

## **SUMMARY NOTES OF THE FEBRUARY 24, 2010, MEETING OF THE KENOSHA COUNTY HAZARD MITIGATION TASK FORCE**

### **INTRODUCTION**

The second meeting of the Kenosha County Hazard Mitigation Task Force was convened at the Kenosha County Center Public Hearing Room at 1:35 p.m. on February 24, 2010. The meeting was called to order by Kenosha County Division of Emergency Management Director, Ben Schliesman. Attendance was taken by circulating a sign-in sheet.

In attendance at the meeting were the following individuals:

Bennett J. Schliesman, Chairman	Director, Kenosha County Division of Emergency Management
Michael G. Hahn, Secretary	Chief Environmental Engineer, Southeastern Wisconsin Regional Planning Commission
Michael Boozer	Chief Executive Officer, ChemReport, Inc.
Joseph E. Boxhorn	Senior Planner, Southeastern Wisconsin Regional Planning Commission
John Burg	Village Administrator, Village of Paddock Lake
David Cox	Village Administrator, Village of Twin Lakes
Steven Carlson	Risk Management Officer, University of Wisconsin-Parkside
Michelle Eisenhauer	Central Services Manager, Kenosha County Department of Human Services
Patrick Finnemore	Director of Facilities, Kenosha Unified School District No. 1
William Glembocki	Chairperson, Town of Wheatland
Paul Guilbert, Jr.	Chief, Pleasant Prairie Fire and Rescue
Mark Krueger	Lieutenant, Kenosha County Sheriff's Department
John Meland	Executive Director, Kenosha County Housing Authority; Chief Economic Development Planner, Southeastern Wisconsin Regional Planning Commission
George E. Melcher	Director, Kenosha County Department of Planning and Development
Mark Melotik	Kenosha County Health Department
William Morris	Administrator, Town of Somers
Edwin L. Morris	Senior Engineer, WE Energies
Aaron Owens	Research Analyst, Southeastern Wisconsin Regional Planning Commission
Peter Parker	Chief, Town of Bristol Fire Department
Michael Slover	Chief, Town of Salem Fire/Rescue
James M. Smith	Chairperson, Town of Somers
Mark Starzyk	Chairman, Kenosha County Housing Authority
Linda Valentine	Chairperson, Town of Salem

Mr. Schliesman welcomed all those in attendance and thanked them for their interest and participation in this important program. He noted that the Federal Emergency Management Agency (FEMA) requires an updated hazard mitigation plan every five years and that this plan ensures eligibility for FEMA mitigation grants for communities within the County. He explained that at the end of the planning process, the County will send a resolution to all of the communities to assist them in adopting the updated plan. He noted the importance for every community to participate in the planning process and to adopt the final plan in order to maintain eligibility for FEMA Mitigation grants. Mr. Schliesman noted that attendance would be taken via a sign in sheet. He then asked each of those in attendance to introduce themselves.

## **REVIEW OF SUMMARY NOTES OF THE SEPTEMBER 28, 2009 TASK FORCE MEETING**

Mr. Schliesman introduced Michael G. Hahn of the Southeastern Wisconsin Regional Planning Commission (SEWRPC) staff. At Mr. Schliesman's request, Mr. Hahn reviewed the summary notes of the September 28, 2009 Task Force meeting. No additions or corrections to the summary notes were offered.

### **OVERVIEW OF ONGOING BUYOUTS OF FLOODPRONE BUILDINGS ALONG THE FOX RIVER IN KENOSHA COUNTY**

Mr. Schliesman introduced John Meland, SEWRPC Chief Economic Development Planner and Executive Director of the Kenosha County Housing Authority. At Mr. Schliesman's request, Mr. Meland presented an overview of Kenosha County's ongoing buyout program of floodprone buildings along the Fox River.

Mr. Meland stated that the Kenosha County Housing Authority has been purchasing and demolishing homes in the floodplain of the Fox River for the past 16 years. The project area is along the floodplain of the Fox River between STH 50 and CTH F in the Village of Silver Lake and the Towns of Salem and Wheatland. Mr. Meland explained that acquiring and demolishing properties in the floodplain was a key strategy recognized in the initial hazard mitigation plan for ensuring the safety residents and emergency responders.

Mr. Meland noted that in 1969 the SEWRPC comprehensive plan for the Fox River watershed identified this reach of the Fox River as a problem area; however, no funding to pursue buyouts was available at that time. Following the Great Midwest Flood of 1993, Kenosha County was able to obtain funding from FEMA to begin the project. Additional funding was obtained after subsequent disaster declarations.

Mr. Meland said that, to date, 86 properties have been purchased in the project area. In addition, 88 properties remain in the floodplain. He explained that participation by property owners is strictly voluntary; however, he noted that as properties continue to be periodically flooded, interest increases among property owners. He indicated that following acquisition, deed restrictions are placed upon the acquired properties requiring that they remain as open space. He noted that the ultimate goal is to remove roads and utilities from the project area.

Mr. Meland stated that funding sources for the program include FEMA's Hazard Mitigation Grant Program. In addition, funds have been provided by the Wisconsin Division of Emergency Management, the Wisconsin Department of Natural Resources, and the Wisconsin Department of Commerce's Community Development Block Grant Program. In some instances, he noted, the funds from these latter three have been used to meet the local matching funds requirement of the FEMA program.

Mr. Meland stated that in 2008, representatives from FEMA visited Kenosha County. Following this, FEMA published an article on the Kenosha County buyout program.

[Secretary's Note: The FEMA article on the Kenosha County buyout program is attached hereto as Exhibit A.]

### **REVIEW OF PRELIMINARY DRAFT CHAPTER II, "BASIC STUDY AREA INVENTORY AND ANALYSIS", OF SEWRPC COMMUNITY ASSISTANCE PLANNING REPORT NO. 278 (CAPR NO. 278), 2ND EDITION, KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2011-2015**

Mr. Schliesman introduced Joseph E. Boxhorn of the SEWRPC staff. At Mr. Schliesman's request, Mr. Boxhorn reviewed the preliminary draft of Chapter II, "Basic Study Area Inventory and Analysis." Mr. Boxhorn told the Task Force that Commission staff recently received review comments from the Wisconsin Division of Emergency Management (WEM) on Racine County's updated hazard mitigation plan. He noted that that the Racine County plan is similar to the Kenosha County plan, and he indicated that the additions and changes that WEM requested

to the updated Racine County plan will be incorporated into the updated Kenosha County plan. For the chapters reviewed at this meeting and at the September 28, 2009 Task Force meeting, these changes will be documented in the summary notes.

Mr. Boxhorn indicated that the Commission staff used the initial report as a template for the updated drafts of the chapters, and that significant changes and additions to the text are highlighted.

Mr. Boxhorn noted that Chapter II drew heavily on the Kenosha County comprehensive plan that was recently completed by the County and SEWRPC.

In reference to the inventory of airports, Mr. Melcher asked that the Flight for Life Helipad located at the Kenosha County Center be added to Map II-10. Mr. Cox added that the Camp Lake, Vincent, and Westosha Airports are not shown on Map II-10. He also noted that the Westosha Airport is no longer in the Town of Randall. It has recently been added to the Village of Twin Lakes. Mr. Boxhorn responded that the map and text would be corrected.

[Secretary's Note: The airports in question were added to Map II-10. In an e-mail subsequent to the meeting, Mr. Parker requested that the Winfield Ultralight Airport (a private airport not serving the public) in the Town of Bristol be added to Map II-10. This airport was added. The third sentence of the second paragraph was revised to read (The revised text and added text in this and all subsequent revisions indicated in these summary notes is indicated in bold letters for clarification only. The report text will not be bold):

“There are also three other airports under private ownership that serve the public: Camp Lake Airport (Town of Salem), Vincent Airport (Town of Randall), and Westosha Airport (**Village of Twin Lakes**).”]

Mr. Schliesman noted that a portion of the Town of Bristol has incorporated as a Village and asked whether the names of the two utility districts in the Town and Village had changed. Mr. Parker stated that he will provide the correct designations.

[Secretary's Note: In an e-mail subsequent to the meeting, Mr. Parker indicated that the name of the Town of Bristol Utility District No. 1 has been changed to the Village of Bristol Utility District No. 1. Map II-11 was revised to reflect the change.]

Mr. Starzyk commented that the Nippersink Golf Course subdivision and the Knolls subdivision in the Town of Randall are not included on Map II-11 as other than municipal community water systems.

[Secretary's Note: Map II-11 was corrected to show these systems.]

Mr. Boxhorn stated that he had received an e-mail from Mr. Carlson indicating that there is a cell phone tower at the University of Wisconsin-Parkside. He asked Mr. Carlson how many antennas are on the tower. Mr. Carlson responded that the tower has one antenna.

[Secretary's Note: Subsequent to the meeting, Mr. Carlson indicated that this tower and the antenna were installed during the summer of 2004. The tower was added to Map II-14.]

