

Chapter 2, Agricultural, Natural, and Cultural Resources

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Section 1--Introduction

The agricultural, natural, and cultural resources of the Town of Liberty Grove underlay and influence all other aspects of this Comprehensive Plan, including, but not limited to land use, housing, transportation, economic development, etc.

As the foundation of all the other aspects and elements of the Comprehensive Plan, the information in this chapter should be linked to the goals, policies, and action items of the other chapters. By the same token, the materials in this chapter are essentially descriptive and not necessarily prescriptive, as is the case with much of the material in the other chapters of this Comprehensive Plan.

The material in this chapter is derived virtually intact from the previous version of the Comprehensive Plan. Descriptions of the Town's climate, geology, soils, etc. have not changed since the publication of the previous Comprehensive Plan, and, at the same time, the academic and scientific data accumulated in this chapter of the 2003 Comprehensive Plan are of such an outstanding nature, that to add, delete, or correct anything would be futile.

Located at the northern end of the Door County Peninsula, Liberty Grove is approximately 27 miles north of Sturgeon Bay. (See map 2.1)

Historically, the Town derived much of its revenue from cordwood sales, farming, fishing, and tourism.

The Liberty Grove planning area (See map 2.2) contains a variety of natural resources and, as such, will play a major role in determining the Town's development potential as well as the Town's ability to provide a pleasant and habitable environment.

Climate, topography, geology, soils, and natural areas, e.g., woodlands, wetlands, and water are the interrelated elements of the principal natural resources. These natural resources, both those that are slowly renewable as well as those that are not renewable should not be placed at risk by human intervention. Placing such natural resources at risk

runs the additional potential hazard of incurring significant public expenditures.

The Town is a mix of agricultural and open space lands with most productive agricultural lands being in the center of the Town. Liberty Grove's many natural amenities include Europe Lake, Mink River, Green Bay, and Lake Michigan, woodlands, wetlands (approximately 5,480 acres). Along with these natural resources, the Town offers numerous historic and archeological sites, including, for example, the distinctive stone fences primarily along the State Highway 57 corridor.

The Town enhances the quality of life for its residents and visitors alike by providing water access and public recreational facilities.

Included among the measures the Town has undertaken to enhance the quality of life for both residents and for visitors was the establishment of the Heritage Roads program. Exclusively among any town in Wisconsin, Liberty Grove has designated and will continue to designate a number of its roads as "Heritage Roads" highlighting their scenic, historic, and cultural features.

Also included among these measures is the Town's lobbying the Wisconsin Department of Transportation whenever the latter's plans for highway construction might interfere with such historical, geological, and cultural resources as the stone fences identified primarily with the eastern Highway 57 corridor of the Town.

Safe, drinkable water comes from groundwater sources. As a result of the shallow soils and fractured bedrock, land uses within the Town pose a threat to the quality of groundwater.

[See, for example, <https://doorcountypulse.com/groundwater-council-highlights-states-water-quality-struggles/>]

Threatened and endangered plants and wildlife find refuge and ample room in the Town's parks and undeveloped areas.

A goal of this chapter (see below) focuses on the Town's need to monitor and protect its natural resources as a result of population growth and other development.

Moreover, the "character" of the Town needs to be preserved and protected, including attention paid to entryways into the Town and to visual impacts along transportation corridors. The goal of preserving the Town's unique character is to be done, in part, by close cooperation with local businesses as well as with other governmental entities (See chapter 7 on Intergovernmental Cooperation).

The description of the agricultural, natural, and cultural resources is set forth in 16 categories as follows:

- 1. Climate**
- 2. Geology**
- 3. Soil Characteristics**
- 4. Topography**
- 5. Water Resources**
- 6. Forests and Woodlands**
- 7. Air Quality Issues**
- 8. Wildlife Habitat**
- 9. Threatened and Endangered Species**
- 10. Parks and Open Spaces**
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- 15. Metallic and Non-metallic Mining Resources**
- 16. Community Design**

Section 2--Description of the Principal Natural Resources

Climate

The climate of Liberty Grove is modified by the Bay of Green Bay and Lake Michigan. The cool waters of the Lake and Bay delay spring, while relatively warm water in fall retards early frost. Summers, on the average, are mild due to the community's proximity to water, which moderates daily extremes.

The annual average temperature for Liberty Grove is 42.4 degrees Fahrenheit. January has the lowest average monthly temperature of 16.5 degrees, while July has the highest average temperature of 65.7 degrees. Frost generally leaves by mid-May and reoccurs during the first week of October. The resultant growing season is about 135 days. Ice forms on the bay of Green Bay in late December and generally covers the Bay by mid-January. During mild winters, the Bay may not freeze completely to the top of the Peninsula. Ice breakup usually occurs in early April.

The average annual heating degrees for the area is 8,427 with July having the lowest average number of heating degree days at 47, while January has the highest with 1,502. A heating degree day is equal to the difference between the mean daily temperature and 65 degrees Fahrenheit. If the mean daily temperature is greater than 65 degrees, the number of heating degree days is considered to be zero.

The normal annual total precipitation is 28.92 inches. The lowest monthly average of 0.97 inches occurs in February, while the highest of 3.60 inches occurs in June. More than one-half the average annual

precipitation falls between May and September. The first half of June and middle of August are likely to receive the heaviest summer rains. The end of August is normally the driest summer period.

Geology

The Town of Liberty Grove is a narrow, ice-scoured, drift veneered bedrock upland situated between Lake Michigan and Green Bay. Two different types of geologic settings, Quaternary geology and bedrock geology, characterize the Town. Quaternary geology refers primarily to the effects that continental glaciation has had on the region and to a lesser extent the surface effects of more recent erosions and deposition. Bedrock geology refers to the solid rock layers that lie beneath Quaternary sediments.

Bedrock Geology

The bedrock units, which underlie the Liberty Grove planning area, range in age from Precambrian at depth to Silurian at the surface. The oldest are impermeable crystalline rock of Precambrian age at depths that average more than 1,500 feet below the land surface. These are overlain by consolidated sedimentary rocks of Cambrian, Ordovician, and Silurian ages. These sedimentary rocks are solidified marine sediments that dip to the southeast towards the center of Michigan at approximately 45 feet per mile.

Silurian dolomite, often referred to as Niagara, is the uppermost bedrock in the Town and is exposed in outcroppings throughout the planning area but primarily along the bluffs near the waters of Green Bay. This dolomite reaches in thickness up to 580 feet.

Rocks underlying the Niagara dolomite are not visible in the Town. Below the Niagara dolomite is a shale formation known as Maquoketa. It reaches a maximum thickness of 450 feet. The Maquoketa Shale overlies a dolomite formation, termed Platteville-Galena, which is approximately 500 feet in thickness. This rock formation, in turn, overlies Cambrian sandstones which are 450 feet thick. All of these sedimentary rock formations overlie Precambrian igneous rocks.

The Silurian or “Niagara” dolomite is perhaps the most notable and influential bedrock unit within the planning area. The rock dips gently to the southeast and is best exposed along the southern shore of Green Bay as a 60 to 90 foot cliff in the Town. This cliff is known as the “Niagara Escarpment.” The Niagara dolomite is exposed as low-lying cliffs in some areas of the Town along the western shore of Lake Michigan. The Niagara dolomite in Door County has been subjected to considerable groundwater activity as evidenced by the presence of sinkholes, enlarged joint openings with azimuthal trends of 72 and 155 degrees, cave systems, and other solution features. Glacial sediments, however, obscure the Niagara dolomite in most of the inland areas of the Town. Because of the dolomite’s proximity to the surface, especially in the western portions of the planning area, little agriculture, with the exception of orchard cultivation, is practiced. The Silurian dolomite is also the primary source of groundwater for the planning area.

A distinctive feature, identified primarily with the eastern State Highway 57 corridor of the Town of Liberty Grove, is the abundance of stone fences.

While rurally charming and an asset to the Town's overall rural character, the stone fences are a visual historical reminder of the yearly agricultural labors of hand-picking the glacial rocks heaved from each previous winter. In addition, the stone fences are an ongoing geological and scientific history as the primary dolomite erodes away, exposing the fossilized skeletal remains of corals and other inhabitants of the warm, shallow waters that covered the Door Peninsula in the Pleistocene Age.

Glacial Geology

The last glacial ice of Quaternary glaciation, which left the planning area approximately 10,000 years ago, modified the bedrock surface by scouring highlands and depositing this material in lowlands created by pre-glacial erosion. Six types of Quaternary deposits are recognized within the planning area. These include till, glaciofluvial sediments, dune sands, shoreline deposits, organic deposits, and some lacustrine sediment deposited in late-glacial and postglacial lakes. See Map 2.3.

Till or unstratified drift is a mixture of unsorted, angular-to-round-shaped sediments ranging in size from clay to boulders. Tills are ice-contact deposits originating directly from glacial ice. The till that covers the bedrock within the planning area is coarse-grained, yellowish-brown to buff color, dolomite-rich till and is known as the Liberty Grove member of the Horicon Formation (Mickelson and others, 1984).

Unlike till, glaciofluvial sediments are sorted by particle size that delineates the stratification. Glaciofluvial sediments were deposited in a fluvioglacial environment involving glacial meltwater flow. Each individual layer of glaciofluvial sediments are characterized by a given size, ranging from pebbles and cobbles to sand or finer.

Two types of topographic landforms that consist primarily of till are found in the planning area. They are ground moraine and drumlins. Ground moraine is an irregular surface of till, which was deposited by a receding glacier. A drumlin is an elongate asymmetrical hill consisting of till deposited by an advancing glacier. The steeper slope points in the direction from which the glacier advanced.

At least one type of topographic landform consisting of glaciofluvial sediments occurs in some areas of the planning area. This type of topographic feature is an outwash plain, which is an apron of well-sorted, stratified sand and gravel deposited by glacial meltwater. It may extend for miles beyond the ice front.

Several abandoned shorelines of late-glacial and postglacial phases of Great Lakes are present in the planning area. These abandoned shorelines are recognized by the presence of wave-cut cliffs and terraces, dune ridges, and gravelly beach ridges.

The most prominent ancient shoreline in the area is that of the Nipissing Great lakes phase, which usually occurs at an elevation of 600-605 feet above sea level. The highest ancient shoreline in the area is that of the Algonquin phase, which occurs at elevations between 620 and 658 feet above sea level.

Soil Characteristics

General Soils Description

Soils are grouped into general soil associations which have similar patterns of relief and drainage. These associations typically consist of one or more major soils and some minor soils. The general character of the soils of the planning area is largely the result of various types of

glacial deposits overlying the Silurian dolomite. Within the Town, there are general soil associations. See Map 2.4.

Carbondale-Seelyeville-Markey

Soils in this association consist of very deep, very poorly drained soils in outwash plains, lake plains, and glacial moraines. The Carbondale series consists of very deep, very poorly drained soils formed in organic deposits more than 51 inches thick on ground moraines, outwash plains, and lake plains. These soils have moderately slow to moderately rapid permeability. Slopes range from 0 to 2 percent. The Seelyeville series consists of very deep, very poorly drained soils that formed in organic materials more than 51 inches thick. These soils are on glacial outwash plains, valley trains, flood plains, glacial lake plains, and glacial moraines. They have moderately rapid to moderately slow permeability. Slopes are 0 to 15 percent. The Markey series consists of very deep, very poorly drained organic soils. They formed in herbaceous organic material 16 to 51 inches thick overlying sandy deposits in depressions on outwash plains, lake plains, flood plains, river terraces, valley trains, and moraines. Permeability is moderately slow to moderately rapid in the organic layers and rapid or very rapid in the sandy material. Slopes range from 0 to 2 percent.

Longrie-Summerville-Kolberg

These soils are shallow to deep, level to moderately steep, well drained, and have a sandy loam or loam subsoil over sandy loam or fine sandy loam till or dolomite bedrock. The Longrie series consists of moderately deep, well-drained soils formed in loamy glacial deposits underlain by limestone bedrock at a depth of 20 to 40 inches on ground moraines, glacial lake benches, and terraces. Permeability is moderate.

Slopes range from 0 to 25 percent. The Summerville series consists of shallow, well-drained soils formed in loamy materials overlying limestone on ground moraines, end moraines, and glacial lake benches. Permeability is moderate. Slopes range from 0 to 45 percent. The Kohlberg series consists of well-drained soils moderately deep to limestone. These upland soils formed in thin, loamy deposits and the underlying moderately fine or fine textured glacial till. Permeability is moderately slow or slow. Slopes range from 0 to 12 percent.

