
Village of Shorewood Hills Annex

Community Profile

The Village of Shorewood Hills is located in the center of the County, just south of Lake Mendota and surrounded on all sides by the City of Madison. Land use is dominated by agriculture and woodlands, and dispersed one, two and multi-family homes. According to the United States Census Bureau, the Village of Shorewood Hills has a total area of .81 square miles, all of it land. As of the 2000 Census, there are 1,732 people, 640 households, and 505 families residing in the Village of Shorewood Hills. The population density is 2,139.8 per square mile. There are 664 housing units at an average density of 820.3 per square mile. The municipality population distributed by Dane County indicates that the 2008 population for the Village of Shorewood Hills was 1,699 people.

There are 640 households out of which 36.7% have children under the age of 18 living with them, 18% of all households are made up of individuals, and 8.9% have someone living alone who is 65 years of age or older. The average household size is 2.59 and the average family size is 2.94. In the Village of Shorewood Hills, the population is spread out with 26.5% under the age of 18, 3.2% from ages 18 to 24, 16.7% ages 25 to 44, 24.3% ages 45 to 64, and 17.1% who are 65 years of age or older. The median age is 46.8 years. 8.9% of the population speaks a language other than English at home and 6.7% of the population (above the age of 5) is disabled.

The median income for a household in the Village of Shorewood Hills is \$122,879 and the median income for a family is \$131,265. The per capita income for the Village of Shorewood Hills is \$57,328. 2.7% of the population and 2.3% of families are below the poverty line. Out of the total people living in poverty, 4.2% are under the age of 18 and 0.0% are 65 or older. 99.5% of the population has at least a high school degree, while 81.8% of the population holds at least a bachelor's level degree.

Hazard Identification and Risk Assessment

A hazard identification and vulnerability analysis was completed for the Village of Shorewood Hills using the same methodology in the base plan. The information to support the hazard identification and risk assessment for this Annex was collected through a Data Collection Guide, which was distributed to each participating municipality to complete.

The first step in a hazard analysis is to identify which hazards the community is vulnerable to. Table 1 outlines the hazard identification for the Village of Shorewood Hills based on the Data Collection Guide issued in 2008. The Data Collection Guide listed all of the hazards that could impact anywhere in Dane County. The purpose of this worksheet was to identify and rank the hazards and vulnerabilities specific to the jurisdiction. The Village of Shorewood Hills's planning team members were asked to complete the matrix by ranking each category on a scale of 0 to 3 based on the experience and perspective of each planning team member. A ranking of 0 indicated "no concern" while a ranking of 3 indicated "highest concern". This matrix appears as Table 1. This matrix reflects the significance of the hazards relative to one another.

This matrix reflects that the Village of Shorewood Hills is most vulnerable to flood, windstorm, tornado and lightning. The Village of Shorewood Hills has a medium vulnerability to extreme heat and cold, fog, tornado, and winter storm, and a lower vulnerability to drought, erosion, landslide, wildfire, dam failure and subsidence. The vulnerability established here is a qualitative assumption based on the impacts, geographic extent, probability of future occurrence, and magnitude/severity.

Table 1 Vulnerability Assessment Matrix for the Village of Shorewood Hills

Hazard	Hazard Attributes (1-2-3)			Impact Attributes (0-1-2-3)						Total
				Primary Impact (Short Term – Life and Property)			Secondary Impact (Long Term- Community Impacts)			
	Area of Impact	Past History, Probability of Future Occurrence	Short Term Time Factors	Impact on General Structures	Impact on Critical Facilities	Impact on At-Risk Populations	Social Impact	Economic Impact	Severity of other associated secondary hazards	
Dam/Levee	1	1	1	0	0	0	0	0	0	3
Extreme Cold	3	3	1	1	1	1	1	1	2	14
Extreme Heat	3	3	1	1	1	1	1	1	2	14
Drought	2	3	1	0	0	0	1	0	1	8
Erosion	1	1	2	0	0	0	1	1	1	7
Flood	3	3	3	2	3	3	3	3	3	26
Fog	2	3	3	0	0	1	1	1	1	12
Hail Storm	1	2	3	2	1	2	1	2	2	16
Landslide	1	1	2	0	0	0	1	1	1	7
Lightning	3	3	3	1	2	2	2	2	3	21
Tornado	2	2	3	3	3	3	2	2	2	22
Wildfire	1	1	1	1	1	1	1	2	1	10
Windstorm	2	2	3	3	3	3	2	2	3	23
Winter Storm	2	3	1	1	3	2	2	2	3	19
Subsidence	1	1	3	1	0	0	1	0	0	7
Other:										