Mr. William Morris commented that the We Energies landfill referred to on page 12 of the chapter is not a sanitary landfill. Rather it is licensed for industrial waste only. He stated that he would provide language describing it for the report

[Secretary's Note: The second sentence of the third paragraph on page 12 was revised to read:

**“As of 2009, there is one active, licensed, privately owned and operated sanitary landfill accepting municipal waste, the Waste Management Pheasant Run Recycling and Disposal Landfill within the Town of Paris, and one active, licensed privately owned and operated industrial waste landfill accepting coal combustion by-products, the We Energies, Pleasant Prairie Power Plant Ash landfill within the Village of Pleasant Prairie.”]**

Mr. Starzyk commented that there is only one wireless telecommunication site near Powers Lake in the Town of Randall while Map II-14 shows two. Mr. Melcher added that the map shows the site as being south of CTH F while the actual site is north of CTH F.

[Secretary's Note: The suggested corrections were made to the map.]

In reference to the designations on Map II-15 and Appendix B, Mr. Melcher commented that the designation “transitional landfill” needs to be defined.

[Secretary's Note: Based upon discussions with Wisconsin Department of Natural Resources staff, the designations of these landfills on Map II-15 and Appendix B have been change to inactive.]

Mr. Schliesman noted that Map II-19 does not show the locations of satellite sites operated by colleges and universities in the County. Mr. Melcher stated that because such sites tend to come and go, it is unnecessary to map them.

Mr. Boxhorn asked the Task Force to provide the status of the emergency operation plans listed in Table II-13.

Mr. William Morris noted that there have been additions to the water service area in the Town of Somers since 2005. Mr. Hahn replied that, since the maps are prepared to represent conditions in 2005, changes in water service areas after that date would not be shown on the maps.

Mr. Schliesman noted that on page 14 the discussion of facilities using and storing extremely hazardous substances appears to overestimate the total number of facilities because most of the planning facilities are also considered reporting facilities.

[Secretary's Note: Based on data provided by Mr. Schliesman, Table II-11 was revised. The revised table is attached herein as Exhibit B. The third sentence of the second paragraph on page 14 was revised to read:

**“In 2010, there were 128 identified users of extremely hazardous substances in Kenosha County. Of these facilities, nine were classified as planning facilities, 69 were classified as reporting facilities, and 50 were classified as both planning facilities and reporting facilities.”**

The first sentence of the third paragraph on page 14 was revised to read:

**“The 128 facilities** which are noted above as storing or producing hazardous materials are located throughout Kenosha County, as summarized in Table II-11.”]

Ms. Valentine asked that an evaluation of dam conditions and the ability of public officials to access dam sites and operations be included in the plan.

[Secretary's Note: The Wisconsin Department of Natural Resources (WDNR) is the primary agency responsible for dam safety in the State of Wisconsin. Information related to the condition and operation of specific dams is available from WDNR files of from the owners of the dams.]

After the meeting, Mr. Glembocki asked whether group homes, such as facilities for troubled adults, should be inventoried. He noted that some of these facilities were located in the Town of Wheatland.

[Secretary's Note: The rationale for inventorying adult care facilities such as nursing homes among the critical community facilities is that the mobility issues associated with advanced age and with disabilities should be considered when designating which facilities are considered critical community facilities. Because these issues are not associated with the sort of facilities described, it was decided not to add them to the inventories of critical community facilities.]

**REVIEW OF PARTIAL PRELIMINARY DRAFT CHAPTER III,  
"ANALYSIS OF HAZARD CONDITIONS", OF SEWRPC  
CAPR NO. 278), 2ND EDITION, KENOSHA COUNTY HAZARD  
MITIGATION PLAN UPDATE: 2011-2015**

At Mr. Schliesman's request, Mr. Boxhorn reviewed the partial preliminary draft of Chapter III, "Analysis of Hazard Conditions."

Mr. Schliesman commented that the inventory of tornadoes in Table III-15 and Map III-7 appears to be missing a tornado. Mr. Boxhorn replied that he would investigate this and correct the table and map, if necessary.

[Secretary's Note: The records of the National Climatic Data Center and the National Weather Service were reexamined. No additional tornadoes were found that were recorded as having occurred in Kenosha County.]

Mr. Glembocki commented that the location of tornado number 9 in Table III-15 should be the Town of Wheatland rather than Powers Lake. Mr. Melcher added that the point for this tornado on Map III-7 should be moved north into the Town.

[Secretary's Note: The table and the map were corrected.]

In reference to the discussion of airway transportation hazards on page 12, Mr. Schliesman stated that his understanding was that the Kenosha County Airport was the second busiest in the State. Mr. Boxhorn responded that according to data on takeoffs and landings from the Wisconsin Department of Transportation, it is the third busiest. Mr. Schliesman stated that according to the National Transportation Safety Board, there were 45 crashes of small airplanes and helicopters in Kenosha County between 1982 and 2008. Mr. Boxhorn indicated that this hazard could be profiled and added to the risk assessment, and that mitigation strategies could be developed for it, if the Task Force wished. There was no action on this by the Task Force.

In reference to Map III-10, Mr. Schliesman stated that the text should explain the factors used for assessing groundwater contamination potential. Mr. Boozer noted that Table III-30 indicates factors that contribute to groundwater contamination potential.

[Secretary's Note: The following note was added to Map III-10:

“Groundwater contamination potential is related to soil physical properties and to the proximity of groundwater to the soil surface. Activities that may create groundwater quality problems are listed in Table III-30.”]

In reference to groundwater contamination potential, Ms. Valentine noted that there is a Superfund site near Antioch, Illinois. She asked that the contamination plume from this site be mapped.

[Secretary’s Note: According to the U.S. Environmental Protection Agency, remediation activities were completed at the H.O.D. Landfill site in 2001. In the groundwater monitoring conducted as a part of remediation activities, no evidence of a contaminant plume was detected. As part of the remediation, leachate from the landfill continues to be collected for offsite treatment and disposal. This minimizes the risk of leachate leaking out of the landfill. The general direction of groundwater flow in the Antioch, Illinois area is from west to east, making it unlikely that any contaminants from this site would be transported to locations in Kenosha County. Given that no contaminant plume has been detected, no map was added to the report.]

**REVIEW OF PRELIMINARY DRAFT CHAPTER IV,  
“HAZARD MITIGATION GOALS”, OF SEWRPC  
CAPR NO. 278, 2ND EDITION, KENOSHA COUNTY HAZARD  
MITIGATION PLAN UPDATE: 2011-2015**

At Mr. Schliesman’s request, Mr. Boxhorn reviewed the preliminary draft of Chapter IV, “Hazard Mitigation Goals.” He indicated that there are only two changes in the draft chapter. The first goal has been reworded to make it read more clearly. He indicated that text has been added to the Chapter discussing the relationship of the goals to the County’s comprehensive plan. He added that this set of goals can be amended or added to; however, it would be helpful if any changes were suggested soon. Mr. Schliesman asked the Task Force to review the goals and to suggest any changes or additions at the next Task Force meeting.

Mr. Boozer asked whether the goals were listed in order of priority. Mr. Boxhorn replied that they are not listed in any order of priority.

**OTHER BUSINESS**

Mr. Boxhorn stated that the SEWRPC website has been redesigned. Because of this, the web address for materials related to the Kenosha County hazard mitigation plan update has changed. He distributed a handout showing the new web page and noted that the address for the page was on the bottom of the handout. He explained to the Task Force that they may continue to submit feedback and comments on the plan via the comments screen on the page on the SEWRPC website. In addition, he noted that they may also e-mail him directly with comments.

[Secretary’s Note: A copy of the comments page is attached hereto as Exhibit C.]

**TIME AND DATE OF NEXT MEETING**

After discussion, it was agreed that the next Task Force meeting would be scheduled for Tuesday, June 22, 2010, at 1:30 p.m. at the Kenosha County Center. Mr. Schliesman indicated that a notice, agenda, materials to review, and minutes would be sent out about a week ahead of the meeting.

## ADJOURNMENT

There being no further business, the meeting was adjourned by unanimous consent at 2:57 p.m.

Respectfully Submitted,

Michael G. Hahn  
Secretary

## **REVISIONS TO CHAPTER I OF SEWRPC CAPR NO. 278, 2ND EDITION, KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2011-2015**

Following the Task Force Meeting, the Commission Staff made the following revisions to Chapter I of the report in order to make the chapter consistent with the revisions that the Wisconsin Division of Emergency Management (WEM) requested be made to Racine County's hazard mitigation plan update.

[Secretary's Note: The sentence was to the end of the initial note on page 1:

“Essential and important information that is unchanged remains unhighlighted.”]

[Secretary's Note: Table I-0 was added as the initial table to the chapter. This table is shown in Exhibit D. The following sentences were added after the second sentence in the first full paragraph on page 2:

“The participating municipalities include the City of Kenosha; the Villages of Bristol, Paddock Lake, Pleasant Prairie, Silver Lake, and Twin Lakes; and the Towns of Brighton, Bristol, Paris, Randall, Salem, Somers, and Wheatland. The participating jurisdictions are listed in Table I-0.”]