Rousseau-Wainloa-Shawano

The Rousseau series consists of well-drained soils formed in sandy eolian deposits on dunes, lake plains, and outwash plains. Permeability is rapid. Slopes range from 0 to 70 percent. The Wainola series consists of deep, somewhat poorly drained soils formed in fine sandy glaciofluvial deposits on outwash plains, lake plains, and glacial lake deltas. Permeability is rapid. Slopes range from 0 to 4 percent. The Shawano series consists of very deep, excessively drained soils formed in sandy outwash or eolian deposits on outwash plains, outwash terraces, lake plains, and moraines. Permeability is rapid. Slopes range from 0 to 35 percent.

On-Site Sewage Disposal Systems

Map 2.5 depicts soil limitations for septic tank absorption fields. These are subsurface systems of the tile or perforated pipe that disperse effluent from a septic tank into the natural soil. If the degree of soil limitation is slight, soils are favorable for absorption fields, and limitations are minor and easily overcome. Soils with a moderate rating indicate that soil properties or site features are generally unfavorable for absorption fields, but limitations can be overcome by special

planning and design. A severe rating indicates that soil properties or site features are so unfavorable or difficult to overcome that major soil reclamation, special designs, or intensive maintenance is required. Soils that have slight limitations for absorption fields generally are well-drained and have sufficient depth before encountering bedrock or groundwater. They are located primarily in the central areas of the planning area, in a general diagonal band extending from the northeast to the southwest boundaries of the planning area. Soils with moderate and severe limitations generally have insufficient depths to bedrock or groundwater, percolate slowly, and are subject to flooding.

Without consideration of the properties of these soils, on-site wastewater treatment systems may fail and collection systems may require expensive and frequent maintenance. Factors, which are considered when evaluating soils for on-site waste systems, are:

High or Fluctuating Water Table

When groundwater is near the soil surface, proper filtering cannot take place and often results in on-site systems either backing up into the home or contamination of groundwater. In addition, construction techniques used to de-water systems are costly.

Bedrock

Large stones or bedrock near the soil surface may hinder excavation and considerably impact the cost of construction. In addition, conventional on-site septic systems cannot function properly, which may result in wastewater passing through the cracked bedrock and contaminating the groundwater.

Soil Permeability

Permeability refers to the rate at which water flows through the soil. When passage is too rapid, groundwater can become polluted. If it is too slow, the soils can become saturated and effluent ponding may result.

Flooding

On-site waste disposal systems that are located within a floodplain can result in problems. As water levels rise during periods of flooding, the system becomes saturated, which results in untreated solid and liquid waste being discharged into the ground or surface waters.

Small, privately owned on-site wastewater treatment facilities are regulated under chapter COM 83 of the Wisconsin Administrative Code. COM 83 includes performance-based provisions that provide flexibility in design of on-site systems.

Housing and population density are likely to increase due to the revised COM 83 code. This, in turn, may increase the need for land use planning and integration of environmental corridors to address the adverse impacts related to development. Planning along with land use controls such as zoning will help achieve more efficient development patterns.

Prime Agricultural Lands

According to the Soil Survey of Door County, almost 43% of the Town's land is classified as prime agricultural land with minimal modifications. These lands are located in the center of the Town, usually away from the shoreline. The Natural Resources Conservation Service identified

two classes of prime farmland—those areas where all land is prime farmland (33%) and those areas that are considered prime farmland only where drained (9%). The rest of the Town is not classified as prime farmland. Map 2.6 shows these areas of prime farmland.

Basements

Over 60% of the Town has severe limitations for dwellings with basements. According to the Soil Survey of Door County, severe limitations indicate one or more soil properties or site features that are so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. For some soils rated severe, such costly measures may not be feasible. In the Town, the main limitation for dwellings with basements is depth to bedrock or wetness. The areas in the Town that are severe are located along the shoreline and in the wetlands. The rest of the Town is rated either moderate (7%) or slight (27%). These areas are mostly located in the central part of the Town. Map 2.7 shows these limitations.

Topography

The attractiveness of the Liberty Grove area is due, in part, to a variety of topographic features. Controlled primarily by the underlying bedrock, these features can be grouped into three general categories of topographic expression. The first of these include three separate areas with relief in excess of 700 feet above mean sea level. They are located within the extreme southwest portion of the planning area between Sister Bay and Ephraim, the area immediately south of Ellison Bay, and the area within the north central sections of the planning area. The areas are characterized by relatively level tops, similar to plateaus, with

steep slopes dipping to the southeast. Many of the steep slopes are near vertical bluffs, especially in the areas immediately adjacent to the waters of Green Bay. See Map 2.8. These areas are undoubtedly the most obvious in terms of topographic expression within the Town.

A second group of topographic features includes the eastern and southern portions of the planning area. This large area is characterized by a flat to gently rolling land surface occasionally marked by small depressions. The area slopes gently to the southeast.

The central area of Liberty Grove is located upon the third general relief category. The area consists of a low, relatively level plain marked by several depressions. The lowest elevation within the planning area is found within the center of the town.

Water Resources

Three Springs Creek and the Mink River drain the planning area. Direction of precipitation runoff is primarily southeasterly towards Lake Michigan for the majority of the planning area. Runoff into Green Bay is limited to a narrow zone along the coast.

Watersheds and Sub-Watersheds

The Town of Liberty Grove lies within the Upper Door County watershed. Within this watershed, there are five sub-watersheds. The Lake Michigan watershed covers the eastern half of the Town. The Green Bay watershed covers the western part of the Town, about 20% of the study area. Three Springs Creek covers the south central part of the Town, and the Mink River watershed lies in the north central part of the Town. Finally, the Ephraim Creek watershed covers a small portion

in the southwest part of Liberty Grove. See Map 2.9, which shows these sub-watersheds in the Town.

Groundwater

In Wisconsin, the primary sources of groundwater contamination are agricultural activities, municipal landfills, leaky underground storage tanks, abandoned hazardous waste sites, and spills. Septic tanks and land application of wastewater are also sources for possible contamination. The most common ground water contaminant is nitrate-nitrogen, which comes from fertilizers, animal waste storage sites, feedlots, municipal and industrial wastewater, sludge disposal, refuse disposal areas, and leaking septic systems.

Groundwater is derived primarily from the Silurian dolomite aquifer. Well depths range from 60 to 700 feet with yields as high as 1,200 gallons per minute. Water from the Silurian dolomite is a very hard calcium magnesium bicarbonate type with varying concentrations of iron and nitrate. The dolomite has numerous joints and crevices which allow water to move relatively easily through the rock.

Pollutants may also enter the groundwater supply via these fractures. The dolomite aquifer is recharged by surface seepage of direct precipitation and snowmelt.

While acknowledging the maintenance of rural character as an indicated priority, as well as retaining and encouraging agricultural land use where feasible, caution must be exercised to balance proposed agricultural uses with safe drinking water.

Due to our relatively unique Karst topography and its implications to our groundwater supply, the utmost “best practices” should be required for large scale operations.

Surface Waters

Surface waters within the planning area include Europe Lake, the Mink River and Three Springs Creek. See Map 2.9. The largest surface water resources impacting the planning area are the Bay of Green Bay and Lake Michigan.

Shoreline Corridors

Coastal areas within the study boundaries include the steep dolomite bluffs adjacent to the waters of Green Bay and the wooded wetland areas adjacent to Lake Michigan. There are approximately 45 miles of Great Lakes shoreline within the planning area. The large amount of shoreline makes residential development very attractive.

Floodplains

Floodplains are often viewed as valuable recreational and environmental resources. These areas provide for storm water retention, ground water recharge, and habitat for various kinds of wildlife unique to the water.

Development permitted to take place in these areas is susceptible to storm damage and can have an adverse effect on water quality and wildlife habitat. In addition, it can also result in increased development and maintenance costs, such as: providing flood proofing, repairing damage associated with flooding and high water, increased flood

insurance premiums, extensive site preparation, and repairing water related damage to roads, sewers, and water mains. Some communities have special ordinances for remodeling and expanding buildings within the floodplain. New expansions may have to be compliant to the rules of floodplain construction.

As a result, the State of Wisconsin requires that counties, cities, and villages adopt shoreland/floodplain areas. Development in shoreland areas is generally permitted, but specific design techniques must be considered. Development of floodplain areas is strictly regulated and in some instances is not permitted. For planning and regulatory purposes, the floodplain is normally defined as those areas, excluding the stream channel, that are subject to inundation by the 100-year recurrence interval flood event. This event has a 1% chance of occurring in any given year. Because of this chance of flooding, development in the floodplain should be discouraged and the development of park and open space in these areas encouraged.

The authority to enact and enforce these types of zoning provisions in counties is set forth in Chapter 59.97 of the Wisconsin Statutes and Wisconsin Administrative Code NR 116. This same authority is also vested to cities and villages in Chapter 62.23 of the Wisconsin Statutes.

The extensive wetland area on the Lake Michigan coast is also subject to flooding. This flood hazard area is located on the southeastern portion of the planning area and is largely undeveloped at the present time. See Map 2.10.

Wetlands

According to the Wisconsin Department of Natural Resources, wetlands are areas where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophilic vegetation. Other common names for wetlands are swamps, bogs, or marshes. Wetlands serve as a valuable natural resource. They provide scenic open spaces in both urban and rural areas.

Wetlands act as natural pollution filters, making many lakes, streams, and drinking water cleaner. They act as groundwater discharge areas, and retain floodwaters. Finally, they provide valuable and irreplaceable habitat for many plants and animals.

Because of their importance, there are strict regulations regarding wetlands. Wisconsin Administrative Codes NR 115 and NR 117 fall under the jurisdiction of the Wisconsin Department of Natural Resources and mandate that shoreland wetlands be protected in both the rural and urban areas of the state. In the unincorporated areas, NR 115 provides the legislation to protect wetlands of five acres or more that are within the jurisdiction of county shoreland zoning ordinances. Wetlands not in the shoreland zone are protected from development by the federal government and the WDNR through section 404 of the Clean Water Act and NR 350, respectively.

Wetlands within the planning boundaries include an extensive area along the eastern and southern boundaries. The major wetland area within the planning area includes an extensive wetland which extends from North Bay north along the Lake Michigan coastal wetlands, which also extend south to Baileys Harbor.

Within the Town, there are approximately 5,480 acres of wetlands. Map 2.11 shows the WDNR inventoried wetlands greater than two

acres. It should be noted that all wetlands, no matter how small, are subject to WDNR and possibly federal regulations if they meet the state definition of a wetland.

Forests and Woodlands

Woodlands in the Town are comprised primarily of sugar maple, yellow birch, American beech, basswood, red oak, white ash, and red pine in northern Liberty Grove. Sugar maple, paper birch, aspen, and white cedar are predominant in the area from Europe Lake to Newport State Park, with the northern hardwood species again predominant in the park. The forested area adjacent to Lake Michigan in the Mink River area and Three Springs Creek area are composed of balsam, tamarack, white cedar, white oak, and red maple with smaller stands of pine. The western and northern edges of the Town, along the shores of Green bay, are dominated by white cedar. These woodlands provide an aesthetic and natural purpose, providing habitat to many animals. Map 2.12-shows the woodlands, both upland and lowland, within the Town.

Air Quality Issues

Door County is a non-attainment zone for the ozone air quality standard. An area is designated as non-attainment when it does not meet the minimum standards for air quality (NAAQS) set by the United States Environmental Protection Agency (EPA). The Clean Air Act classification is marginal, which is derived from the pollutant concentration (in parts per million) recorded by air quality monitoring devices. Newport State Park is a monitoring station that records such data.

Door County is classified as a rural transport area. This means that industries in other cities impact the air quality in Door County. According to the EPA, it was found that ozone formed in one area can drift on air currents to add air quality problems elsewhere.

The air contaminants in Door County are purported to originate principally in the industrial and metropolitan areas at the southern end of Lake Michigan and are carried by wind currents up the shore of the lake. Research shows that this “transported ozone” contributes significantly to high ozone levels in Wisconsin. Facilities wishing to move into the Town may be subject to additional requirements because Door County is designated as a non-attainment area.

Wildlife Habitat

All large remaining wooded and wetland areas within the planning boundaries have been designated as Class I (most desirable) wildlife habitats by the Wisconsin Department of Natural Resources. The areas include:

The Lake Michigan coastal shoreline, including both the Three Springs Creek, Mud Lake, and Mink River areas and the coastal shoreline adjacent to Green Bay are designated Class I wildlife areas. Scattered throughout the central portion of the planning area are remnant wildlife areas of Class I, II, and III values. See Appendix C for definitions of classes for fish and wildlife habitats.

