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## Town of Sun Prairie Annex

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### Community Profile

The Town of Sun Prairie is located in northeastern Dane County in the Upper Koshkonong Creek Watershed, which abuts the City of Sun Prairie and borders the Towns of Cottage Grove, Deerfield, and Medina. The Town of Sun Prairie has a strong history as an agricultural community. Soils in the Town are rich and classified as some of the most productive agricultural lands in the United States. The farming industry appears to be shifting from a predominance of dairy farms to increasing production of cash crops. The overall number of farms and acreage in farming in the Town of Sun Prairie has declined. According to the United States Census Bureau, the Town of Sun Prairie has a total area of 31.4 square miles, all of it is land.

As of the 2010 Census, there are 2,326 people, 826 households, and 656 families residing in the Town of Sun Prairie. The population density is 77.2 per square mile. There are 867 housing units at an average density of 28.8 per square mile. The municipality population distributed by the Wisconsin Department of Administration indicates that the 2015 population for Town of Sun Prairie was 2,352 people. Table 1 shows the population profile by age for the Town of Sun Prairie according to the 2010 Census.

**Table 1 Population Profile of Town of Sun Prairie**

Category	Number	Percent
Total population	2,326	100.0
Under 5 years	120	5.2
5 to 9 years	195	8.4
10 to 14 years	203	8.7
15 to 19 years	153	6.6
20 to 24 years	82	3.5
25 to 29 years	107	4.6
30 to 34 years	99	4.3
35 to 39 years	139	6.0
40 to 44 years	205	8.8
45 to 49 years	219	9.4
50 to 54 years	218	9.4
55 to 59 years	193	8.3
60 to 64 years	153	6.6
65 to 69 years	77	3.3
70 to 74 years	77	3.3
75 to 79 years	39	1.7
80 to 84 years	27	1.2
85 years and over	20	0.9

Data Source: 2010 U.S. Census

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American Community Survey estimates for 2014 indicate that the median income for a household in the Town of Sun Prairie is \$77,381 and the median income for a family is \$97,317. The per capita income for the Town of Sun Prairie is \$29,778. 88.6% of the population has at least a high school degree, while 22.0% of the population holds at least a bachelor's level degree.

## **Hazard Identification and Risk Assessment**

The first step in a hazard analysis is to identify which hazards the community is vulnerable to. Table 2 outlines the hazard identification for the Town of Sun Prairie based on the Data Collection Guide. 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 Town of Sun Prairie's planning team members were asked to complete the matrix by ranking each category on a scale of 0 to 5 based on the experience and perspective of each planning team member. A ranking of 0 indicated "no concern" while a ranking of 5 indicated "highest concern." This matrix appears as Table 2. This matrix reflects the significance of the hazards relative to one another. Table 2 has been adapted from a similar matrix in the 2010 Town of Sun Prairie Natural Hazard Mitigation Plan Annex.

This matrix reflects that the Town of Sun Prairie is most vulnerable to tornado. The Town of Sun Prairie has a lower vulnerability to dam/levee failures, extreme cold and heat, drought, flood, fog, hail storm, landslides, lightning, tornado, subsidence, wildfire, windstorm, and winter storm. The vulnerability established here is a qualitative assumption based on the impacts, geographic extent, probability of future occurrence, and magnitude/severity. On the county level, these vulnerabilities were calculated with quantitative data as well.

