

SEWRPC Community Assistance Planning Report No. 278-3ED

KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2016-2020

Chapter II

BASIC STUDY AREA INVENTORY AND ANALYSIS

[Blue highlighting indicates additions or revisions to the previous edition of the plan.]

INTRODUCTION

Information on certain pertinent natural and built features and aspects of the study area is an important consideration in sound hazard mitigation planning. Accordingly, the collection and collation of definitive information regarding basic demographic characteristics, existing and planned land use, surface water and Lake Michigan shoreline system characteristics, transportation and utility systems, critical community facilities, and existing hazard management programs constitute an important step in the planning process. The resulting information is an important element to the planning process, since sound mitigation approaches cannot be formulated and evaluated without an in-depth knowledge of the relevant conditions in the study area.

CIVIL DIVISIONS

The geographic extent and functional responsibilities of civil divisions and special-purpose units of government are important factors to be considered in hazard mitigation planning, since these local units of government provide the basic structure of the decision-making framework, within which such planning must be addressed. The boundaries of the 14 civil divisions in Kenosha County are shown on Map I-1 in Chapter I of this report. There are six towns in Kenosha County, including Brighton, Paris, Randall, Salem, Somers, and Wheatland. In addition, there are seven villages, which include Bristol, Paddock Lake, Pleasant Prairie, Silver Lake, Somers, and Twin Lakes, and the City of Kenosha located within the County. Three changes in civil divisions have occurred since the adoption of the initial hazard mitigation plan. In December 2009, a portion of the Town of Bristol incorporated as the Village of Bristol. Subsequent to this, the Village of Bristol annexed the remaining portion of

the Town of Bristol. In April 2015, a portion of the Town of Somers incorporated as the Village of Somers. The total land area and proportion of the County within each civil division is presented in Table II-1.

DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS

Population

The area that is now Kenosha County was first included in the Federal census in 1850. Historical population levels in Kenosha County are provided in Table II-2. The resident population was 75,238 persons in 1950. Since then, Kenosha County has steadily continued to increase in population, with the greatest percent increase between the years of 1950 and 1960. As of 2010, there were 166,426 individuals residing in the County (Table II-2). The population in Kenosha County is expected to increase through the year 2035 by approximately 27 percent.

The City of Kenosha is the most populous municipality in the County, with 99,218 residents, or about 60 percent of the County's population, in 2010. The next most populous communities are the Village of Pleasant Prairie, with 19,719 residents and 12 percent of the County's population; and the Town of Salem with 12,067 residents and 7 percent of the County's population; and the Village of Somers, with an estimated 6,970 residents, and 4 percent of the County's population. Based upon the 2010 census data, two communities in Kenosha County experienced a relative population increase of more than 20 percent from 2000 to 2010. These communities include the Village of Pleasant Prairie and the Town of Salem.

Households

Trends in the number of households in the County are shown in Table II-3. The County experienced significant gains in the number of new households between 1970 and 2010. The rate of increase in the number of households has exceeded the rate of population increase. Between 1970 and 2010, the number of households increased by about 77 percent, compared to a population increase of 41 percent. With the number of households increasing at a faster rate than the population, the number of persons per household has decreased.

Employment

Trends in job growth in the County are set forth in Table II-4. The jobs are enumerated at their location and the data thus reflect the number of jobs within the County, including both full- and part-time jobs. A significant increase in the number of jobs may be expected to attract additional residents to the County, thus influencing population growth. As indicated in Table II-4, employment growth was significant in the County between 1970 and 2010, with an increase in the number of jobs from 42,715 to 74,900, or an increase of about 75 percent.

It should be noted, however, that of the employed Kenosha County residents—about 12,500 of the 74,900 workers in 2010, or about 17 percent—worked in Wisconsin outside of the County, and a substantial number of

employed residents—about 23,700 workers, or about 27 percent of a labor force of 86,819, worked outside of the State.¹

Property Value

The value of the real estate and personal property in a municipality reflects the upper end of the potential for property damages in each municipality. The equalized value as of 2014 of the real estate and personal property in Kenosha County and each of the general-purpose units of government in the County is shown in Table II-5.

LAND USE

Land use is an important determinant of the potential impact a particular hazard may have, and of actions which may be taken to mitigate the impacts of the hazard. Accordingly, an understanding of the amount, type, and spatial distribution of urban and rural land uses within the County is an important consideration in the development of a sound hazard mitigation plan. This section presents a description of the land uses in the County.

Existing Land Use

Land use in Kenosha County in 2010 is set forth on Map II-1 and in Table II-6. Urban land uses occupied about 42,581 acres or about 24 percent of the County in 2010. Intensive urban development, including most commercial, industrial, and multi-family residential development, is concentrated within or near the communities of Kenosha, Bristol, Pleasant Prairie, and Somers and along the IH 94 corridor. Much of the single-family residential development also occurred within or surrounding the County's urban centers, while scattered low density development occurred outside these communities amid predominantly rural areas. Single-family residential development was the largest component of urban land uses, encompassing about 19,093 acres, or 45 percent of the urban land uses and 11 percent of the total area of the County.

Land uses categorized as transportation, communication, and utilities constituted the second largest urban land use category in 2010, encompassing about 12,429 acres, or 29 percent of the area of all urban land and 7 percent of the total area of the County.

Major arterial highways serving the County include Interstate Highway (IH) 94/United States Highway (USH) 41, USH 45, State Trunk Highways (STH) 31, 32, 75, and 83, which traverse the County in a north-south direction; and STH 50, 142, 158, and 165, which traverse the county in a generally east-west direction. Other uses in the transportation, communications, and utilities category within the County include Metra, a commuter rail service line, Amtrak, three railway freight service lines, and four airports which serve the public, including Kenosha

¹Based on U.S. Census Bureau 2010 American Community Survey estimates.

Municipal Airport which is the third busiest airport in the State. A more detailed description of the County's transportation system is given later in this Chapter.

Mobile homes can be particularly vulnerable to some hazards such as high winds. Map II-2 shows the locations of mobile home parks and individual mobile homes in Kenosha County. In 2010 there were 2,095 mobile homes located in the County. Most of these were located in 24 mobile home parks. In addition, there were five sites in the County that contained isolated individual mobile homes. Mobile home parks and isolated individual mobile homes are listed in Table II-7.

Planned Land Use

The planned urban areas delineated in the adopted year 2035 regional land use plan and the County comprehensive plan serve as the basis for the identification of all planned urban areas within the County.² The year 2035 regional land use plan, as it applies to Kenosha County, is shown on Map II-3. Planned urban areas, which are shown on Map II-3, are associated with the City of Kenosha; and adjacent urban areas in the Towns of Randall, Salem, Somers, and the Villages of Bristol, Paddock Lake, Pleasant Prairie, Silver Lake, Somers, and Twin Lakes.

ENVIRONMENTAL CORRIDORS

The Southeastern Wisconsin Regional Planning Commission has identified and delineated those areas of Kenosha County having concentrations of natural, recreational, historic, aesthetic, and scenic resources that should be preserved and protected in order to maintain the overall quality of the environment. Such areas normally include one or more of the following seven elements of the natural resource base which are essential to the maintenance of both the ecological balance and the natural beauty of the Region: 1) lakes, rivers, and streams and the associated underdeveloped shorelands and floodlands; 2) wetlands; 3) woodlands; 4) prairies; 5) wildlife habitat areas; 6) wet, poorly drained, and organic soils, and 7) rugged terrain and high-relief topography. The foregoing seven elements constitute integral parts of the natural resource base. There are five additional elements that are important considerations in identifying and delineating areas with scenic, recreational, and educational value. These additional elements are: 1) existing outdoor recreation sites; 2) potential outdoor recreation and related open space sites; 3) historic, archaeological, and other cultural sites; 4) significant scenic areas, and 5) natural and scientific areas.

²SEWRPC Planning Report No. 48, A Regional Land Use Plan for Southeastern Wisconsin: 2035, June 2006; SEWRPC Community Assistance Planning Report No. 299, A Multi-Jurisdictional Comprehensive Plan for Kenosha County: 2035, April 2010.

In southeastern Wisconsin, the delineation of these 12 natural resource and natural resource-related elements on maps result in an essentially linear pattern of relatively narrow, elongated areas which have been termed “environmental corridors” by SEWRPC. Primary environmental corridors include a wide variety of the aforementioned important resource and resource-related elements and are, by definition, at least 400 acres in size, two miles in length, and 200 feet in width. In Kenosha County in 2010 there were 29,176 acres of primary environmental corridors, or about 16 percent of the land area in the County. These generally lie along rivers and streams and adjacent to lakes, or are associated with woodlands, wetlands, or park and open space sites. Secondary environmental corridors generally connect with the primary environmental corridors and are at least 100 acres in size and one mile long. In Kenosha County there are 7,040 acres of secondary environmental corridors, or about 4 percent of the total land area in the County. These are located chiefly along the smaller perennial streams and intermittent streams in the County, including wetlands associated with these streams. In addition, smaller concentrations of natural resource features that have been separated physically from the environmental corridors by intensive urban or agricultural land uses have also been identified. These areas which are at least five acres in size are referred to as isolated natural resource areas. In Kenosha County there are 4,361 acres of isolated natural resource areas, or about 2 percent of the land area of the County. The Kenosha County environmental corridors are shown on Map II-4.

SURFACE WATER RESOURCES AND FLOOD HAZARD AREAS

Surface water resources, consisting of streams and lakes, form a particularly important element of the natural resource base. Surface water resources provide recreational opportunities, influence the physical development of the County, and enhance its aesthetic quality. Watershed boundaries, wetlands, and major streams and lakes within the County are shown on Map II-5.

Major streams are defined as those which maintain, at a minimum, a small continuous flow throughout the year except under unusual drought conditions. There are approximately 110 miles of such streams in Kenosha County, located within four watersheds: the Des Plaines River, Fox (Illinois) River, Pike River, and Root River watersheds. A fifth watershed encompasses those areas adjacent to Lake Michigan which drain directly into the Lake through 55 miles of intermittent streams. The Fox River watershed generally encompasses the western portion of the County and includes the Lower Fox (Illinois) River portion of the watershed. The Des Plaines River watershed covers the central portion from the northern border to the southern border of the County and includes the Des Plaines River, Jerome Creek, Kilbourn Road Ditch, Center Creek, Brighton Creek, and the Dutch Gap Canal. The Root River watershed encompasses a small portion in the northern part of the County and includes the East Branch of the Root River Canal. The Pike River watershed, in the northeast portion of the County, includes the Pike River and Pike Creek.

There are 20 major lakes—that is, lakes of 50 acres or more—in Kenosha County. The major lakes include Benet Lake, Camp Lake, Center Lake, Cross Lake, Dyer Lake, George Lake, Hooker Lake, Lake Andrea, Lake Benedict, Elizabeth Lake, Lake Mary, Lake Shangri-La, Lilly Lake, Montgomery Lake, Paddock Lake, Powers Lake, Rock Lake, Silver Lake, Vern Wolf Lake, and Voltz Lake. There are eight lake management districts in the County which have responsibilities related to the protection, rehabilitation, and management of 11 lakes. These special-purpose units of government are listed in Table II-8.

Floodlands are the wide, gently sloping areas contiguous to, and usually lying on both sides of, a stream channel. For planning and regulatory purposes, floodlands are normally defined as the areas, excluding the stream channel, subject to inundation by the one-percent-annual-probability (100-year recurrence interval) flood event. There is a 1 percent chance of this event being reached or exceeded in severity in any given year. Floodland areas are generally not well suited to urban development, not only because of the flood hazard, but also because of the presence of high water tables and, generally, of soils poorly suited to urban uses. Floodland areas often contain important natural resources, such as high-value woodlands, wetlands, and wildlife habitat and, therefore, constitute prime locations for parks and open space areas.

Floodlands identified by Kenosha County, SEWRPC, and the Federal Emergency Management Agency are shown on Map II-5. Approximately 20,305 acres, or 11 percent of the total area of the County, are located within the one-percent-annual-probability flood hazard area. This total includes about 2,890 acres of approximately delineated floodplains. A consideration in flood hazard mitigation is the potential for increased flooding due to dam failures. Since there are several major and minor dams in Kenosha County, future evaluation of floodplain areas related to dam failure should be considered. Dams in the County that have been identified by the Wisconsin Department of Natural Resources (WDNR) are shown on Map II-6. As shown on Table II-8A, two of the 26 dams identified have been assigned a high hazard rating by the WDNR, indicating the potential for loss of human life as well as economic loss, environmental damage, or disruption of lifeline facilities during failure or misoperation of the dam. Another three dams have been assigned significant hazard ratings indicating the potential for economic loss, environmental damage, or disruption of lifeline facilities. Hazard potentials have not been assessed for 13 of the dams in the County. The unrated dams consist mostly of small dams.

All of the floodplain areas have been mapped on large-scale topographic mapping prepared at a scale of one inch equals 200 feet, with a contour interval of two feet. The floodplain mapping is shown on the FEMA digital flood insurance rate maps for Kenosha County which were finalized in 2012 and is available as a digital file layer for the Kenosha County cadastral mapping system which covers the entire County.

LAKE MICHIGAN SHORELINE EROSION HAZARD AREAS

Shoreline erosion and bluff stability conditions are important considerations in planning for the protection and sound development and redevelopment of lands located along the Lake Michigan shoreline. Shoreline erosion and bluff stability conditions in southeastern Wisconsin were surveyed in 1977³ and 1997,⁴ and in Kenosha County in 1989 and 1995. Such conditions can change over time since they are related, in part, to changes in, climate, water levels, the geometry of the onshore beach and nearshore areas, the extent and condition of shore protection measures, the type and extent of vegetation, and the type of land uses in shoreland areas. As of April 2015, water levels in Lake Michigan were about 0.2 foot above average levels, about 1.5 feet below the high levels which occurred in 1997, and about three feet above the low levels that occurred in January 2013. While higher water levels can benefit communities, businesses, and industries that depend on Great Lakes waters for commercial shipping, hydropower, recreational boating, and tourism, they can lead to negative impacts such as coastal erosion, flooding, and property damage along the shoreline. While low water levels have the effect of reducing the shoreline erosion due to scour at the base, there are other situations where the shoreline can be negatively affected by low levels. In addition, low water levels can adversely affect shipping, power generation, and tourism. Given the cyclic nature of the Great Lakes, a return to lower lake levels may occur in the future.

The 1997 Lake Michigan shoreline recession and bluff stability study in southeastern Wisconsin included evaluations of lands along the Lake Michigan shoreline in Kenosha, Milwaukee, Ozaukee, and Racine Counties that directly affect, or are directly affected by shoreline erosion, bluff recession, and storm damage processes. This relatively narrow strip of land along the Lake Michigan shoreline extends approximately 89 miles from the Wisconsin-Illinois state line to the Ozaukee-Sheboygan county line, including 12 miles in Kenosha County. For analytical purposes, the Lake Michigan shoreline was divided into 17 reaches, including three reaches within or partially within Kenosha County, as shown on Map II-7. These reaches were selected to have relatively uniform beach and bluff characteristics. These reaches generally correspond to those utilized in the 1977 shoreline erosion study, with some refinement to reflect 1997 conditions.

During 1995, field surveys were conducted to measure the geometry of the bluff slope at 192 sites in southeastern Wisconsin, including 14 sites in Kenosha County. These measurements provided a basis for site-specific

³D.M. Mickelson, L. Acomb, N. Brouwer, T.B. Edil, C. Fricke, B. Haas, D. Hadley, C. Hess, R. Klauk, N. Lasca, and A.F. Schneider, *Shore Erosion Study, Technical Report, Shoreline Erosion and Bluff Stability Along Lake Michigan and Lake Superior Shorelines of Wisconsin, Wisconsin Coastal Management Program, February 1977.*

⁴SEWRPC *Technical Report No. 86, Lake Michigan Shoreline Recession and Bluff Stability in Southeastern Wisconsin: 1995, December 1997.*

assessments of the bluff conditions at the selected locations. In addition, beach and nearshore lakebed conditions were measured for selected sites in Kenosha County.

Based upon the data collected and the assessment and analysis of that data, bluff stability and shoreline erosion conditions were developed and are summarized graphically on Map II-7. Within Kenosha County, at 13 of the 14 sites evaluated, the bluffs were found to be stable with the remaining site having unstable conditions based upon the 1995 survey. Where comparable data existed, the 1995 survey generally found bluff stability had improved compared to 1977 conditions. This is likely due to the construction of shoreline protection measures in areas of development.

Increases in offshore depths can cause increased shore erosion problems. At the five sites in Kenosha County where offshore bathymetry was measured in 1995 and compared to 1977 data, changes in depths were not definitive. However, at the seven sites in neighboring northern Racine County, where offshore bathymetry was measured, four sites showed significant improvement with decreases in depth, while the others showed little change.

The current Lake Michigan shoreline conditions indicate relatively stable conditions for the most part in areas where shoreline development exists. However, there is the potential for shoreline and bluff erosion to impact structures over time. In addition, during severe climatic conditions, such as high water levels or saturated ground conditions, large episodic bluff erosion events could occur. Accordingly, these conditions are an important consideration in the County's hazard mitigation planning.

TRANSPORTATION SYSTEM

The transportation system of Kenosha County provides the basis for movement of goods and people into, out of, through, and within the County. An efficient transportation system is essential to the sound social and economic development of the County and of the Region of which the County is a part. An understanding of the existing transportation system is also a factor to be considered in hazard mitigation planning for the County. Accordingly, this section presents a description of existing transportation facilities in Kenosha County. Included are descriptions of the existing arterial street and highway system, public transit facilities, railway facilities, and airport facilities.

Arterial Streets and Highways

The arterial street and highway system serving Kenosha County is shown on Map II-8. As shown on Map II-8, the existing arterial network in the eastern portion of the County is relatively densely spaced with arterials occurring at about one-mile intervals in both the north-south and east-west directions. IH 94 traverses the entire County in a north-south direction. The existing arterial network in the rest of the County is less-densely spaced, with arterials

occurring at about two- to three-mile intervals. The jurisdictional responsibilities for the arterial street and highway system are also shown on Map II-8.

The traffic-carrying capacity of the arterial street system, while dependent upon a number of factors, is primarily a function of the number of traffic lanes and the type of facility. As shown in Table II-9, a two-lane arterial generally has a design capacity of about 14,000 vehicles per average weekday, a four-lane undivided arterial has a design capacity of about 18,000 vehicles per average weekday, a four-lane arterial with a two-way left turn lane has a design capacity of about 21,000 vehicles per average weekday, a four-lane divided arterial has a design capacity of about 27,000 vehicles per average weekday, a six-lane divided arterial has a capacity of about 38,000 vehicles per average weekday, and an eight-lane divided arterial has a capacity of about 50,000 vehicles per average weekday. The design capacities cited are for urban arterials typically having urban cross-sections with curb and gutter and auxiliary parking lanes, which can also serve as distress lanes and, importantly, serve as bypass lanes at intersections. The traffic capacities of urban arterials are established by the capacity of the intersections with other arterial streets, which are typically controlled by traffic signals. As also shown in Table II-9, a four-lane freeway has a design capacity of about 60,000 vehicles per average weekday, a six-lane freeway has a design capacity of about 90,000 vehicles per average weekday, and an eight-lane freeway has a design capacity of about 120,000 vehicles per average weekday.

Public Transit Facilities

City and County of Kenosha Systems

The City of Kenosha provides central fixed-route bus service within the City of Kenosha and surrounding business parks. Specialized transportation service is available to the elderly and persons with disabilities. Kenosha County, through the Kenosha County Department of Aging, runs the Kenosha County Care-A-Van program: a specialized transportation service available to the elderly and persons with disabilities. In September 2007, the Kenosha County Department of Human Services initiated the operation of public transit services in western Kenosha County which includes fixed-route bus service for the Twin Lakes, Silver Lake, and Paddock Lake areas and advance-reservation door-to-door service for the remaining portions of western Kenosha County or for those who cannot use the bus services because they are disabled.

Since 2000, Kenosha Area Transit has also operated a 1.7-mile streetcar loop in the City of Kenosha's downtown central business district. The electric streetcar line connects the central transfer terminal for the bus routes, the Metra commuter rail station, the Kenosha central business district, and the Harbor Park residential development.

Kenosha-Racine-Milwaukee Service

The City of Kenosha, in a joint effort with the City of Racine and Kenosha and Racine Counties, provides commuter bus service between downtown Milwaukee and the Kenosha and Racine areas. The commuter bus service is provided through a contract with a private transit operator.

Railway Facilities

As of 2015, railway freight service was being provided within Kenosha County by three railway companies operating active mainline railway lines. As shown on Map II-9, the Union Pacific Railroad provided freight service over two parallel segments emanating from Chicago, both segments traversing the eastern tier of communities in a north-south direction. The Canadian Pacific Rail System, formerly known as the Soo Line, provided freight service over a line emanating from Chicago and traversing the entire County east of IH 94 in a north-south direction. The Canadian National Railway, formerly the Wisconsin Central, Ltd., provided freight service over a north-south main line, traversing the western edge of the County.

An intercity passenger rail service, Metra, utilizes the Union Pacific Railway line from downtown Kenosha, starting at 54th Street and traversing the County in a south direction. Metra operates between Kenosha and Chicago. Amtrak operates on the Canadian Pacific Rail line as it runs through Kenosha County along the route from Milwaukee to Chicago.

As previously described, the Kenosha Area Transit operates a 1.7-mile streetcar loop in the City of Kenosha's downtown central business district.

Airports

Kenosha County has one publicly owned airport which serves the public: Kenosha Regional Airport, which is owned and operated by the City of Kenosha. This airport is intended to serve all single-engine aircraft, virtually all twin-engine piston and turboprop aircraft, helicopters, and most business and corporate jets. As of 2015, there were a total of 240 aircraft based at this airport and total operations included about 52,900 flights per year. 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). As of the year 2015, there were a total of 288 aircraft based in Kenosha County, a level which has increased slightly since 2008. The public-use airports in the County are shown on Map II-10. In addition to these public-use airports, there are a number of private airports and heliports in and adjacent to Kenosha County which are also shown on Map II-10.

UTILITY SYSTEMS

Utility systems are among the most important and permanent elements of urban growth and development, as urban development is highly dependent upon utility systems providing electricity, natural gas, communications, water, and sewerage. Because of this reliance, utility systems are an important consideration in hazard mitigation planning.

Public and Private Water Supply Systems

As of the year 2010, about 25 percent of the residents of the County utilized private systems relying on groundwater as a water supply source for domestic use. The remaining 75 percent of County residents have access to public water supply systems, with about 74 percent being served by systems that use surface water as a source of supply and about 1 percent being served by systems that use groundwater as a source of supply. The areas served by public water supply are shown on Map II-11. Of the persons served by public water supply, those residing in the City of Kenosha and portions of the Village of Pleasant Prairie, portions of the Village and Town of Somers, and the northeastern portion of the Village of Bristol receive water from the Kenosha Water Utility, which uses Lake Michigan as its supply.