Major wildlife species using these habitats include songbirds, deer, ruffed grouse, and squirrels. Other common species include snowshoe hare, coyote, gray fox, raccoon, red fox, skunk, turkey, and porcupine. Black bears have also been reported in this part of Door County.

Muskrat, mink, beaver, and otter have been identified in the wetland area. Several species of gulls, terns, geese, and ducks inhabit the area. Some of the old fields depicted on the map as desirable habitat provide habitat for pheasants.

In addition, the planning area lies within an important migratory corridor for songbirds, shorebirds, cranes, waterfowl, and raptors. These birds, possibly including some threatened or endangered species, use the wooded and wetland areas for food and rest.

The variety of habitat types within the planning area is a key to the number of species found in the area. The high bluff shoreline woodlands, the grassy fields, and inland woodlands are each important to certain species.

The Wisconsin Department of Natural Resources has also designated the waters of Green Bay, which border the planning area, as desirable fish habitat. Fish species include, but are not limited to, small mouth bass, yellow perch, northern pike, rock bass, rainbow trout, lake trout, and brown trout, chinook salmon, and whitefish.

Threatened and Endangered Species

Door County has many threatened and endangered species. Exact locations of these species are not published, but care should be taken before development occurs to not disturb potential habitats for these flora and fauna. Appendix D lists all the rare, threatened, and endangered species and natural communities in Door County identified in the Wisconsin DNR Natural Heritage Inventory.

Parks and Open Spaces

Outdoor recreation facilities are important features of community life. Interest in providing good recreational facilities in the Town of Liberty Grove has been generated as the community experiences increasing needs for improvement to their recreation areas. The Town of Liberty Grove is well aware of the need to have an organized plan for recreation improvement and development to meet the demands of both the resident and nonresident using the recreation facilities in the area. [See the Goal section of this chapter.]

The following parks located in the Town of Liberty Grove were identified in the 1979-1984 Door County plan inventory, the 1988 Town of Liberty Grove Comprehensive Plan, and are updated with information provided by the Town of Liberty Grove officials and the chair of the Parks and Property Committee. (See Map 2.13)

Town Parks:

- Porte des Morts Town Park, 1.2 acres, includes toilets, two picnic tables, and one grill. Features of note: excellent view of Washington Island and Plum Island. A staircase is proposed at the time of the publication of this Plan, and once constructed, the staircase will provide water access down the bluff.
- Wisconsin Bay Town Park, 0.5 acres, includes a picnic table, but is otherwise undeveloped. A parking lot along the road has the space for two vehicles. Feature of note: a good view of Washington Island.
- Gills Rock Memorial Park, 10.53 acres, includes playground equipment, flush toilets, picnic shelter, four picnic tables, and a

grassy play area. Features of note include the fact that this park is centrally located in Gills Rock, adjacent to the Maritime Museum. This park is marked and has an expansive area.

- Fitzgerald Park (Old School Site), 7.75 acres, includes a baseball diamond, skating area, picnic shelter, maintenance building, a warming house, playground equipment, two picnic tables, two basketball hoops, and portable toilet facilities.
- Wills Park and Marina, 1.52 acres, includes portable toilets, 22 boat slips with electricity, one boat ramp, and parking. Features of note in this park include dockage and the fact that it is centrally located in Ellison Bay.
- Hotz Memorial Park, 3.0 acres, includes three picnic tables, a toilet (pump out), an excellent sand beach, six grills and parking. Features of note in this park is that it is surrounded by Newport State Park, is described as a pleasant, “off the beaten path” facility featuring a good location for a multi-use community park, including picnic areas and educational/cultural activity areas.
- Ellison Bay Community Center (formerly the Women’s Club), 3.0 acres, includes seven picnic tables, two swimming beaches separated by a dock/breakwater (one beach being very sandy), four grills, a maintained grass field, informational marker, flush toilets, a meeting house (which is available through the Town for rental), two tennis courts, playground equipment, and a gazebo. Features of note in this park include the possibility of lawn games, a pleasant setting, parking areas, and the fact that it is ideal for large group gatherings.

- Sand Bay Town Park, 6.4 acres, including an excellent sand beach, eight picnic tables, six grills, toilets (pump out variety), and parking. Features of note in this Town park are the fact that it is wooded and brushed out, that it is marked at the entrance and at the intersection of Sand Bay Road and Water's End Road, and that it has a view of Spider Island and Newport State Park.
- Isle View Park, 0.5 acres, has one small picnic table and viewing bench. One feature of note in this park is that it has a distant view of lighthouses.
- Garrett Bay Town Park, 6.82 acres, containing a boat launch for silent sports, a grill, a picnic table, ample parking, historical shipwreck offshore, and a view of Gills Rock and Washington Island.
- Grand View Town Park, 16 acres, containing viewing benches overlooking Ellison Bay and an Scenic Byways informational kiosk.

The Town has a number of Sites providing public access to Water, all of which are made easily accessible by the Town:

The east end of Isle View Road

The east end of Europe Lake Road, containing a boat launch

The east and west ends of Water's End Road

Winding Lane at North Bay, containing a boat launch [note: this water access is simply the end of a road with no parking]

The north end of North Bay Drive

The west end of Porcupine Bay Road

The east end of Appleport Road

The south end of North Bay Road, containing a boat launch

Porte des Morts Town Park (once the proposed staircase is completed)

Old Stage Lane

County Parks within the boundaries of the Town include:

- Door Bluff Headlands County Park, 155 acres, including a small parking lot. This county park is maintained as wilderness area and is not developed for recreational use. The park is characterized by vertical bluffs rising from the Bay of Green Bay, a variety of tree and ground species, and varied topography
- Ellison Bay Bluff County Park, 160 acres, includes two picnic tables, two fire rings, a well, a toilet, parking for approximately 15 vehicles. Features of note in this county park include a three-quarter mile drive with woods on one side and a stone fence and open field on the other side. A stairway to a viewing area features spectacular views of Green Bay waters. Access to the water from this county park is not possible due to the high bluff separating the public portion of the park with the Bay of Green Bay below.

State parks and open space within the Town of Liberty Grove include:

- Newport State Park, 2440 acres, including over 40 miles of trails for hiking; biking; skiing; snow shoeing, sixteen primitive camp sites, a picnic area with shelter, and toilets (the pump out variety). Features of note in this state park include 11 miles of Lake

Michigan shoreline, a nature center, a year-round naturalist, guided hikes and activities, and school programs. The park is designated as a wilderness area with minimal development. At the time of the publication of this Comprehensive Plan, Newport State Park became an international dark sky area in 2017.

Mud Lake State Natural Area

There are no facilities at this natural area.

Features of note include a shallow, hard drainage lake surrounded by northern wet-mesic forest, the extent of which depends on water levels. Reiboldts Creek, which runs from Mud Lake to Lake Michigan, has been stocked with trout and supports a trout spawning run. Waterfowl use is occasionally heavy. Nesting has been confirmed for pied-billed grebe, American bittern, common golden eye, mallard, pintail, blue-winged teal, wood duck, and Virginia rail. Uses of this area include group use, research use, individual nature study, hunting, fishing, boating or canoeing.

Scientific and Natural Areas

The Wisconsin State Natural Area program was established to formally designate sites in natural or near natural condition for scientific research, the teaching of conservation biology and, most of all, preservation of their natural values and genetic diversity for the future. These areas are not intended for intensive recreation use, but, rather, to serve the mission of the Natural Areas Program, to locate and preserve a system of State Natural Areas harboring all types of biotic communities, rare species, and other significant natural features native to Wisconsin.

Within the Town, there are two state-designated natural areas: Newport Conifer hardwoods and Mud Lake. Mud Lake was previously discussed above. The Newport Conifer Hardwoods contain diverse northern mesic, northern wet-mesic, and boreal forest communities located in Newport State Park. The 140 acre site is composed of white birch, sugar maple, beech, and ash. A three to eight foot high wall on dolomite traverses the site. The natural area is accessible via hiking trails in the state park. See Map 2.14.

In addition to the State Natural Areas described above, the Wisconsin Department of Natural Resources also completed a natural area inventory in 1980. This study inventoried potential areas of natural significance based on plant and animal diversity, natural area community structure, and the extent of human disturbance. These areas are placed into the following five categories:

SA State Scientific Areas: those natural areas of at least State significance which have been designated by the Scientific Areas Preservation Council.

NA-1 Natural Areas: tracts of land and/or water so little modified by a man's activity, or sufficiently recovered, that they contain nearly intact native plant and animal communities believed to be representative of the pre-settlement landscape.

NA-2 Natural Areas: tracts of land and/or water slightly modified by man's activities or insufficiently recovered from past disturbances such that they are of county or multi-county natural significance because of one or more of the following reasons: the degree of quality is less than level of grazing, water level manipulation or pollution, etc.; the type may be the most abundant or a very common type in the

region, only the very best of which might qualify for state scientific area recognition; or the area may be too small.

NA-3 Natural History Areas: tracts of land and/or water modified by man's activities, but which retain a moderate degree of natural cover and often would be suitable for educational use. Such exclusions from a natural area inventory would be an oversight. Two or more of the identifying natural area criteria may be substandard in natural history areas, but in time and with protection, most natural history areas will increase in "naturalness." Natural history areas may reflect patterns of former vegetation or show the influence of settlement or vegetation. An important value of some of the larger NA-3 sites is their role in watershed protection and environmental corridors.

NA-1(RSH) Rare Species Habitats: sites where the primary natural value is the presence of one or more rare, threatened, or endangered species of plants or animals.

In addition to the two state natural areas listed above, the Town of Liberty Grove has five areas designated in this natural area inventory, as follows:

Sister Islands: T32N R28E, Section 30. This area is between 2 and 15 acres depending on water level. The Code is SA, and this area is owned by the WDNR. Two low-lying dolomite gravel islands in the Bay of Green Bay are considered to be important gulleries. An estimated 1,350 to 1,650 breeding pairs of herring gulls were present in 1964. Bird banding and several research projects on gulls have taken place on the islands. Vegetation is primarily composed of pionerring weedy herbs and shrubs.

Marshall's Point: T31N R28E, Sections 23, 24, and 25. This area is 600 acres. The Code is NA-2, and it is owned by private parties as well as Trust Lands (114 acres). An outstanding area exhibiting Lake Michigan rocky shore and boreal forest of white cedar, balsam fir and other conifers and hardwoods over dolomite bedrock. The soil is a raw humus rendzina, which is an undecomposed organic soil over calcareous rock. Numerous critical plant species have been documented from this area, and it contains a rich bryophyte community.

Mink River Marsh: T32N R28E, Sections 13, 14, and 24 located in Ellison Bay. This area is 1,100 acres. Its code is NA-1 and it is privately owned. A two mile-wide spread of the Mink River is subject to the water level fluctuations of Lake Michigan. Extensive sedge meadows line the periphery, while aquatics abound in the marsh. Numerous springs feed into the marsh, and extensive shrub and conifer swamps surround the wetland. The area has high furbearer and waterfowl significance. The Nature Conservancy owns 60 acres on the edge of the marsh.

Hotz Tract-Europe Lake: T32N R29E, parts of Sections 4 and 9. This area is 130 acres located between Europe Lake and Lake Michigan. Its code is NA-1, and it is owned by both the WDNR and private parties. A state significant isthmus between Lake Michigan and Europe Lake features over a mile of undeveloped low dunes and limestone frontage on the former and cobblestone frontage on the latter. Virgin red pine groves and excellent beech-sugar maple mesic forest are additional features. Critical plant species are present. The southern half of the area is located in Newport State Park.

Door Bluff Park: T33N R28E, Section 35. This area is 50 acres, and its code is NA-2. It is owned by Door County. This area is characterized by

a very high Niagara dolomite bluff overlooking Lake Michigan, with terraced lower levels indicating former wave-cut beaches. It is forested with second growth American beech-sugar maple with white birch on the summit and with large trees and white cedar on the cliffs. Critical plant species are present. Most of the area falls within the boundaries of Door Bluff Headlands County Park.

Environmental Corridors

The Town encompasses 6,740 acres of environmental corridors. (See Map 2.15)

Environmental corridors serve many purposes. They protect local water quality and wildlife habitat through identification and preservation of environmentally sensitive areas. They can be used as a means of controlling, moderating, and storing floodwaters while providing nutrient and sediment filtration. Environmental corridors can provide fish and wildlife habitat, recreational opportunities, and serve as buffers between land uses while improving the aesthetics of the community.