**Table 2 Vulnerability Assessment Matrix for the Town of Sun Prairie**

Hazard	Hazard Attributes (1-5)			Impact Attributes (0-5)						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	0	0	0	0	0	0	0	0	0	<b>0</b>
Extreme Cold	5	5	5	1	1	5	3	1	0	<b>26</b>
Extreme Heat	1	1	1	0	0	5	1	0	1	<b>9</b>
Drought	5	5	3	1	1	3	3	5	1	<b>27</b>
Erosion	1	1	1	0	0	0	0	0	0	<b>3</b>
Flood	3	3	3	3	1	3	3	1	0	<b>20</b>
Fog	1	3	5	0	0	3	1	1	0	<b>14</b>
Hail Storm	5	3	3	1	1	1	1	3	1	<b>19</b>
Landslide	0	0	0	0	0	0	0	0	0	<b>0</b>
Lightning	5	5	1	1	3	1	1	1	0	<b>18</b>
Tornado	5	5	3	5	5	5	5	5	3	<b>41</b>
Wildfire	1	1	1	1	1	1	3	1	1	<b>11</b>
Windstorm	5	5	3	3	3	3	3	3	1	<b>29</b>
<i>Winter Storm</i>	5	5	5	3	1	3	1	1	1	<b>25</b>

Source: Town of Sun Prairie Natural Hazard Mitigation Plan Annex, 2010. Adapted to 2015 scale of 0-5.

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## Previous Hazard Events

Through the Data Collection Guide, the Town of Sun Prairie noted specific historic hazard events to include in the community profile. These events have been incorporated into the appropriate hazard chapters in the base plan. These events had a particular impact on the community beyond the impacts and events recorded in the Dane County Hazard Mitigation Plan. This is not a comprehensive summary of past incidents, as the hazard profiles collected in the main Mitigation Plan include other events that may have historically impacted the jurisdiction. The events noted by this jurisdiction in the Data Collection Guide include:

### ***June 2008: Flood***

Flooding in the Town of Sun Prairie caused transportation delays due to multiple road closures that lasted from hours up to 12 weeks. The event occurred in various areas of the town. There were no deaths or injuries reported, but there was reported damage to property, business and economic impacts. Exact numbers were not available. The Town of Sun Prairie received approximately \$100,000 in FEMA funds to help recover from the hazard, which helped pay for repairs to roads, ditches and culverts, including labor. The Town of Sun Prairie planning members feel such an event is very likely to occur again.

## Asset Inventory

Assets include the people, property, and critical facilities within the Town of Sun Prairie 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 3 Vulnerable Population Summary**

<b>Disability Status from the 2014 American Community Survey</b>	<b>Number</b>	<b>Percent of Group with Disability</b>
Population Under 5 years old with a Disability	0	0%
Population 5-17 years old with a Disability	31	5.3
Population 18-64 with a Disability	165	10.1
Population Over 65 years old with a Disability	69	25.7
Total Population with Disability	265	10.0

<b>Other Vulnerable Populations</b>	Estimate	Percentage
Families Below Poverty Level	69	10.2
Individuals Below Poverty Level	471	17.8
Of those poverty: Individuals Under 18	184	25.2
Of those poverty: Individuals Over 65	54	20.1
Total Population Over 5 who Speak English less than "very well"	115	4.6
2014 ACS Total Population Estimate	2662	100%

Data Source: 2014 American Community Survey

### **General Property**

**Table 4 Property Exposure Summary**

<b>Property Type</b>	<b>Total Parcel Count</b>	<b>Improved Parcel Count</b>	<b>Improved Values (\$)</b>	<b>Content (\$)</b>	<b>Total Value (\$)</b>
<b>Totals</b>	<b>1,524</b>	<b>873</b>	<b>166,708,800</b>	<b>83,354,400</b>	<b>250,063,200</b>
Agriculture	697	213	36,223,600	18,111,800	54,335,400
Commercial	26	24	5,671,400	2,835,700	8,507,100
Utilities	3	0	0	0	0
Industrial	6	5	1,246,900	623,450	1,870,350
Institutional/ Governmental	2	0	0	0	0
Other	163	23	8,942,800	4,471,400	13,414,200
Residential	627	608	114,624,100	57,312,050	171,936,150

Data Source: Dane County Land Information Office

### **Critical Facilities**

The Town of Sun Prairie has identified the following critical facilities important to protect from disaster impacts. These are collected in Tables 5 and 6. Table 4 is based on GIS data inventories. Table 6 is supplemental data that was provided by the community through the Data Collection Guide in 2009.