The public water supply systems serving the northwestern portion of the Village of Bristol and the Paddock Lake Municipal Water Utility utilize groundwater as a supply. In addition, there are several privately owned water systems operating in Kenosha County. These systems provide water primarily to residential subdivisions, apartments and condominium developments, and mobile home parks. These other than municipal community water systems utilize groundwater as a source of supply.

The uses of groundwater, as well as surface water, are summarized in Table II-10. As shown in Table II-10, approximately 13.5 million gallons per day (mgd) of Lake Michigan-derived surface water and about 0.3 mgd of groundwater supply were used by public water utility systems in the County in 2010. Considering all water uses, including industrial, commercial, agricultural, and private water supply, 13.6 mgd of surface water and 3.0 mgd of groundwater were used. The City of Kenosha operates a water treatment plant utilizing Lake Michigan as a source of supply. That plant provides the source of supply for all the areas noted to be served by a surface water supply, as shown on Map II-11. The remaining areas in the County served by public water supplies rely on groundwater pumping and treatment systems as a source of supply.

The protection of the public water supply facilities from potential contamination is a consideration for hazard mitigation planning. As such, well head protection planning and monitoring of water supply intake, treatment, storage, and distribution systems is an important potential plan element.

Sanitary Sewer Service Systems

Much of Kenosha County lying east of IH 94 is served by public sanitary sewer service, as shown on Map II-12. The far-eastern portion of the County has the highest concentration of areas served by public sanitary sewer systems, with other public sanitary sewer service areas located in the Town of Salem, and the Villages of Bristol,

Paddock Lake, Silver Lake, and Twin Lakes. The existing and planned sewer service areas within the County are shown on Map II-12.⁵

Private Utilities

Kenosha County is provided with electric power service by We Energies and **Wisconsin Power and Light**. Electric power service is available on demand throughout the County. In Kenosha County, electric power is generated by the Pleasant Prairie power plant and by the Paris Power Plant, a peak gas-fired facility. Both plants are operated by We Energies. Electric power is also provided to the electric power system from Waste Management's Pheasant Run Landfill Gas-To-Energy facility. American Transmission Company owns, maintains, and operates the major transmission facilities located in Kenosha County. The electric service providers and the areas they serve in Kenosha County are shown on Map II-13.

Natural gas service is provided for the entire County by We Energies Gas Operations. We Energies is the distributor of natural gas. In Kenosha County the main gas supply is primarily provided by ANR Pipeline Company, which owns main and branch gas pipelines in the County and the surrounding area. In addition, the We Energies gas system is connected to other major gas pipelines outside of, but in the vicinity of, Kenosha County. Natural gas service is available on demand throughout Kenosha County.

Liquid petroleum is also transported through Kenosha County by a main line owned and operated by West Shore Pipeline. The natural gas and liquid petroleum pipelines that cross Kenosha County are mainly used as major feeder lines between the cities of Milwaukee and Chicago.

Telephone service within Kenosha County is provided through a number of telephone companies. The service areas of the various operators are shown on Map II-14. In general, telephone service is available on demand throughout the County. There is also an extensive system of cellular telecommunication facilities in Kenosha County.

Solid Waste Disposal

Landfills are a potential factor in hazard mitigation planning. Landfilling and recycling are the primary methods of managing solid wastes generated in Kenosha County. As of **2015**, 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

⁵The Village of Pleasant Prairie **has abandoned** the two wastewater treatment plants shown on Map II-12. **As of the end of 2010, the Village is served by the Kenosha wastewater treatment plant.**

within the Village of Pleasant Prairie. There are 39 total licensed landfills and other solid waste disposal sites in Kenosha County. Most of the inactive landfill sites have undergone proper closure procedures specified by the Wisconsin Department of Natural Resources. The location of the solid waste disposal sites in Kenosha County are shown on Map II-15. Appendix B lists the location and the owner of these sites.

PUBLIC SAFETY FACILITIES AND SERVICES

The type and location of public safety facilities are an important consideration in hazard mitigation planning because of the potential direct involvement of such facilities in certain hazard situations. The location of the fire stations, emergency medical rescue departments, police stations, sheriff offices, and correctional facilities in Kenosha County are shown on Maps II-16 through II-18. A listing of these facilities is included in Appendix C. The location of these stations in relationship to the floodplain areas are indicated as a basis for further analysis described in Chapter III.

Fire Suppression and Rescue Services

All of the 13 local units of government in Kenosha County either own or contract for fire or emergency medical service suppression services. The locations of each of the fire stations and the fire service areas within Kenosha County are shown on Map II-16. Table II-11 provides information about the working status of fire fighters within each system—that is, whether they are full-time, volunteer, or paid on-call volunteer, or some combination thereof.

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.

Each of the fire suppression departments in Kenosha County, except the Towns of Brighton, Randall, and Wheatland, and the Village of Paddock Lake, independently maintains an emergency medical service. Salem Rescue and Silver Lake Rescue provide rescue services in the Town of Brighton. Silver Lake Rescue and Twin Lakes Fire and Rescue provide rescue services in the Towns of Randall and Wheatland. Village of Paddock Lake rescue service is provided by Salem Rescue. In the case of all jurisdictions, except the Village of Silver Lake, (which maintains a private nonprofit rescue service) rescue service is provided by a publicly sponsored fire or fire and rescue department. The emergency medical service areas in Kenosha County are shown on Map II-17.

All of the fire and rescue departments in Kenosha County participate in a mutual aid agreement with each other and numerous other Illinois and State of Wisconsin fire and rescue departments, and through a Mutual Aid Box Alarm System (MABAS) agreement. This agreement enables each department to render assistance to, and receive assistance from, other departments in the County as needed to respond to fire and rescue emergencies. Under the

agreement, departments render assistance without charge to the extent of available resources not required for the protection of their own service areas. This agreement enables individual departments to significantly supplement their own personnel, apparatus, and equipment with that from other departments in responding to emergencies. Importantly, the agreement allows individual departments to access equipment, such as tankers, aerial trucks, and extrication equipment, which they themselves do not possess and which they may only need infrequently.

In addition to the County mutual aid agreement, each department has reciprocal mutual aid agreements with one or more neighboring departments. Some of these are formal, written agreements; others are unwritten. Many departments have indicated that they would respond to any request for mutual aid, whether or not there is a mutual aid agreement, provided that they are able to do so without jeopardizing their own services.

Fire departments in the County participate in several specialized response teams. The Kenosha County Dive team consists of paid and volunteer members of the County's fire, rescue, police and sheriff's departments. This team provides emergency response of trained personnel and equipment in water-related life-threatening situations, recovery of drowning victims, and search and recovery of crime evidence within the jurisdictional waters of Kenosha County. The Confined Space Rescue Team responds to any rescue involving victims trapped or incapacitated in an area having limited or restricted means for entry or exit. The High Angle Rescue Team responds to any rescue that requires rope and related equipment necessary to safely gain access to, and remove victim(s) from, hazardous areas with limited access such as water towers, ravines, high-rise buildings, above or below grade structures or terrain by means of a rope system. The Structural Collapse Rescue Team conducts search and rescue operations for victims at a structural collapse incident. The Trench Rescue Team responds to any incident involving victims trapped in a narrow excavation made below the surface of the ground. The Hazardous Materials Team responds to incidents involving hazardous materials. This team is responsible for identifying hazardous materials, assessing the hazard and risk associated with incidents, implementing control procedures, performing containment and confinement operations, rendering the incident area safe, and performing decontamination procedures.

Law Enforcement

Three of the 13 municipalities in Kenosha County provide for law enforcement through full-time police departments. In the remaining municipalities primary law enforcement is provided through the Kenosha County Sheriff's Department. In addition, the Town of Wheatland provides limited law enforcement through a Town constable and the Town of Salem provides limited law enforcement through public safety and water patrol officers. The University of Wisconsin-Parkside also has a law enforcement agency that patrols County and State roads adjacent to the campus. The location of local law enforcement stations in Kenosha County is shown on Map II-18. That map also shows the location of the State of Wisconsin, Department of Corrections, correctional facilities and County detention centers in Kenosha County.

The law enforcement agencies within Kenosha County have several special-purpose units and teams. The Kenosha County Bomb Squad operates under the authority of the Kenosha County Sheriff's Department and is made up of members from the Sheriff's Department, the City of Kenosha Police Department, and the City of Kenosha Fire Department. Members of this team have specialized training in handling suspected explosive devices, suspicious packages, bomb threats, and fireworks storage and disposal. The Sheriff's Department also has canine, all-terrain vehicle, and marine units. The City of Kenosha Police Department's special teams include a bike patrol and a canine unit. There are two special weapons and tactics (SWAT)-type teams within the County in the Sheriff's Department and City of Kenosha Police Department.

CRITICAL COMMUNITY FACILITIES

In addition to fire stations and law enforcement stations, as described above, other community facilities which are of importance in hazard mitigation planning include schools, government administration buildings, hospitals and major clinics, child day care centers, and nursing homes. Maps II-19 through II-23 show the locations of selected types of critical community facilities within Kenosha County. Because of the need for access to and from these facilities, the hazard mitigation plan includes their location. This relationship is discussed in Chapter III. A listing of the critical community facilities is included in Appendix D.

HAZARDOUS MATERIAL STORAGE AND USE

Public Law 99-499, the Superfund Amendment and Reauthorization Act (SARA/Title III) of 1986, and Wisconsin Act 342 set forth requirements for hazardous material reporting and safety planning. The primary reporting and centralized record-keeping related to hazardous materials is carried out under a partnership program involving the industries and other users of hazardous materials, the Wisconsin Division of Emergency Management, county emergency management departments/local emergency planning committees, and the local fire departments. In 2015, there were 229 identified users of extremely hazardous substances in Kenosha County. Of these facilities, 58 were classified as planning facilities, 118 were classified as reporting facilities, and 53 were classified as both planning facilities and reporting facilities. Reporting facilities are any facility that uses, stores, or produces chemicals at or above 10,000 pounds. Because there is no "hazardous chemical" list, the general assumption is that anything requiring the completion of a material safety data sheet (MSDS) is included as a reporting requirement. Reporting facilities include manufacturers, warehouses, and petroleum storage site operators. Planning facilities include a wide range of users of limited amounts of hazardous materials. In addition to industrial materials, the agricultural industry routinely uses materials considered extremely hazardous. These uses range from individual farm use materials to large chemical storage facilities.

The 229 facilities which are noted above as storing or producing hazardous materials are located throughout Kenosha County, as summarized in Table II-12. A detailed listing of these facilities and location by address is available at the Kenosha County Office of Emergency Management.

Between 2012 and 2014, Kenosha County averaged less than 10 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. These spills have typically been properly handled through local emergency response actions.

HISTORIC SITES

Historic sites in Kenosha County often have important recreational, educational, and cultural value. Certain sites of known historic significance are listed on the National Register of Historic Places. In 2015, there were 23 individual sites, three historic districts, and one mound site⁶ within the County listed on the National Register. The location of sites and districts in Kenosha County listed on the National Register of Historic Places in 2015 are presented on Table II-13 and on Map II-24, respectively.

REGULATIONS AND PROGRAMS RELATED TO HAZARD MITIGATION

The current ordinances and programs which are most directly related to hazard mitigation and plan implementation include general zoning, floodland zoning, shoreland or shoreland-wetland zoning regulations, stormwater management, and emergency operations programs. The zoning ordinances and operations programs most related to hazard mitigation administered by Kenosha County and the local units of government in the County are summarized in Table II-14, and below.

General Zoning

Cities in Wisconsin are granted general, or comprehensive, zoning powers under Section 62.23 of the *Wisconsin Statutes*. The same powers are granted to villages under Section 61.35 of the *Wisconsin Statutes*. Counties are granted general zoning powers within their unincorporated areas under Section 59.69 of the *Wisconsin Statutes*. However, a county zoning ordinance becomes effective only in those towns that ratify the county ordinance. Towns that have not adopted a county zoning ordinance may adopt village powers and subsequently utilize the city and village zoning authority conferred in Section 62.23 of the *Wisconsin Statutes*. Town zoning, however, is

⁶A historic district is a geographically definable area, urban or rural, that contains a concentration of significant historic sites or structures from the same period of time.

subject to county board approval where a general county zoning ordinance exists. Alternatively, towns may adopt a zoning ordinance under Section 60.61 of the *Wisconsin Statutes* where a general county zoning ordinance has not been adopted, but only after the county board fails to adopt a county ordinance at the petition of the governing body of the town concerned. General zoning is in effect in the unincorporated areas of the County, including all of the towns in the County and is jointly administered by Kenosha County and the towns. General zoning in the City of Kenosha and all of the villages within the County is administered individually by the municipalities.

Floodland Zoning

Section 87.30 of the *Wisconsin Statutes* requires that counties, with respect to their unincorporated areas, cities, and villages adopt floodland zoning to preserve the floodwater conveyance and storage capacity of the floodplain areas and to prevent the location of new flood-damage-prone development in flood hazard areas. The minimum standards that such ordinances must meet are set forth in Chapter NR 116 of the *Wisconsin Administrative Code*. The required regulations govern filling and development within a regulatory floodplain, which is defined as the area subject to inundation by the one-percent-annual-probability (100-year recurrence interval) flood event. Under Chapter NR 116, local floodland zoning regulations must prohibit nearly all forms of development within the floodway, which is that portion of the floodplain required to convey the one-percent-annual-probability peak flood flow. Local regulations must also restrict filling and development within the flood fringe, which is that portion of the floodplain located outside of the floodway that would be covered by floodwater during the one-percent-annual-probability flood. Permitting the filling and development of the flood fringe area, however, reduces the floodwater storage capacity of the natural floodplain, and may thereby increase stream flood flows and stages. The County Shoreland and Floodplain Zoning Ordinance applies in all of the unincorporated areas of the towns in Kenosha County. All incorporated cities and villages where floodplains have been identified have adopted floodland zoning ordinances.⁷

Shoreland and Shoreland-Wetland Zoning

Under Section 59.692 of the *Wisconsin Statutes*, counties in Wisconsin are required to adopt zoning regulations within statutorily defined shoreland areas, or, those lands that are within 1,000 feet of a navigable lake, pond, or flowage, or 300 feet of a navigable stream, or, to the landward side of the floodplain, whichever distance is greater, within their unincorporated areas. Minimum standards for county shoreland zoning ordinances are set forth in Chapter NR 115 of the *Wisconsin Administrative Code*. Chapter NR 115 sets forth minimum requirements regarding lot sizes and building setbacks; restrictions on cutting of trees and shrubbery; and restrictions on filling, grading, lagooning, dredging, ditching, and excavating that must be incorporated into county shoreland zoning regulations. In addition, Chapter NR 115 requires that counties place all wetlands five acres or larger and within

⁷*It is anticipated that the County ordinance will continue to apply on an interim basis as the Village of Somers organizes following incorporation.*

the statutory shoreland zoning jurisdiction area into a wetland conservancy zoning district to ensure their preservation after completion of appropriate wetland inventories by the Wisconsin Department of Natural Resources. Aside from wetlands within the shoreland zone, selected wetlands generally five acres and larger are also placed into conservancy zoning outside the shoreland zone in the unincorporated areas of the County.

In 1982, the State Legislature extended shoreland-wetland zoning requirements to cities and villages in Wisconsin. Under Sections 62.231 and 61.351 of the *Wisconsin Statutes* cities and villages, respectively, in Wisconsin are required to place wetlands five acres or larger and located in statutory shorelands into a shoreland-wetland conservancy zoning district to ensure their preservation. Minimum standards for city and village shoreland-wetland zoning ordinances are set forth in Chapter NR 117 of the *Wisconsin Administrative Code*.

County shoreland-wetland zoning ordinances are in effect in all unincorporated areas of Kenosha County. All of the incorporated municipalities within the County have adopted their own shoreland-wetland zoning ordinances pursuant to Sections 62.231 and 61.351, respectively, of the *Wisconsin Statutes*.⁸

An important element of the Kenosha County and City of Kenosha shoreland zoning ordinances relates to the regulation of land use activities and facilities along the Lake Michigan shoreline where shoreline erosion hazards exist. In the case of the County ordinance, provisions are included related to shoreline erosion protection, including defining pertinent terms, designating the lands to be regulated, specifying the necessary regulation of land use and facility location, specifying the regulation of certain land disturbance activities, designating setback distances, and describing procedures for modifying the extent of the designated setbacks.

The Lake Michigan shoreland protection provisions of the ordinance have been based upon recommendations of a Lake Michigan coastal erosion management technical committee which guided the preparation of a Lake Michigan coastal erosion management study for Kenosha County.⁹ That study recommended, and the current ordinance reflects, different shoreline setbacks for areas designated for development and structural shoreline protection and for areas of limited development where no structural protection measures are envisioned. Additional information on the erosion management study is provided in Chapters III and V.

⁸*It is anticipated that the County ordinance will continue to apply on an interim basis as the Village of Somers organizes following incorporation.*

⁹*SEWRPC Technical Report No. 36, Lake Michigan Shoreline Recession and Bluff Stability in Southeastern Wisconsin: 1995, December 1997.*

Emergency Operations Planning

In January 2013, Kenosha County adopted a comprehensive emergency management plan. The County plan includes procedures and protocols to respond to disasters or large-scale emergencies. The purpose and goal of the County emergency operations plan is to assist government in protecting lives, property, and the environment from major emergencies through addressing the areas of mitigation, preparedness, response, and recovery. This basic plan is intended as the core of the Kenosha County emergency operations program. It provides policy for department and agency managers and emergency management professionals to use in planning and actual operations. In response to a disaster or large-scale emergency, all local government forces, including law enforcement, fire, medical, health, public works, and others, will be considered a part of the County's emergency management organization, and will be the first line responders to such an emergency. When the emergency or disaster exceeds the capability of the local governments and the County to respond, the County will request assistance from the State of Wisconsin on behalf of the County and the affected municipalities. The Federal government will provide assistance to the State of Wisconsin when all local and State resources have been exhausted.

In addition, many of the local units of government have developed emergency operations plans and/or programs which complement the County plan and which also sets forth procedures and actions to deal with a range of situations and events.

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08/07/15, 09/15/15

SEWRPC Community Assistance Planning Report No. 278-3ED

KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2016-2020

Chapter II

BASIC STUDY AREA INVENTORY AND ANALYSIS

TABLES

[Blue highlighting indicates additions or revisions to the previous edition of the plan.]

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Table II-1

**AREAL EXTENT OF CIVIL DIVISIONS
IN KENOSHA COUNTY: 2015**

Civil Division	Area (square miles)	Percentage of County Area
Cities		
Kenosha.....	27.8	10.0
Villages		
Bristol.....	33.1	11.9
Genoa City.....	0.2	<0.1
Paddock Lake.....	3.1	1.1
Pleasant Prairie.....	33.6	12.1
Silver Lake.....	1.4	0.5
Somers ^a	12.1	4.3
Twin Lakes.....	10.0	3.6
Towns		
Brighton.....	35.8	12.8
Paris.....	35.3	12.7
Randall.....	13.9	5.0
Salem.....	31.9	11.5
Somers ^a	16.1	5.8
Wheatland.....	24.1	8.7
Total	278.4	100.0

^aOn April 24, 2015, a portion of the Town of Somers incorporated as the Village of Somers.

Source: U.S. Bureau of the Census and SEWRPC.

Table II-2

**RESIDENT POPULATION
LEVELS IN KENOSHA COUNTY: 1950-2035**

Year	Population	Change from Preceding Year Listed	
		Absolute	Percent
1950	75,238	--	--
1960	100,615	25,377	33.7
1970	117,917	17,302	17.2
1980	123,137	5,212	4.4
1990	128,181	5,044	4.1
2000	149,577	21,396	16.7
2010	166,426	16,849	11.3
2035 ^a	212,000	45,574	27.4

^aIntermediate growth projection from SEWRPC Technical Report No. 11, The Population of Southeastern Wisconsin, (5th Edition), April 2013.

Source: U.S. Bureau of the Census and SEWRPC.

Table II-3

**NUMBER OF HOUSEHOLDS IN
KENOSHA COUNTY: 1970-2035**

Year	Number of Households	Change from Preceding Census	
		Number	Percent
1970	35,468	--	--
1980	43,064	7,596	21.4
1990	47,029	3,965	9.2
2000	56,057	9,028	19.2
2010	62,650	6,593	11.8
2035 ^a	83,100	20,450	32.6

^aIntermediate growth projection from SEWRPC Technical Report No. 11, The Population of Southeastern Wisconsin, (5th Edition), April 2013.

Source: U.S. Bureau of the Census and SEWRPC.

Table II-4

**NUMBER OF JOBS IN KENOSHA
COUNTY: CENSUS YEARS 1970-2010**

Year	Number of Jobs	Change from Previous Time Period	
		Number	Percent
1970	42,715	--	--
1980	54,631	11,916	27.9
1990	52,230	-2,401	-4.4
2000	68,654	16,424	31.4
2010	74,900	6,246	8.3

Source: U.S. Bureau of Economic Analysis and SEWRPC.

Table II-5

EQUALIZED VALUE OF PROPERTY IN KENOSHA COUNTY BY MUNICIPALITY: 2014

Municipality	2014 Equalized Value	Percent Change from 2009
Cities		
Kenosha.....	\$5,524,779,300	-18.7
Subtotal	\$5,524,779,300	-18.7
Villages		
Bristol.....	\$ 514,406,100	-14.8
Paddock Lake	220,467,500	-16.9
Pleasant Prairie	2,651,867,100	-5.6
Silver Lake	162,893,500	-17.4
Somers	- a	- a
Twin Lakes.....	670,494,500	-24.2
Subtotal	\$4,220,128,700	-11.3
Towns		
Brighton	\$ 160,027,200	-22.0
Paris	196,604,700	-15.8
Randall.....	468,295,100	-14.9
Salem	990,367,500	-18.6
Somers	741,006,700 ^a	-7.5 ^a
Wheatland.....	279,762,100	-20.2
Subtotal	\$2,836,063,300	-15.1
Total ^b	\$12,580,971,300	-15.6

^aOn April 24, 2015, a portion of the Town of Somers incorporated as the Village of Somers. This occurred after the Wisconsin Department of Revenue calculated equalized values present in civil divisions for 2014. Based upon the incorporation proposal, it is estimated that the Village has received 73 percent of the equalized value present in the Town prior to incorporation and the remnant town has received 27 percent. Thus it is the 2014 equalized value for the Village of Somers is estimated as being \$540,934,900 and the 2014 equalized value of the remnant Town of Somers is estimated as being \$200,071,800.

^bThe total for Kenosha County, including the equalized value of the portion of the Village of Genoa City that is in Kenosha County, is \$12,581,231,400. The Village is predominantly located in Walworth County and is not included under this plan.

Source: Wisconsin Department of Revenue and SEWRPC.