In any community planning, this Comprehensive Plan defines Environmental Corridors to include the following:

- WDNR wetlands

- 100-year floodplains

- Areas with slopes greater than or equal to 12 percent

- Lakes, rivers, streams, and ponds

- Setbacks for lakes and rivers of 75 feet

Buffers of wetlands of 25 feet

Designated scientific and natural areas

Unique and isolated woodland areas

Scenic viewsheds

Historical and archeological sites

Unique geology

Wetland migration sites

Isolated wooded areas

Unique wildlife habitats

Parks and recreation areas

Other locally identified features (see, for example, Section 13, below)

The Niagara Escarpment, a Local Key Natural Feature

The Niagara Escarpment is an observable geologic landform throughout the Great Lakes from New York to Wisconsin that, because of the unique habitat areas associated with it, is an important natural resource area in both the United States and in Canada. The escarpment forms much of the western edge of the Town and is readily apparent as the bluffs overlooking the Bay of Green Bay provide the type of view that attracts visitors to the area. Noting its international character, the Niagara Escarpment is actually visible from outer space.

Historical, Cultural, and Archeological Resources

According to the History of Door County, in 1859, the Town of Liberty Grove became the northernmost territory organized on the Door Peninsula. Norwegian Moravians from the Town of Gibraltar initiated the creation of the Town due to the need of a Norwegian from Ephraim who felt he needed to relocate because he felt that Gibraltar's increasing population of settlers undermined his liberty, hence the name "Liberty Grove."

There are many buildings of historical importance within the Town, most of which are old farmhouses and barns. Other buildings of historical importance within the Town are old commercial buildings, schools, and churches. A large number of these sites are located in Ellison Bay and along the shoreline. One such historic site is The Clearing, which is on the National Registry of Historic Places and is located along the shoreline in Ellison Bay. The Clearing is a 128 acre folk school and is considered an outstanding example of landscape architecture design, including rustic structures in woods and meadows overlooking the Bay of Green Bay. The Clearing was founded by noted landscape architect, Jens Jensen in the mid-1930s and conducts classes throughout the year in a wide range of topics, from art and music to hiking and geology, from history and medicine to food preparation and personal health and development.

An historical and architectural resources survey of Door County completed in 1998, Historical and Architectural Resources Survey, Selected Unincorporated Communities of Door County, recommended the following sites as eligible for National Register designation: the Rowleys Bay Pier, the Pioneer Store in Ellison Bay, and the collection of structures in Gills Rock associated with the Weborg Pier.

The numerous archeological sites within the Town are scattered along the shoreline of the Town with a small concentration in Ellison Bay. Two are on the National Registry of Historic Places: Bohjanen's Door Bluff Pictographs and the Porte des Morts site. The former shows figures of Native Americans and canoes painted in the rock face. The latter is an old village site of the Oneotas.

Because of the existence of such historical and archeological sites, care should be given when any excavation that is done within the Town so as to possibly not disturb an historical or archeological site.

One distinctive feature that has the potential of being disturbed by roadway excavation is the stone fences. The location of these stone fences happens to be concentrated along the eastern Highway 57 corridor. These stone, located in a geologic and topographic area where such stone predominate, were hand-picked by farmers over the decades heaved from each previous winter to erect what has become a rurally charming asset to the Town's rural character.

The Sister Bay/Liberty Grove Public Library, a branch of the Door County Public Library System and an example of intergovernmental cooperation (see Chapter 7) provides traditional, electronic, and digital information and entertainment for residents and visitors alike.

Free Wi-Fi is available at the SBLG Public Library as well as at the Ellison Bay Information Center and at the Liberty Grove Town Hall.

Map 2.16 shows the approximate locations of these historic and archeological sites.

Metallic and Non-metallic Mining Resources

Metallic mining in Wisconsin has occurred since the time it was settled. Metals mined in the state include copper, lead, iron, and zinc. Mining has economic value to multiregional areas, but also has the ability to potentially harm natural resources. Any new mines need to have a permit granted by the Wisconsin Department of Natural Resources, which includes a reclamation plan. A reclamation plan is a detailed technical document designed to meet the goals which lead to successful reclamation and will help reduce the effects to the environment once the mine is abandoned. Such a plan has minimum standards that must be met in order to be accepted. The WDNR defines successful reclamation as “the restoration of all areas disturbed by mining activities including aspects of the mine itself, waste disposal areas, buildings, roads, and utility corridors.” Restoration is defined as “returning of the site to a condition that minimizes erosion and sedimentation, supports productive and diverse plants and animal communities, and allows for the desired post-mining land use”.

At the time of the drafting of this Comprehensive Plan, metallic mining does not take place anywhere in the Town of Liberty Grove. Non-metallic mining, on the other hand, does take place, including the mining of sand, gravel, and crushed stone resources, all of which are nonrenewable resources.

Sand, gravel, and crushed stone are resources needed as sub-base materials for road construction and are major components of concrete for foundations, basement walls, sidewalks, etc. As the Town undergoes further growth and development, there will be greater demands for sand, gravel, and crushed stone. Even though these nonrenewable resources are ubiquitous, some deposits are of a far

better quality than other deposits. Gravel and crushed stone deposits with low chert content are best suited for concrete, for example. Gravel deposits with low percentages of foliated metamorphic rock, gabbro, and basalt fragments are best suited for use as sub-base material and for concrete. The best sources for better quality sand and gravel are outwash plains, kames, eskers, dunes, point bars, and stream channels.

Sand gravel and crushed stone have low intrinsic value but high place value. “Intrinsic value” refers to cash value of a given unit (weight or volume) of the product while “place value” refers to the cost of transporting a given unit of the product. Construction costs increase significantly as the distance from the source for sand, gravel, and crushed stone increases to the point that transportation costs may exceed production costs.

The Door County Zoning Ordinance regulates non-metallic resources. This ordinance requires a site plan, an operational plan, a reclamation plan, and a copy of the lease for all non-metallic mining operations.

Community Design

Community design deals with the large-scale organization and design of the community, particularly the organization of the buildings and the space between them. An evaluation of the community design is often subjective and requires personal judgment. In an effort to remove this subjectivity, the community design resources of the Town of Liberty Grove have been inventoried according to the following six criteria that represent the building blocks and language of community design:

landmarks, pathways, edges, districts, nodes, and community entryways.

1. Landmarks

Landmarks are important reference points that represent a prominent feature of the landscape and have the ability to distinguish a locality, mark a boundary of a piece of land, or symbolize an important event or turning point in the history of a community. Included in the category of landmarks are stone fences, boat ramps, cemeteries, churches, historic buildings, marinas, parks, road crossings, former repurposed school houses and town halls, and a community garden (i.e., Hidden Acres).

See the Town of Liberty Grove website, and contact the Liberty Grove Historical Society, the Door County Visitors' Bureau, and the State Historical Society for information on these landmarks and related historical and cultural sites.

2. Pathways

Pathways are linear features that represent both vehicular and pedestrian movement. Pathways provide connections between places as well as along them. Whether the particular pathway is a major arterial one, a local street, or an undefined woodland trail, pathways are hierarchical and represent a degree of usage.

Major pathways in the Town include County Highway ZZ, County Highway Q, Old Stage Road, Mink River Road, State Highway 42, and State Highway 57 designated in 2010 as a Wisconsin State Scenic Byway (such designation to be renewed in 2020.)

Secondary pathways include Appleport Road, Beach Road, Garrett Bay Road, Timberline Road, and Waters End Road.

Other than the pathways set forth above, the remainder of the Town road network are considered minor pathways.

3. Edges

Like pathways, edges are linear. Edges are important organizing elements that represent boundaries that can be soft or hard, real or perceived. Edges become increasingly important as a community grows in order to visually distinguish the edges of the community. The following edges identified in the Town do not necessarily coincide with jurisdictional boundaries: Bay of Green Bay, Country Lane, Flint Ridge Road, Grove Road, Hill Road, Lake Michigan, Pebble Beach Road, Town Line Drive/Stock Road, and Woodcrest Road.

4. Districts

Districts encompass areas of commonality. Examples of districts may include a residential district or a central business district. These areas represent buildings and spaces where clearly defined and separate types of activities take place. Within the boundaries of the Town and/or immediately adjacent to the Town, the following districts have been identified: Ellison Bay, Gills Rock, the State Highway 42 Business District in Sister Bay, the State Highway 57 and County Highway Q business district, Northport, and Rowleys Bay.

5. Nodes

Nodes are specific points of recognition. They are destinations and very often represent the core or center of a district. In addition, nodes are

closely associated with pathways as they provide access to and from districts. An example of nodes within a district may include separate areas for government functions as opposed to entertainment activities within a central business district. Within the Town, the following have been identified as nodes: the intersection of Old Stage road and County Highway ZZ and three light industrial districts on Old Stage Road, Northport Pier, Highway 42 and Mink River Road, and County Highway Q and State Highway 57.

6. Community Entryways

Community entryways are associated with edges in that the entryway begins an edge. Entryways can be unique and are very valuable assets in that they help define a community to those using the entryway. In many cases, these entryways are more correctly described as “doorways” to a community. Community entryways help define the community to its residents and to its neighbors. How people perceive an entrance to a business area or a doorway to a town will determine whether they stop in or drive through the community. These points of interest may need to be protected or enhanced through the use of zoning standards requiring landscaping, building design, signage, lighting, and public furnishings.

The primary entryways into the Town of Liberty Grove should be protected and enhanced. High quality public entry signs and/or public art may be used to formally announce entry to the Town. Around the periphery of the Town, the following entrances have been identified: State Highway 42 entering from the north at the Washington Island Ferry, State Highway 42 entering from the Village of Ephraim, and State Highway 57 entering from the south from Baileys Harbor.

The secondary entryways into the Town are subtle portals enjoyed by Town residents. The use of formal entry markers such as signage and/or artwork should be low key, if used at all, in order to maintain the rural/agricultural look of the area. Secondary entryways around the periphery of the Town include County Highway Q, Settlement Road entering from the west, Town Line Drive, and Woodcrest road entering from the south.

Section 3, Goals, Policies, Procedures and Action Items

Goal 1: Preserve, protect, and promote historical and archeological sites within the Town.

Policy: Because of the existence of such historical and archeological sites, care should be given when any excavation is done within the Town so as to possibly not disturb an historical or archeological site.

The State of Wisconsin requires that the finding of any human bones be reported so as to allow the State Historical Society to conduct an investigation as per Wisconsin Statutes Section 157.70.

Anyone seeking to develop land requesting a permit from the Wisconsin Department of Natural Resources or any land developer working with federal funds are required to be in compliance with Section 106 of the National Historic Preservation Act and 36 CFR Part 800—Protection of Historic Properties.

Goal 2: Preserve the rural, the open, and the natural character of the Town of Liberty Grove by managing development through planning.
[Note: to demonstrate the interrelatedness of the various parts of the

Comprehensive Plan, this goal, policies, and actions are identical to Goal 3, Chapter 3, Housing].

Policy 1: Manage and minimize the environmental impact of multi-unit housing through planning.

Actions:

- a. Concentrate multi-unit housing in areas classified as high density residential and general commercial on the General Plan Design Map.
- b. Concentrate multi-unit housing to areas with the appropriate infrastructure; for example, the present population centers and/or existing or future sanitary/utility districts.
- c. Work with Door County Planning Department to periodically review ordinances.
- d. Concentrate multi-unit housing to areas with the appropriate infrastructure, for example, the present population centers and/or existing or future utility district(s).
- e. Minimize the impact any multi-unit housing might have on environmental corridors and/or wetlands.
- f. Encourage compatibility of multi-unit housing with natural and cultural surroundings to minimize the environmental impact.
- g. Encourage cooperation with other governmental units to protect the environment through the use of storm water run-off plans.
- h. Encourage down lighting.
- i. Encourage the use of low wattage, high efficiency lighting fixtures.

Policy 2: Minimize visual impact as well as the social impact of multi-unit housing.

Actions:

- a. Encourage design standards that minimize the visual impact of multi-unit housing.
- b. Encourage design limitations for multi-unit housing pertaining to the number of units per building and overall square footage of multi-unit buildings.
- c. Encourage the use of a broad set of design standards to accommodate the different types of multi-unit housing, including, but not limited to attainable (i.e., affordable) housing, seasonal housing, residential housing, and commercial housing.

The Comprehensive Plan encourages the formulation of and use of design standards with a sense of place, i.e., Northern Door, including the use of natural materials, the use of colors harmonious to the natural setting of the structure, compatible designs in keeping with the neighboring properties and the rural character of the community.

For further information on design standards, see Appendix B

Policy 3: Retain the natural and rural character of the Town while providing sufficient land area for development of residential needs.

Actions

- a. Utilize the General Plan Design Map as an illustration of the Town's overall development policy to provide sufficient land area for projected residential needs.

