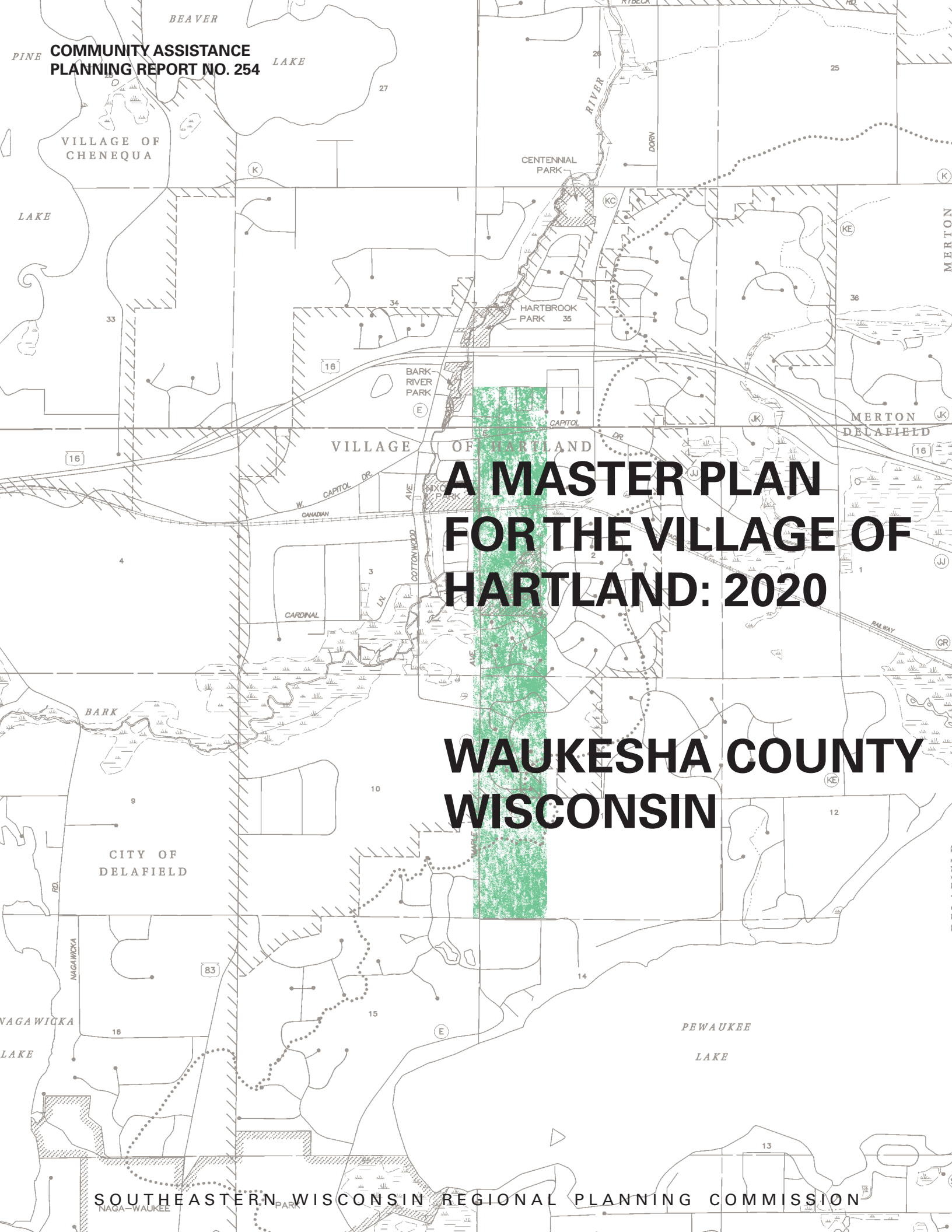
COMMUNITY ASSISTANCE
PLANNING REPORT NO. 254

A MASTER PLAN FOR THE VILLAGE OF HARTLAND: 2020

WAUKESHA COUNTY WISCONSIN



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NUMBER 254

A MASTER PLAN FOR THE VILLAGE OF HARTLAND: 2020 WAUKESHA COUNTY, WISCONSIN

Prepared by the

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REPORT SUMMARY

VISION STATEMENT

"The Village of Hartland seeks to retain its small village character, preserving a vital Village Center surrounded by the rural beauty of the Lake Country area. The Village desires to maintain a healthy balance between human activities and the natural environment that will provide a pleasant, livable community. In doing so, the Village intends to promote aesthetically pleasing developments that are sensitive to its unique natural and historic qualities while providing opportunities for earning a living, raising a family, and pursuing a variety of recreational activities."

The Village of Hartland requested the Southeastern Wisconsin Regional Planning Commission to assist the community in updating the Year 2000 Village of Hartland Land Use and Traffic Circulation Plan. This updated and retitled plan, which has been adopted by the Village Plan Commission and the Village Board, is intended to provide local officials with a tool to help guide and shape the physical development of the Village through the new design year 2020. This report sets forth the findings and recommendations of the planning effort undertaken in response to the Village's request. The plan identifies the planning objectives of the Village and sets forth means for achieving those objectives over time.

The planning effort involved extensive inventories and analyses of the factors and conditions affecting land development in the Village, including existing and alternative future population, household, and employment levels; inventories of natural resources such as soils, topography, flood hazards, wetlands, woodlands, and plant and wildlife habitats; and inventories of existing land uses and local land use regulatory devices. Upon completion of the analyses, a framework for plan development was established in which past planning efforts were considered; planning objectives were identified; a planned urban service area was established; and probable future population, household, and employment levels were selected. Finally, a master plan was prepared that may be expected to accommodate the needs of residents in a manner consistent with the Village's land use-related objectives. The plan also includes specific design guidelines and a set of recommended measures to help carry out the plan over time.

Throughout the planning process, public participation was encouraged. In 1999, a community survey was conducted in which residents and business operators were asked for their perceptions concerning desirable lands uses, the value of natural resource preservation, measures to be used in shaping the Village's future, and what elements have the greatest positive and negative influence on the quality of life in the Village. Community input was also garnered through comments received at Village Plan Commission meetings in which the master plan was

discussed. In addition, an informational meeting was held on December 7, 2004, and a public hearing was held on December 20, 2004, to present a preliminary recommended plan to the public and solicit further public input. The Village also sent a copy of the preliminary recommended master plan document, along with a report summary, to the local governing body of adjacent communities and invited them to the aforereferenced meetings.

The adopted master plan will serve as a guide to help direct and shape future land development in the Village, while promoting the protection of historic and environmentally significant resources.

THE STUDY AREA

The study area, located in the north central portion of Waukesha County, includes the entire Village of Hartland and the surrounding environs. Lands within this defined area encompass about 24.4 square miles in portions of Townships 7 and 8 North, Range 18 East. The Village of Hartland occupied approximately 4.5 square miles, or 19 percent, of the study area in 1998, and approximately 4.9 square miles, or 20 percent, in 2003, after incorporating two areas in the northeastern part of the study area. The remaining study area consists of portions of the Village of Chenequa, the Town and City of Delafield, and the Town and Village of Merton.

EXISTING CONDITIONS

Inventory is the first step in the planning process. It is important that existing conditions in the study area be thoroughly documented and analyzed before recommendations are formulated that will affect the future of that area. A summary of the existing demographic trends, natural resources, land uses, and land use regulations within the Village follows.

Demographic Trends

The population of the Village has increased since its incorporation in 1892. Initially, the Village experienced a steady growth rate in which the population almost doubled from 1900 to 1950. Thereafter, the community experienced a rapid growth rate from 1950 to 1980 and a steady increase from 1980 to 2000. The year 2000 population of 7,905 is more than a six-fold increase over the Village population of 1,190 in 1950.

Growth in the number of occupied housing units in the Village, or households, has increased at a faster rate than the Village population in recent decades. Between 1970 and 2000, the number of households increased from 780 to 3,002. The number of households increased by about 40 percent during the 1960s, 134 percent during the 1970s, 28 percent during the 1980s, and also 28 percent during the 1990s. The increase in the number of households has been accompanied by a decrease in the average household size, from 3.75 persons per household in 1960 to 2.63 persons per household in 2000. The decline in household size, which is a national trend, can be attributed to an increase in the number of one person households and a decrease in the number of children per family.

The number of employment opportunities, or jobs, in the Village increased from about 650 in 1970 to about 3,600 in 2000. Total employment in the Village increased by 250 percent during the 1970s, 32 percent during the 1980s, and 20 percent during the 1990s.

Natural Resources

The location and extent of various elements of the natural resource base, including soils and topographic characteristics; water resources and associated floodplains and wetlands; woodlands; wildlife habitat areas; natural areas; critical aquatic habitats; and significant geological sites were inventoried and mapped. Related elements such as scenic overlooks and park and open space sites were also identified. The most significant of these features lie within areas referred to by the Regional Planning Commission as environmental corridors and isolated natural resource areas.

Primary environmental corridors include a wide variety of important natural resource and resource-related elements and are, by definition, at least 400 acres in size, two miles in length, and 200 feet in width. Most of

the primary environmental corridors within the study area are associated with waterways, including the Bark River, and four major lakes. Preserving primary environmental corridors in an essentially open, natural state, will do much to maintain the overall quality of the environment and natural beauty of the Hartland area. Such preservation can also help prevent the creation of environmental and developmental problems such as flood damage, poor drainage, wet basements, failing foundations of roads and buildings, and water pollution. In 1995, about 6.6 square miles, of which half is related surface water area, or 27 percent of the study area, were encompassed within primary environmental corridors.

Secondary environmental corridors, often remnants of primary corridors that have been partially converted to intensive urban or agricultural use, also contain a variety of resource elements. Secondary environmental corridors are at least one mile long and 100 acres in area; except where they serve to connect primary environmental corridors. Secondary environmental corridors are generally located along streams, including a portion of the Bark River, and include wetlands associated with these streams. Maintenance of these corridors in open uses can facilitate natural surface water drainage, retain pockets of natural resource features, provide corridors for the movement of wildlife, and lend aesthetic character and natural diversity to an area. Secondary environmental corridors encompassed about 0.4 square mile, or 2 percent, of the study area.

Isolated natural resource areas represent smaller concentrations of natural resource features that have been separated from the environmental corridors. These areas sometimes serve as the only available wildlife habitat in an area, provide attractive scenic diversity to an area, and function as surface water retention areas. Such areas, which are by definition at least five acres in size, in combination encompassed about 0.5 square mile, or 2 percent, of the study area.

Existing Land Uses

The Regional Planning Commission inventories existing land uses in the Southeastern Wisconsin Region every five years. A special field survey was conducted by the Commission in 1998 to update the 1995 inventory of the nature and extent of existing lands uses in the Village of Hartland study area to determine the type, amount, and spatial distribution of existing urban and rural land uses. This information was mapped and analyzed in order to help provide a basis for determining probable land use needs through the year 2020, and to assist in the design of an appropriate pattern of future land use in the Village.

About 38 percent of the study area, or 9.4 square miles, was occupied by urban land uses. The predominant urban land uses were residential uses, occupying about 21 percent of the area. Nonurban land uses occupied the remaining 62 percent of the study area, or 15.0 square miles. The predominant nonurban land use was natural resource areas, occupying about 30 percent of the study area, which included water, wetlands, and woodlands. The second largest group of nonurban uses was agricultural related uses, representing about 22 percent of the study area.

Within the Village of Hartland, urban land uses occupied about 59 percent of the total incorporated area, while nonurban land uses occupied the remaining 41 percent of the Village. The predominant land use in the Village was residential uses, 25 percent, with the second largest group of uses being undeveloped open lands at about 16 percent.

Land Use Regulations

Land development can be guided and shaped in the public interest through the application of sound public land use controls. Existing land use regulations in effect in the study area were examined as they relate to the physical development of the Village of Hartland and environs. The most important of the regulations considered were the zoning, land division, and official mapping regulations.

Zoning ordinances in effect within the study area include the Village of Hartland Zoning Ordinance; zoning ordinances adopted by the Village of Chenequa, the Town and City of Delafield, and the Town and Village of Merton; and the Waukesha County Shoreland and Floodland Protection Ordinance. The Village zoning ordinance contains five zoning overlay districts and 22 basic zoning districts, each containing specific zoning regulations,

including permitted and conditional uses, minimum lot sizes, minimum yard requirements, and maximum building heights.

Land division ordinances are also in effect throughout the study area. All civil divisions, including the Village of Hartland, have an adopted land division ordinance, and Waukesha County regulates land divisions within all unincorporated shoreland and floodland areas, as well as most shoreland areas annexed into incorporated communities after May 7, 1982. The Village of Hartland land division ordinance applies to land in the Village and its extraterritorial plat approval jurisdiction. The Village land division ordinance contains design and performance standards and prescribes specific data to be provided for all preliminary plats, final plats, and certified survey maps.

Most communities in the study area, except the City of Delafield and the Town of Merton, have an adopted Official Map. Official maps are intended to reserve land for future public use and open space sites such as streets, drainageways, parks, and parkways within civil divisions as well as the extraterritorial plat approval jurisdiction of cities and villages. Waukesha County has also adopted an Established Street and Highway Width Map that identifies planned County highways and rights-of-way.

A number of State and Federal regulatory programs govern the use of water and wetlands as well as the potential water quality impacts of development. These include Chapters NR 103, NR 110, and Comm 82 of the *Wisconsin Administrative Code*, and Sections 401 and 404 of the Federal Clean Water Act.

PLANNING FRAMEWORK

Other factors important to the preparation of the Village master plan include recommendations of areawide and local planning efforts; the findings of a community survey; the formulation of planning objectives and design guidelines; a planned urban service area and boundary agreements; and the selected population, housing, and employment forecasts.

Areawide and Local Plans

Sound local planning practice should give consideration to broader areawide plans. The Southeastern Wisconsin Regional Planning Commission is the official areawide planning agency for the seven-county Southeastern Wisconsin Region, which includes Waukesha County and the Village of Hartland. The Commission has, since its creation in 1960, prepared advisory plans for the physical development of the Region through the systematic formulation of those elements of such plans most important to the government agencies operating within the Region. While always advisory in nature to the government agencies concerned and to private sector interests, this framework of regional plan elements is intended to serve as a basis for more detailed county and local planning, and is intended to influence both public and private sector decision-making with respect to development matters. An understanding of pertinent recommendations contained in regional, county, and local plans are, therefore, important to the proper preparation of a master plan for the Village.

The most pertinent recommendations in county and regional plans as related to the Village of Hartland study area pertain to land use, transportation system, bicycle-way system, water quality management, agricultural soil erosion control, and park and opens space plans. Past planning efforts by the Village of Hartland include plans related to land use, transportation, historic preservation, and park and open space elements.

Survey, Objectives, and Design Guidelines

The preparation of the Village master plan and attendant planning objectives were guided by the Village Plan Commission and, in part, by the results of a community survey. As a means of assessing the concerns and desires of the Village of Hartland residents and business operators with respect to land use and development-related issues in the Hartland area, the Village conducted a community survey in 1999. The survey results indicated that most respondents wish to preserve the small-village character and its precious natural features while growing somewhat larger in size. The majority of respondents also support the continued establishment of a Bark River greenway and additional parks, recreational facilities, and interconnecting systems of walkways, bikeways, and

recreational trails. Respondents further favored continued improvements to the Village Center and establishing communitywide design standards for new intensive urban developments. The results of the community survey are documented in a report titled, *Village of Hartland Community Survey Report*, July 2000.

The planning process included the formulation of a set of objectives, with supporting principles and standards, intended to express the long-term planning goals of the Village. Ten objectives were established, based in part on the community survey results, to guide the preparation of the master plan. The objectives deal primarily with: 1) allocation of various land uses, 2) spatial distribution of various land uses, 3) maintenance of the vitality of the Village Center and existing business areas, 4) protection of the natural resource base, 5) provision of adequate recreational opportunities, 6) provision of an integrated transportation system with a high aesthetic quality, 7) provision of high-quality fire protection services, 8) provision of adequate library services, 9) provision of an adequate supply and range of housing types, and 10) preservation of historic resources.

Design guidelines were also formulated for use by local officials to evaluate and guide future development and redevelopment in the Village, including the Village Center. The guidelines may be used as a basis for recommending potential solutions to design problems or to further enhance the visual quality of the Village.

Hartland Planned Urban Service Area and Boundary Agreements

The master plan considered a planned sanitary sewer service area, sometimes used to define a planned urban service area, that was identified for the Hartland area in SEWRPC Community Assistance Planning Report No. 93, *Sanitary Sewer Service Area for the Village of Hartland, Waukesha County, Wisconsin*, April 1985, and amendments thereto. The Hartland planned sanitary sewer service area identifies the area envisioned to be served by public sanitary sewer services, which are tributary to the Delafield-Hartland Water Pollution Control Commission (Dela-Hart) sewage treatment plant. This adopted planned service area would likely meet the public sanitary sewer service needs of the Village to the year 2020.

The Village of Hartland entered into an agreement with the City and Town of Delafield in 1998 that provides a basis for establishing future municipal boundaries among the three communities and provides for cooperative planning regarding certain areas of mutual interest. The agreement is intended to provide for adequate and logical growth between the municipalities so that each can properly and logically plan for the future needs of their respective community, and to avoid future potential lawsuits related to annexations. Under the agreement, certain areas of the Town of Delafield would be incorporated in the Village of Hartland and the City of Delafield, and certain areas of the Town would be served by public sanitary sewer services provided by the Village of Hartland while remaining in the Town.

Neighborhoods and Special Planning Districts

Inherent in the development of a comprehensive plan is the concept that an urban area should be formed into a number of spatially organized, individually planned neighborhood units, each focused around a central feature, to promote a sense of place and physical unity rather than as a single, large, formless mass. As part of the master planning effort, ten "neighborhoods" were identified within the Village of Hartland planned urban service area and environs. The location of existing elementary schools, parks, and local shopping facilities that would serve these neighborhoods within reasonable walking and biking distances were also identified. The neighborhoods were delineated so that they are bounded, insofar as possible, by distinct land features, such as the Bark River, the Canadian Pacific Railway, and the highways consisting of STH 16, STH 83, CTH E, CTH K, and CTH KE, to clearly define and physically distinguish them from each other. A name, based on a distinct land feature or land use character including historic heritage, was also selected for each neighborhood to provide a sense of identity.

Four special-purpose planning districts were also identified and reflect the existing industrial or "business" park located to the north of the Bark River, and the new business park area to the south of the Bark River comprised of the so-called Geason, Bark River, and Cottonwood Commerce Centers. The other two planning districts represent the Village Center, an area recommended to consist of mixed-use commercial and residential

developments, and the East Capitol Drive Historic District listed on the National and State Registers of Historic Places, which contains historically significant homes with distinct architectural features.

Future Population, Housing, and Employment Levels

The population, household, and employment forecasts considered in the preparation of the Village master plan were selected based on review of historic data as well as from a range of population, household, and employment projections prepared by the Regional Planning Commission. The forecasts reflect alternative future growth scenarios for the Southeastern Wisconsin Region to the year 2020. Other local issues such as development constraints, market forces, and local desires were also taken into consideration.

Based on past and current development trends and the finite amount of developable lands in a defined planned urban service area, the future population level of the Village of Hartland is envisioned to range from 10,500 to 11,000 persons by the year 2020. This level represents an increase of about 2,600 to 3,100 persons, or 33 to 39 percent, over the year 2000 level of about 7,900 persons. The future housing level within the Village is envisioned to range from 4,000 to 4,200 units. This level represents an increase of about 860 to 1,060 units, or 27 to 34 percent, over the year 2000 housing stock of about 3,140 units. The future number of jobs is envisioned to range from 4,400 to 4,600 jobs by 2020. This level represents an increase of about 800 to 1,000 jobs, or 22 to 28 percent, over the 2000 level of about 3,600 jobs.

THE RECOMMENDED PLAN

The recommended master plan is intended to provide planning recommendations for the Village of Hartland planned urban service area and environs through the year 2020. The plan sets forth specific recommendations concerning the type, amount, and geographic location of the various land uses in the Village of Hartland that will meet the needs of the resident population of the Village planned urban service area in an efficient, attractive, and economically sound manner. The plan also depicts a detailed street and lot layout for the planned urban service area and certain adjacent areas to foster sound development of the traffic circulation, storm water drainage, sanitary sewerage, and water supply systems. As conditions change from those used as the basis for preparing the plan, the plan should be revised as necessary.

Of the total 6.0-square mile planned urban service area considered in the recommended plan, about 82 percent would consist of urban uses and the remaining 18 percent would consist of nonurban uses. Several important elements of the character of the Hartland planned urban service area may be noted from the master plan. First, residential land uses containing mostly single-family residential uses would still constitute the largest land use in the planned urban service area, occupying about 44 percent of the planned urban service area. Preserved natural areas would continue as the next largest land use, occupying about 18 percent of the planned urban service area, consisting of environmental corridors, isolated natural resource areas, and other environmentally sensitive lands. Third, business developments comprised of both commercial and industrial uses would represent about 16 percent of the planned urban service area. Thus, the Village of Hartland will continue to reflect a community occupied predominantly by single-family residential dwellings supported by business services with opportunities for recreational pursuits in the Village and the surrounding natural features of the Lake Country area.

Residential Development

Areas shown on the recommended plan for residential use would approximate 1,693 acres, or 44 percent, of the planned urban service area. Residential development is proposed to occur primarily through the creation of new residential areas located contiguous to, and extending outward from, existing residential areas. The plan identifies eight categories of residential land uses. Housing types in five of the classifications would be single-family housing units while the remaining classifications would consist of two-family, multi-family, and senior housing units.

Most new residential development would consist of single-family dwelling units of which a significant portion of the increase, about 67 percent, is recommended to consist of clustered-type development to help retain the “country” character around the periphery of the Village and to further help prevent the Village and other nearby

developing urban municipalities from becoming indistinguishable from each other. Cluster developments, sometimes called conservation subdivisions, group lots reduced in size, while retaining the rest of the site in permanent open space. This type of development can help maintain the overall country character of the landscape, preserve significant natural features, and minimize road construction and other site improvement costs.

Business Development
The plan identifies commercial and industrial areas encompassing about 624 acres, or 16 percent, of the planned urban service area. The plan recommends the majority of business development to be established in planned shopping areas and business/industrial parks in attractive park-like settings. Three categories of specific commercial development are shown on the plan and include general retail sales and services in mostly neighborhood and community shopping centers, business and professional offices, and, within the Village Center, mixed commercial-residential uses. New commercial and industrial uses are also recommended as infill development in an existing industrial or "business" park located north of the Bark River and an existing business park located south of the Bark River, comprised of the so-called Geason, Bark River, and Cottonwood Commerce Centers. In addition, a new business/light manufacturing park is recommended northeast of the intersection of W. Capitol Drive and Vettleson Road, near the future commuter center and the STH 16 and STH 83 interchange. All the business parks are located near STH 83 which provides immediate access to a freeway, STH 16.

Governmental, Institutional, Communication, and Utility Development
The recommended plan shows that governmental, institutional, communication, and utility land uses would occupy about 439 acres, or 11 percent, of the planned urban service area. These uses include the continuation of existing uses as well as areas for new and expanded facilities. A significant portion of the increase in such uses is due to a potential new Lake Country Lutheran High School and Divine Redeemer Lutheran School and the future development of additional facilities for Arrowhead High School. The plan recommends that the Village conduct a comprehensive community facilities study to determine the short- and long-term governmental services, such as administrative, public works, library, recreational, and police and fire protection services, needed to adequately serve Village residents. The Village intends to continue to explore potential cooperative arrangements in the future to share public services and facilities, such as fire protection and emergency rescue services, a community or cultural center, and recreational facilities, with the school districts and adjacent communities.

Park and Recreational Development
Both the master plan and the Outdoor Recreation Plan for the Village of Hartland recommend improvement and expansion of the Village park system and the potential development of a comprehensive recreational trail system. Public and private intensive recreational uses under the recommended plan would encompass approximately 232 acres, or 6 percent, of the Village 2020 planned urban service area. The 12-acre planned increase in outdoor recreational uses is due to a recommended new neighborhood park in the northeastern part of the planned urban service area and the potential recreational development of Village-owned property in the south central part of the Village. The latter site may alternatively be developed to accommodate future municipal operations, depending upon the results of a facility study. The Village park system would also include the continued use of 10 Village-owned park sites as well as other publicly and privately owned sites, including the recreational facilities of schools.

The master plan recommends a system of trail facilities that would be a part of a larger trail network that should be developed as the community grows. This interlinked network of bikeways, a water trail, and recreation trails would provide the residents of the Hartland area opportunities for a longer and wider array of trail-oriented recreational pursuits, such as hiking, biking, and canoeing/kayaking as well as safe and convenient access to key activity centers. Ultimately, it is envisioned these trail facilities, which include the existing Bark River/Ice Age Trail, will connect to other surrounding key recreation attractions in the general Lake Country area such as Nashotah, Monches, Nagawaukee, Lowe Lake, and Lapham Peak Parks; the South Kettle Moraine State Forest; the Retzer Nature Center; and the Bugline, Lake Country, and Glacial Drumlin Trails.

Environmentally Significant Lands
The master plan recommends that new urban development be properly related to natural resources in order to maintain the environmental quality and natural beauty of the Village for the residents of the area. Under the plan, primary environmental corridors would occupy about 372 acres, or 10 percent, of the planned urban service area; secondary environmental corridors, about 34 acres, or 1 percent; and isolated natural resource areas, about 53 acres, or 1 percent. The environmental corridors and isolated natural resource areas consist of concentrated areas of wetlands, woodlands, steep slopes, and waterways, including the Bark River. The plan also recommends other open lands to be preserved which may contain important natural resource values even though these areas do not qualify as part of an environmental corridor or isolated natural resource area, generally because they are less than five acres in size. Such areas would occupy about 237 acres, or 6 percent, of the planned urban service area, of which most are recommended to be located in the common open areas of residential subdivisions.

The plan recommends that these environmentally significant areas be preserved, to the maximum extent practicable, in essentially natural, open uses. The plan, however, recognizes that certain transportation and utility facilities may be necessary within these areas, and that limited outdoor recreational facilities and certain institutional uses may be accommodated in such areas without jeopardizing their overall integrity. In some cases, very low-density residential development at a density of no more than one dwelling unit per five acres, compatible with the preservation of the corridors, may also be permitted to occupy corridor lands. Clustered residential development should be encouraged over conventional land subdivision in environmentally significant areas to minimize disturbance to natural resources.

Transportation System Development
The master plan recommends an integrated street system plan to serve the existing and probable future traffic demand in the Hartland area. The proposed street system is organized on a functional basis and consists of arterial, collector, and minor land-access streets in order to safely and efficiently move traffic within and through the Hartland area. The plan suggests cross-sections and attendant right-of-way widths for these streets. The arterial highway system is based on the regional transportation system plan, including the recommendations to realign CTH KE near the northeast corner of the Hartland planned urban service area and to widen STH 83 south of STH 16 to accommodate four travel lanes for additional capacity. The Village has already expressed transportation and design-related comments to WisDOT for their consideration as part of a transportation improvements study being conducted by WisDOT for STH 83 from STH 16 south to CTH NN in the Village of Mukwonago.

In the preparation of the street system plan, all modes of travel, including walking, bicycling, transit, and railway services were considered in the plan design process. The plan recommends that a new park-and-ride lot or "commuter center" be located near the STH 16 and STH 83 interchange. The commuter center would be served by public transit and include services intended to increase park and ride usage by providing limited day-to-day retail and convenience services for commuters. The plan also recognizes the continued use of the rail freight services provided by Canadian Pacific Railway and the Chicago-Seattle intercity passenger service provided by Amtrak on the same rail line, the nearest stop being Milwaukee.

Design Recommendations
Design recommendations are included as an element of the master plan to help the Village continue its efforts to maintain and improve its unique visual character and the vitality of its Village Center. Specific recommendations include continuing to improve the streetscape facade in the Village Center by planting attractive street trees, constructing articulated crosswalks, and installing decorative streetlights with colorful banners; preserving significant historic resources in the Center and environs, including the East Capitol Drive Historic District; reducing or eliminating the negative visual clutter of overhead utility lines and supporting structures; encouraging landscaping to be provided by private-property owners, including building foundation landscaping, interior parking lot landscaping, parking lot screening, buffer and perimeter strip landscaping, and sign landscaping; providing architectural guidelines to ensure architectural compatibility of buildings and related structures; ensuring the proper maintenance of landscaping, buildings, and other structures; and improving vehicular, bicycle, and pedestrian circulation. The heavy traffic volume along an arterial highway (STH 83) that serves as a

main “gateway” funneling traffic towards the Village provides an opportunity for the Village to present a positive image to highway users by providing street trees, colorful street and wayfinding signs, well-defined crosswalks, and attractive street and traffic light poles. By promoting historically and environmentally sensitive, high-quality development with attractive buildings and landscaping within the Village, the community would be further enhanced as a pleasant place to live, work, and visit.

PLAN IMPLEMENTATION

Realization of the master plan will require faithful, long-term dedication to its underlying objectives. Thus, adoption of the plan is only the beginning of a series of actions necessary to achieve plan objectives. After holding a public informational meeting and hearing on the recommended master plan, an important step in plan implementation is the formal adoption of the plan by the Village Plan Commission and the Village Board. The recommended master plan was adopted by the Village Plan Commission and subsequently, the Village Board on December 20, 2004. Upon such adoptions, the plan becomes the official guide to be used by local public officials in making development decisions concerning development and redevelopment of the Village and environs.

Other important recommended plan implementation measures include: amending the Village zoning ordinance and zoning district map, including the potential addition of a new cluster residential zoning district; establishing additional design-related provisions; revising the Village land division ordinance; and updating the Village official map. The adopted plan should serve as a basis for the review of all rezoning requests as well as subdivision plats and certified survey maps. Only those proposed rezonings or land divisions which are consistent with the objectives of the plan should be approved. The Village indicated that it intends to conduct a comprehensive amendment of its land division and zoning ordinances and zoning district map after adoption of the master plan. At a minimum, Village officials should consider the recommended changes discussed in this report.

Within the framework of the master plan, a comprehensive trail facility system plan for hikers, bicyclists, and canoeist/kayakers should be prepared for the community to further refine the trail recommendations contained in this document. For each type of trail facility, a plan indicating specific trail improvements and a user-friendly map for both wayfinding and educational purposes should be prepared. Revitalization planning should continue to take place for the historic Village Center and environs to help retain the viability of the Center as a hub for local cultural and business activities.

Those elements of the plan requiring public expenditures for implementation should be integrated into the Village capital improvements program. The plan also recommends continued intergovernmental cooperation between the Village and adjacent communities in regards to sharing public services and facilities and planning for future land use in areas of mutual concern. The plan should be periodically reevaluated in light of new information and changing public attitudes and opinions so that it continues to properly reflect current conditions and local planning objectives.

CONCLUSION

The main purpose of the Village master plan is to provide information and recommendations that public officials can use in making consistent decisions about future growth and development in the Village and environs. The plan also provides developers and other private interests with a clear indication of Village planning objectives, enabling them to take those objectives into account when preparing development and redevelopment proposals. Only those proposals that are consistent with the objectives of the plan should be approved.

The master plan, together with supporting implementation techniques, provides an important means for promoting the orderly development and redevelopment of the Village in the public interest. To the extent that the plan is implemented over time, a safer, more healthful and attractive environment will be created within the Village.

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Chapter I

INTRODUCTION

The State municipal planning enabling act, set forth in Section 62.23 of the *Wisconsin Statutes*, provides for the creation of municipal plan commissions and charges those commissions with the responsibility of creating and adopting a "master" plan for the physical development of the municipality, including any areas outside of its boundaries which may affect development of the municipality. The scope and content of the master plan, as set forth in the *Statutes*, may be very broad, extending to all aspects of the physical development of a community. The *Statutes* indicate that the plan shall be prepared for the general purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the municipality which will, in accordance with existing and future needs, best promote the public health, safety, morals, order, prosperity, and general welfare, as well as fostering efficiency and economy in the process of development.

Acting in accordance with this statutory charge, the Village of Hartland prepared a Year 2000 Village of Hartland Land Use and Traffic Circulation Plan in 1981 and amended that plan in 1991. The periodic review and reevaluation of local plans over time is important to plan implementation. A reevaluation also permits the local municipality to extend the plan to a new design year on the basis of changes that have occurred. In April 1998, the Village of Hartland requested the Southeastern Wisconsin Regional Planning Commission to assist the Village in the review and reevaluation of the design year 2000 plan. This updated and retitled plan, which has been adopted by the Village Plan Commission and the Village Board, is intended to serve as a guide to Village officials in making development decisions within the Village of Hartland and environs. This report sets forth the desired master plan for the Village of Hartland and environs.

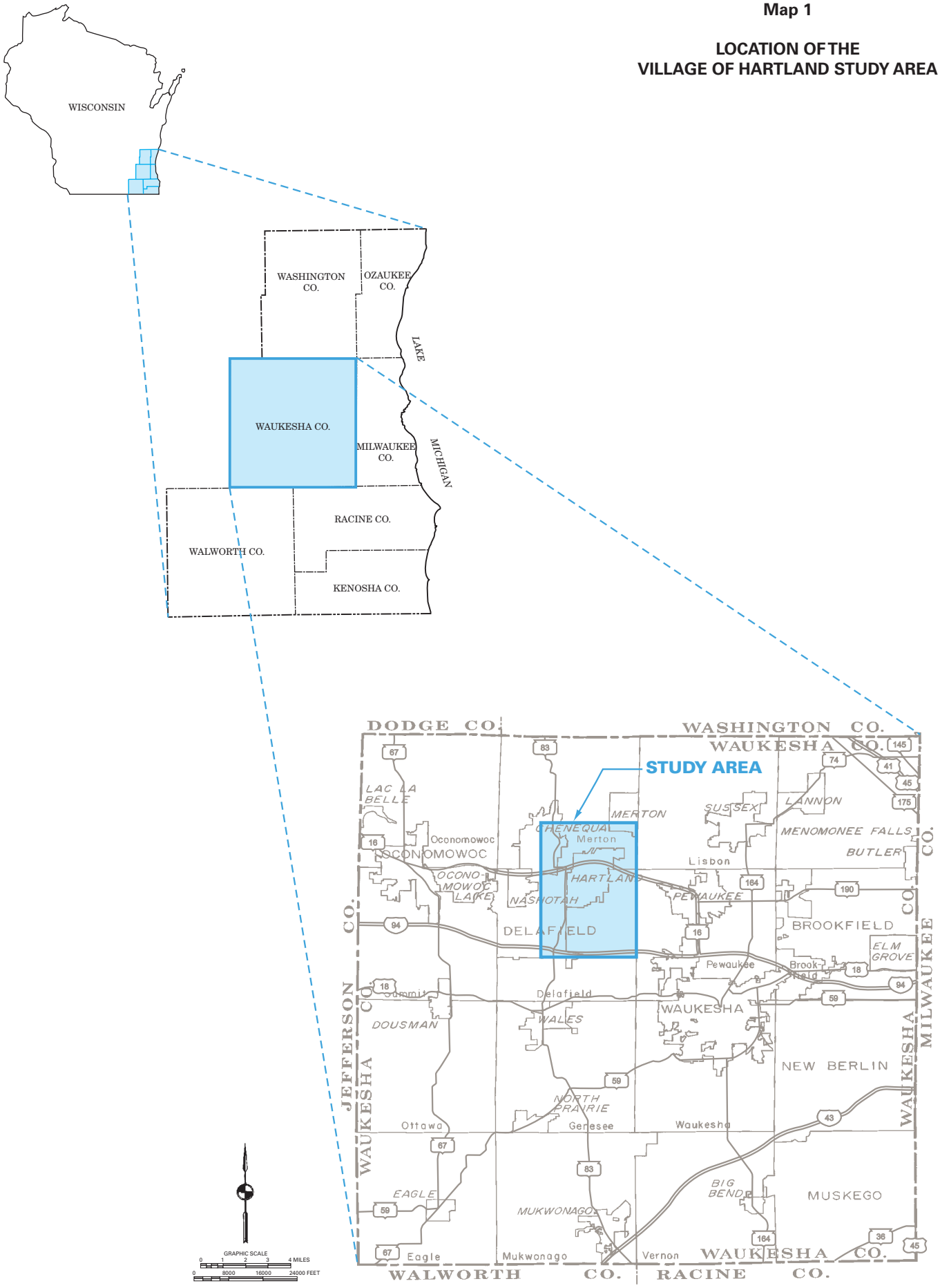
The Wisconsin Legislature in 1999 adopted the so-called "Smart Growth" legislation, which requires any action of a local government that affects land use, such as enforcement of zoning or subdivision ordinances, to be consistent with the community's Comprehensive Plan beginning on January 1, 2010. A new definition of comprehensive plan, consisting of nine elements, was adopted as Section 66.1001 of the *Wisconsin Statutes*. The legislation does not, however, affect the ability of local governments to prepare and adopt master plans under Section 62.23 of the *Statutes*. This plan should be reevaluated prior to 2010 to determine what changes or adjustments, if any, may be necessary to bring this plan into compliance with "Smart Growth" requirements.

THE STUDY AREA

The Village of Hartland study area is located in the north central portion of Waukesha County, as shown on Map 1, and consists of the entire Village of Hartland and surrounding areas. The study area encompasses approximately 24.4 square miles consisting of Sections 25 through 28 and 33 through 36 in U.S. Public Land Survey Township 8 North, Range 18 East, and Sections 1 through 4, 9 through 16, and 21 through 24 in U.S. Public Land Survey Township 7 North, Range 18 East. Of this total study area, the Village of Hartland—based on

Map 1

LOCATION OF THE VILLAGE OF HARTLAND STUDY AREA



Source: SEWRPC.

1998 corporate limits—encompassed about 4.5 square miles, or about 19 percent. The remaining approximately 19.9 square miles, or about 82 percent of the study area, consisted of portions of the Village of Chenequa, the Town and City of Delafield, and the Town and Village of Merton.

COMMUNITY HISTORY

The Hartland area was occupied by native American Indian tribes, including the Potawatomi, Fox, Sauk, Winnebago, and Ojibwa tribes. The area was rich with large stands of oak trees on gently rolling hills surrounding the meandering Bark River. Shortly after the completion of the U.S. Public Land Survey of the area in 1836, Yankees, primarily from New York State, were the first settlers attracted to the Hartland area and were followed by the Swedish (the first foreign immigrants), Danish, and German immigrants. Hartland was founded in 1838 when settler and farmer Stephen Warren selected the future town site for his home; he was followed by other similar farmers moving into the area to plant Wisconsin's most famous cash crop at that time, wheat. The presence of the Bark River also attracted a settler, Christian Hershey, who harnessed its power to operate a grist mill. Thus, settlement was accompanied by the conversion of land from native vegetation to agricultural and urban uses.

With the development of the grist mill, Watertown Plank Road in the early 1850s, and the railroad in 1854, Hartland functioned as a trade center supporting farmers in the immediate area. As the village continued to grow, a school, churches, stores, and hotels soon followed. The Village incorporated in 1892. The role of Hartland as an agricultural community and a retail trade center, supporting the Village and surrounding resorts on Pine, Beaver, and North Lake, continued through the Second World War.

Eventually developers began offering farmers good prices for their land in order to build residential subdivisions. This trend toward suburbanization was influenced by people working in the metropolitan Milwaukee area who wished to live in the country. Soon Hartland established itself as a haven for metropolitan commuters. Today, the residents of the Village of Hartland are served by a variety of commercial activities with a strong industrial employment base supported by various public services including public utilities, such as sanitary sewer and water supply services, and community facilities, such as a fire station, a library, and schools. Map 2 shows a historic plat of the Village in 1914, while Map 3 illustrates the progression of historic urban development in the study area, including the Village of Hartland, from 1850 to 1995.

THE PLANNING PROCESS

The master plan presented in this report was developed through a planning process consisting of the following steps: 1) inventory, 2) analysis and forecast, 3) formulation of objectives, 4) plan design, 5) plan evaluation, and 6) plan refinement and adoption. The planning process includes the recommendation of plan implementation measures.

