEDERAL SOURCES																											
Grants-in-Aid for Railroad Safety-State Participation												√												√			√
Habitat Conservation																											√
Hazard Mitigation Grant Program	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
HazMat Training Program for Implementation of SARA											√	√															√
Health Program for Toxic Substances and Disease Registry											√							√									√
Highway Planning and Construction													√														√
Historic Preservation Funds Grants-In Aid						√			√	√										√	√	√	√		√		√
HOME Investment Partnerships Program									√	√										√	√	√					√
Hydrologic Research		√						√	√	√																	√
Individual and Family Grant Program		√	√	√			√	√	√	√																	√
Planning Grants (HazMat Emergency Preparedness Grant)											√	√															√
Motor Carrier Safety												√															√
National Dam Safety Program							√																				√
National Pollutant Discharge Elimination System Related State Program Grants																√	√	√									√
National Urban Search and Rescue Response System			√										√						√					√			√
North American Wetlands Conservation Fund								√	√																		√
Nursing Homes						√																					√
Planning (Land and Water Conservation Fund Grants)									√																		√
Physical Disaster Loans	√		√		√	√			√	√			√						√	√	√	√	√		√	√	√
Pipeline Safety																√	√										√

Sylvan Township

Funding Source	Civil Disturbance	Drought	Earthquake	Extreme Temperature	Scrap Tire Facilities	Structural Fire	Wildfire	Dam Failure	Flooding: Riverine	Flooding: Urban	Hazardous Materials Incidents - Fixed Site	Hazardous Materials Incidents - Transportation	Infrastructure Failure	Nuclear Attack	Nuclear Power Plant Incidents	Oil/Nat Gas Well Incidents	Petrol/Nat Gas Pipeline Incidents	Public Health Emergencies	Sabotage/Terrorism	Hail	Lightning	Severe Winds	Severe Winter Weather	Transportation Accidents	Tornado	Financial Assistance	Technical Assistance
FEDERAL SOURCES																											
Project Impact: Building Disaster-Resistant Communities	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Protection Clearing and Straightening Channels									√																	√	
Protection of Essential Highways, Highway Bridge Approaches, and Public Works								√	√																	√	
Public Assistance Grant Program	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Public Health and Social Services Emergency Fund (Post-Declaration Only)																		√								√	
Public Telecommunications Facilities Planning and Construction																								√	√		
Railroad Safety												√												√		√	
Resource Conservation and Development		√	√	√			√	√	√																		√
Rivers, Trails, and Conservation Assistance								√	√																		√
Rural Business Opportunity Grants								√																		√	
Rural Development Grants								√					√													√	
Rural Electrification Loans													√									√	√	√	√	√	
Rural Housing and Economic Development	√	√	√	√	√	√	√	√	√	√	√	√						√	√	√	√	√	√	√	√	√	√
Rural Housing Site Loans and Self-Help Housing and Development Loans								√	√																	√	
Snagging and Clearing for Flood Control								√	√																	√	
Soil and Water Conservation		√	√	√			√	√	√	√																	√
State and Community Highway Safety																								√			√
State Domestic Preparedness Equipment, Support Program																			√								√
Superfund State Site-Specific Cooperative Agreements											√							√								√	
Superfund Technical Assistance Grants for Citizen Groups at Priority Sites											√															√	√
Surveys, Studies, Investigations and Special Purpose Grants											√	√			√	√	√	√								√	

Sylvan Township

Funding Source	Civil Disturbance	Drought	Earthquake	Extreme Temperature	Scrap Tire Facilities	Structural Fire	Wildfire	Dam Failure	Flooding: Riverine	Flooding: Urban	Hazardous Materials Incidents - Fixed Site	Hazardous Materials Incidents - Transportation	Infrastructure Failure	Nuclear Attack	Nuclear Power Plant Incidents	Oil/Nat Gas Well Incidents	Petrol/Nat Gas Pipeline Incidents	Public Health Emergencies	Sabotage/Terrorism	Hail	Lightning	Severe Winds	Severe Winter Weather	Transportation Accidents	Tornado	Financial Assistance	Technical Assistance
FEDERAL SOURCES																											
Technology Development for Environmental Management												√			√												√
Very Low Income Housing Repair Loans/Grants				√		√	√		√											√	√	√			√		√
Very Low to Moderate Income Housing Loans				√		√	√		√											√	√	√			√		√
Water and Waste Disposal System for Rural Communities									√		√		√					√	√								√
Water/Waste Disposal Loans/Grants									√		√		√					√									√
Watershed Protection and Flood Prevention								√	√	√								√									√
Watershed Surveys and Planning		√							√																		√
Weatherization Assistance for Low-Income Persons				√																							√
Wetlands Protection-Development Grants									√	√																	√
Wetlands Reserve Program									√	√																	√
Wildlife Habitat Incentive Program									√																		√