- b. Encourage future development within and towards population centers to facilitate controlled residential growth.
- c. Encourage utilization of conservation based subdivision guidelines to preserve rural and natural areas.
- d. Encourage the use of ecologically and geologically sound practices in residential development.
- e. Utilize the General Plan Map to minimize the impact of housing on Liberty Grove's infrastructure.
- f. Work with the County and neighboring municipalities to ensure compatible residential growth.

Goal 3: Transportation Related to Natural Resources [Note: to demonstrate the interrelatedness of the various parts of the Comprehensive Plan, this goal, policies, and actions are identical, in part, to the goals on Transportation in the Chapter on Transportation.]

The Town's goals related to transportation as well as the agricultural, natural, and cultural resources of the Town include the following:

1—Maintain roadways in as drivable condition as economically possible.

2—Promote the safety of roads for vehicles, bicycles, and pedestrians.

3—Encourage the inclusion of bicycle and/or pedestrian paths whenever an opportunity arises, such as when a road undergoes a resurfacing or a reconstruction.

4—Maintain the Town roads as far as practicable and within the constraints of fiscal responsibility, by maintaining the scenic, cultural, and historical characteristics of the roads as well as maintaining their rural nature and their geological and geographical features, all within the context of the other transportation and comprehensive plan goals.

5—Promote water access to silent sports as well as for the launching of motorized water craft, where any purchases or projects accord within the parameters of fiscal responsibility.

6—Establish harbor(s) of refuge on the Bay side as well as the lake side where geographically possible and economically feasible.

7—Respond to increasing boating pressures where economically feasible, including, but not limited to marina enhancements and expansion.

8—Clean up or otherwise establish water-access points that happen not to be currently accessible or otherwise usable by people seeking additional access to water where feasible and practicable.

9—Promote parking that is safe and convenient, including parking for water access trailer parking, keeping in mind the needs of the physically disabled.

10—Encourage utility providers and internet providers to avoid running overhead lines and other obstructions on certain roads for the easy and safe transport of large water craft and waste hauling in light of the fact that within the Town, large water craft transport as well as waste water hauling are necessary.

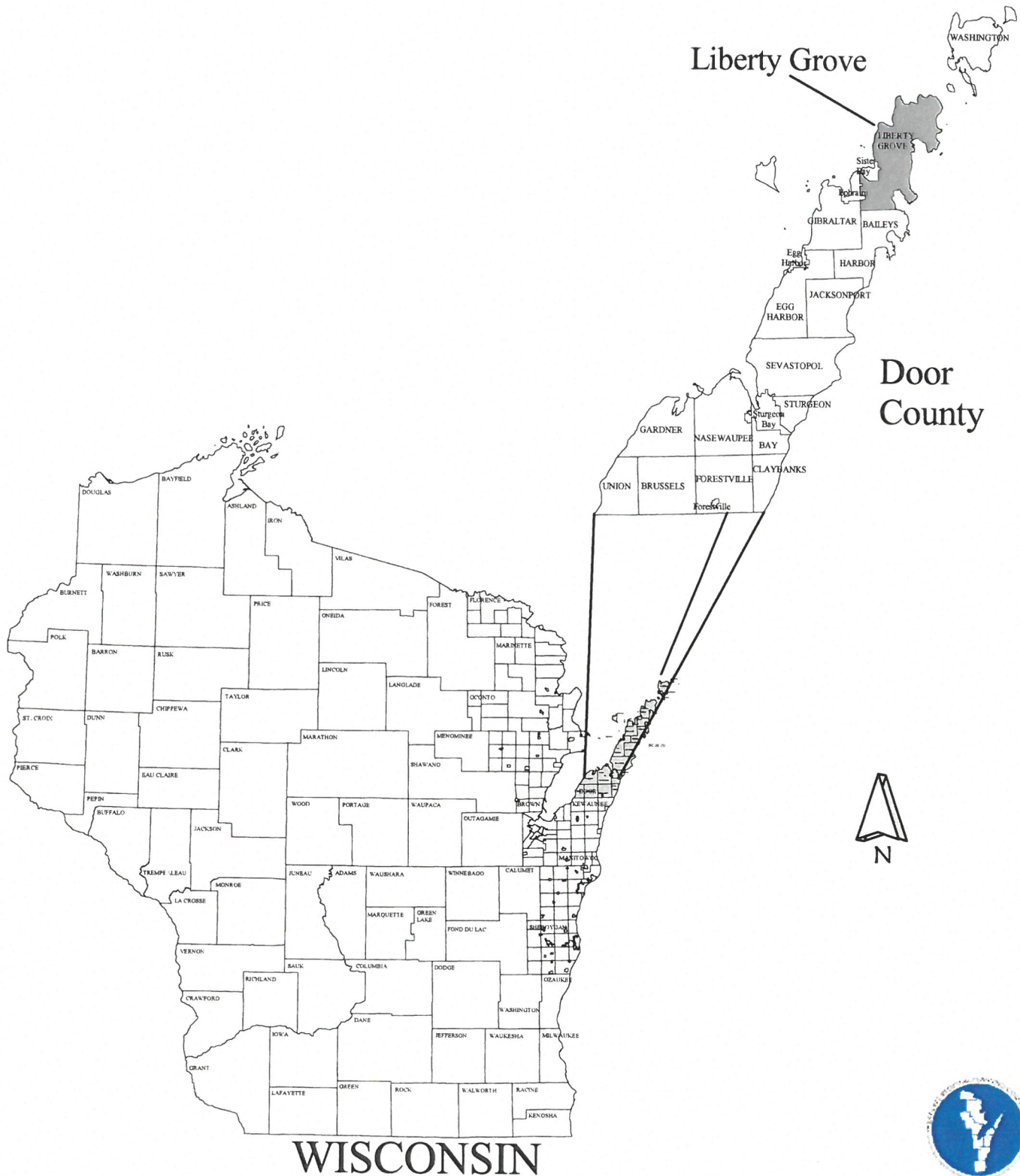
Chapter 2, Maps, Tables and Charts

Location Map

Town of Liberty Grove

Door County, Wisconsin

Map 2.1



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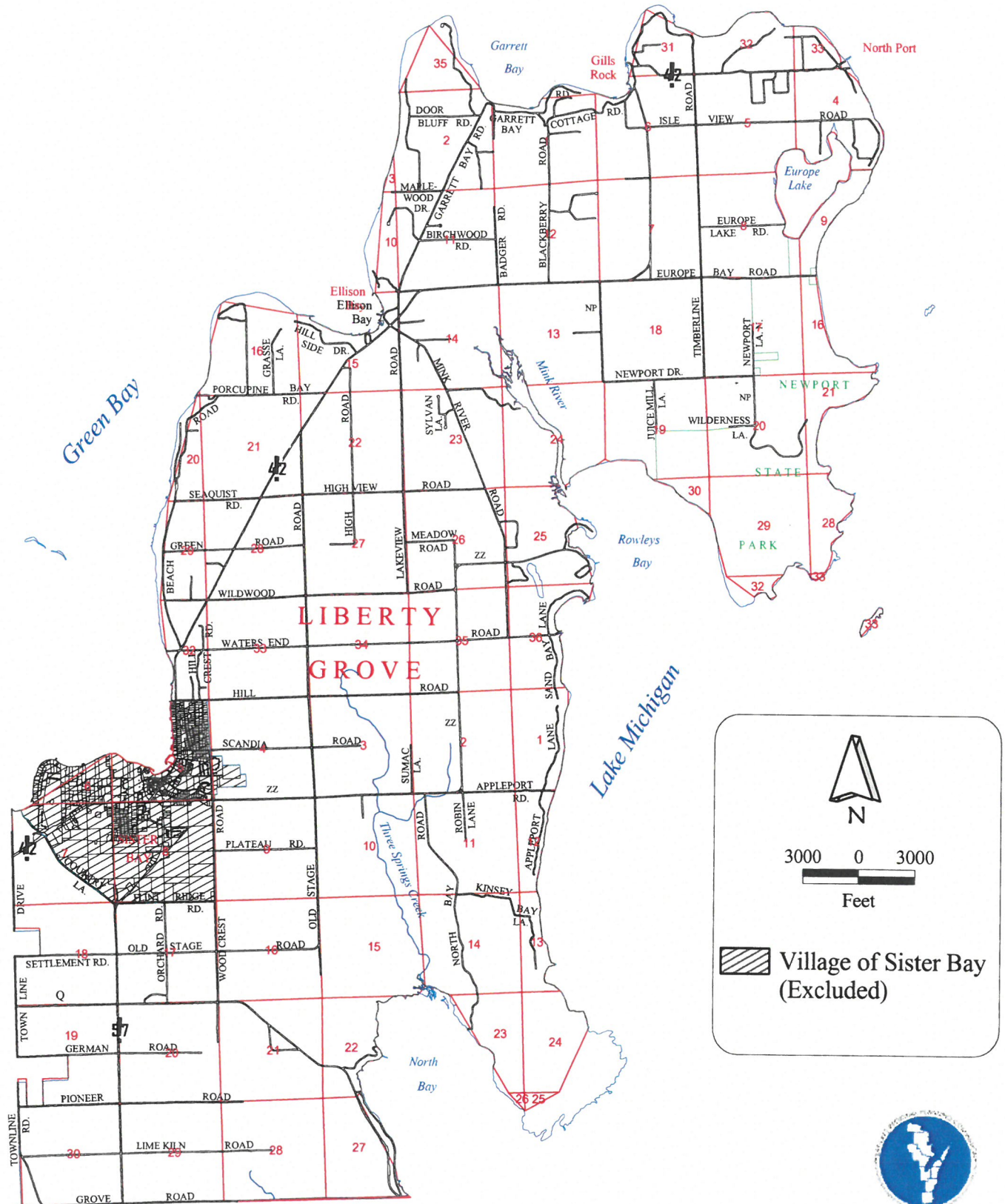


Planning Area

Town of Liberty Grove

Door County, Wisconsin

Map 2.2



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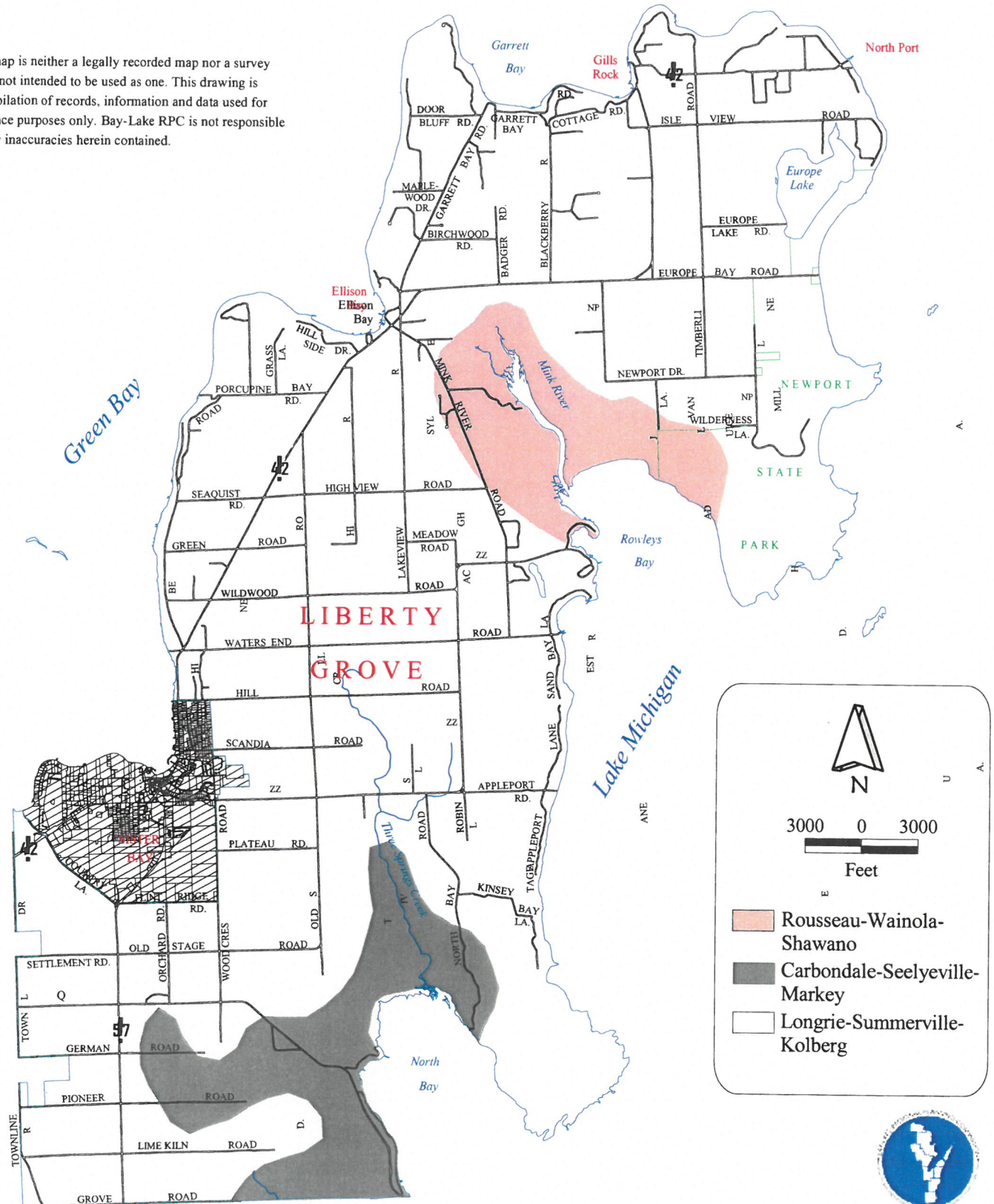
General Soil Associations