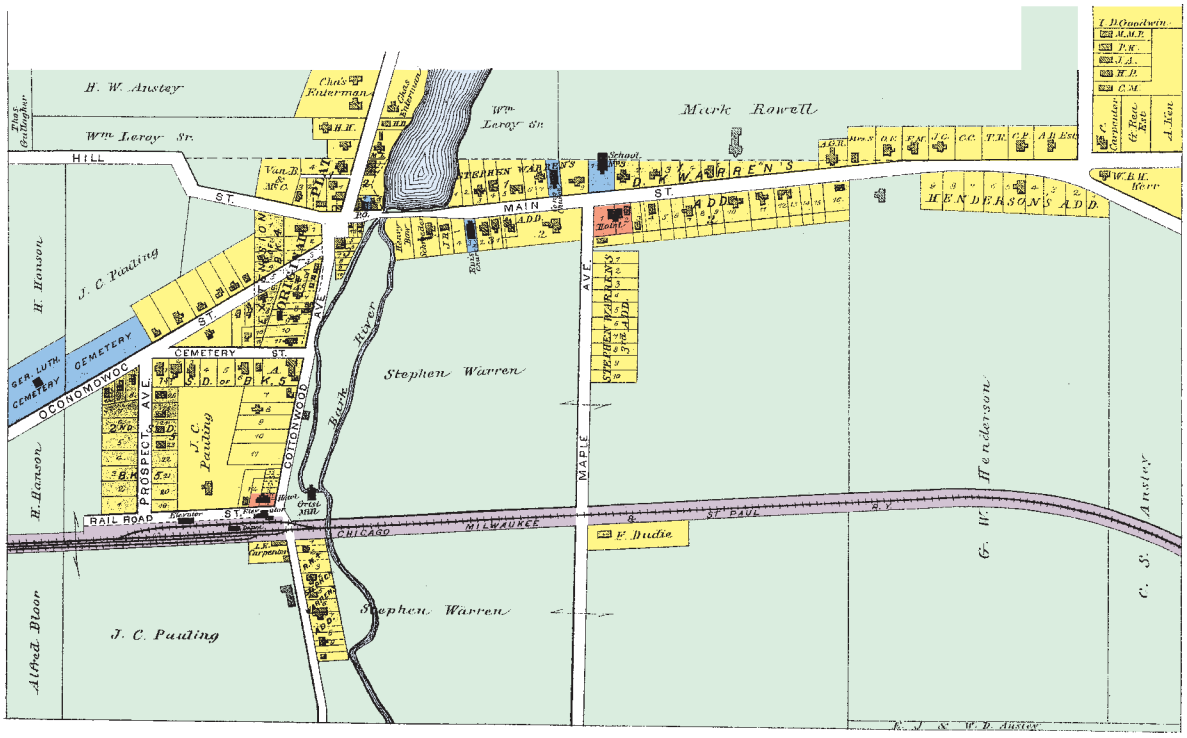
Inventory

Reliable planning data are essential for the formulation of workable master plans. Consequently, an inventory of existing conditions is the first step in the planning process. It includes collecting existing information and gathering new information by direct measurements. Most of the necessary inventory data are available in the Southeastern Wisconsin Regional Planning Commission files. Data that are not available in these files were collected from other sources.

Where possible, inventories requiring graphic presentation were compiled using a geographic information system. Converting graphic data inventories to a computer-compatible format increased the options available in the presentation of material and in later steps of the planning process. Inventory data were grouped into four categories: 1) population, housing, and employment characteristics, 2) existing natural resource features, 3) existing land uses and public facilities, and 4) existing land use regulations.

Map 2

VILLAGE OF HARTLAND HISTORIC PLAT: 1891



Source: Waukesha County and SEWRPC.

Analyses and Forecasts

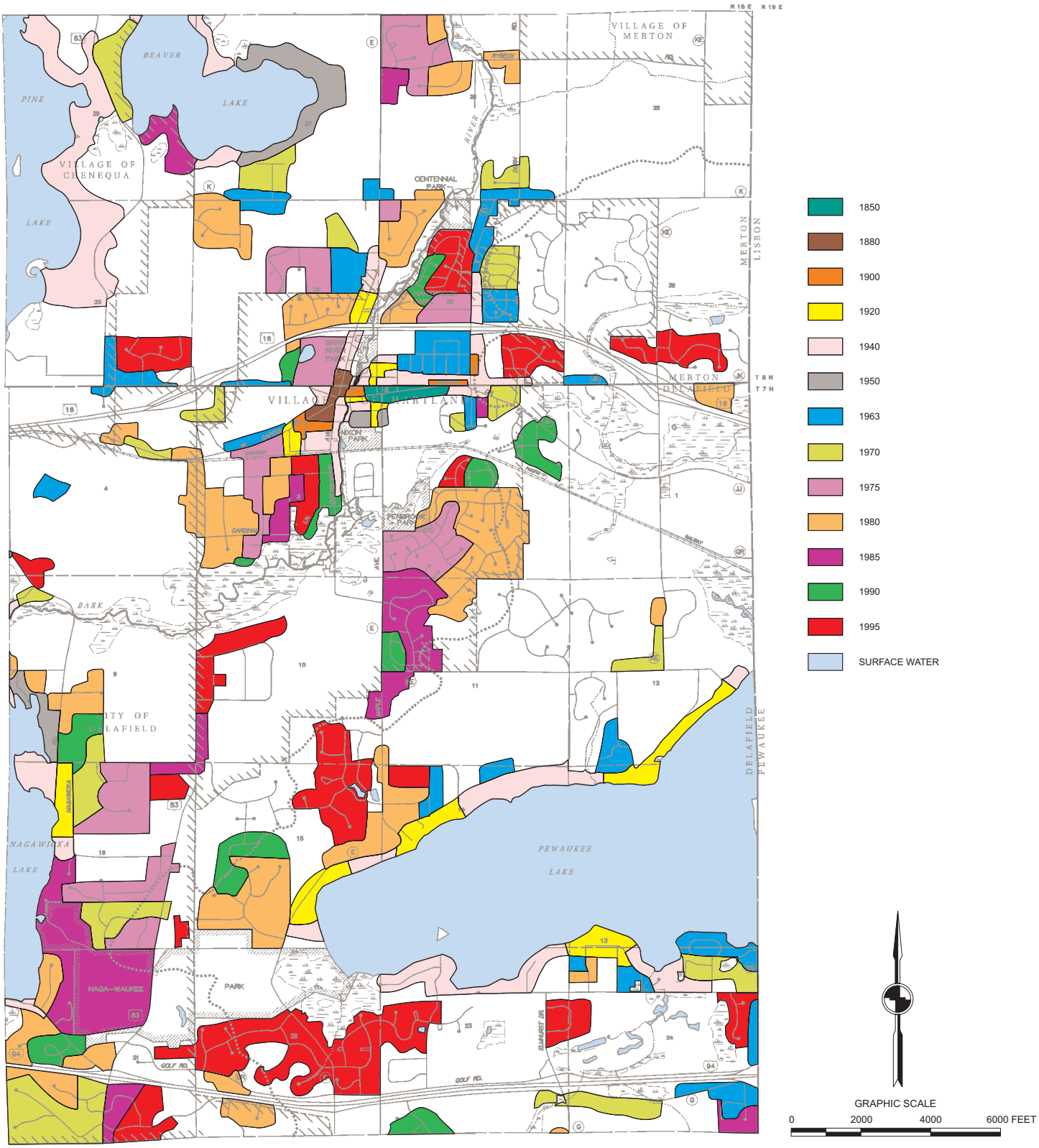
Analyses and forecasts are necessary to provide estimates of future needs for resources, land, and supporting public facilities such as roads, sanitary sewer service, and schools. Analyses of the inventoried data provide an understanding of existing conditions as well as the factors which influence changes in those conditions. Particularly important in this step is mathematically determining the amount of land that will be needed to accommodate various land uses based on future population and economic activity levels.

Formulation of Objectives, Principles, Standards, and Design Guidelines

An objective is a goal toward which the attainment of a plan is directed. The objectives serve as a guide to the preparation of alternative plans and provided an important basis for the evaluation of these alternatives and the selection of a recommended plan from among the alternatives considered. The master plan should be clearly related to the defined objectives through a set of principles, standards, and design guidelines. Objectives may change as new information is developed, as objectives are fulfilled through plan implementation, or as objectives fail to be implemented due to changing public attitudes and values. Because objectives are essentially reflections of the values held by residents of a planning area, the formulation of objectives should involve the active participation of Village officials and citizens. To this end, the results of a community survey and the Village Plan Commission, which includes both key elected and appointed local officials and citizen members, provided guidance throughout the entire planning process.

Map 3

HISTORICAL URBAN GROWTH IN THE VILLAGE OF HARTLAND STUDY AREA: 1850-1995



Source: SEWRPC.

Plan Design and Evaluation
Plan design and evaluation is the heart of the planning process. The results of the three previous steps—inventory, analyses and forecasts, and formulation of objectives—help shape the plan design. In this step, a plan is designed, or alternative plans are designed, to address the needs of the community. The plan or plan alternatives should be evaluated on the ability to meet the agreed upon objectives. This evaluation is important since it provides the opportunity to determine if the plan ultimately to be recommended is realistic, sound, and workable. If alternative plans have been designed, this step permits the study of each and the selection of the best.

Plan Refinement and Adoption
The last step in the planning process involves the presentation of the plan in a public forum, the refinement of the plan as necessary, given the public input received, and the adoption of the plan by the Village Plan Commission. The plan was also adopted by the Village Board.

Plan Implementation
Implementation of the adopted plan requires the use of several planning tools of a legal nature. A Village zoning ordinance and accompanying zoning district map should be used to legally assure that private development and redevelopment will occur in conformance with the adopted plan. Zoning regulations should govern not only the types of land uses permitted in various parts of the community, but the height and arrangement of buildings on the land, the intensity of the use of land, and the supporting facilities needed to carry out the intent of the master plan. Land division regulations should be applied to assure that any proposed land subdivision plats and certified survey maps conform to the adopted plan with respect to the type, location, and extent of the proposed land uses to be accommodated. An official map should be used to assure that the land required for the streets, parkways, parks, and playgrounds needed to serve the uses recommended in the adopted plan is reserved for future public use.

Implementation of the plan should also be furthered by the formulation of public policies that promote and ensure plan implementation. A capital improvements program is one particularly effective expression of such policies relating to the physical development and redevelopment of the community.

Plan Reevaluation
The preparation of a Village master plan does not signal an end to the planning process. Indeed, if the Village plan is to remain viable, it must be periodically reviewed and reevaluated to make sure that it will meet the continually changing needs of the Village. Periodic review of the plan will serve to remind the Village Plan Commission and Board members of the objectives identified in the plan preparation process, introduce plan concepts to new Village officials, and may even prompt work on plan amendments required as a result of changing public policy related to future land uses in the Village. In addition, the plan should be reevaluated prior to 2010 and revised, if necessary, to comply with the Comprehensive Planning requirements adopted by the State in 1999.

REPORT FORMAT

This document consists of the report summary and eight chapters. Following this introductory chapter, Chapters II through V present new inventory data and historic trend data essential to the planning effort. Separate chapters are devoted to the description and analysis of the demographic trends and projections, the natural resource base, the existing land uses and public facilities, existing areawide plans, and existing land use regulations. Chapter VI presents the key findings of a community survey and provides a set of objectives, principles, standards, and design guidelines pertaining to land development. Chapter VII presents a recommended master plan for the Village of Hartland planned urban service area. Chapter VIII describes the actions which should be taken by the Village to facilitate implementation of the recommended plan, including potential revisions to local zoning and land division ordinances.

Chapter II

POPULATION, HOUSING, AND EMPLOYMENT TRENDS AND PROJECTIONS

Information on the size, characteristics, and distribution of the resident population, housing, and employment in the Village, and on anticipated changes in these factors over time, is essential to the preparation of a sound master plan. Some of the land use requirements that a plan seeks to meet are directly related to the existing and probable future population, household, and employment levels of the area.

In a municipality that is set in a dynamic region, such as the Village of Hartland, the preparation of population, household, and employment forecasts is a difficult task, subject to periodic revision as new information becomes available. The population, household, and employment forecasts eventually selected as a basis for the Village plan were derived from regional and county projections reflecting alternative future growth scenarios for the Southeastern Wisconsin Region developed by the Regional Planning Commission and used by the Commission in its regional and local planning efforts.

Three alternative future scenarios were prepared for the Region as a basis for the regional population, household, and employment projections: a low-growth scenario, an intermediate-growth scenario, and a high-growth scenario. Under each scenario, land use development patterns were developed, which were believed to represent conditions that could occur in the Southeastern Wisconsin Region, including the Village of Hartland, over approximately the next 20 years. An additional variable, referred to as centralized and decentralized population distributions, which deals with the degree of concentration or "centrality" of development as measured by the relative nearness of new urban land uses to the major population centers in the Region, was added to the analysis of each scenario. In reviewing these alternative projections, two of the alternative scenarios for growth and development, an intermediate-growth future scenario with a centralized development pattern and a high-growth future scenario with a decentralized development pattern, were selected as a basis for preparing the future population, household, and employment levels for the Village. It is believed that they represent a realistic range of levels for the Village through the year 2020.[1]

Historical population, household, and employment census data for the Village of Hartland are based on the corporate boundaries of the Village. However, future population, household, and employment scenarios for the Village of Hartland assume that the corporate boundaries of the Village will be larger in the plan design year 2020

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[1] *For a detailed description of the methodology used to develop these projections, see SEWRPC Technical Report No. 25,* Alternative Futures for Southeastern Wisconsin*; Technical Report No. 11, Third Edition,* The Population of Southeastern Wisconsin, *October 1995; and Technical Report No. 10, Third Edition,* The Economy of Southeastern Wisconsin, *October 1995.*

than they are at present. Areas may be incorporated into the Village in order to extend urban services, such as public water and sanitary sewer services, to developing areas and thereby accommodate urban growth in an environmentally sound manner. For this reason, the future scenarios are based on an "urban service area" that includes the area within the corporate limits of the Village as well as such additional contiguous lands needed to accommodate anticipated new urban development.

The base year for the projections presented in this chapter is 1990; however, 2000 Census data is provided for information and comparison purposes. Even though the projections represent reasonable estimates of future conditions, they are provided as a starting point for the identification of parameters which will ultimately determine the design of the plan. Chapter VII presents forecasts of population, households, and employment selected by the Village to guide the design of the Village plan. Such forecasts take into account changes which have occurred within the Village between 1990 and 2000.

POPULATION

Population Trends and Projections

Historical and future populations for the Region, Waukesha County, and the Village of Hartland are set forth in Table 1 and Figure 1. As shown, all three geographic areas have experienced relatively significant and steady population growth during the period 1900 to 2000. At first the Village experienced a steady growth rate in which the population almost doubled from 1900 to 1950. Thereafter, the community experienced a rapid growth rate from 1950 to 1980 and a steady increase from 1980 to 2000. The 2000 population is more than a six-fold increase over the Village population in 1950.

As shown in Table 1 and graphically illustrated in Figure 1, it is envisioned that this increase would continue in the Village urban service area as indicated in the range of future population levels considered under the alternative future growth scenarios. The intermediate-growth centralized scenario envisions that the population would increase to 11,360 by the year 2020, an increase of about 3,455 residents, or about 44 percent, over the 2000 level of 7,905 in the Village urban service area. In contrast, under the high-growth decentralized scenario, the population of the Village urban service area is envisioned to increase to 13,410, an increase of approximately 5,505 residents, or about 70 percent, during the same time period.

Age Distribution

The age distribution of the population has important implications for planning and the formation of public policies in the areas of education, recreation, health, housing, and transportation. The age composition of the Region, County, and Village are set forth by age group in Table 2. In general, as the resident population of the three geographic areas increased during the last two decades, the number of adults increased significantly, while the overall number of children increased steadily.

Between 1980 and 2000, the number of children under the age of five increased about 3 percent in the Region and about 15 percent in the County, and decreased about 10 percent in the Village of Hartland. While the number of school-age children, ages five through 17, between 1980 and 2000 increased about 1 percent in the Region and 2 percent in the County, the Village experienced a more significant increase of about 32 percent. The school-age population may likely continue to increase in the Village over the planning period, which would probably result in a need for additional educational and ancillary recreation facilities.

Table 2 shows the number of working-age adults, ages 18 through 64, between 1980 and 2000, increased about 11 percent in the Region and about 31 percent in the County, while the Village experienced a higher increase of about 50 percent. This increase in the labor/work force may be expected to continue during the planning period. The number of persons aged 65 and older also significantly increased in all three geographic areas between 1980 and 2000, with an increase of about 23 percent in the Region and about 108 percent in each the County and Village. The increase in the size of the elderly population, which may be expected to continue throughout the planning period, is expected to increase the demand for specialized housing units, transportation, and health care services for the elderly.

Table 1

HISTORIC AND PROJECTED POPULATIONS IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 1900-2020

Year	Region			Waukesha County			Village of Hartland		
		Change from Previous Period			Change from Previous Period			Change from Previous Period	
	Population	Number	Percent	Population	Number	Percent	Population	Number	Percent
1900	501,808	115,034	29.7	35,229	1,959	5.9	629[a]	- -	- -
1910	631,161	129,353	25.8	37,100	1,871	5.3	728	99	15.7
1920	783,681	152,520	24.2	42,612	5,512	14.9	800	72	9.9
1930	1,006,118	222,437	28.4	52,358	9,746	22.9	945	145	18.1
1940	1,067,699	61,581	6.1	62,744	10,386	19.8	998	53	5.6
1950	1,240,618	172,919	16.2	85,901	23,157	36.9	1,190	192	19.2
1960	1,573,614	332,996	26.8	158,249	72,348	84.2	2,088	898	75.5
1970	1,756,083	182,469	11.6	231,365	73,116	46.2	2,763	675	32.3
1980	1,764,796	8,713	0.5	280,203	48,838	21.1	5,559	2,796	101.2
1990	1,810,364	45,568	2.6	304,715	24,512	8.7	6,906	1,347	24.2
2000	1,932,908	122,544	6.8	360,767	56,052	18.4	7,905	999	14.5
2020 Projections									
Intermediate-Growth Centralized	2,077,900	144,992	7.5	387,500	26,733	7.4	11,360[b]	3,455	43.7
High-Growth Decentralized	2,367,000	434,092	22.5	532,800	172,033	47.7	13,410[b]	5,505	69.6

[a]*The Village of Hartland was incorporated in 1892.*

[b]*Projections for the Village of Hartland urban service area.*

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

Educational Attainment

The level of educational attainment is one indicator of earning potential, which, in turn, influences such important choices as location, type, and size of housing. Table 3 compares the educational attainment of Village residents with those of Waukesha County and the Region. In 2000, about 95 percent of the residents 25 years of age and older in the Village of Hartland, or 4,691 persons, have a high-school or higher level of education. This is higher than the educational attainment of the population of both the County and Region, where 92 and 84 percent of the respective populations have attained this level of education. This table also indicates that about 41 and 42 percent of the respective population of the Village and County, had earned either an associate, bachelor's, or graduate degree, compared to about 32 percent in the Region.

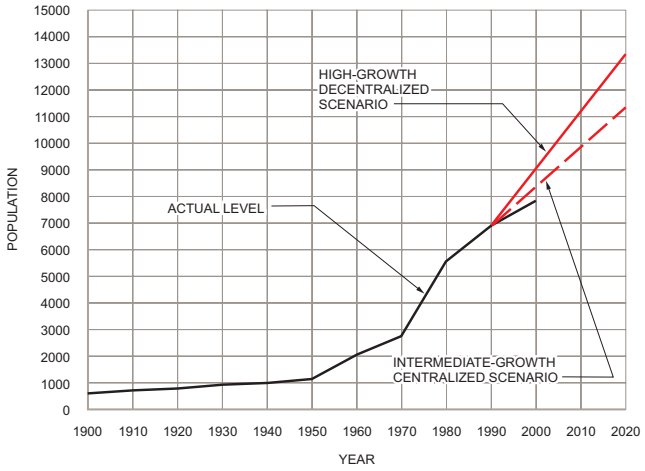
Household and Family Income[2]

The 1999 annual income levels in the Region, County, and Village are set forth in Table 4. For comparison purposes, both the average and median incomes are presented. The median income level is found by listing, in a sequential order, the annual income of every household or family and selecting the value in the middle of the list. This middle value is generally used in summarizing income data because the average value can be inordinately affected by a relatively small number of households or families at the extreme high or low end of the income range. A comparison of income levels among the three geographic areas indicates that the 1999 annual median incomes for both households and families in the Village were lower than in the County, but higher than in the

[2]*Households include persons who live alone; unrelated persons who live together, such as college roommates; and families. Persons not living in households are classified as living in group quarters, such as hospitals for the chronically ill, homes for the aged, correctional institutions, and college dormitories. Families are related persons who live together.*

Figure 1

HISTORICAL AND PROJECTED POPULATIONS FOR THE VILLAGE OF HARTLAND: 1900-2020



NOTE: PROJECTIONS ARE FOR THE VILLAGE OF HARTLAND URBAN SERVICE AREA.

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

Region. The median annual household income in 1999 in the Village was $67,844; in Waukesha County, $71,773; and in the Region, $47,710.

HOUSING

Household Trends and Projections

Historical and future household levels for the Region, Waukesha County, and the Village of Hartland are set forth in Table 5. As indicated in Table 5, there was an increase in the number of occupied housing units in all three geographic areas between 1960 and 2000, with significantly high increases for both Waukesha County and the Village of Hartland. This table also demonstrates that the rate of increase in the number of occupied housing units exceeded the rate of population change in each of these three areas. With the number of households increasing at a faster rate than the population, household size throughout the Region has steadily decreased.

The trend towards an increase in the number of households, or occupied housing units, for the Village may be expected to continue under both the intermediate-growth centralized scenario and the high-growth decentralized scenario. As indicated in Table 5, by the year 2020 household levels in the Village urban service area are envisioned to range from approximately 4,335 units under the intermediate-growth scenario to approximately 4,837 units under the high-growth scenario for an increase of about 44 and 61 percent, respectively, over the 2000 level of 3,002 units.

Household Size

The number and size of households is important in land use and public facility planning, because the average household size is used to convert a selected population forecast to the number of housing units needed over the planning period. Throughout the Region, the number of households has been increasing at a faster rate than the total household population. Table 6 compares historical and future year 2020 household sizes in the Region, County, and Village. While the number of households in the Village of Hartland has increased, the average size of a household has decreased from 1960 to 2000, a trend seen throughout the Region and the nation. The Village had the same household size as the County, but a larger household size than the Region in 2000. The decline in household size can be attributed to a decrease in the number of children per family and an increase in the number of single-parent families and single-person households.

Table 6 indicates that the average household size, under the intermediate-growth centralized scenario, may be expected to decline in all three geographic areas, with household size in the Village urban service area slightly decreasing from 2.63 persons per household in 2000 to 2.62 in 2020. Under the high-growth decentralized alternative, the average household size is also expected to increase for the three geographic areas, with the Village experiencing an increase to 2.77 persons per household. The variation in projected household size under the high-growth scenario is generally due to a greater assumed proportion of two parent households with more children than under the intermediate-growth scenario.

Housing Stock Characteristics

Housing characteristics for the Region, County, and Village are set forth in Table 7. Between 1980 and 2000, the total number of housing units in the Region increased by about 20 percent, while in the County and Village the number of units increased by about 52 and 64 percent, respectively. Of the past total number of housing units, the Southeastern Wisconsin Region experienced an increase in owner-occupied housing units of about 21 percent,

Table 2

AGE COMPOSITION OF THE POPULATION IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 1980-2000

Region								
	1980[a]		1990		2000		1980-2000 Change	
Age Group	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 5	128,086	7.2	138,444	7.7	132,390	6.9	4,305	3.4
5 through 17	375,653	21.3	338,629	18.7	377,706	19.5	2,053	0.5
18 through 64	1,065,887	60.4	1,106,820	61.1	1,181,788	61.1	115,901	10.9
65 and Older	195,294	11.1	226,471	12.5	241,024	12.5	45,730	23.4
All Ages	1,764,919	100.0	1,810,364	100.0	1,932,908	100.0	167,989	9.5
Waukesha County								
	1980[a]		1990		2000		1980-2000 Change	
Age Group	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 5	20,054	7.2	21,801	7.2	23,096	6.4	3,042	15.2
5 through 17	70,098	25.0	61,309	20.1	71,807	19.9	1,709	2.4
18 through 64	169,260	60.3	191,679	62.9	222,430	61.7	53,170	31.4
65 and Older	20,914	7.5	29,926	9.8	43,434	12.0	22,520	107.7
All Ages	231,365	100.0	304,715	100.0	360,767	100.0	80,441	28.7
Village of Hartland								
	1980		1990		2000		1980-2000 Change	
Age Group	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 5	608	10.9	618	8.9	550	6.9	-58	-9.5
5 through 17	1,359	24.5	1,642	23.8	1,795	22.7	436	32.1
18 through 64	3,308	59.5	4,219	61.1	4,970	62.9	1,662	50.2
65 and Older	284	5.1	427	6.2	590	7.5	306	107.8
All Ages	5,559	100.0	6,906	100.0	7,905	100.0	2,346	42.2

[a]The 1980 regional and county populations of 1,764,919 and 280,326, respectively, each include 123 persons who were subtracted from these numbers after the conduct of the 1980 census but whose removals were not allocated to the various age group categories.

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

while Waukesha County and the Village of Hartland experienced increases of 49 and 73 percent, respectively, between 1980 and 2000. The increase in the Village was 24 percent higher than that experienced by the County as a whole. With respect to renter-occupied housing units during the same period, the Region experienced an increase of about 16 percent; while the County and the Village experienced significantly higher increases of 64 and 53 percent, respectively. The increase in renter-occupied housing is due to lifestyle changes such as more single-person households and smaller families, and the increasing urbanization of the Hartland area.

Housing Occupancy and Vacancy Rates

In 2000, about 96 percent of all housing units in the County and Village were occupied, compared to 94 percent in the Region as indicated in Table 7. Housing vacancy rates for owner-occupied and rental housing in 2000 for the three geographic areas are also indicated in Table 7. The vacancy rate for owner-occupied and rental housing units was about 3 percent each in the Village in 2000.

Table 3

EDUCATIONAL ATTAINMENT OF PERSONS 25 YEARS OF AGE AND OLDER IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 2000

Education Level Attained	Region		Waukesha County		Village of Hartland	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Less than Ninth Grade	59,587	4.8	5,537	2.3	72	1.5
Ninth to 12th Grade, No Diploma	136,211	10.9	13,873	5.8	188	3.8
High School Diploma (includes equivalency)	372,955	30.0	66,651	27.6	1,456	29.4
Some College, No Degree	272,642	21.9	54,483	22.6	1,207	24.4
Associate Degree	85,761	6.9	18,492	7.7	443	8.9
Bachelor Degree	214,986	17.3	57,050	23.6	1,098	22.2
Graduate or Professional Degree	101,712	8.2	25,213	10.4	487	9.8
Total	1,243,854	100.0	241,299	100.0	4,951	100.0

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

Table 4

HOUSEHOLD AND FAMILY INCOME IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 1999[a]

Range	Region				Waukesha County				Village of Hartland			
	Households		Families		Households		Families		Households		Families	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Less than $10,000	56,195	7.5	22,870	4.6	3,698	2.7	1,070	1.1	90	3.0	25	1.2
$10,000 to $14,999	40,804	5.4	14,956	3.0	4,416	3.3	943	0.9	141	4.7	14	0.6
$15,000 to $19,999	43,486	5.8	19,181	3.9	4,700	3.5	1,706	1.7	75	2.5	26	1.2
$20,000 to $24,999	45,407	6.0	22,283	4.5	4,996	3.7	2,319	2.3	132	4.4	19	0.9
$25,000 to $29,999	45,482	6.1	24,802	5.0	5,570	4.1	3,018	3.0	107	3.6	58	2.7
$30,000 to $34,999	47,328	6.3	26,350	5.3	6,527	4.8	3,736	3.7	202	6.7	127	5.8
$35,000 to $39,999	43,294	5.8	26,091	5.3	6,244	4.6	4,068	4.0	142	4.7	118	5.4
$40,000 to $44,999	42,502	5.7	26,693	5.4	6,600	4.9	4,361	4.3	182	6.0	147	6.7
$45,000 to $49,999	39,426	5.2	26,946	5.4	6,842	5.0	4,929	4.9	133	4.4	111	5.1
$50,000 to $59,999	73,140	9.8	54,581	11.0	13,532	10.0	10,763	10.7	321	10.7	243	11.1
$60,000 to $74,999	90,944	12.1	73,423	14.8	19,946	14.7	16,793	16.6	444	14.8	380	17.4
$75,000 to $99,999	91,480	12.2	78,418	15.8	23,264	17.2	20,617	20.4	533	17.7	448	20.5
$100,000 to $124,999	42,385	5.8	37,427	7.6	12,801	9.4	11,742	11.6	238	7.9	219	10.0
$125,000 to $149,999	18,409	2.4	16,384	3.3	5,948	4.4	5,540	5.5	98	3.3	91	4.2
$150,000 to $199,999	14,148	1.9	12,383	2.5	5,115	3.8	4,658	4.6	70	2.3	65	3.0
$200,000 or More	15,204	2.0	13,122	2.6	5,251	3.9	4,745	4.7	100	3.3	92	4.2
Total	749,634	100.0	495,910	100.0	135,450	100.0	101,008	100.0	3,008	100.0	2,183	100.0
Average Income	$58,003	- -	$68,009	- -	$77,665	- -	$87,225	- -	$69,571	- -	$79,949	- -
Median Income	$47,710	- -	$57,380	- -	$62,839	- -	$71,773	- -	$58,359	- -	$67,844	- -

[a] *Data reported in 2000 Census of Population and Housing actually represents calendar year 1999.*

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

Standards contained in SEWRPC Planning Report No. 20, *Regional Housing Plan for Southeastern Wisconsin*, suggest that local housing vacancy rates be maintained at a minimum of 4 percent and a maximum of 6 percent for rental units, and at a minimum of 1 percent and a maximum of 2 percent for owner-occupied units over a full range of housing types, sizes, and costs. These vacancy rates are desirable to facilitate population mobility and to enable households to exercise choices in the selection of suitable housing. The Village's 2000 vacancy rate of about 3 percent for owner-occupied housing units was slightly above the standard range, while the vacancy rate for the rental housing units was within the recommended standard range.

Table 5

HISTORIC AND PROJECTED NUMBER OF OCCUPIED HOUSEHOLDS[a] IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 1960-2020

	Region			Waukesha County			Village of Hartland		
		Change from Previous Period			Change from Previous Period			Change from Previous Period	
Year	Households	Number	Percent	Households	Number	Percent	Households	Number	Percent
1960	465,913	- -		42,394	- -	- -	557	- -	- -
1970	536,486	70,573	15.1	61,935	19,541	46.1	780	223	40.0
1980	627,955	91,469	17.0	88,552	26,617	43.0	1,827	1,047	134.2
1990	676,107	48,152	7.7	105,990	17,438	19.7	2,345	518	28.4
2000	749,055	72,948	10.8	135,229	29,239	27.6	3,002	657	28.0
2020 Projections									
Intermediate-Growth Centralized	827,100	78,045	10.4	149,100	13,871	10.3	4,335[b]	1,333	44.4
High-Growth Decentralized	905,100	156,045	17.2	196,200	60,971	45.1	4,837[b]	1,835	61.1

[a] *Occupied housing units.*

[b] *Projections for the Village of Hartland urban service area.*

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

Table 6

HISTORIC AND PROJECTED HOUSEHOLD SIZE IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 1960-2020

	Region			Waukesha County			Village of Hartland		
		Change from Previous Period			Change from Previous Period			Change from Previous Period	
Year	Persons per Household	Number	Percent	Persons per Household	Number	Percent	Persons per Household	Number	Percent
1960	3.30	- -	- -	3.66	- -	- -	3.75	- -	- -
1970	3.20	-0.10	-3.03	3.66	0.00	0.00	3.54	-0.21	-5.60
1980	2.75	-0.45	-14.06	3.11	-0.55	-15.03	3.04	-0.50	-14.12
1990	2.62	-0.13	-4.73	2.83	-0.28	-9.00	2.94	-0.10	-3.29
2000	2.52	-0.10	-3.82	2.63	-0.20	-7.07	2.63	-0.31	-10.50
2020 Projections									
Intermediate-Growth Centralized	2.46	-0.06	-2.38	2.56	-0.07	-2.66	2.62[a]	-0.01	-0.38
High-Growth Decentralized	2.56	0.04	1.59	2.68	0.05	1.90	2.77[a]	0.14	5.32

[a] *Projections for the Village of Hartland urban service area.*

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

Housing Age and Building Activity

Table 8 indicates the number of housing units constructed during certain time periods for the Region, County, and Village which, in turn, provides an indication of the general age of the housing stock for each of the geographical areas. The table indicates that the Region and County contain higher percentages of older housing units in comparison to those in the Village of Hartland. A large portion of the housing units, about 69 percent, within the Village of Hartland were constructed from 1970 to 2000, whereas about 58 and 37 percent, respectively, were constructed in Waukesha County and the Region during the same period.

Table 7

HISTORIC POPULATION AND HOUSING CHARACTERISTICS OF THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 1980-2000

Region								
	1980[a]		1990		2000		1980-2000 Change	
Characteristics	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent
Population								
Household	1,724,567	97.7	1,769,120	97.7	1,885,344	97.5	160,777	9.3
Group Quarters	40,352	2.3	41,244	2.3	47,564	2.5	7,212	17.9
Total	1,764,919	100.0	1,810,364	100.0	1,932,908	100.0	167,989	9.5
Housing Unit Type								
Owner Occupied	389,381	58.5	414,049	57.7	471,553	59.2	82,712	21.1
Renter Occupied	238,574	35.9	262,058	36.6	277,502	34.8	38,929	16.3
Vacant, for Sale	4,478	0.7	3,830	0.5	4,899	0.6	421	9.3
Vacant, for Rent	11,205	1.7	12,615	1.8	16,182	2.0	4,977	44.4
Other Vacant[b]	21,335	3.2	24,623	3.4	26,598	3.4	5,263	24.7
Total	664,973	100.0	717,175	100.0	796,734	100.0	131,761	19.8
Persons Per Occupied Housing Unit	2.75	- -	2.62	- -	2.5	- -	-0.23	-8.4

Waukesha County								
	1980[a]		1990		2000		1980-2000 Change	
Characteristics	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent
Population								
Household	275,616	98.3	300,144	98.3	355,014	98.4	79,398	28.8
Group Quarters	4,710	1.7	4,571	1.7	5,753	1.6	1,043	22.1
Total	280,326	100.0	304,715	100.0	360,767	100.0	80,441	28.7
Housing Unit Type								
Owner Occupied	69,154	74.7	81,927	74.2	103,373	73.7	34,219	49.5
Renter Occupied	19,398	21.0	24,063	21.8	31,856	22.7	12,458	64.2
Vacant, For Sale	957	1.0	704	0.6	844	0.6	-113	-11.8
Vacant, For Rent	679	0.7	1,375	1.2	1,633	1.2	954	140.5
Other Vacant[b]	2,434	2.6	2,383	2.2	2,603	1.8	169	6.9
Total	92,622	100.0	110,452	100.0	140,309	100.0	47,687	51.5
Persons Per Occupied Housing Unit	3.11	- -	2.83	- -	2.63	- -	-0.48	-15.4

Village of Hartland								
	1980		1990		2000		1980-2000 Change	
Characteristics	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent
Population								
Household	5,559	100.0	6,906	100.0	7,902	100.0	2,343	42.1
Group Quarters	0	0.0	0	0.0	3	- -[c]	3	0.0
Total	5,559	100.0	6,906	100.0	7,905	100.0	2,346	42.2
Housing Unit Type								
Owner Occupied	1,008	52.7	1,301	53.6	1,746	55.6	738	73.2
Renter Occupied	819	42.8	1,044	43.0	1,256	40.0	437	53.4
Vacant, For Sale	27	1.4	2	0.1	51	1.6	24	88.9
Vacant, For Rent	40	2.1	66	2.7	38	1.2	-2	-5.0
Other Vacant[b]	18	1.0	15	0.6	49	1.6	31	172.2
Total	1,912	100.0	2,428	100.0	3,140	100.0	1,228	64.2
Persons Per Occupied Housing Unit	3.04	- -	2.94	- -	2.63	- -	-0.41	-13.5

[a]The total population for the Region and County in 1980 was revised by the U.S. Bureau of the Census to 1,767,796 and 280,203, respectively. However, attribute data regarding the number of persons in households and group quarters was not revised.

[b]Includes migratory, seasonal housing units, and units rented or sold but not occupied.

[c]Less than 0.05.

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

Table 8

NUMBER AND YEAR OF HOUSING UNIT CONSTRUCTION IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND

Time Period Constructed	Region		Waukesha County		Village of Hartland	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
1990 to March 2000	109,268	13.7	35,125	25.0	678	21.4
1980 to 1989	65,570	8.2	17,185	12.3	455	14.3
1970 to 1979	118,260	14.9	28,475	20.3	1,044	32.9
1960 to 1969	108,689	13.6	20,024	14.3	277	8.7
1950 to 1959	140,682	17.7	19,406	13.8	316	10.0
1940 to 1949	72,295	9.1	5,919	4.2	58	1.8
Before 1940	181,970	22.8	14,175	10.1	347	10.9
Total	796,734	100.0	140,309	100.0	3,175	100.0

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

Table 9 provides a summary of residential building permit activity in the Village of Hartland from 1970 to 2000. During this time period, building permits for 2,564 housing units were issued, of which 1,278 units, or about 50 percent, were for single-family housing units, including attached condominium units; 291 units, or about 11 percent, were for two-family housing units; and the remaining 995 units, or 39 percent, were for multi-family housing units. Over the 1970 through 1980 time period, permits were issued for an overall average of about 114 units per year. From 1981 through 1990, permits were issued for an average of about 52 units per year, while from 1991 through 2000, permits for an average of about 79 units per year were issued. Even though this data does not indicate whether the units were actually built, it could be assumed that most units were constructed.

Housing Value and Costs

Table 10 sets forth the value of owner-occupied housing units in 2000 in the Region, County, and the Village. The value, as recorded by the U.S. Census, is the homeowner's estimate of what the property, house and lot, would bring on the market if it were sold. Value data for units on 10 acres or more were excluded by the U.S. Census in this tabulation. A comparison of housing values among the three geographic areas indicates that both the average and median housing values in the Village were lower than in the County, but higher than in the Region. Most of the owner-occupied housing units, about 88 percent, in the Village were valued between about $100,000 and $300,000 in 2000. Table 10 does not include data on the value of 178 owner-occupied housing units in the Village, since such information was not available from the Census data.

Table 11 provides the monthly owner costs, including debt costs, of mortgaged owner-occupied housing units in the Region, County, and Village. The table, however, does not include the monthly mortgage for housing units located on 10 acres or more. The data indicates that, overall, the 2000 median monthly mortgage cost in the Village, $1,316, was comparatively lower than such cost for the County, $1,366, but higher than the Region, $1,151.

Table 12 provides the 2000 gross rent of renter-occupied housing in the Region, County, and Village. The gross rent data includes contract rents plus estimated utility and heating costs for those contract rents that do not include such costs. This data, however, does not include the gross rent for rental units located on 10 or more acres of land. The data indicates that in 2000 the median and average monthly gross rent for renter-occupied housing in the Village was higher than such rents for the Region, but lower than those for Waukesha County.

Table 9

RESIDENTIAL BUILDING ACTIVITY
IN THE VILLAGE OF HARTLAND: 1970-2000

Year	Single-Family Housing Units	Two-Family Housing Units	Multi-Family Housing Units	Total Housing Units
1970	14	0	32	46
1971	20	10	64	94
1972	27	6	120	153
1973	20	20	98	138
1974	25	16	30	71
1975	54	60	0	114
1976	87	32	16	135
1977	96	42	44	182
1978	94	14	56	164
1979	47	10	60	117
1980	16	16	8	40
1981	15	6	0	21
1982	15	2	0	17
1983	19	6	36	61
1984	24	2	40	66
1985	15	4	34	53
1986	12	10	4	26
1987	21	10	68	99
1988	12	6	60	78
1989	37	6	6	49
1990	45	2	0	47
1991	36	2	14	52
1992	57	4	30	91
1993	53	4	51	108
1994	38	0	65	103
1995	57	0	0	57
1996	45	0	0	45
1997	37	0	52	89
1998	57	0	7	64
1999	70	0	0	70
2000	113	1	0	114
Total	1,278[a]	291	995	2,564
Average Annual	41	9	32	83

[a]Includes permits issued for a total of about 150 condominium units. Data were not available for determining which such permits were issued for two-family residential buildings and multi-family residential buildings consisting of three or more housing units.

Source: Village of Hartland and SEWRPC.