Data Source: Village of Shorewood Hills Data Collection Guide, 2009

Asset Inventory

Assets include the people, property, and critical facilities within the Village of Shorewood Hills that are exposed to hazards in general. Inventories of property, essential infrastructure, and natural, cultural or historic resources help provide a comprehensive picture of the community and provide a method of assessing exposure to hazards by establishing the improved and total values, capacities and populations for these assets. It also forms the basis for estimating potential losses, where possible.

Population

Table 2 Vulnerable Population Summary

Disability Status from the 2000 Census	Number	Percent
Total Population ages 5 or less	67	3.9%
Total population ages 5 to 19	308	17.7%
Total population over 65 years old	296	17.1%
Total Population with any Disability	103	6.7%
Families Below Poverty Level	11	2.3%
Individuals Below Poverty Level	43	2.7%
Total Population who Speak English less than "very well"	16	1%
Total Population	1,732	100%

Source: 2000 US Census

General Property

Table 3 Property Exposure Summary

Property Type	Total Parcel Count	Improved Parcel Count	Improved Values (\$)	Content (\$)	Total Value (\$)
Residential	665	629	\$202,762,794	\$101,381,397	\$304,144,191
Commercial Services	27	17	\$19,698,502	\$19,698,502	\$39,397,004
Commercial Sales	17	13	\$29,817,859	\$29,817,859	\$59,635,718
Institutional Government	12	0	\$0	\$0	\$0
Other	2	0	\$0	\$0	\$0
Agriculture	21	0	\$0	\$0	\$0
Transportation	6	0	\$0	\$0	\$0
TOTAL	750	659	\$252,279,155	\$150,897,758	\$403,176,913

Source: Dane County Land Information Office, December 2008

Critical Facilities

The Village of Shorewood Hills has identified the following critical facilities important to protect from disaster impacts. These are collected in Table 4. Table 4 is based on GIS data inventories from Dane County.

Table 4 Critical Facility Summary/Essential Infrastructures

Facility	Type*	No. of Facilities	Replacement Value (\$)
Bridge	EI	1	\$1,000,000
Communications Tower	EI	2	\$0
EMS Station (includes Fire Station)	EI	2	\$1,229,983
FCC Tower	EI	2	\$0
Fire Station (included in EMS Station)	EI	1	\$0
Hospital	EI	2	\$0
Municipal Hall (includes Police Dept)	EI	1	\$1,287,671
Police (included in Municipal Hall)	EI	2	\$0
Hazardous Chemicals	HM	1	\$0
Child Care	VF	4	\$200,124
Historic Site	VF	2	\$0
Public School	VF	1	\$0
TOTAL		21	\$3,717,778.00

Source: Dane County GIS, *EI: Essential Infrastructure; VF: Vulnerable Facilities; HM: Hazardous Materials Facilities;

Vulnerability to Specific Hazards

This section details vulnerability to specific hazards, where quantifiable, and where it differs from that of the overall County. The previous inventory tables quantify what is exposed to the various hazards within the Village of Shorewood Hills. Table 5 cross-references the hazards with the various tables where exposure or vulnerability specifics are found. Hazard specific vulnerabilities are noted, where known.