**Table 5 Critical Facility Summary/Essential Infrastructure**

<b>Facility</b>	<b>Type*</b>	<b>No. of Facilities</b>	<b>Replacement Value (\$)</b>
Bridge	EL	11	3,000,000
Communications Tower	EL	6	319,200
FCC Tower	EL	1	0

Facility	Type*	No. of Facilities	Replacement Value (\$)
Municipal Hall	EL	1	0
Well	EL	1	400,000
Extremely Hazardous Substances	HM	1	0
Adult Family Home	VF	1	430,600
Child Care	VF	1	165,300
Manufactured Home	VF	8	0
<b>TOTAL</b>		<b>33</b>	<b>4,315,100</b>

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

**Table 6 Other Specific Assets for the Town of Sun Prairie**

Name of Asset	Type*	Replacement Value (\$)	Occupancy/ Capacity (#)	Hazard Specific Issues
Portable Generator	VF	\$4,000	15 KW	
Stationary Generator	VF	\$4,000	15 KW	
*EI: Essential Infrastructure; VF: Vulnerable Facilities; HM: Hazardous Materials Facilities; NA: natural assets Source: Data Collection Guide				

Data Source: Town of Sun Prairie Data Collection Guide

### 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 Town of Sun Prairie. Table 7 cross-references the hazards with the various tables where exposure or vulnerability specifics are found. The intent of Table 6 is to quantify, where possible, future impacts of each hazard on the jurisdiction. In many cases it is difficult to estimate potential losses, so the overall exposure of populations, structures, and critical facilities is referenced.

**Table 7 Hazard Vulnerability Specifics**

Hazard	Populations	Structures	Critical Facilities	Future Damage Potential
<b>Dam Failure</b>	None	None	None	Specifics unknown; See hazard profile in County Plan
<b>Drought</b>	Minimal	None	Minimal	Specifics unknown; See hazard profile in County Plan
<b>Flooding</b>	See section below	See section below	See section below	See section below

<b>Hazard</b>	<b>Populations</b>	<b>Structures</b>	<b>Critical Facilities</b>	<b>Future Damage Potential</b>
<b>Fog</b>	Minimal	None	None	Specifics unknown; See hazard profile in County Plan
<b>Hailstorm</b>	Minimal	See Property Exposure table 3	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
<b>Landslide/ Sinkholes/ Erosion</b>	Minimal	Minimal	Minimal	Specifics unknown; See hazard profile in County Plan
<b>Lightning</b>	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
<b>Severe Cold</b>	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
<b>Severe Heat</b>	See Table 2 Population	None	Minimal	Specifics unknown; See hazard profile in County Plan
<b>Severe Winter Storm</b>	See Table 2 Population	See Table 3 Property Exposure	See Critical Facility Inventory Table(s)	Specifics unknown; See hazard profile in County Plan
<b>Tornado</b>	See Table 2 Population	See section below	See Critical Facility Inventory Table(s)	See section below
<b>Wildfire</b>	Minimal	Minimal	Minimal	Specifics unknown; See hazard profile in County Plan
<b>Windstorm</b>	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 and Properties in the Floodplain**

Refer to the flood profile in the mitigation plan for a description of the methodology used to identify potentially flood-prone properties. Figure 1 shows mapped floodplains, future growth areas, and critical or vulnerable facilities. Tables 8 and 9 outline the primary structures and properties with primary structures on them within the Town of Sun Prairie. Potential number of individuals at risk figures are based on primary residential structures and the average household size within Dane County.