Map 2.4

Town of Liberty Grove

Door County, Wisconsin

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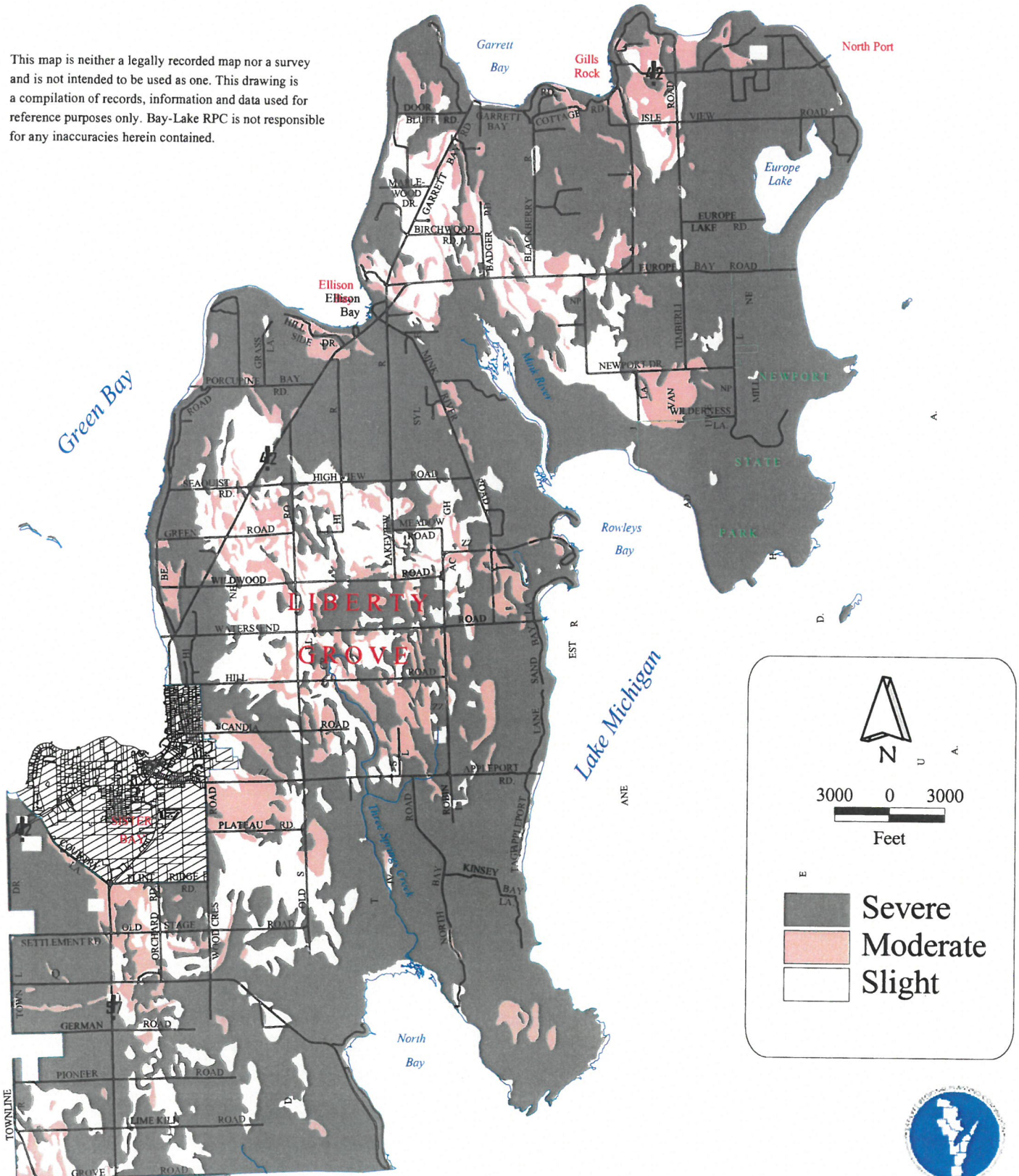


Soil Limitations for Septic Systems

Map 2.5

Town of Liberty Grove Door County, Wisconsin

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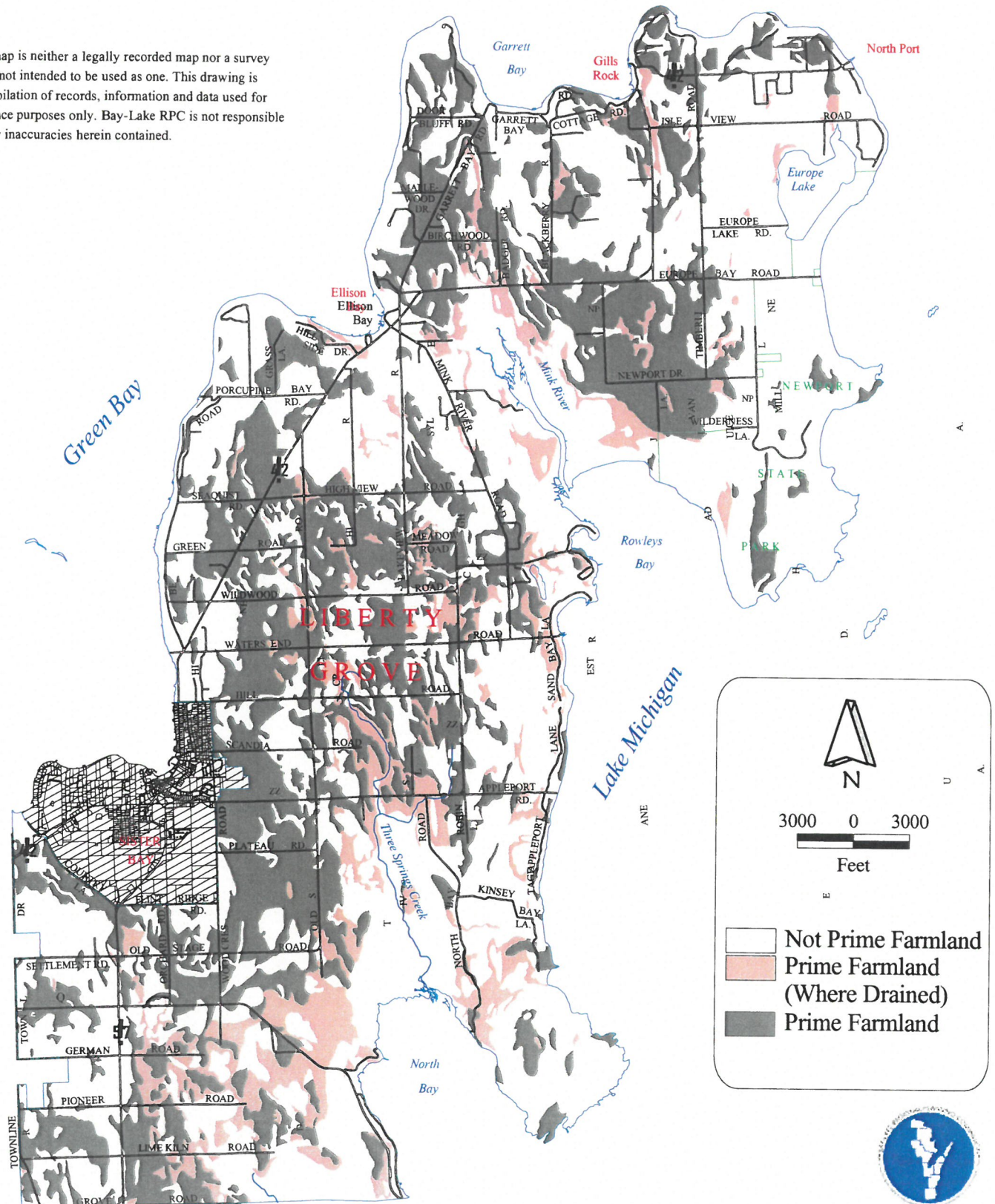
Prime Farmlands

Town of Liberty Grove

Door County, Wisconsin

Map 2.6

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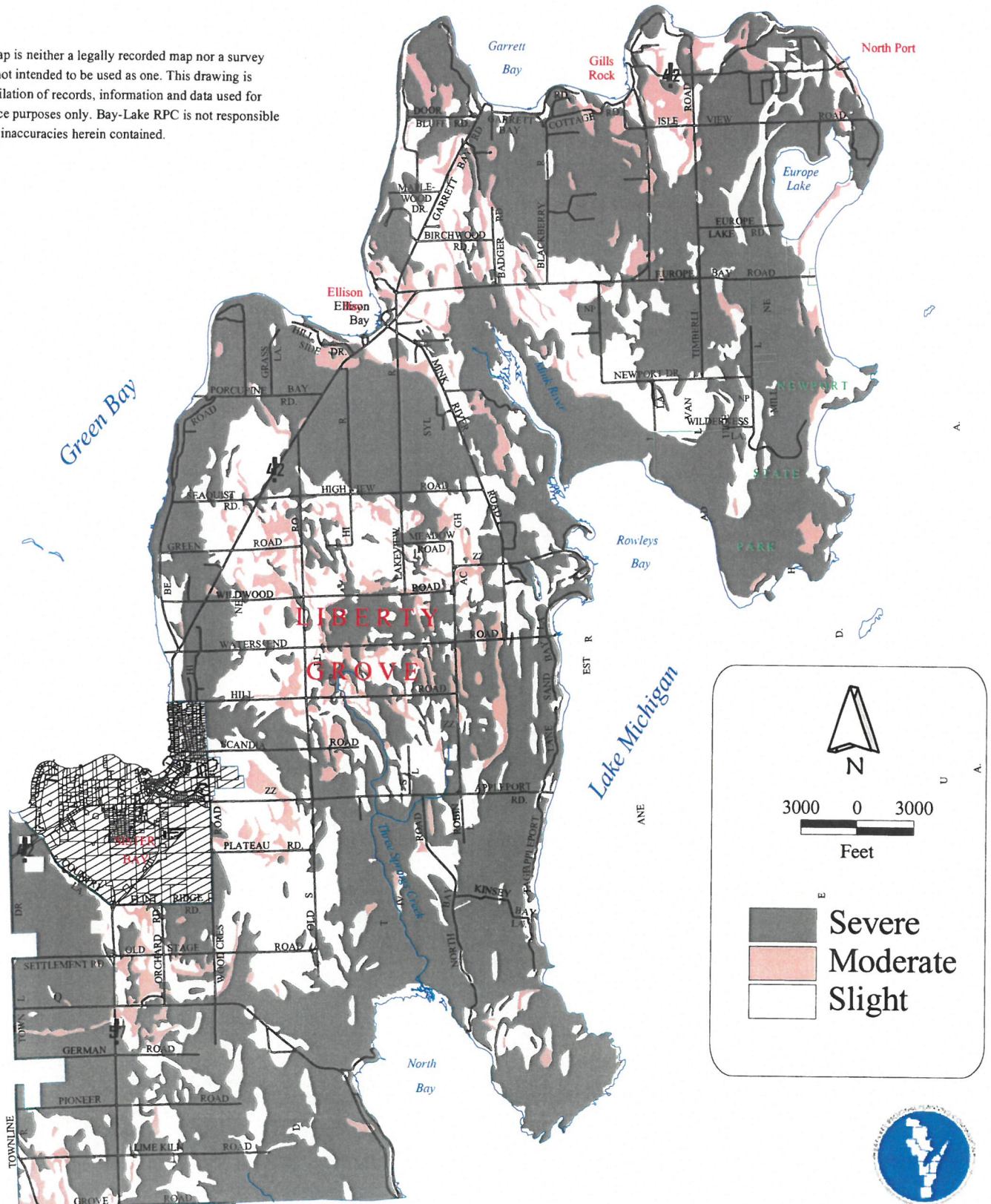
Soil Limitations for Dwellings With Basements