EMPLOYMENT

Employment Trends and Projections

Historical and projected future employment levels for the Village of Hartland are set forth in Table 13. Employment means the number of jobs, regardless of the residency of the worker and whether the jobs are part- or full-time employment. Table 13 indicates that the historical trend of employment growth for the Village of Hartland may be expected to continue as indicated in the range of future employment levels considered under the alternative future scenarios. The employment level in the Village urban service area is envisioned under the

Table 10

VALUE OF OWNER-OCCUPIED HOUSING UNITS[a]
IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 2000

Range	Region		Waukesha County		Village of Hartland	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Less than $10,000	282	0.1	50	0.1	0	0.0
$10,000 to $14,999	393	0.1	19	- -[b]	0	0.0
$15,000 to $19,999	778	0.2	29	- -[b]	0	0.0
$20,000 to $24,999	1,102	0.3	43	- -[b]	0	0.0
$25,000 to $29,999	1,775	0.4	62	0.1	0	0.0
$30,000 to $34,999	2,718	0.7	57	0.1	0	0.0
$35,000 to $39,999	3,770	0.9	34	- -[b]	0	0.0
$40,000 to $49,999	8,360	2.1	104	0.1	10	0.6
$50,000 to $59,999	10,612	2.6	150	0.1	0	0.0
$60,000 to $69,999	13,687	3.4	253	0.3	0	0.0
$70,000 to $79,999	19,066	4.7	580	0.6	11	0.7
$80,000 to $89,999	27,155	6.7	1,220	1.3	0	0.0
$90,000 to $99,999	31,187	7.8	2,457	2.6	62	3.8
$100,000 to $124,999	66,134	16.4	9,847	10.5	153	9.4
$125,000 to $149,999	63,195	15.7	17,577	18.7	417	25.8
$150,000 to $174,999	49,139	12.2	17,867	19.0	353	21.8
$175,000 to $199,999	32,988	8.2	12,836	13.6	202	12.5
$200,000 to $249,999	31,403	7.8	13,039	13.9	216	13.3
$250,000 to $299,999	17,103	4.3	8,050	8.6	87	5.4
$300,000 to $399,999	12,204	3.0	5,747	6.1	35	2.2
$400,000 to $499,999	4,116	1.0	1,739	1.8	17	1.0
$500,000 to $749,999	3,457	0.9	1,505	1.6	21	1.3
$750,000 to $999,999	1,096	0.3	441	0.5	26	1.6
$1,000,000 or more	918	0.2	381	0.4	9	0.6
Total	402,638	100.0	94,087	100.0	1,619	100.0
Average Value	$152,328	- -	$201,896	- -	$195,493	- -
Median Value	$130,700	- -	$170,400	- -	$161,000	- -

[a]*Does not include attached and detached houses on 10 acres or more.*

[b]*Less than 0.05 percent.*

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

intermediate-growth centralized scenario to experience an increase to about 4,730 jobs by the year 2020, an increase of about 11,130 jobs, or 31 percent, over the 2000 level of about 598 jobs. Under the high-growth decentralized scenario, it is envisioned that the Village urban service area would experience an employment level of about 5,120 jobs by 2020, an increase of about 1,152 jobs, or 42 percent, during the same time period.

Occupational Characteristics

Table 14 provides information on the employed population 16 years of age and older by class of worker for the Region, Waukesha County, and the Village of Hartland in 2000. In this data set, the number of employed persons is based upon the residency of the workers rather than the location of the job. In 2000, there were 948,484 workers, which is about 49 percent of the total residents, in the Region; 194,423 workers, which is about 54 percent of the total residents, in the County; and 4,534 workers, which is about 57 percent of the total residents, in the Village. As may be expected, Table 14 indicates that the majority of workers in all three geographic areas are identified as private wage and salary workers.

Table 11

NUMBER OF OWNER-OCCUPIED MORTGAGED HOUSING UNITS[a] BY MONTHLY OWNER COSTS IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 2000

Actual Monthly Owner Costs with Mortgage	Region		Waukesha County		Village of Hartland	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Less than $200	72	- -[b]	5	- -[b]	0	0.0
$200 to $299	444	0.1	20	- -[b]	0	0.0
$300 to $399	2,459	0.9	203	0.3	0	0.0
$400 to $499	6,012	2.1	637	0.9	8	0.6
$500 to $599	10,603	3.7	1,262	1.8	13	1.0
$600 to $699	15,441	5.4	1,921	2.7	48	3.6
$700 to $799	20,365	7.1	2,647	3.7	36	2.7
$800 to $899	24,836	8.6	3,604	5.1	73	5.5
$900 to $999	26,232	9.1	4,523	6.4	109	8.2
$1,000 to $1,249	61,654	21.4	14,156	19.9	286	21.5
$1,250 to $1,499	46,727	16.3	14,123	19.8	344	25.9
$1,500 to $1,999	46,854	16.3	17,394	24.5	252	19.0
$2,000 to $2,499	15,479	5.4	6,388	9.0	101	7.6
$2,500 to $2,999	5,289	1.8	2,158	3.0	25	1.9
$3,000 or more	5,051	1.8	2,072	2.9	34	2.5
Total	287,518	100.0	71,113	100.0	1,329	100.0
Average Cost	$1,263	- -	$1,479	- -	$1,425	- -
Median Cost	$1,151	- -	$1,366	- -	$1,316	- -

[a]Does not include attached and detached houses on 10 acres or more.

[b]Less than 0.05 percent.

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

Table 15 provides further information on the employed population by occupation for the three geographic areas. As indicated in this table, white collar workers, that is, mostly managerial and professional specialty, and sales and office workers, represented about 61 percent of the employed persons in the Region, about 69 percent in the County, and about 65 percent in the Village. The remaining occupations, consisting mostly of blue collar workers, represented about 39 percent of the employed persons in the Region, about 31 percent in the County, and about 35 percent in the Village.

Place of Work

Table 16 indicates the general place of work of employed population 16 years and older living in Waukesha County and in the Village of Hartland in 2000. This table indicates that 119,461 workers living in Waukesha County, or about 62 percent of the employed labor force, also worked in the County; while 73,141 workers, or about 38 percent, worked outside Waukesha County. The table indicates that about 883 workers living in the Village of Hartland, or about 20 percent of the employed labor force, also worked in the Village; while 3,645 workers, or about 80 percent, worked outside the Village. Table 16 thus indicates that a substantial number of workers living in the Village of Hartland were employed outside their community of residence.

Table 12

NUMBER OF RENTER-OCCUPIED HOUSING UNITS[a] BY MONTHLY GROSS RENT IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 2000

Monthly Gross Rent	Region		Waukesha County		Village of Hartland	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Less than $100	1,282	0.5	170	0.5	0	0.0
$100 to $149	2,437	0.9	204	0.6	18	1.4
$150 to $199	7,989	2.9	515	1.6	9	0.7
$200 to $249	5,479	2.0	332	1.1	18	1.4
$250 to $299	6,005	2.2	313	1.0	27	2.2
$300 to $349	8,604	3.1	319	1.0	8	0.7
$350 to $399	14,019	5.1	535	1.7	18	1.4
$400 to $449	19,211	7.0	813	2.6	45	3.6
$450 to $499	24,743	9.0	1,322	4.2	39	3.1
$500 to $549	28,126	10.2	1,643	5.2	120	9.5
$550 to $599	29,010	10.5	2,078	6.6	132	10.5
$600 to $649	25,738	9.3	2,523	8.0	149	11.8
$650 to $699	20,583	7.5	2,929	9.3	52	4.2
$700 to $749	17,399	6.3	2,939	9.4	96	7.6
$750 to $799	13,609	4.9	2,656	8.5	106	8.4
$800 to $899	18,140	6.6	4,090	13.0	249	19.8
$900 to $999	10,451	3.8	2,537	8.1	63	5.0
$1,000 to $1,249	10,220	3.7	3,016	9.6	86	6.8
$1,250 to $1,499	2,877	1.0	745	2.4	19	1.5
$1,500 to $1,999	1,796	0.7	561	1.8	0	0.0
$2,000 or more	919	0.3	249	0.8	0	0.0
No Cash Rent	7,012	2.5	959	3.0	5	0.4
Total	275,649	100.0	31,448	100.0	1,259	100.0
Average Rent	$603	- -	$753	- -	$690	- -
Median Rent	$590	- -	$726	- -	$692	- -

[a]*Does not include one-unit attached or detached houses on 10 acres or more.*

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

SUMMARY

Inventory is the first operational step in the planning process. It is important that the planning area be properly described before recommendations that will invariably affect the future of that area are formulated. This chapter has presented information on the historical characteristics of the population, housing, and employment for the Village of Hartland, Waukesha County, and the Southeastern Wisconsin Region, and on anticipated changes in these socioeconomic factors over time. The following findings are of particular significance to the preparation of the Village of Hartland master plan:

- The Village of Hartland has historically experienced an increase in population since its incorporation in 1892. During the earlier part of this time period, from 1900 to 1950, the population of the Village of Hartland steadily increased nearly 89 percent to 1,190 residents. Following this time period, the population of the Village increased significantly from 1,190 persons in 1950 to 7,905 in 2000.

- Alternative future regional scenarios prepared by the Regional Planning Commission provide a range of population, household, and employment projections for consideration by the Village of Hartland. Population in the Village of Hartland, which stood at 7,905 in 2000, is envisioned to increase under the intermediate-growth centralized scenario by approximately 3,455 residents, or 44 percent, to 11,360 residents during the 2000 to 2020 time period. Alternatively, under the high-growth

Table 13

HISTORICAL AND PROJECTED EMPLOYMENT[a]
IN THE VILLAGE OF HARTLAND: 1970-2020

Year	Village of Hartland		
	Employment	Change from Previous Period	
		Number	Percent
1970	650	- -	- -
1980	2,275	1,625	250.0
1990	3,002	727	32.0
2000	3,600	598	19.9
2020 Projections			
Intermediate-Growth Centralized	4,730[b]	1,130	31.4
High-Growth Decentralized	5,120[b]	1,520	42.2

[a]Employment means the number of jobs, regardless of the residency of the worker and whether the jobs are part- or full-time employment.

[b]Projections for the Village of Hartland urban service area.

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

Table 14

EMPLOYED PERSONS 16 YEARS OF AGE AND OLDER BY CLASS OF WORKER
IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 2000

Class of Worker[a]	Region		Waukesha County		Village of Hartland	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Private Wage and Salary Worker.....	776,609	81.9	161,074	82.8	3,836	84.6
Federal Government Worker	14,790	1.6	2,426	1.2	16	0.4
State Government Worker	21,740	2.3	2,822	1.5	38	0.8
Local Government Worker	70,245	7.4	11,429	5.9	293	6.5
Self-Employed Worker	63,652	6.7	16,326	8.4	331	7.3
Unpaid Family Worker.....	1,448	0.1	346	0.2	20	0.4
Total	948,484	100.0	194,423	100.0	4,534	100.0

[a]Does not include workers in the agriculture, forestry, fishing, and hunting industries.

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

decentralized scenario, the population of the Village is envisioned to increase by approximately 5,505 residents, or 70 percent, to 13,410 residents in 2020.

- The number of households or occupied housing units in the Village of Hartland, which stood at 3,002 in 2000, is envisioned to increase under the intermediate-growth centralized scenario by approximately 1,333 households, or 44 percent, to 4,335 households during the 2000 to 2020 time period. Alternatively, under the high-growth decentralized scenario, the Village is envisioned to experience an increase of approximately 1,835 households, or 61 percent, to 4,837 households in 2020.

- The average household size in the Village of Hartland is envisioned to slightly decline under the intermediate-growth centralized scenario from 2.63 persons per occupied household in 2000 to 2.62

Table 15

EMPLOYED PERSONS 16 YEARS AND OLDER BY OCCUPATION IN THE REGION, WAUKESHA COUNTY, AND THE VILLAGE OF HARTLAND: 2000

Occupation	Region		Waukesha County		Village of Hartland	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Managerial and Professional Specialty						
Management, Business, and Financial Operations	128,568	13.5	34,305	17.6	626	13.7
Professional Specialty	194,243	20.4	44,543	22.8	1,125	24.7
Service						
Health Care Support	20,942	2.2	3,088	1.6	56	1.2
Protective Service	16,392	1.7	1,984	1.0	54	1.2
Food Preparation and Serving	44,080	4.6	6,660	3.4	209	4.6
Building and Grounds, Cleaning and Maintenance	25,577	2.7	3,503	1.8	92	2.0
Personal Care and Service	22,303	2.3	4,250	2.2	174	3.8
Sales and Office						
Sales	102,766	10.8	24,550	12.6	459	10.0
Office and Administrative Support	154,285	16.2	30,921	15.8	746	16.4
Farming, Fishing, and Forestry	2,273	0.2	268	0.1	28	0.6
Construction, Extraction, and Maintenance						
Construction and Extraction	39,398	4.1	8,398	4.3	199	4.4
Installation, Maintenance, and Repair	33,368	3.5	6,967	3.5	157	3.4
Production, Transportation, and Material Moving						
Production	114,633	12.0	17,733	9.1	412	9.0
Transportation and Material Moving	55,615	5.8	8,120	4.2	227	5.0
Total	954,443	100.0	195,290	100.0	4,564	100.0

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

Table 16

PLACE OF WORK OF WORKERS 16 YEARS OF AGE AND OLDER LIVING IN WAUKESHA COUNTY AND THE VILLAGE OF HARTLAND: 2000

Place of Work	Waukesha County		Village of Hartland	
	Number of Workers	Percent of Total	Number of Workers	Percent of Total
Worked in Place of Residence	119,461	62.0	883	19.5
Worked Outside Place of Residence	73,141	38.0	3,645	80.5
Total	192,602	100.0	4,528	100.0

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

in 2020. Under the high-growth decentralized scenario, the average household size in the Village is envisioned to increase from 2.63 persons per occupied household to 2.77 in 2020.

- Employment in the Village of Hartland, which stood at approximately 3,600 jobs in 2000, is envisioned to increase under the intermediate-growth centralized scenario by approximately 1,130, or 31 percent, to 4,730 jobs in 2020. Alternatively, under the high-growth decentralized scenario, it is envisioned that the Village would experience an increase of approximately 1,520 jobs, or 42 percent, to 5,120 jobs in 2020.

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Chapter III

NATURAL RESOURCES

The conservation and wise use of the natural resources of an area are vital to its sound development and to the continued ability of the area to provide a pleasant and habitable environment for life. This planning effort recognizes that the natural resources of the Village of Hartland study area are limited and that any development needs to be properly adjusted to these resources to avoid serious environmental problems and to maintain resources for the future. A sound evaluation and analysis of the natural resource base is, therefore, particularly important to planning for the physical development of an area.

This chapter presents an inventory and analysis of the natural resource base of the Village of Hartland study area. Included is descriptive information regarding soils, topography, scenic overlooks, water resources, vegetation, wildlife habitats, natural areas, and park and open space sites. Environmentally sensitive natural resources such as hydric soils, lakes, streams, floodplains, wetlands, woodlands, steep slopes, and wildlife habitat, generally occur in elongated areas of the landscape and are interdependent. The wise use and preservation of one resource is critical to the continued existence of others. Areas of concentrated natural resources have long been delineated by the Regional Planning Commission and have become widely known as environmental corridors. The environmental corridors encompass those areas in which concentrations of recreational, aesthetic, ecological, and cultural resources occur, and which, therefore, should be preserved and protected in an essentially open, natural state.

SOILS

Soil properties exert a strong influence on the manner in which people use land. Soils are an irreplaceable resource, and mounting pressures upon land are constantly making this resource more and more valuable. A need exists, therefore, in any planning effort to examine not only how land and soils are presently used, but also how they can best be used and managed for future use.

A soil survey of the Southeastern Wisconsin Region was completed in 1965 by the U.S. Department of Agriculture, Soil Conservation Service,[1] under contract to the Regional Planning Commission. The results of the survey are set forth in SEWRPC Planning Report No. 8, *Soils of Southeastern Wisconsin*, June 1966; and in five county reports subsequently published by the Soil Conservation Service. Soil survey information for the Village of Hartland study area is included in the *Soils Survey of Waukesha County*, published in June 1971. The soil survey data are definitive with respect to physical, chemical, and biological properties. The survey also includes interpretations of the soil properties for planning, engineering, agricultural, and resource conservation purposes.

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[1] *The U.S. Soil Conservation Service was renamed the U.S. Natural Resources Conservation Service in 1996.*

Soil Suitability for Development Using Onsite Sewage-Disposal Systems

As shown in Map 4 and Table 17, approximately 3.5 square miles, or about 14 percent of the study area, are covered by soils unsuitable for the use of conventional onsite sewage-disposal systems, i.e., septic tanks with underground disposal fields. These soils have low permeability rates, high or fluctuating water tables, high shrink-swell ratios, and may be located on steep slopes and be subject to flooding and surface ponding. The suitability of an additional approximately 10.3 square miles, or about 42 percent of the study area, cannot be determined without detailed site inspections. Such inspections would probably reveal additional lands that have underlying soils unsuitable for the use of absorption fields for septic tank effluent. As indicated in Table 17, only approximately 6.7 square miles, or about 28 percent of the study area, can be generally identified on the basis of the soil surveys as suitable for septic tank systems.

The data in Table 17 and a comparison between Maps 4 and 5 shows that the development of the mound sewage-disposal system and other alternative systems may significantly increase the amount of area which may be able to accommodate development served by onsite sewage-disposal systems. It should be recognized that Maps 4 and 5 are intended to illustrate the overall pattern of soil suitability for onsite sewage-disposal systems. Detailed site investigations based on the requirements of Chapter Comm 83 (formerly ILHR 83)[2] of the *Wisconsin Administrative Code* are necessary to determine if the soils on a specific parcel of land are suitable for development proposed to be served by either type of onsite system. In general, areas covered by soils that are unsuitable for both conventional and mound sewage-disposal systems should not be considered for urban development unless public sanitary sewers are provided.

The soil ratings for onsite sewage-disposal systems presented on Maps 4 and 5 reflect the requirements of Chapter Comm 83 of the *Wisconsin Administrative Code* as it existed in 1998. The Wisconsin Department of Commerce adopted rules for governing onsite sewage-disposal systems in 2000 which increased the number of legal onsite sewage-disposal systems that could be used from four to nine systems. The Department envisions that other systems will also be approved in the future. This new rule significantly alters the existing regulatory framework and will increase the area in which onsite disposal systems may be utilized. The new rule, however, includes a provision that allows counties the option of waiting three years before implementing the new septic system rules and the use of the new types of systems. This provision would allow local governments more time to enact land use plans that will determine which areas may be developed with onsite sewage-disposal systems and to train inspectors on the different types of septic designs. Waukesha County delayed the use of these new septic technologies for new developments until January 1, 2003.

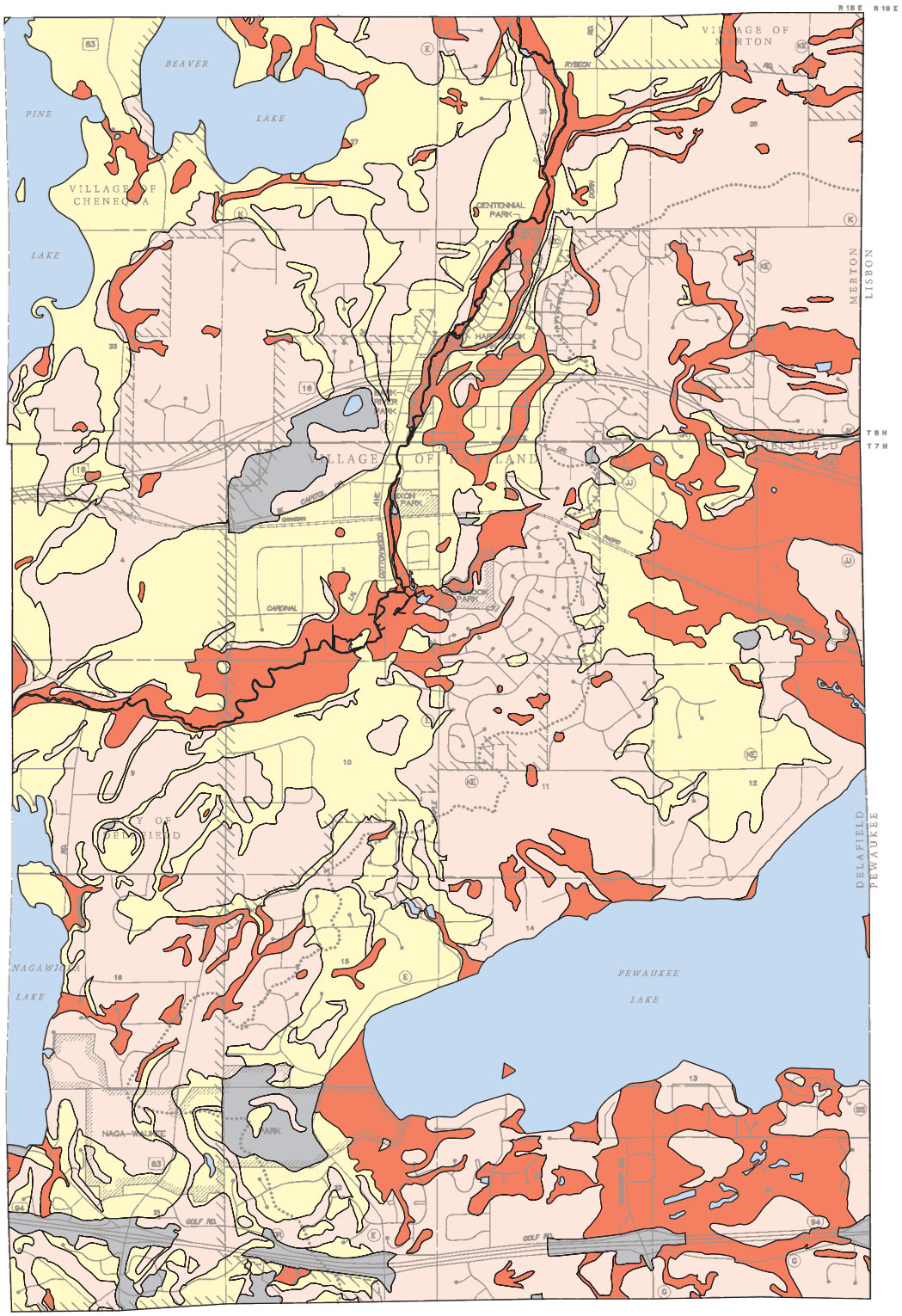
Soil Suitability for Residential Development Using Public Sanitary Sewer Service

Map 6 and Table 17 indicate that about 4.3 square miles, or about 18 percent of the study area, are covered by soils that would have severe limitations for residential development served by public sanitary sewer facilities. Such areas may also be considered poorly suited for residential development of any kind. The severe limitations are due to such soil properties as high or fluctuating water tables, slow permeability rates, erodibility on slopes, low bearing capacity, high shrink-swell potential, and frost-heave potential. These soils are found throughout the study area, but primarily in steeply sloped areas and in association with rivers, streams, floodlands, wetlands, and other low-lying areas. The development of these areas for residential use would likely require particularly careful planning and above average design and management to overcome the limitations; such developments may be expected to be more costly and difficult than developments in areas with more suitable soils. Soils shown on Map 6 as having slight or moderate limitations for such developments encompass approximately 16.2 square miles, or about 66 percent of the study area. The remaining soils encompassing about 3.9 square miles, or about 16 percent of the study area, are covered by mostly surface water or are soils that have not been classified.

[2] *The State agency regulating private sanitary sewers changed from the Wisconsin Department of Industry, Labor, and Human Relations (ILHR) to the Wisconsin Department of Commerce (Comm) in 1996.*

Map 4

SOIL SUITABILITY FOR CONVENTIONAL ONSITE SEWAGE-DISPOSAL SYSTEMS IN THE VILLAGE OF HARTLAND STUDY AREA



UNSUITABLE: AREAS COVERED BY SOILS WHICH HAVE A HIGH PROBABILITY OF NOT MEETING THE 1998 CRITERIA OF CHAPTER COMM 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING CONVENTIONAL ONSITE SEWAGE-DISPOSAL SYSTEMS

UNDETERMINED: AREAS COVERED BY SOILS HAVING A RANGE OF CHARACTERISTICS AND/OR SLOPES WHICH SPAN THE 1998 CRITERIA OF CHAPTER COMM 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING CONVENTIONAL ONSITE SEWAGE-DISPOSAL SYSTEMS SO THAT NO CLASSIFICATION CAN BE ASSIGNED

SUITABLE: AREAS COVERED BY SOILS HAVING A HIGH PROBABILITY OF MEETING THE 1998 CRITERIA OF CHAPTER COMM 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING CONVENTIONAL ONSITE SEWAGE-DISPOSAL SYSTEMS

OTHER: AREAS CONSISTING FOR THE MOST PART OF DISTURBED LAND FOR WHICH NO INTERPRETIVE DATA ARE AVAILABLE

SURFACE WATER

NOTE: THIS MAP REFLECTS STATE ADMINISTRATIVE CODE REQUIREMENTS IN EFFECT PRIOR TO JULY 2000. ONSITE INVESTIGATIONS ARE ESSENTIAL TO THE DETERMINATION OF WHETHER A SPECIFIC TRACT OF LAND IS SUITABLE FOR DEVELOPMENT TO BE SERVED BY A CONVENTIONAL ONSITE SEWAGE-DISPOSAL SYSTEM UNDER CURRENT COMM 83 REQUIREMENTS.

GRAPHIC SCALE

0 2000 4000 6000 FEET

Source: U.S. Natural Resources Conservation Service, Wisconsin Department of Commerce, and SEWRPC.

Table 17

SOIL SUITABILITY FOR SELECTED LAND USES IN THE VILLAGE OF HARTLAND STUDY AREA

Classification	Onsite Sewage-Disposal System				Residential Development with Public Sanitary Sewer	
	Conventional Systems		Mound Systems			
	Square Miles	Percent of Total	Square Miles	Percent of Total	Square Miles	Percent of Total
Unsuitable	3.5	14.3	2.8	11.5	4.3[a]	17.6
Undetermined	10.3	42.2	3.7	15.1	- -	- -
Suitable.....	6.7	27.5	14.0	57.4	16.2[b]	66.4
Other[c]	3.9	16.0	3.9	16.0	3.9	16.0
Total	24.4	100.0	24.4	100.0	24.4	100.0

NOTE: Soil suitability determinations for onsite sewage-disposal systems are based on the requirements of Chapter Comm 83 of the *Wisconsin Administrative Code* in effect prior to July 2003. Onsite investigations are essential to the determination of whether a specific tract of land is suitable for an onsite sewage-disposal system under current Comm 83 requirements.

[a]*Includes soils having severe limitations for such development.*

[b]*Includes soils having slight or moderate limitations for such development.*

[c]*Includes surface water and disturbed areas for which no soil survey data are available.*

Source: U.S. Natural Resources Conservation Service and SEWRPC.

Soil Suitability for Agriculture

Much of the outlying area in the Village of Hartland study area is covered by soils that are well suited for the production of crops. Such farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when properly treated and managed. Soil suitability for agricultural use within the study area, based on the U.S. Natural Resources Conservation Service classification system, is shown on Map 7. Table 18 provides a description of each soil class. Generally, Class I and II soils are considered National Prime Farmland, and Class III soils are considered Farmlands of Statewide Importance.

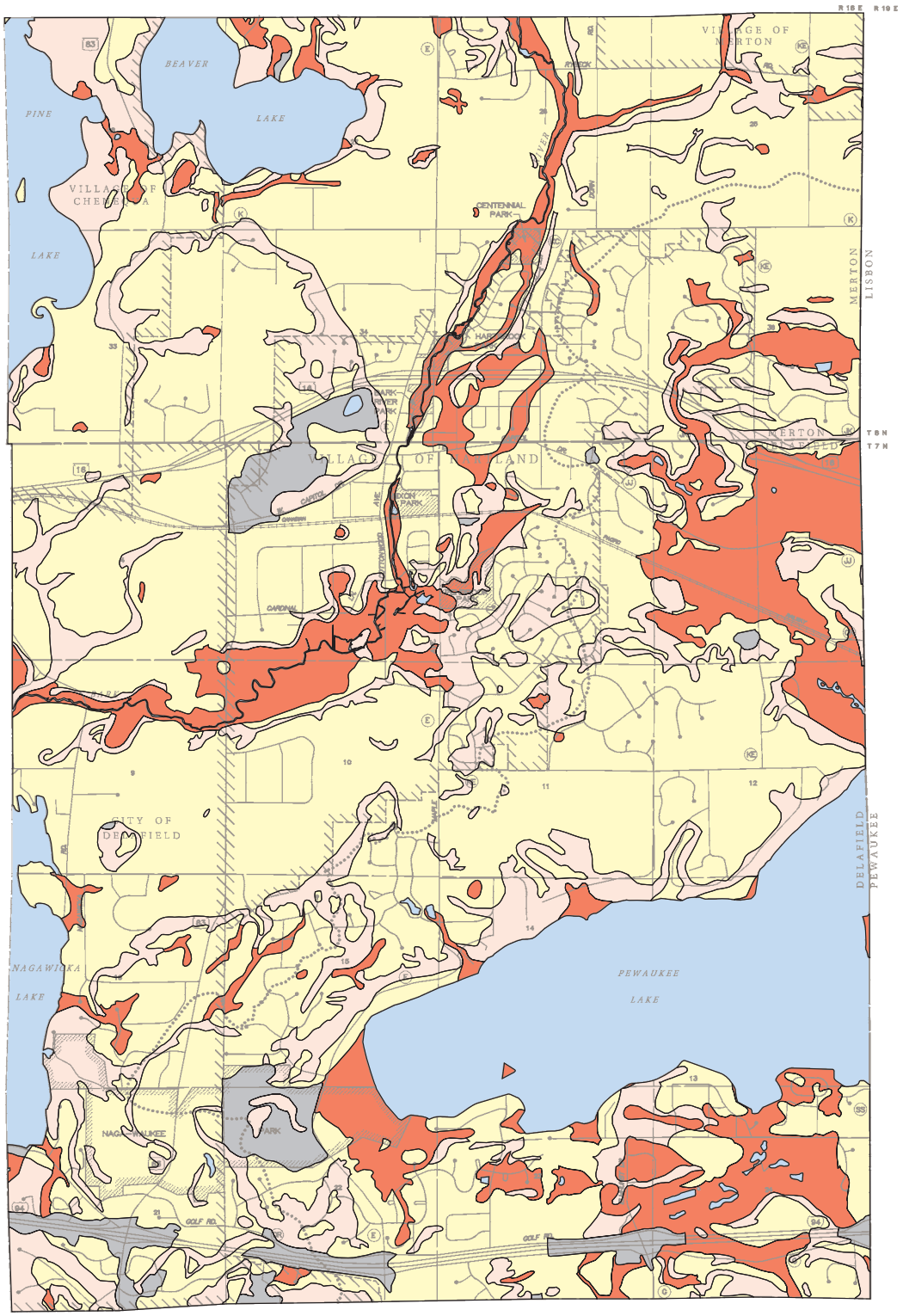
Map 7 shows that Class I soils encompass about 1.7 square miles, or about 7 percent of the study area. Areas identified on Map 4 as Class II encompass about 9.5 square miles, or about 39 percent of the study area. Areas identified as Class III encompass about 3.2 square miles, or about 13 percent of the study area. Additional areas are covered by soils rated Class IV or lower if undrained and Class II or Class III if drained. Approximately 0.7 square mile, or about 3 percent of the study area, have been drained and therefore fall into the Class II or III rating. As a result, in all about 15.1 square miles, or about 62 percent of the study area, are covered by Class I, II, or III soils.

TOPOGRAPHIC FEATURES

The topography, or relative elevation of the land surface, within the Village of Hartland study area has been determined by the configuration of the bedrock geology and by the overlying glacial deposits. The topography of the study area, shown in 10-foot interval contours, is depicted on Map 8. Surface elevations range from a low of about 800 feet above mean sea level in the southeast part of the study area by Pewaukee Lake, to a high of more than 1,100 feet above mean sea level in the far northeast and southwest part. In general, the topography of the study area is level to gently rolling, with the low-lying areas associated with lakes, stream valleys, or wetland areas.

Map 5

SOIL SUITABILITY OF MOUND SEWAGE-DISPOSAL SYSTEMS IN THE VILLAGE OF HARTLAND STUDY AREA



UNSUITABLE: AREAS COVERED BY SOILS WHICH HAVE A HIGH PROBABILITY OF NOT MEETING THE 1998 CRITERIA OF CHAPTER COMM 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING MOUND SEWAGE-DISPOSAL SYSTEMS

UNDETERMINED: AREAS COVERED BY SOILS HAVING A RANGE OF CHARACTERISTICS AND/OR SLOPES WHICH SPAN THE 1998 CRITERIA OF CHAPTER COMM 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING MOUND SEWAGE-DISPOSAL SYSTEMS SO THAT NO CLASSIFICATION CAN BE ASSIGNED

SUITABLE: AREAS COVERED BY SOILS HAVING A HIGH PROBABILITY OF MEETING THE 1998 CRITERIA OF CHAPTER COMM 83 OF THE WISCONSIN ADMINISTRATIVE CODE GOVERNING MOUND SEWAGE-DISPOSAL SYSTEMS

OTHER: AREAS CONSISTING FOR THE MOST PART OF DISTURBED LAND FOR WHICH NO INTERPRETIVE DATA ARE AVAILABLE

SURFACE WATER

NOTE: THIS MAP REFLECTS STATE ADMINISTRATIVE CODE REQUIREMENTS IN EFFECT PRIOR TO JULY 2000. ONSITE INVESTIGATIONS ARE ESSENTIAL TO THE DETERMINATION OF WHETHER A SPECIFIC TRACT OF LAND IS SUITABLE FOR DEVELOPMENT TO BE SERVED BY A MOUND SEWAGE-DISPOSAL SYSTEM UNDER CURRENT COMM 83 REQUIREMENTS

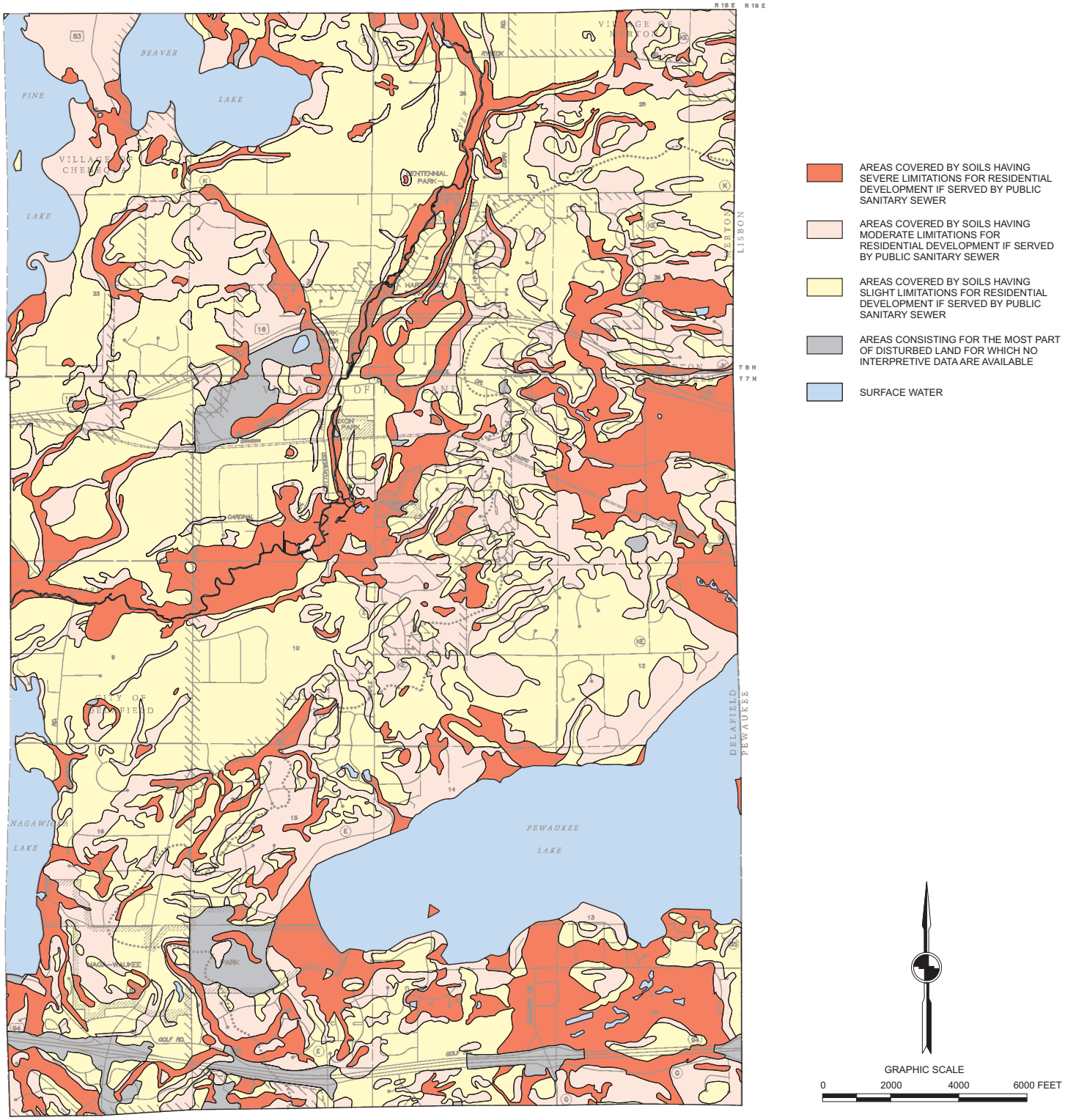
GRAPHIC SCALE

0 2000 4000 6000 FEET

Source: U.S. Natural Resources Conservation Service, Wisconsin Department of Commerce, and SEWRPC.

Map 6

SOIL SUITABILITY FOR RESIDENTIAL DEVELOPMENT IF SERVED BY PUBLIC SANITARY SEWER IN THE VILLAGE OF HARTLAND STUDY AREA



Source: U.S. Natural Resources Conservation Service and SEWRPC.

Table 18

AGRICULTURAL SOIL CAPABILITY CLASSES

Class	Qualitative Description
I	Soils have few limitations that restrict their use.
II	Soils have some limitations that reduce the choice of plants or require moderate conservation practices.
III	Soils have moderate or severe limitations that reduce the choice of plants, require special conservation practices, or both.
IV	Soils have very severe limitations that restrict the choice of plants, require careful management, or both.
V	Soils are subject to little or no erosion but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife food and cover.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, range, woodland, or wildlife food and cover.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to grazing, woodland, or wildlife.
VIII	Soils and landforms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife, water supply, or to aesthetic purposes.

Source: U.S. Natural Resources Conservation Service and SEWRPC.

Slopes

Slope is an important determinant of land uses practicable on a given parcel of land. Lands with steep slopes are generally poorly suited for urban development as well as for most agricultural purposes and, therefore, should be maintained in natural cover for erosion control. Lands with less severe slopes may be suitable for certain agricultural uses, such as pasture, and for certain urban uses, such as carefully designed low density residential areas. Lands which are gently sloping or nearly level are best suited to agricultural production and to medium- and high-density residential, industrial, or commercial uses. It should also be noted that slope is directly related to water runoff and erosion hazards and, therefore, the type and extent of both urban and rural land uses should be carefully adjusted to the slope of the land. In general, slopes of 12 percent or more should be considered unsuitable for urban development and most types of agricultural land uses and, therefore, should be maintained in essentially natural, open uses. Urban development, if allowed on such slopes, would require careful planning and above average site-specific design and management. As shown on Map 9, areas having a slope of 12 percent or greater encompass about 3.4 square miles, or about 14 percent of the study area and are found throughout the study area.

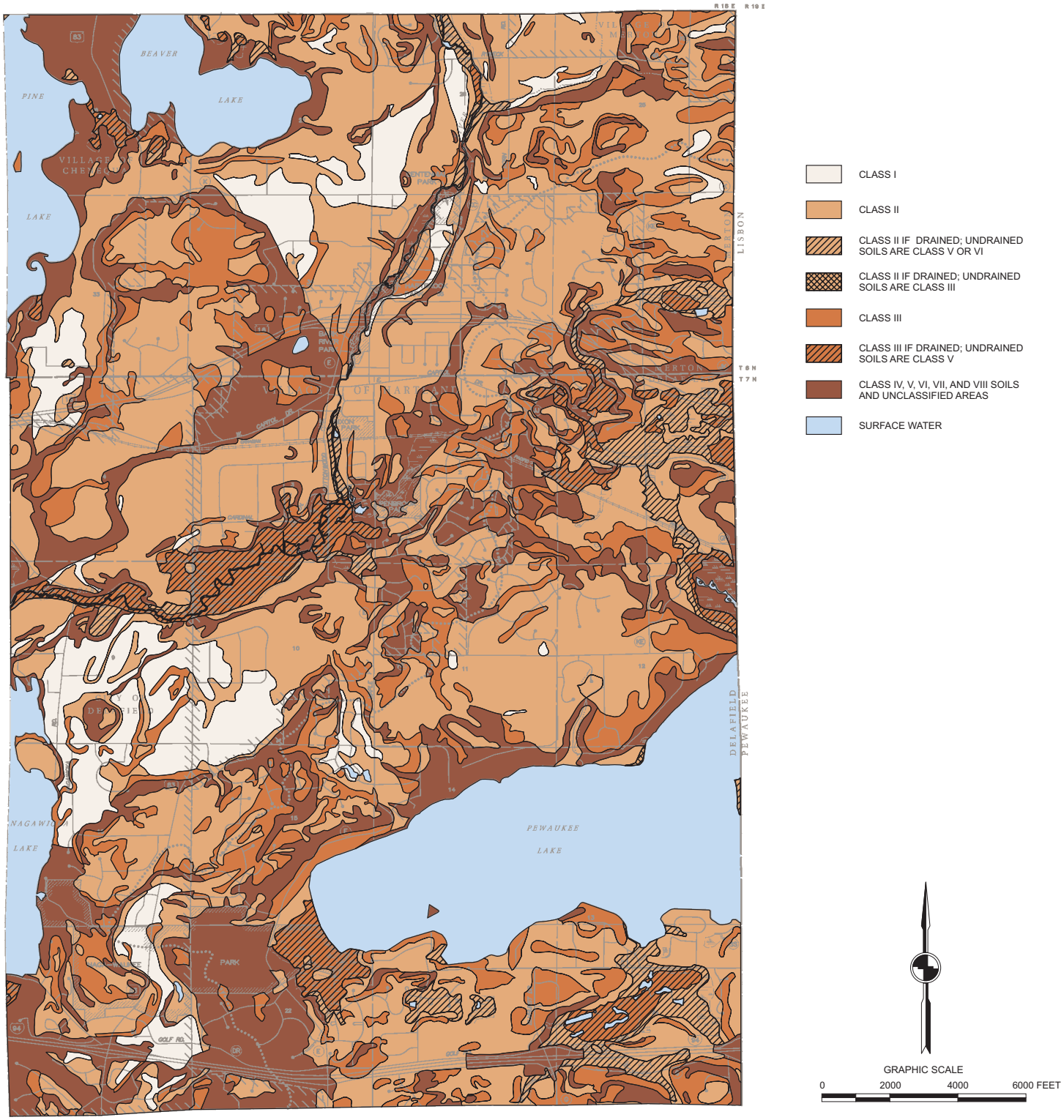
Scenic Overlooks

Scenic overlooks are defined as areas that provide a panoramic or picturesque view. There are two important components of a scenic overlook: the picturesque view itself, which usually consists of a diversity of natural or cultural features, and the vantage point or overlook from which the scene and its features are observed. In identifying the scenic overlooks in the Hartland area three basic criteria were applied: 1) the view should provide a variety of features that exist harmoniously in a natural or rural landscape; 2) there should be a dominant or particularly interesting feature, such as a river or lake, which serves as a focal point of the picturesque view; and 3) the overlook should permit an unobstructed observation area from which a variety of natural features can be seen.