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**Table 8 Primary Structures in the Floodplain**

Total Floodway Structures	Floodway Residential Structures	Total Structures in 100 year Floodplain	Residential Structures in 100 year Floodplain	Potential Number of Individuals at Risk in 100 year Flood	Total Structures in 500 year Floodplain	Residential Structures in 500 year Floodplain	Potential Number of Individuals at Risk in 500 year Flood
0	0	0	0	0	1	1	2.33

Source: Analysis based on Dane County Land Information Office Data

**Table 9 Properties with Primary Structures in the Floodplain**

Total Floodway Properties	Floodway Improved Values	Floodway Residential Properties	Total Properties in 100 year Floodplain	Total Improved Value of Properties in 100 year Floodplain	Residential Properties in 100 year Floodplain	Total Properties in 500 year Floodplain	Total Improved Value of Properties in 500 year Floodplain	Residential Properties in 500 year Floodplain
0	\$0	0	0	\$0	0	1	\$162,700	1

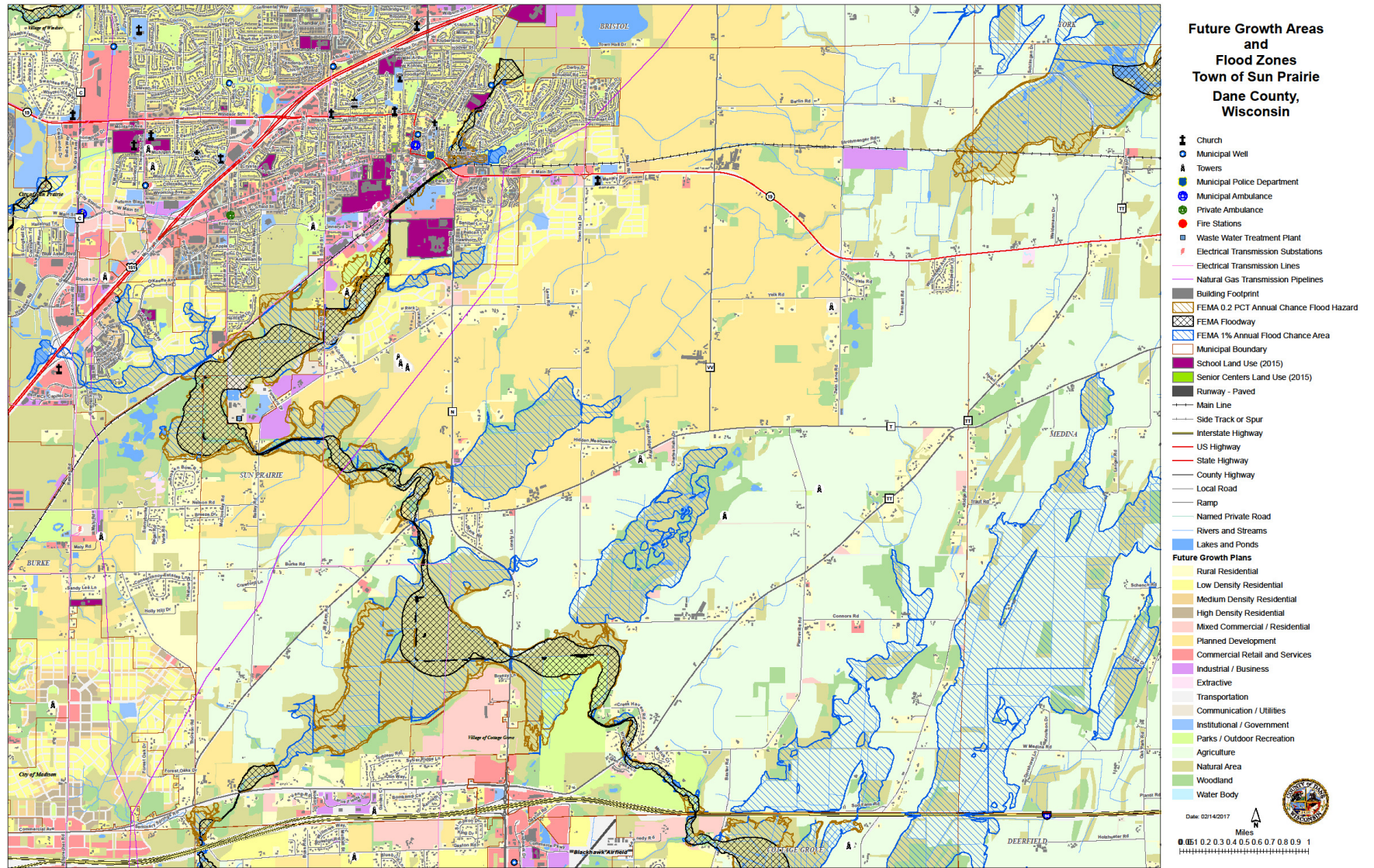
Source: Analysis based on Dane County Land Information Office Data

**Repetitive Loss Properties and Flood Insurance Policies**

No repetitive losses have been reported. Flood insurance policies and loss statistics are included as part of the County plan.