Table II-6

LAND USE IN KENOSHA COUNTY: 2010

Land Use Category ^a	Acres	Percent of Subtotal	Percent of County
Urban			
Residential.....	20,735	48.7	11.6
Commercial.....	1,723	4.0	1.0
Industrial.....	1,888	4.4	1.1
Transportation, Communications, and Utilities ^a	12,429	29.2	7.0
Governmental and Institutional.....	2,039	4.8	1.1
Recreational.....	3,767	8.9	2.1
Subtotal	42,581	100.0	23.9
Nonurban			
Agricultural.....	87,431	64.5	49.0
Woodlands.....	10,168	7.5	5.7
Wetlands.....	18,520	13.6	10.4
Surface Water.....	5,660	4.2	3.2
Extractive.....	324	0.2	0.2
Landfills.....	418	0.3	0.2
Open Lands ^b	13,097	9.7	7.4
Subtotal	135,618	100.0	76.1
Total	178,199	100.0	100.0

^aIncludes parking areas of greater than 10 spaces.

^bOpen lands include lands in rural uses that are not being farmed; land under development, except for single-family residential uses; and other lands that have not been developed including residential lands or outlots attendant to existing urban development that are not expected to be developed.

Source: SEWRPC.

Table II-7

MOBILE HOME PARKS AND MOBILE HOMES IN KENOSHA COUNTY: 2010

Number on Map IV-2	Mobile Home Park Name	Size (acres)	Number of Sites	Number of Mobile Homes	Location
Mobile Home Parks					
1	Bristol Heights	1.8	18	7	Village of Bristol
2	Rainbow Lake Manor	36.6	225	261	Village of Bristol
3	Kenosha Estates ^a	2.7	50	42	Village of Somers
4	Alpine Village Mobile Home Park	4.2	48	43	City of Kenosha
5	Kenosha Estates ^b	1.8	39	36	Village of Somers
6	Maple Lane Court ^c	7.6	100	80	City of Kenosha
7	Mid-City Mobile Home Court	0.7	9	10	Village of Somers
8	Nelson's Hillcrest Mobile Home Park	4.0	50	47	Village of Somers
9	Oakwood Mobile Home Community	21.0	215	210	City of Kenosha
10	Pine Ridge Estates	0.9	2	2	Village of Somers
11	Pleasant Prairie Mobile Home Park	4.0	35	29	Town of Somers
12	Prairie Lake Estates	11.8	70	70	City of Kenosha
13	Scotty's Mobile Home Park	1.3	50	26	Village of Pleasant Prairie
14	Shorecrest Pointe Mobile Home Park	6.7	91	47	City of Kenosha
15	City View Mobile Home Park	11.2	125	111	Village of Pleasant Prairie
16	Timber Ridge Mobile Home Park	13.0	112	137	Village of Pleasant Prairie
17	Westwood Estates	46.8	290	287	Village of Pleasant Prairie
18	Lakewood Estates Mobile Home Park	6.8	24	26	Town of Salem
19	Lake Crest Mobile Home Park	6.2	54	53	Village of Silver Lake
20	Carefree Estates	25.5	152	152	Town of Salem
21	Wheatland Estates Mobile Home Court	26.9	197	187	Town of Wheatland
22	Shady Nook Mobile Home Park	5.9	50	47	Town of Brighton
23	Oakdale Estates	28.3	161	161	Town of Somers
24	--	1.8		19	Village of Bristol
Single Family or Small Groupings					
25	--	0.3		1	Town of Randall
26	--	1.0		1	Town of Salem
27	--	0.7		1	Village of Bristol
28	--	1.5		1	Village of Pleasant Prairie
29	--	0.2		1	City of Kenosha

^aThis mobile home park was previous know as Alford's Park Mobile Home Court.

^bThis mobile home park was previous know as Embassy Mobil Home Park.

^cMaple Lane Court has two licenses with the number of licensed sites totaling 100.

Source: Wisconsin Department of Safety and Professional Services and SEWRPC.

Table II-8

LAKE MANAGEMENT DISTRICTS IN KENOSHA COUNTY: 2015

Name	Lakes	Municipalities
Benedict-Tombeau Lakes Management District	Benedict Lake Tombeau Lake	Town of Randall, Town of Bloomfield ^a
Camp/Center Lake Rehabilitation District	Camp Lake Center Lake	Town of Salem
George Lake Preservation and Rehabilitation District	George Lake	Village of Bristol
Hooker Lake Management District	Hooker Lake	Village of Paddock Lake Town of Salem
Lilly Lake Preservation and Rehabilitation District	Lilly Lake	Town of Wheatland
Paddock Lake Preservation and Rehabilitation District	Paddock Lake	Village of Paddock Lake
Twin Lakes Preservation and Rehabilitation District	Elizabeth Lake Mary Lake	Village of Twin Lakes
Voltz Lake Management District	Voltz Lake	Town of Salem

^aLocated in Walworth County.

Source: University of Wisconsin-Extension, and SEWRPC.

Table II-8a

WISCONSIN DEPARTMENT OF NATURAL RESOURCES DAM INVENTORY INFORMATION: 2015

Number on Map II-6	WDNR Dam Sequence Number	Dam Name		Owner	Township	WDNR Field File Number	Size	Hydraulic Height (feet)	Structural Height (feet)	Impoundment Surface Area (acres)	Maximum Impoundment Storage (acre-feet)	Hazard Potential
		Official	Local									
1	147	Lake Shangri La	--	Town of Bristol	Bristol	30.08	Large	12.0	16.0	172.0	1,200.0	High
2	264	Rock Lake	--	--	Salem	30.10	Large	4.0	8.0	44.0	350.0	Low
3	1034	Bong Recreation Area 8	Wolf Lake Dam	WDNR - Richard Bong Team	Brighton	30.15	Large	8.0	10.0	158.0	900.0	Low
4	1104	Hawke	--	Robert K. Hawke		30.14	Small	--	--	3.5	--	--
5	1269	Hooker Lake	Carl Bryzek	Carl Bryzek Farm, LLC	Salem	30.02	Small	1.0	3.0	87.0	180.0	Low
6	1270	Camp Lake	Camp Lake	Kenosha County DPW	Salem	30.03	Large	0.3	7.2	461.0	1,500.0	Low
7	1271	Paddock Lake 3	--	Vince Paddock	Salem	30.04	Small	2.0	3.0	130.0	300.0	Low
8	1272	Silver Lake	Jack Erb	Brian Sullivan	Salem	30.05	Small	1.0	2.0	464.0	920.0	Low
9	1273	Cross Lake	B.J. Corbin	Harbhajan Singh Samra	Salem	30.07	Small	3.0	4.0	87.0	270.0	Significant
10	1274	Lake George	John Haterlein	George Wronowski	Bristol	30.09	Small	4.0	6.0	59.0	290.0	Low
11	1275	Voltz Lake	--	Unknown	Salem	30.11	Small	3.0	5.0	52.0	200.0	Significant
12	1276	Center Lake 2	Center Lake Conservation & Sport Club	Center Lake Cons-Sports	Salem	30.12	Small	1.0	3.0	129.0	390.0	Low
13	1277	Dyer Lake	--	Kenosha Boy Scouts of America	Wheatland	30.13	Small	3.0	6.0	52.0	200.0	Significant
14	1911	Bong Recreational Area 2	Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources		30.00	Small	4.0	9.4	--	10.0	--
15	1912	Bong Recreational Area 3	Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources		30.00	Small	--	6.0	--	--	--
16	1913	Bong Recreational Area 4	Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources		30.00	Small	--	5.0	--	--	--
17	1915	Bong Recreational Area 6	Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources		30.00	Small	--	--	--	--	--
18	1914	Bong Recreational Area 5	Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources		30.00	--	--	6.0	--	--	--
19	1916	Bong Recreational Area 7	Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources		30.00	--	--	2.0	--	--	--
20	2382	Pike Creek	City of Kenosha	City of Kenosha		30.00	Small	2.0	7.0	1.0	5.0	--
21	2555	Charles Yandre	--	Charles Yandre		30.00	Small	5.0	8.0	5.0	30.0	--
22	3081	New Munster Wildlife Area	Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources		30.00	Small	4.0	7.0	12.0	40.0	--
23	3204	Bong Recreation Area 1	Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources		30.00	Small	5.0	--	--	--	--
24	3692	Pleasant Prairie	--	Village of Pleasant Prairie		30.00	Small	2.6	4.7	104.0	530.0	--
25	5906	Meyer Material KD Pit	--	Kenosha County		30.16	Small	14.5	--	38.0	535.0	High
26	6177	Marescalco	--	--		30.18	--	--	--	--	--	--

Source: Wisconsin Department of Natural Resources and SEWRPC.

Table II-9

**ESTIMATED FREEWAY AND SURFACE ARTERIAL FACILITY
DESIGN CAPACITY AND ATTENDANT LEVEL OF CONGESTION^a**

Facility Type	Average Weekday Traffic Volumes (vehicles per 24 hours)			
	Design Capacity and Upper Limit of Level of Service C	Upper Limit of Moderate Congestion and Level of Service D	Upper Limit of Severe Congestion and Level of Service E	Extreme Congestion and Level of Service F
Freeway				
Four-Lane	60,000	80,000	90,000	>90,000
Six-Lane	90,000	121,000	135,000	>135,000
Eight-Lane	120,000	161,000	180,000	>180,000
Standard Arterial				
Two-Lane	14,000	18,000	19,000	>19,000
Four-Lane Undivided	18,000	23,000	24,000	>24,000
Four-Lane with Two-way Left Turn Lane	21,000	29,000	31,000	>31,000
Four-Lane Divided	27,000	31,000	32,000	>32,000
Six-Lane Divided.....	38,000	45,000	48,000	>48,000
Eight-Lane Divided	50,000	60,000	63,000	>63,000

The level of congestion on arterial streets and highways may be summarized by the following operating conditions:

Freeway			
Level of Traffic Congestion	Level of Service	Average Speed	Operating Conditions
None	A and B	Freeway free-flow speed	No restrictions on ability to maneuver and change lanes
None	C	Freeway free-flow speed	Ability to maneuver and change lanes noticeably restricted
Moderate	D	1 to 2 mph below free-flow speed	Ability to maneuver and change lanes more noticeably limited; reduced driver physical and psychological comfort levels
Severe	E	Up to 10 mph below free-flow speed	Virtually no ability to maneuver and change lanes. Operation at maximum capacity. No usable gaps in the traffic stream to accommodate lane changing
Extreme	F	Typically 20 to 30 mph or less	Breakdown in vehicular flow with stop-and-go, bumper-to-bumper traffic

Surface Arterial			
Level of Traffic Congestion	Level of Service	Average Speed	Operating Conditions
None	A and B	70 to 100 percent of free-flow speed	Ability to maneuver in traffic stream in unimpeded. Control delay at signalized intersections is minimal
None	C	50 to 100 percent of free-flow speed	Restricted ability to maneuver and change lanes at mid-block locations
Moderate	D	40 to 50 percent of free-flow speed	Restricted ability to maneuver and change lanes. Small increases in flow lead to substantial increases in delay and decreases in travel speed
Severe	E	33 to 40 percent of free-flow speed	Significant restrictions on lane changes. Traffic flow approaches instability
Extreme	F	25 to 33 percent of free-flow speed	Flow at extremely low speeds. Intersection congestion with high delays, high volumes, and extensive queuing

^aDesign capacity is the maximum level of traffic volume a facility can carry before beginning to experience morning and afternoon peak traffic hour traffic congestion, and is expressed in terms of number of vehicles per average weekday.

Source: SEWRPC.

Table II-10

**ESTIMATED USE OF WATER IN KENOSHA COUNTY
IN 2010 IN MILLION GALLONS PER DAY**

Usage Category	Water Source	
	Surface Water	Groundwater
Public ^a	13.52	0.26
Industrial	--	0.11
Commercial.....	--	--
Irrigation.....	0.04	0.39
Agricultural	0.02	0.20
Aquaculture.....	--	--
Domestic.....	--	2.08
Total	13.58	3.04

^aIncludes water delivered to residents, industry, and commerce within the served area.

Source: U.S. Geological Survey and SEWRPC.

Table II-11

**WORKING STATUS OF FIRE DEPARTMENTS, EMERGENCY MEDICAL SERVICE PROVIDERS,
AND LAW ENFORCEMENT DEPARTMENTS SERVING KENOSHA COUNTY: 2015**

<u>Fire/Rescue Department</u> Municipally Owned = M Privately Owned = P	Working Status of Fire Suppression Department	Emergency Medical Service Arrangement	Working Status of Law Enforcement Department
City of Kenosha – M	Full Time (Kenosha Fire)	Full Time (Kenosha Fire)	Full-time (City Police Department)
Village of Bristol – M	Full-time and Paid On Call (Bristol Fire)	Full-time and Paid On Call (Bristol Fire)	County Sheriff Department
Village of Paddock Lake – P	Contract with Salem Fire (Paid On Call)	Contract with Salem Rescue (Part-time and Paid On Call)	Full-time (Village Police Contract with County Sheriff Department)
Village of Pleasant Prairie – M	Full-time, Part Time and Paid On Call (Pleasant Prairie Fire)	Full-time, Part Time and Paid On Call (Pleasant Prairie Fire)	Full-time (Village Police Department)
Village of Silver Lake – M	Paid On Call (Silver Lake Fire) – M	Part-time and Paid On Call (Silver Lake Rescue)- P	County Sheriff Department
Village of Somers ^a	Full-time and Paid On Call (Somers Fire and Rescue)	Full-time and Paid On Call (Somers Fire and Rescue)	County Sheriff Department
Village of Twin Lakes –M	Paid On Call (Twin Lakes Fire and Rescue)	Paid On Call (Twin Lakes Fire and Rescue)	Full-time (Village Police Department)
Town of Brighton – P	Contracts with Salem Fire (Paid On Call), Silver Lake Fire (Paid On Call), and Kansasville Fire (Volunteer)	Contracts with Silver Lake Rescue (Private, Part-time and Paid On Call) and Salem Rescue (Part-time and Paid On Call)	County Sheriff Department
Town of Paris – M	Paid On Call (Paris Fire and Rescue)	Paid On Call (Paris Fire and Rescue)	County Sheriff Department
Town of Randall –M	Paid On Call and Volunteer (Randall Fire)	Contracts with Silver Lake Rescue (Private, Part-time and Paid On Call) and Twin Lakes Fire and Rescue (Paid On Call)	County Sheriff Department
Town of Salem – M	Paid On Call (Salem Fire)	Part-time and Paid On Call (Salem Rescue and Silver Lake Rescue)	County Sheriff Department Part-time Constables
Town of Somers – M	Full-time and Paid On Call (Somers Fire and Rescue)	Full-time and Paid On Call (Somers Fire and Rescue)	County Sheriff Department
Town of Wheatland – M	Volunteer (Wheatland Fire)	Volunteer (Wheatland Fire) Part-time and Paid On Call (Silver Lake Rescue)	County Sheriff Department Part-time Constable
UW Parkside Police	Contract with Kenosha Fire (full time)	Contract with Kenosha Fire (full time)	Full-time (University Police Department)
Wisconsin DNR	--	--	--
Wisconsin State Patrol	--	--	--

^aOn April 24, 2015, a portion of the Town of Somers incorporated as the Village of Somers.

Source: Kenosha County Division of Emergency Management and SEWRPC.

Table II-12

**CIVIL DIVISION LOCATION OF FACILITIES
THAT STORE HAZARDOUS MATERIALS: 2015**

Municipality	Number of Facilities		
	Reporting Only	Planning Only	Reporting and Planning
Cities			
Kenosha.....	54	21	19
Subtotal	54	21	19
Villages			
Bristol.....	7	3	3
Paddock Lake	2	0	0
Pleasant Prairie.....	39	27	26
Silver Lake	1	1	1
Somers ^a	3	1	0
Twin Lakes.....	2	1	1
Subtotal	54	33	31
Towns			
Brighton	0	0	0
Paris	4	3	2
Randall.....	0	0	0
Salem	4	1	1
Wheatland.....	2	0	0
Subtotal	10	4	3
Total	118	58	53

^aOn April 24, 2015, a portion of the Town of Somers incorporated as the Village of Somers. Total shown is a combined total for both the Village of Somers and the Town of Somers.

Source: Kenosha County Division of Emergency Management.

Table II-13

HISTORIC SITES AND DISTRICTS IN KENOSHA COUNTY ON THE NATIONAL REGISTER OF HISTORIC PLACES: 2014

Number on Map 25	Site Name	Location ^a	Municipality	Year Listed
1	Third Avenue Historic District.....	T1N, R23E, Section 5	City of Kenosha	1988
2	Library Park Historic District	T2N, R23E, Section 31	City of Kenosha	1988
3	Civic Center Historic District	T2N, R23E, Section 31	City of Kenosha	1989
4	Justin Weed House	T2N, R22E, Section 25	City of Kenosha	1974
5	Gilbert Simmons Memorial Library.....	T1N, R23E, Section 5	City of Kenosha	1974
6	Kemper Hall	T1N, R23E, Section 5	City of Kenosha	1976
7	Barnes Creek Site	Address restricted	Village of Pleasant Prairie	1977
8	John McCaffary House	T2N, R23E, Section 31	City of Kenosha	1978
9	Chesrow Site.....	Address restricted	Village of Pleasant Prairie	1978
10	St. Matthew's Episcopal Church	T2N, R23E, Section 31	City of Kenosha	1979
11	Kenosha High School.....	T2N, R23E, Section 31	City of Kenosha	1980
12	Boys and Girls Library	T2N, R23E, Section 31	City of Kenosha	1980
13	Manor House.....	T1N, R23E, Section 5	City of Kenosha	1980
14	Kenosha County Courthouse and Jail	T2N, R23E, Section 31	City of Kenosha	1982
15	Wehmoff Mound	Address restricted	Town of Wheatland	1985
16	Kenosha Light Station	T2N, R23E, Section 31	City of Kenosha	1990
17	Lucas Site	Address restricted	Village of Pleasant Prairie	1995
18	Rosinco.....	Address restricted	City of Kenosha	2001
19	Alford Park Warehouse	T2N, R23E, Section 19	City of Kenosha	2002
20	Southport Beach House	T1N, R23E, Section 8	City of Kenosha	2003
21	Simmons Island Beach House.....	T2N, R23E, Section 32	City of Kenosha	2003
22	Washington Park Clubhouse	T2N, R22E, Section 25	City of Kenosha	2003
23	Frank and Jane Isermann House	T2N, R23E, Section 31	City of Kenosha	2004
24	Library Park.....	T1N, R23E, Section 5	City of Kenosha	2000
25	Anthony and Caroline Isermann House	T2N, R23E, Section 31	City of Kenosha	2004
26	Kenosha North Pierhead Light	T2N, R23E, Section 32	City of Kenosha	2008
27	Wisconsin Shipwreck	Lake Michigan ^b	City of Kenosha	2009

^aIndicates location given in U.S. Public Land Survey Township, Range, and Section.

^bThe shipwreck of the Wisconsin is located in Lake Michigan about 6.5 miles south-southeast of the City of Kenosha.

Source: State Historical Society of Wisconsin, Kenosha County, and SEWRPC.

Table II-14

REGULATIONS AND PROGRAMS WITHIN KENOSHA COUNTY RELATED TO HAZARD MITIGATION

Municipality	Type of Ordinance or Program					
	General Zoning	Floodland Zoning	Stormwater Management	Shoreland or Shoreland Wetland Zoning	Emergency Operations Plan	Floodland and Shoreland Zoning Reference Data
Kenosha County	Adopted	Adopted	Adopted ^a	Adopted	Adopted	Kenosha County General Zoning Shoreland and Floodplain Zoning Ordinance. Revised December 17, 2014. Section 12.18, pages 12-47 through 12-47; 12.26-1, pages 12-158 through 12-158; 12.28-10, pages 12-210 through 12-213; 12-39, pages 12-306 through 12-307; and 12.40, pages 12-307 through 12-309.
City of Kenosha	Adopted	Adopted	Adopted	Adopted	Adopted	Zoning Ordinance for the City of Kenosha, Wisconsin. 1998. Revised effective April 10, 2015. Section 3.0 (3.20, 3.21, and 3.23)
Village of Bristol	Adopted	Adopted	Adopted		Updated version adopted 05/10/2010	Village of Bristol Floodplain Zoning Ordinance January 28, 2013. Title 13-2
Village of Paddock Lake	Adopted	Adopted	Adopted	Adopted	Revised, but not adopted as of 02/19/04	Village of Paddock Lake Zoning Ordinance. April 1994. Section 12.05, pages 69-77. Sections 41-01 through 41-10 pages 1-55
Village of Pleasant Prairie	Adopted	Adopted	Adopted	Adopted	Revised, but not adopted as of 02/19/04	Village of Pleasant Prairie General Zoning and Shoreland/ Floodland Zoning Ordinance. April 18, 2005. Chapter 420
Village of Silver Lake	Adopted	Adopted	Adopted	Adopted	Revised, but not adopted as of 02/19/04	Village of Silver Lake Floodplain/ Shoreland Zoning Ordinance #466. June 2007
Village of Somers	--b	--b	--b	--b	--b	--b
Village of Twin Lakes	Adopted	Adopted	Adopted	Adopted	Revised, but not adopted as of 02/19/04	Village of Twin Lakes Zoning Ordinance. Revised March 2007. Sections 17.37, 17.38, and 17.39
Town of Brighton	County ordinance	County ordinance	--	County ordinance	Revised, but not adopted as of 02/19/04	Kenosha County Ordinance
Town of Paris	County ordinance	County ordinance	--	County ordinance	Revised, but not adopted as of 02/19/04	Kenosha County Ordinance
Town of Randall	County ordinance	County ordinance	--	County ordinance	Adopted	Kenosha County Ordinance
Town of Salem	County ordinance	County ordinance	Adopted	County ordinance	Revised, but not adopted as of 02/19/04	Kenosha County Ordinance Camp Lake/ Center Lake Floodplain Fringe Overlay District. Section 12.26-1.5 and 12.26-1.7, pages 12-143 through 12-150
Town of Somers	County ordinance	County ordinance	Adopted	County ordinance	Adopted	Kenosha County Ordinance
Town of Wheatland	County ordinance	County ordinance	--	County ordinance	Revised, but not adopted as of 02/19/04	Kenosha County Ordinance

^aChapter 17, "Stormwater Management, Erosion Control, and Illicit Discharge Ordinance," was adopted on February 26, 2010. This ordinance only applies to County property and to those towns that have not enacted their own ordinances.

^bIt is anticipated that the County Ordinances and the Town of Somers stormwater management program will continue to apply on an interim basis as the Village of Somers organizes following incorporation.

Source: Kenosha County Division of Emergency Management, Kenosha County Department of Planning and Development, and SEWRPC.