An inventory of scenic overlooks meeting the aforementioned criteria was conducted. Using the best available topographic maps, all areas with a relief greater than 30 feet and a slope of 12 percent or more were identified. Areas of steep slope with a ridge of at least 200 feet in length and a view of at least three features, including surface water, wetlands, woodlands, or agricultural lands within approximately one-half mile of the ridge, were identified as scenic overlooks. In the Village of Hartland study area, 38 scenic overlooks were identified. Most of

Map 7

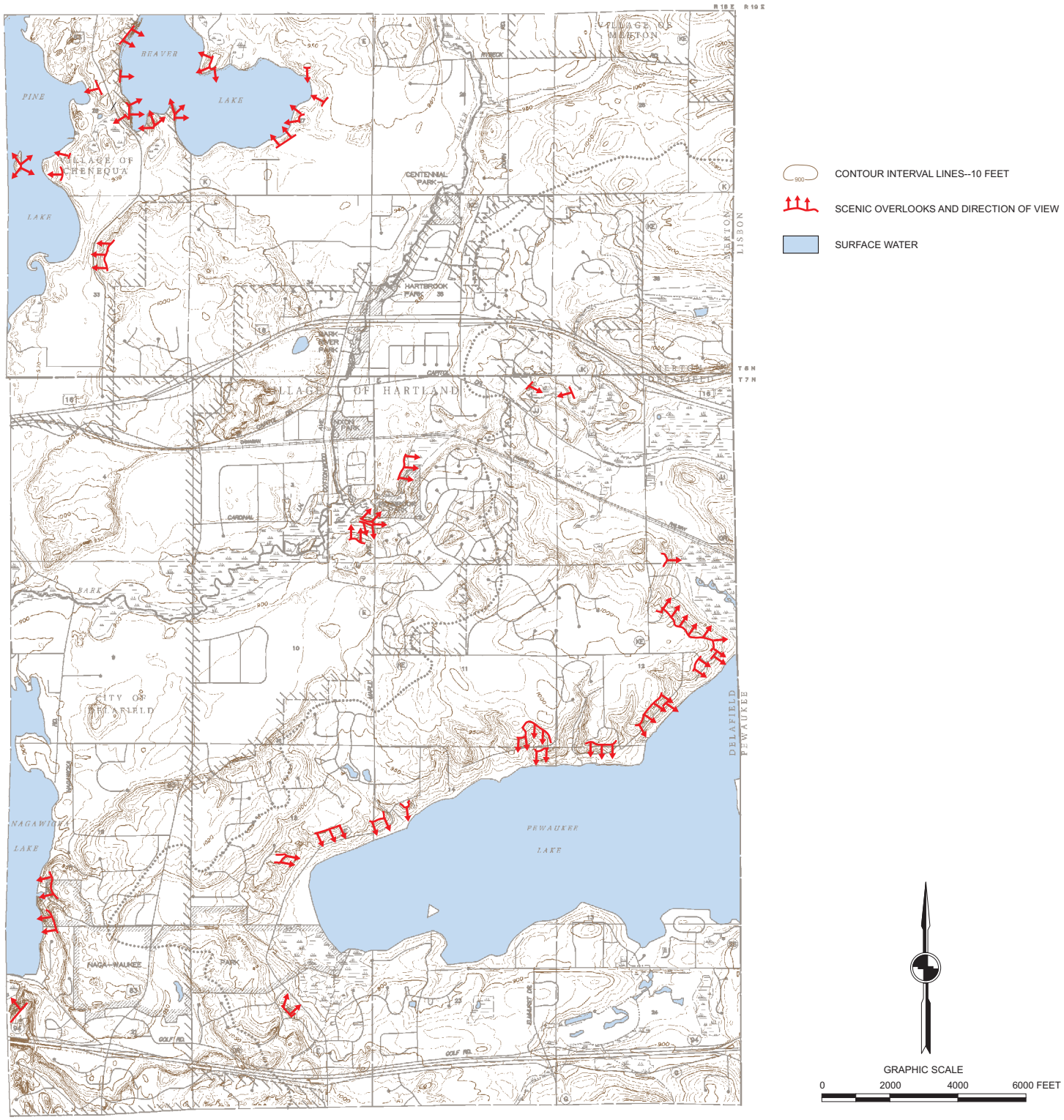
AGRICULTURAL SOIL CAPABILITY IN THE VILLAGE OF HARTLAND STUDY AREA



Source: U.S. Natural Resources Conservation Service and SEWRPC.

Map 8

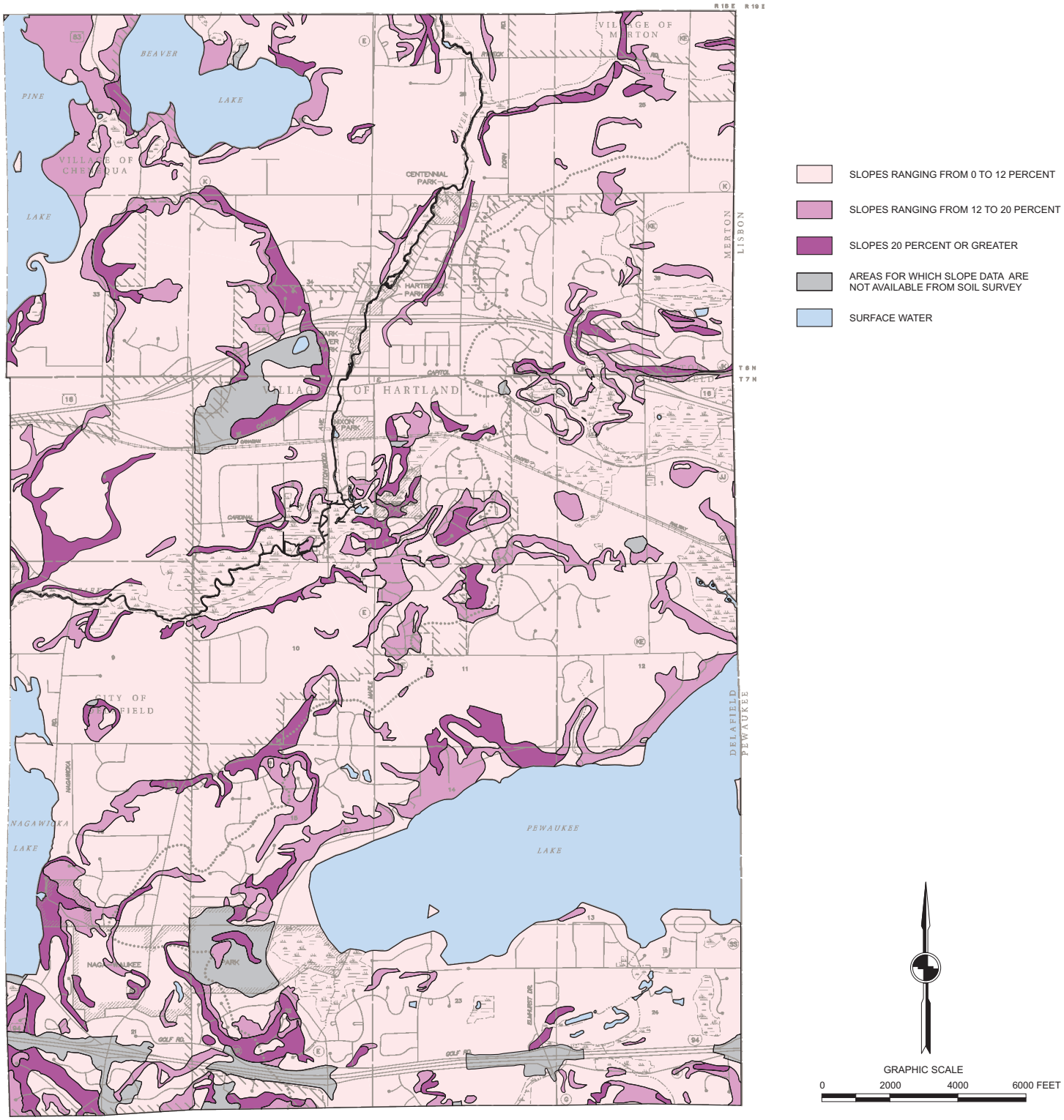
TOPOGRAPHY AND SCENIC OVERLOOKS IN THE VILLAGE OF HARTLAND STUDY AREA



Source: SEWRPC.

Map 9

SLOPE ANALYSIS FOR THE VILLAGE OF HARTLAND STUDY AREA



Source: U.S. Natural Resources Conservation Service and SEWRPC.

these were long, continuous ridge lines along the Bark River in the Village of Hartland and near Beaver, Nagawicka, Pine, or Pewaukee Lakes. The topography and location of the scenic overlooks are shown on Map 8.

WATER RESOURCES

Surface water resources such as lakes and streams and their associated floodplains, form a particularly important element of the natural resource base of the Village of Hartland study area. The contribution of these resources, including groundwater, is immeasurable to the economic development, recreational activity, and aesthetic quality of the Hartland area.

Watersheds, Subwatersheds, and Subbasins

The study area lies within two watersheds, the Rock River and Fox River watersheds, which are part of the larger Mississippi River drainage system. As shown on Map 10, these watersheds can be divided into subwatersheds, which include the Pine Lake, Bark River, Pewaukee Lake, and Scuppernong Creek subwatersheds. The Village of Hartland is located mostly within the Bark River subwatershed which is part of the larger Rock River watershed. For stormwater management planning purposes, all of the subwatersheds may be further subdivided into individual drainage areas, termed subbasins, also shown on Map 10.

Surface Water

Surface water resources, consisting of streams, rivers, lakes, and associated floodplains, form an important element of the natural resource base. Lakes and rivers constitute a focal point for water-related recreational activities, provide an attractive setting for properly planned residential development, and, when viewed in the context of the total landscape, greatly enhance the aesthetic quality of the environment. Lakes and rivers are, however, readily susceptible to degradation through improper land use development and management. Water quality can be degraded by excessive pollutant loads, including nutrient loads, from malfunctioning and improperly located onsite sewage-disposal systems; sanitary sewer overflows; urban runoff, including runoff from construction sites; and careless agricultural practices. The water quality of lakes and rivers may also be adversely affected by the excessive development of riverine areas and the inappropriate filling of peripheral wetlands, which removes valuable nutrient and sediment traps while adding to nutrient and sediment sources. The surface water resources in the Village of Hartland study area are shown on Map 11.

Lakes

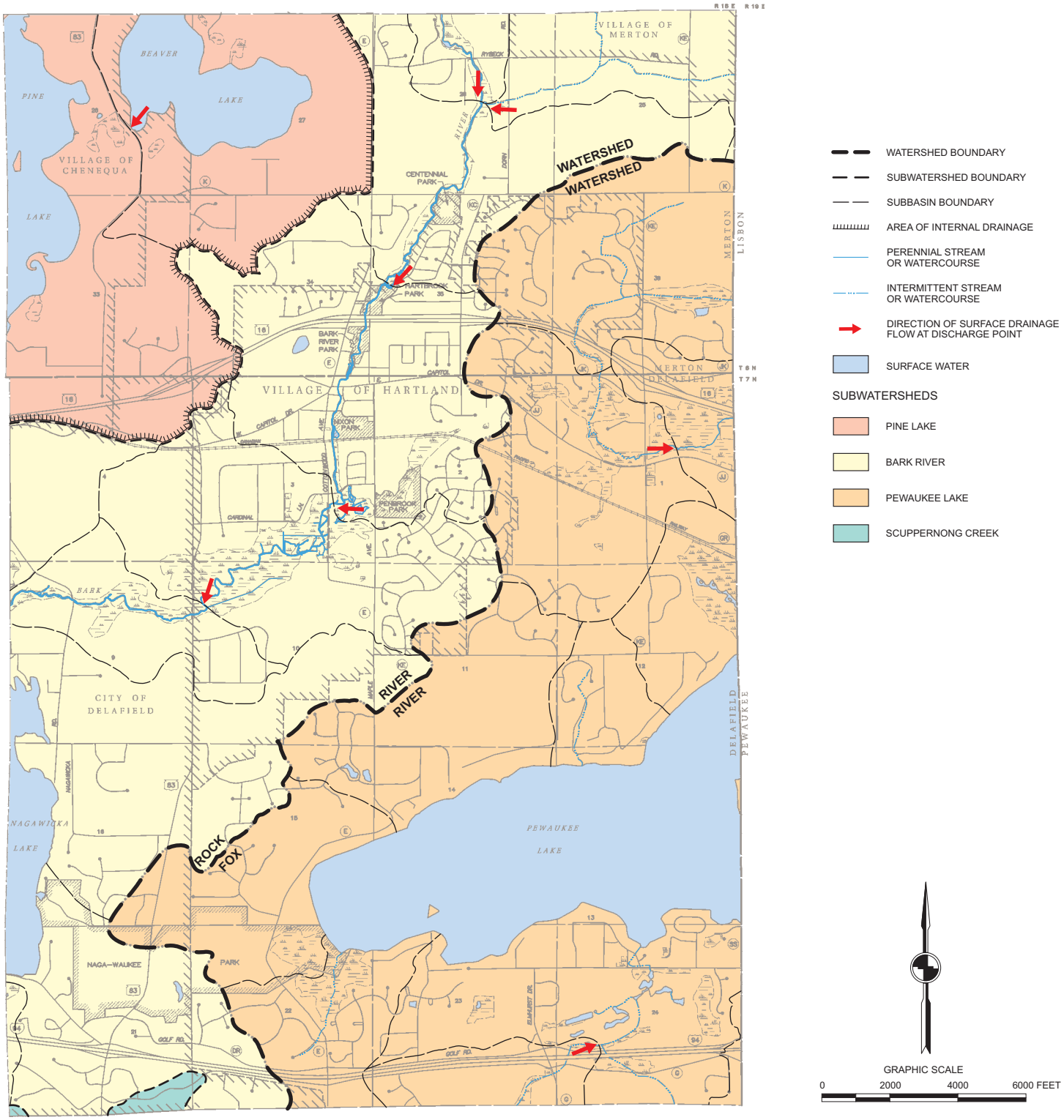
Lakes have been classified by the Regional Planning Commission as being either major or minor. Major lakes have 50 acres or more of surface water area, and minor lakes have less than 50 acres of surface water area. As indicated in Map 11, there are four major lakes in the study area, Beaver, Nagawicka, Pine, and Pewaukee Lakes. The total combined surface water area of these lakes, which includes surface water area outside the study area, is about seven square miles. The portion of the surface water area of the four lakes within the study area is approximately 3.3 square miles. The Village of Hartland is bounded on the south and northwest by these four lakes which provided Village residents readily accessible areas for water-oriented recreation and a pleasant aesthetic setting. Continued growth and development in the study area should be accomplished in a manner that preserves and enhances the natural beauty and environmental quality of these major lakes.

Rivers and Streams

Rivers and streams that are classified as perennial or intermittent also exist within the study area as indicated on Map 11. Perennial streams are defined as watercourses which maintain, at a minimum, a small continuous flow throughout the year except under unusual drought conditions. Intermittent streams are defined as watercourses which do not maintain a continuous flow throughout the year. A total of approximately 15.8 linear miles of perennial and intermittent watercourses exist within the study area, including the Bark River that flows through the Village of Hartland. Of this total, about 7.6 lineal miles, or about 48 percent, are perennial watercourses, and the remaining 8.2 lineal miles, or about 52 percent, are intermittent watercourses.

Map 10

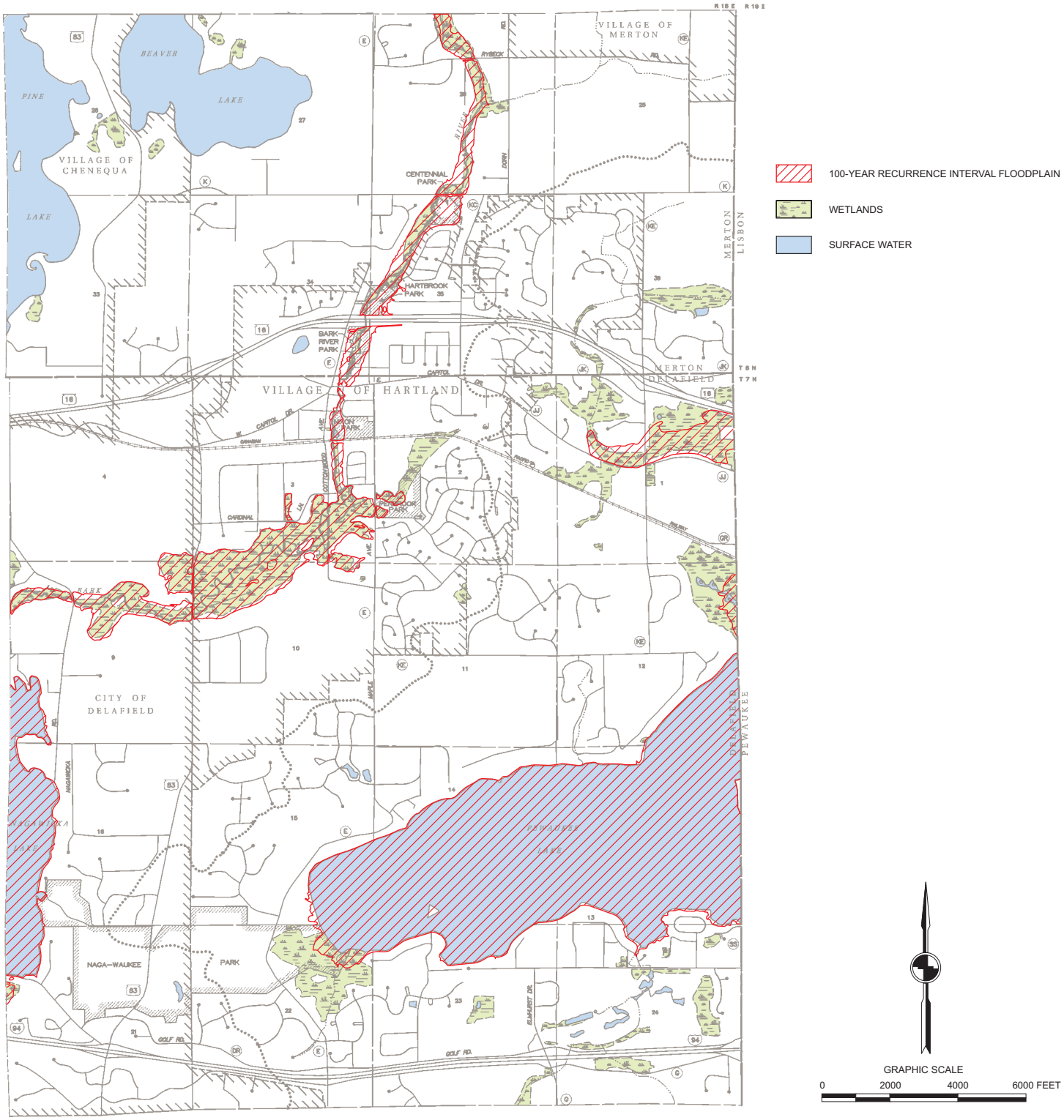
WATERSHED FEATURES IN THE VILLAGE OF HARTLAND STUDY AREA



Source: SEWRPC.

Map 11

WETLANDS, SURFACE WATER, AND KNOWN FLOODPLAINS IN THE VILLAGE OF HARTLAND STUDY AREA: 1995



Source: Federal Emergency Management Agency and SEWRPC.

Floodplains

The floodplain of a river or stream include the wide, gently sloping areas contiguous to, and usually lying on both sides of, the river or stream channel and the channel itself. For planning and regulatory purposes, floodplains are normally defined as the areas subject to inundation by the 100-year recurrence interval flood event. This is the flood event that has a 1 percent chance of occurring in any given year. Floodplain 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. The floodplain areas, however, generally contain important elements of the natural resource base such as high-value woodlands, wetlands, and wildlife habitat and, therefore, constitute prime locations for needed park and open space areas. Every effort should be made to discourage indiscriminate and incompatible urban development on floodplains, while encouraging compatible park and open space uses. Map 11 shows the approximate location and extent of areas lying within the 100-year recurrence interval flood hazard area, or floodplain, in the study area for those areas in which floodplain studies have been conducted.[3] About 3.3 square miles, or about 14 percent of the study area are known to be located within the 100-year recurrence interval floodplain.

Groundwater Resources

An adequate supply of high quality groundwater is essential if used for domestic consumption. Like surface water, groundwater is susceptible to depletion and deterioration. The available quantity of groundwater can be reduced by the loss of recharge areas, excessive or overly concentrated pumping, and changes in ground cover. In addition, groundwater quality is subject to degradation from onsite sewage-disposal systems, surface water pollution, improper agricultural practices, and inadvertent spills or leakage of pollutants at or below the land surface. An understanding of the relationship between groundwater resources and proper master planning is, therefore, important to prevent future development from adversely affecting the availability and quality of groundwater.

Groundwater within the Hartland area is available from two main water-bearing geologic units. The upper unit includes shallow limestone, referred to as the Niagara or dolomite aquifer, and overlying glacial deposits, referred to as the sand and gravel aquifer. These two interconnected aquifers are often called collectedly the "shallow aquifer." Separated from the shallow aquifer by a relatively impervious barrier, the Maquoketa shale formation, is a deeper sandstone aquifer commonly referred to as the "deep aquifer." The aquifer systems in the Hartland area are complex since the area is on or near the western limits of the limestone or dolomite aquifer and the Maquoketa shale. Thus, a portion of the area may have the sand and gravel formation as the only component of the shallow aquifer. In addition, the Maquoketa shale layer may be absent and not underlie the more westerly portion of the Hartland area. The area where the shale is absent is the beginning of the recharge area for the deep sandstone aquifer since precipitation and surface water can migrate downward through the shallow aquifer into the deep sandstone formations.

Water table levels within the shallow aquifer vary seasonally and with topography. Properly constructed wells can obtain adequate yields of groundwater from the shallow aquifer in most portions of the study area. The deep sandstone aquifer can yield large quantities of groundwater suitable for municipal water supply purposes. Adequate yields of groundwater from the overlying sand and gravel aquifer are available in the Hartland area, and this aquifer is used exclusively as a water supply source. While the deep sandstone aquifer is not used by the Village of Hartland, it is used extensively by other Waukesha County communities.

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[3]No floodplain limits have been delineated within the Village of Chenequa and the Beaver Lake area of the Town of Merton, since no floodplain studies were conducted for these two areas even though there may be floodplain due to the presence of lakes.

WETLANDS

Wetlands are defined as areas that are inundated or saturated by surface or groundwater at a frequency and duration that is sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally occur in depressions and near the bottom of slopes, particularly along lakeshores and stream banks, and on land areas that are poorly drained. Wetlands may, however, under certain conditions, occur on slopes and even hilltops.

Wetlands are generally poorly suited for most agricultural or urban purposes. Wetlands, however, have important recreational and ecological values. Wetlands contribute to flood control and water quality enhancement, since such areas naturally serve to store excess runoff temporarily, thereby tending to reduce peak flows and to trap sediments, undesirable nutrients, and other water pollutants. Wetlands may also serve as groundwater recharge and discharge areas. Additional important natural functions of wetlands include the provision of breeding, nesting, resting, and feeding grounds and predator escape cover for many forms of wildlife. In view of these important functions, continued efforts should be made to protect these areas by discouraging wetland draining, filling, and urbanization. The latter can be particularly costly in both monetary and environmental terms. Wetlands in the study area, as shown on Map 11, covered about 1.2 square miles, or about 5 percent, of the study area in 1995. The largest concentrations of wetlands in the study area occur adjacent to intermittent streams and the Bark River.

WOODLANDS

Under good management, woodlands can serve a variety of beneficial functions. In addition to contributing to clean air and water and regulating surface water runoff, the woodlands contribute to the maintenance of a diversity of plant and animal life. Unfortunately, woodlands which required a century or more to develop can be destroyed through mismanagement in a comparatively short time. The destruction of woodlands, particularly on hillsides, can contribute to increased stormwater runoff and soil erosion, the siltation of lakes and streams, and the destruction of wildlife habitat. Woodlands should be maintained for their scenic, wildlife habitat, open space, educational, recreational, and air and water quality protection values. In 1995, wooded areas covered about 2.6 square miles, or about 11 percent, of the study area. As shown on Map 12, woodlands occur in scattered locations throughout the study area.

WILDLIFE HABITATS

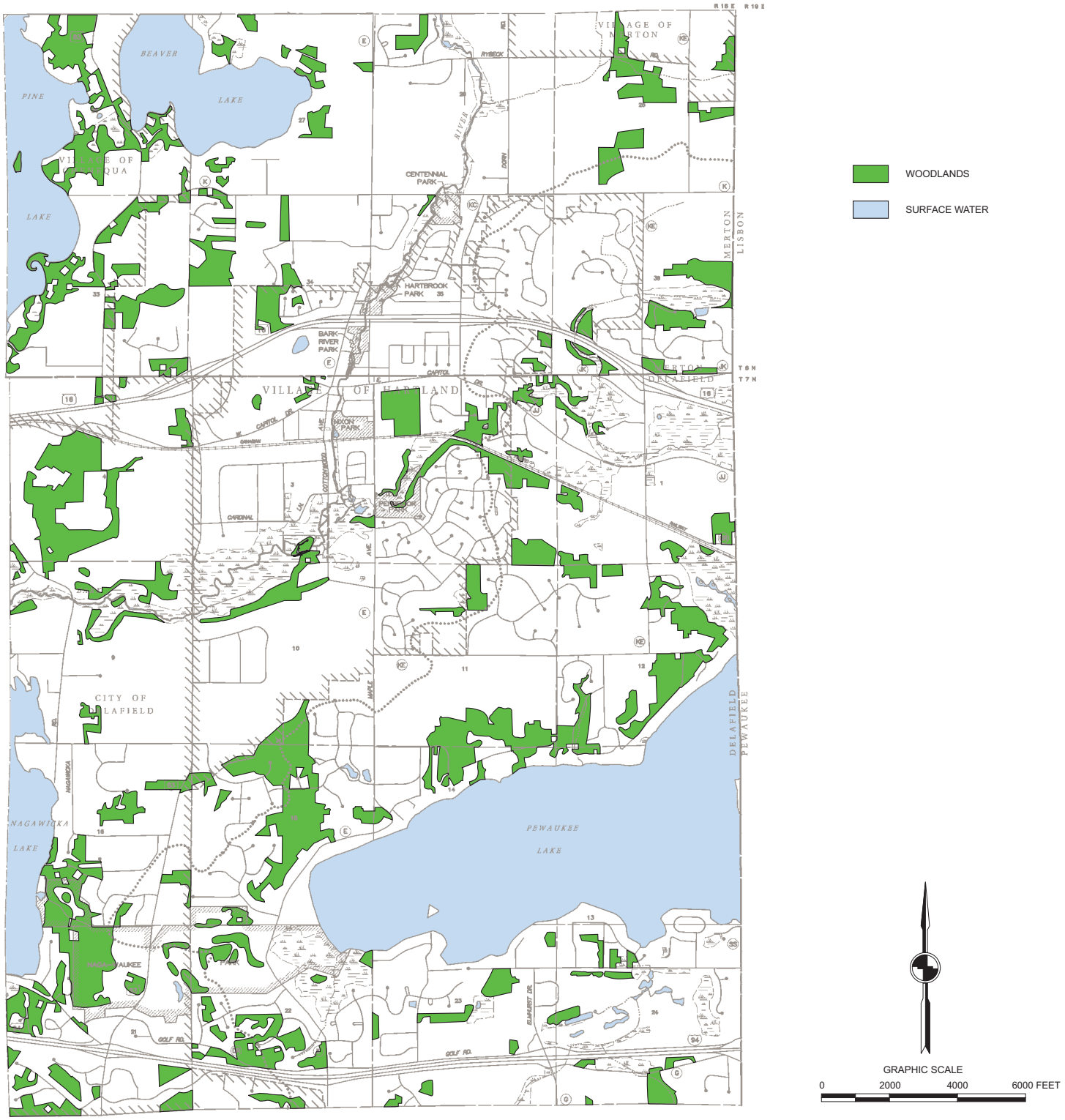
Wildlife in the Village of Hartland study area include species such as rabbit, squirrel, woodchuck, raccoon, fox, whitetail deer, pheasant, and water fowl. The remaining wildlife habitat areas provide valuable recreation opportunities and constitute an invaluable aesthetic asset to the study area. The spectrum of wildlife species has, along with the habitat, undergone tremendous alterations since settlement by Europeans and the subsequent clearing of forests and draining of wetlands for agricultural purposes and urban development.

In 1985, the Regional Planning Commission and the Wisconsin Department of Natural Resources cooperatively inventoried wildlife habitat in Southeastern Wisconsin. This data was re-inventoried in 1995 for the Village of Hartland study area with the results shown on Map 13. Three classes of wildlife habitat are identified: Class I areas contain a good diversity of wildlife, are large enough to provide all of the habitat requirements for each species, and are generally located near other wildlife habitat areas; Class II areas lack one of the three criteria necessary for a Class I designation; and Class III areas lack two of the three criteria for Class I designation.

Wildlife habitats in the study area generally occur in association with existing surface water, wetland, or woodland resources. In 1995, wildlife habitat areas covered about 4.8 square miles, or about 20 percent of the Village of Hartland study area. Of this total habitat area, about 1.0 square mile, or about 4 percent of the study area, were rated as Class I; about 2.2 square miles, or about 9 percent of the study area, were rated as Class II; and about 1.7 square miles, or about 7 percent of the study area, were rated as Class III.

Map 12

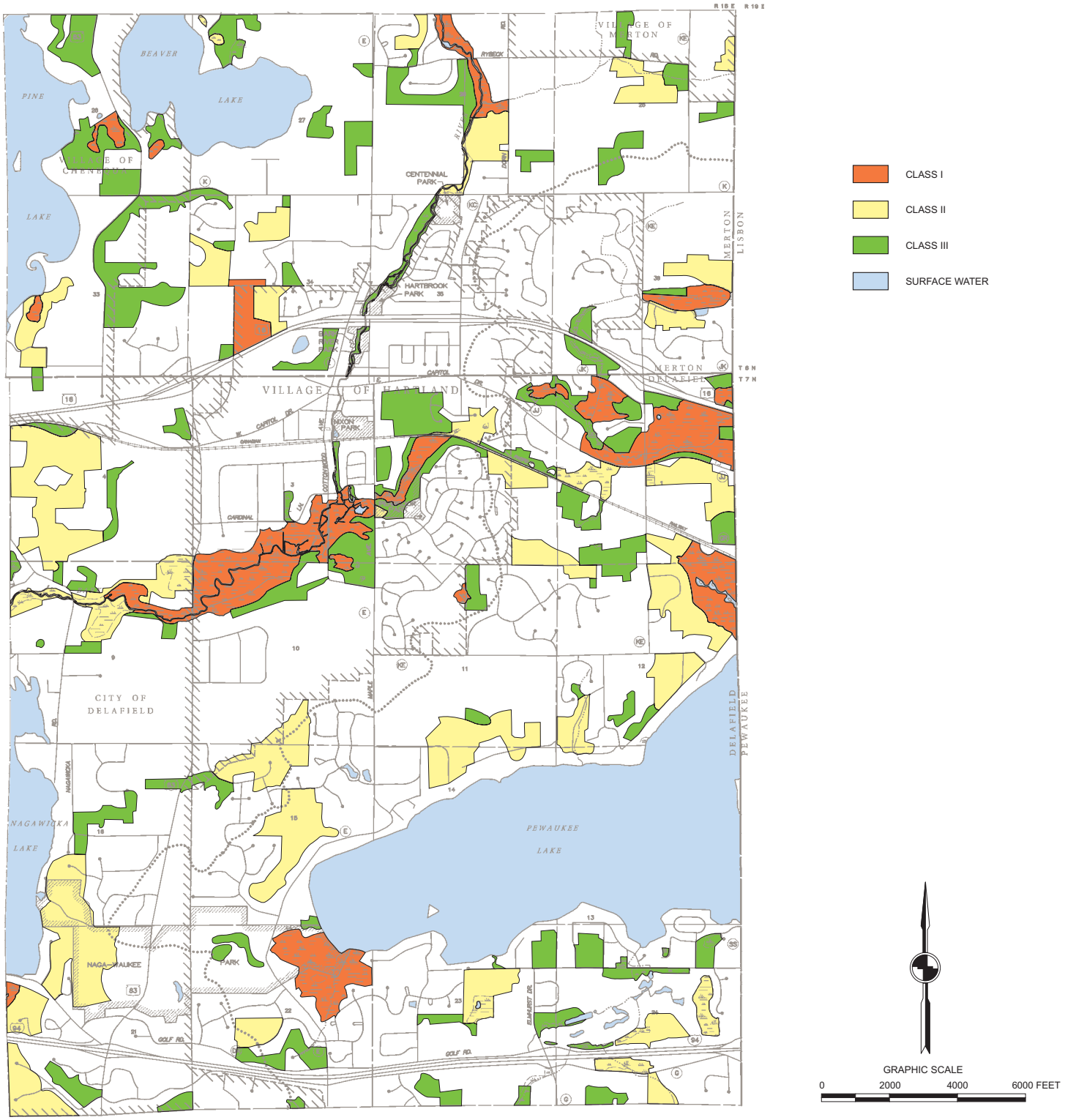
WOODLANDS IN THE VILLAGE OF HARTLAND STUDY AREA: 1995



Source: SEWRPC.

Map 13

WILDLIFE HABITAT AREAS
IN THE VILLAGE OF HARTLAND STUDY AREA: 1995



Source: Wisconsin Department of Natural Resources and SEWRPC.

NATURAL AREAS, SIGNIFICANT GEOLOGICAL SITES, AND CRITICAL AQUATIC HABITATS

A special inventory was completed in 1994 to identify the most important remaining natural areas and critical species habitats, along with significant geological sites and archaeological sites, in Southeastern Wisconsin and to recommend means for their protection and management.[4] No known archaeological sites were identified in the Village of Hartland study area. Natural areas, significant geological sites, and critical aquatic habitats in the study area are discussed below.

Natural Areas

Natural areas are tracts of land or water so little modified by human activities that they contain intact native plant and animal communities believed to be representative of the pre-European settlement landscape. Natural areas are classified into one of three categories: natural areas of statewide or greater significance (NA-1), natural areas of countywide or regional significance (NA-2); or natural areas of local significance (NA-3). Classification of an area into one of the three categories is based upon consideration of the diversity of plant and animal species and community types present; the structure and integrity of the native plant or animal community; the extent of disturbance from human activities such as logging, grazing, water level changes, and pollution; the commonness of the plant and animal communities present; unique natural features within the area; the size of the area; and the educational value.

Five natural areas, encompassing a total of about 118 acres, or about 1 percent of the study area, were identified in the inventory completed in 1994. These sites are shown on Map 14 and listed in Table 19. One of the sites is located within Naga-Waukee County Park and a second is partially within public ownership.

Geological Sites

Significant geological sites are tracts of land that include such glacial features as eskers and kames, fossil beds, and rock outcrop and exposed bedrock sites of scientific and educational value. These sites, like natural areas and critical species habitats, are subject to inadvertent disturbance or destruction as urbanization within the Region continues, resulting in the loss of the opportunities which these sites afford educational and scientific pursuits. Geological sites identified as significant under the plan are classified as being of statewide or greater significance (GA-1), countywide or regional significance (GA-2), or local significance (GA-3).

Two geological sites were identified in the Village of Hartland study area. These sites encompassed an area of about seven acres, or less than 1 percent of the study area, and are identified on Map 14 and described in Table 19.

Aquatic Habitats

Critical habitats are those areas, outside of natural areas, where the main value lies in their ability to support rare, threatened, or endangered species. Such areas constitute “critical” habitat that is important to ensure survival of a particular species or group of species of special concern.

Six critical aquatic habitats that support threatened or rare fish, herptile (amphibians and reptiles), or mussel species were identified in the study area. The six habitats include two habitats of statewide or greater significance (AQ-1), two habitats of countywide or regional significance (AQ-2), and two habitats of local significance (AQ-3). As shown on Map 14 and indicated in Table 19, there are six stream miles and 2,113 lake acres of such habitats in the study area.

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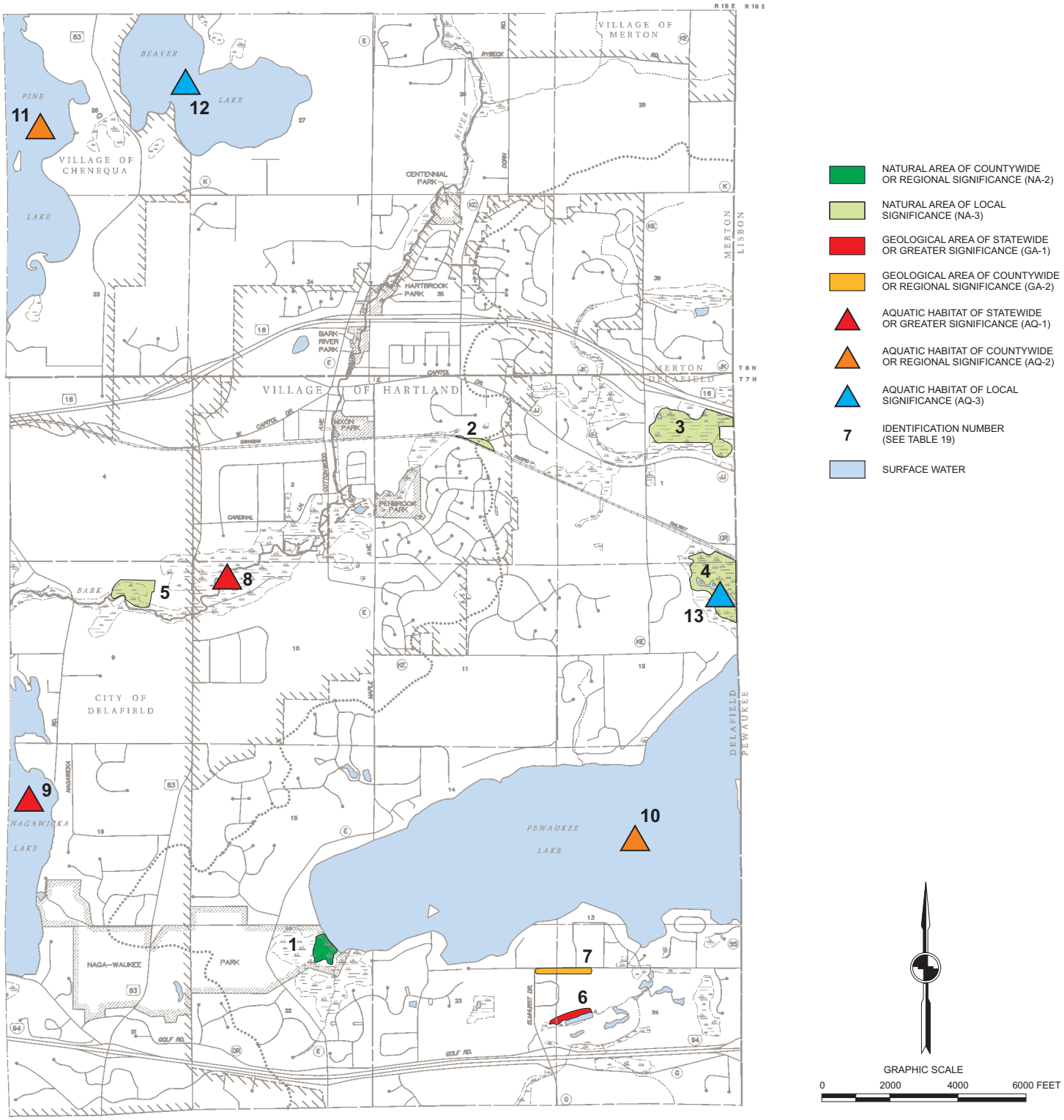
[4] *SEWRPC Planning Report No. 42,* A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, *September 1997.*

Map 14

NATURAL AREAS, CRITICAL AQUATIC HABITATS, AND SIGNIFICANT GEOLOGICAL SITES IN THE VILLAGE OF HARTLAND STUDY AREA: 1994



Source: Wisconsin Department of Natural Resources and SEWRPC.