Figure 1 Flood Hazards and Future Land Use 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 2015 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 10 Tornado Loss Estimate**

% Area of 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
2.84%	944	27	\$272,073,150	\$7,719,200	\$3,859,599.98	\$1,929,799.99	1.4%

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 11 illustrates how the Town of Sun Prairie has grown in terms of population and number of housing units between 2010 and 2014-15. Housing data is to 2014 due to data availability. Table 12, drawn from the Demographics Services Center at the Wisconsin Department of Administration, shows population projections through 2035.

**Table 11 Town of Sun Prairie Change in Population and Housing Units, 2000-2008**

2010 Population	2015 Population	Percent Change (%) 2010-2015	2010 # of Housing Units	2014 # of Housing Units	Percent Change (%) 2010-2014
2326	2352	1.12%	867	917	5.8%

Data Source: Dane County and Wisconsin Department of Administration

**Table 12 Town of Sun Prairie Population Projections, 2005-2023**

Population Change	5 year Growth %	2,015	2,020	2,025	2,030	2,035
Increase by same percentage each year	0.22%	2,352	2,378	2,405	2,431	2,458

Data Source: Dane County and Wisconsin Department of Administration

## 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 Town of Sun Prairie.

## Mitigation Capabilities Summary

Table 13 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 Town of Sun Prairie.

**Table 13 Town of Sun Prairie Regulatory Mitigation Capabilities**

Regulatory Tool (ordinances, codes, plans)	Yes/No	Comments
General or Comprehensive plan	Yes	
Zoning ordinance	No	Uses County
Subdivision ordinance	Yes	
Growth management ordinance	Yes	
Floodplain ordinance	No	Uses County
Other special purpose ordinance (stormwater, steep slope, wildfire)	No	
Building code	Yes	
Fire department ISO rating	No	
Erosion or sediment control program	No	Uses County
Stormwater management program	No	Uses County
Site plan review requirements	Yes	
Capital improvements plan	Yes	
Economic development plan	No	
Local emergency operations plan	Yes	
Other special plans	No	
Flood insurance study or other engineering study for streams	No	
Elevation certificates (for floodplain development)	No	
Other		

Data Source: Town of Sun Prairie Data Collection Guide

Table 14 identifies the personnel responsible for mitigation and loss prevention activities as well as related data and systems in the Town of Sun Prairie.

**Table 14 Responsible Personnel and Departments for the Town of Sun Prairie**

Personnel Resources	Yes/No	Department/Position	Comments
Planner/engineer with knowledge of land development/land management practices	No	County	
Engineer/professional trained in construction practices related to buildings and/or infrastructure	No		
Planner/engineer/scientist with an understanding of natural hazards	No		
Personnel skilled in GIS	Yes	Plan Commission	
Full-time Building Official	No		
Floodplain Manager	No	County	
Emergency Manager	No	County	
Grant Writer	No		
Other Personnel			
GIS Data Resources – (land use, building footprints, etc.)	Yes		
GIS Data – Links to assessor’s data			
Warning systems/services (Reverse 9-11, cable override, outdoor warning signals)	Yes	Weather Radios	
Other:			

Data Source: Town of Sun Prairie Data Collection Guide

Table 15 identifies financial tools or resources that the Town of Sun Prairie could potentially use to help fund mitigation activities.