Table 5 Hazard Vulnerability Specifics

Hazard	Populations	Structures	Critical Facilities	Future Damage Potential
Dam Failure	None	None	None	Specifics unknown; See hazard profile in County Plan
Drought	Minimal	None	Minimal	Specifics unknown; See hazard profile in County Plan
Flooding	See section below	See section below	See section below	See section below
Fog	Minimal	None	None	Specifics unknown; See hazard profile in County Plan
Hailstorm	Minimal	See Property Exposure table 3	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
Landslide/ Sinkholes/ Erosion	Minimal	Minimal	Minimal	Specifics unknown; See hazard profile in County Plan
Lightning	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan

Hazard	Populations	Structures	Critical Facilities	Future Damage Potential
Severe Cold	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
Severe Heat	See Table 2 Population	None	Minimal	Specifics unknown; See hazard profile in County Plan
Severe Winter Storm	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
Tornado	See Table 2 Population	See section below	See Critical Facility Inventory Table(s)	See section below
Wildfire	Minimal	Minimal	Minimal	Specifics unknown; See hazard profile in County Plan
Windstorm	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan

Flood

Structures in the Floodplain

An analysis of critical facilities located within either the FEMA DFIRM 100-year, 500-year, or HAZUS 100-year floodplains determined that no structures or critical facilities are at risk to flooding.

Repetitive Loss Properties and Flood Insurance Policies

There are no repetitive loss properties in the Village of Shorewood Hills. There is no NFIP policy information available for this jurisdiction, as the Village is sanctioned by the NFIP.