Sylvan Township

Funding Source	Civil Disturbance	Drought	Earthquake	Extreme Temperature	Scrap Tire Facilities	Structural Fire	Wildfire	Dam Failure	Flooding: Riverine	Flooding: Urban	Hazardous Materials Incidents - Fixed Site	Hazardous Materials Incidents - Transportation	Infrastructure Failure	Nuclear Attack	Nuclear Power Plant Incidents	Oil/Nat Gas Well Incidents	Petrol/Nat Gas Pipeline Incidents	Public Health Emergencies	Sabotage/Terrorism	Hail	Lightning	Severe Winds	Severe Winter Weather	Transportation Accidents	Tornado	Financial Assistance	Technical Assistance
STATE OF MICHIGAN																											
Department of Agriculture																											
Energy Conservation Program									√														√			√	√
Groundwater Stewardship Program											√							√								√	√
Intercounty Drain Program (available to Drain Commissioner only)								√	√	√																	√
Economic Development Corporation																											
Community Development Block Grant									√	√			√													√	
Urban Land Assembly									√																	√	
Environmental Quality																											
Abandoned Well Mgmt. Program																		√								√	
Alternate Water Supply Replacement Program									√	√	√		√					√								√	
Brownfield Redevelopment Grants											√							√								√	√
Drinking Water Revolving Loan Fund													√					√	√							√	
Municipal Landfill Cost-Share Grant Program																		√								√	
Non-community Water Supply Program Grant																		√								√	
Scrap Tire Collection Site Cleanup Grants					√																					√	
State Revolving Loan Fund									√	√			√					√								√	
Wellhead Protection Program																		√								√	
Wetland Program Development									√	√																√	

Sylvan Township

Funding Source	Civil Disturbance	Drought	Earthquake	Extreme Temperature	Scrap Tire Facilities	Structural Fire	Wildfire	Dam Failure	Flooding: Riverine	Flooding: Urban	Hazardous Materials Incidents - Fixed Site	Hazardous Materials Incidents - Transportation	Infrastructure Failure	Nuclear Attack	Nuclear Power Plant Incidents	Oil/Nat Gas Well Incidents	Petrol/Nat Gas Pipeline Incidents	Public Health Emergencies	Sabotage/Terrorism	Hail	Lightning	Severe Winds	Severe Winter Weather	Transportation Accidents	Tornado	Financial Assistance	Technical Assistance
STATE OF MICHIGAN																											
Housing Development Authority																											
Community Development Block Grants/Housing Resource Fund						√			√	√											√		√		√	√	
Home/Property Improvement Loans						√			√	√											√		√		√	√	
Department of Natural Resources																											
Habitat Improvement Fund Project Grants									√																		√
Land and Water Conservation Fund									√																		√
Natural Resources Trust Fund						√			√																		√
Recreational Trails Program Grants									√																		√
Urban and Community Forestry Program																							√	√		√	√
Volunteer Fire Assistance					√	√	√																				√
State Police																											
Emergency Management Performance Grants	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Flood Mitigation Assistance									√	√																	√
Hazard Mitigation Grant Program	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	
Individual and Family Grant Program									√	√			√														√

Sylvan Township

Funding Source	Civil Disturbance	Drought	Earthquake	Extreme Temperature	Scrap Tire Facilities	Structural Fire	Wildfire	Dam Failure	Flooding: Riverine	Flooding: Urban	Hazardous Materials Incidents - Fixed Site	Hazardous Materials Incidents - Transportation	Infrastructure Failure	Nuclear Attack	Nuclear Power Plant Incidents	Oil/Nat Gas Well Incidents	Petro/Nat Gas Pipeline Incidents	Public Health Emergencies	Sabotage/Terrorism	Hail	Lightning	Severe Winds	Severe Winter Weather	Transportation Accidents	Tornado	Financial Assistance	Technical Assistance
STATE OF MICHIGAN																											
State Police (continued)																											
Interagency HazMat Public Sector Training and Planning Grants (HazMat Emergency Preparedness Grant)											√	√		√	√	√	√									√	
Project Impact	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Public Assistance Grant Program	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Department of Transportation																											
Rail Loan Assistance Program												√	√													√	
Trans. Econ. Development Fund								√	√	√																√	
Department of Treasury																											
Municipal Bond Authority-Local Government Loan Program				√		√			√	√			√						√	√	√	√	√	√		√	
Municipal Bond Authority-State Aid Note Program				√		√			√	√			√						√	√	√	√	√	√		√	