#224150 – KENOSHA CO CH-2 MAPS DRAFTS (TITLES)
500-1112
JEB/kmd
09/16/15

SEWRPC Community Assistance Planning Report No. 278-3ED

KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2016-2020

Chapter II

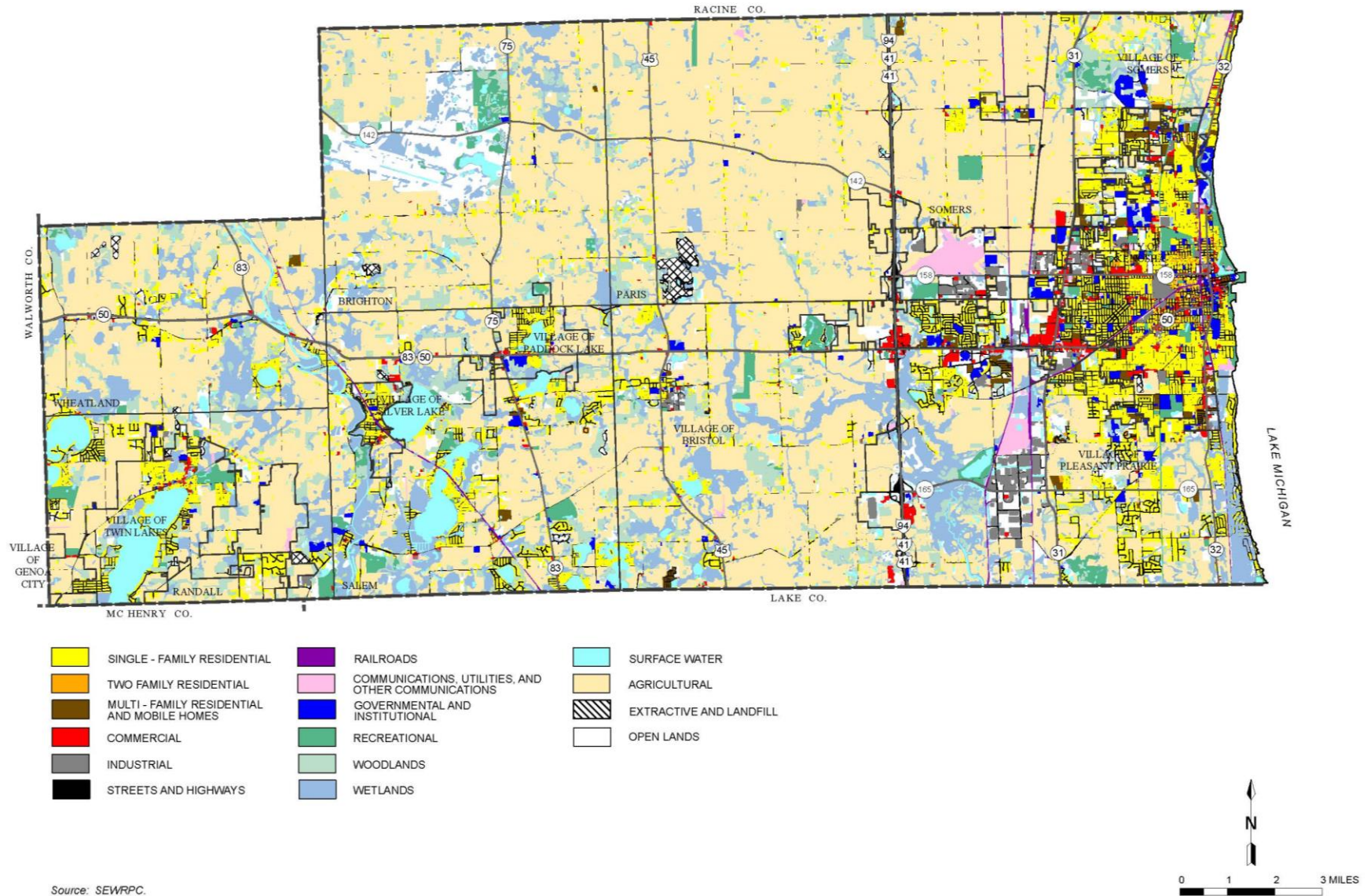
BASIC STUDY AREA INVENTORY AND ANALYSIS

MAPS

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Map II-1

EXISTING LAND USE IN KENOSHA COUNTY: 2010

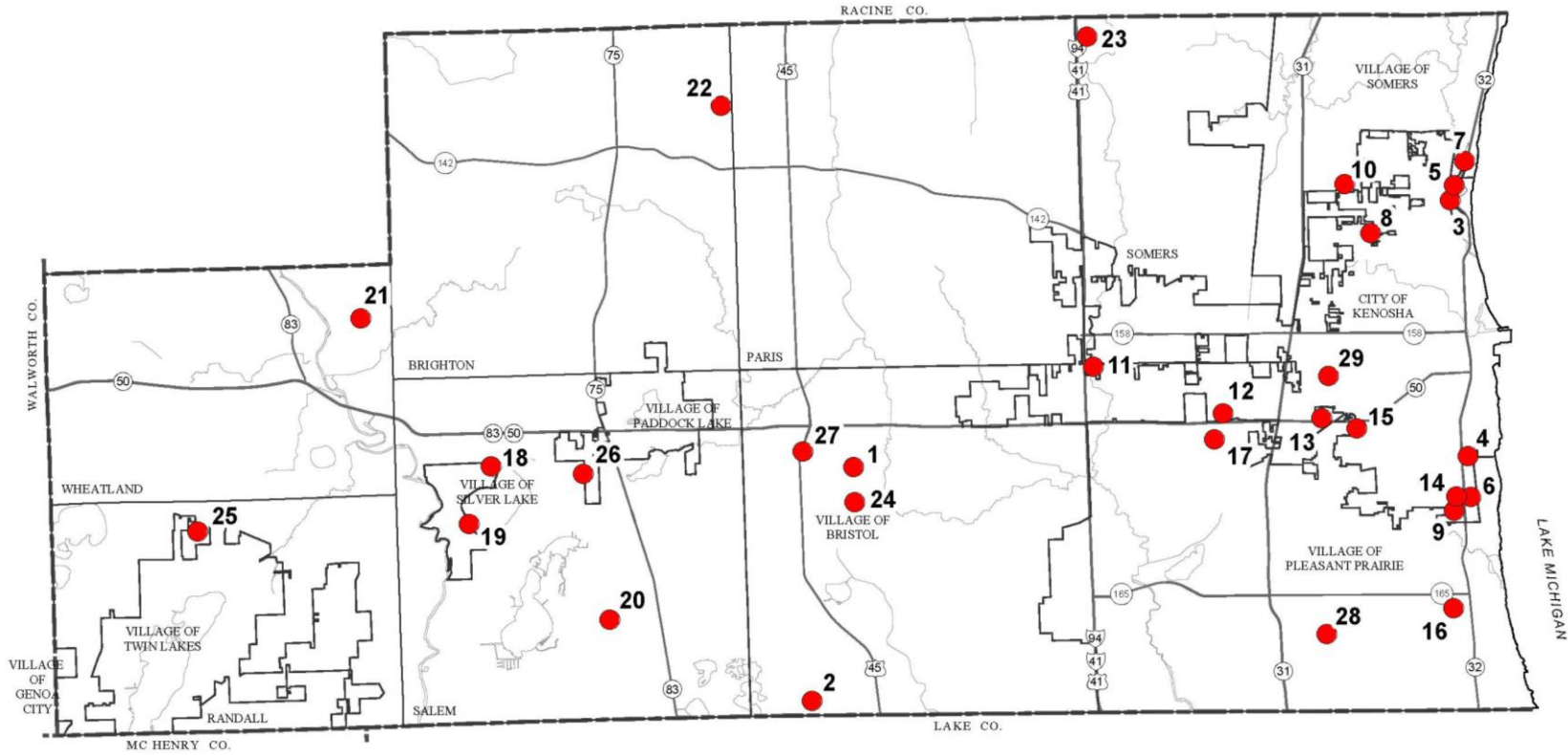


Source: SEWRPC.

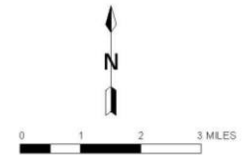
PRELIMINARY DRAFT

Map II-2

MOBILE HOMES AND MOBILE HOME PARKS IN KENOSHA COUNTY: 2010



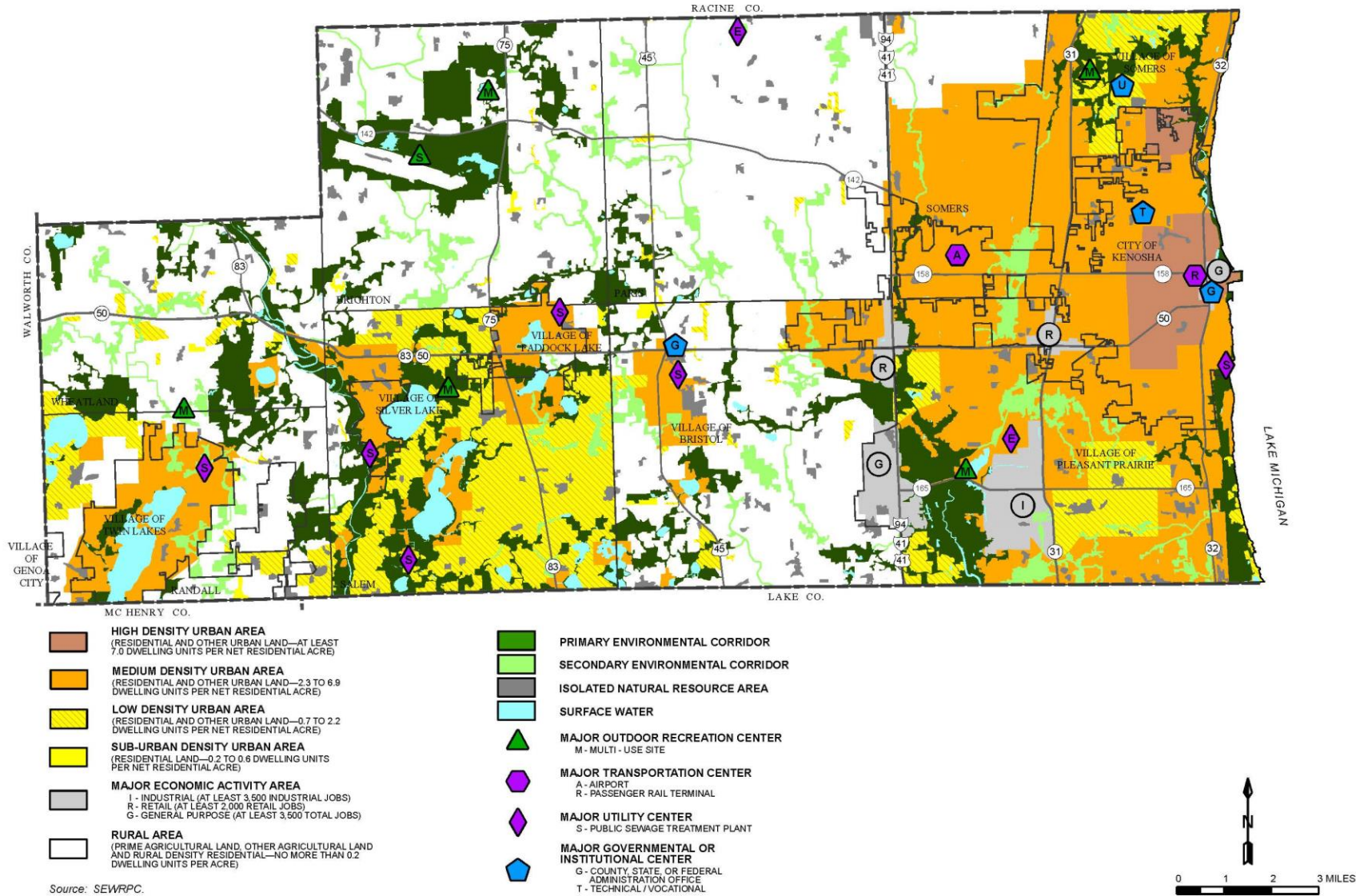
- MOBILE HOME PARK LOCATION
- 22** REFERENCE NUMBER (SEE TABLE II-7)



Source: SEWRPC.

Map II-3

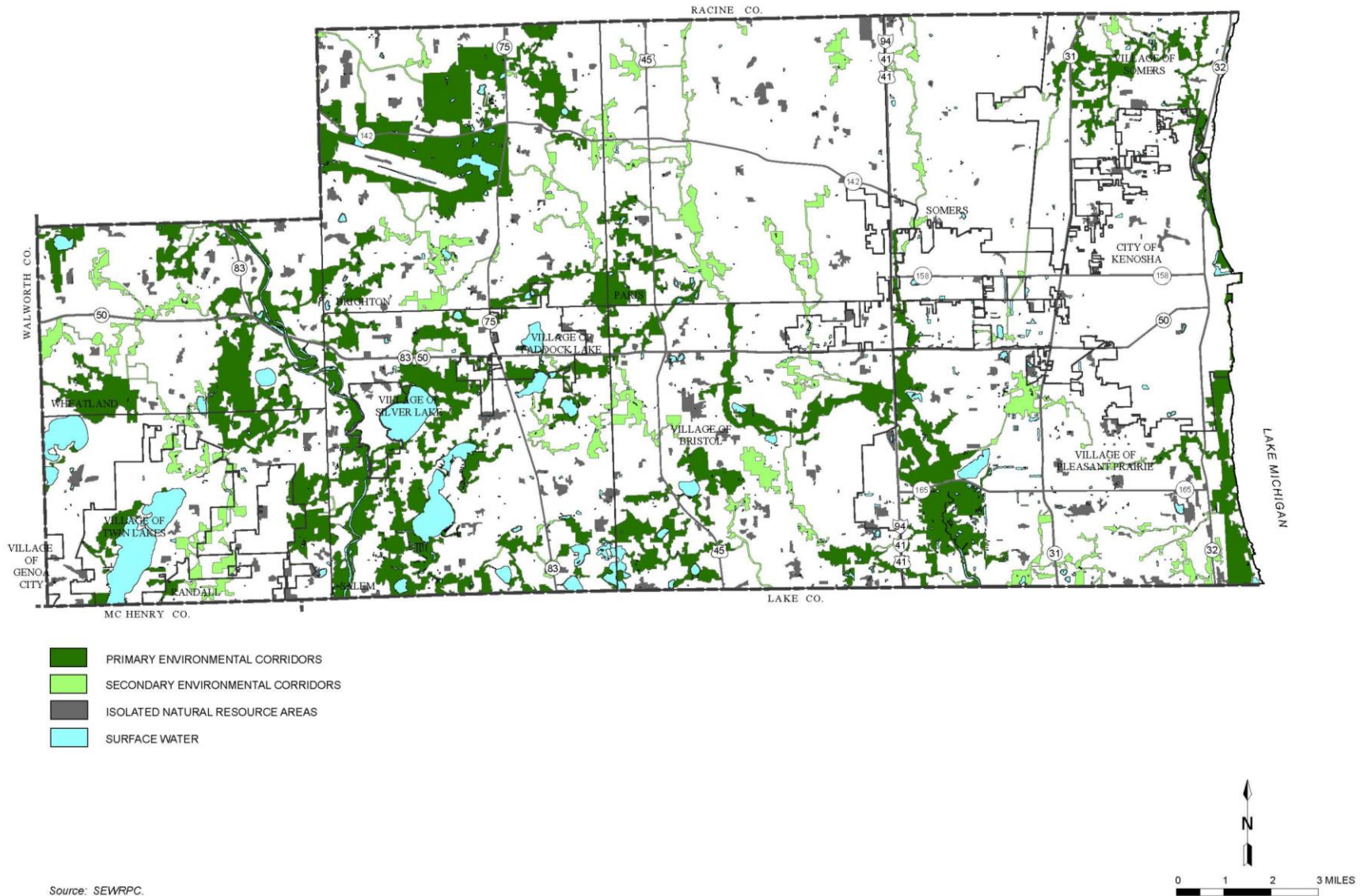
2035 REGIONAL LAND USE PLAN AS IT PERTAINS TO KENOSHA COUNTY



PRELIMINARY DRAFT

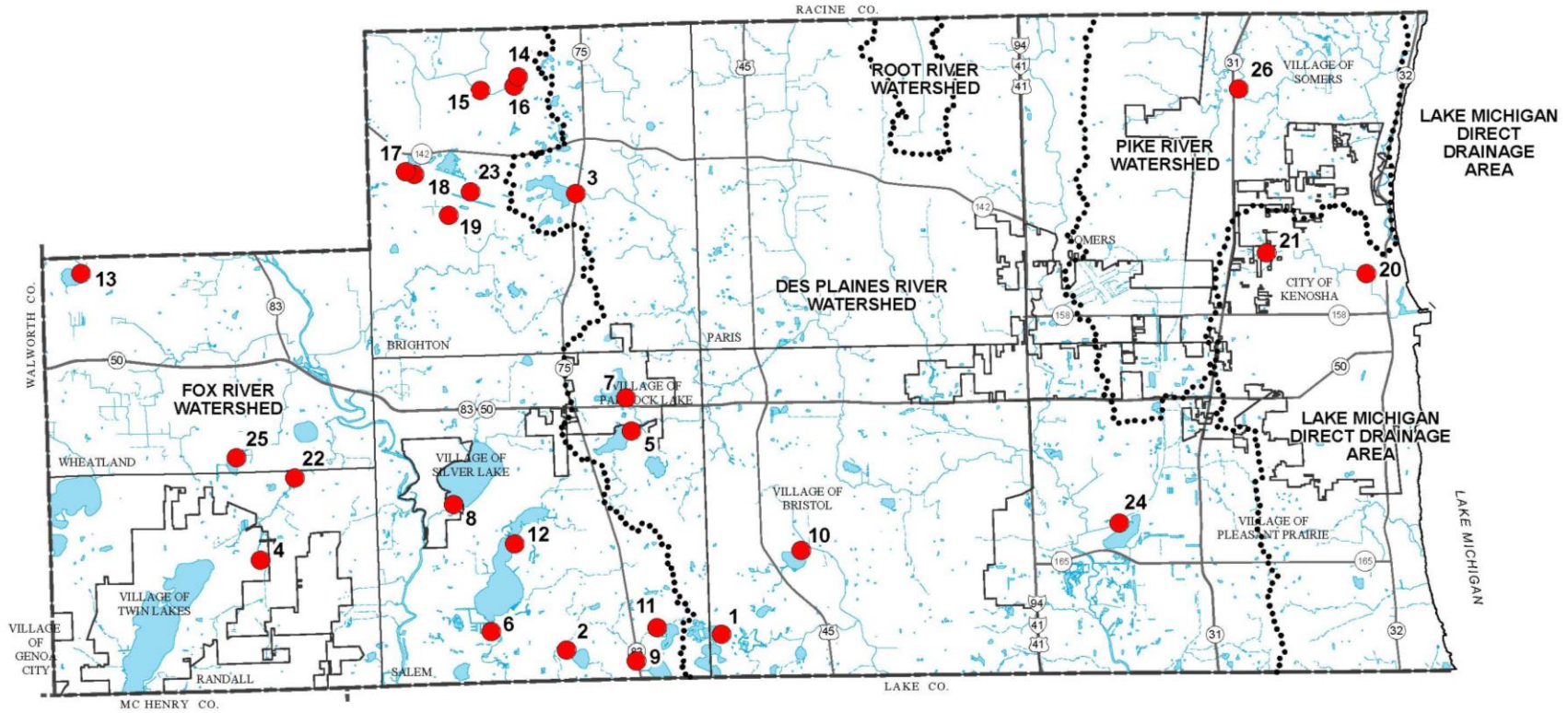
Map II-4

ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS IN KENOSHA COUNTY: 2010



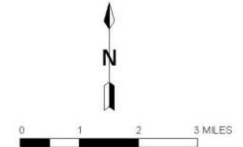
Map II-6

DAMS LOCATED WITHIN KENOSHA COUNTY: 2015



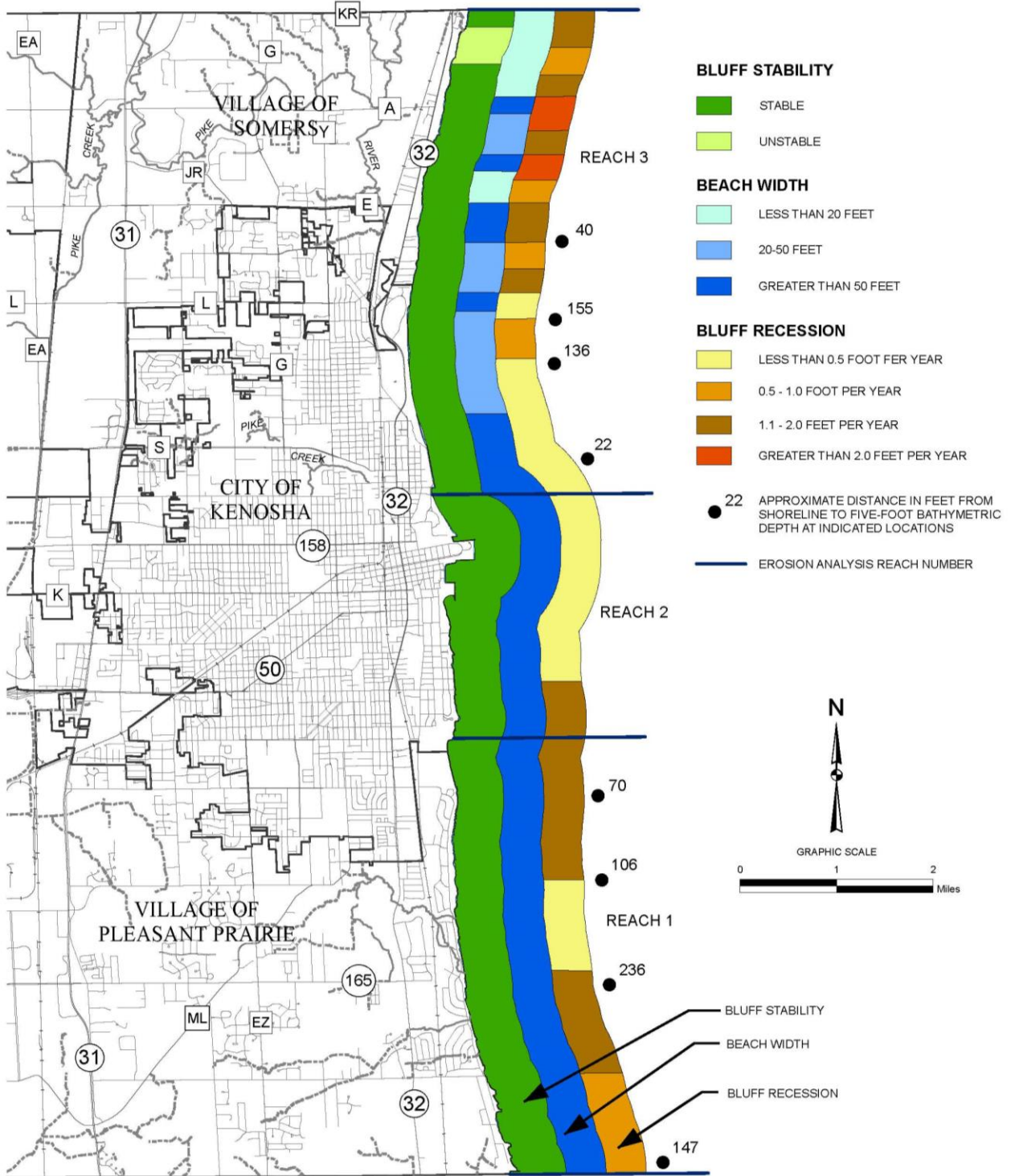
- DAM LOCATION
- SURFACE WATER: 2010
- 22** REFERENCE NUMBER (SEE TABLE II-8A)
- PERENNIAL STREAM
- - - INTERMITTENT STREAM
- MAJOR WATERSHED BOUNDARY

Source: Wisconsin Department of Natural Resources and SEWRPC.