[Secretary's Note: The following footnote was added to the heading of the Provision of Data column in Table I-2:

“<sup>a</sup>Provision of data includes providing information on hazards experienced, projects undertaken, and outreach efforts as well as sharing of relevant plans, reports, and concerns.”]

## **REVISION TO CHAPTER II OF SEWRPC CAPR NO. 278, 2ND EDITION, KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2011-2015**

Following the Task Force Meeting, the Commission Staff made the following revision to Chapter II of the report in order to make the chapter consistent with the revisions that the Wisconsin Division of Emergency Management (WEM) requested be made to Racine County's hazard mitigation plan update.

[Secretary's Note: The sentence was to the end of the initial note on page 1:

“Essential and important information that is unchanged remains unhighlighted.”]

Following the Task Force Meeting, Commission Staff made the following revision to Chapter II of the report in order to incorporate data on hazardous material spills received from Wisconsin Emergency Management.

[Secretary's Note: The first full paragraph on page 71 was revised to read:

“**Between 2007 and 2009**, Kenosha County **averaged 23** hazardous material spills or releases per year, almost all of which were minor. **The majority** of these incidents involved diesel fuel, **mineral oil, engine waste oil**, or other petrochemical substances. **Historically**, the most serious incidents have involved chlorine, anhydrous ammonia, sulfuric acid, PCBs, pesticides, liquid oxygen, phosgene gas, and nitric acid. A complete file on all spills is maintained by the Kenosha County Office of Emergency Management.”]

**REVISION TO CHAPTER III OF SEWRPC CAPR NO. 278, 2ND EDITION,  
KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2011-2015**

Following the Task Force Meeting, the Commission Staff made the following revision to Chapter III of the report in order to make the chapter consistent with the revisions that the Wisconsin Division of Emergency Management (WEM) requested be made to Racine County's hazard mitigation plan update.

[Secretary's Note: The sentence was added to the end of the initial note on page 1:

“**Essential and important information that is unchanged remains unhighlighted.**”]

Following the Task Force Meeting, Commission Staff made the following revision to Chapter II of the report in order to incorporate data on hazardous material spills received from Wisconsin Emergency Management.

[Secretary's Note: The fourth paragraph on page 14 was revised to read:

“**Between 2007 and 2009**, Kenosha County **averaged 23** hazardous material spills or releases per year, almost all of which were minor. **The majority** of these incidents involved diesel fuel, **mineral oil, engine waste oil**, or other petrochemical substances. **Historically**, the most serious incidents have involved chlorine, anhydrous ammonia, sulfuric acid, PCBs, pesticides, liquid oxygen, phosgene gas, and nitric acid. A complete file on all spills is maintained by the Kenosha County Office of Emergency Management.”]

**REVISION TO CHAPTER IV OF SEWRPC CAPR NO. 278, 2ND EDITION,  
KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2011-2015**

Following the Task Force Meeting, the Commission Staff made the following revision to Chapter IV of the report in order to make the chapter consistent with the revisions that the Wisconsin Division of Emergency Management (WEM) requested be made to Racine County's hazard mitigation plan update.

[Secretary's Note: The sentence was to the end of the initial note on page 1:

“**Essential and important information that is unchanged remains unhighlighted.**”]

**RESPONSES TO COMMENTS FROM TIM POPANDA, BUILDING AND ZONING  
ADMINISTRATOR, VILLAGE OF PADDOCK LAKE**

Subsequent to the meeting, Mr. Popanda provided some helpful written comments on Chapters II and III. Mr. Popanda's comments are attached herein as Exhibit E. A summary of these comments and the responses by Commission staff are provided below.



[Secretary's Note: While the Commission staff recognizes that several of the suggested inventories would be of value to emergency responders in the context of an emergency response plan, they are beyond the scope of an all hazard mitigation plan and would be of limited usefulness in developing hazard mitigation strategies.

Comment: The Village of Paddock Lake has adopted a stormwater management plan and associated ordinances.

Response: Table II-13 has been revised to reflect this.

Comment: Map II-11 shows the Pathway's Glen Subdivision as being served by a community water supply system. The homes in this subdivision are served by individual private wells.

Response: Map II-11 has been corrected.

Comment: Remote fire suppression systems in the County should be inventoried and identified on a map

Response: While we recognize that this inventory would be of value to emergency responders in the context of an emergency response plan, it is beyond the scope of an all hazards mitigation plan. The following paragraph was added after the last paragraph on page 12 of Chapter II.

"A variety of remote fire suppression systems are also present in Kenosha County. Throughout the County, fire departments, municipalities, and schools have installed devices such as fire suppression cisterns and dry hydrants to aid in fire suppression activities."

Comment: Schools, public buildings, and medical clinics with basements should be identified. A 1950 civil defense document prepared by the U.S. Army identified all basements as shelters and places to search.

Response: Facilities available for use as shelters will be briefly described in Chapter V of the report. A more detailed list may be available from the Kenosha County Division of Emergency Management. An inventory of schools, public buildings, and medical clinics with basements is beyond the scope of an all hazards mitigation plan.

Comment: The Westosha Airport, the Camp Lake Airport, and the Flight for Life Heliport at the Kenosha County Center are not shown on Map II-10.

Response: Map II-10 has been corrected to show these facilities.

Comment: Map II-12 should identify the privately owned and operated wastewater treatment plants and the areas they serve. In addition, consideration should be given to mapping large agricultural nutrient management ponds and slurry stores.

Response: The privately owned wastewater treatment plants in the County have been added to Map II-12. In general, the Task Force has concluded that the hazard mitigation plan is not focusing on dam failures due to the low risk compared to other hazards considered. In view of this, we concluded that mapping agricultural nutrient management ponds is beyond the scope of this study.

Comment: Day camps, overnight camps, and campgrounds within the County should be added to Map II-22 and Table D-4. Faith-based adult and youth camps should also be included.

Response: Those camps that are licensed as child day care facilities by the Wisconsin Department of Children and Families are included in the inventories shown on Table D-4 and on Map II-22. Inventorying campgrounds is beyond the scope of this study.

Comment: Kenosha County's building addressing system should be explained in the text. The addressing systems used by the Villages of Silver Lake and Twin Lakes should also be explained so as not to confuse agencies responding for mutual aid.

Comment: Large public venues in the County should be identified.

Comment: Public and private social services should be identified.

Response: We recognize that these inventories and descriptions would be of value to emergency responders in the context of an emergency response plan; however, they are beyond the scope of an all hazards mitigation plan.

Comment: The hazard mitigation plan does not adequately address earthquake loads or seismic zones.

Response: Based upon input from the Task Force, earthquakes are not being profiled as a hazard under the Kenosha County hazard mitigation plan. The following sentences were added following the fifth sentence in the first full paragraph on page 8 of Chapter III:

“The severity of an earthquake can be measured by comparing the peak acceleration associated with the horizontal shaking it produces to the normal acceleration a falling object experiences due to the force of gravity. This is usually expressed as a percentage of  $g$ , the acceleration due to gravity. The level of risk due to earthquake can be expressed as the percentage of  $g$  for which there is a 2 percent probability of being exceeded in a 50-year period. Depending on location, sites in Kenosha County have a 2 percent probability of experiencing earthquakes in a 50-year period in which the peak acceleration associated with horizontal shaking exceeds between 4 percent and 8 percent of  $g$ .<sup>1</sup> These are low values. While these levels of shaking can be noticeable, they are rarely associated with damages to structures.”]

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#150246 V1 - CAPR-278-2ED SUMMARY NOTES 02/24/10  
330-3022  
MGH/JEB/pk  
04/24/10

Attachments

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<sup>1</sup>U.S. Geological Survey, “2008 United States National Seismic Hazard Maps,” USGS Fact Sheet 2008-3018, April 2008.





# FEMA

## Moving People Out of Harm's Way

### Kenosha County, Wisconsin –

“Residents are strongly urged to evacuate until river levels subside...Rapidly-rising swift currents will provide an extreme danger to residents and responders.” - This excerpt from a May 2000 emergency bulletin is a common occurrence for residents of Kenosha County, Wisconsin living along the Fox River between Highway 50 and Highway F to the south. Low-lying land in this region is plagued by frequent, dangerous floods that threaten the safety of the residents and cause severe damage to homes.

The Illinois Fox River rises near Menomonee Falls, Wisconsin, and flows through Waukesha, Racine and Kenosha Counties in Southeast Wisconsin for a total of 70 miles before entering Illinois. There are two rivers in Wisconsin called the Fox River. This one is designated as the



*When the Illinois Fox River floods in Kenosha County, Wisconsin, roads close and houses flood. Sand bags are not always effective in keeping out damaging waters. Photo taken 6/16/08: Kenosha County Planning and Development*



*This small house, formerly a vacation cottage next to the Fox River, is one that's been purchased as part of the Fox River Flood Mitigation Project. It will be demolished and the land returned to nature. Photo taken 8/7/08: Barbara Ellis, FEMA*

Illinois Fox River by local residents since it flows out of Wisconsin and into Illinois. Flooding is common on the Kenosha County, Wisconsin section of the river, especially near the towns of Wheatland and Salem and the Village of Silver Lake.