Map 2.7

Town of Liberty Grove

Door County, Wisconsin

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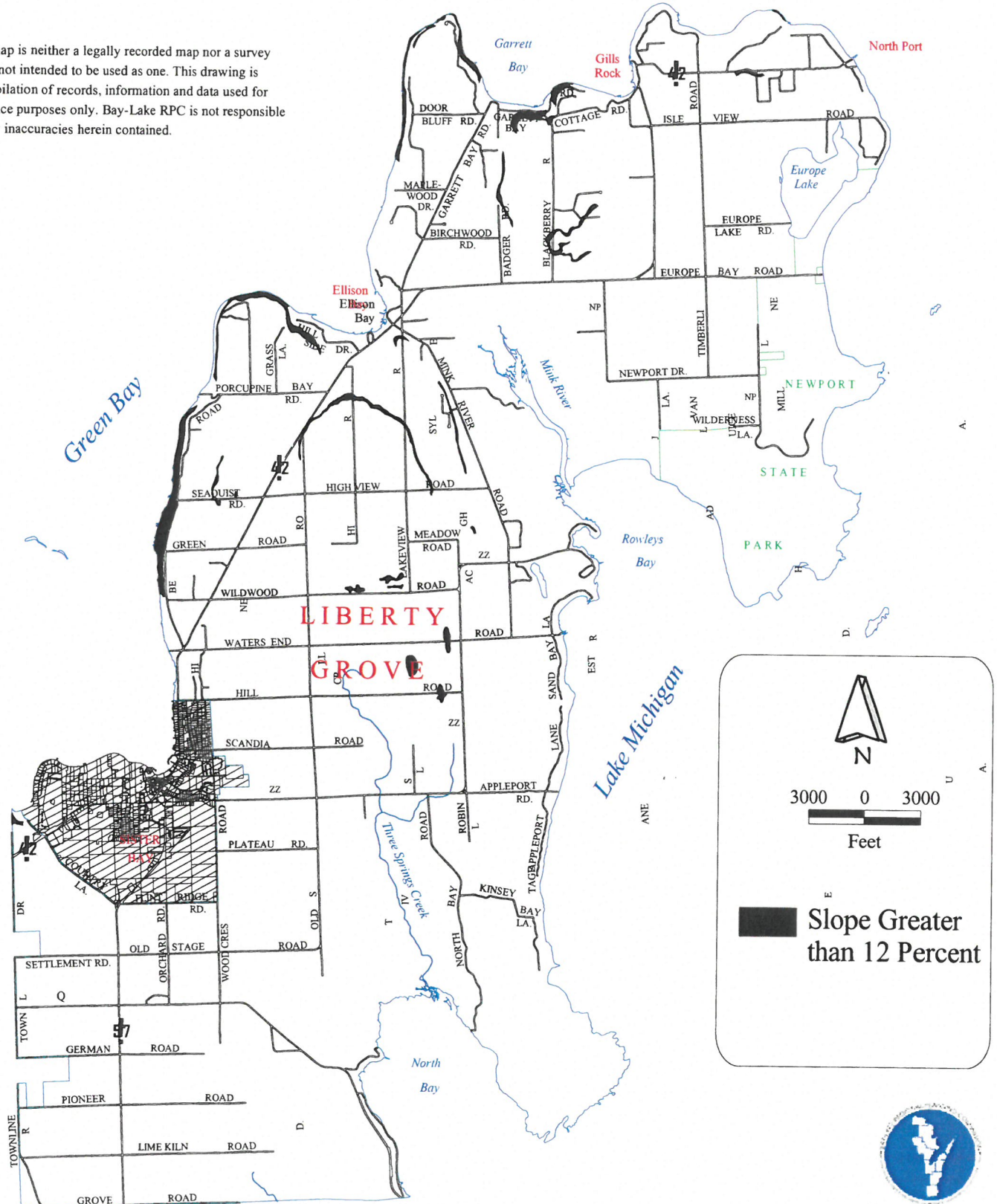


Steep Slope

Town of Liberty Grove

Door County, Wisconsin

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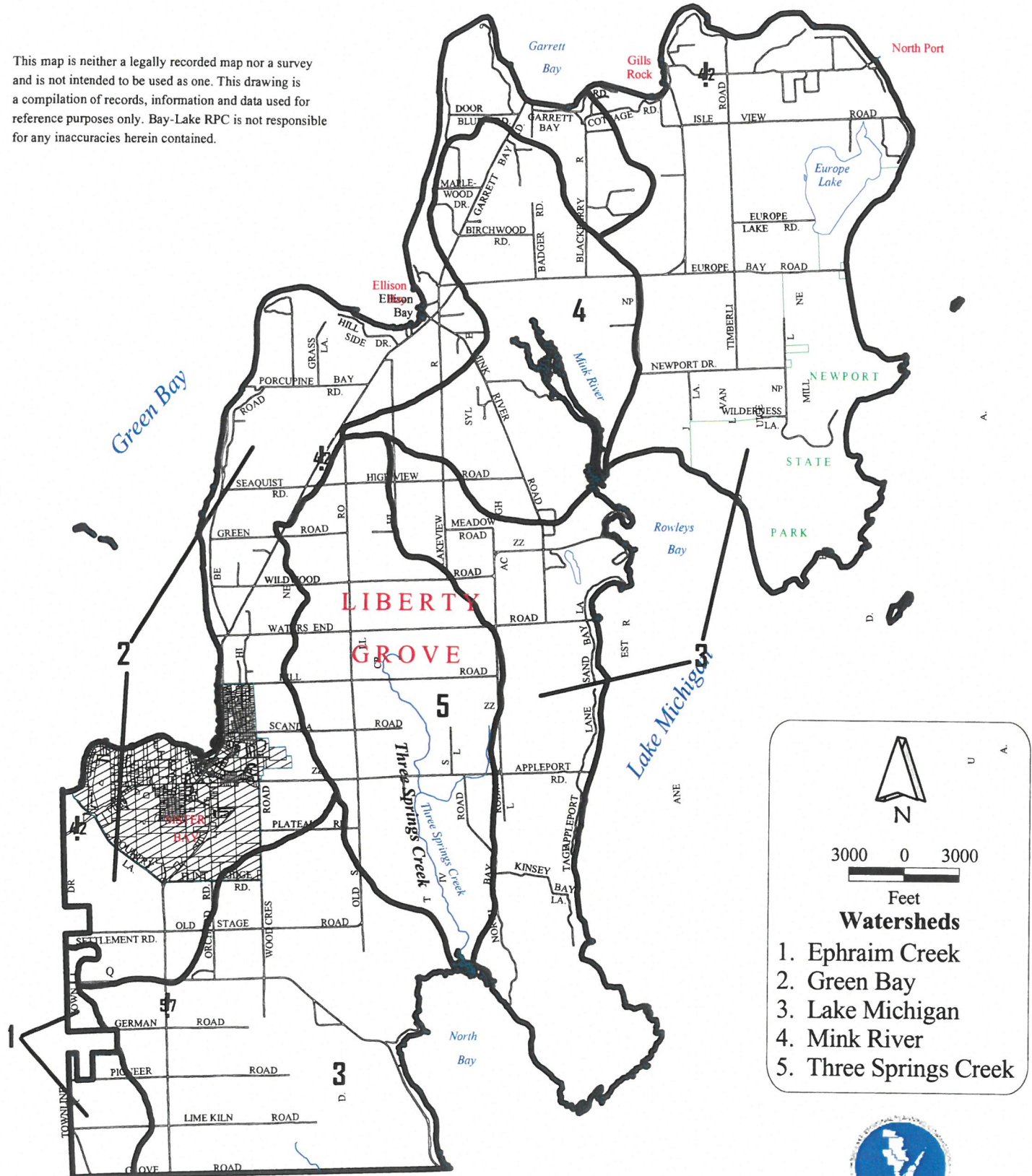
Watersheds & Surface Water Features

Map 2.9

Town of Liberty Grove

Door County, Wisconsin

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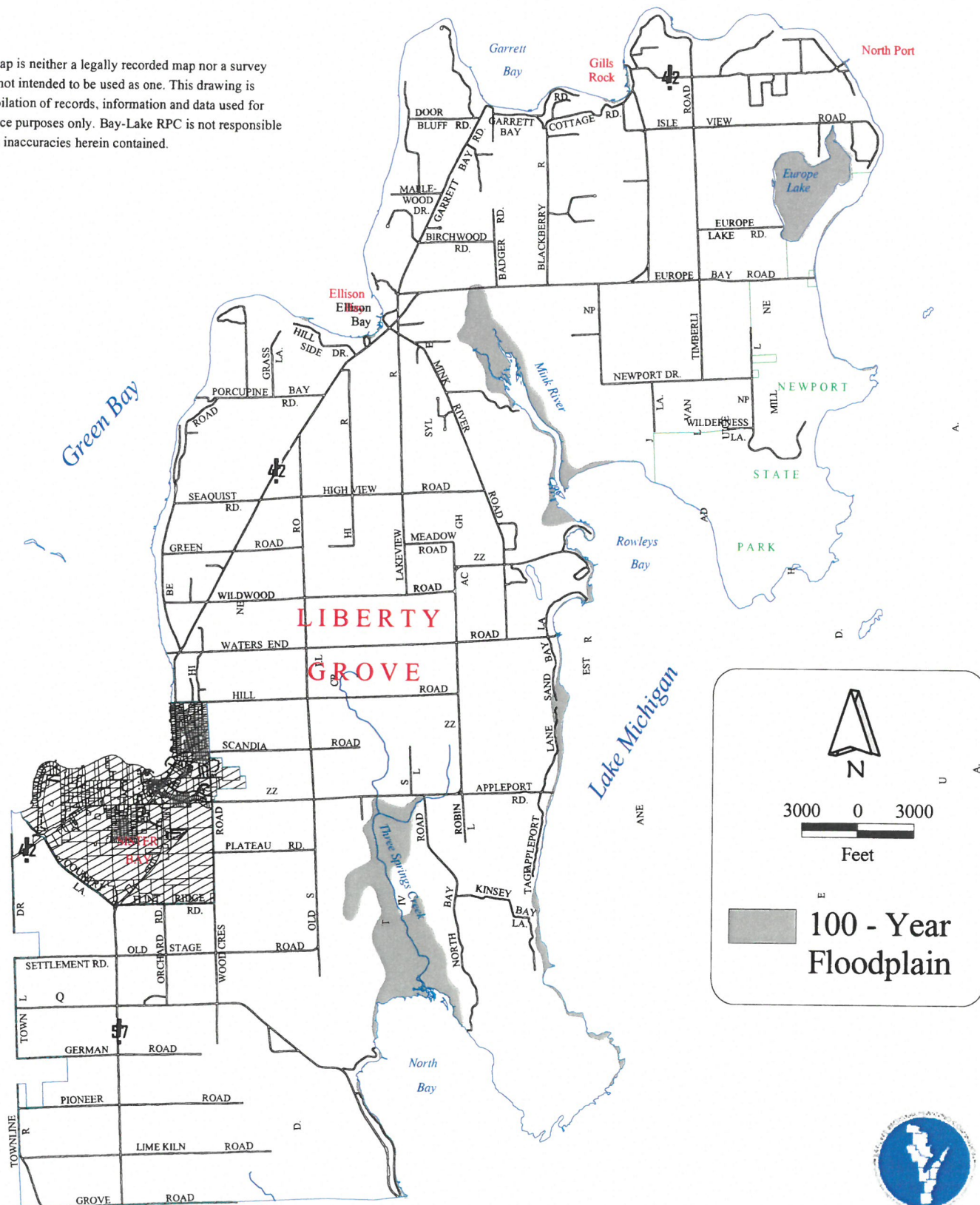


Floodplains

Town of Liberty Grove

Door County, Wisconsin

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Map 2.11

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Source: Door County Land Use Services
2014
Map date: June, 2017