Map II-7

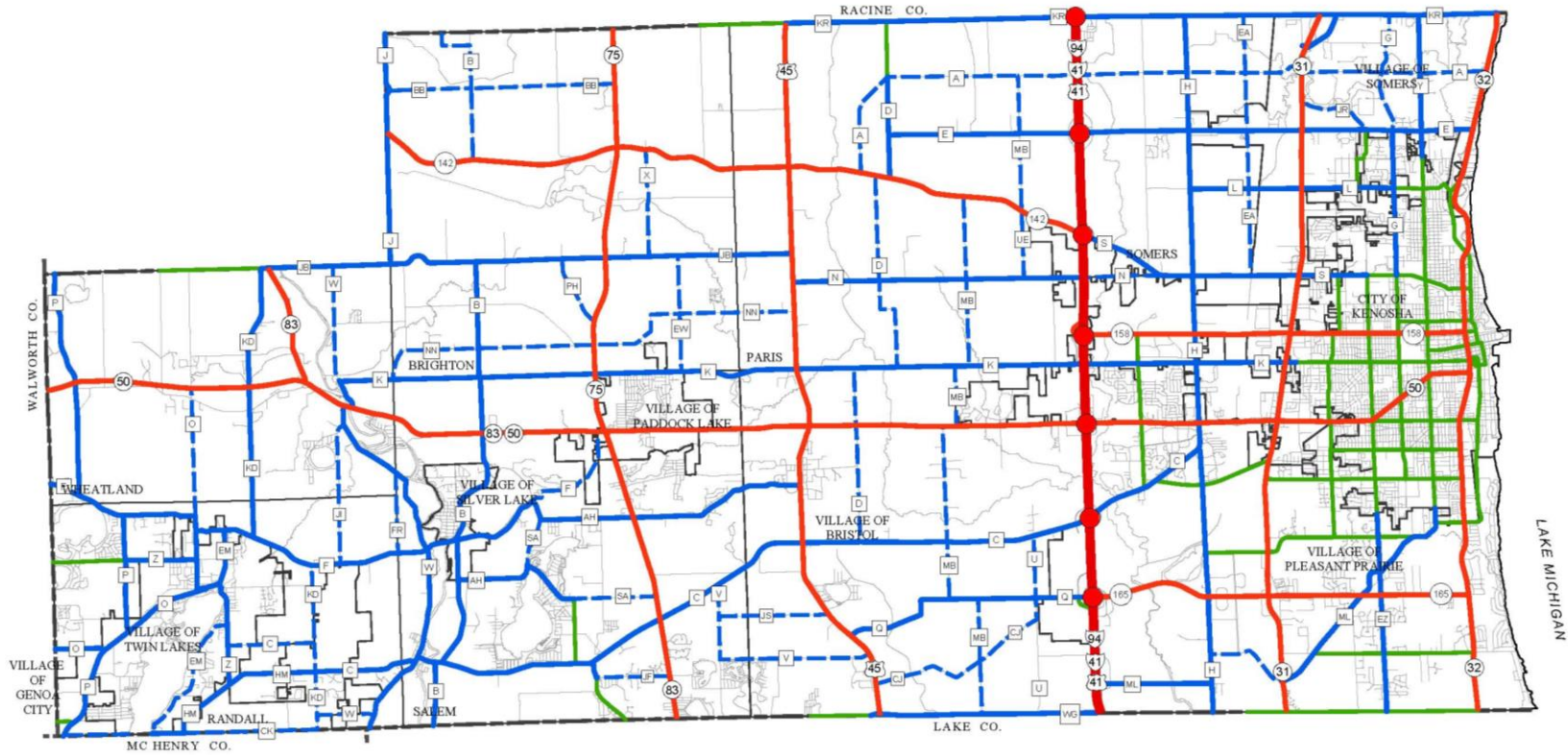
LAKE MICHIGAN SHORELINE EROSION AND BLUFF STABILITY ANALYSIS FOR KENOSHA COUNTY: 1995



Source: T.B Edil, D.M. Mickelson, J.A. Chapman, and SEWRPC.

Map II-8

ARTERIAL STREETS AND HIGHWAYS IN KENOSHA COUNTY: 2015



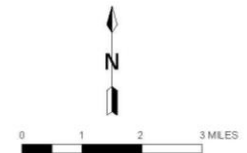
FREEWAY

- STATE TRUNK HIGHWAY
- INTERCHANGE

STANDARD ARTERIAL

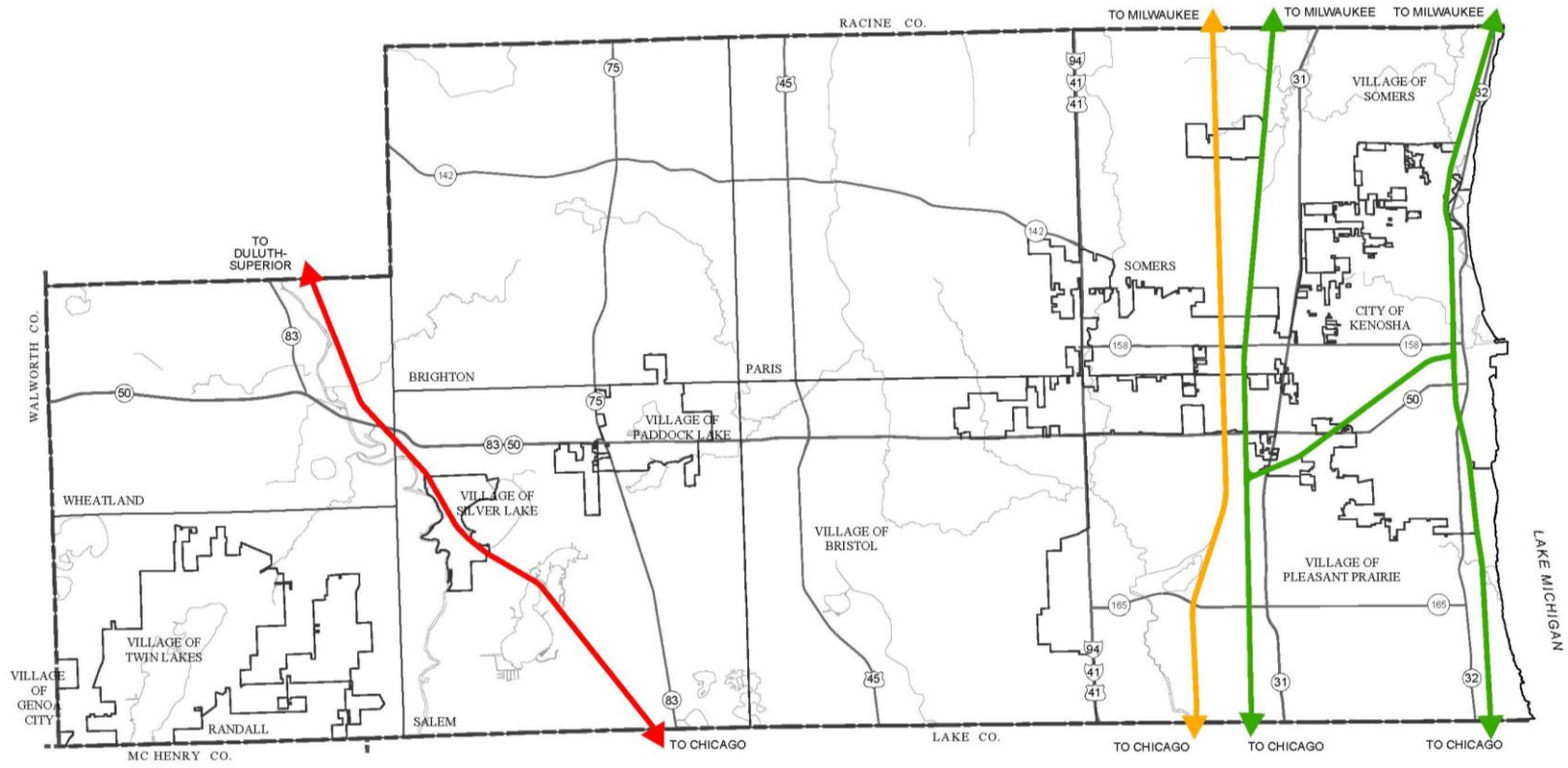
- STATE TRUNK HIGHWAY
- COUNTY TRUNK HIGHWAY
- - - COUNTY TRUNK HIGHWAY (NON-ARTERIAL)
- LOCAL TRUNK HIGHWAY

Source: SEWRPC.



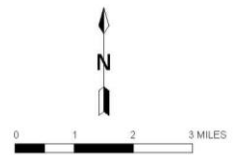
Map II-9

COMMON CARRIER RAIL FREIGHT LINES IN KENOSHA COUNTY: 2015



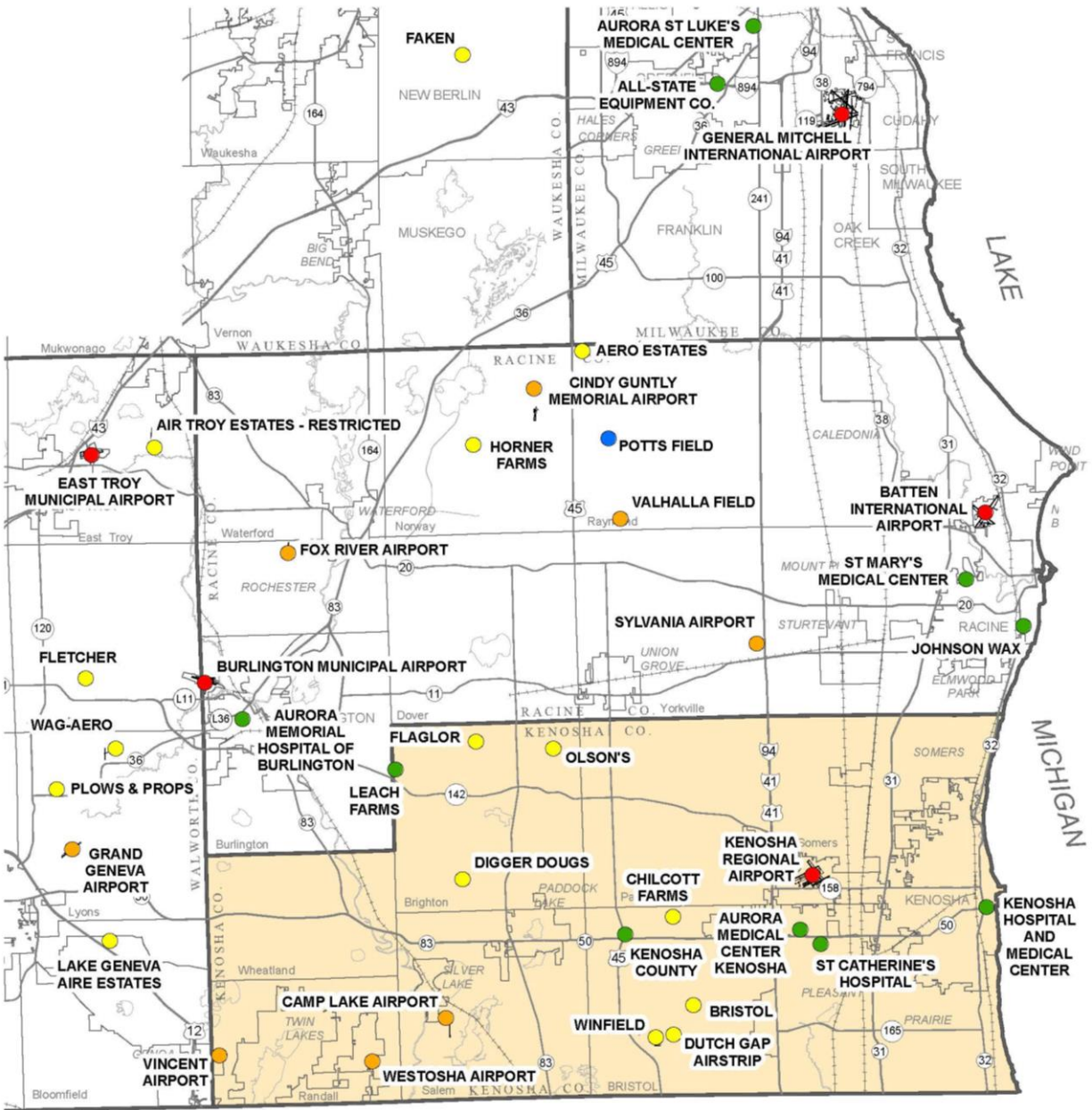
- RAILWAY**
- CANADIAN NATIONAL RAILWAY (CN)
 - UNION PACIFIC RAILROAD (UP)
 - CANADIAN PACIFIC RAILWAY (CP)

Source: Wisconsin Department of Transportation and SEWRPC.



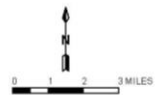
Map II-10

EXISTING AIRPORTS IN KENOSHA COUNTY AND VICINITY: 2015



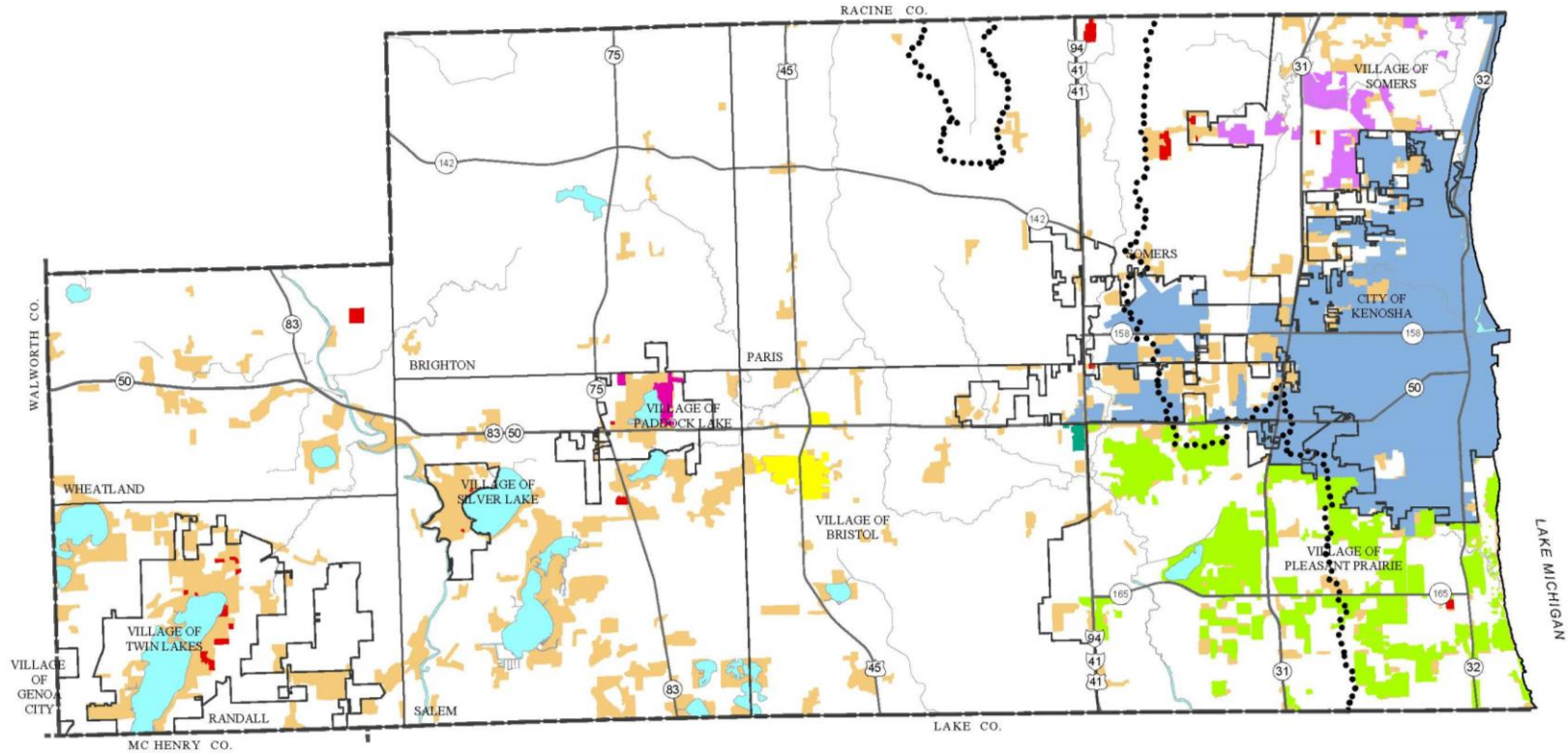
- PUBLIC-USE AIRPORT - PUBLIC OWNERSHIP
- PUBLIC-USE AIRPORT - PRIVATE OWNERSHIP
- PRIVATE-USE AIRPORT - PRIVATE OWNERSHIP
- PRIVATE-USE HELIPORT - PRIVATE OWNERSHIP
- PRIVATE-USE ULTRALIGHT - PRIVATE OWNERSHIP

Source: Wisconsin Bureau of Aeronautics and SEWRPC.



Map II-11

AREAS SERVED BY PUBLIC AND PRIVATE WATER SUPPLY IN KENOSHA COUNTY: 2015



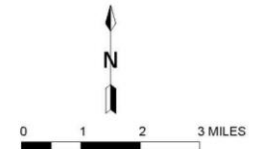
SURFACE WATER SUPPLIED SYSTEMS

- KENOSHA WATER UTILITY SERVICE AREA
- PLEASANT PRAIRIE WATER UTILITY SERVICE AREA
- TOWN OF SOMERS WATER UTILITY SERVICE AREA
- VILLAGE OF BRISTOL UTILITY DISTRICT 3
- SUBCONTINENTAL DIVIDE

GROUNDWATER SUPPLIED SYSTEMS

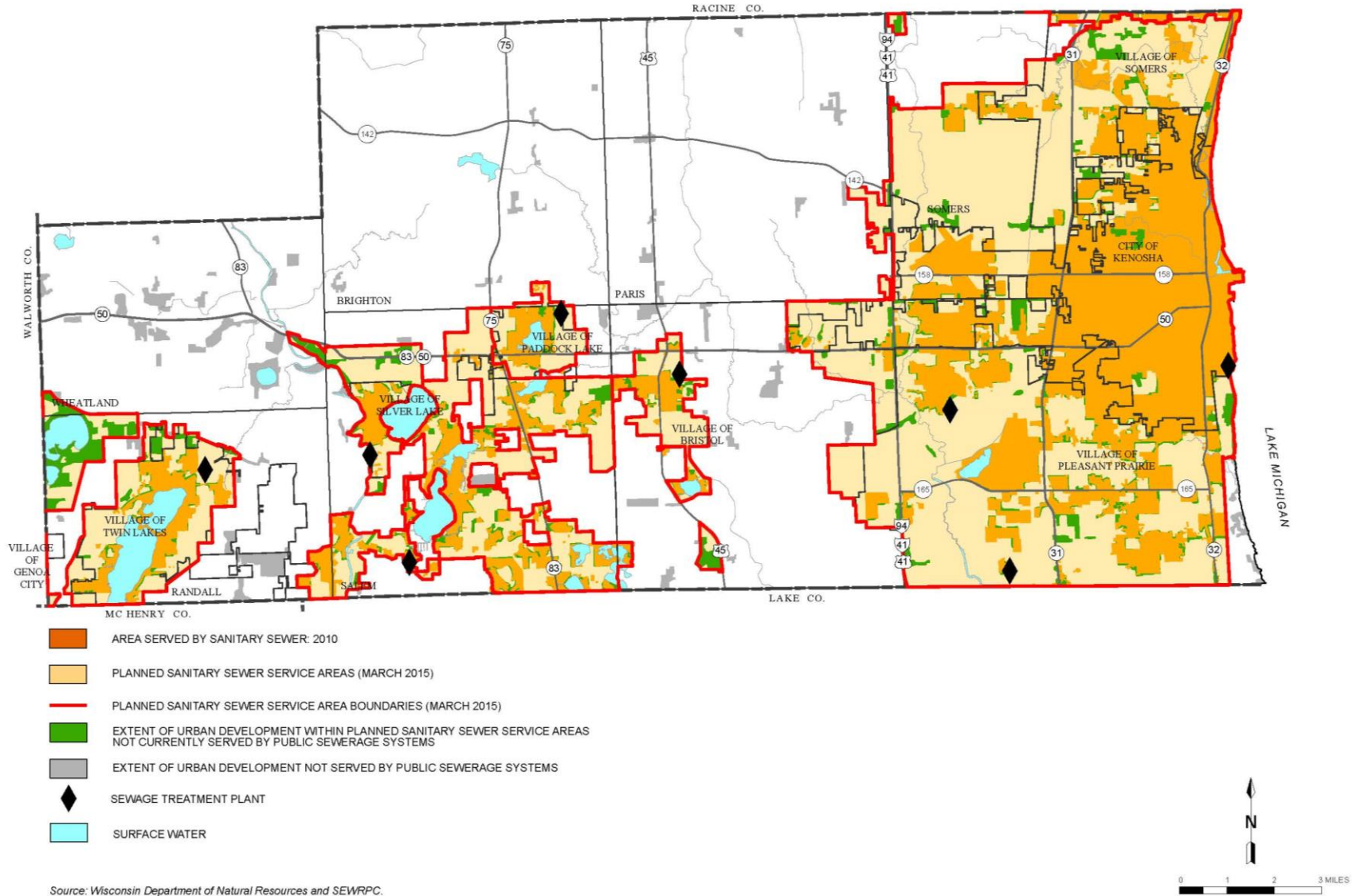
- PADDOCK LAKE MUNICIPAL WATER UTILITY SERVICE AREA
- VILLAGE OF BRISTOL UTILITY DISTRICT 1
- AREA SERVED BY OTHER THAN MUNICIPAL COMMUNITY WATER SYSTEMS USING GROUNDWATER
- EXTENT OF URBAN DEVELOPMENT NOT SERVED BY PUBLIC OR PRIVATE WATER SUPPLY SYSTEMS: INCLUDES URBAN DEVELOPMENT AS IDENTIFIED IN THE REGIONAL PLANNING COMMISSION HISTORIC URBAN GROWTH RING ANALYSIS

Source: Wisconsin Department of Natural Resources, Wisconsin Public Service Commission, Water Utilities, and SEWRPC.