Table 19

NATURAL AREAS, SIGNIFICANT GEOLOGICAL SITES, AND CRITICAL AQUATIC HABITATS IN THE VILLAGE OF HARTLAND STUDY AREA: 1994

Number on Map 14	Area Name	Classification Code[a]	Location	Ownership	Size	Description and Comments
1	Pewaukee Lake Access Fen	NA-2 (RSH)	T7N, R18E Section 22 Town of Delafield	Waukesha County	10 acres	Good-quality calcareous fen on west side of Pewaukee Lake. Contains regionally uncommon plant species, including a good population of the State-designated threatened beaked spike-rush (*Eleocharis rostellata*). Site has improved with program of periodic burning
2	Hartland Railroad Prairie	NA-3	T7N, R18E Section 2 Village of Hartland	Private	4 acres	Remnant mesic prairie, mostly on hill on north side of railway right-of-way. Characteristic species include big bluestem, rough blazing star, and prairie dock. Threatened by residential development
3	Capitol Drive Sedge Meadow and Wet Prairie	NA-3	T7N, R18E Section 1 Town of Delafield T7N, R19E Section 6 City of Pewaukee	Pewaukee Lake Sanitary District, City of Pewaukee, and private	47 (91) acres[b]	Moderate-quality sedge meadow, wet-mesic prairie, and shallow marsh. Disturbed by highway construction
4	Pewaukee Lake Wetland	NA-3	T7N, R18E Sections 1, 12 Town of Delafield T7N, R19E Section 7 City of Pewaukee	Private	40 (68) acres[b]	Moderate-quality wetland complex at northwest corner of Pewaukee Lake, consisting of shallow marsh, sedge meadow, and shrub-carr
5	Bark River School Sedge Meadow	NA-3	T7N, R18E Section 9 City of Delafield	Private	17 acres	Small sedge meadow of moderate quality on north side of Bark River
6	Jones Quarry	GA-1	T7N, R18E Sections 23, 24 Town of Delafield	Private	4 acres	Undisturbed 19th-century quarry remains only source of rich Ordovician fossil biota in Southeastern Wisconsin. To east is an excellent exposure of the Niagara Escarpment
7	Delafield Interurban Cut	GA-2	T7N, R18E Sections 23, 24 Town of Delafield	Private	3 acres	Fossil-rich exposure of lower Mayville. Dolomite along abandoned interurban railway line
8	Bark River upstream from Nagawicka Lake	AQ-1 (RSH)	T7N, R18E City of Delafield Village of Hartland T8N, R18E Town and Village of Merton T8N, R19E Town of Lisbon T9N, R19E Town of Richfield	- -	5.7 (19.3) stream miles[b]	Good overall fish population and diversity; important reservoir for critical fish and herptile species
9	Nagawicka Lake	AQ-1 (RSH)	T7N, R18E City of Delafield Village of Nashotah	- -	192 (957) acres[b]	A deep drainage lake[c] in the Bark River valley; an important reservoir for critical fish species; adjacent to Natural Area, Nagawicka Lake Bog and Oak Woods
10	Pewaukee Lake	AQ-2 (RSH)	T7N, R18E Town of Delafield T7N, R19E City and Village of Pewaukee	- -	1,321 (2,493) acres[b]	An impounded spring lake[c] with critical fish and herptile species present; migratory waterfowl use the lake

Table 19 (continued)

Number on Map 14	Area Name	Classification Code[a]	Location	Ownership	Size	Description and Comments
11	Pine Lake	AQ-2 (RSH)	T7N, R18E 8N, R18E Village of Chenequa	- -	287 (703) acres[b]	A spring lake[c] with critical fish species present
12	Beaver Lake	AQ-3 (RSH)	T8N, R18E Village of Chenequa Town of Merton	- -	313 (316) acres[b]	A spring-seepage lake[c] with critical fish species present
13	Pewaukee Lake tributary	AQ-3	T7N, R18E Town of Delafield T7N, R19E City of Pewaukee	- -	0.3 (2.3) stream miles[b]	Class II trout stream

[a]NA-2 identifies Natural Area sites of countywide or regional significance.
NA-3 identifies Natural Area sites of local significance.
GA-1 identifies Geological Area sites of statewide or greater significance.
GA-2 identifies Geological Area sites of countywide or regional significance.
AQ-1 identifies critical aquatic habitat sites of statewide or greater significance.
AQ-2 identifies critical aquatic habitat sites of countywide or regional significance.
AQ-3 identifies critical aquatic habitat sites of local significance.
RSH, or Rare Species Habitat, identifies those sites which support rare, threatened, endangered, or "special concern" species officially designated by the Wisconsin Department of Natural Resources.

[b]Site area, lake, or stream is located partially within the Village of Hartland study area. The number without parentheses refers to the acreage or stream miles within the study area, and the number in parentheses is the total site area or stream miles, including those beyond the study area.

[c]"Drainage lakes" are lakes that have both an inlet and an outlet and whose main water source is stream drainage.
"Seepage lakes" are lakes which have no inlet or outlet and whose main source of water is direct precipitation and runoff supplemented by groundwater.
"Spring lakes" are lakes which have no inlet but do have an outlet and whose main source of water is groundwater flowing directly into the basin and from the immediate drainage area.

Source: Wisconsin Department of Natural Resources and SEWRPC.

RESOURCE-RELATED ELEMENTS

Elements closely linked to the natural resources, such as scenic overlooks mentioned earlier, are considered in the planning process. Park and open space sites, as well as related trails, are enhanced by the presence of natural resources and, due to the commitment of land to such uses, contribute to the preservation of the resources.

Park, Recreation, and Open Space Sites

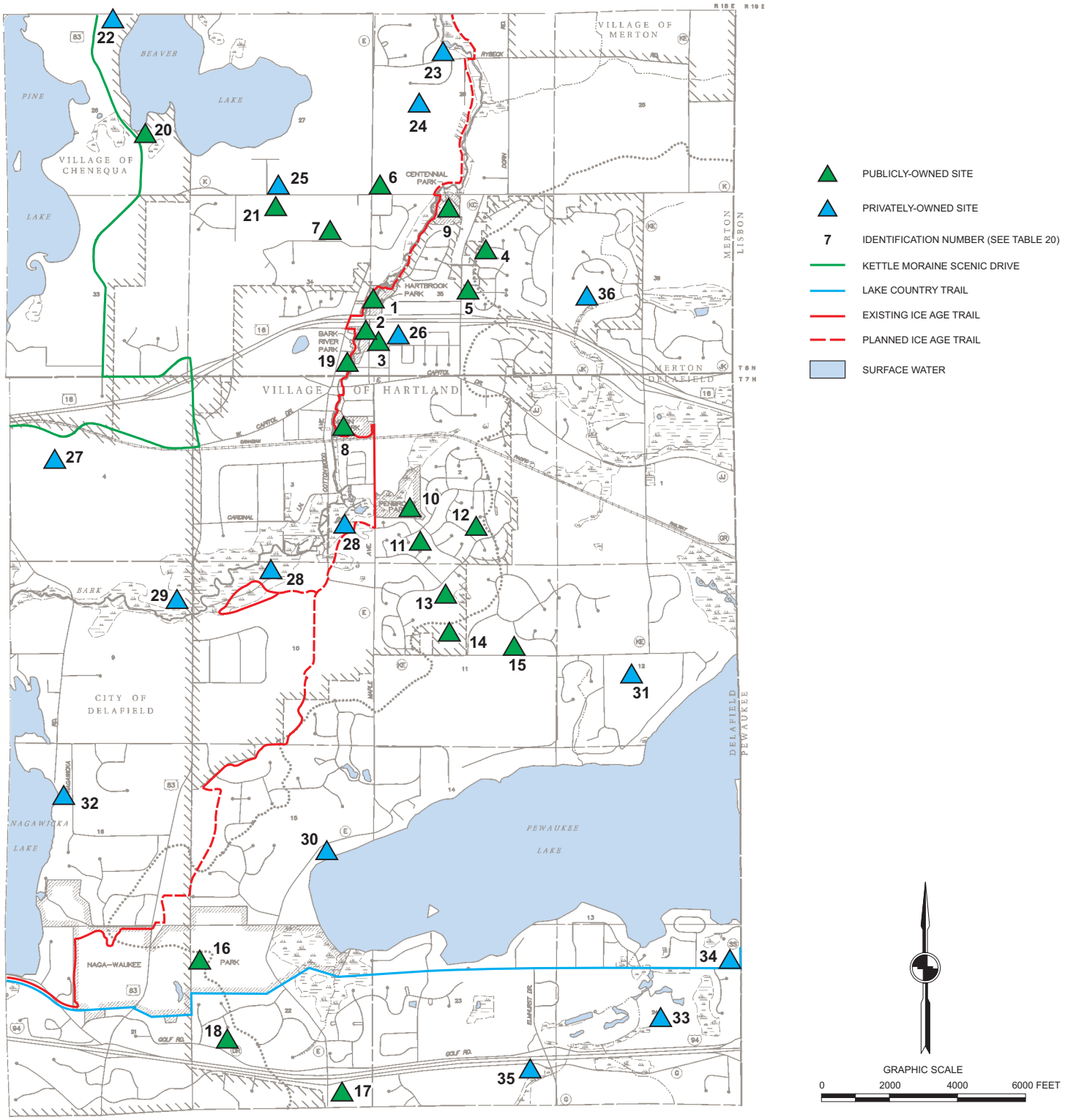
An inventory of park and open space sites and outdoor recreational facilities in the Village of Hartland study area was conducted in 1998. As shown on Map 15 and listed in Table 20, there were 36 such sites encompassing a total of approximately 2.6 square miles, or about 11 percent of the study area. Of this total, 21 sites encompassing about 1.1 square miles were publicly owned, and 15 sites encompassing about 1.5 square miles were privately owned. The Village of Hartland owned 10 of these sites totaling approximately 84 acres. In addition to the Bark River Greenway, Village-owned sites include large parks, such as Hartbrook, Nixon, Centennial, and Penbrook Parks, and smaller parks, such as Bark River, Joliet, Sunnyslope, Castle, and Nottingham Parks. The Village parks provide a variety of recreational facilities for local residents, from playgrounds to baseball diamonds, as noted in Table 20.

Scenic Drive and Recreation Trails

Opportunities for trail-oriented recreation activities such as hiking, bicycling, cross-country skiing, and nature study, and routes for pleasure driving are provided in the study area. In addition to the hiking and cross-country ski trails provided in Naga-Waukee County Park and the Village of Hartland, other major trail facilities travers-

Map 15

SCENIC DRIVE, MAJOR TRAILS, PARKS, AND RECREATION AND OPEN SPACE SITES IN THE VILLAGE OF HARTLAND STUDY AREA: 1998



Source: SEWRPC.

Table 20

EXISTING PARK, RECREATION, AND OPEN SPACE SITES IN THE VILLAGE OF HARTLAND STUDY AREA: 1998

Number on Map 15	Site Name	Acreage	Outdoor Facilities/Comments
	Publicly-Owned		
1	• Hartbrook Park	12	Playground, softball diamond, playfield
2	• Bark River Park	6	Playground, softball diamond, playfield
3	Hartland North Elementary School	15	Sandlot, playfield
4	• Louis Joliet Park	2	Playground, softball diamond
5	• Sunnyslope Park	1	Playground
6	Swallow Elementary School	7	Playfield, basketball courts
7	Arrowhead Union High School	72	Baseball diamonds, playfields, tennis courts, soccer field, football field
8	• Nixon Park	16	Softball diamond, tennis courts
9	• Centennial Park	14	Fine arts center, playground, baseball diamonds, soccer field, football field
10	• Penbrook Park	25	Playfield, baseball diamond, tennis courts
11	• Castle Park	4	Playground, passive use, trails
12	• Nottingham Park	2	Passive use
13	Hartland South Elementary School	4	Sandlot, playfield, basketball courts
14	North Shore Middle School	35	Playfields, baseball diamond
15	Lakeside Elementary School	2	Playground, playfield
16	Naga-Waukee Park	416	Playground, playfields, 18-hole golf course, boat launch, beach, trails, picnic areas, campsites
17	Sports Commons	18	Sandlots, playground, playfield, sand volleyball, picnic areas
18	Del-Town Park	5	Playground, picnic areas
19	• Bark River Greenway	2	Trail, passive use
20	Beaver Lake Public Access	1	Boat access site
21	Open Space Site	13	Open Space
21 Sites	Subtotal	672	- -
	Privately-Owned		
22	Chenequa Country Club	144	18-hole golf course, tennis courts
23	Subdivision Park	1	Tennis court, passive use
24	Subdivision Park	5	Tennis court, passive use
25	Subdivision Park	5	Passive use
26	St. Charles Catholic School	11	Softball diamond, playfield
27	University Lake High School	153	Playfields, tennis courts
28	Ice Age Park & Trail Foundation	90	Trails, passive use, open space
29	Wee Know School	2	Playground, playfield
30	Golden Anchors Launch	1	Boat launch
31	Lakeside Golf Course	68	9-hole golf course
32	Nagawicka Yacht Club	1	Boat launch
33	Western Lakes Golf Club	282	18-hole golf course (open to public)
34	St. Anthony-On-The-Lake School	3	Playfield
35	Prairie Hill Waldorf School	3	Playground, playfield
36	Bristlecone Pines Golf Club	200	18-hole golf course (open to public)
15 sites	Subtotal	969	- -
36 sites	Total	1,641	- -

- *Owned by the Village of Hartland*

Source: SEWRPC.

ing the study area are shown on Map 15. These facilities offer the promise of enhancing the quality of the recreational amenities in the Hartland area.

The Kettle Moraine Scenic Drive is a marked route over public roadways within, and between, the Northern and Southern Units of the Kettle Moraine State Forest, intended for pleasure driving. As shown on Map 15, an approximately 4.3-mile-long segment of this 75-mile route in the Region is located in the Village of Hartland study area.

As shown on this map, approximately 4.5 miles of the existing eight-mile Lake Country Trail are located within the study area. The completed portion of this multiple-use recreation trail, which accommodates bicycling, extends approximately eight miles between the Landsberg Center, in the northwest corner of the City of Waukesha to the east of the study area, to Cushing Park, located west of the study area in the City of Delafield. The trail is proposed to be extended 6.5 miles westward from Cushing Park to Roosevelt Park in the City of Oconomowoc.

A portion of the Ice Age National Scenic Trail is also located in the Village of Hartland study area. This trail is a planned 1,000-mile National scenic trail designated by Congress in 1982 as a hiking route which generally follows glacial moraines and other glacial features. The planned trail stretches from Door County in northeastern Wisconsin through the Kettle Moraine area in southeastern Wisconsin to Interstate Park in northwestern Wisconsin. As shown on Map 15, about 9.3 miles of the Ice Age National Scenic Trail is planned to traverse through the study area, of which 5.2 miles are already developed. The portion of the Ice Age Trail that follows along the Bark River is also referred to as the Bark River Trail. The Bark River Trail is owned by the Village of Hartland, which allows bicycling on the trail. Those portions of the Ice Age Trail owned or managed by the Ice Age Park and Trail Foundation are generally closed to bicycling.

ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS

As defined by the Regional Planning Commission, environmental corridors are elongated areas in the landscape that encompass concentrations of recreational, aesthetic, ecological, and cultural resources. Such areas generally include one or more of the natural resource base elements previously discussed in this chapter.

Map 16 shows the location and extent of environmental corridors and other environmentally significant areas, termed "isolated natural resource areas," within the study area as delineated by the Regional Planning Commission.[5] The essentially linear corridors represent a composite of the best remaining elements of the natural resource base in the study area and have immeasurable environmental and recreational value. Preservation of the primary environmental corridors, and careful consideration of preserving secondary environmental corridors and isolated natural resource areas, in an essentially open, natural state—including compatible park and open space uses and rural-density residential uses—will serve to maintain a high level of environmental quality in the area, protect the natural beauty of the area, and provide valuable recreation opportunities. Preservation will also avoid the creation of serious and costly environmental and developmental problems such as flood damage, poor drainage, wet basements, failing pavements and other structures, excessive infiltration of clear waters into sanitary sewers, and water pollution.

Primary Environmental Corridors

Primary environmental corridors are by definition at least 400 acres in size, two miles long, and 200 feet wide. These corridors include lakes, streams, wetlands, woodlands, steep slopes, natural areas, and wildlife habitats. In 1995 about 6.6 square miles, of which half is related surface water area, or about 27 percent of the study area, were encompassed within the primary environmental corridors shown on Map 16. These corridors are mostly associated with four major lakes and are located along perennial and intermittent streams, including the Bark River. The protection of primary environmental corridors from intrusion by incompatible urban uses, and thereby from degradation and destruction, should be one of the principal objectives of a local master plan.

Secondary Environmental Corridors

While secondary corridors may have many of the same qualities as primary corridors, they are smaller in size. Such corridors are by definition at least 100 acres in size and one mile long, except when they serve to connect primary environmental corridors, and often contain remnant resources from former primary environmental

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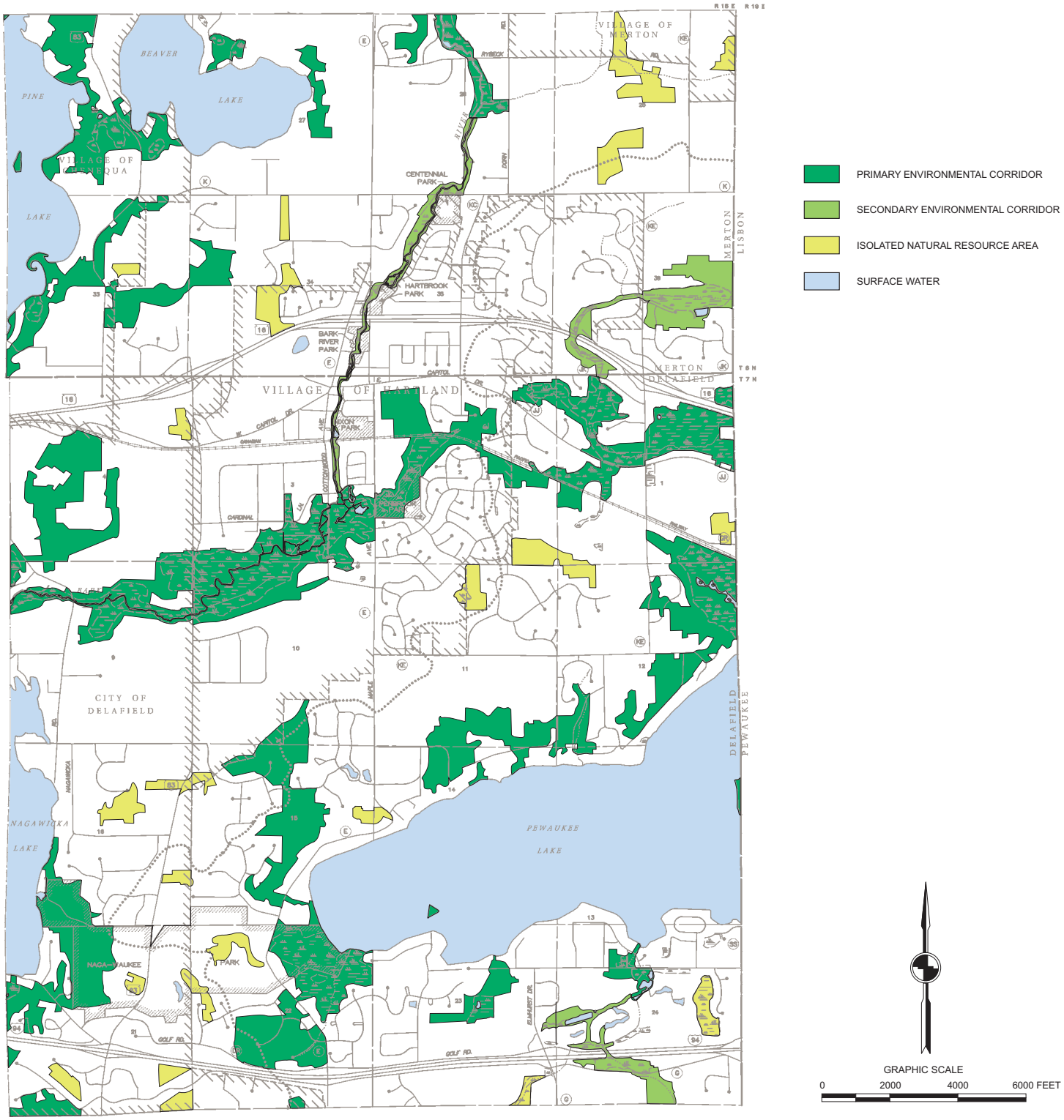
[5] *A detailed description of the process for delineating environmental corridors in Southeastern Wisconsin is presented in SEWRPC Technical Record, Vol. 4, No. 2,* Refining the Delineation of Environmental Corridors in Southeastern Wisconsin, *March 1981, pp. 1-21.*

Map 16

ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS IN THE VILLAGE OF HARTLAND STUDY AREA: 1995



Source: SEWRPC.

corridors which have been developed for intensive agricultural or urban land uses. As shown on Map 16, about 0.4 square mile, or about 2 percent of the study area, was encompassed within secondary environmental corridors in 1995. Secondary environmental corridors in the Village of Hartland study area are mostly located along streams and include wetlands associated within these streams. Secondary environmental corridors facilitate surface water drainage, maintain "pockets" of natural resource features, and provide for the movement of wildlife, as well as for the movement and dispersal of seeds for a variety of plant species. Such corridors should be preserved in essentially open natural uses as urban development proceeds within the study area, particularly when the opportunity is presented to incorporate them into urban stormwater detention areas, associated drainageways, and parks and open space sites.

Isolated Natural Resource Areas

In addition to the primary and secondary environmental corridors, other small concentrations of natural resource base elements exist within the study area. These elements are isolated from the corridors by urban development or agricultural uses and, although separated from the environmental corridor network, may have important residual natural values. Isolated natural features may provide the only available wildlife habitat in an area, provide good locations for local parks and nature study areas, and lend aesthetic character and natural diversity to an area. Important isolated natural resource areas within the Village of Hartland study area include a geographically well distributed variety of isolated wetlands, woodlands, and wildlife habitat. These areas should be protected and preserved in a natural state whenever possible. Isolated natural resource areas five acres or greater in size are shown on Map 16. In 1995, these areas encompassed about 0.5 square mile, or about 2 percent of the study area.

SUMMARY

This chapter has presented the natural resources of the Village of Hartland study area, emphasizing those resources that require careful consideration in any master planning effort. The information was thus incorporated into the design of the master plan and provides a good reference to the Village of Hartland when judging the merits of land use development proposals. A summary of pertinent inventory findings follows.

- Soil limitations for various urban and nonurban uses are an important consideration in any sound master planning effort. Map 4 and 5 depict the general suitability or unsuitability for development using onsite sewage-disposal systems, based on State Administrative Code requirements in effect prior to July 2000. Onsite investigations are essential to determine whether a specific tract of land is suitable for development to be served by an onsite sewage-disposal system.

- Approximately 15 square miles, or about 62 percent of the study area, are covered by Class I, II, and III soils which are well suited for agricultural use. In general, Class I and II soils are considered National Prime Farmland, and Class III soils are considered Farmlands of Statewide Importance.

- The study area is located within the Rock River and Fox River watersheds, which are part of the larger Mississippi River drainage system. The Village of Hartland is located mostly within the Bark River subwatershed which is part of the larger Rock River watershed. The major surface water resources in the study area include the Bark River and Beaver, Nagawicka, Pine, and Pewaukee Lakes. About 3.3 square miles, or 14 percent of the study area, is known to lie within the 100-year recurrence interval floodplain.

- The study area includes significant natural resources. In 1995, the study area included wetland areas encompassing about one square mile, or 5 percent of the study area; woodlands encompassing about three square miles, or 11 percent; and wildlife habitat areas encompassed about five square miles, or 20 percent. The study area includes five sites identified as natural areas under criteria established by the Wisconsin Natural Areas Preservation Council, two sites identified as significant geological sites, and six sites identified as critical aquatic habitats.

- Other natural resource related elements that exist in the study area include 38 scenic overlooks, four miles of the 75-mile Kettle Moraine Scenic Drive, five miles of the planned 1,000-mile Ice Age National Scenic Trail, four miles of the 17-mile Lake Country Trail, and 36 park and open space sites. The Village of Hartland owns 10 public outdoor recreation sites which provide residents with a variety of recreational facilities from play apparatuses to baseball diamonds.

- The best remaining natural resource features in the Village of Hartland study area, as in other parts of the Southeastern Wisconsin region, occur in linear concentrations in the land-scape and are referred to as environmental corridors. Primary environmental corridors in the study area are primarily associated with the Bark River and four major lakes. These corridors encompassed about 6.6 square miles in 1995, representing about 27 percent of the study area. Secondary environmental corridors encompassed about 0.4 square mile in 1995, representing about 2 percent of the study area. Other small concentrations of the natural resource base, known as isolated natural resource areas, encompassed about 0.5 square mile in 1995, also representing about 2 percent of the study area.

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Chapter IV

EXISTING LAND USES, COMMUNITY FACILITIES AND PUBLIC FACILITIES

Whereas the previous chapter presented a description of the natural resources of the Village of Hartland study area, this chapter describes pertinent features of the built environment. Specifically, this chapter presents information on existing land uses, historic places, community facilities, and public utilities. Detailed information regarding existing land uses and other related aspects of the built environment is essential to the preparation of a sound master plan.

EXISTING LAND USES

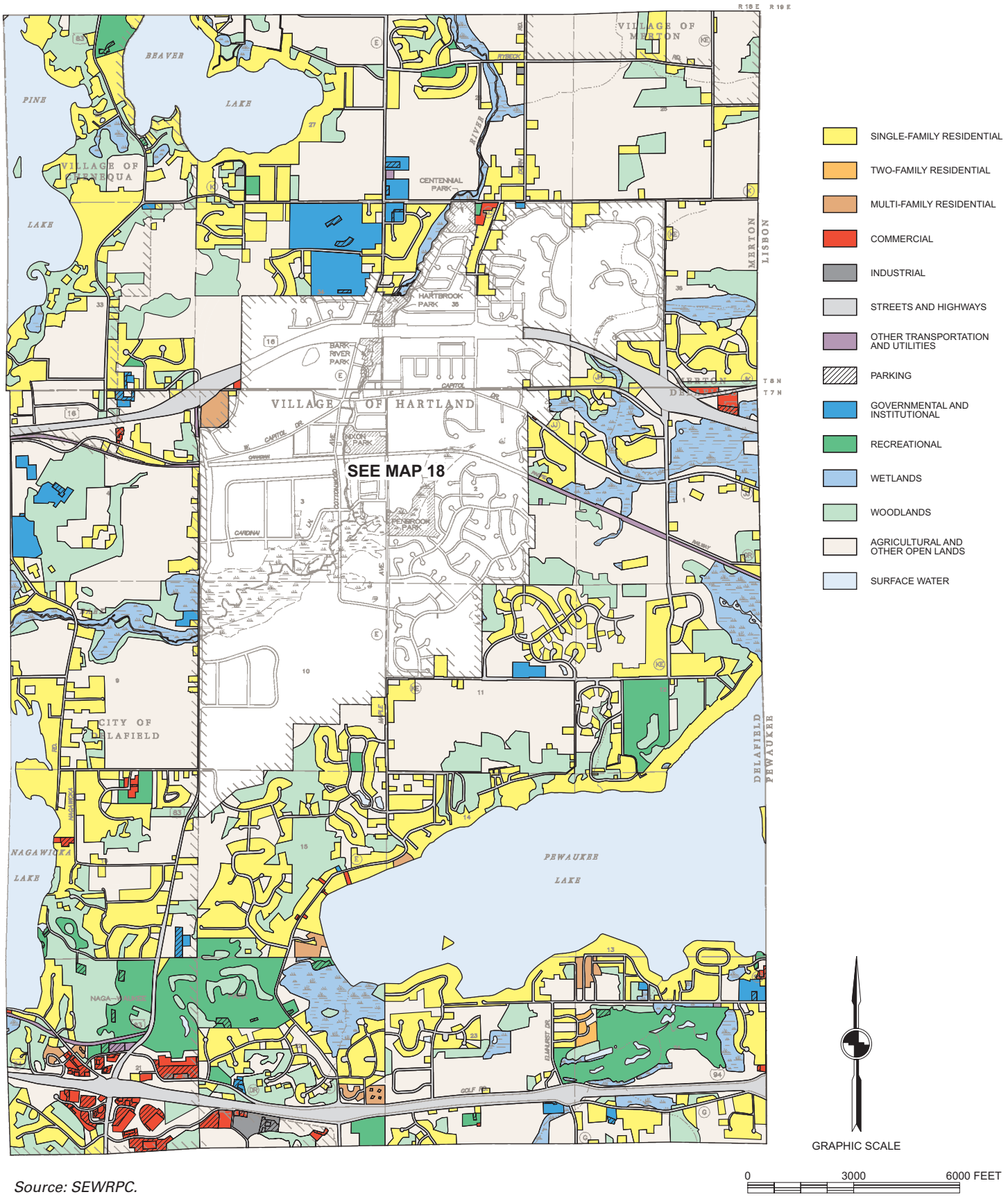
The Regional Planning Commission inventories existing land uses in the Southeastern Wisconsin Region approximately every five years. A special field survey was conducted by the Commission in 1998 to update the 1995 inventory of the nature and extent of existing land uses in the Village of Hartland study area. The data collected were mapped and analyzed in order to provide a basis for considering future land use development patterns in the Hartland area. The Commission 1995 data for nonurban land uses such as water, wetlands, woodlands, agriculture, and other open lands were used to represent 1998 data for such uses, since it could be assumed that these features did not change significantly from 1995 to 1998, except for those areas that were converted to urban uses and accounted for as urban uses in the 1998 update.

The 1998 land uses in the approximately 24-square mile study area are shown on Map 17, and quantitatively summarized in Table 21. Existing land uses within the 1998 incorporated area of the Village of Hartland are shown on Map 18, and the amount of land devoted to each type of land use in the Village is set forth in Table 22. In 1998, the Village of Hartland occupied about 4.5 square miles, or about 19 percent of the study area.

Several important characteristics of the study area can be noted from examining Table 21 and Map 17. First, natural resource areas consisting of water, wetlands, and woodlands are the predominate land uses representing about 30 percent of the study area. Surface water areas from Beaver, Nagawicka, Pine, and Pewaukee Lakes comprised most of the natural areas; hence, the study area is known as part of the “Lake Country” area. Second, agricultural-related uses represented about 22 percent of the study area in 1998. Third, residential land uses represented about 21 percent of the study area. Residential land uses, however, represented the largest group of land uses in the Village of Hartland. This information supports the perception of the Village of Hartland study area as consisting of an urban center—mostly the Village of Hartland—surrounded by still “open” lands and lakes, with some outlying residential development, that provide an attractive setting for the Village.

Map 17

EXISTING LAND USES IN THE VILLAGE OF HARTLAND STUDY AREA: 1998



Source: SEWRPC.

Table 21

SUMMARY OF EXISTING LAND USES IN THE VILLAGE OF HARTLAND STUDY AREA: 1998

Land Use Category	Number of Acres	Percent of Subtotal (Urban or Nonurban)	Percent of Total
Urban[a]			
Residential[b]			
Single-Family	2,963.5	49.3	19.0
Two-Family	73.2	1.2	0.5
Multi-Family	156.5	2.6	1.0
Subtotal	3,193.2	53.1	20.5
Commercial	207.1	3.5	1.3
Industrial	171.7	2.9	1.1
Transportation and Utilities			
Arterial Streets and Highways	544.9	9.0	3.5
Collector and Local Streets	768.8	12.8	4.9
Railways	46.2	0.8	0.3
Communications, Utilities, and Others	24.2	0.4	0.2
Subtotal	1,384.1	23.0	8.9
Governmental and Institutional	318.5	5.3	2.0
Recreational[c]			
Public	299.2	5.0	1.9
Private	435.3	7.2	2.8
Subtotal	734.5	12.2	4.7
Urban Land Use Subtotal	6,009.1	100.0	38.5
Nonurban			
Natural Resource Areas			
Water	2,168.2	22.6	13.9
Wetlands	787.1	8.2	5.0
Woodlands	1,668.9	17.4	10.7
Subtotal	4,624.2	48.2	29.6
Agricultural	3,470.5	36.1	22.2
Other Open Lands[d]	1,508.0	15.7	9.7
Nonurban Land Use Subtotal	9,602.7	100.0	61.5
Total	15,611.8	- -	100.0

[a]*Includes related off-street parking areas for each urban land use category.*

[b]*Includes farm residences; other farm buildings are included in the agricultural land use category.*

[c]*Includes only those areas used for intensive outdoor recreational activities.*

[d]*Includes unused lands.*

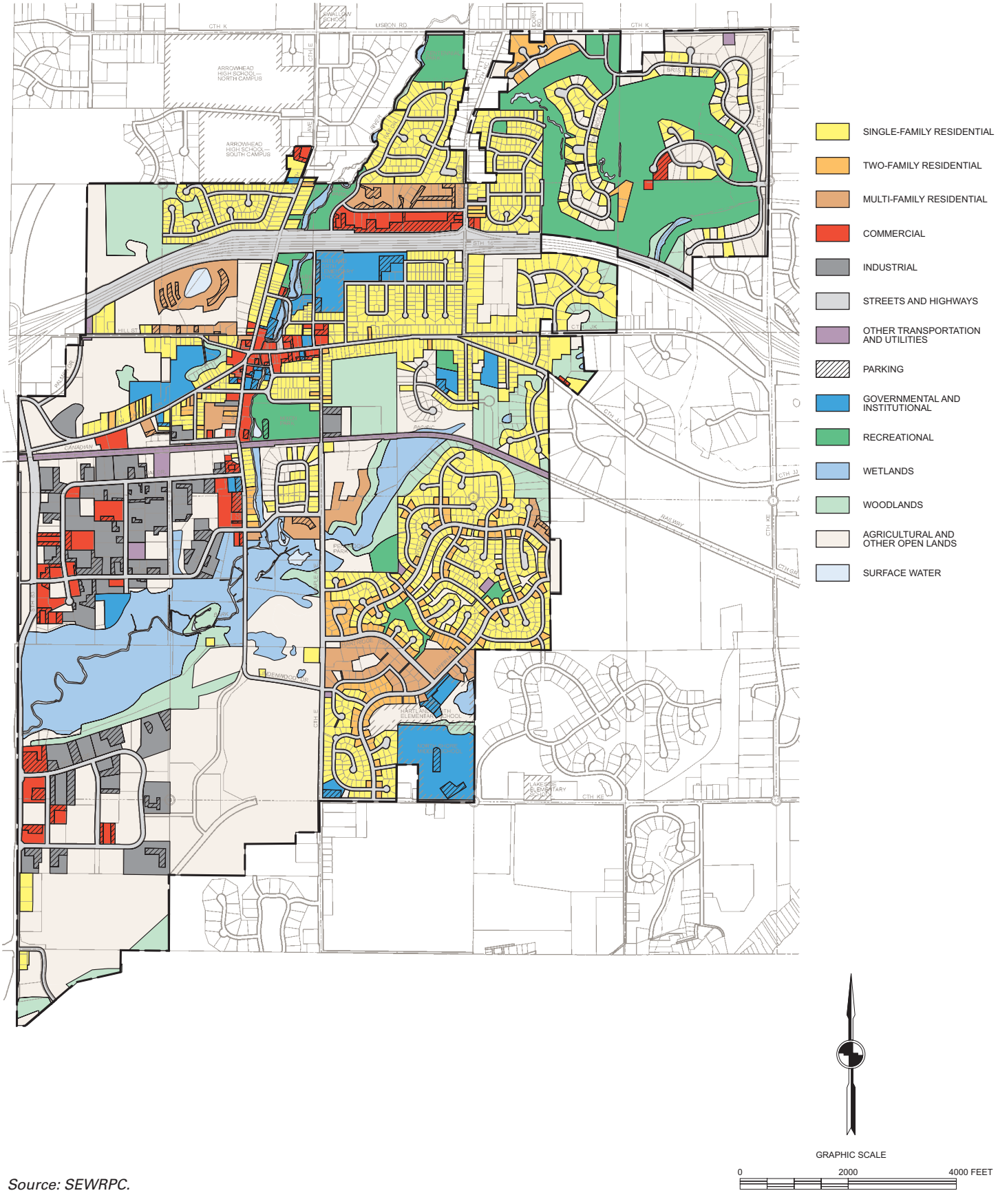
Source: SEWRPC.

Urban Land Uses

In 1998, urban land uses occupied almost 6,009 acres, or about 39 percent of the study area, and about 1,720 acres, or about 59 percent of the Village of Hartland. A discussion of the different types of urban uses within the study area and the Village follows.

Map 18

EXISTING LAND USES IN THE VILLAGE OF HARTLAND: 1998



Source: SEWRPC.

Table 22

SUMMARY OF EXISTING LAND USES IN THE VILLAGE OF HARTLAND: 1998

Land Use Category	Number of Acres	Percent of Subtotal (Urban or Nonurban)	Percent of Total
Urban[a]			
Residential			
Single-Family[b]	549.5	31.9	19.0
Two-Family	64.8	3.8	2.2
Multi-Family	103.5	6.0	3.6
Subtotal	717.8	41.7	24.8
Commercial	93.7	5.4	3.3
Industrial	154.4	9.0	5.3
Transportation and Utilities			
Arterial Streets and Highways	140.4	8.2	4.9
Collector and Local Streets	249.4	14.5	8.6
Railways	21.3	1.2	0.7
Communications, Utilities, and Others	8.6	0.5	0.3
Subtotal	419.7	24.4	14.5
Governmental and Institutional	104.3	6.1	3.6
Recreational[c]			
Public	46.7	2.7	1.6
Private	183.1	10.7	6.3
Subtotal	229.8	13.4	7.9
Urban Land Use Subtotal	1,719.7	100.0	59.4
Nonurban			
Natural Resource Areas			
Water	19.4	1.7	0.7
Wetlands	215.9	18.3	7.4
Woodlands	190.5	16.2	6.6
Subtotal	425.8	36.2	14.7
Agricultural	301.0	25.6	10.4
Other Open Lands[d]	449.9	38.2	15.5
Nonurban Land Use Subtotal	1,176.7	100.0	40.6
Total	2,896.4	- -	100.0

[a]*Includes related off-street parking areas for each urban land use category.*

[b]*Includes farm residences; other farm buildings are included in the agricultural land use category.*

[c]*Includes only those areas used for intensive outdoor recreational activities.*

[d]*Includes unused lands.*

Source: SEWRPC.

Residential

The residential land use portion of a master plan normally holds the most interest of community residents. Since the residential land use element of the plan seeks primarily to provide a safe, attractive, and comfortable setting for residential development, it is very important that this element be given careful consideration. The nature and extent of residential development is a major determinant of the type and location of utilities and community facilities needed to serve local residents.

In 1998, residential land use accounted for about 3,193 acres, or about 53 percent of the urban land uses and about 21 percent of the total land uses in the Village of Hartland study area. Within the Village of Hartland in 1998, residential land use accounted for about 718 acres, or about 42 percent of the urban land uses and about 25 percent of the total land uses in the Village. As shown on Map 18, single- and two-family residential uses in the Village are located throughout the Village; while multi-family residential land uses are located primarily near arterial streets.

Commercial

In 1998, commercial retail sales, services, office buildings, and associated parking uses accounted for about 207 acres, or about 4 percent of the urban land uses and about 1 percent of the total land uses in the Village of Hartland study area. Most commercial uses are located near the IH 94 and STH 83 interchange and in the Village of Hartland. Within the Village, commercial land uses accounted for about 94 acres, or about 5 percent of the urban land uses and about 3 percent of the total land uses in the Village. Commercial land uses in the Village are located predominantly in Hartbrook Mall and the Village Center area, or "downtown" area, of the Village along Capitol Drive and Cottonwood Avenue.

Industrial

In 1998, industrial land uses accounted for about 172 acres, or about 3 percent of the urban land uses within the study area and about 1 percent of the total study area. Within the Village of Hartland in 1998, industrial land uses accounted for about 154 acres, or about 9 percent of the urban land uses and about 5 percent of the total land uses in the Village. Industrial uses are located in the Hartland/Lake Country Business park in the western part of the Village and in a new business park, the Bark River Commerce Center, located across the Bark River south of the older business park. Two additional new business parks, the Geason and Cottonwood Commerce Centers, are presently under development in the vicinity of the Bark River Commerce Center.