Source: Door County Land Use Services Department
2014
Map date: June, 2017

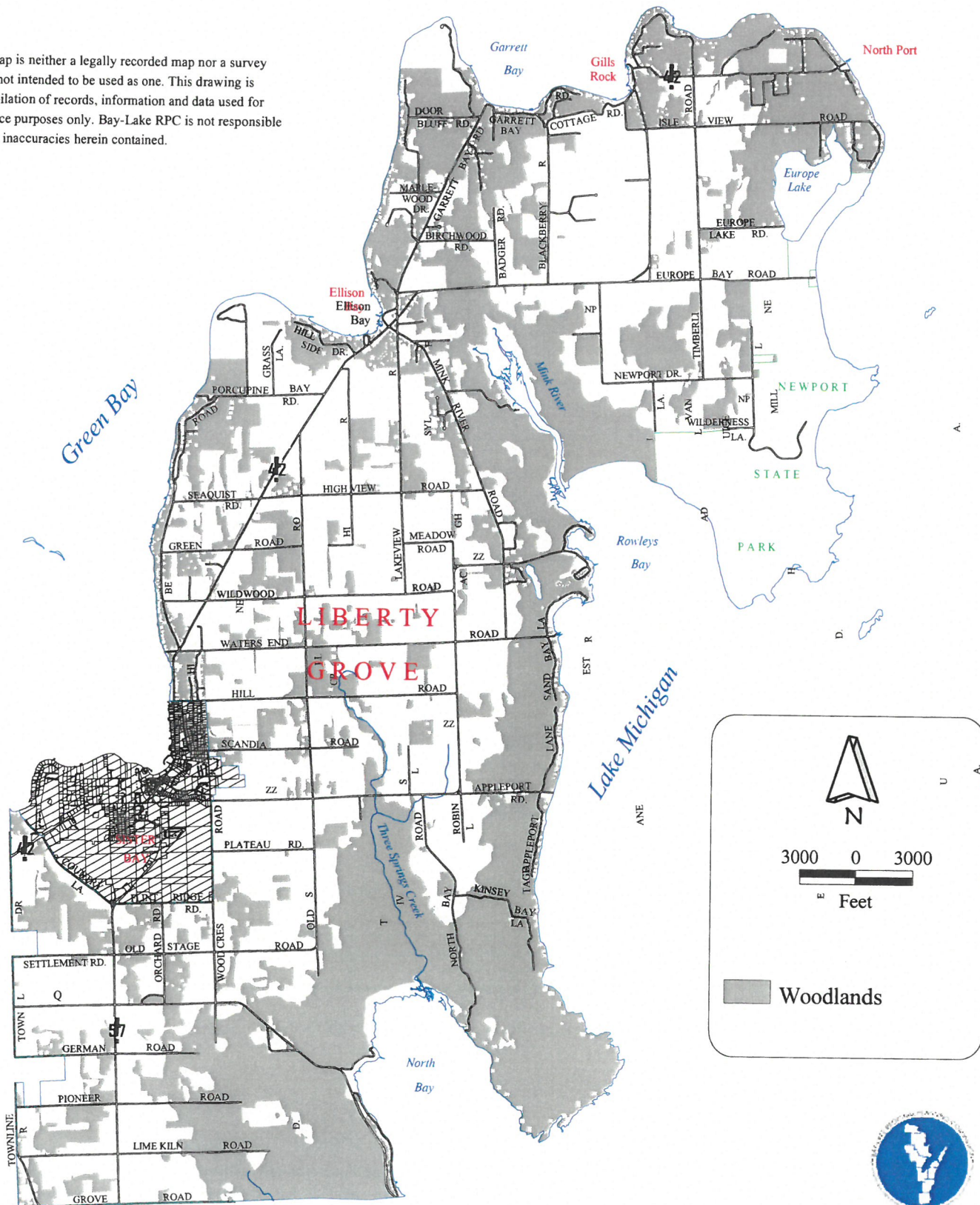
Woodlands

Town of Liberty Grove

Door County, Wisconsin

Map 2.12

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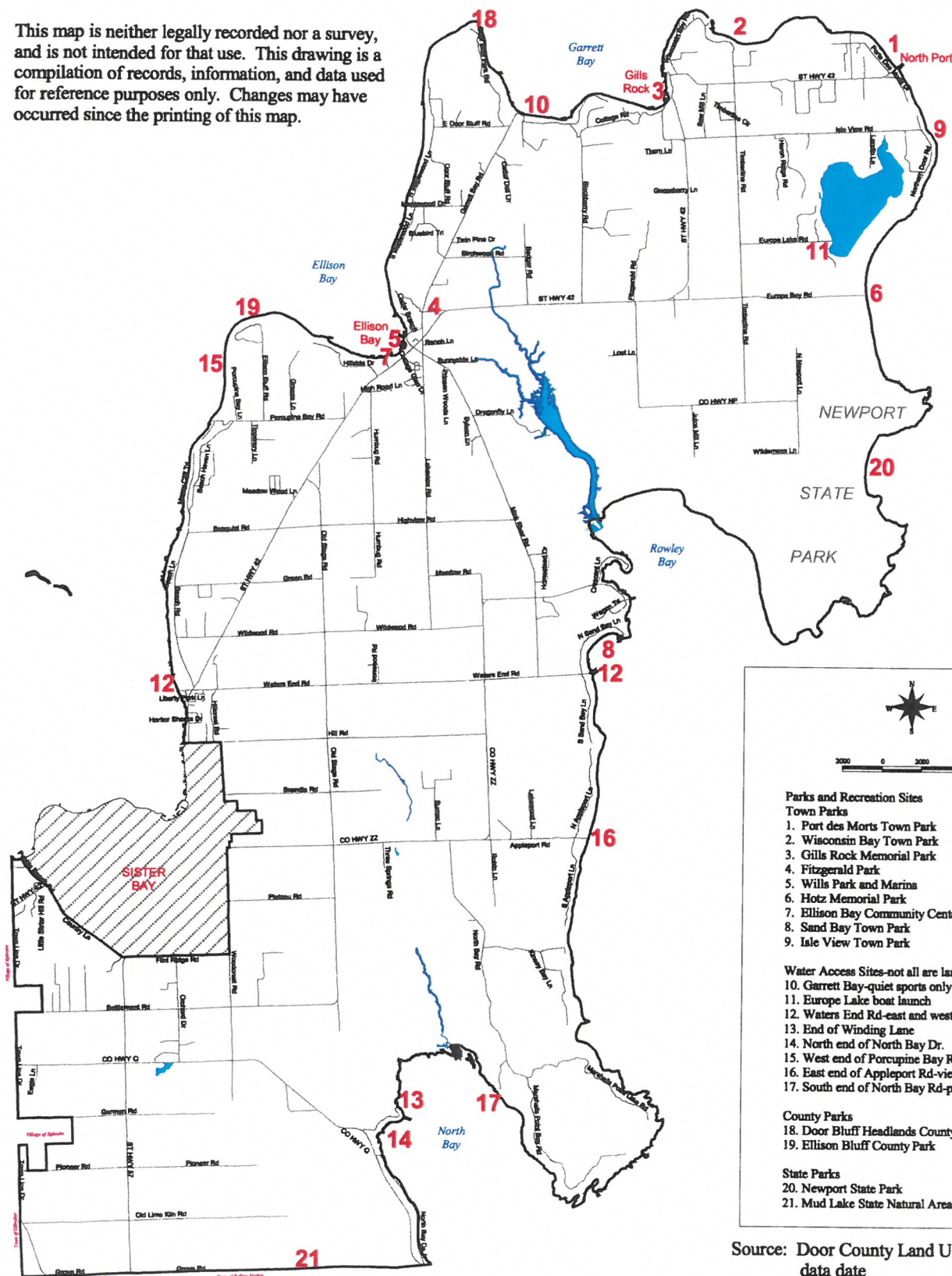


Park, Recreation, & Water Access Sites

Town of Liberty Grove

Door County, Wisconsin

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Source: Door County Land Use Services Department data date

Map date: June, 2017

This map illustrates the Liberty Grove area, highlighting its geographical features and infrastructure. Key elements include:

- Water Bodies:** Green Bay, Lake Michigan, Europe Lake, and various smaller bays and rivers like the Mink River and Three Springs Creek.
- Landmarks and Natural Areas:** Door Bluff Park, Hotz Tract Europe Lake, Gravel Island, Newport Conifers State Natural Area, Spider Island, Marshall's Point, and Mud Lake State Natural Area.
- Road Network:** A dense network of roads including Door Bluff Rd, Garrett Bay Rd, Europe Bay Road, and others.
- Geographical Features:** Sister Islands, Ellison Bay, and various smaller islands and points.
- Map Tools:** A north arrow and a scale bar (0 to 3000 feet) are located in the bottom right corner.

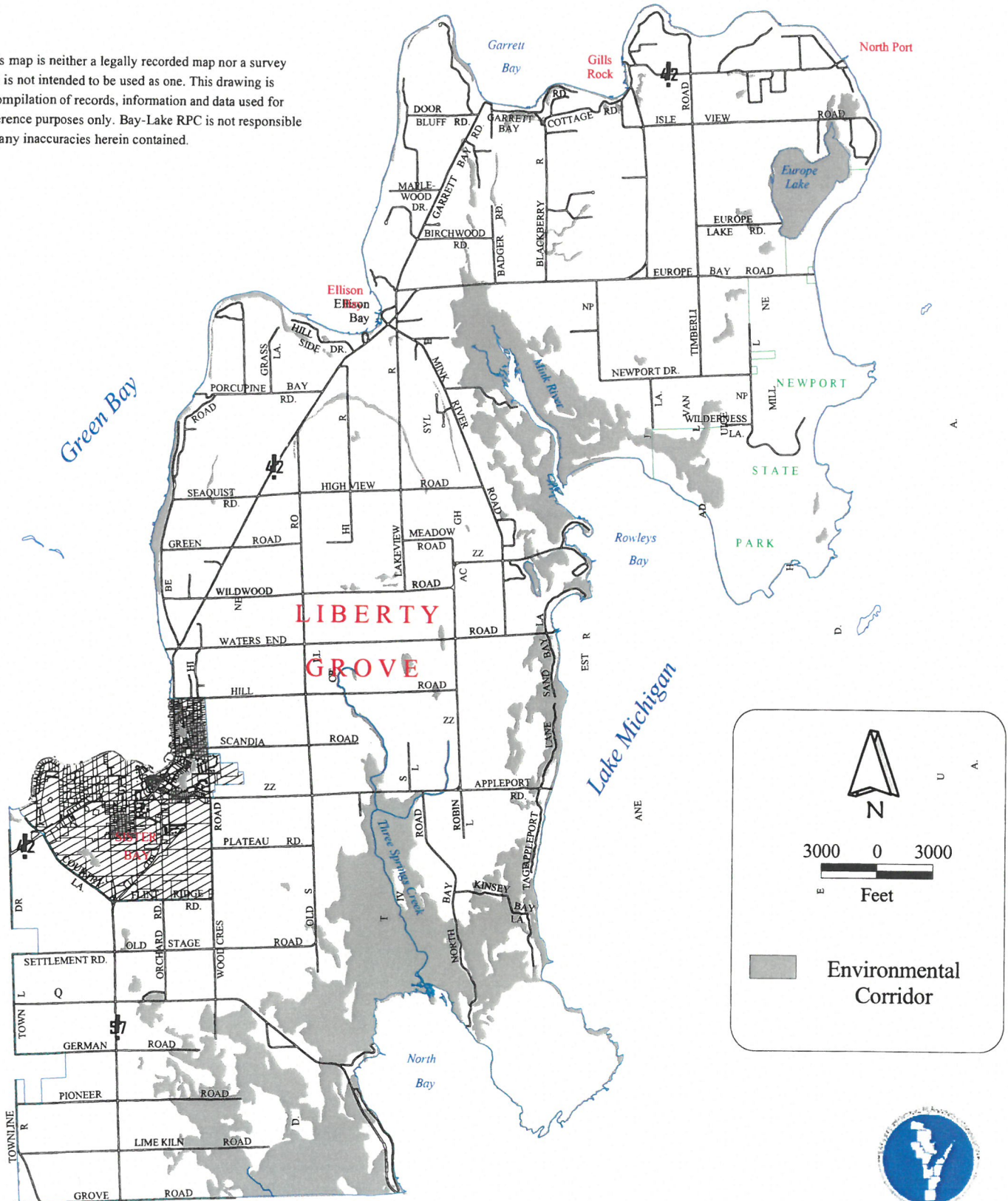
Environmental Corridors

Town of Liberty Grove

Door County, Wisconsin

Map 2.15

This map is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only. Bay-Lake RPC is not responsible for any inaccuracies herein contained.



Map 2.16

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LIBERTY GROVE

N Archeological Sites*
X Historical Sites

*Archeological site locations are approximate.

2-34