During the middle of the 20th Century, the riverside was valued as a vacation or weekend get-away spot and many people from nearby cities built rustic cabins on the banks of the river. Later, as the area population grew, some families built year-round residences and even more constructed weekend cabins. The waterfront properties were occasionally flooded, but the owners kept coming back to clean up and rebuild. The river area provided the scenic beauty and outdoor recreation they treasured.

The private property in this floodplain has created an “urban interface” problem similar to those in the forested lands of America’s western states. Having





Flood waters surround one house and a vacant lot in the foreground. Owners of the house that once stood on the vacant lot opted to sell and move to drier land. The "fountain" of water next to the house is the well head. Hydrologic pressure is pushing the groundwater out the top.  
 Photo taken 4/14/08: Kenosha County Planning and Development

a population adjacent to or in an area that frequently experiences natural disasters puts stress on local emergency management and law enforcement as well as public works.

When extensive, heavy rains pummel the watershed for the Illinois Fox River, Kenosha County emergency management personnel and law enforcement officers keep in steady contact with the National Weather Service to receive constant updates about rainfall and river level predictions. When the river rises to hazardous flood stage levels, the county executive issues an emergency declaration to set in motion safety procedures to protect citizens in the path of floodwaters. During emergency declarations, county law enforcement officers personally warn residents of the imminent danger of fast-moving floodwaters and are prepared to provide help to evacuate them to safety if the need arises. The officers may patrol the flooding areas in four-wheel drive vehicles carrying personal flotation devices in case people need assistance. During rescue efforts in the 1994 flooding, a rescue boat flipped over in a fast-running current. Luckily, no one was killed in the incident.

Since 1994 there have been many damaging floods in the Fox River floodplain in Kenosha County and more people to suffer loss from them. From 1994 to the summer of 2008 there have been eight federally declared disasters for the region. Monetary damages accrued by flood victims included hotel bills, lost wages, costs associated with cutting down trees and using power generators, repair of damaged foundations and siding, and mold and flood debris cleanup. In addition to the personal property damage endured by the residents, recovery efforts have cost the county hundreds of thousands of dollars.

In April 1969, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) issued its "Fox River Watershed Study,"

the culmination of a three-year study of the Fox River watershed in southeastern Wisconsin. The purpose of the study was to prepare a comprehensive plan for the physical development of the watershed designed not only to solve the problems of flooding, water pollution and changing land use existing within the watershed, but to most advantageously develop the total land and water resources of the watershed. Its goal was "to provide an environment for human life within the watershed which is attractive, as well as safe and healthful."

At the time of the original study, land use and housing development ideas and regulations were drastically different from those of today. Wetlands are more highly valued and protected now than in the past. However, new zoning ordinances adopted in the early 1970s prohibit new building within the 100-year floodplain. The original study presents a summary of the factual findings of the many required inventories completed as a part of that study, as well as forecasts of future growth and development within the watershed. The inventories within the study provided a benchmark of historic data upon which future studies of the watershed can be built.





*Water from the Fox River sheets over Riverside Drive and into houses along the river.*

*Photo taken 4/14/08: Kenosha County Planning and Development*

In 1994 Kenosha County officials initiated a plan to help people move out of the flood-prone area that was mapped as the 100-year floodplain of the Illinois Fox River. By May 2004, when yet another major flood instigated another disaster declaration, many fewer homes and residents were at risk because over that ten-year period 56 property owners had participated in the Fox River Flood Mitigation Program. The Kenosha County Housing Authority administers the program, with staff support provided by SEWRPC. Through this program homes are bought and demolished and the land cleared and seeded to be left as undeveloped open space.

The 2007 Wisconsin floods hit Kenosha County hard again. While the disaster of 2004 had water four feet above flood stage, the 2007 deluge topped out at 14.98 feet, 4.9 feet over

*In addition to structural damage from floods, mold and mildew are part of flooding's aftermath that needs to be addressed. Mold is a serious health threat that must be removed and treated before residents move back into the house. Photos taken 10/3/07: Kenosha County Planning and Development*



flood stage. Even though the water was higher than before, fewer homes and residents were in danger because more property owners had opted for the buyout program and had moved to higher ground. Those who hadn't been bought out suffered more than they had in the 2004 flood. One home, still occupied, on 71st Street just a few yards from the river, caught fire during the height of the flood and burned to the water line because fire fighters could not reach the house. Some homes were damaged when water came into the crawl spaces beneath them; although the water didn't reach the living areas, it was wicked up through the wooden framing. With the summer warmth, mold and mildew quickly developed inside. Additionally, some homes were constructed with utilities in the basements or crawl spaces.

The flooding that may not have reached the interior of the homes ruined furnaces, well pumps and water heaters.

While the 2007 floods made some people think they had seen the worst of it, June 2008 brought even greater devastation. Flood gauges measured the maximum heights at 15, 16 and 18 feet – five to eight feet above flood stage. By the time the 2008 floods hit, 72 property owners had already participated in the Fox River Flood Mitigation Program, sold their homes for the estimated fair market value and moved to safer quarters.

John Meland, Chief Economic Development Planner for SEWRPC, has watched with compassion as homeown-







The house was removed and the ground seeded with grass on this newly acquired property. Floods will not be an issue here in the future. Photo: Barbara Ellis, FEMA

Natural Resources, and Community Development Block Grant's Emergency Assistance Program (CDBG-EAP) from the Wisconsin Department of Commerce.

The Fox River Flood Mitigation Program has provided multiple benefits, from saving the county money that it would have spent on road repairs and overtime for first responders to the residents' piece of mind for their safety and the security of not worrying about living in a house that could be repeatedly flooded.

ers struggle with the idea of selling their flood-prone properties. He also has seen the positive results of the buyout program as floodwater sweeps harmlessly over vacant land where houses used to sit soaking in the stinking mire. Meland looks at a recent acquisition, house demolished and hauled away, the newly seeded ground covered with mulch, and exclaims, "72 down, 104 to go," referring to the properties still in the 100-year floodplain. "Homeowners are not being pushed out or forced to sell their properties," Meland said, "It's a voluntary program." The only forceful urging is coming from the river itself, taking back more and more of the land next to it with each flood.

Although Kenosha County and many other upper Midwest communities have a long history of flood damage, the catastrophic Mississippi River flood of 1993 freed up money to begin major mitigation projects. As of August 2008, this program has totaled approximately \$7.4 million from combined sources including the Federal Emergency Management Agency's (FEMA's) Hazard Mitigation Grant Program (HMGP), Wisconsin Emergency Management, the Wisconsin Department of

Fox River Flood Mitigation Program Acquisition Statistics			
year of acquisition	# of properties acquired	cost of properties acquired	actions/costs avoided
1995	6	\$507,387	emergency evacuations
1996	5	\$309,726	
1997	1	\$91,712	road repairs
1998	3	\$257,068	
1999	7	\$588,731	sand bagging
2000	12	\$1,062,253	
2001	9	\$606,667	private property repairs
2002	11	\$912,956	
2003	5	\$425,705	debris clearing
2004	1	\$93,890	
2005	4	\$388,922	hotel bills - while evacuated
2006	6	\$576,727	
2007	3	\$401,435	lost wages
2008 (thru July)	2	\$271,545	
<b>14 years</b>	<b>75 properties</b>	<b>\$6,494,723</b>	<b>TOTALS</b>

## Exhibit B

#150977 V1 - CAPR-278-2 REVISED TABLE II-11  
 330-3022  
 MGH/JEB/pk  
 04/24/10

Table II-11

**CIVIL DIVISION LOCATION OF FACILITIES  
 THAT STORE HAZARDOUS MATERIALS: 2010**

Municipality	Number of Facilities		
	Reporting Only	Planning Only	Reporting and Planning
<b>Cities</b>			
Kenosha	31	3	14
Subtotal	31	3	14
<b>Villages</b>			
Bristol <sup>a</sup>	2	0	2
Paddock Lake	1	0	0
Pleasant Prairie	15	2	26
Silver Lake	0	0	0
Twin Lakes	3	0	0
Subtotal	21	2	28
<b>Towns</b>			
Brighton	0	1	0
Bristol <sup>a</sup>	4	1	0
Paris	4	0	1
Randall	0	0	1
Salem	3	0	4
Somers	5	2	2
Wheatland	1	0	0
Subtotal	17	4	8
<b>Total</b>	<b>69</b>	<b>9</b>	<b>50</b>

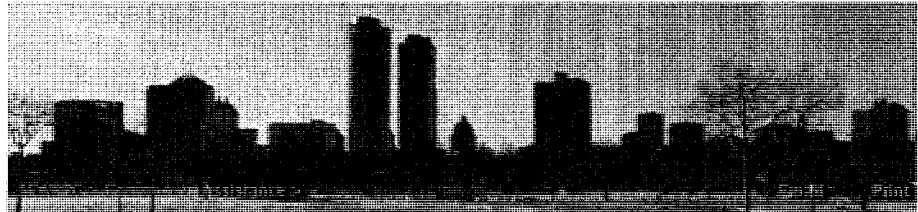
<sup>a</sup>On December 1, 2009, a portion of the Town of Bristol was incorporated as the Village of Bristol.