Transportation and Utilities

In 1998, transportation and utility land uses, which include a railway line, streets and highways, and utility rights-of-way, accounted for approximately 1,384 acres of land in the study area, or about 23 percent of the urban land uses in the study area, and about 9 percent of the total study area. Within the 1998 incorporated area of the Village, these land uses accounted for about 420 acres, or about 24 percent of the urban land uses and about 15 percent of the total area within the Village. Major transportation and utility facilities include IH 94, STH 16, STH 83, the Canadian Pacific Railway, and a Wisconsin Electric Power Company (WEPCO) right-of-way.

Governmental and Institutional

In 1998, governmental and institutional land uses accounted for about 319 acres of land in the Village of Hartland study area, representing about 5 percent of the urban land uses of the study area and about 2 percent of the total study area. Within the Village of Hartland proper in 1998, these land uses accounted for about 104 acres, or about 6 percent of the urban land uses and about 4 percent of the total Village area. Major governmental and institutional land uses in the study area include churches, Village and Town Halls, fire stations, and public and private schools.

Recreational

In 1998, recreational land uses represented approximately 735 acres of land, or about 12 percent of the urban portion of the Village of Hartland study area and about 5 percent of the total study area. Within the 1998 corporate limits of the Village, these land uses accounted for about 230 acres, or about 13 percent of the urban land uses and about 8 percent of the total land uses within the Village proper. As shown on Maps 17 and 18, this category includes only those areas that have been developed for recreational uses, with facilities such as a beach, playgrounds, golf courses, tennis courts, and playfields. A complete identification of all park and open space sites in the study area is shown on Map 15 and listed in Table 20 in Chapter III.

Nonurban Land Uses

Nonurban land uses consist of wetlands, woodlands, surface water, agricultural lands, and other open lands. Nonurban lands and waters totaled about 9,603 acres, or about 62 percent of the Village of Hartland study area in 1998, while such uses occupied about 1,177 acres, or about 41 percent of the area within the Village. The various types of nonurban land uses that occupy the Hartland area are described below.

Natural Resource Areas

Natural resource areas include wetlands, woodlands, and surface waters. Such areas encompassed about 4,624 acres, or about 30 percent of the study area in 1998. Of this total, wetlands represented about 787 acres, or about 5 percent of the study area; woodlands occupied about 1,669 acres, or about 11 percent of the study area; and surface water represented about 2,168 acres, or about 14 percent of the study area. In the Village of Hartland in 1998, natural resource areas encompassed about 426 acres, or about 15 percent of the Village. Wetlands encompassed about 216 acres, or about 7 percent of the Village; woodlands encompassed about 191 acres, or about 7 percent of the Village; and surface water encompassed about 19 acres, or about 1 percent of the Village. More detailed information regarding the location and importance of natural resource areas is provided in Chapter III.

Agricultural

The agricultural land use category shown on Map 17 includes all croplands, pasture lands, orchards, nurseries, and nonresidential farm buildings. Farm residences, together with an approximately 20,000-square-foot dwelling site area, were classified as single-family residential land uses. In 1998, agricultural lands occupied about 3,471 acres, or about 22 percent of the study area. Within the 1998 Village corporate limits, agricultural land uses accounted for about 301 acres, or about 10 percent of the Village.

Other Open Lands

Other open lands include lands in rural areas that are not farmed, as well as lands in urban areas that have not been developed. Examples of open lands in urban areas include undeveloped portions of park sites, excess transportation rights-of-way, subdivision outlots, and undeveloped portions of commercial and industrial lots. Other open lands accounted for about 1,508 acres, or about 10 percent of the study area in 1998. Within the Village in 1998, these open lands encompassed about 450 acres, or about 16 percent of the Village area.

HISTORIC RESOURCES

The preservation of historic places is intended to help ensure that the historic heritage of a community is protected and enhanced over time. Historic preservation planning recognizes that historic places are valuable resources whose damage or loss would be detrimental to the community. The key elements of an effective historic preservation planning effort include: 1) a thorough survey of historic resources, 2) community support for historic preservation, and 3) integration of historic preservation planning into the comprehensive community planning process. The principal means of implementing historic preservation plans include a local landmark or historic preservation commission created by municipal ordinance; a zoning ordinance with specific districts and district regulations for protecting historic sites and structures; and a demolition control ordinance. These principal means may be supplemented by the use of easements and taxation policies.

The importance of historic preservation planning is based on the assumption that the historic resources of a community are valuable and should be carefully considered in planning for community development and redevelopment. Historic preservation can help to maintain the unique identity of a community, especially within a community's "downtown" area, in a time when many factors tend to create a national homogeneity in the environment. Other benefits of historic preservation include: promoting tourism, increased real estate values and municipal tax revenues, arresting decay in declining areas, creating community pride, and conserving cultural resources. Despite these potential benefits, other forces such as economics, public attitudes, and existing laws can sometimes work against historic preservation. Through proper planning, however, the impediments to historic preservation can be reduced.

To be most effective, historic preservation planning for communities such as the Village of Hartland should be integrated into the overall community planning process. As an integral part of the total planning process, historic preservation can be considered in addition to all the other needs and goals of the community, thereby affording such preservation equal consideration with other planning issues. In this way, historic preservation can become an issue of continuing concern and can be built into the ongoing development and redevelopment decision-making process of the community.

Existing Historic Preservation Inventory

Realizing the importance of historic preservation, a detailed inventory of the significant architectural and historical sites and buildings in the Village of Hartland was completed in 1985. The findings of the inventory are documented in Hartland: *A Thematic History and an Intensive Survey of Historic Resources*, August 1985. The report focuses on the identification, evaluation, documentation, and registration of the significant architectural and historic-cultural resources in the Village. Specifically, the survey provides a listing of the architectural and historic sites in the Village, including historical information for many selected sites in the inventory, with maps showing the location of a recommended historic district encompassing many of the most significant historic sites. The report may be further used to increase public and private sector awareness of the Village's historic and architectural heritage.

The inventory is intended to provide a basis for nominating significant sites and buildings for inclusion on the National Register of Historic Places, a mark of special status. If registered, such status would help protect the places from encroachment by State and Federal facilities development projects and may qualify for State and Federal tax incentives and Federal matching grants, when available, for research, restoration, acquisition, or stabilization. Any city or village containing property listed on the National or State Registers of Historic Places must enact a historic preservation ordinance to protect and preserve such resources. The survey document inventories and describes the historic places and buildings in a given area and identifies some of them as potentially eligible for listing in the National Register of Historic Places. The reconnaissance survey cards and the intensive survey forms used to conduct the inventory contain pertinent information about the sites and buildings within a recommended historic district, such as location, ownership, building site, construction and geographic data, historic significance, and major historic and bibliographic references. These data can be drawn upon when establishing historic preservation-related zoning districts, when making decisions regarding property identified as having historic value, or when making improvements in the historic district.

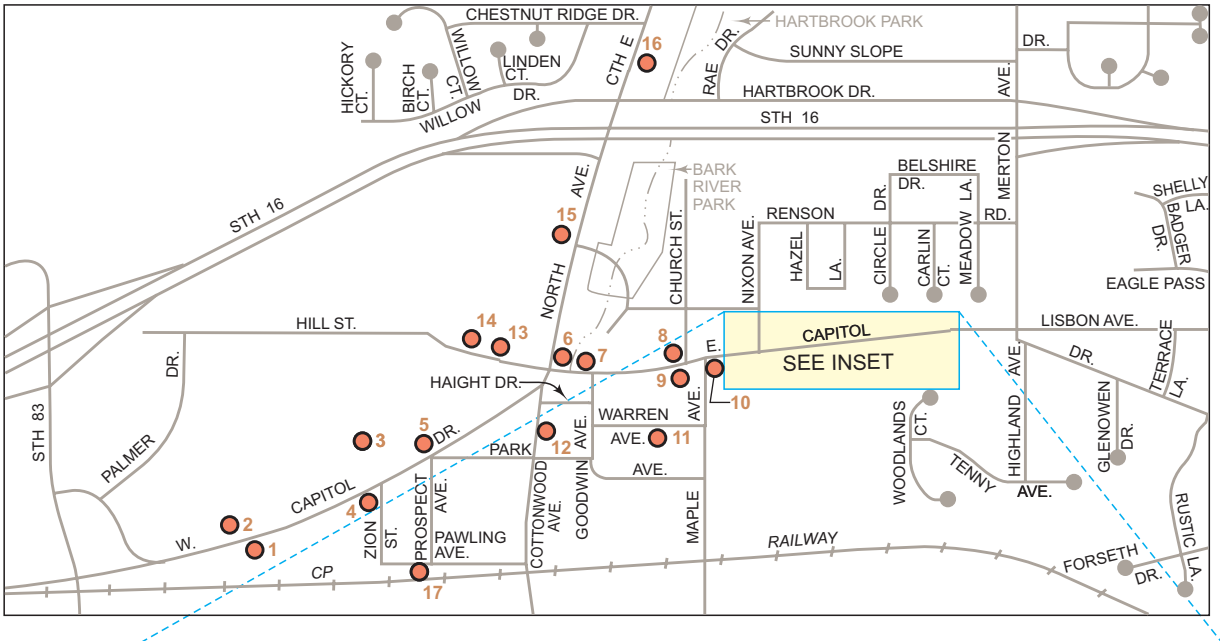
Approximately 175 properties and sites within the Village were surveyed. Seventeen buildings and a historic district consisting of 33 dwellings were identified as eligible for nomination to the National Register of Historic Places, as indicated on Map 19 and Table 23. To date, the East Capitol Drive Historic District and 13 of the 17 buildings were officially nominated and accepted into the National Register of Historic Places and the Wisconsin State Register of Historic Places. In addition, a historic place referred to as the Beaumont Hop House (1863-65), located in the Town of Merton within the study area, is also included in the National and State Registers. In 1995 the Village of Hartland adopted a Historic Preservation Ordinance, administered by the Village of Hartland Architectural Board, to safeguard the significant historic resources in the Village of Hartland. The large number of identified historic places in the Village of Hartland and the high concentration of such historic places in and near the Village Center indicate that the area is rich in historic resources that should be protected for the present as well as future generations.

COMMUNITY FACILITIES AND SERVICES

To serve the needs of the general public, certain community facilities should be provided by the public sector. Such public facilities would help meet the ultimate goal of protecting and promoting the general public health, safety, and welfare of existing and future generations of Hartland area residents. Data on certain public facilities is essential to determine if any additional land is needed to accommodate expansion or new development of community facilities.

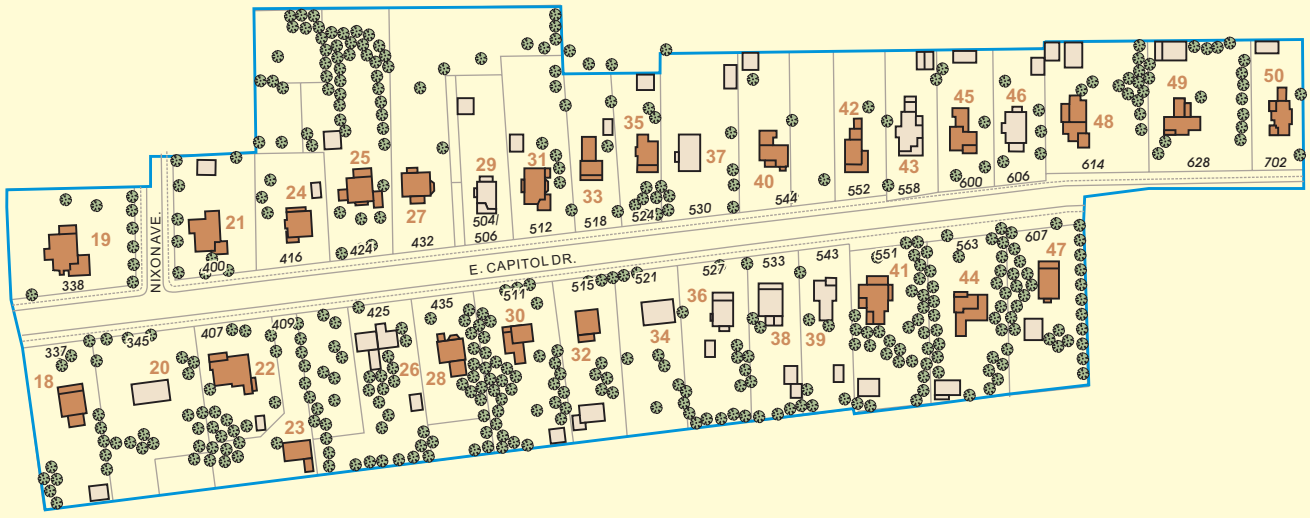
Map 19

SIGNIFICANT HISTORIC PLACES AND HISTORIC DISTRICT IN THE VILLAGE OF HARTLAND: 1998



INSET

EAST CAPITOL DRIVE HISTORIC DISTRICT



HISTORIC BUILDING

21 REFERENCE NUMBER (SEE TABLE 23)

EAST CAPITOL DRIVE HISTORIC DISTRICT BOUNDARY

CONTRIBUTING STRUCTURE

NONCONTRIBUTING STRUCTURE

INSET GRAPHIC SCALE
0 100 200 FEET

Source: Village of Hartland and SEWRPC.

Table 23

SIGNIFICANT HISTORIC PLACES AND HISTORIC DISTRICT BUILDINGS IN THE VILLAGE OF HARTLAND: 1998

Number on Map 19	Name	Location	Date	Architectural Style
1	White Elm Nursery	621 W. Capitol Drive	1929	Tudor Revival
2	Village of Hartland Well No.1	614 W. Capitol Drive	1933	Utilitarian
•3	Dansk Evangelical Lutheran Kirke	400 W. Capitol Drive	1910	Gothic Revival
•4	Zion Evangelical Lutheran Church	403 W. Capitol Drive	1910	Gothic Revival
•5	Trapp Filling Station	252-256 W. Capitol Drive	1922	Tudor Revival
•6	Bank of Hartland	112 E. Capitol Drive	1894, 1930	Georgian Revival
•7	Sign of the Willows	122 E. Capitol Drive	1923	Tudor Revival
•8	First Congregational Church	214 E. Capitol Drive	1923	Gothic Revival
•9	Stephen Warren House	235 E. Capitol Drive	1855	Greek Revival
•10	Burr Oak Tavern	315-317 E. Capitol Drive	1853-55	Greek Revival
•11	Harold Hornburg House	213 Warren Street	1928	Tudor Revival
12	Village of Hartland –Municipal Gas Plant	134 Cottonwood Avenue	1906	Commercial Vernacular
•13	Sarah Belle Van Buren House	128 Hill Street	1891-94	Vernacular
14	Harold Van Buren House	136 Hill Street	1934	Craftsman Bungalow
•15	Jackson House	235 North Avenue	1935-36	Tudor Revival
•16	Ralph C. Bailie House	530 North Avenue	1932	Spanish Colonial Revival
•17	Hartland Railroad Depot	301 Pawling Avenue	1879	Italianate
	•East Capitol Drive Historic District (developed between 1850-1935)			
18	*Martin and Susan Lesica House	337 E. Capitol Drive	1890s	Queen Anne
19	Dr. Henry G.B. Nixon House	338 E. Capitol Drive	1893-95	Queen Anne
20	*Michael Murphy House	345 E. Capitol Drive	1946	Vernacular
21	Otto H. Willis House	400 E. Capitol Drive	1916	Bungalow
22	Hamilton E. Salsich	407 E. Capitol Drive	1897	Queen Anne
23	Salisch Carriage House	409 E. Capitol Drive	1897	Queen Anne
24	Gertrude Parker House	416 E. Capitol Drive	1921	Bungalow
25	Charles Wittenberg House	424 E. Capitol Drive	1926	Spanish Colonial Revival
26	Goodwin House	425 E. Capitol Drive	1859-66	Vernacular
27	Mark W. Rowell House	432 E. Capitol Drive	1923	Vernacular
28	Joseph Feix House	435 E. Capitol Drive	1933	Tudor Revival
29	*Gary Pilgrim House	504/506 E. Capitol Drive	1911	Vernacular
30	Dr. Edwin G. Benjamin House	511 E. Capitol Drive	1854	Vernacular
31	*Reinhold Dunne House	512 E. Capitol Drive	Early 1900s	Vernacular
32	George Pynn House	515 E. Capitol Drive	1907	Dutch Colonial Revival
33	*Mark Bulen House	518 E. Capitol Drive	Early 1900s	Vernacular
34	*Roger Wrede House	521 E. Capitol Drive	1955	Vernacular
35	*Rodney Holter House	524 E. Capitol Drive	1910s	Bungalow
36	*Robert Weikert House	527 E. Capitol Drive	1890s	Queen Anne
37	*John Pfeil House	530 E. Capitol Drive	Early 1900s	Vernacular
38	*Charles Pouchet House	533 E. Capitol Drive	1910s	Bungalow
39	*Vincent Leslie House	543 E. Capitol Drive	1880-90	Italianate
40	*Barbara Zwieg House	544 E. Capitol Drive	1890s	Queen Anne
41	August Schraudenbach House	551 E. Capitol Drive	1907	Queen Anne
42	*Ray Creasy House	552 E. Capitol Drive	1880-90	Italianate
43	*Jesse Janke House	558 E. Capitol Drive	1890s	Queen Anne
44	*John Dolan House	563 E. Capitol Drive	1850	Vernacular
45	Oliver Frisbee House	600 E. Capitol Drive	1883-90	Italianate
46	*John Siepmann House	606 E. Capitol Drive	Early 1900s	Vernacular
47	*Erik Laatsch House	607 E. Capitol Drive	Early 1900s	Vernacular
48	*Todd Fox House	614 E. Capitol Drive	1890-1910	Italianate
49	Joseph Counsell House	628 E. Capitol Drive	1887-91	Italianate
50	*David Wolken House	702 E. Capitol Drive	1891-97	Queen Anne

•Listed in both the National and Wisconsin State Registers of Historic Places.

**Present owner(s).*

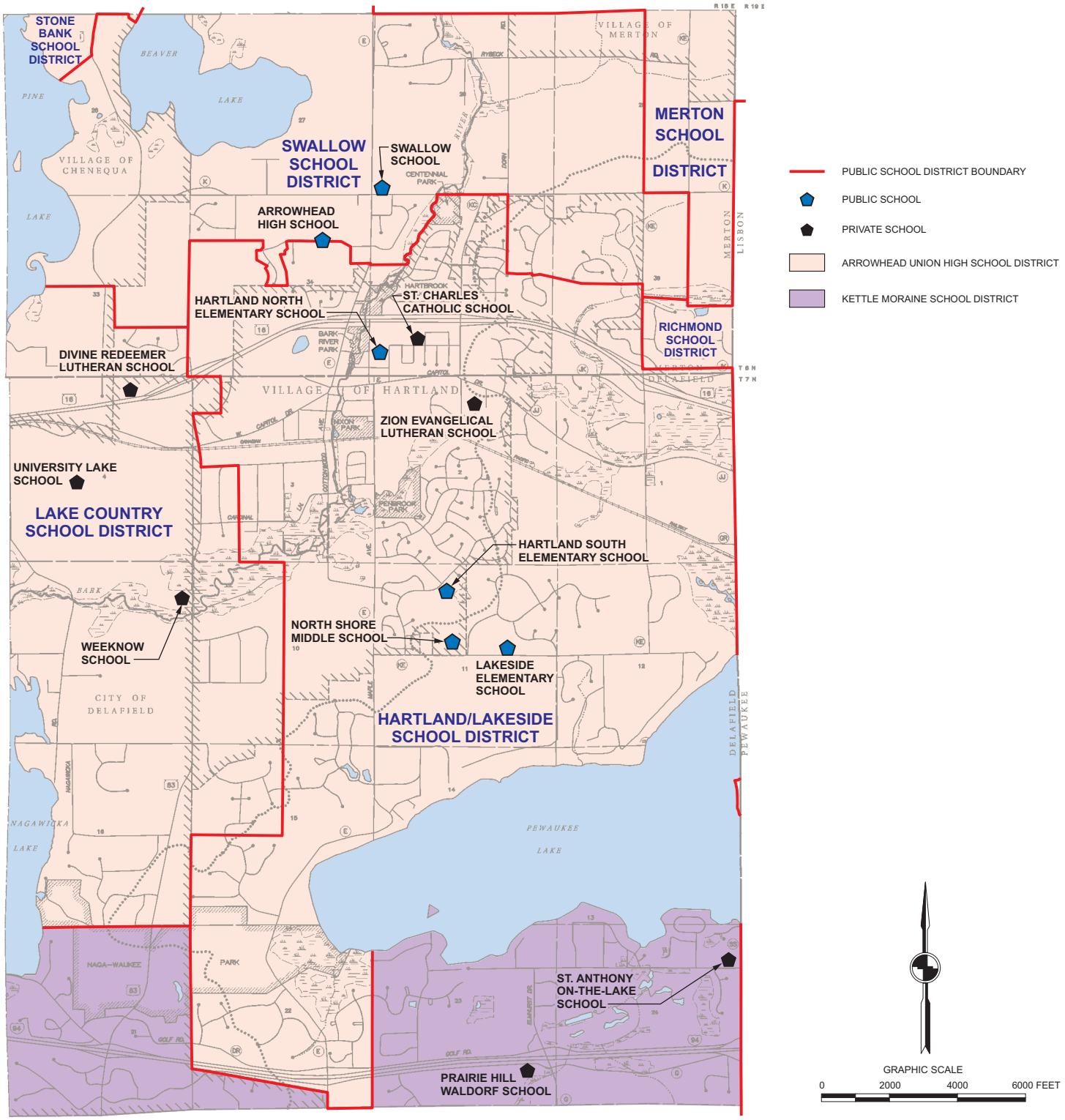
Source: SEWRPC.

Schools

The Village of Hartland study area lies in eight school districts, as shown on Map 20. The Village of Hartland and most of the study area are served by the Arrowhead Union High School District, which operates Arrowhead High School. A southern portion of the study area is served by the Kettle Moraine School District. Seven feeder school districts operate within the Arrowhead Union High School District—the Swallow, Merton, Richmond, Lake Country, North Lake, Stone Bank, and Hartland/Lakeside School Districts. The Village of Hartland lies within three of these feeder school districts—Swallow, Lake Country, and Hartland/Lakeside School Districts—with

Map 20

SCHOOLS AND SCHOOL DISTRICT BOUNDARIES IN THE VILLAGE OF HARTLAND STUDY AREA: 1998



Source: SEWRPC.

Table 24

1998-99 SCHOOL YEAR ENROLLMENTS AND CAPACITIES FOR PUBLIC SCHOOLS IN THE VILLAGE OF HARTLAND STUDY AREA

School	1998–1999 Enrollment	School Capacity	Average Class Size
Hartland North Elementary School (grades K-4)	268	345	20
Hartland South Elementary School (grades K-4)	429	475	20
Swallow School (grades K-8)	308	450	17
Lakeside Elementary School (grade 5)	142	160	24
North Shore Middle School (grades 6–8)	512	750	23
Arrowhead High School (grades 9–12)	1,867	1,600	25
Total	3,526	3,780	- -

Source: SEWRPC.

most children from the Village served by the latter. The 1998-1999 school year enrollments and capacities of each public school in the study area are set forth in Table 24. The Arrowhead Union High School District is currently conducting a facility needs study to determine if and to what extent the high school facilities should be expanded to accommodate future enrollments and needs.

In addition to the public schools described above, seven private schools existed in the study area. They are Wee Know School, Prairie Hill Waldorf School, St. Anthony-On-The-Lake Catholic School, Divine Redeemer Lutheran School, University Lake School, St. Charles Catholic School, and Zion Evangelical Lutheran School. The latter two schools are located within the Village of Hartland. The private schools serve various grades ranging from pre-school to 12th grade.

Three institutions of higher education are also within reasonable commuting distances from the Village of Hartland. The University of Wisconsin-Waukesha (UWW) in the City of Waukesha is one of 14 two-year campuses in the University of Wisconsin system. UWW offers a well-balanced program of liberal and professional courses that may be transferred to four-year colleges and universities. Another public college is the Waukesha County Technical College, located in the Village of Pewaukee. This college is part of the State of Wisconsin Vocational, Technical, and Adult Education system. The Arrowhead Union High School District is a part of this program, and provides adult evening classes. The college offers various types of general programs consisting of associate degree programs, vocational diploma programs, adult and continuing education programs, and apprenticeship training. Also located in the City of Waukesha is Wisconsin's oldest college, the private Carroll College, which offers various bachelor and master degree programs.

Library

The Hartland Public Library was initially located in the Municipal Building but was moved to a new facility to meet the growing needs of residents throughout the Lake Country area. In 1995, the first stage of a two-stage building project was completed, and the library moved into its current 11,700 square-foot facility at 110 E. Park Avenue, adjacent to the Municipal Building. In the future, a second story is planned to be added to the building which would add about 8,000 square feet of floor area for a total of about 19,700 square feet. In 1998, the full-service library housed over 41,000 books and additional non-book materials, such as videotapes, audio materials, art prints, magazines, and periodicals, with an overall collection approaching 50,000 items. In 1998, over 132,000 items were loaned from the library to the approximately 12,000 registered borrowers, half from residents living outside of the Village of Hartland. As a member of the Waukesha County Federated Library System formed in 1981, the Hartland Public Library has reciprocal agreements to borrow and loan library materials with 16 other public libraries affiliated with the system; however, the Hartland Public Library is the only federated public library in the study area.

Municipal Building and General Administration

The Municipal Building is located at 210 Cottonwood Avenue on the old Shogen Chevrolet property, which contained a building that was renovated and expanded to accommodate administrative offices in 1985. The building is centrally located in the downtown area and houses the Village Administrative Offices, Police Department, Building Inspection Offices, Department of Public Works Offices, Recreation Director's Office, and Municipal Cable Television Office. Because of the Village's unique location, the Village uses its resources to support the Lake Country area with information, recreational activities, and facilities. The Village Board and Plan Commission meetings are held in the Board Room in the Municipal Building. The building also accommodates the Hartland Community Center, which was occupied by the Hartland Public Library until 1995. The Center has enhanced the Village's ability to offer expanded recreational activities as well as a place to hold elections and to continue to offer public meeting rooms for use by nonprofit groups. As the Village has grown, the Municipal Building has changed to accommodate the growth of the various departments housed within the building.

The Department of Public Works also has an operations facility located at 701 Progress Drive with a staff consisting of the director, two foremen, ten general laborers, and seven seasonal employees. The Department is responsible for all public vehicle, equipment, building, street, sanitary sewer, water, storm drainage, park, cemetery, and grounds maintenance operations, along with engineering and capital projects. The original operations facility was constructed at 11,760 square feet in 1986 with a 6,200-square-foot addition completed in 1996. The site contains a salt storage dome and houses nine dump trucks, seven pickup trucks, a loader, a backhoe, a street sweeper, and other miscellaneous equipment. Adequate space is available on the site for future expansion; however, there are no plans to expand in the near future.

Police Protection Services

The Hartland Police Department, located in the Municipal Building, was staffed by 15 sworn officers, seven school-crossing guards, and three full-time and one part-time clerical positions in 1998. The Department has four vehicles and provides a 24-hour protection service. The Hartland Police Department is actively involved in safety related programs for students in the Hartland/Lakeside School District, including the successful D.A.R.E. program. A public safety dispatch service called the Lake Area Communications System (LACS) is housed in the Department. LACS is a regional center and serves the Hartland, Chenequa, Town and City of Delafield, City and Village of Pewaukee, Town of Lisbon, Village of Merton, Stone Bank, and North Lake Fire Departments.

Fire Protection and Emergency Medical Services

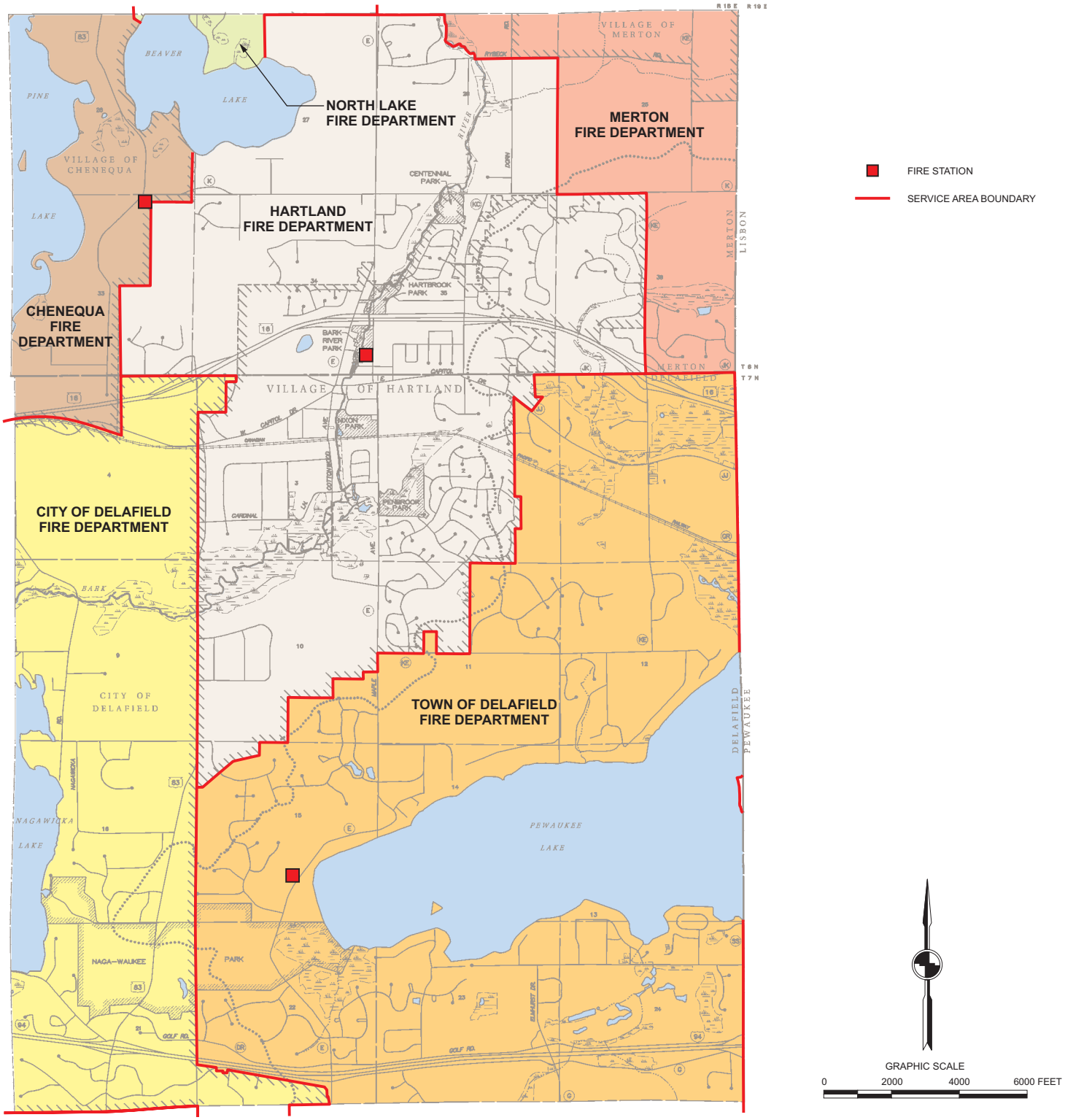
The Village of Hartland study area is served by six fire departments—the Chenequa, Hartland, Merton, North Lake, City of Delafield, and Town of Delafield Fire Departments—as shown on Map 21. The Village of Hartland is served by the Hartland Fire Department located at 150 Lawn Street in the Village. In 1998, the station was staffed by a 52-member force paid on an on-call basis with the exception of two full-time firefighter/emergency medical technicians. The station has eight pieces of fire-fighting and rescue equipment consisting of three pumpers, one equipment/command truck, a grass fire truck, a 50-foot Tele-Squrt aerial ladder, and two ambulances. The Tele-Squrt is to be replaced in the year 2000 with a new one. The site also contains a "Survive Alive House," for educating the general public on proper fire protection and escape routes. In addition, the Hartland Fire Department belongs to the Lake Area Mutual Aid Fire Departments which consist of 12 neighboring fire departments that work together in Haz-Mat, fire, and rescue emergencies and training. The Hartland Fire Department has an automatic mutual aid agreement with the Chenequa Fire Department for structure fires in either the Villages of Chenequa or Hartland.

Rating of Fire Protection Services

The adequacy of Village fire protection is evaluated by the Insurance Services Office (ISO), which uses a grading schedule for municipal fire protection. The schedule provides criteria to be used in rating the fire defenses and physical conditions of municipalities. Ratings obtained under the schedule are used throughout the United States in establishing base rates for fire insurance. While the Insurance Services Office does not presume to dictate the level of fire protection services that should be provided by any municipality, reports of its surveys generally contain recommendations for correcting any serious deficiencies and, over the years, have been accepted as guides by many municipal officials in planning improvements to fire-fighting services.

Map 21

FIRE STATIONS AND SERVICE AREAS IN THE VILLAGE OF HARTLAND STUDY AREA: 1998



Source: SEWRPC.

The ratings assigned by the ISO are based on analyses of fire department equipment, alarm systems, water supply, fire prevention programs, building construction, and distance of potential hazard areas from a fire station. In rating a community, total deficiency points in the several areas of evaluation are used to assign a numerical rating of from one to 10, with one representing the best protection and 10 representing an essentially unprotected community. Class nine usually indicates a community without effective public water supply and hydrant protection, while categories with lower numbers have such facilities. In 1998, the areas within the Village served by public water supply hydrants were rated Class 5; while those areas within the study area which were not served by hydrants were rated Class 9.

UTILTIES

Utility systems are one of the most important elements influencing community growth and development. Urban development today is highly dependent on these utility systems, which provide the individual user with power, light, communication, heat, water, and sanitary sewer service. Information about these utilities is essential to any master planning effort.

Sanitary Sewer System

The existing sanitary sewer system and general service area in the Village of Hartland and environs are shown on Map 22. In 1998, the Hartland sanitary sewer service area totaled approximately 2,103 acres, or about 14 percent, of the Village of Hartland study area and about 2,022 acres, or about 70 percent, of the total area within the Village corporate limits. In 1998, most residences and all institutional and business operations within the Village of Hartland were served by public sanitary sewer. The Village's system also extends outside its corporate limits to Arrowhead High School to the north in the Town of Merton, and to the Country-Aire Apartments located southeast of the intersection of Hill Street and Palmer Drive in the City of Delafield. The Village sewage system consists of five lift stations and a network of trunk, main, and lateral sewers.

The Village of Hartland sewer system is tributary to the Delafield-Hartland Water Pollution Control Commission (Dela-Hart) sewage treatment plant, which also serves the City of Delafield, Village of Nashotah, and certain areas in the Town of Delafield. The Dela-Hart sewerage system also includes the major trunk sewer system which conveys sewage from the community sewer systems to the sewage treatment plant. The plant, located at 416 Butler Drive in the City of Delafield, is designed to treat an average daily flow of approximately 2.2 million gallons of wastewater per day on an average annual basis. In 1998, the plant treated an average daily flow of approximately 1.6 million gallons of wastewater. The treated wastewater is discharged into the Bark River. The planned sanitary sewer service areas for the Village of Hartland and environs is described in the next chapter and shown on Map 29.

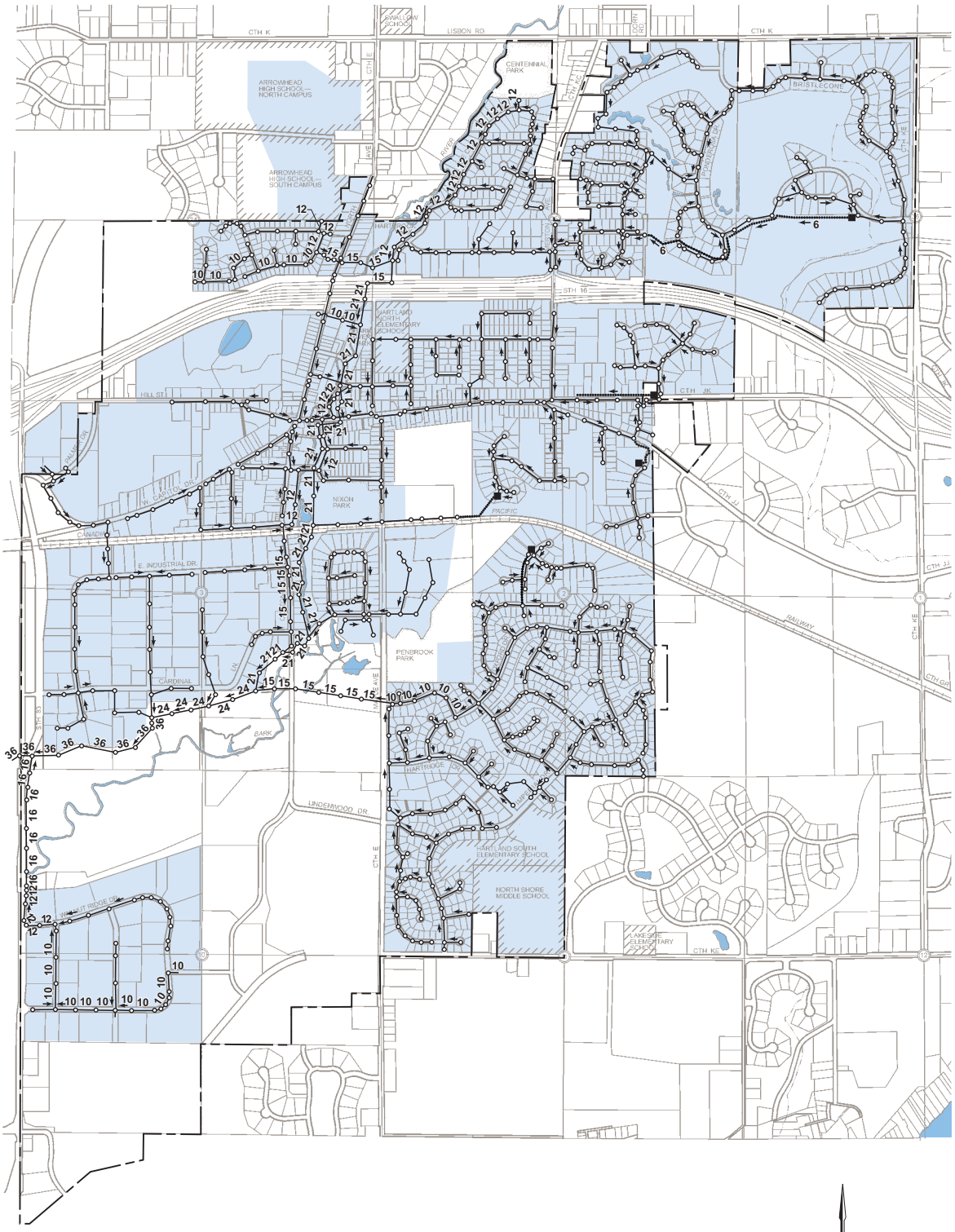
Water Supply System

The existing public water supply system and general service area in the Village of Hartland and environs are shown on Map 23. In 1998, the public water service area totaled approximately 2,086 acres, or about 13 percent, of the study area and about 2,018 acres, or about 69 percent, of the Village. In 1998, most residences and all institutional and business operations within the Village of Hartland were served by the public water supply system. The Village also extended such services outside its corporate limits to Arrowhead High School and to Wee Know School and an adjacent residence located west of STH 83 in the City of Delafield.

The water system is served by four wells and pumping stations, an underground reservoir, and three storage towers. The total storage capacity of the towers and underground reservoir is about 1.30 million gallons of water. The pumping capacity of the four wells is about 2.73 million gallons per day. A site has been selected and purchased for a fifth well to be located north of the intersection of Marquette Road and Briarcliff Court. The average daily consumption of the water system was about 0.78 million gallons in 1998. In 1993, Ruekert and Mielke, Inc., consulting engineers, prepared a water system planning study which recommended certain improvements to the current system including the construction of the fifth well.