**Table 15 Financial Resources for the Town of Sun Prairie**

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

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Incur debt through general obligation bonds	No	
Incur debt through special tax bonds	No	
Incur debt through private activities	No	
Other:		

Data Source: Town of Sun Prairie Data Collection Guide

### ***National Flood Insurance Program Participation***

The Town of Sun Prairie does not participate in the National Flood Insurance Program as a stand-alone entity, but is covered by the County’s ordinance.

### **Public Involvement Activities**

The Town of Sun Prairie community participated in the County public outreach process. This was a series of public workshops held around the County in which an overview of natural hazard mitigation was given and the County plan was discussed. Residents were then given the opportunity to give their input on mitigation actions that could be taken, and filled out informational surveys that assessed the level of risk the perceived within their own community. More information on these meetings can be found in the County base plan.

### **Mitigation Objectives (Actions)**

The mitigation actions proposed by the Town of Sun Prairie in this plan are efforts that are being continued from the 2010 Plan. These are longer term projects that require continuous efforts.

**Objective 1:** Decrease crop and property damage in Towns and Villages in the Koshkonong Creek Watershed due to the flooding of Koshkonong Creek and its tributaries through a multi-jurisdictional effort.

#### Steps:

- 1) Convene a Koshkonong Creek stakeholder group
- 2) Review studies such as “Koshkonong Creek Floodplain Management Study,” “Upper Koshkonong Creek: A Watershed Management Study,” “Dane County Flood Mitigation Plan” and other appropriate studies and documents as well as public testimony to produce a shared base of knowledge
- 3) Obtain further information through engineering studies or through other means if needed
- 4) Define specific problems being experienced along creek
- 5) Identify solutions to problems, meeting the needs of all stakeholders
- 6) Identify appropriate funding source(s)
- 7) Implement solutions
- 8) Perform periodic review of efficacy of solution.

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Lead Implementing Agency: Dane County Emergency Management

Supporting Agencies:

- Dane County Planning & Development
- Dane County Lakes & Watershed Coordinator
- Dane County Land & Water Resources Department - Land Conservation Division
- Wisconsin Department of Natural Resources
- Village of Deerfield
- Town of Deerfield
- City of Sun Prairie
- Town of Sun Prairie
- Village of Cottage Grove
- Town of Cottage Grove
- Drainage Districts
- Watershed Groups

Possible Funding and Technical Assistance:

- Staff Time
- NRCS Emergency Watershed Program
- NRCS Wetland Reserve Program
- USDA Conservation Reserve Program
- UFWWS Wetland Conservation Fund
- DNR River Management Grants
- DNR Urban Green Space Program
- Dane County Parks Conservation Fund
- Dane County Conservation Fund Grant Program

Time Line: Begin Immediately

Priority: High

Estimated Costs: Unknown

2009 Progress: This project is ongoing.

**Objective 2:** Eliminate road closure on Twin Lane road due to flooding

Steps:

- 1) Survey and engineering of road elevation
- 2) Allocate resources into future Town budgets
- 3) Pulverize, fill and road reconstruction

Lead Implementing Agency: Town of Sun Prairie

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Supporting Agencies: Dane County Public Works, Highway and Transportation

Possible Funding and Technical Assistance:

Timeline: 2010-2012

Priority: Moderate

Estimated Costs: \$50,000-70,000

2015 Update: This project is ongoing.

**Objective 3:** Support Dane County efforts to mitigate natural hazards at the local level through continued collaboration with County projects in the Town of Sun Prairie area. The Town will continue to lower its vulnerability to natural hazards by distributing County hazard mitigation information and evaluating grant opportunities for potential use on hazard mitigation projects within the Town of Sun Prairie.

Steps:

- 1) Consider Dane County hazard mitigation information and its relevance to Town hazard mitigation efforts and resident safety.
- 2) Take necessary steps to apply for hazard mitigation grant money when available.

Lead Implementing Agency: Town of Sun Prairie

Supporting Agencies: Dane County Emergency Management

Possible Funding and Technical Assistance:

Timeline: Continuous

Priority: Moderate

Estimated Costs: Unknown