Source: Kenosha County Division of Emergency Management.




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## Community Assistance

[Educational Services](#)
[Advisory Services](#)
[Review Services](#)
[Project Planning Services](#)
[Project Management Services](#)
[County Surveyor Services](#)


### Project Planning Services

SEWRPC community assistance efforts extend to the preparation, upon request, of county and local comprehensive plan elements as well as plan implementation ordinances addressing zoning, land division, and official mapping. This work also extends to hazard mitigation planning and local park and open space planning. This work seeks to integrate regional and local planning and helps implement regional plans.

#### Multi-Jurisdictional Comprehensive Planning Programs in Southeastern Wisconsin

With the enactment into law in 1999 of new State comprehensive planning legislation, popularly called "Smart Growth", SEWRPC offered to work with each of the seven counties in the Region to produce county comprehensive plan documents. Six of the counties conducted or are conducting multi-jurisdictional planning programs that will produce a county comprehensive plan and companion local plans for participating cities, towns, and villages. Information on county comprehensive planning programs is provided below. The comprehensive plan status in the region is summarized on this [map](#).

#### • Kenosha County

Kenosha County and nine cities, towns, and villages were awarded a grant from the Wisconsin Department of Administration in March 2006 to prepare a multi-jurisdictional comprehensive plan. SEWRPC is assisting in developing the plan. A draft multi-jurisdictional plan was approved by the multi-jurisdictional advisory committee on December 22, 2009. The plan will be considered for adoption in early 2010 by the County Board. The Village of Silver Lake and Towns of Brighton, Bristol, Paris, and Somers also anticipate adopting the multi-jurisdictional plan document as their local comprehensive plan in early 2010. The new Village of Bristol (incorporated in late 2009 from a portion of the Town of Bristol) is also planning to adopt the multi-jurisdictional plan as the Village comprehensive plan. The City of Kenosha and Towns of Salem and Wheatland anticipate adopting a separate local plan document based on the multi-jurisdictional plan in early 2010. The Village of Pleasant Prairie adopted a Village comprehensive plan, based on the multi-jurisdictional plan, in December 2009. More information is available on the [Kenosha County website](#). For more information on this project, please contact:

Nancy M. Anderson, AICP  
Chief Community Assistance Planner  
262-547-6722 Ext. 212  
[nanderson@sewrpc.org](mailto:nanderson@sewrpc.org)

#### • Ozaukee County

Ozaukee County was awarded a State comprehensive planning grant in 2004. With the exception of the City of Cedarburg, all cities, towns, and villages in the County, including the Village of Newburg which straddles the Ozaukee County-Washington County line, participated in a multi-jurisdictional planning program to develop a comprehensive plan for the County and each of the participating local governments. SEWRPC assisted in preparing the plans. The multi-jurisdictional comprehensive plan was adopted by the Ozaukee County Board of Supervisors on April 2, 2008. All local plans were adopted by April 14, 2009. An amendment to the multi-jurisdictional plan to incorporate the local plans was approved by the Ozaukee County Board on May 6, 2009. The adopted County plan as amended in May 2009, is available [here](#). Additional information about the plan is available on the [Ozaukee County website](#). For more information on this project, please contact:

#### Topics Found Here

[Smart Growth Comprehensive Planning](#)
[Hazard Mitigation Planning](#)
[Kenosha County](#)
[Racine County](#)
[Plan Implementation Ordinances and Maps](#)
[Local Park and Open Space Planning](#)



Benjamin R. McKay  
Principal Planner  
262-547-6722 Ext. 229  
[bmckay@sewrpc.org](mailto:bmckay@sewrpc.org)

• **Racine County**

Racine County and all 17 cities, towns, and villages were awarded a grant from the Wisconsin Department of Administration in March 2006 to prepare a multi-jurisdictional comprehensive plan. The multi-jurisdictional plan was adopted by the Racine County Board on October 13, 2009. The multi-jurisdictional plan document has been adopted as the local comprehensive plan by 16 of the 17 participating communities. The seventeenth community, the City of Racine, endorsed the multi-jurisdictional comprehensive plan and adopted a city comprehensive plan based upon the multi-jurisdictional plan. More information is available on the [Racine County website](#). For more information on this project, please contact:

David A. Schilling  
Principal Planner  
262-547-6722 Ext. 277  
[dschilling@sewrpc.org](mailto:dschilling@sewrpc.org)

• **Walworth County**

Walworth County and 13 towns worked together on a multi-jurisdictional comprehensive plan with assistance from SEWRPC. The plan was adopted by the Walworth County Board on November 10, 2009. Each participating town adopted the multi-jurisdictional plan document as the town plan prior to County Board adoption. More information is available [here](#). For more information on this project, please contact:

William J. Stauber  
Chief Land Use Planner  
262-547-6722 Ext. 279  
[wstauber@sewrpc.org](mailto:wstauber@sewrpc.org)

• **Washington County**

Washington County, 10 towns, and one village were awarded a comprehensive planning grant on March 4, 2005. SEWRPC and UW-Extension are also part of the planning process. The multi-jurisdictional comprehensive plan was adopted by the Washington County Board of Supervisors on April 15, 2008. The adopted County plan is available [here](#). Local comprehensive plans have been adopted by the Town of Farmington, [Town of Addison](#), [Town of Barton](#), [Town of Erin](#), [Town of Hartford](#), Town of Kewaskum, Village of Kewaskum, [Town of Polk](#), [Town of Trenton](#), and [Town of Wayne](#). The Town of Germantown has adopted the multi-jurisdictional plan document as the Town comprehensive plan. More information is available on the [Washington County website](#). For more information on this project, please contact:

Nancy M. Anderson, AICP  
Chief Community Assistance Planner  
262-547-6722 Ext. 212  
[nanderson@sewrpc.org](mailto:nanderson@sewrpc.org)

• **Waukesha County**

The County comprehensive plan was adopted by the Waukesha County Board of Supervisors on February 24, 2009. More information is available on the Waukesha County website. For more information on this project, please contact:

Richard R. Kania, AICP, RLA  
Principal Planner  
262-547-6722 Ext 226  
[rkania@sewrpc.org](mailto:rkania@sewrpc.org)

**Hazard Mitigation Planning**

SEWRPC provides assistance to counties and local governments in the preparation and updating of hazard mitigation plans. These plans fulfill requirements set forth by the Wisconsin Department of Military Affairs, Division of Emergency Management, and the Federal Emergency Management Agency (FEMA). Through such planning, appropriate consideration is given to such hazards as flooding; lakeshore bluff and dam failure episodes; severe weather conditions, including wind storms, tornadoes, periods of extreme heat or cold, and winter storms; terrorism; civil disorder; urban fire or mass casualty; and hazardous material situations. SEWRPC is presently working with two counties—Kenosha and Racine—on updates to their hazard mitigation plans. Report materials,

meeting materials, and comment submittal opportunities relative to these two work efforts may be accessed on the links provided below:

• **Kenosha County Hazard Mitigation Plan Update**

Preliminary Draft Chapters:

[Chapter I, Introduction and Background](#)

[Chapter II, Basic Study Area Inventory and Analysis](#)

[Chapter III, Analysis of Hazard Conditions](#)

[Chapter IV, Hazard Mitigation Goals](#)

[Appendix B, Solid Waste Disposal Sites in Kenosha County, 2009](#)

[Appendix C, Police Stations, County Sheriff Offices, and Fire Stations in Kenosha County, 2009](#)

[Appendix D, Critical Community Facilities in Kenosha County](#)

Meeting Materials:

[February 24, 2010 Agenda](#)

[September 28, 2009 Agenda](#)

[September 28, 2009 Minutes](#) (not yet approved)

Comment Opportunity

Use the box below to submit any comments you may have about the Kenosha County Hazard Mitigation Plan Update. A record of public comments will be assembled and provided to the Plan Task Force and to the Commission for deliberations in preparing the final plan.

Your Contact Information:

First Name:*	<input type="text"/>
Last Name:*	<input type="text"/>
Email Address:*	<input type="text"/>
Organization	<input type="text"/>
Mailing Address:	<input type="text"/>
City:*	<input type="text"/>
State:*	<input type="text"/>
Zip:	<input type="text"/>

\* Denotes a required field

You may also submit a comment via the following:

Email: [jboxhorn@sewrpc.org](mailto:jboxhorn@sewrpc.org)

Fax: 262-547-1103

U.S. Mail: Southeastern Wisconsin Regional Planning Commission  
P.O. Box 1607  
Waukesha, WI 53187-1607

If you have any questions, please contact: Michael Hahn  
SEWRPC Chief Environmental Engineer  
262-547-6722, Ext 243

Press the "Submit" button when finished.