Figure 1 Flood Hazards and Future Land Use Map

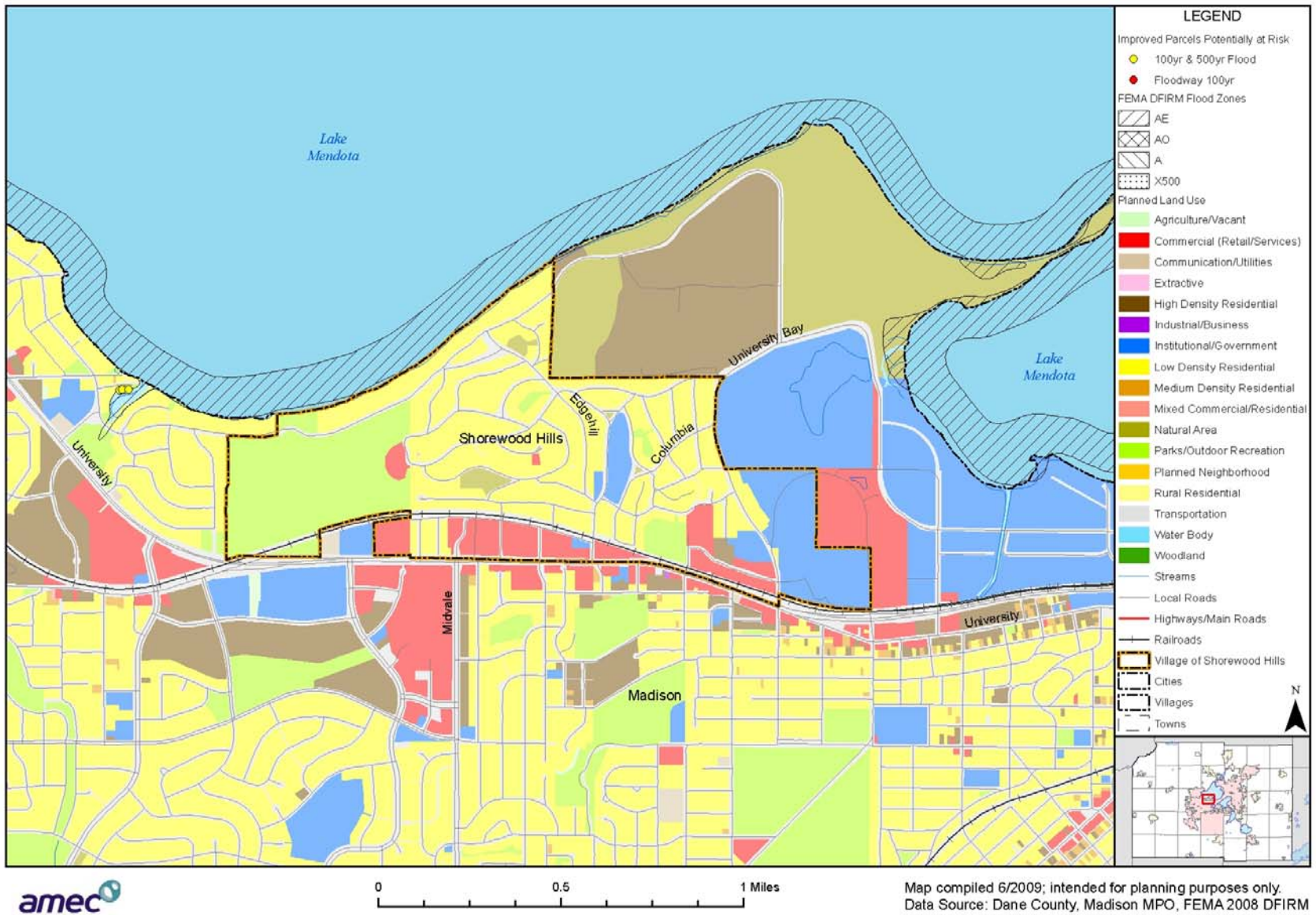
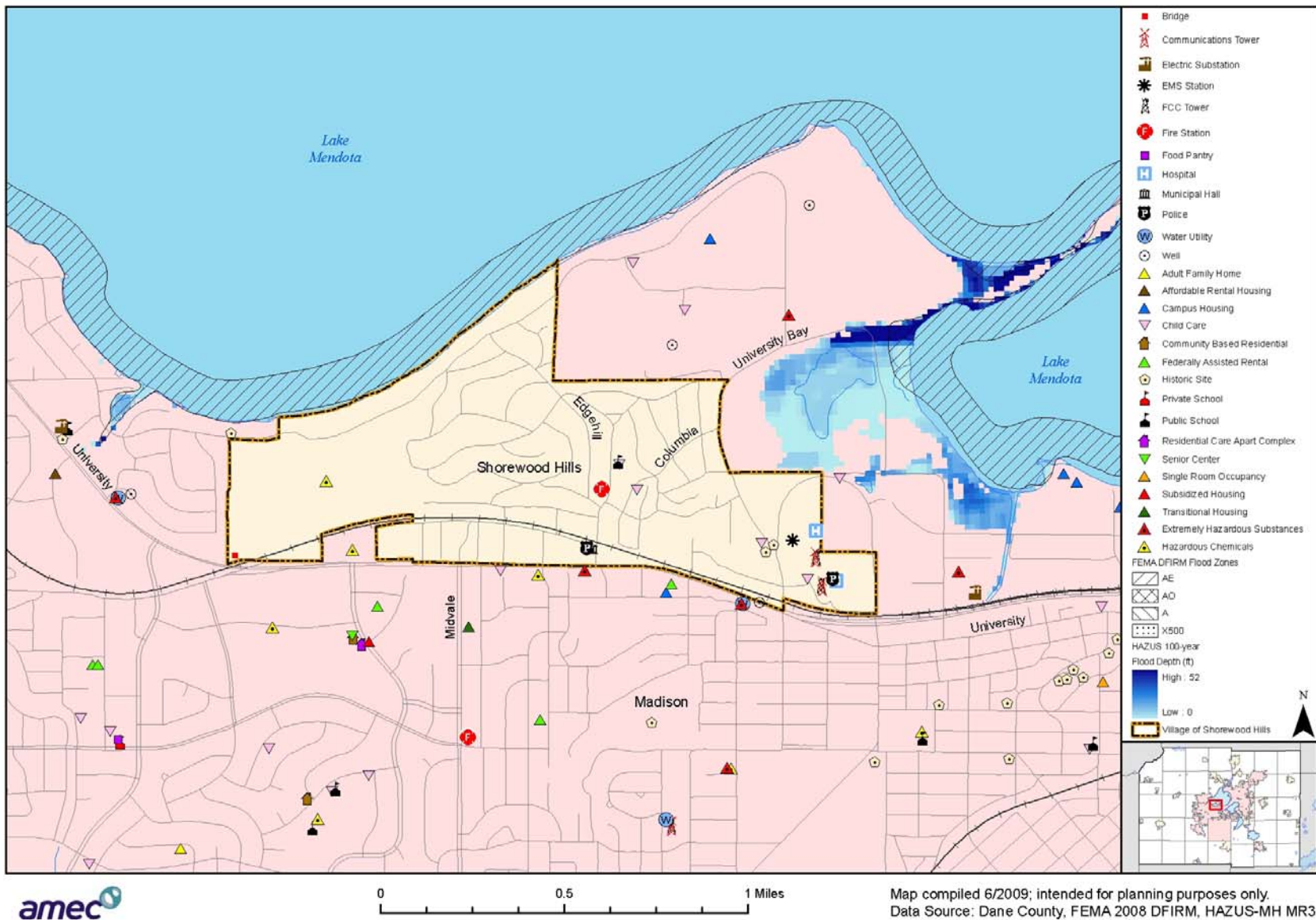