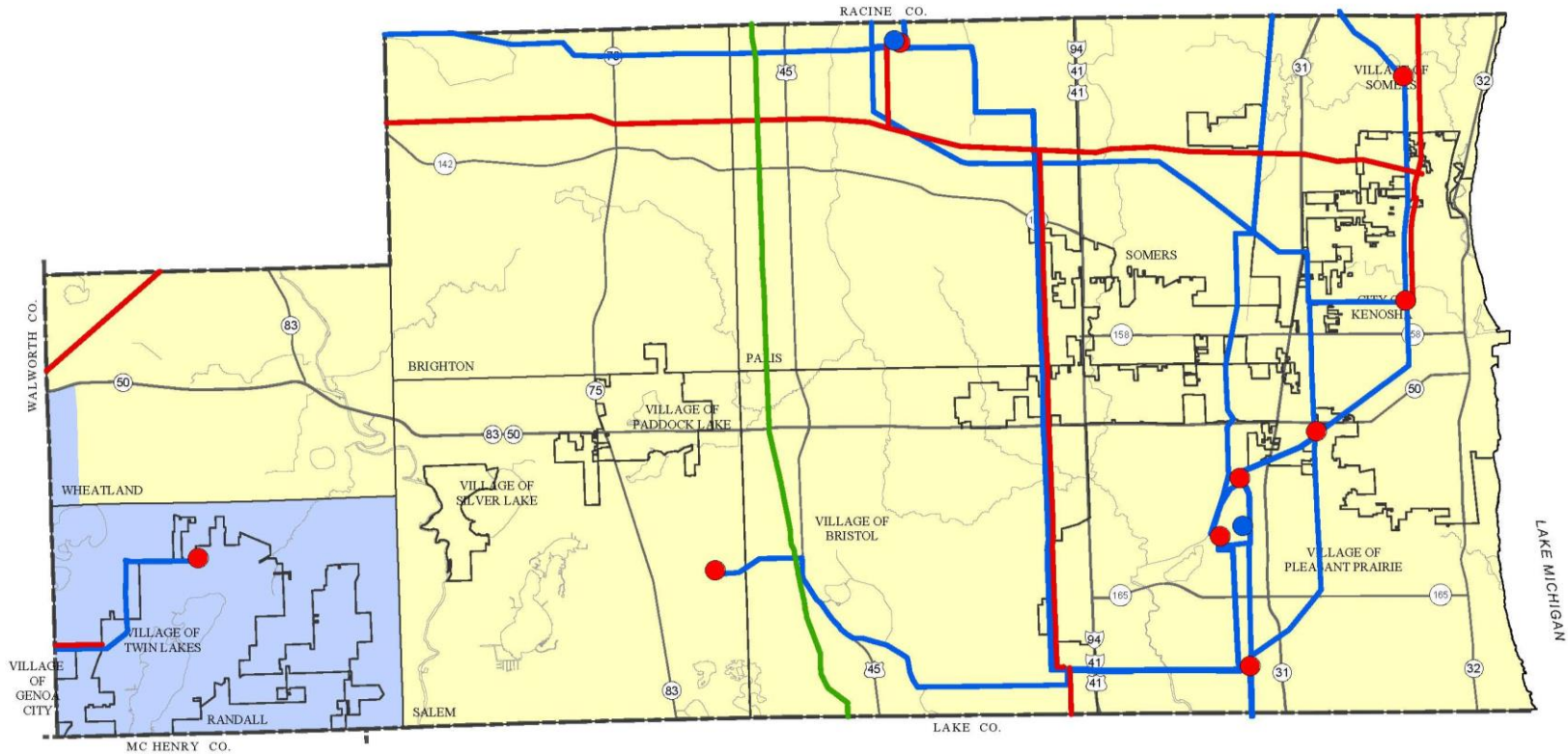
Map II-12

PLANNED SANITARY SEWER SERVICE AREAS AND AREAS SERVED BY SEWER IN KENOSHA COUNTY



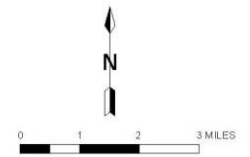
Map II-13

ELECTRIC SERVICE PROVIDERS, ELECTRIC TRANSMISSION LINES, NATURAL GAS PIPELINES, AND PETROLEUM PIPELINES IN KENOSHA COUNTY: 2015



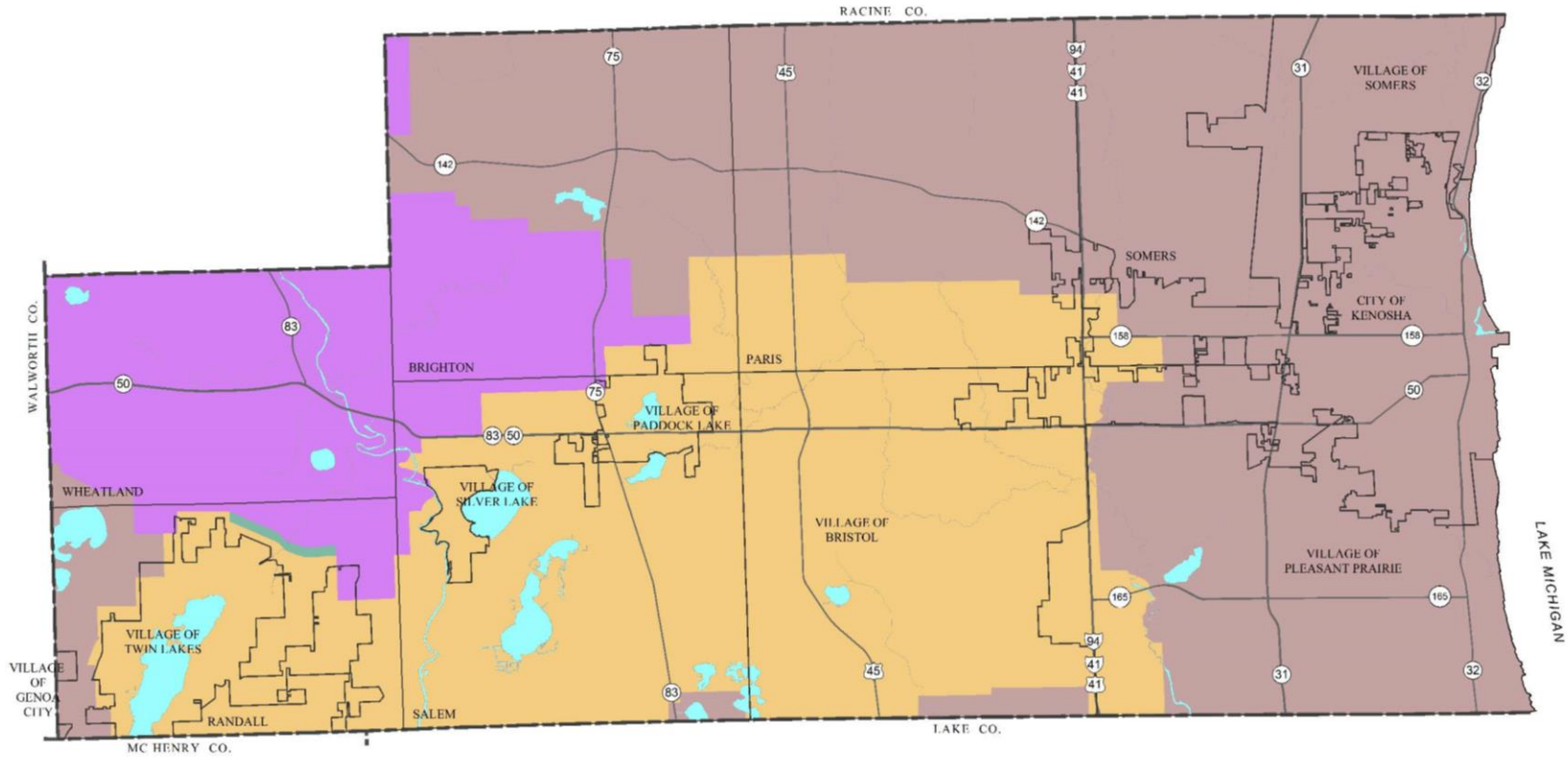
- ELECTRIC TRANSMISSION LINE
- NATURAL GAS PIPELINE
- PETROLEUM PIPELINE
- POWER PLANT
- ELECTRICAL SUBSTATION
- WE ENERGIES SERVICE AREA
- WISCONSIN POWER AND LIGHT SERVICE AREA

Source: Public Service Commission of Wisconsin and SEWRPC.



Map II-14

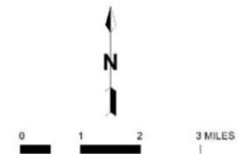
TELEPHONE EXCHANGE CARRIER SERVICE AREAS IN KENOSHA COUNTY: 2011



TELEPHONE EXCHANGE CARRIER SERVICE AREAS

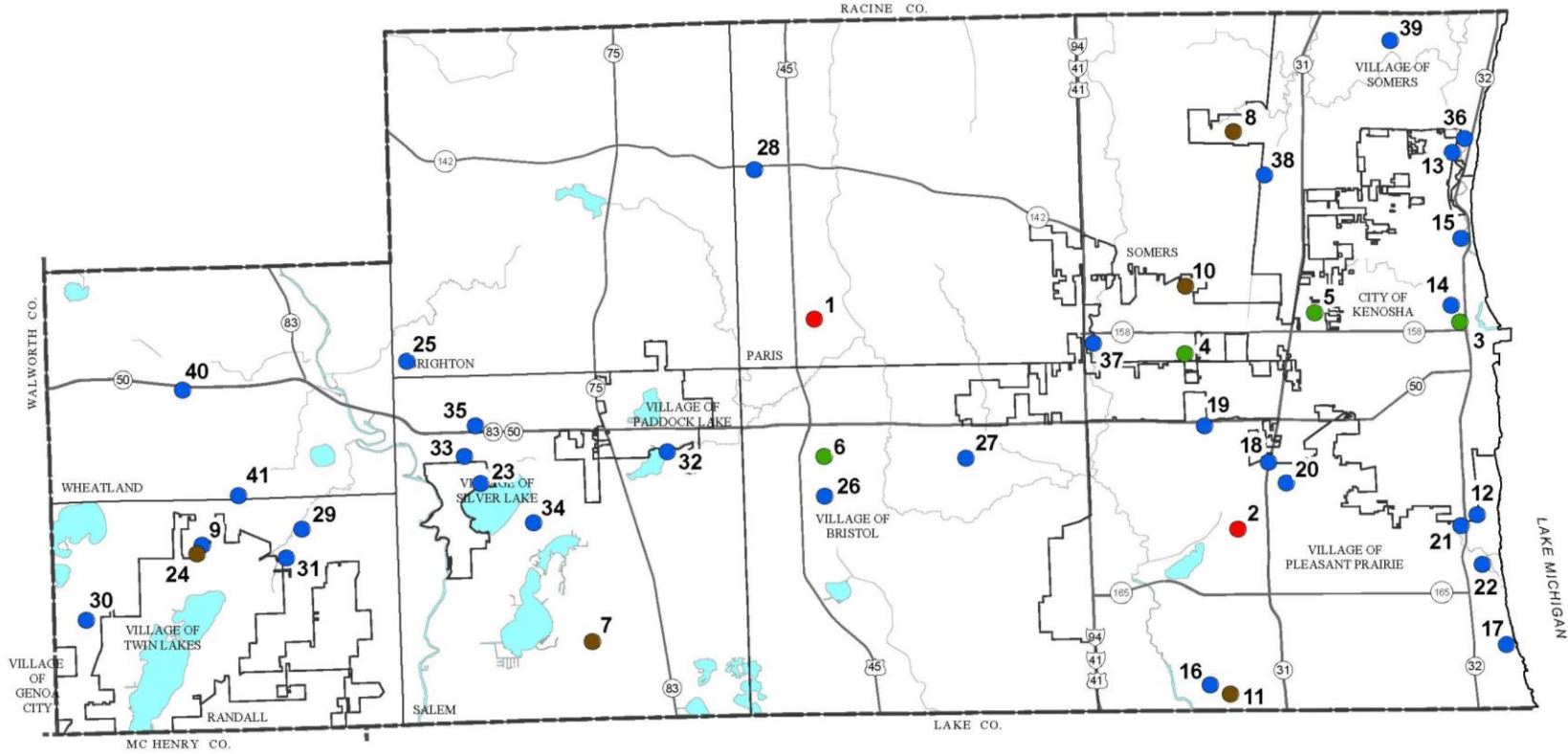
- AT & T
- FRONTIER COMMUNICATIONS COMPANY OF WISCONSIN
- TELEPHONE AND DATA SYSTEMS, INC.
- OPEN TERRITORY

Source: Wisconsin Public Service Commission and SEWRPC.



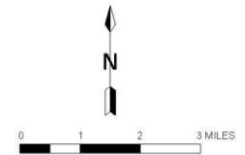
Map II-15

SOLID WASTE DISPOSAL SITES IN KENOSHA COUNTY: 2015



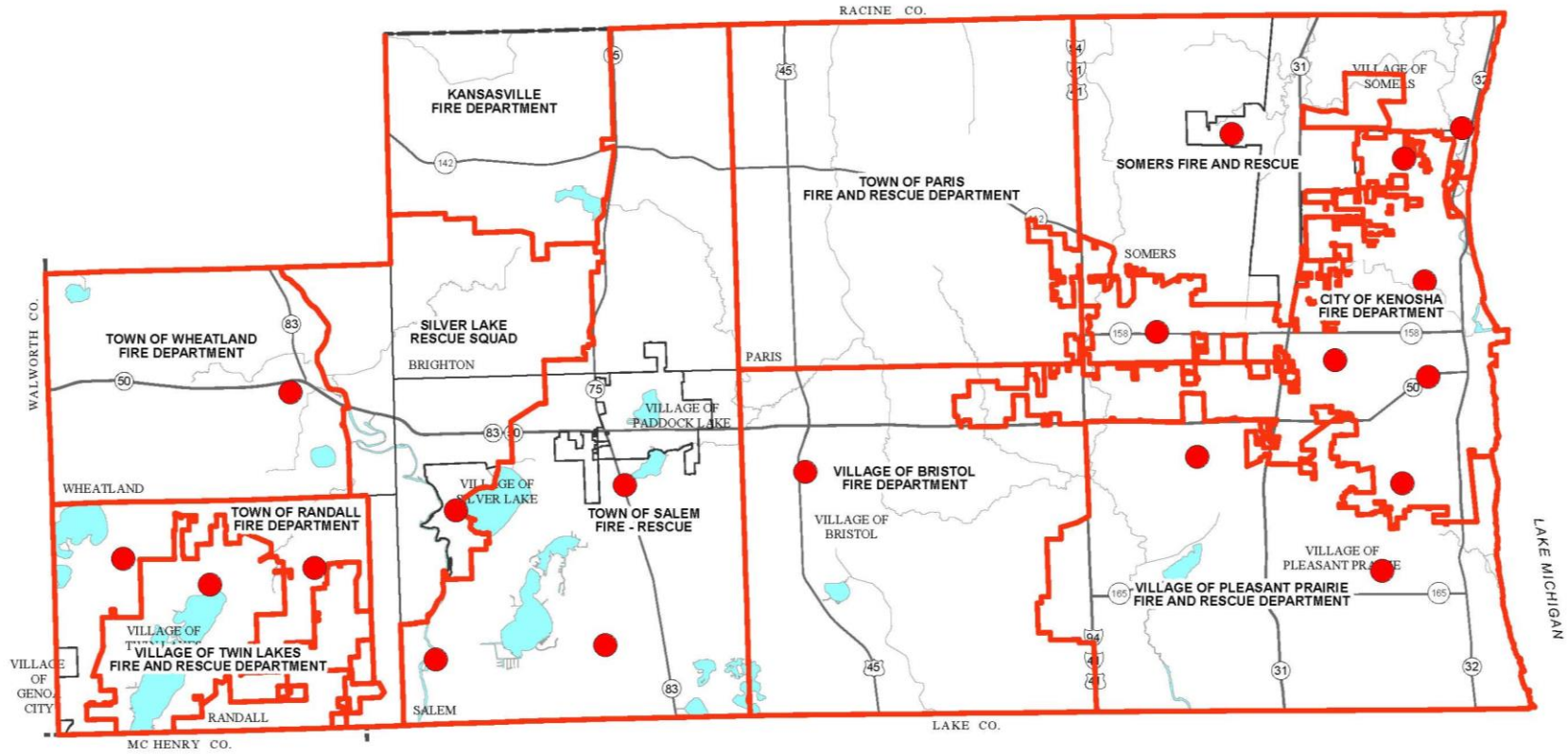
- ACTIVE LANDFILL
- INACTIVE LANDFILL
- COMPOST SITE
- RECYCLING CENTER, TRANSFER FACILITY, OR STORAGE FACILITY
- 31** REFERENCE NUMBER (SEE APPENDIX B)

Source: Wisconsin Department of Natural Resources, Kenosha County, and SEWRPC.



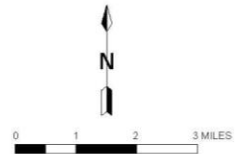
Map II-16

FIRE STATIONS AND FIRE DEPARTMENT SERVICE AREA BOUNDARIES IN KENOSHA COUNTY: 2015



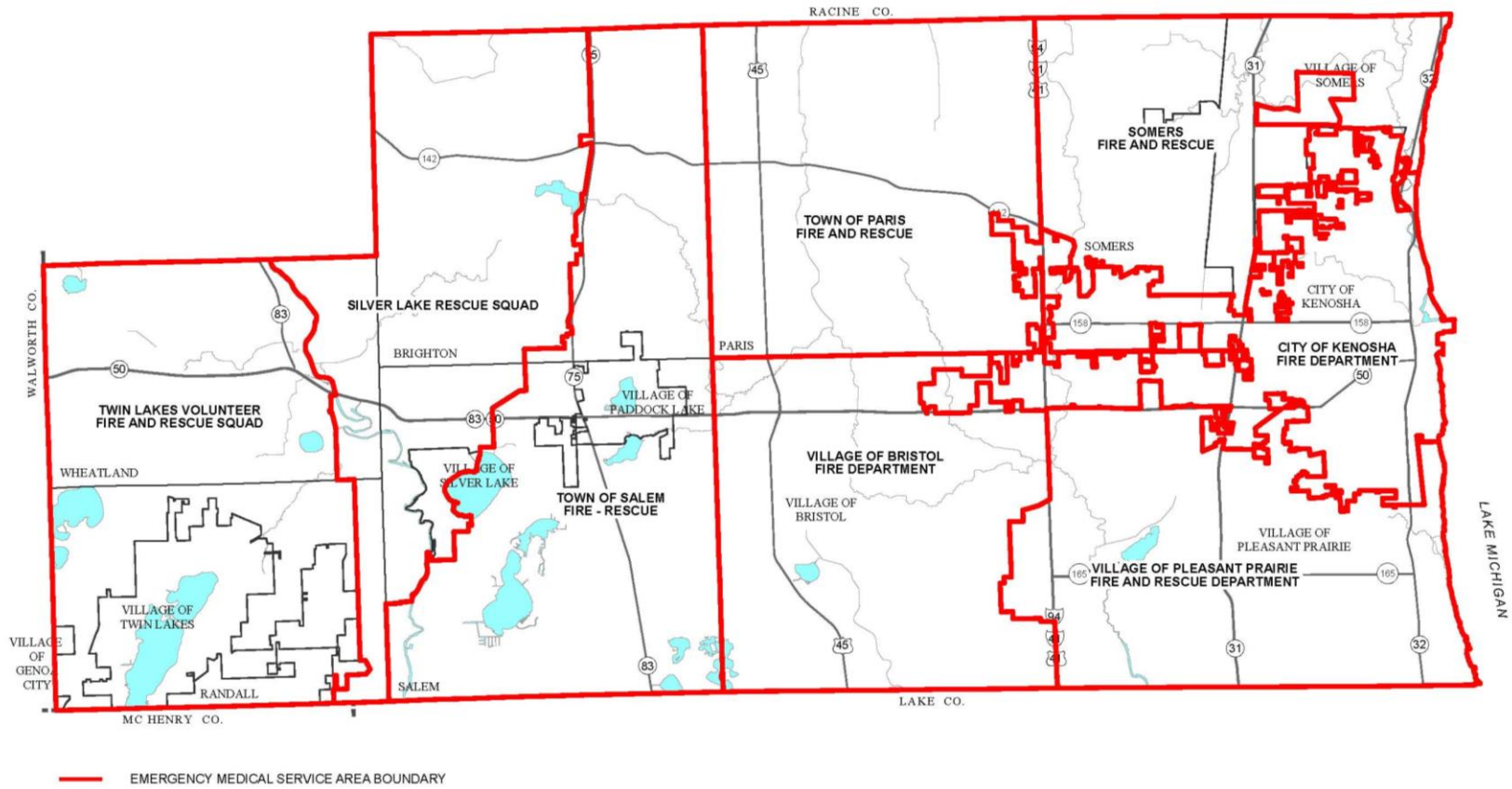
- FIRE DEPARTMENT SERVICE AREA BOUNDARY
- FIRE STATION

Source: Kenosha County and SEWRPC.

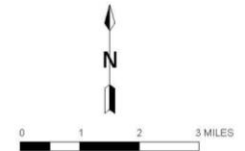


Map II-17

EMERGENCY MEDICAL SERVICE AREAS IN KENOSHA COUNTY: 2015

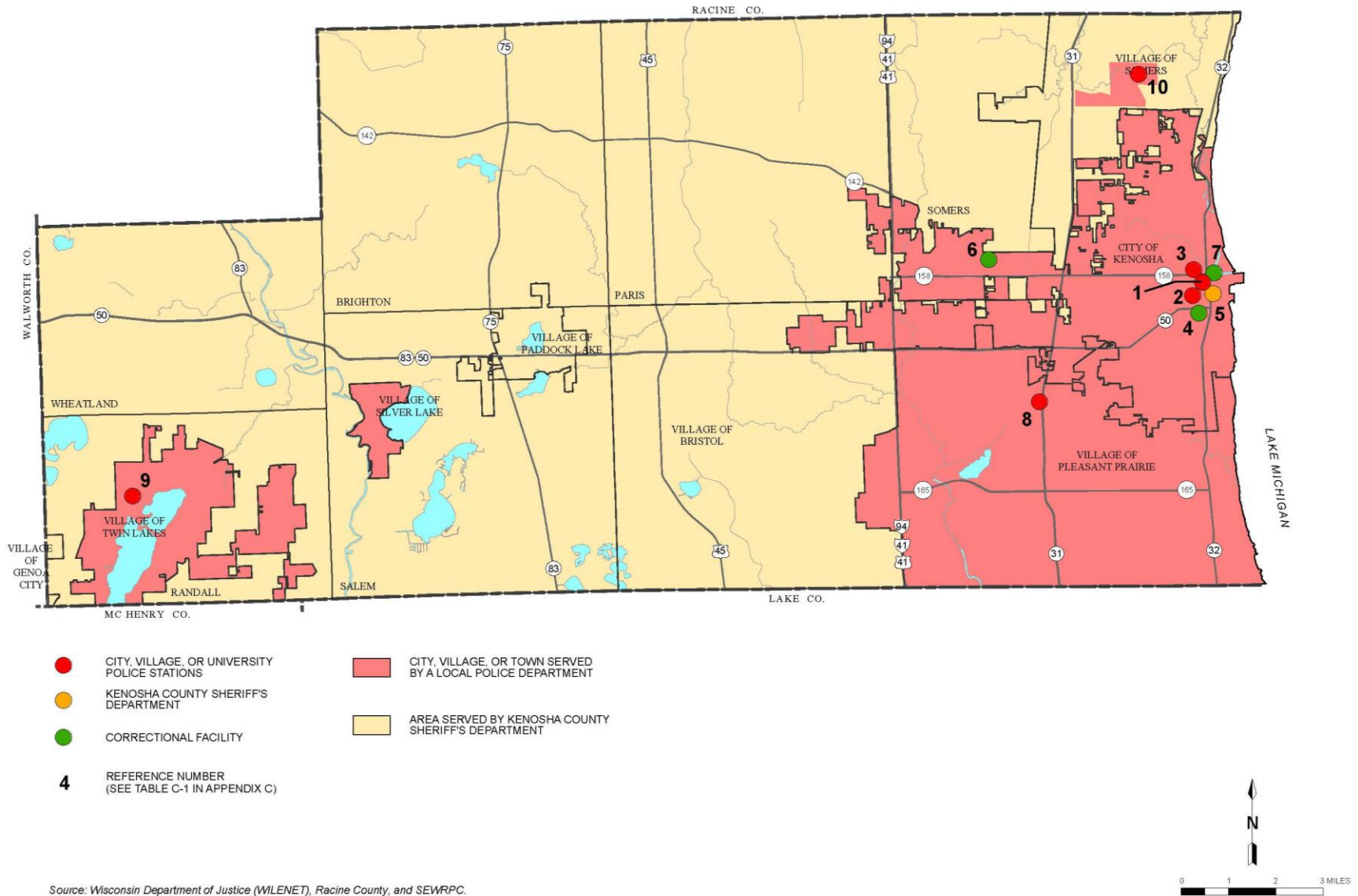


Source: Kenosha County and SEWRPC.