Submit

• **Racine County Hazard Mitigation Plan Update**

Draft Final Report:

[Community Assistance Planning Report No. 266 - 2nd Edition](#)

Meeting Materials:

[November 4, 2009 Agenda](#)

[November 4, 2009 Meeting Summary Notes](#) (not yet approved)

Comment Opportunity

Use the box below to submit any comments you may have about the Racine County Hazard Mitigation Plan Update. A record of public comments will be assembled and provided to the Plan Task Force and to the Commission for deliberations in preparing the final plan.

Your Contact Information:

First Name:*	<input type="text"/>
Last Name:*	<input type="text"/>
Email Address:*	<input type="text"/>
Organization	<input type="text"/>
Mailing Address:	<input type="text"/>
City:*	<input type="text"/>
State:*	<input type="text"/>
Zip:	<input type="text"/>

\* Denotes a required field

You may also submit a comment via the following:

Email: [jboxhorn@sewrpc.org](mailto:jboxhorn@sewrpc.org)

Fax: 262-547-1103

U.S. Mail: Southeastern Wisconsin Regional Planning Commission  
P.O. Box 1607  
Waukesha, WI 53187-1607

If you have any questions, please contact: Michael Hahn  
SEWRPC Chief Environmental Engineer  
[mhahn@sewrpc.org](mailto:mhahn@sewrpc.org)  
262-547-6722, Ext 243

Press the "Submit" button when finished.

Submit

**Plan Implementation Ordinances and Maps**

SEWRPC helps county and local governments to produce zoning, land division, and official mapping ordinances and related map materials. This work is conducted on an as requested basis and is intended to help local governments implement regional plan recommendations. For more information on this project, please contact:

Nancy M. Anderson, AICP  
Chief Community Assistance Planner  
262-547-6722 Ext. 212  
[nanderson@sewrpc.org](mailto:nanderson@sewrpc.org)

**Local Park and Open Space Planning**

SEWRPC provides assistance to local governments in the preparation and updating of local park and open space plans. This work is conducted on an as requested basis and in part is intended to help local governments meet Federal and State requirements for securing grants to help preserve park and open space land and develop recreational facilities. For more information on these activities, please contact:

Nancy M. Anderson, AICP  
Chief Community Assistance Planner  
262-547-6722 Ext. 212  
[nanderson@sewrpc.org](mailto:nanderson@sewrpc.org)

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Southeastern Wisconsin Regional Planning Commission

W239 N1812 Rockwood Drive  
P.O. Box 1607  
Waukesha, WI 53187-1607

Phone: (262) 547-6721  
Fax: (262) 547-1103  
E-mail: [sewrpc@sewrpc.org](mailto:sewrpc@sewrpc.org)

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## Exhibit D

#150375 V1 - CAPR-278-2 NEW CHAPTER 1 TABLE  
 JEB  
 03/03/10

**Table I-1**

**JURISDICTIONS PARTICIPATING IN THE KENOSHA COUNTY ALL HAZARDS MITIGATION PLAN UPDATE: 2009-2010**

Civil Division	Jurisdiction Status			
	New to the Plan	Continuing Participation	No Longer Participating	Never Participated
<b>Cities</b>				
Kenosha	--	X	--	--
<b>Villages</b>				
Bristol <sup>a</sup>	X	--	--	--
Paddock Lake	--	X	--	--
Pleasant Prairie	--	X	--	--
Silver Lake	--	X	--	--
Twin Lakes	--	X	--	--
<b>Towns</b>				
Brighton	--	X	--	--
Bristol	--	X	--	--
Paris	--	X	--	--
Randall	--	X	--	--
Salem	--	X	--	--
Somers	--	X	--	--
Wheatland	--	X	--	--
<b>County</b>				
Kenosha County	--	X	--	--

<sup>a</sup>During December 2009, a portion of the Town of Bristol incorporated as The Village of Bristol. The former Town had participated in the initial Racine County hazard mitigation plan.

Source: SEWRPC.

Exhibit E

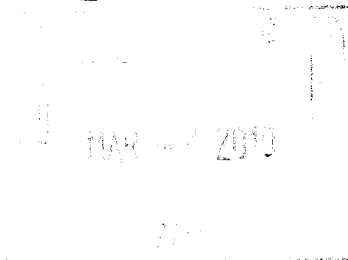
**THE** *Village of*  
**PADDOCK LAKE**

PHONES – 262-843-2713 or 262-843-2400 FAX 262-843-3409

March 1, 2010

Michael Hahn  
P.O. Box 1607  
Waukesha, WI. 53187-1607

6969 236th AVENUE  
SALEM, WISCONSIN 53168



RE: Kenosha County Hazard Mitigation Plan

I have been requested by Village Administrator, John Burg to review the materials of the Kenosha County Hazard Mitigation Plan and provide you with comment. I am hesitant to making any comments due to my late arrival or involvement in the planning process and hope that my comments do not offend any of the persons that have put countless hours into preparing the plan. The following are my observation and recommendations:

- ✓ • Chapter II table II-13, regulations and programs; The Village of Paddock Lake has in fact adopted a storm water management plan and DNR required ordinances.
- Chapter II map II-19 Areas Served by Public and Private Water Supply; The map depicts the subdivision known as Pathway Glenn located in the northeast corner of the Village of Paddock Lake as being served by a water system when in fact this is not served by a water supply system. These single family homes are served by their own individual SFH wells
- Chapter II, map II-16, Fire Department and Fire Stations; An additional map should be added that includes the fire department remote fire suppression systems. Through out Kenosha County fire departments, schools and municipalities have fire suppression cisterns and dry hydrants. These should be inventoried and identified on a map in this plan.
- Chapter II, map II-19, II-20 and II-21, Schools, Public buildings and Medical Clinics with basements should be identified. In the event of search and recovery by mutual aid agencies those locations should be identified. In a 1950 civil defenses document prepared by the US Army all basements were identified as shelters and places to search.
- Chapter II, map II-22 and appendix D, table D-4; The map and appendix should include the day and overnight camps through out the County. Examples would be Camp Oh Dakota, Boy Scout Camp in Wheatland, The Boy Scout Camp in Wilmot, The Boys and Girls Club in Paddock Lake, Salvation Army Camp, Seno Woodland Center, Wheatland, and any other camps or camp grounds.
- Chapter II, map II-10; Airports in Kenosha County; the airport known as Wetosha Airport on CTH C is not shown. Also the heliport located at the Kenosha County Center at STH 50 and 45 north is not shown. The private airport located outside of Camp Lake on CTH AH is not shown.
- Chapter II, map II-12 Sewer Mapping; The plans and maps should identify privately owned and operated package plants and areas they serve such as Wheatland Trailer Park

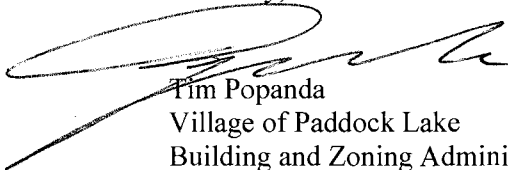
and Rainbow Manor. Also in the spirit of identifying hazards to the environment you may consider identifying large agricultural nutrient management ponds and slurry stores. Some of these ponds and structures have the potential to store hundreds of thousands of gallons of animal waste.

- Chapter II, map II-22 and appendix; Faith Based Adult and Youth Camps should be included.
- Building Address Systems: Kenosha County has a superior building addressing system that is easily understood by new comers to the County. This system should be explained in the Plan. The Village of Sliver Lake and Twin Lakes have their own addressing system. These unique systems should also be explained and depicted so as not to confuse agencies responding for mutual aid.
- Large Public venues in the County should be identified. Such as, Country Thunder, Wilmot Ski Hills, Bristol Renaissance Faire, Kenosha County Fair, Sport Complexes, Sliver Lake Beach and the two Speedways. All of these sites have potential to have well over 1,000 people in attendance at various time through out the year.
- Public and Private Social Services should be indentified, examples would be Sharing Center, Twin Lakes food pantry, Woman's Horizon and Shalom Center.
- The Hazard Mitigation plan does not adequately address the earth quake loads or seismic zones. Enclosed for your consideration and review is a copy of the State adopted international building codes seismic zone map. Only a small portion of Kenosha County is affected by the seismic zone but in the spirit of identifying all hazards regardless of size, this should be included in the plan.

These above listed recommendations may seem insignificant and unnecessary information to Kenosha County Agencies for which this plan seems targeted to. However; these suggested amendments may prove very helpful to mutual aid agencies as well as State and Federal Departments.

If you have any further questions, please feel free to contact me in my office at the Village Hall at 262-843-3617.

Sincerely,



Tim Popanda  
Village of Paddock Lake  
Building and Zoning Administrator

CC: Marlene Goodson, Village President  
Paddock Lake Village Board  
John Burg, Village Administrator  
Mike Slover, Salem (Paddock Lake) Fire Chief

ity to resist the increased forces determined in accordance with Sections 1613 through 1622.

**1614.2 Change of occupancy.** When a change of occupancy results in a structure being reclassified to a higher Seismic Use Group, the structure shall conform to the seismic requirements for a new structure.