Figure 2 Flood Hazards and Critical Facilities Map



Tornado

While it is difficult to estimate specific losses to a tornado due to the random nature of the event, a methodology was developed that was applied to each jurisdiction during the 2009 update. The table below estimates the percent area of the jurisdiction that could be impacted based on the average sized tornado (F2) in Dane County. High value exposure is based on 100% loss, medium 50% loss, and low is 25% loss to the property potentially impacted. The loss ratio, which is the ratio of the damaged building value to total exposed building value, is a measure of the impact to the jurisdiction as a whole. Communities with loss ratios 10% or more may have difficulty recovering from a disaster. Refer to the tornado hazard profile in the main mitigation plan for more details on this methodology.

Table 6 Tornado Loss Estimate

% area impact	Improved Parcel Count	Affected Structure Estimate	Total Exposed Value	Estimated Loss \$ (High Damage Range)	Estimated Loss \$ (Moderate Damage Range)	Estimated Loss \$ (Low Damage Range)	Loss Ratio for Moderate Damage Range
100.00%	659	659	\$403,176,913	\$403,176,913	\$201,588,457	\$50,397,114	50.0%

Data Source: Analysis Based on Dane County Land Information Office's data

Growth and Development Trends

Planned land use is shown in Figure 1, in relation to the flood hazard. Table 7 illustrates how the Village of Shorewood Hills has grown in terms of population and number of housing units between 2000 and 2008

Table 7 Village of Shorewood Hills Change in Population and Housing Units, 2000-2008

2000 Population	2008 Population	Percent Change (%) 2000-2008	2000 # of Housing Units	2008 # of Housing Units	Percent Change (%) 2000-2008
1,732	1,699	-8.1%	664	N/A	N/A

Data Source: Dane County and the Village of Shorewood Hills

No Comprehensive Plan available online

2005 – 2025 Projections were not available.

Problems or Additional Vulnerability issues

Chronic, repeated flooding of University Avenue between Midvale Blvd/Rose Place on west and University Bay Drive/Farley Avenue on East at all major intersections can and does impact travel on main County thoroughfare (University Avenue). Flooding has resulted in impasse on roadway, impacting emergency vehicle responses through the area to local hospitals (particularly University Hospital and Clinics). Detouring traffic impacts transport time to hospitals and potential delays for medical treatment. This will impact special needs populations throughout SW and Western Dane County.

The Village of Shorewood Hills is entirely developed at this time with expansion very limited. Redevelopment is very probable. All new development has to conform to a very rigid stormwater management ordinance. The issue with flooding on University Avenue is directly related to the size of storm sewers draining the affected area to the east, where storm water enters Willow Creek and enters Lake Mendota. The physical size of the storm sewers creates the bottleneck in storm water drainage. The watershed that drains through University Avenue extends as far south as Tokay Blvd/Midvale Blvd and the entire Hill Farms area of Madison.

Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment summarizes regulatory mitigation capabilities, administrative and technical mitigation capabilities, and fiscal mitigation capabilities for the Village of Shorewood Hills.

Mitigation Capabilities Summary

Table 8 lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities, or by themselves contribute to reducing hazard losses. The table also indicates which of these tools are currently utilized in the Village of Shorewood Hills.

Table 8 Village of Shorewood Hills Regulatory Mitigation Capabilities.