Map 22

SANITARY SEWER SYSTEM AND SERVICE AREA IN THE VILLAGE OF HARTLAND AND ENVIRONS: 1998



VILLAGE OF HARTLAND CORPORATE LIMITS: 1998

SANITARY SEWER AND SIZE IN INCHES (ALL 8 INCHES UNLESS OTHERWISE NOTED)

DIRECTION OF FLOW

FORCEMAIN AND SIZE IN INCHES (ALL 4 INCHES UNLESS OTHERWISE NOTED)

MANHOLE

LIFT STATION

SANITARY SEWER SERVICE AREA

SURFACE WATER

GRAPHIC SCALE

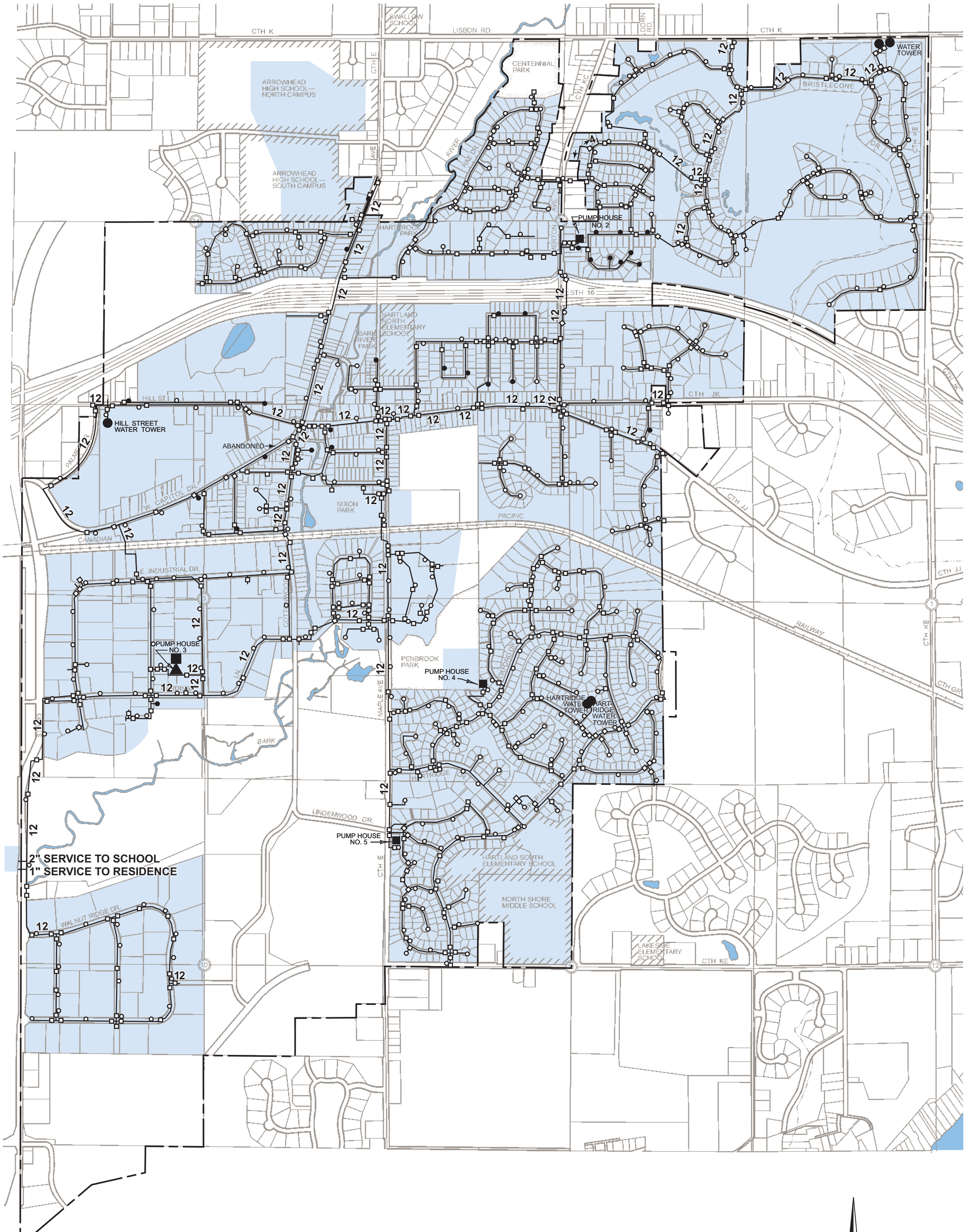
0 ¼ ½ MILE

0 1,000 2,000 3,000 FEET

Source: Village of Hartland and SEWRPC.

Map 23

WATER SUPPLY SYSTEM AND SERVICE AREA IN THE VILLAGE OF HARTLAND AND ENVIRONS: 1998



- VILLAGE OF HARTLAND CORPORATE LIMITS: 1998
- WATER TOWER
- IN-GROUND RESERVOIR
- WATER MAIN AND SIZE IN INCHES(COMMON SIZES ARE 6 AND 8 INCHES UNLESS OTHERWISE NOTED)
- WELL AND PUMPING STATION
- WATER VALVE
- FIRE HYDRANT WITH VALVE
- FIRE HYDRANT WITHOUT VALVE
- WATER SUPPLY SERVICE AREA
- SURFACE WATER

GRAPHIC SCALE

0 ¼ ½ MILE

0 1,000 2,000 3,000 FEET

Source: Village of Hartland and SEWRPC.

Stormwater Drainage System
The existing engineered stormwater drainage facilities located in the Village in 1998 are shown on Map 24. Most of the urban development in the Village is served by an engineered drainage system consisting primarily of storm sewers, but also including drainage ditches and natural watercourses. Stormwater collected by the system is discharged into the Bark River, retention and detention ponds, or large wetlands which act as stormwater retention and groundwater recharge areas.

Solid Waste Disposal System
In 1998, trash and recyclable materials from single- and two-family dwellings were collected curbside on a weekly basis by a private firm. Multi-family dwellings and businesses were responsible for their own refuse disposal, which typically involved contracting with a private firm and utilizing the Village recycling site. The Village maintains a yard waste and a recycling transfer station at a site located on the Department of Public Works grounds at 701 Progress Drive. Village residents and businesses are responsible for conveying yard waste to this site for recycling and disposal purposes. Debris from brushes and trees are chipped, collected, and stored in a pile which is then made available for use by the general public and private composters. There are no active landfill sites in the Village.

Quasi-Public Utilities
Urban development is also highly dependent upon private utilities such as electric power, natural gas, and communication facilities. The Village of Hartland is provided with electric power service by the Wisconsin Energy Corporation. Electric power service is available on demand throughout the Hartland area and, accordingly, the availability of electric power does not constitute a constraint on the location and intensity of urban development in the study area. There are no electric power generation facilities located within the study area.

Other private utility services provided in the Hartland area include natural gas service which is also provided by the Wisconsin Energy Corporation; telephone services from Ameritech, Inc.; and cable services from Time Warner Cable. In general, all such private services are available on demand throughout the study area.

SUMMARY

If the master plan is to constitute a sound and realistic guide for making decisions concerning the physical development of the Village and environs, pertinent features of the built environment must be given due consideration. This chapter has presented a description of the existing land use pattern and other aspects of the developed environment of the Village of Hartland. The most important findings are described below.

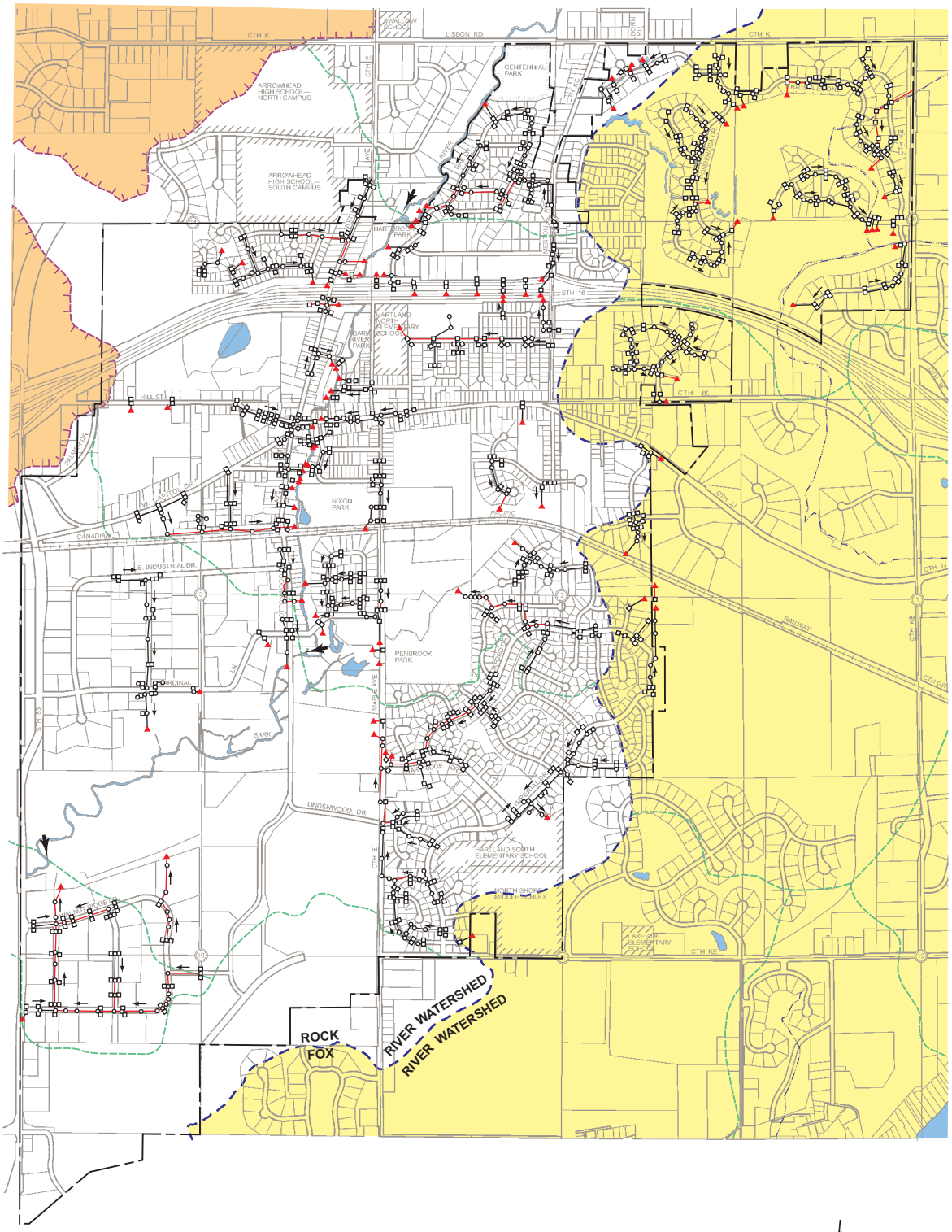
- Of the approximately 24-square mile study area, about 9.4 square miles, or 38 percent, were devoted to urban land uses. Nonurban land uses occupied about 15.0 square miles, or 62 percent of the study area. In 1998, the Village of Hartland occupied about 4.5 square miles, or 19 percent of the study area. Urban land uses occupied about 2.7 square miles, or 60 percent of the Village; nonurban land uses occupied about 1.8 square miles, or 40 percent of the Village.

- Natural resource areas consisting of wetlands, woodlands, and water were the largest land use in the study area in 1998, encompassing 30 percent of the study area. The next largest group was agricultural-related uses, encompassing 22 percent of the study area. Residential land uses represented about 21 percent of the study area. Residential uses, however, consisting mostly of single-family residential development, was the predominate land use in the Village, encompassing about 25 percent of the incorporated area

- The large number of historic buildings, especially in and near the Village Center, indicates that the Village is rich in historic resources. The Village contains 17 significant historic buildings and a historic district consisting of 33 dwellings. Thirteen of the 17 buildings and the district, East Capitol Drive Historic District, are listed on both the National and Wisconsin State Registers of Historic Places.

Map 24

STORM SEWER SYSTEM IN THE VILLAGE OF HARTLAND AND ENVIRONS: 1998



VILLAGE OF HARTLAND CORPORATE LIMITS: 1998

STORM SEWERS

- 12- THROUGH 24-INCH DIAMETER
- GREATER THAN 24-INCH DIAMETER
- DIRECTION OF FLOW
- MANHOLE
- INLET OR CATCH BASIN
- OUTFALL

WATERSHED FEATURES

- WATERSHED BOUNDARY
- SUBWATERSHED BOUNDARY
- SUBBASIN BOUNDARY
- POINT OF SUBBASIN DISCHARGE
- AREA OF INTERNAL DRAINAGE
- SURFACE WATER
- NATURAL DRAINAGE (WATERCOURSE)

SUBWATERSHEDS

- PINE LAKE
- BARK RIVER
- PEWAUKEE LAKE

GRAPHIC SCALE

0 ¼ ½ MILE

0 1,000 2,000 3,000 FEET

Source: Village of Hartland and SEWRPC.

- The Village Hartland study area is mostly served by the Arrowhead Union High School District and seven feeder school districts operating within this District. The Village lies within three of these feeder school districts—Swallow, Lake Country, and Hartland/Lakeside School Districts—with most children from the Village served by the latter. There are three public schools in the Village—North Shore Middle School and Hartland North and Hartland South Elementary Schools.

- A community center and all municipal offices are located in the Municipal Building at 210 Cottonwood Avenue. The Department of Public Works also has an operations facility located at 701 Progress Drive where maintenance equipment is stored. The Hartland Public Library is located near the Municipal Building.

- Fire protection and emergency medical services in the Village are provided by the Hartland Fire Department. The Department belongs to the Lake Area Mutual Aid Fire Departments, consisting of twelve neighboring fire departments that may be called upon for additional fire-protection services.

- Twenty-four hour police protection service is provided by the Hartland Police Department, which is located in the Municipal Building.

- In the Village of Hartland, virtually all sanitary sewage is treated by a public sewerage system; domestic water is provided from a centralized public water supply system; and stormwater drains through an engineered storm sewer system, natural watercourses, roadside ditches, and culverts. Solid waste and recyclable materials are collected by a private firm with the Village maintaining a yard waste site and a recycling transfer station on the Department of Public Works grounds.

- The Village of Hartland study area is well-served by electric power, natural gas, and communication facilities. Electric power and natural gas services are provided within the study area by the Wisconsin Energy Corporation. Telephone service is provided by Ameritech, Inc., and cable service is provided by Time Warner Cable.

Chapter V

EXISTING PLANS, MAPPING RESOURCES, AND REGULATIONS

The master plan for the Village of Hartland is intended, in part, to refine and detail adopted areawide and local plans as those plans pertain to the study area. In addition, the plan is to take into account local planning objectives reflected in locally adopted land use control ordinances. Accordingly, an important step in the planning process was the assembling of information pertaining to the existing framework of areawide and local plans, topographic and cadastral maps, and related land use regulations. This chapter presents, in summary form, the inventory findings with respect to these matters.

EXISTING PLANS

Sound local planning practice should give consideration to broader areawide plans. The Southeastern Wisconsin Regional Planning Commission (SEWRPC) is the official areawide planning agency for the seven-county Southeastern Wisconsin Region, which includes Waukesha County and the Village of Hartland. Since its creation in 1960, the Commission has prepared comprehensive plans for the physical development of the Region. While always advisory in nature to the government agencies concerned and to private sector interests, this framework of regional plan elements is intended to serve as a basis for more detailed county and local government planning, and is intended to influence both public and private sector decision-making with respect to development matters. An understanding of pertinent recommendations contained in regional, county, and locals plans is, therefore, important to the proper preparation of a master plan for the Village of Hartland.

County and Regional Land Use Plans

In 1992, Waukesha County requested the Regional Planning Commission to assist the County in preparing a development plan for Waukesha County. The adopted County development plan is documented in SEWRPC Community Assistance Planning Report No. 209, *A Development Plan for Waukesha County, Wisconsin*, August 1996. The development plan is comprised of four plan elements, a land use plan and supporting transportation, housing, and park and open space plans. While the development plan applies primarily to the thirteen civil towns which then comprised[1] the unincorporated territory of the County, the plan is also intended to provide guidance to the incorporated cities and villages, including the Village of Hartland.

The land use element of the County development plan reflects conditions that may be expected upon full development of areas proposed for urban land uses. Full development, or "buildout" conditions, would probably not occur until after the year 2050. In order to assist the County and local units of government in staging urban

[1] *The Town of Pewaukee has incorporated as a City since the adoption of the County plan.*

development and planning for transportation and public utilities, a 2010 stage of the land use element of the County development plan was prepared and is included in the plan report. The adopted County land use plan, as it pertains to the Village of Hartland study area, is shown on Map 25.

A regional land use plan, documented in SEWRPC Planning Report No. 45, *A Regional Land Use Plan for Southeastern Wisconsin: 2020*, December 1997, provides recommendations regarding the amount, spatial distribution, and general arrangement of the various land uses required to serve the needs of the existing and anticipated future resident population and economic activity levels within the Region. The 2020 regional plan updates, in general, the recommended 2010 stage of the land use element presented in the Waukesha County Development Plan. Particularly pertinent to updating the master plan for the Village of Hartland are the recommendations for the protection of primary environmental corridors and agricultural lands of the Region, and for the encouragement of a more compact pattern of urban development. The regional plan recommends that urban development be encouraged to occur contiguous to and outward from the existing urban centers of the Region in areas which are covered by soils suitable for such use; which are not subject to hazards, such as flooding; and which can be readily served by such essential urban facilities as public sanitary sewerage and water supply. These important recommendations provide a basic framework around which a community land use plan should be developed.

County and Regional Transportation System Plans

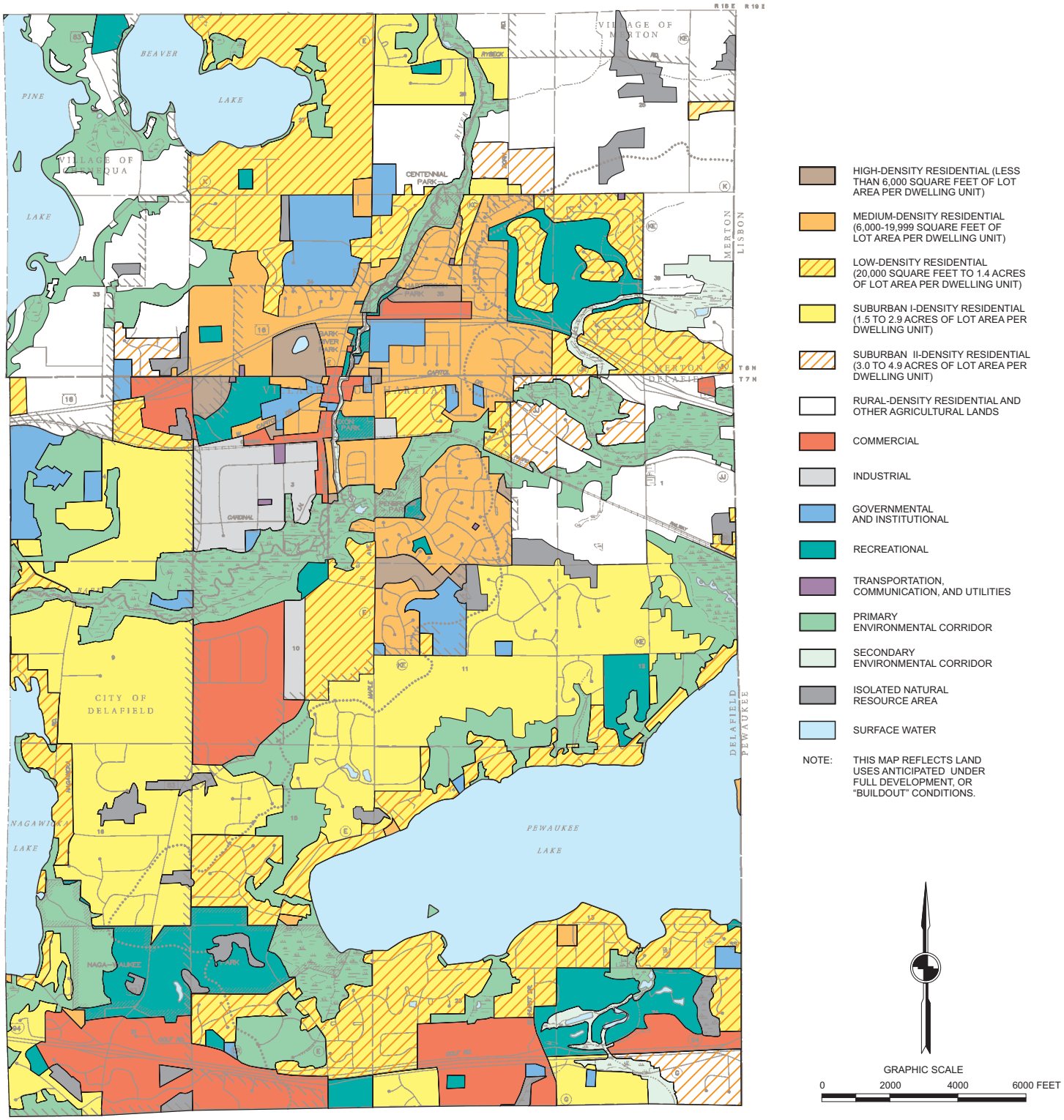
As noted earlier, the adopted Waukesha County Development Plan includes a transportation plan. The transportation plan includes an arterial street and highway system plan and a public transit system plan intended to serve the County through the year 2010 and beyond. The document also describes additional functional improvements to these systems that may be expected to serve the County under full development, or "buildout" conditions, of urban areas shown in the adopted County land use plan. The additional improvements related to the Village of Hartland study area include widening Golf Road (CTH DR) to accommodate four lanes from CTH SS to STH 83, and widening IH 94 to accommodate six lanes from CHT G to CTH P.

The adopted regional transportation system plan, presented in SEWRPC Planning Report No. 46, *A Regional Transportation System Plan for Southeastern Wisconsin: 2020*, December 1997, provides recommendations on how the regional land use plan can best be served by arterial street and highway and transit facilities. In 2003, the design year 2020 plan was extended to the year 2025, and amended to include the recommendations of a regionwide freeway reconstruction study. The regional plan, as amended and extended, updates the 2010 stage of the Waukesha County Development Plan. It recommends a functional and jurisdictional system of arterial streets and highways to serve the Region through the design year 2025, together with a functional network of various types of transit lines. The regional transportation system plan was developed on the basis of careful quantitative analyses of existing and probable future traffic movements within the Region, and of existing highway and transit system capacity and use. The adopted 2025 regional transportation system plan, as it pertains to the Village of Hartland study area, is shown on Map 26 and notes the additional improvements that may be needed under "buildout" conditions of the Waukesha County land use plan.

It should be noted that a new curvilinear street alignment for CTH KE was constructed and completed in the vicinity of the perpendicular alignment of CTH KE shown on Map 26, southeast of the Village of Hartland and in the Town of Delafield. The existing perpendicular streets previously designated as CTH KE were retained to function as local access streets. It should be further noted that the Wisconsin Department of Transportation completed a preliminary engineering study of STH 83 between STH 16 and the Waukesha-Washington County line in 1997. As part of that study, the Department evaluated extensively the long-planned STH 83 bypass, two realignments of STH 83, and retaining STH 83 on its existing alignment. The regional transportation plan, as shown on Map 26, no longer recommended the bypass, but did recommend the two minor realignments of STH 83. At the conclusion of their preliminary engineering study, the Department determined that STH 83 would remain on its existing route. Both the long-planned bypass east of Beaver Lake and the two realignments of STH 83 between STH 16 and CTH K and between CTH VV and CTH CW were not recommended for implementation. The Department held a public hearing on November 18, 1997, on its STH 83 preliminary engineering study recommendations. The Waukesha County Board of Supervisors on July 28, 1998, acted to

Map 25

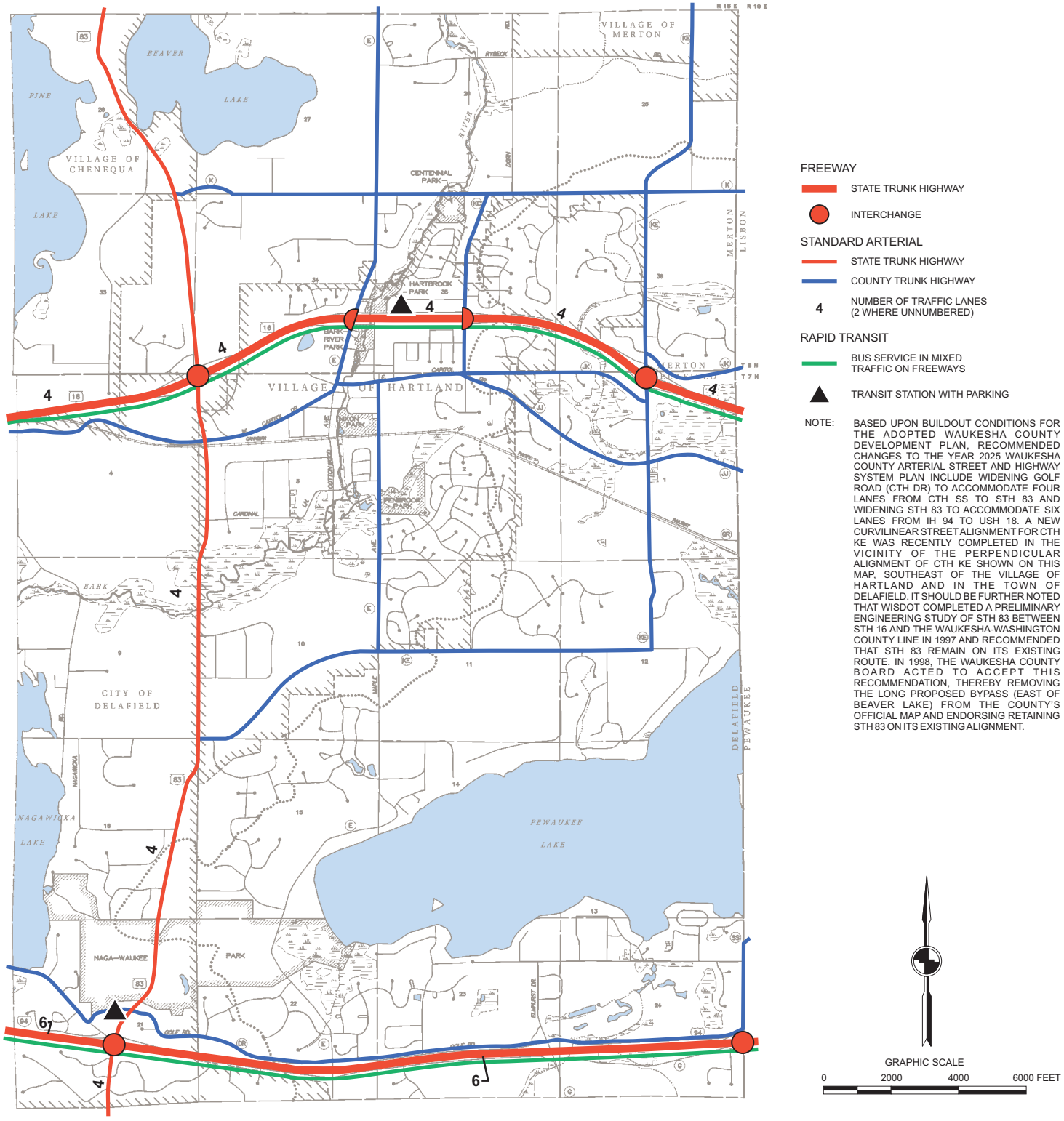
ADOPTED WAUKESHA COUNTY LAND USE PLAN AS RELATED TO THE VILLAGE OF HARTLAND STUDY AREA



Source: Waukesha County and SEWRPC.

Map 26

ADOPTED 2025 REGIONAL TRANSPORTATION SYSTEM PLAN AS RELATED TO THE VILLAGE OF HARTLAND STUDY AREA



Source: Waukesha County and SEWRPC.

accept these recommendations thereby removing from the County's official map the long-proposed bypass and endorsing retaining STH 83 on its existing alignment. Wisconsin Department of Transportation officials have stated that the action by the Waukesha County Board also served to remove the long-proposed bypass from the State's official highway map. Village of Chenequa officials, however, have expressed concerns that the County Board's action is not legally sufficient to remove the bypass from the State's official map. It may be expected that the two minor realignments of STH 83 will be removed from the regional and county transportation system plans as the Department, after a preliminary engineering study, determined to retain STH 83 on its existing alignment.

An adopted regional bicycle and pedestrian facilities system plan, presented in SEWRPC Planning Report No. 43, *A Regional Bicycle and Pedestrian Facility System Plan for Southeastern Wisconsin: 2010*, December 1994, and in an amendment thereto in December 2001 to amend and extend the plan to the design year 2020, provides recommendations to encourage increased bicycle and pedestrian travel as alternatives to travel by automobile within the Region in a safe and efficient manner. The plan includes a recommended regional bicycle-way system designed to provide connections between urbanized areas and incorporated areas with a population of 5,000 or more located outside of urbanized areas and connections to major parks and other major activity centers. Map 27 depicts approximately 13.5 linear miles of bicycle-ways recommended under the regional plan as related to the Village of Hartland study area.

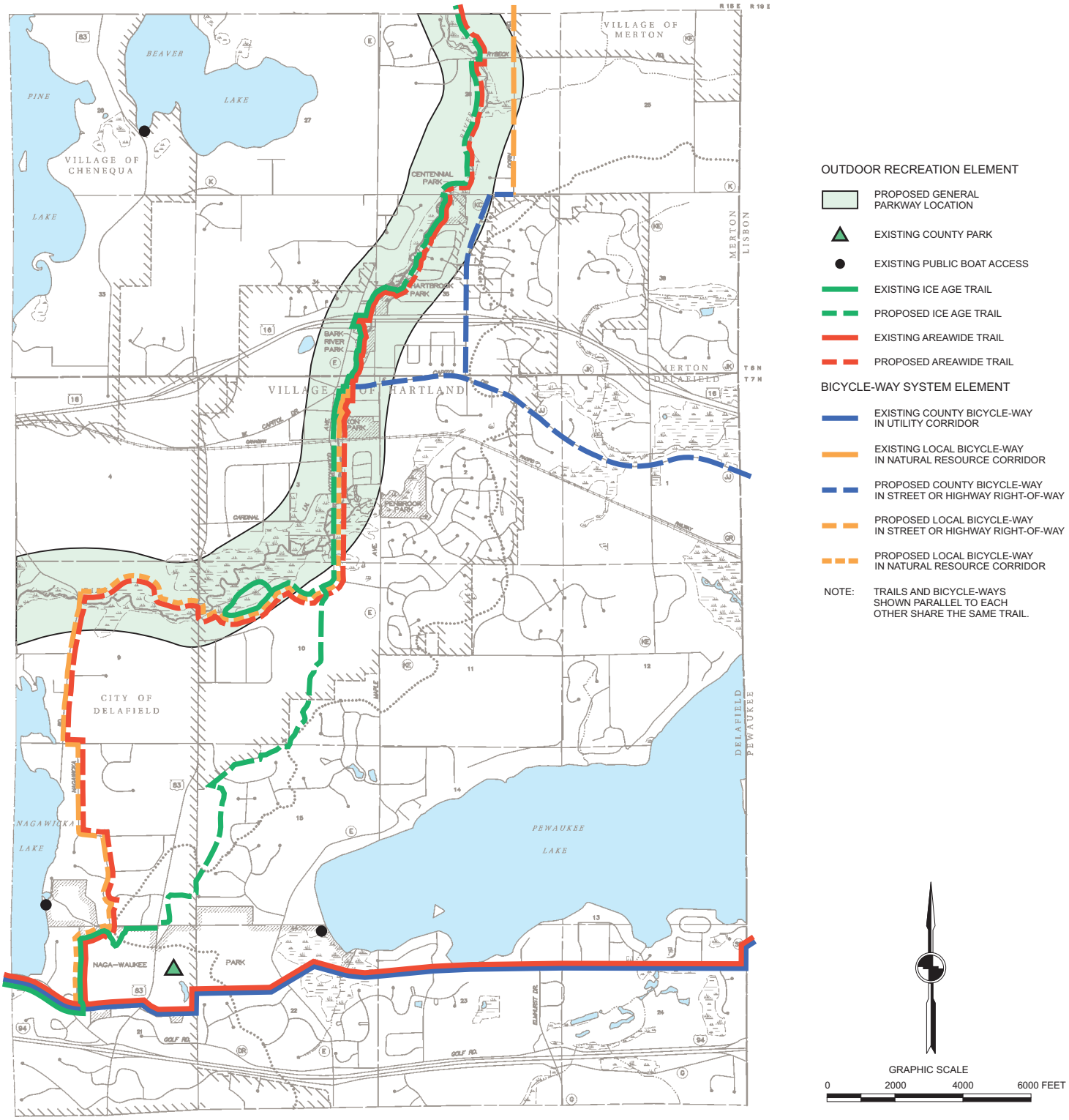
County and Regional Park and Open Space Plans

The adopted regional park, outdoor recreation, and related open space plan, as described in SEWRPC Planning Report No. 27, *A Regional Park and Open Space Plan for Southeastern Wisconsin—2000*, November 1977, identifies existing and probable future park and open space needs within the Region and recommends a system of large regional resource-oriented parks, recreational corridors, and smaller urban parks, together with their attendant recreational facility requirements, to meet these needs. The portion of the regional park plan that applies to Waukesha County, including the Village of Hartland study area, was revised in 1989 and is documented in SEWRPC Community Assistance Planning Report No. 137, *A Park and Open Space Plan for Waukesha County* December 1989. In 1996, the County plan was updated and included as an element of the adopted Waukesha County Development Plan mentioned earlier. The plan consists of both an open space preservation element and an areawide outdoor recreation element, intended to, respectively, protect areas containing important natural resources and to provide resource-oriented recreational sites and facilities. These two elements of the County plan, as they pertain to the Village of Hartland study area, are depicted on Maps 27 and 28.

The Waukesha County park and open space plan takes into account the recommendations of a regional natural areas plan documented in SEWRPC Planning Report No. 42, *A Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin*, September 1997. The regional natural areas plan recommends the protection and preservation of such areas in the Region as an important supplement to the open space preservation recommendations of the regional and County land use and park and open space plans. The primary purpose of the plan is to identify the most significant remaining natural areas, critical species habitats, geological sites, and archaeological sites in the Region, and to recommend means for their protection and management. The plan identifies potential sites to be placed in public or private protective ownership, and other sites to be protected, insofar as it is possible, through zoning and other regulatory means without protective ownership. It also recommends that a detailed management plan be prepared and implemented for each site placed under protective ownership. Map 14 in Chapter III shows the five natural areas, two significant geological sites, and six critical aquatic habitats in the Village of Hartland study area as identified in the regional natural areas plan. In addition to the recommendations of the County park and open space plan, the regional natural area plan recommends that the two significant geological sites in the study area be preserved. Specifically, the plan recommends that the site identified as the Delafield Interurban Cut be preserved, to the extent practicable, through zoning or other regulatory means without protective ownership. The other site, Jones Quarry, is located within an existing golf course, and is recommended to be preserved by the Wisconsin Department of Natural Resources by acquiring a conservation easement for the site.

Map 27

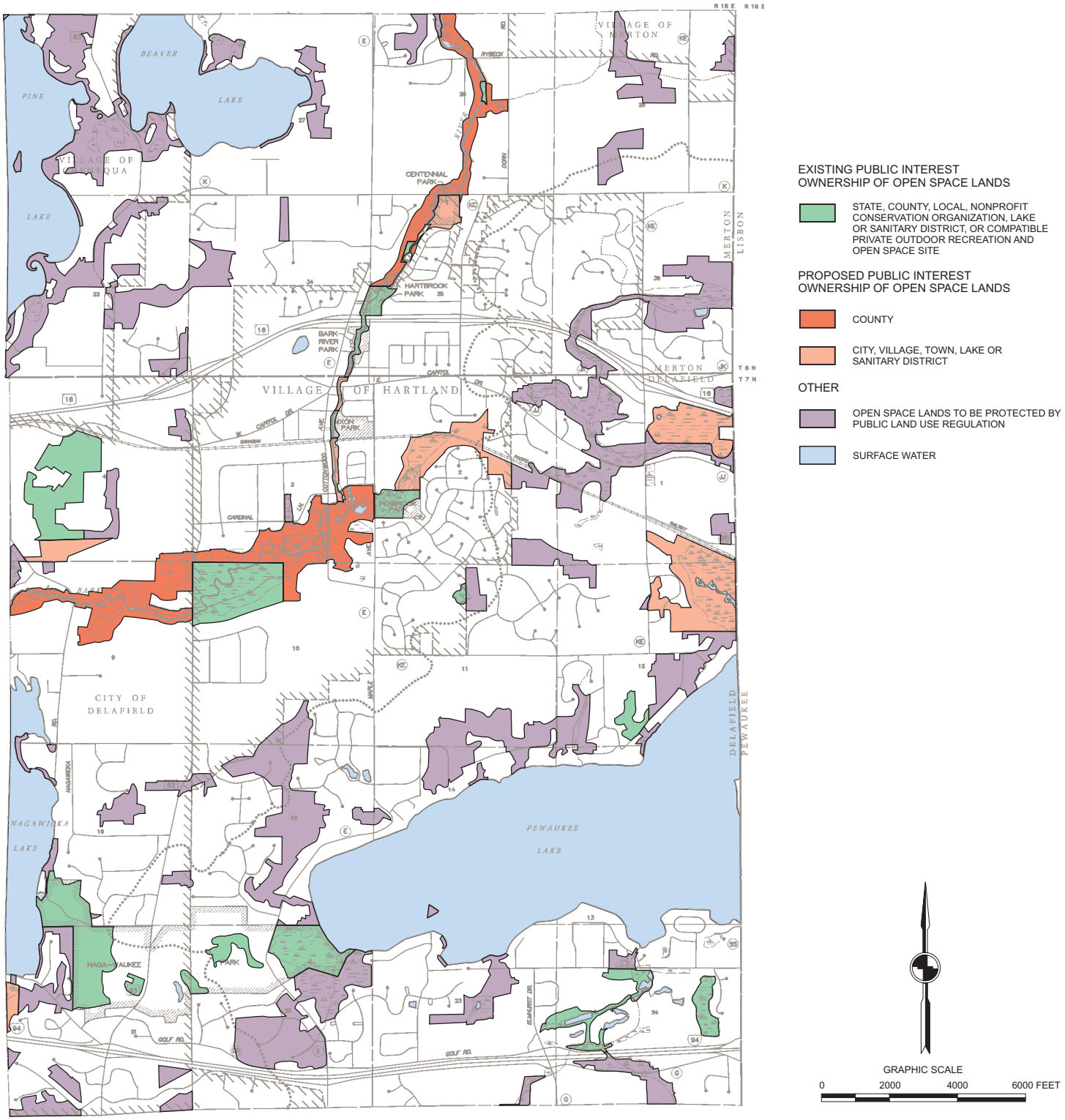
ADOPTED REGIONAL BICYCLE-WAY SYSTEM PLAN AND THE OUTDOOR RECREATION ELEMENT OF THE ADOPTED WAUKESHA COUNTY PARK AND OPEN SPACE PLAN AS RELATED TO THE VILLAGE OF HARTLAND STUDY AREA



Source: Waukesha County and SEWRPC.

Map 28

OPEN SPACE PRESERVATION ELEMENT OF THE ADOPTED WAUKESHA COUNTY PARK AND OPEN SPACE PLAN AS RELATED TO THE VILLAGE OF HARTLAND STUDY AREA



Source: Waukesha County and SEWRPC.