**Exception:** Specific detailing provisions required for a new structure are not required to be met where it can be shown an equivalent level of performance and seismic safety contemplated for a new structure is obtained. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the specific detailing provided.

**1614.3 Alterations.** Existing structures being altered need not comply with Sections 1613 through 1622 provided that the following conditions are met:

1. The alterations do not create a structural irregularity as defined in Section 1616.5 or make an existing structural irregularity more severe.
2. The alteration does not increase the seismic forces in any structural element of the existing structure by more than 5 percent, unless the capacity of the element subject to the increased forces is still in compliance with Sections 1613 through 1622.
3. The alteration does not decrease the seismic resistance of any structural element of the existing structure to less than that required for a new structure.
4. The alterations do not result in the creation of an unsafe condition.

**1614.4 Quality assurance.** A Quality Assurance Plan shall be provided where required by Chapter 17.

**1614.5 Seismic and wind.** When the code-prescribed wind design produces greater effects, the wind design shall govern, but detailing requirements and limitations prescribed in this and referenced sections shall be followed.

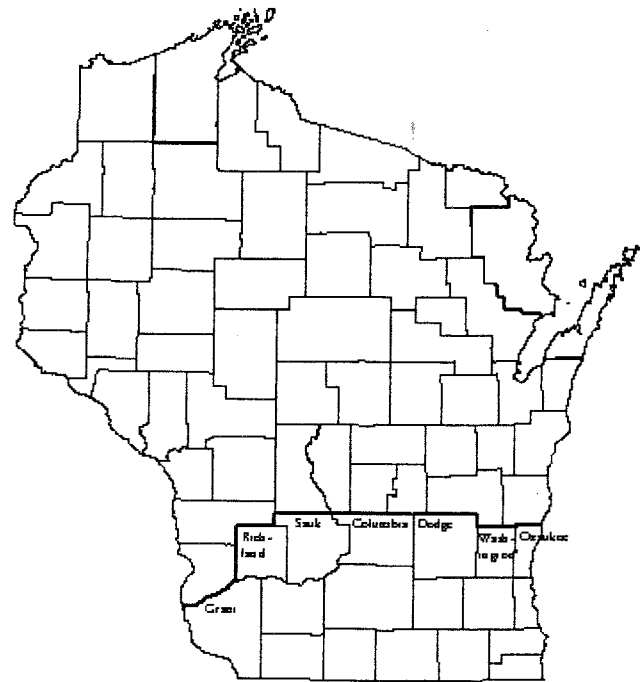
**SECTION 1615  
EARTHQUAKE LOADS—SITE GROUND MOTION**

**1615.1 General procedure for determining maximum considered earthquake and design spectral response accelerations.** Ground motion accelerations, represented by response spectra and coefficients derived from these spectra, shall be determined in accordance with the general procedure of Section 1615.1 or the site-specific procedure of Section 1615.2. The site-specific procedure of Section 1615.2 shall be used for structures on sites classified as Site Class F, in accordance with Section 1615.1.1.

The mapped maximum considered earthquake spectral response acceleration at short periods,  $S_S$ , and at 1-second period,  $S_1$ , shall be determined from Figures 1615(1) through (10). Where a site is between contours, straight line interpolation or the value of the higher contour shall be used.

**Comm 62.1615 Alternatives to contour lines in IBC Figures 1615(1) and 1615(2).**

- (1)The contour line in IBC Figure 1615(1) that extends through southern Rock, Walworth, and Kenosha Counties in Wisconsin may be ignored.
- (2)The 4% g contour line in IBC Figure 1615(2) may be applied as occurring in the location shown in Figure 62.16–2.