Regulatory Tool (ordinances, codes, plans)	Yes/No	Comments
General or Comprehensive plan	No	
Zoning ordinance	Yes	Will FTP Zoning Ordinance
Subdivision ordinance	No	
Growth management ordinance	No	
Floodplain ordinance	No	
Other special purpose ordinance (stormwater, steep slope, wildfire)	No	
Building code	Yes	WI Dept of Commerce, Will FTP Village Building Code
Fire department ISO rating	Yes	ISO Rating of 4
Erosion or sediment control program	No	State Code?
Stormwater management program	Yes	
Site plan review requirements	Yes	Through Village Plan Commission plan reviews, Village Administration reviews, Fire Department reviews
Capital improvements plan	Yes	Through TIF Projects
Economic development plan	No	
Local emergency operations plan	No	In progress.
Other special plans	N/A	
Flood insurance study or other engineering study for streams	No	
Elevation certificates (for floodplain development)	No	

Other		N/A
-------	--	-----

Data Source: Village of Shorewood Hills Data Collection Guide, 2009

Table 9 identifies the personnel responsible for mitigation and loss prevention activities as well as related data and systems in the Village of Shorewood Hills.

Table 9 Responsible Personnel and Departments for the Village of Shorewood Hills

Personnel Resources	Yes/No	Department/Position	Comments
Planner/engineer with knowledge of land development/land management practices	Yes	Privately Contracted with Engineering Firm	
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Privately Contracted with Engineering Firm	
Planner/engineer/scientist with an understanding of natural hazards	No		County
Personnel skilled in GIS	Yes	Volunteer GIS Professional	
Full-time Building Official	No	Part-Time, but very knowledgeable.	
Floodplain Manager	No	None	County
Emergency Manager	Yes	Fire Chief	
Grant Writer	Yes	Police Detective	
Other Personnel			
GIS Data Resources – (land use, building footprints, etc.)	No	Contract with Dane County GIS for Data.	
GIS Data – Links to assessor's data			
Warning systems/services (Reverse 9-11, cable override, outdoor warning signals)	No	County	County
Other:			

Data Source: Village of Shorewood Hills Data Collection Guide, 2009

Table 10 identifies financial tools or resources that the Village of Shorewood Hills could potentially use to help fund mitigation activities.

Table 10 Financial Resources for the Village of Shorewood Hills

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Community Development Block Grants	No	
Capital improvements project funding	Yes	
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Incur debt through general obligation bonds	Yes	
Incur debt through special tax bonds	No	

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Incur debt through private activities	No	
Other:		

Data Source: Village of Shorewood Hills Data Collection Guide, 2009

Additional Capabilities

- Fire Prevention projects are on-going; prevention is focused on elderly and school-aged children.
- Village volunteers are very active in environmental education.
- The Village of Shorewood Hills has a full-time Forester who is instrumental in environmental education.

National Flood Insurance Program Participation

The Village is currently sanctioned by the NFIP, and not eligible for federal hazard mitigation funding.

Table 11 NFIP Participation for the Village of Shorewood Hills

Floodplain Ordinance	Comments	Dane County FIRM Panels	NFIP Participation	Init FHBM Identified	Init FIRM Identified	Curr Eff Map Date	Reg-Emer Date
No	Sanctioned by NFIP	404,408	No	1/31/1975	6/1/2009	1/2/2009	1/31/1976

Public Involvement Activities

During the 2009 update, the community assisted with the public involvement activities referenced in the base plan.

The Village of Shorewood Hills will solicit for comments on the NHMP by posting the DRAFT plan on the Village website. The Village will also make hard copies of the plan available for review in our Village Hall.

Additional information will be sent out to all Village residents and interested parties through our monthly Village Bulletin, which is mailed as a hard copy bulletin and sent via e-mail.

Mitigation Objectives (Actions)

Objective #1: Educate residents in the Village of Shorewood Hills on the benefits of participation in the National Flood Insurance Program (NFIP) and ensure participation in the NFIP by the Village.

Steps:

- 1) Research program requirements and benefits.

-
- 2) Develop public education program on the NFIP.
 - 3) Create ordinance for Village participation in NFIP.

Lead Implementing Agency:

- Village of Shorewood Hills Administration

Supporting Agencies:

- Fire department (assist in education activities)
- Local Village League
- Village Engineer
- FEMA

Possible Funding and Technical Assistance:

- FEMA

Timeline: Short range – less than one year.

Priority: High.

Estimated Costs: Minimal – staff research, staff created ordinance.