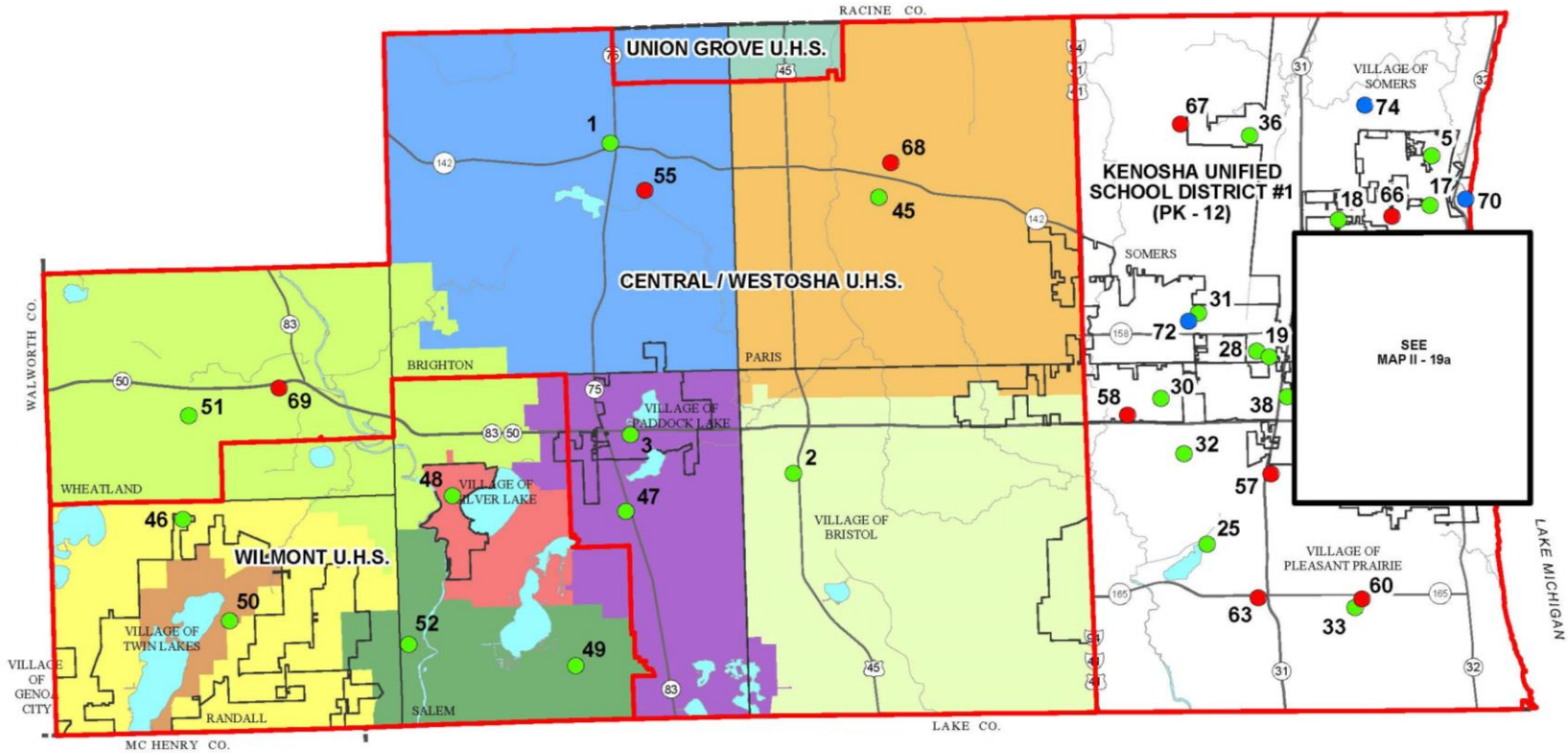
Map II-18

LAW ENFORCEMENT STATIONS AND SERVICE AREAS IN KENOSHA COUNTY: 2015












Map II-19

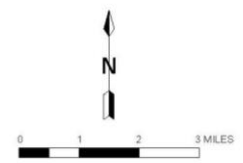
PUBLIC SCHOOL DISTRICTS, PUBLIC AND PRIVATE SCHOOLS, COLLEGES, AND UNIVERSITIES IN KENOSHA COUNTY: 2015



ELEMENTARY SCHOOL DISTRICT AREAS

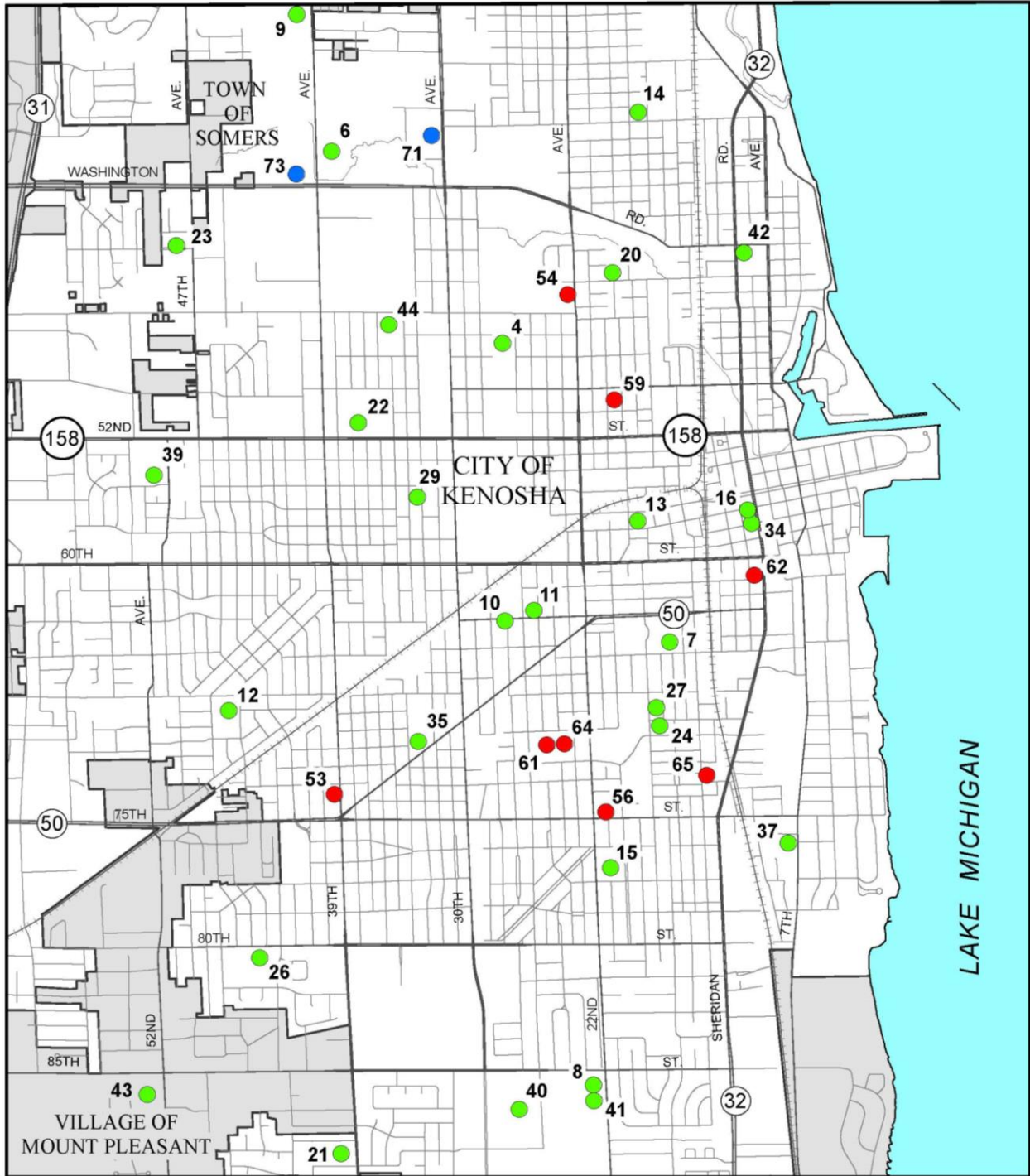
- | | | |
|--|---|--|
|  BRIGHTON SCHOOL DISTRICT #1 |  SILVER LAKE JOINT SCHOOL DISTRICT #1 |  UNIFIED HIGH SCHOOL / K-12 DISTRICT BOUNDARY |
|  BRISTOL SCHOOL DISTRICT #1 |  TREVOR - WILMONT CONSOLIDATED GRADE SCHOOL DISTRICT |  PUBLIC SCHOOL |
|  PARIS JOINT SCHOOL DISTRICT #1 |  TWIN LAKES SCHOOL DISTRICT #4 |  PRIVATE SCHOOL |
|  RANDALL JOINT SCHOOL DISTRICT #1 |  UNION GROVE GRADE AND MIDDLE SCHOOL JOINT DISTRICT |  COLLEGE / UNIVERSITY |
|  SALEM SCHOOL DISTRICT #1 |  WHEATLAND JOINT SCHOOL DISTRICT #1 |  REFERENCE NUMBER (SEE TABLE D-1 IN APPENDIX D) |

Source: Wisconsin Department of Public Instruction, Kenosha County, and SEWRPC.



Map II-19a

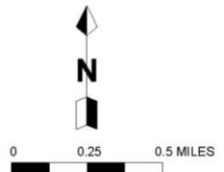
PUBLIC SCHOOL DISTRICTS, PUBLIC AND PRIVATE SCHOOLS, COLLEGES, AND UNIVERSITIES IN THE CITY OF KENOSHA: 2015



- PUBLIC SCHOOL
- PRIVATE SCHOOL
- COLLEGE / UNIVERSITY

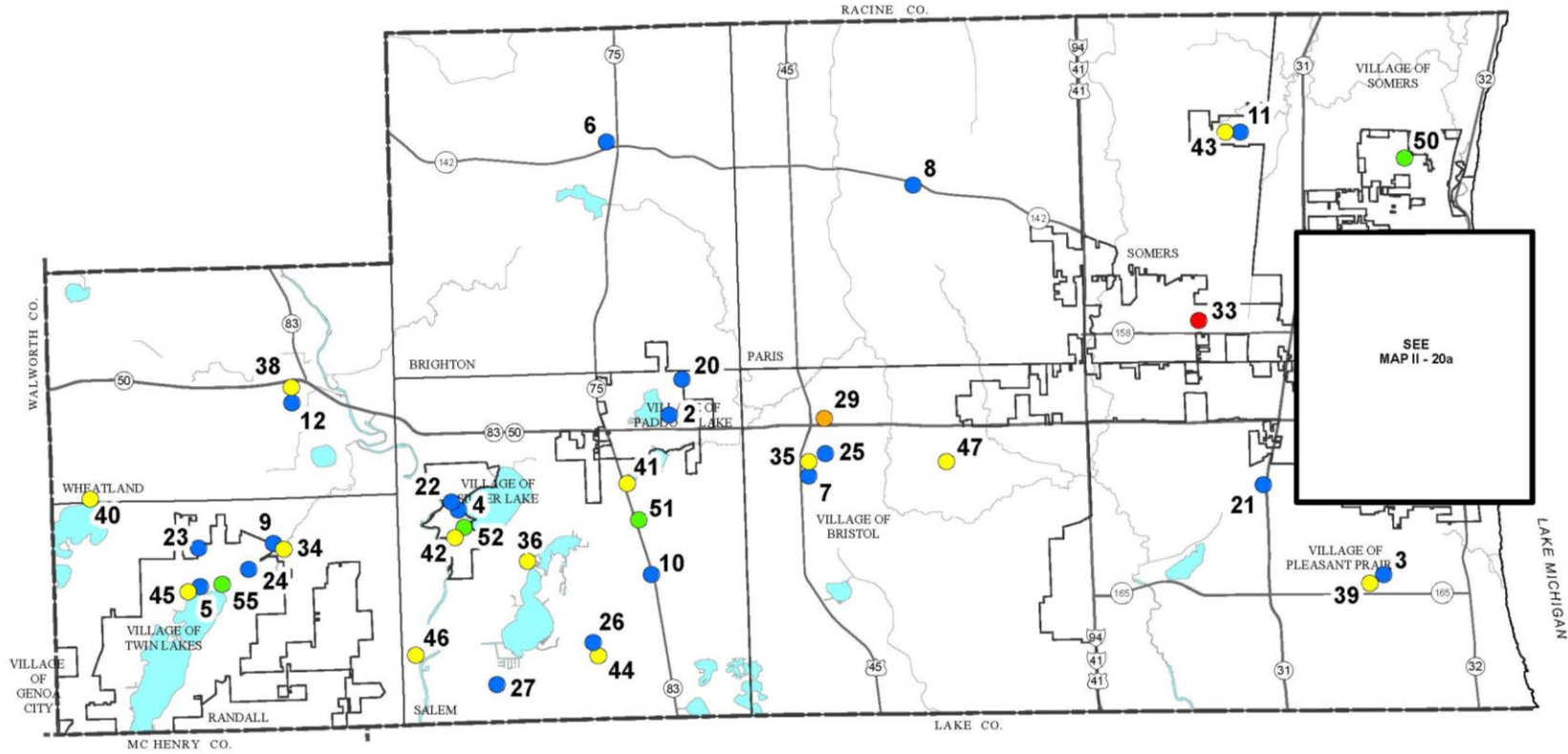
37 REFERENCE NUMBER (SEE TABLE D-1 IN APPENDIX D)

Source: Wisconsin Department of Public Instruction, Kenosha County, and SEWRPC.



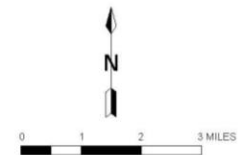
Map II-20

SELECTED GOVERNMENT ADMINISTRATION BUILDINGS IN KENOSHA COUNTY: 2015



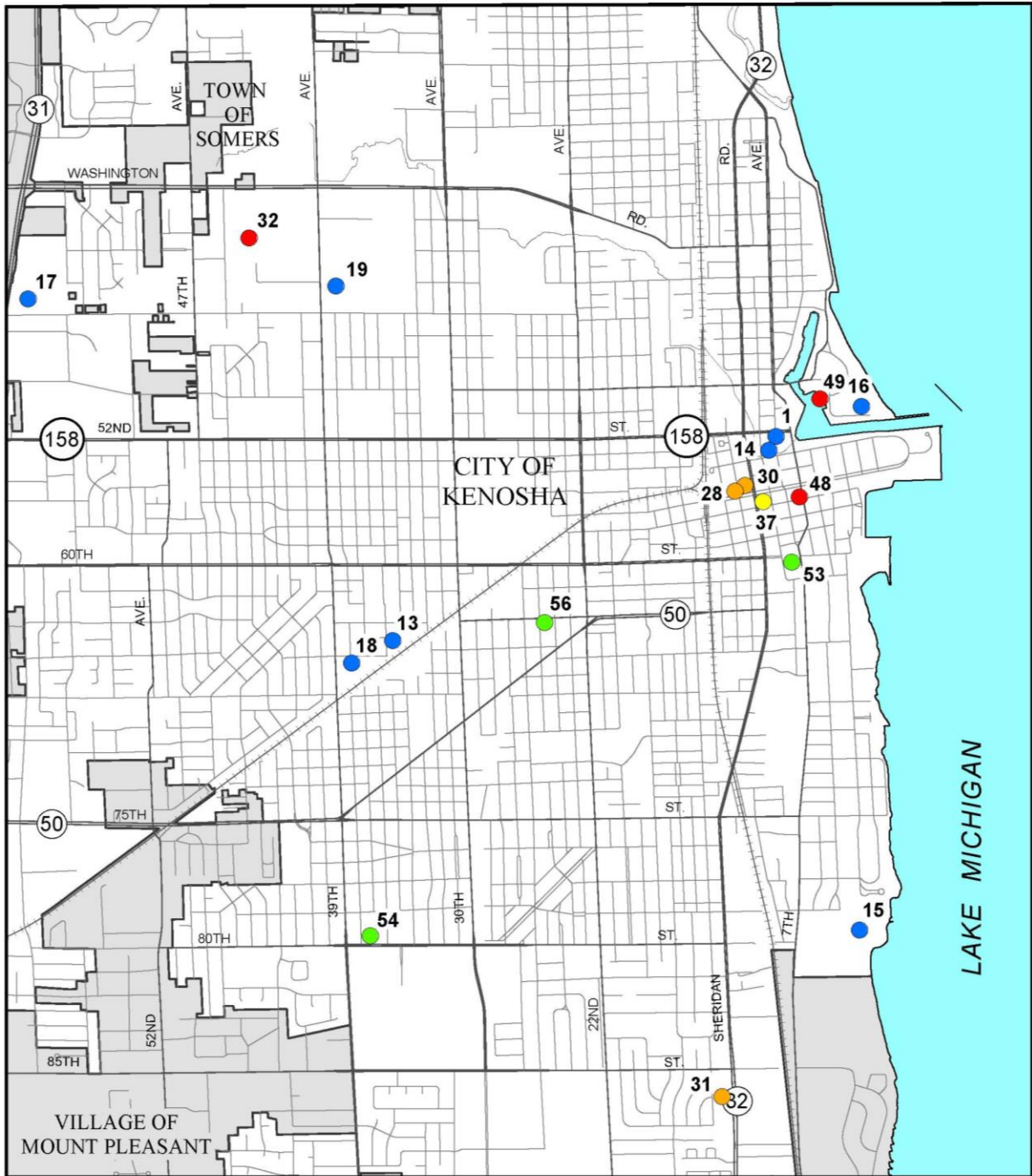
- LOCAL GOVERNMENT FACILITIES
- COUNTY FACILITIES
- STATE OR FEDERAL FACILITIES
- U.S. POST OFFICES
- LIBRARIES
- 25** REFERENCE NUMBER
(SEE TABLE D-2 IN APPENDIX D)

Source: Kenosha County and SEWRPC.



Map II-20a

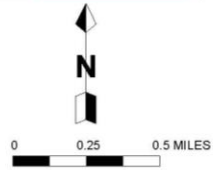
SELECTED GOVERNMENT ADMINISTRATION BUILDINGS IN THE CITY OF KENOSHA: 2015



- LOCAL GOVERNMENT FACILITIES
- COUNTY FACILITIES
- STATE OR FEDERAL FACILITIES
- U.S. POST OFFICES
- LIBRARIES

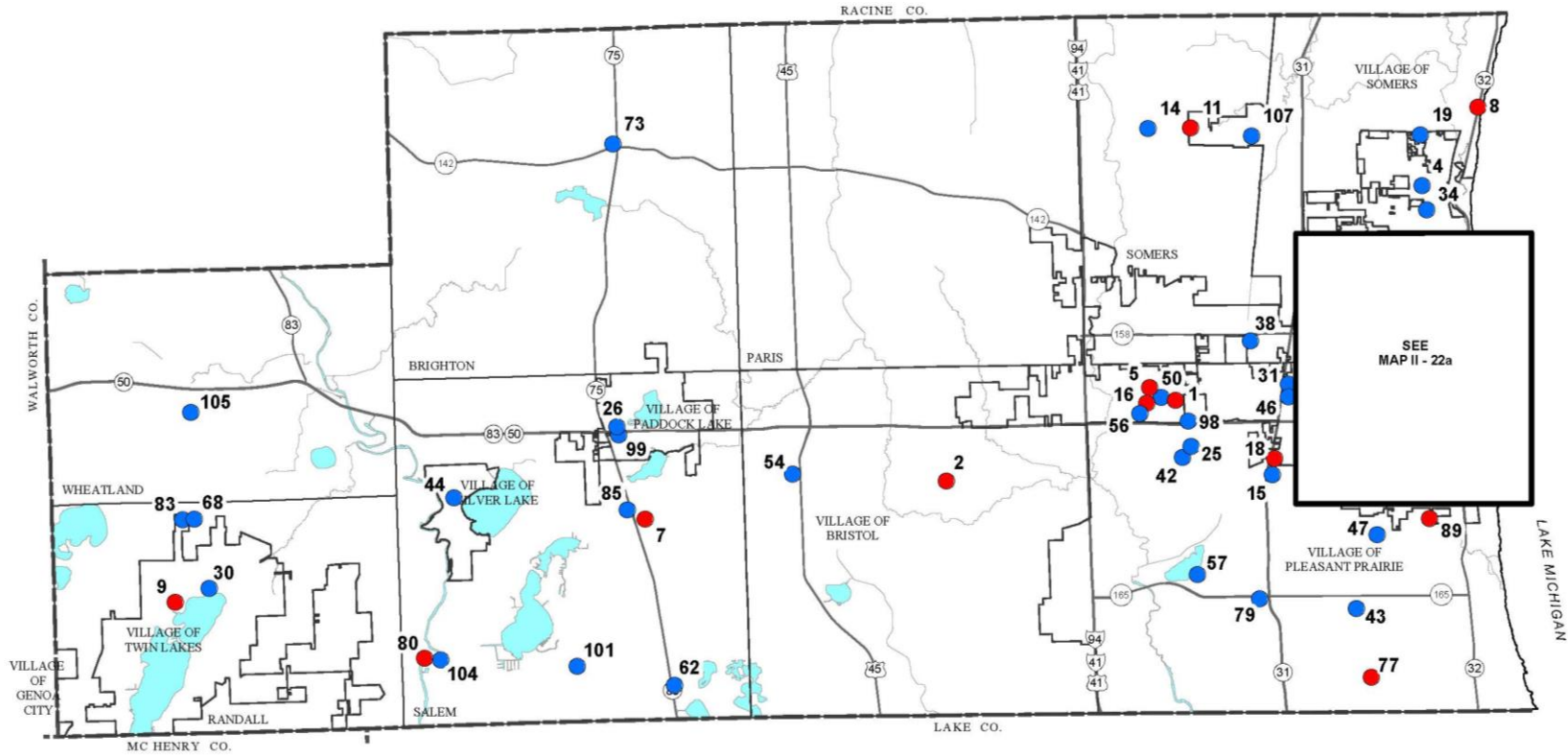
56 REFERENCE NUMBER (SEE TABLE D-2 IN APPENDIX D)

Source: Kenosha County and SEWRPC.