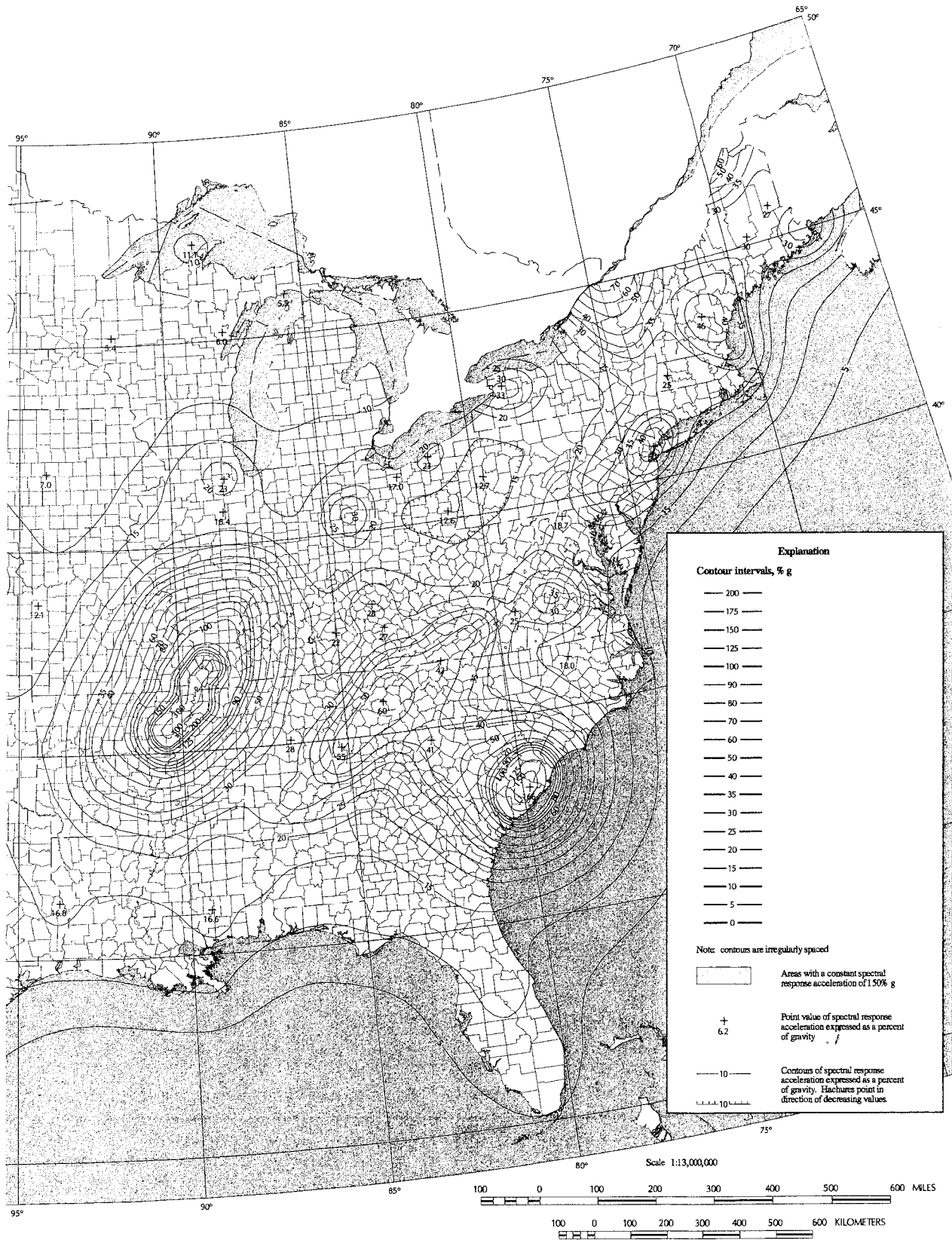


**Figure 62.16–2  
Alternate 4% g Contour Location**

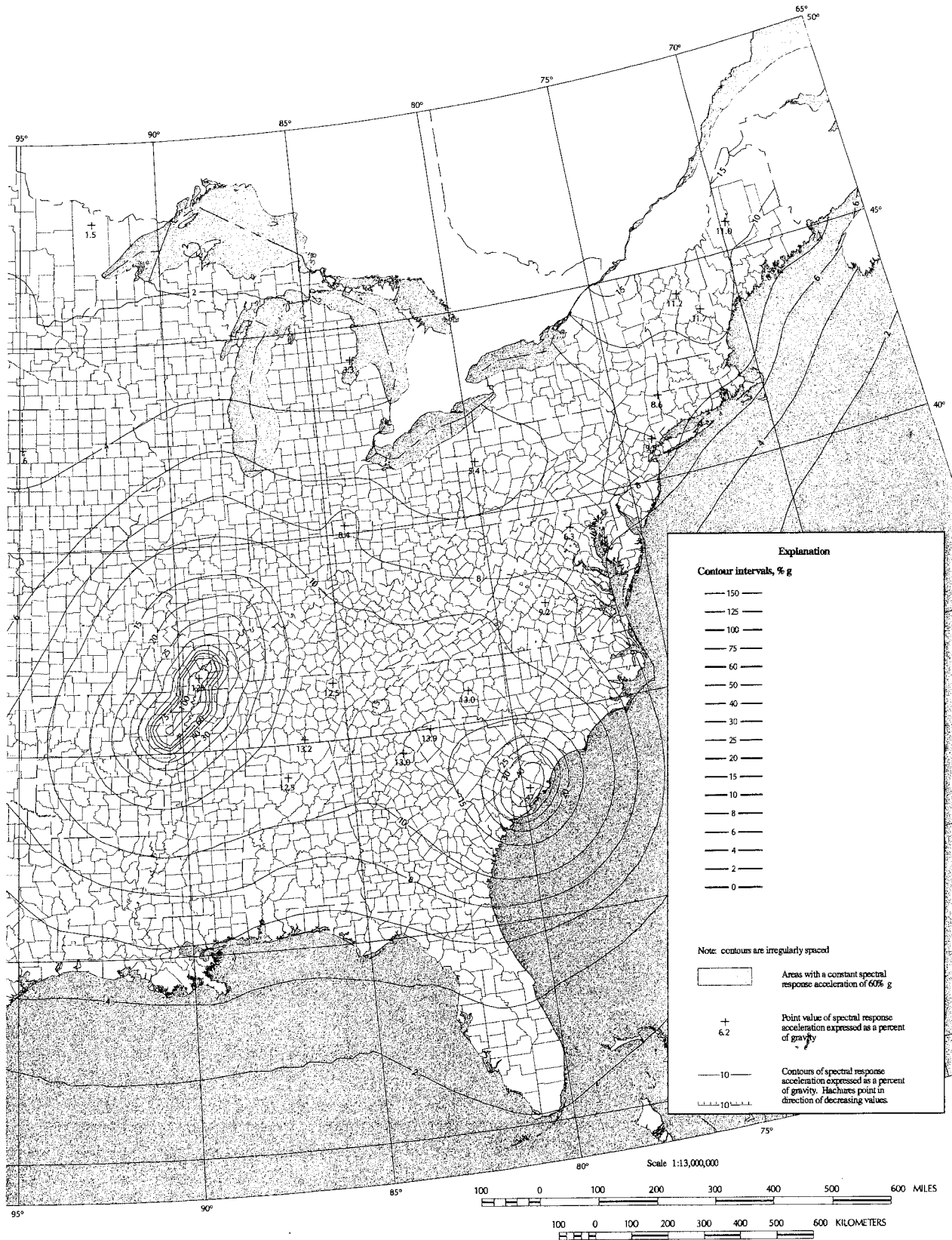
The Site Class shall be determined in accordance with Section 1615.1.1. The maximum considered earthquake spectral response accelerations at short period and 1-second period adjusted for site class effects,  $S_{MS}$  and  $S_{M1}$ , shall be determined in accordance with Section 1615.1.2. The design spectral response accelerations at short period,  $S_{DS}$ , and at 1-second period,  $S_{D1}$ , shall be determined in accordance with Section 1615.1.3. The general response spectrum shall be determined in accordance with Section 1615.1.4.

**Exception:** For structures located on sites with mapped spectral response acceleration at short period,  $S_S$ , less than or equal to 0.15g and mapped spectral response acceleration at 1-second period,  $S_1$ , less than or equal to 0.04g, the Site Class, maximum considered earthquake spectral response accelerations at short period and at 1-second period adjusted for site class effects ( $S_{MS}$  and  $S_{M1}$ ), and the design spectral response accelerations at short period and at 1-second period ( $S_{DS}$  and  $S_{D1}$ ) need not be determined. Such structures shall be categorized as Seismic Design Category A and need only comply with the requirements of Section 1616.4.





**FIGURE 1615(1)**  
**MAXIMUM CONSIDERED EARTHQUAKE GROUND MOTION FOR THE CONTERMINOUS UNITED STATES**  
**OF 0.2 SEC SPECTRAL RESPONSE ACCELERATION (5 PERCENT OF CRITICAL DAMPING), SITE CLASS B**



**FIGURE 1615(2)**  
**MAXIMUM CONSIDERED EARTHQUAKE GROUND MOTION FOR THE CONTERMINOUS UNITED STATES**  
**OF 1.0 SEC SPECTRAL RESPONSE ACCELERATION (5 PERCENT OF CRITICAL DAMPING), SITE CLASS B**

**1615.1.1 Site class definitions.** The site shall be classified as one of the site classes defined in Table 1615.1.1. Where the soil shear wave velocity,  $\bar{v}_s$ , is not known, site class shall be determined, as permitted in Table 1615.1.1, from standard penetration resistance,  $\bar{N}$ , or from soil undrained shear strength,  $\bar{s}_u$ , calculated per Section 1615.1.5. Where site-specific data are not available to a depth of 100 feet (30 480 mm), appropriate soil properties are permitted to be estimated by the registered design professional preparing the soils report based on known geologic conditions.

When the soil properties are not known in sufficient detail to determine the site class, Site Class D shall be used unless the building official determines that Site Class E or F soil is likely to be present at the site.

**1615.1.2 Site coefficients and adjusted maximum considered earthquake spectral response acceleration parameters.** The maximum considered earthquake spectral response acceleration for short periods,  $S_{MS}$ , and at 1-second period,  $S_{MI}$ , adjusted for site class effects, shall be determined by Equations 16-16 and 16-17, respectively:

$$S_{MS} = F_a S_s \quad \text{(Equation 16-16)}$$

$$S_{MI} = F_v S_I \quad \text{(Equation 16-17)}$$

where:

- $F_a$  = Site coefficient defined in Table 1615.1.2(1).
- $F_v$  = Site coefficient defined in Table 1615.1.2(2).
- $S_s$  = The mapped spectral accelerations for short periods as determined in Section 1615.1.
- $S_I$  = The mapped spectral accelerations for a 1-second period as determined in Section 1615.1.

**1615.1.3 Design spectral response acceleration parameters.** Five-percent damped design spectral response acceleration at short periods,  $S_{DS}$ , and at 1 second period,  $S_{DI}$ , shall be determined from Equations 16-18 and 16-19, respectively:

$$S_{DS} = \frac{2}{3} S_{MS} \quad \text{(Equation 16-18)}$$

$$S_{DI} = \frac{2}{3} S_{MI} \quad \text{(Equation 16-19)}$$

where:

- $S_{MS}$  = The maximum considered earthquake spectral response accelerations for short period as determined in Section 1615.1.2.
- $S_{MI}$  = The maximum considered earthquake spectral response accelerations for 1 second period as determined in Section 1615.1.2.

**1615.1.4 General procedure response spectrum.** The general design response spectrum curve shall be developed as indicated in Figure 1615.1.4 and as follows:

1. For periods less than or equal to  $T_0$ , the design spectral response acceleration,  $S_a$ , shall be given by Equation 16-20.

2. For periods greater than or equal to  $T_0$  and less than or equal to the  $T_s$ , the design spectral response acceleration,  $S_a$ , shall be taken equal to  $S_{DS}$ .
3. For periods greater than  $T_s$ , the design spectral response acceleration,  $S_a$ , shall be given by Equation 16-21.

$$S_a = 0.6 \frac{S_{DS}}{T_0} T + 0.4 S_{DS} \quad \text{(Equation 16-20)}$$

$$S_a = \frac{S_{DI}}{T} \quad \text{(Equation 16-21)}$$

where:

- $S_{DS}$  = The design spectral response acceleration at short periods as determined in Section 1615.1.3.
- $S_{DI}$  = The design spectral response acceleration at 1 second period as determined in Section 1615.1.3.
- $T$  = Fundamental period (in seconds) of the structure (Section 1617.4.2).
- $T_0$  =  $0.2 S_{DI}/S_{DS}$
- $T_s$  =  $S_{DI}/S_{DS}$

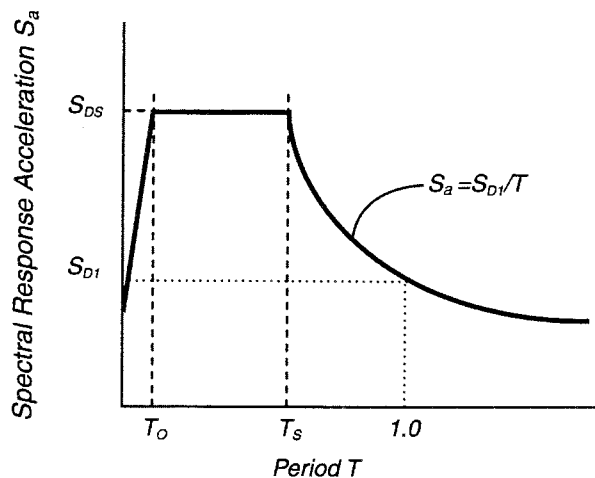


FIGURE 1615.1.4 DESIGN RESPONSE SPECTRUM

**1615.1.5 Site classification for seismic design.** The notations presented below apply to the upper 100 feet (30 480 mm) of the site profile. Profiles containing distinctly different soil layers shall be subdivided into those layers designated by a number that ranges from 1 to  $n$  at the bottom where there are a total of  $n$  distinct layers in the upper 100 feet (30 480 mm). The symbol,  $i$ , then refers to any one of the layers between 1 and  $n$ .

where:

- $v_{si}$  = The shear wave velocity in feet per second (m/s).