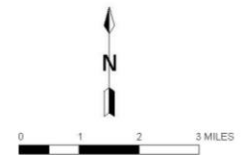
Map II-22

CHILD CARE CENTERS IN KENOSHA COUNTY: 2015



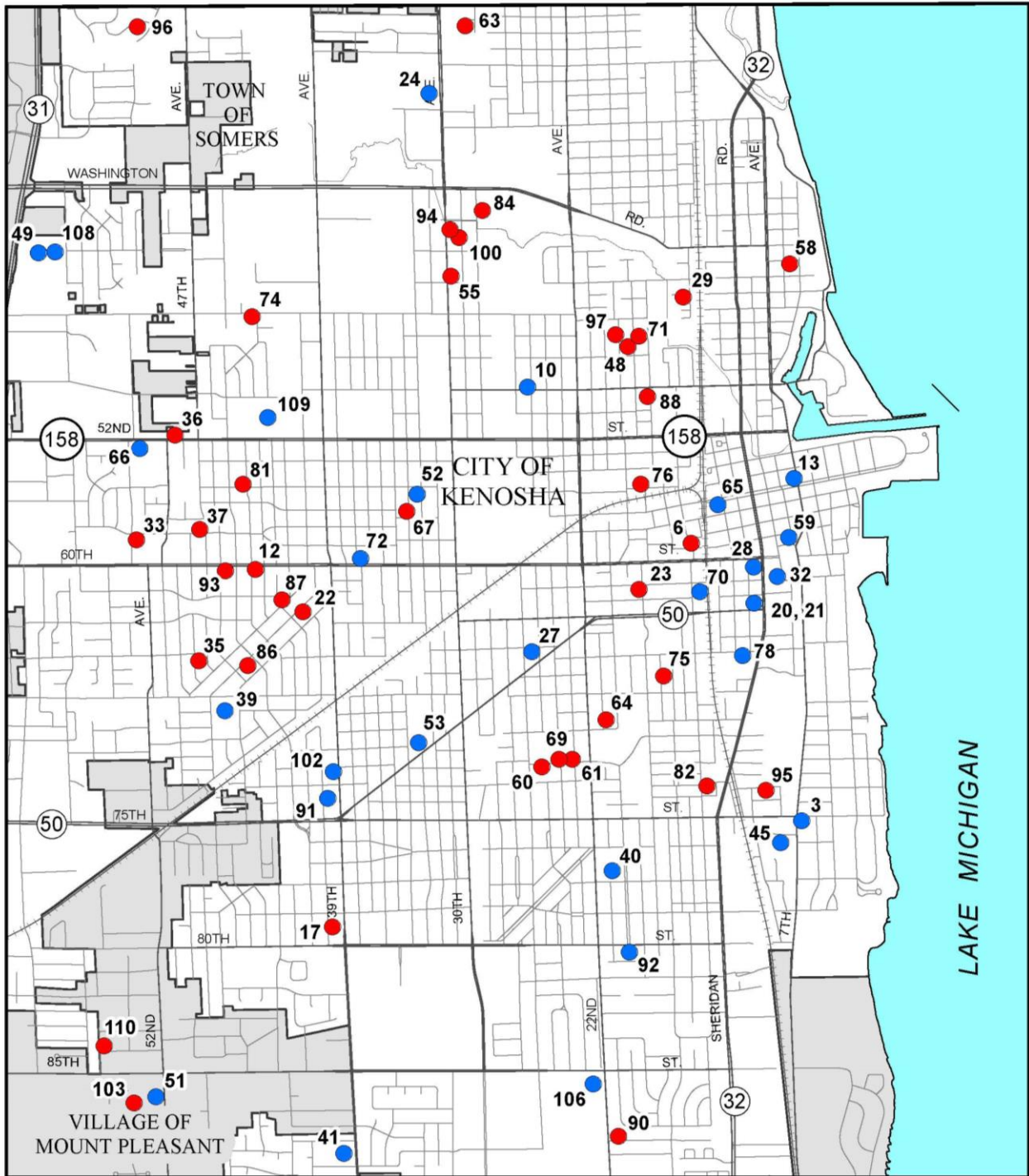
- LICENSED FAMILY CHILD CARE CENTER
(4 TO 8 CHILDREN)
- LICENSED GROUP CHILD CARE CENTER
(9 OR MORE CHILDREN)
- 83** REFERENCE NUMBER
(SEE TABLE D-4 IN APPENDIX D)

Source: Wisconsin Department of Children and Families and SEWRPC.



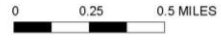
Map II-22a

CHILD CARE CENTERS IN THE CITY OF KENOSHA: 2015



- LICENSED FAMILY CHILD CARE CENTER (4 TO 8 CHILDREN)
- LICENSED GROUP CHILD CARE CENTER (9 OR MORE CHILDREN)

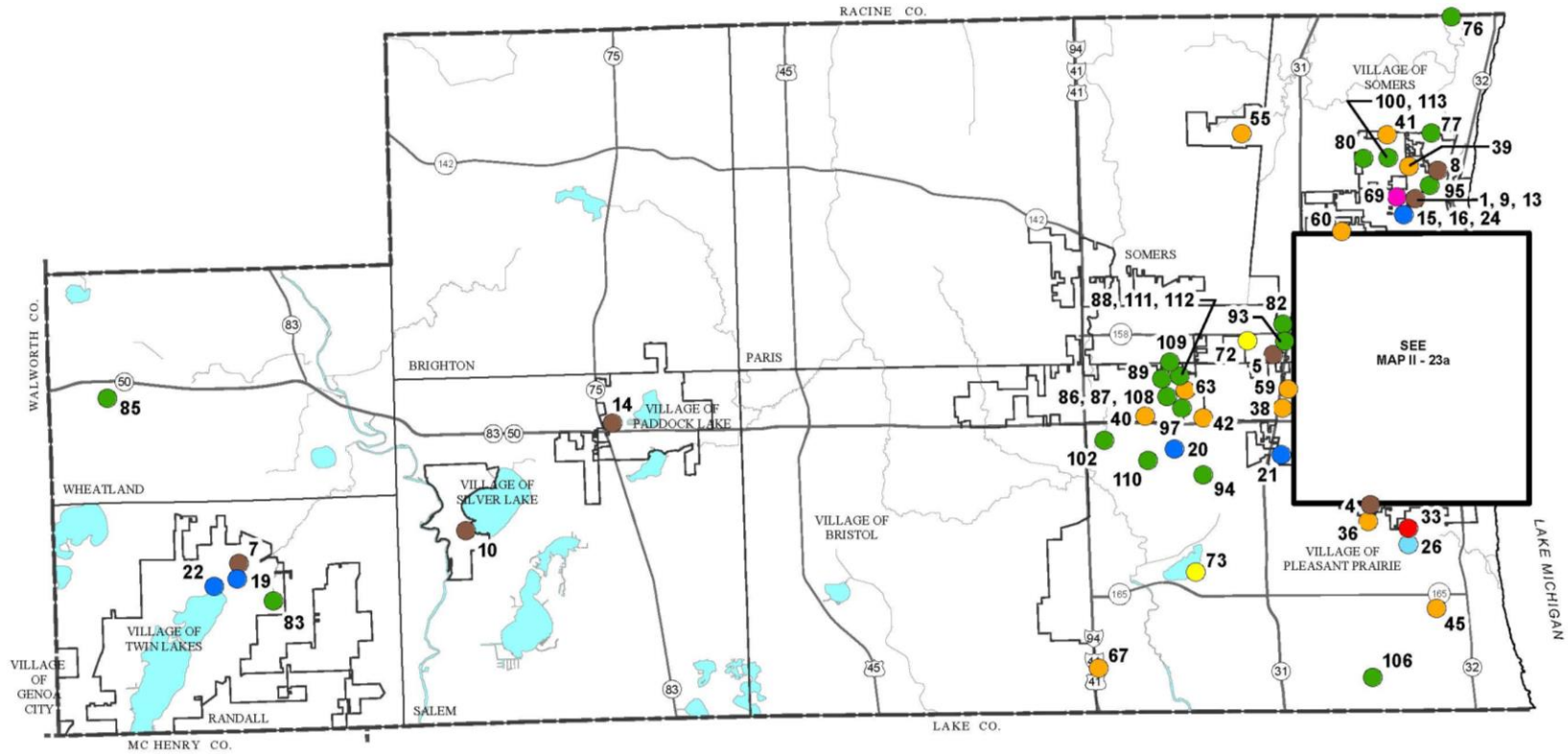
37 REFERENCE NUMBER (SEE TABLE D-4 IN APPENDIX D)



Source: Wisconsin Department of Children and Families and SEWRPC.

Map II-23

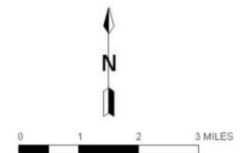
NURSING HOMES, ASSISTED LIVING FACILITIES, INDEPENDENT HOUSING, AND SENIOR APARTMENTS IN KENOSHA COUNTY: 2015



- NURSING HOME
- COMMUNITY BASED RESIDENTIAL FACILITY
- ADULT FAMILY HOME
- ADULT DAY CARE FACILITY
- APARTMENTS FOR SENIORS OR PERSONS WITH DISABILITIES
- AFFORDABLE HOUSING FOR OLDER ADULTS
- DESIGNATED SENIOR APRTMENTS
- RESIDENTIAL CARE APARTMENT COMPLEX

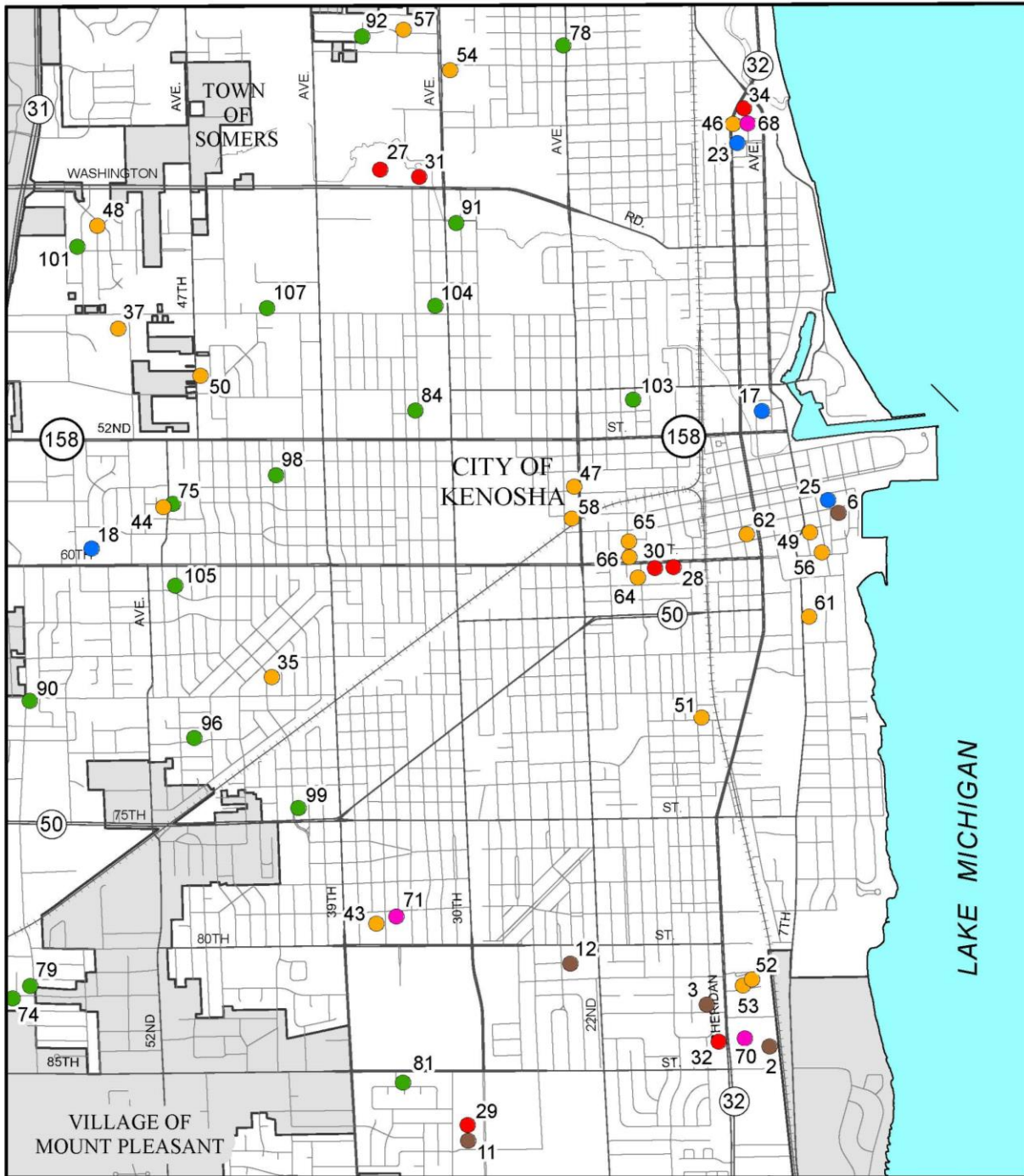
82 REFERENCE NUMBER
(SEE TABLE D-5 IN APPENDIX D)

Source: Kenosha and SEWRPC.



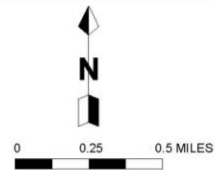
Map II-23a

NURSING HOMES, ASSISTED LIVING FACILITIES, INDEPENDENT HOUSING, AND SENIOR APARTMENTS IN THE CITY OF KENOSHA: 2015



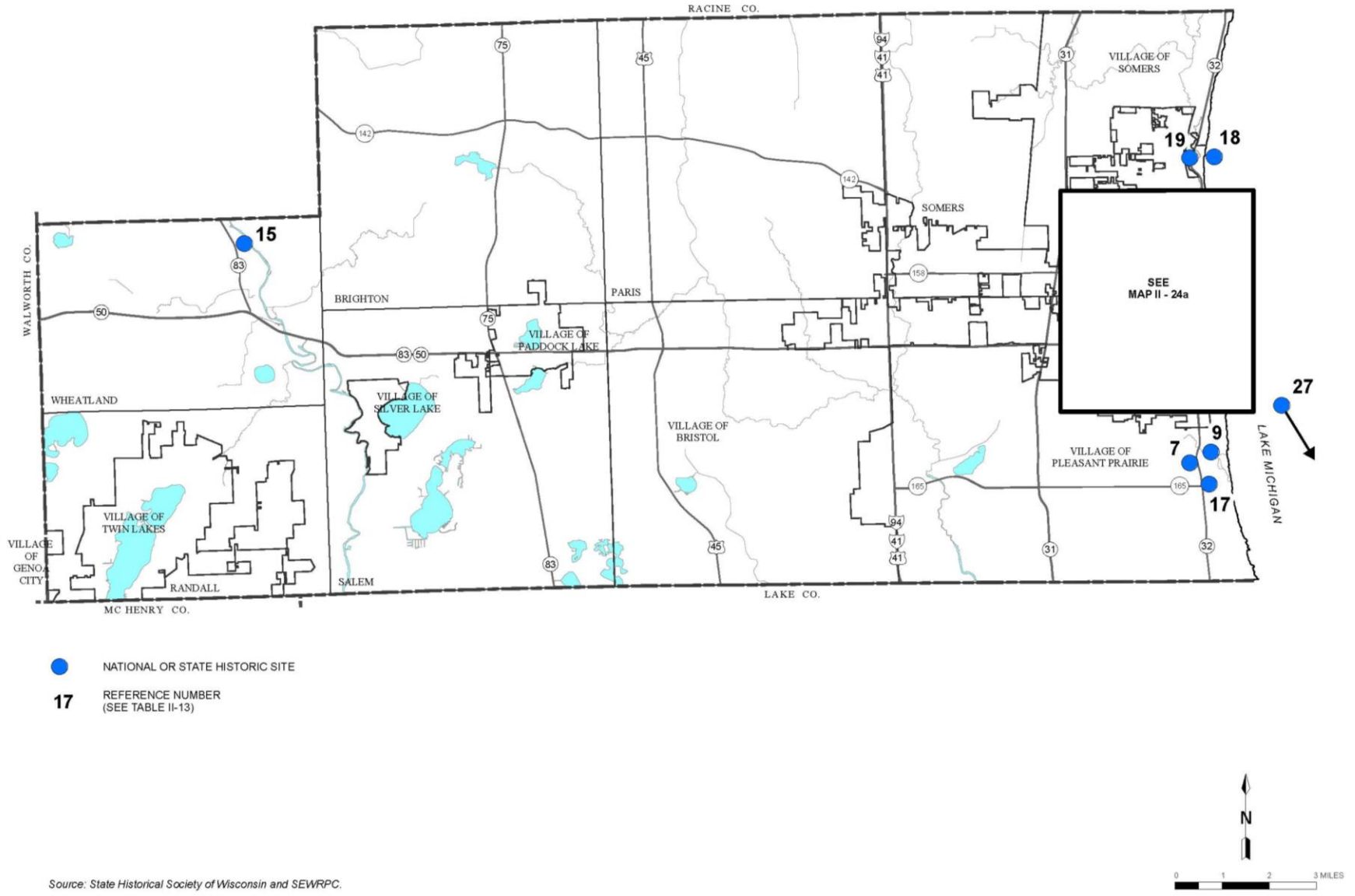
- NURSING HOME
- COMMUNITY BASED RESIDENTIAL FACILITY
- ADULT FAMILY HOME
- APARTMENTS FOR SENIORS OR PERSONS WITH DISABILITIES
- AFFORDABLE HOUSING FOR OLDER ADULTS
- RESIDENTIAL CARE APARTMENT COMPLEX
- 81** REFERENCE NUMBER (SEE TABLE V-13)

Source: Kenosha County and SEWRPC.



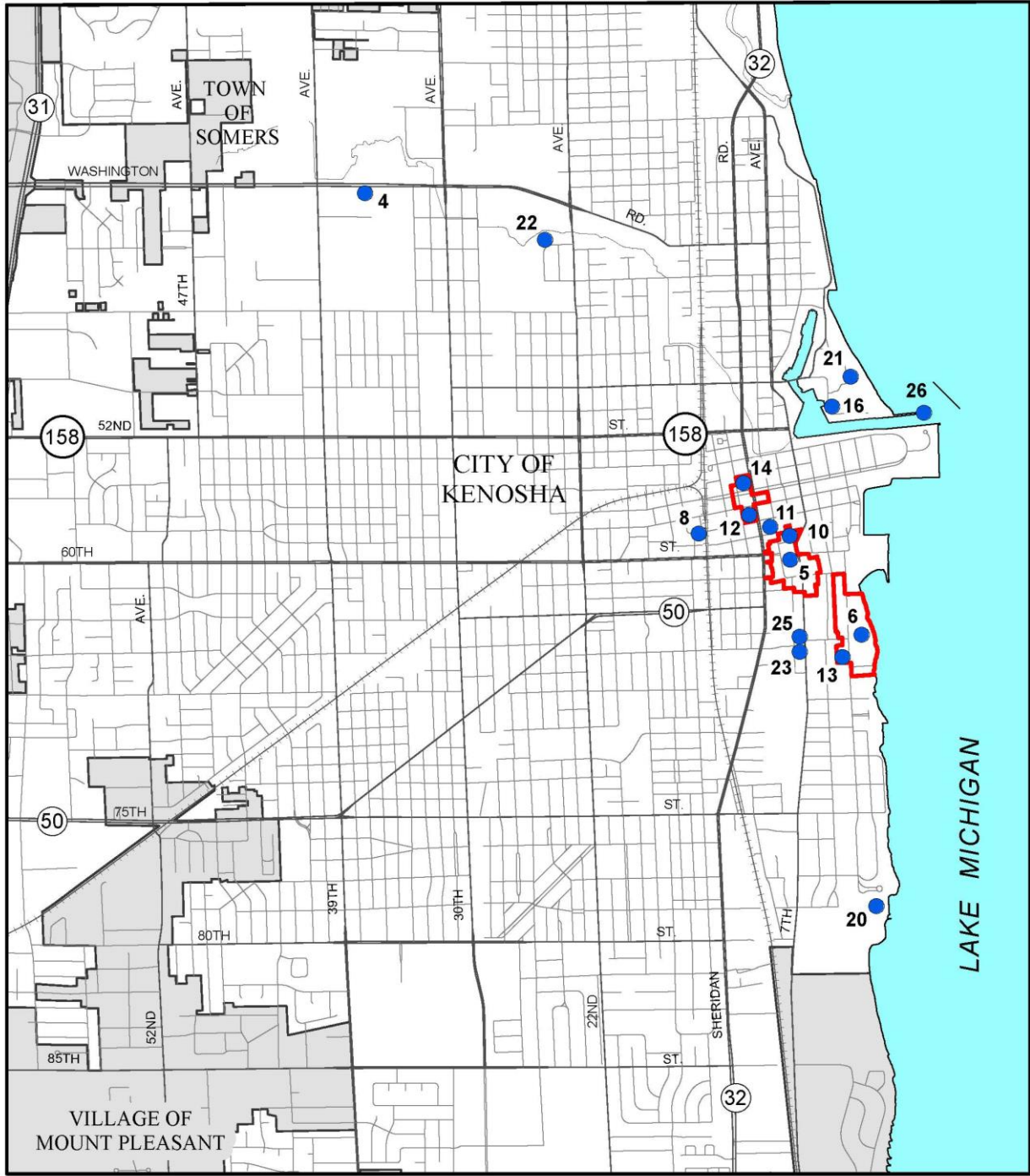
Map II-24

HISTORIC SITES LISTED ON THE NATIONAL OR STATE REGISTERS OF HISTORIC PLACES IN KENOSHA COUNTY: 2015



Map II-24a

HISTORIC SITES LISTED ON THE NATIONAL OR STATE REGISTERS OF HISTORIC PLACES
IN THE CITY OF KENOSHA: 2015



- NATIONAL OR STATE HISTORIC SITE
- HISTORIC DISTRICT BOUNDARY
- 22** REFERENCE NUMBER
(SEE TABLE II-13)

Source: State Historical Society of Wisconsin and SEWRPC.