Water Quality Management Plans

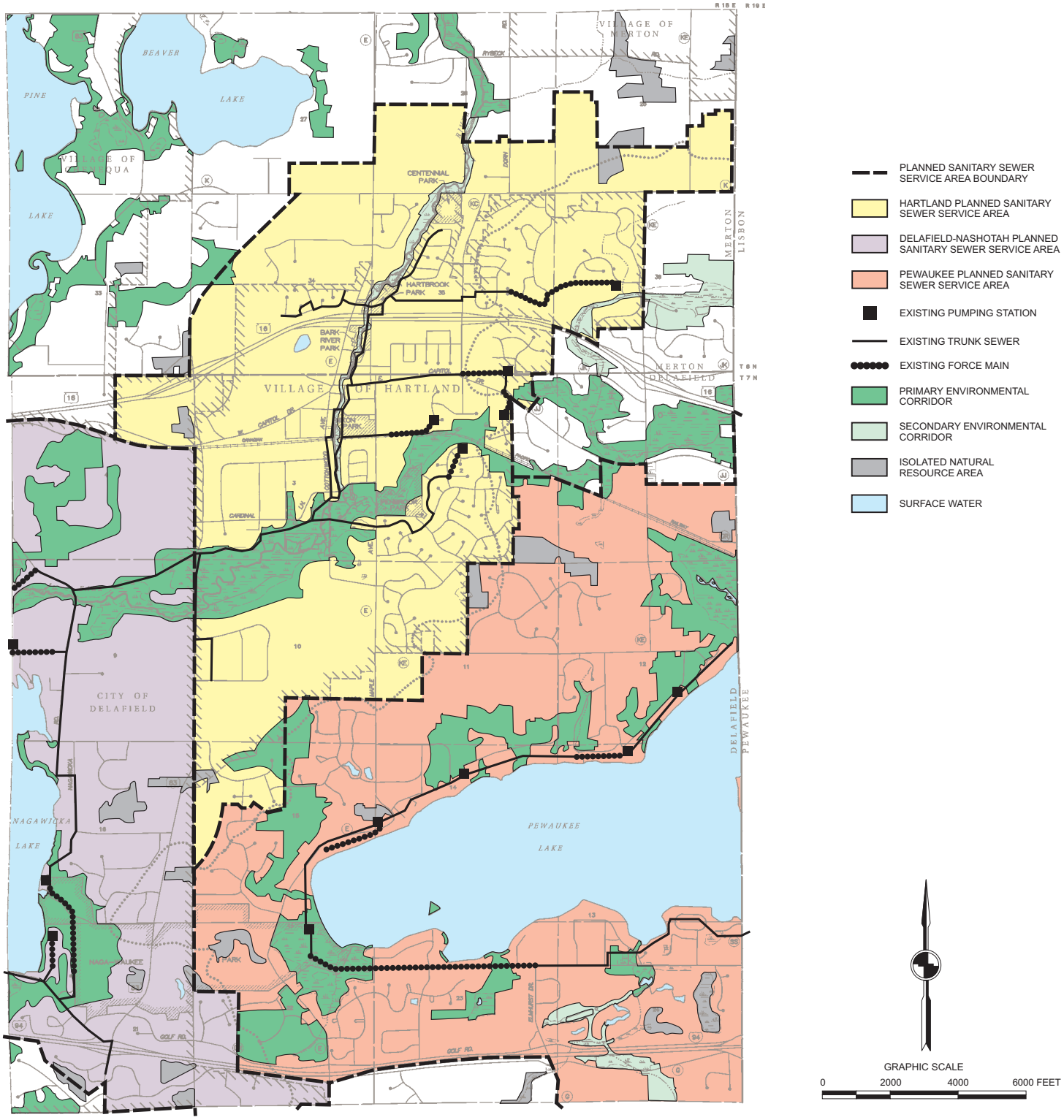
The regional water quality management plan is intended to provide recommendations to help meet a Federal mandate that the waters of the United States be made, to the extent practical, "fishable and swimmable." The findings and recommendations of the water quality management planning program for Southeastern Wisconsin are described in SEWRPC Planning Report No. 30, *A Regional Water Quality Management Plan for Southeastern Wisconsin—2000*, Volume One, *Inventory Findings*, September 1978; Volume Two, *Alternative Plans*, February 1979; and Volume Three, *Recommended Plan*, June 1979. The regional water quality management plan consists of a land use and sanitary sewer service area element, a point water pollution abatement element, a nonpoint water pollution abatement element, a wastewater sludge management element, and a water quality-monitoring element. The adopted regional water quality management plan includes recommended sanitary sewer service areas attendant to each recommended sewage treatment facility in the Region. These initially recommended sanitary sewer service areas were based upon the urban land use configuration identified in the regional land use plan for the year 2000. As such, delineation of the areas was necessarily general, and did not reflect more detailed local planning considerations. Accordingly, the plan recommends that each community served by public sanitary sewerage facilities refine and detail sanitary sewer service areas for their area.

In response to the above recommendation, the Village of Hartland adopted a plan designating the Hartland sanitary sewer service area tributary to the Delafield-Hartland Water Pollution Control Commission (Dela-Hart) sewage treatment plant. The plan is documented in SEWRPC Community Assistance Planning Report No. 93, *Sanitary Sewer Service Area for the Village of Hartland, Waukesha County, Wisconsin*, April 1985, and amendments thereto. Other refined sanitary sewer service areas located within the study area include the Delafield-Nashotah Sanitary Sewer Service Area, which is also tributary to the Dela-Hart sewage treatment plant, as documented in SEWRPC Community Assistance Planning Report No. 127, *Sanitary Sewer Service Area for the City of Delafield and the Village of Nashotah and Environs, Waukesha County, Wisconsin*, November 1992, and amendments thereto, and the Pewaukee Sanitary Sewer Service Area as documented in SEWRPC Community Assistance Planning Report No. 113, *Sanitary Sewer Service Area for the Town of Pewaukee Sanitary District No. 3, Lake Pewaukee Sanitary District, and Village of Pewaukee, Waukesha County, Wisconsin*, June 1985, and amendment thereto. Map 29 shows the portions of these three adopted planned sanitary sewer service areas that lie within the Village of Hartland study area.

Early in the year 2000, the consulting engineering firm Black & Veatch Corporation, completed a sanitary sewerage system plan for the northwestern part of Waukesha County at the request of the local communities in that area. The plan preparation was administered by the Regional Planning Commission on behalf of the communities involved and is documented in a report titled, *Sanitary Sewerage System Plan for the Northwestern Waukesha County Area*, April 2000. As part of that planning program, an evaluation was made of alternative treatment plant options for serving the area. The plan recommends the continued operation and expansion of both the Oconomowoc and the Dela-Hart sewage treatment plants. Due to increasing growth in the service area of the Dela-Hart plant and the planned connection of the Nashotah-Nemahbin Lakes area, it is expected that the Dela-Hart plant will need to be expanded from its current hydraulic capacity of about 2.2 million gallons per day (mgd) on an average daily flow basis to about 2.7 mgd by the year 2010. Under the long-term buildout conditions within the Dela-Hart service area, which assumes that the Wales area will be connected to the Dela-Hart sewerage system after 2010, the plant may need to be expanded to a capacity of nearly 4.0 mgd. The Delafield-Hartland Water Pollution Control Commission has initiated detailed facility planning for a plant expansion with a planned design year of 2020. Under the long-term buildout conditions within the Oconomowoc service area, the Oconomowoc plant is also expected to be expanded to serve additional areas recommended to be serviced by this plant, including areas in the Village of Chenequa and the Town and Village of Merton that also lie within the Village of Hartland study area. Portions of those areas could also potentially be served by the Dela-Hart sewerage system depending upon the timing of the need for service.

Map 29

ADOPTED PLANNED SANITARY SEWER SERVICE AREAS IN THE VILLAGE OF HARTLAND STUDY AREA



Source: SEWRPC.

County Agricultural Soil Erosion Control Plan

Concerns about cropland soil erosion led the Waukesha County Board in 1985 to request Regional Planning Commission assistance in preparing a plan to control such erosion. The resulting plan is documented in SEWRPC Community Assistance Planning Report No. 159, *Waukesha County Agricultural Soil Erosion Control Plan*, June 1988. As part of the planning process, agricultural soil erosion control problems were identified and erosion control priority ratings were developed for each U.S. Public Land Survey section in the County. The plan describes available soil erosion control practices such as conservation tillage, contouring, terraces, and permanent vegetative cover and identifies farm conservation planning activities needed to implement the recommended control practices.

Village of Hartland Plans

Past planning efforts by the Village of Hartland are discussed below.

Land Use Plans

The Village of Hartland prepared a land use and street system plan in 1981 as documented in SEWRPC Community Assistance Planning Report No. 49, *A Land Use and Traffic Circulation Plan for the Village of Hartland: 2000, Waukesha County, Wisconsin*, July 1981. The plan was prepared by the Village Plan Commission with assistance from the Regional Planning Commission. The report presents a summary of pertinent data and a combined land use and traffic circulation plan for the orderly growth and development of the Village to the plan design year 2000. The objectives of the plan were to protect those lands best suited for agricultural use, to discourage incompatible development in environmental corridors, to discourage development in hazardous areas such as floodlands, and to encourage urban development that could be readily served by essential municipal facilities and services, such as public sanitary sewerage and water supply services. The plan was designed to meet the needs of a resident population of about 10,700 by the year 2000. The Village's land use and traffic circulation plan is shown on Map 30. The Village amended the plan in December 1991 and February 2002, as shown on Map 31 and documented in *An Amended Land Use and Traffic Circulation Plan for the Village of Hartland: 2000*. The amended plan was prepared to address issues of change that occurred between 1981 and 2002 and to provide guidelines for future growth and development in the Village of Hartland planned urban service area.

Traffic Studies

Four traffic studies pertinent to the Village of Hartland have been completed by the Regional Planning Commission. In 1983, a study evaluated six alternatives for the redesign of the intersection of Capitol Drive with North Avenue, Cottonwood Drive, Hill Street, and Village Drive (now named Haight Drive). In addition, the study analyzed impacts of this intersection on the streetscape proposed for E. Capitol Drive as part of the downtown redevelopment plan. The Regional Planning Commission staff recommended that either one of two alternatives should be implemented, neither of which would impact the proposed streetscaping for E. Capitol Drive. The study found that traffic volumes and accident problems were not severe to warrant the redesign of the intersection. Any redesign would be important for aesthetic purposes only. The preferred alternative was to be decided by Village officials. To date, neither alternative have been fully implemented.

A study evaluating alternative local street improvements to relieve the intersection of Maple Avenue and Capitol Drive was completed in 1985. Based upon comparative evaluations of various alternatives for relieving traffic congestion at this intersection, including potential local street extensions to the north, east, and west of the Hartridge Subdivision and traffic engineering improvements at the intersection, the Commission staff recommended that separate turn lanes be provided at the intersection with minimal cost and impact on adjacent land uses compared to the other alternatives. In addition, it was recommended that proposed urban developments in the southern portion of the Village be directed to locate their principal access to streets other than Maple Avenue, such as Cottonwood Avenue. The study further recommended that land be reserved for the potential westerly extension of Hartwood Lane and Hartridge Drive to Cottonwood Avenue, if needed in the future. Of all the local street extensions considered—west, north, and east—the study determined that the westerly street extension would have the most potential to reduce northbound Maple Avenue left-turning traffic, have the least

impact on existing development, and would be no more costly than the others considered. It would, however, be difficult to implement since the street extension would traverse a wetland. The study also indicated that future development and attendant traffic growth may warrant the installation of traffic signals or three-way stop signs at the aforementioned intersection, prior to any extension of local streets. To date, three-way stop signs have been installed, and access for development in the southern portion of the Village has been directed towards Cottonwood Avenue and the new CTH KE extension that was completed.

The third study documented in SEWRPC Memorandum Report No. 117, *Traffic Study of Selected Intersections in the Village of Hartland, Waukesha County, Wisconsin*, November 1996, analyzed six Village intersections. These intersections were: 1) the intersection of E. Capitol Drive (CTH JJ), Lisbon Avenue (CTH JK), Merton Avenue (CTH KC), and Highland Avenue; 2) the intersection of E. Capitol Drive and Maple Avenue; 3) the intersection of E. Capitol Drive and Church Street; 4) the intersection of E. Capitol Drive, North Avenue, and Hill Street; 5) the intersection of Cottonwood Avenue, W. Capitol Drive, and Haight Drive; and, 6) the intersection of W. Capitol Drive, W. Park Avenue, and Prospect Avenue. For each of the intersections, the study presents inventory findings with respect to their physical and operational characteristics, analyses of potential traffic problems, identification and evaluation of alternatives to abate those problems, and the recommended actions and estimated cost to implement them. To date, only recommended improvements to the intersection of E. Capitol Drive, Lisbon Avenue, Merton Avenue, and Highland Avenue have been implemented.

In 2000, a fourth study evaluated alternative transportation measures to help reduce traffic congestion on North Avenue (CTH E). The study analyzed the need for a new north-south roadway extending generally from the interchange of STH 16 with STH 83 to CTH K in the Chenequa-Merton-Hartland area. A number of alternative alignments were considered, including an alignment following a portion of the now-abandoned bypass route of STH 83. Also, alternatives were considered that propose intersection traffic engineering improvements where North Avenue (CTH E) intersects with Hartbrook Drive, the southern Arrowhead High School Campus entrance, Arrowhead Drive, and CTH K. To date, no recommended alternatives have been fully implemented. The Villages of Chenequa and Hartland, however, have adopted and placed a future north-south roadway extending north from the interchange of STH 16 and STH 83 on their official map. The study also includes potential traffic demand management strategies for reducing the volume of traffic to and from Arrowhead High School, which contributes significantly to the traffic congestion on North Avenue (CTH E).

Park and Open Space Plans

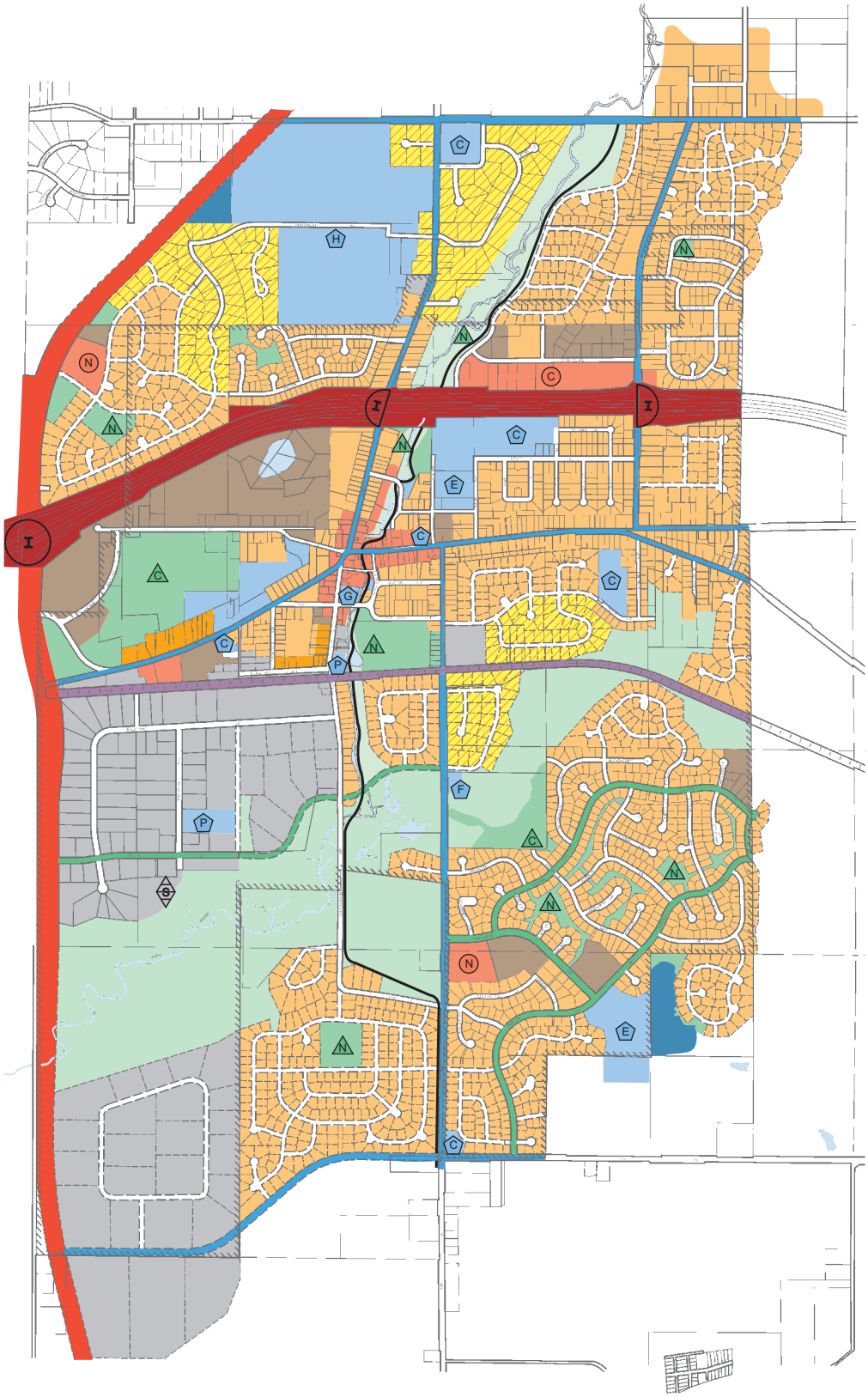
In 1995, the Village of Hartland contracted with Ruekert & Mielke, Inc. to assist the Village in updating the Village's Comprehensive Outdoor Recreation Plan completed by Foth & Van Dyke in 1988. The updated plan, as documented in *Outdoor Recreation Plan, Village of Hartland, Waukesha County, Wisconsin*, February 1996, identifies park and open space preservation and development objectives and supporting standards, presents information on existing and future needs for park and recreation facilities, identifies deficiencies and safety concerns related to existing facilities, and establishes an action program to improve and enhance the existing park and recreation facilities. The document reestablished eligibility for the Village to receive State and Federal assistance funds for the acquisition and development of park and recreation sites over a five-year period.

Historic Preservation Study

As discussed in Chapter IV, a detailed inventory of significant architectural and historic sites and buildings is documented in a report entitled *Hartland: A Thematic History and an Intensive Survey of Historic Resources*, August 1985. The report was compiled to provide information on the Village's historic and architectural resources which may be useful in the formulation of a local preservation plan; to identify buildings, structures, sites, and historic districts which meet the criteria for listing on the National Register of Historic Places; and to increase public and private sector awareness of the Village's historic and architectural heritage.

Map 30

YEAR 2000 LAND USE AND TRAFFIC CIRCULATION PLAN FOR THE VILLAGE OF HARTLAND



LOW-DENSITY SINGLE-FAMILY RESIDENTIAL DEVELOPMENT (0.7-2.2 UNITS PER NET ACRE)

MEDIUM-DENSITY SINGLE-FAMILY RESIDENTIAL DEVELOPMENT (2.3-4.3 UNITS PER NET ACRE)

MEDIUM-DENSITY TWO-FAMILY RESIDENTIAL DEVELOPMENT (4.4-6.9 UNITS PER NET ACRE)

HIGH-DENSITY MULTIPLE-FAMILY RESIDENTIAL DEVELOPMENT (7.0-17.9 UNITS PER NET ACRE)

COMMERCIAL DEVELOPMENT

N NEIGHBORHOOD RETAIL AND SERVICE CENTER

C COMMUNITY RETAIL AND SERVICE CENTER

MANUFACTURING, WHOLESALE, AND QUARRYING DEVELOPMENT

PARK AND RECREATIONAL DEVELOPMENT
C COMMUNITY PARK
N NEIGHBORHOOD PARK

RECREATIONAL CORRIDOR (TRAIL)

RAILROAD

PRIMARY ENVIRONMENTAL CORRIDOR

SECONDARY ENVIRONMENTAL CORRIDOR

ISOLATED NATURAL AREA

NONE PRIME AGRICULTURAL LAND

OTHER AGRICULTURAL AND RURAL LAND

WATER

GOVERNMENTAL AND INSTITUTIONAL
C CHURCH
F FIRE STATION
G VILLAGE HALL, LIBRARY, POLICE STATION
E ELEMENTARY SCHOOL
H HIGH SCHOOL
P PUBLIC WORKS

SEWAGE TREATMENT PLANT (TO BE ABANDONED)

EXISTING STATE TRUNK HIGHWAY R.O.W. (FREEWAY)

I FREEWAY-NONFREEWAY INTERCHANGE

ARTERIAL STREETS AND HIGHWAYS

STATE TRUNK HIGHWAY (NONFREEWAY)

EXISTING R.O.W.

PROPOSED R.O.W. (220' TO 320' WIDTH)

COUNTY TRUNK HIGHWAY

EXISTING R.O.W.

PROPOSED R.O.W. (100' WIDTH)

COLLECTOR STREETS

EXISTING R.O.W.

PROPOSED R.O.W. (80' WIDTH)

MINOR LAND ACCESS STREETS

EXISTING R.O.W.

PROPOSED R.O.W. (MINIMUM 60' WIDTH)

GRAPHIC SCALE

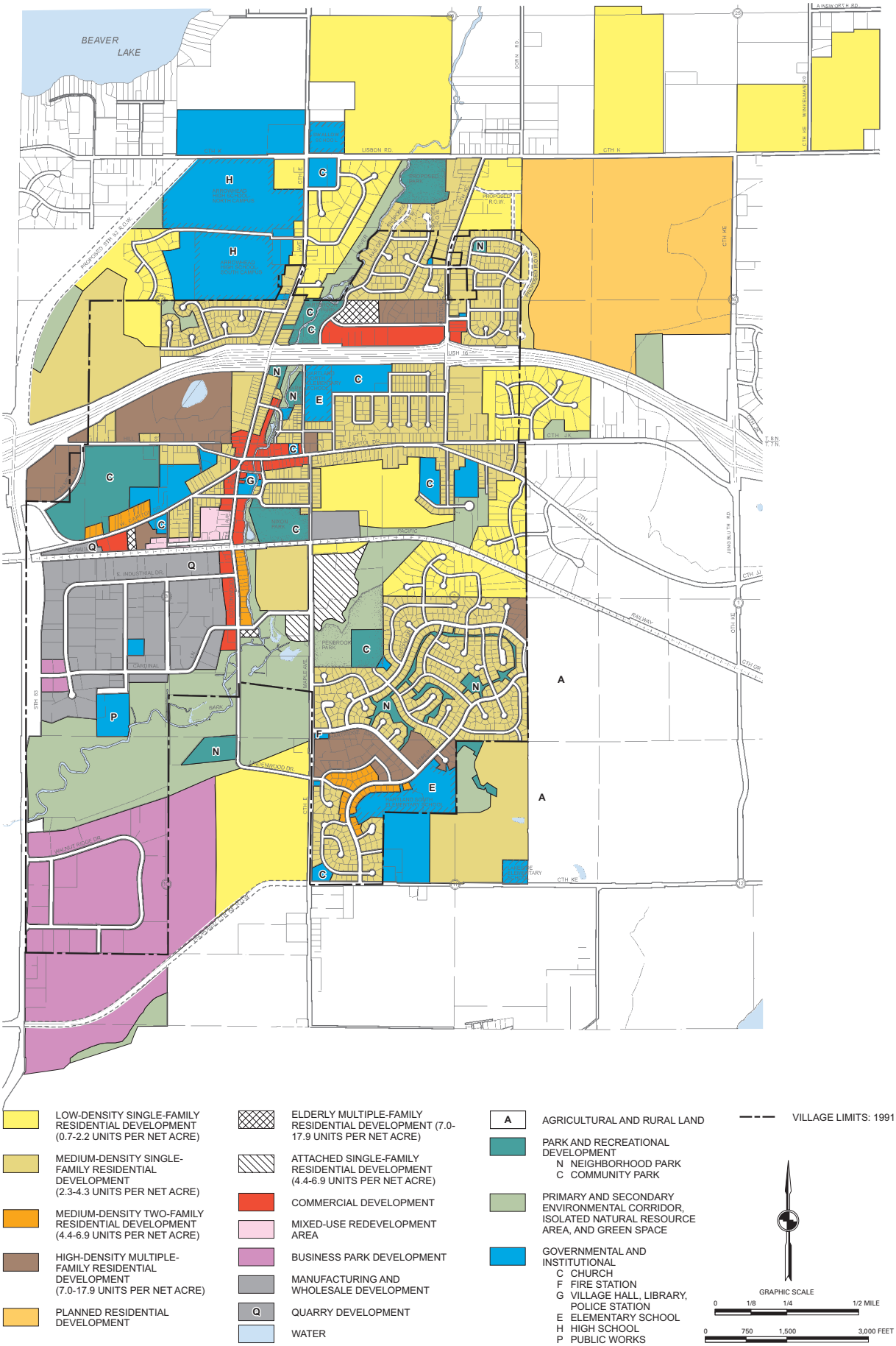
0 1/8 1/4 1/2 MILE

0 750 1,500 3,000 FEET

Source: Village of Hartland and SEWRPC.

Map 31

AMENDED YEAR 2000 LAND USE AND TRAFFIC CIRCULATION PLAN FOR THE VILLAGE OF HARTLAND



Source: Village of Hartland and SEWRPC.

TOPOGRAPHIC AND CADASTRAL MAPS

Good, large-scale topographic and cadastral, or real property, maps were essential to the preparation of a master plan for the Village of Hartland. Topographic maps, at scales of one inch equals 100 feet and one inch equals 200 feet, were prepared for the Village of Hartland and surrounding areas in previous years as part of an ongoing topographic mapping program initiated by Waukesha County and administered by the Regional Planning Commission. This program included Community Development Block Grant funds obtained by the Village to assist the mapping project. The topographic mapping, in both digital and hardcopy form, consists of control survey features, such as U.S. Public Land Survey section corners and section lines; planimetric features, such as roads and buildings; hydrographic features, including streams, lakes, and wetlands; and hypsometric features, such as two-foot contour interval lines and spot elevation values. Cadastral maps, at a scale of one inch equals 200 feet, were also prepared for the Village of Hartland and surrounding areas as part of a recent cadastral mapping project, again, initiated by Waukesha County and administered by the Regional Planning Commission. The cadastral mapping includes property boundary lines, public street right-of-way boundaries, railway right-of-way boundaries, subdivision and platted land boundaries, and associated text such as property dimensions and tax key numbers. This cadastral mapping is also available in digital and hardcopy form.

LAND USE REGULATIONS

Good community development depends not only on sound long-range planning, but on practical plan implementation as well. Land use and development regulations perform a critical role in assuring that a master plan is properly implemented. The following describes the existing regulations in effect in the Village of Hartland study area, including zoning, land division control, official mapping, and pertinent State and Federal regulations.

Zoning

Zoning is one of the major plan implementation devices available to any community. The primary function of zoning should be to implement the community's land use plan. A secondary function of zoning should be to protect desirable existing development. Zoning should be a major tool for the implementation of community plans and not a substitute for such plans.

A zoning ordinance is a law that regulates and restricts the use of private property in the public interest. The ordinance may divide a community into districts to confine or promote certain land uses in areas well suited to those uses. Within a given zoning district, a zoning ordinance may also regulate the height, size, shape, and placement of structures on sites, with the intention of assuring adequate light, air, and open space for each building; reducing fire hazards; and preventing overcrowding, traffic congestion, and the overloading or underuse of utility systems. Zoning may also be used to protect and preserve natural resources.

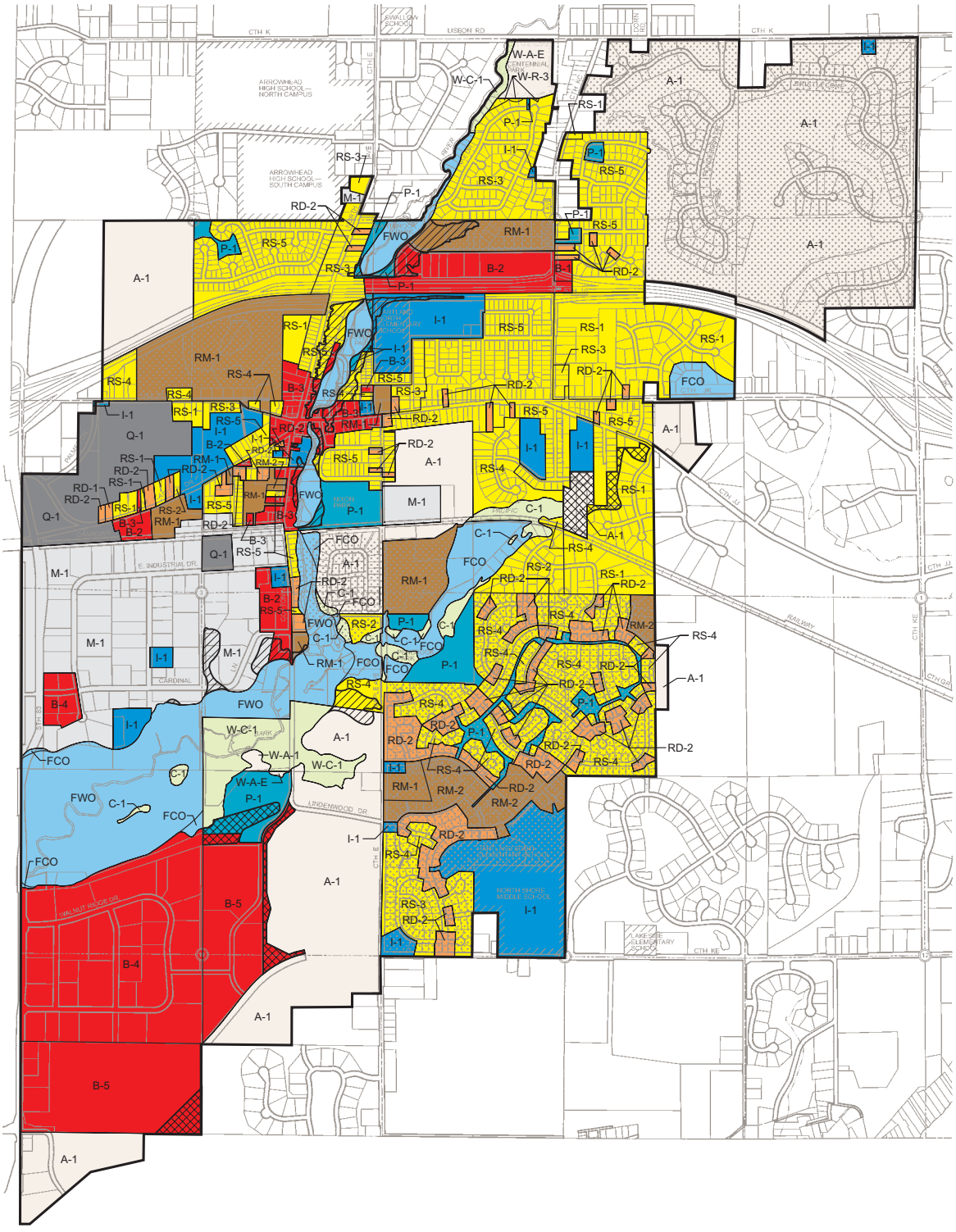
A zoning ordinance typically consists of two parts. The first part, the text, consists of regulations that apply to each of the various zoning districts, together with related procedural, administrative, and legal provisions. The second part, the map, shows the boundaries of the various districts to which the regulations apply.

Village of Hartland Zoning Ordinance

Land development and building activity in the Village of Hartland is regulated by the Village of Hartland Zoning Code as set forth in Chapter 17 of the Village's Municipal Code. Shoreland areas that were annexed into the Village after May 7, 1982, remain subject to Waukesha County shoreland regulations until the Village adopts shoreland regulations that are at least as restrictive as the County's regulations. The Village of Hartland enacted its initial zoning ordinance in 1952 and has updated it from time to time. As of December 31, 1998, the ordinance contained 22 basic zoning districts and five overlay districts, which are shown on Map 32. Table 25 presents a summary of the Village zoning regulations applicable within each district, including permitted and conditional uses, maximum residential density, minimum lot sizes, minimum yard requirements, and maximum building heights. It should be noted that, in January 1999, the Village added another basic zoning district to its ordinance, a RM-3 Condominium Multiple-Family Residential District.

Map 32

EXISTING ZONING IN THE VILLAGE OF HARTLAND: 1998



ZONING DISTRICT BOUNDARY
A-1 AGRICULTURAL/HOLDING
W-A-1 AGRICULTURAL
W-A-E EXCLUSIVE AGRICULTURAL CONSERVANCY
W-R-3 RESIDENTIAL
RSE-1 SINGLE-FAMILY RESIDENTIAL ESTATE (NONE)
RS-1 SINGLE-FAMILY RESIDENTIAL
RS-2 SINGLE-FAMILY RESIDENTIAL
RS-3 SINGLE-FAMILY RESIDENTIAL
RS-4 SINGLE-FAMILY RESIDENTIAL
RS-5 SINGLE-FAMILY RESIDENTIAL
RD-1 TWO-FAMILY RESIDENTIAL
RD-2 TWO-FAMILY RESIDENTIAL
RM-1 MULTI-FAMILY RESIDENTIAL
RM-2 MULTI-FAMILY RESIDENTIAL
B-1 NEIGHBORHOOD BUSINESS
B-2 COMMUNITY BUSINESS
B-3 GENERAL BUSINESS
B-4 BUSINESS PARK DISTRICT
B-5 LIGHT INDUSTRIAL PLANNED DEVELOPMENT DISTRICT
M-1 LIGHT MANUFACTURING AND WHOLESALE BUSINESS
M-2 GENERAL MANUFACTURING (NONE)
Q-1 QUARRYING/EXTRACTIVE
I-1 INSTITUTIONAL
P-1 PARK
C-A CONSERVANCY
W-C-1 CONSERVANCY/WETLAND
FWO FLOODWAY OVERLAY
FCO FLOODPLAIN CONSERVANCY OVERLAY
FLOODPLAIN FRINGE OVERLAY
PLANNED UNIT DEVELOPMENT OVERLAY
UPLAND CONSERVANCY OVERLAY

NOTE: W-A-1, W-A-E, W-R-3, AND W-C-1 ZONING DISTRICTS ARE SUBJECT TO WAUKESHA COUNTY SHORELAND AND FLOODLAND PROTECTION REGULATIONS

GRAPHIC SCALE
0 2000 4000 FEET

Source: Village of Hartland and SEWRPC.

Table 25

SUMMARY OF EXISTING ZONING DISTRICT REGULATIONS FOR THE VILLAGE OF HARTLAND: 1998

Zoning District	Permitted Principal Uses	Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Minimum Lot Size			Minimum Yard Requirements			Maximum Principal Building Height (feet)
				Total Area (square feet)	Area per Dwelling Unit (square feet)	Width at Setback (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
A-1 Agricultural/ Holding	Agricultural-related uses, floriculture, viticulture, truck farming, farm dwellings, forestry, family day care home	Airports, commercial feed lots, housing for farm laborers, communications towers, veterinary clinic, wind energy conversion systems	- -	217,800 (5 acres)	217,800 (5 acres)	200	50	25	50	60
RSE-1 Single-Family Residential Estate	Single-family dwellings, foster family homes, family day care homes, community living arrangements for 8 or fewer persons	Community living arrangements for 9 to 15 persons, wind energy conversion systems, bed and breakfast establishments	1.0	43,560 (1 acre)	43,560 (1 acre)	150	50	30	50	35
RS-1 Single-Family Residential	Same as RSE-1 permitted uses	Same as RSE-1 conditional uses	2.0	22,000	22,000	110	40	20	35	35
RS-2 Single-Family Residential	Same as RSE-1 permitted uses	Same as RSE-1 conditional uses	2.9	15,000	15,000	100	30	15	30	35
RS-3 Single-Family Residential	Same as RSE-1 permitted uses	Community living arrangements for 9 to 15 persons, bed and breakfast establishments	3.6	12,000	12,000	90	30	10 on one side; 25 total	30	35
RS-4 Single-Family Residential	Same as RSE-1 permitted uses	Same as RS-3 conditional uses	4.3	10,000	10,000	80	30	10 on one side; 25 total	25	35
RS-5 Single-Family Residential	Same as RSE-1 permitted uses	Same as RS-3 conditional uses	5.4	8,000	8,000	70	30	10 on one side; 25 total	25	35
RD-1 Two-Family Residential	Two-family dwellings, foster family homes, community living arrangements for 8 or fewer persons	Community living arrangements for 9 or more persons, wind energy conversion systems	5.8	15,000	7,500	90	30	10 on one side; 25 total	25	35
RD-2 Two-Family Residential	Same as RD-1 permitted uses	Community living arrangements for 9 to 15 persons	8.7	10,000	5,000	75	30	10 on one side; 25 total	25	35
RM-1 Multiple-Family Residential	Multiple-family dwellings, foster family homes, community living arrangements for 15 or fewer persons	Community living arrangements for 16 or more persons, housing for the elderly, mobile home parks, wind energy conversion systems	10.9	- -	Efficiency, 4,000;one-bedroom, 5,000; two-bedrooms or more, 6,000	80	30	15 on one side; 35 total	40	35
RM-2 Multiple-Family Residential	Same as RM-1 permitted uses	Community living arrangements for 16 or more persons, housing for the elderly, commercial day care centers	17.4	- -	Efficiency and one-bedroom, 2,500; two-bedrooms or more, 3,000	75	30	15 on one side; 35 total	40	35
B-1 Neighborhood Business	Retail stores, services, offices, shops, financial institutions, clubs, taverns, restaurants, self-service laundries	Drive-in establishments, veterinary services, gasoline stations, commercial day care centers, wind energy conversion systems	- -	20,000	- -	100	40	40	40	35
B-2 Community Business	All B-1 permitted uses plus department stores, furniture stores, theaters, medical and dental clinics, natatoriums, pet grooming, radio broadcasting studios, roller-skating establishments	All B-1 conditional uses plus automobile sales and services, game arcades	- -	20,000	- -	100	30	10	25	45
B-3 General Business	All B-2 permitted uses plus funeral homes, gasoline stations, hotels and motels, resale stores	Veterinary clinics, game arcades, housing for the elderly, motor vehicle repair shops, bed and breakfast establishments, wind energy conversion system	- -	4,800	- -	40	None	None; 8 if provided	25	45

Table 25 (continued)

Zoning District	Permitted Principal Uses	Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Minimum Lot Size			Minimum Yard Requirements			Maximum Principal Building Height (feet)
				Total Area (square feet)	Area per Dwelling Unit (square feet)	Width at Setback (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
B-4 Limited Business and Light Industrial Planned Development	Schools and training centers, offices, wholesalers and distributors, warehousing, light industrial, metal fabrications, printing establishments, dry cleaning, restaurants, hotels, motels	Incinerators, automobile service stations, dyeing establishments, research laboratories, bottling plants, wind energy conversion systems	- -	30,000	- -	150	50[a]	25[a]	25[a]	45
B-5 Light Industrial Planned Development	Offices, business services, training centers, light industrial, metal fabrication, radio and other electronic assembly, printing establishments, wholesalers, distributors	Financial establishments, medical clinics, storage or warehousing establishments, research laboratories, bottling plants, restaurants, government buildings, wind energy conversion systems.	- -	30,000	- -	150	50[a]	25[a]	25[a]	45
M-1 Limited Industrial and Wholesale Business	Fabricating, manufacturing, storage, wholesales, related services	Airports, recreational establishments, research laboratories, heliports, bus and rail depots, communication towers, storage of explosives, motor vehicle repair, wind energy conversion systems	- -	30,000	- -	100	30	10 on one side; 30 total	25	45
M-2 General Industrial	All M-1 permitted uses plus any other manufacturing, fabricating, and storage uses, except manufacturing of explosives, flammable liquids, chemicals, and gaseous or vaporous substances	Airports, recreational establishments, research laboratories, heliports, bus and rail depots, communication towers, wind energy conversion systems, and the storage, manufacture or fabrication of explosives, flammable liquids, chemicals, and gaseous or vaporous substances	- -	40,000	- -	125	30	25	25	45
Q-1 Quarrying/ Extractive	None	Mineral extraction operations, ready-mix and asphalt plants, topsoil operations, wind energy conversion systems	- -	- -[b]	- -	60	100[c]	100[c]	100[c]	75
I-1 Institutional	Schools, churches, hospitals, nursing homes, clinics, museums, art galleries, public administrative offices and service buildings, communication towers, water towers	Cemeteries, crematory services, wind energy conversion systems	- -	8,000	- -	70	30	10 on one side; 25 total	25	35
P-1 Park	Recreational uses, fairgrounds, forest preserves, zoos	Wind energy conversion systems	- -	- -[b]	- -	- -[b]	40	20	40	50
C-1 Conservancy	Certain recreational uses, existing agricultural uses, piers, docks, walkways, silviculture, harvesting of wild crops, maintenance of existing streets, bridges, and drainage systems	New streets, parks and recreation areas, utilities, railroad lines	- -	- -	- -	- -	- -	- -	- -	- -
FWO Floodway Overlay	Streambank protection, agricultural uses excluding structures, parking and loading areas, utility lines and towers, viticulture, certain recreational uses	Nonhabitable accessory structures, municipal water and sewage systems, navigational structures, bridges, marinas	- -	- -	- -	- -	- -	- -	- -	- -
FCO Floodplain Conservancy Overlay	Same as FWO permitted uses	Same as FWO conditional uses	- -	- -	- -	- -	- -	- -	- -	- -

Table 25 (continued)

Zoning District	Permitted Principal Uses	Conditional Uses	Maximum Residential Density (dwelling units per net acre)	Minimum Lot Size			Minimum Yard Requirements			Maximum Principal Building Height (feet)
				Total Area (square feet)	Area per Dwelling Unit (square feet)	Width at Setback (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
FFO Floodplain Fringe Overlay	Permitted uses in underlying zoning district except structures	Filling and floodproofed structures and utilities permitted in the underlying zoning district	--[d]	--[d]	--[d]	--[d]	--[d]	--[d]	--[d]	--[d]
UCO Upland Conservancy Overlay	Forest and game management, park and recreation areas, recreation trails and any permitted uses in the underlying zoning district except structures	Any permitted uses, accessory uses, or conditional uses in the underlying zoning district, including structures	--[d]	--[d]	--[d]	--[d]	--[d]	--[d]	--[d]	--[d]
PUD Planned Unit Development Overlay	--[d]	--[d]	--[d]	--	--	--	--	--	--	--[d]

NOTE: This table is a summary and should not be used to answer zoning related questions. Refer to the official Village of Hartland Zoning Code for specific zoning district information.

[a] *100 feet if abutting a residential district.*

[b] *Lots shall provide sufficient area for the principal structure and its accessory structures, the operation, off-street parking and loading, and all required yards.*

[c] *The area to be extracted shall be set back at least 200 feet from the right-of-way lines of public streets and all property lines.*

[d] *As per underlying basic zoning district requirements.*

Source: Village of Hartland Zoning Code and SEWRPC.

The Village zoning ordinance also includes architectural and landscape design guidelines, adopted in 1993, and a Historic Preservation Ordinance, adopted in 1995, as part of its zoning ordinance. Section 62.23(7) of the *Wisconsin Statutes* requires any city or village containing property listed on the National or State Register of Historic Places to enact a historic preservation ordinance by 1995 to protect and preserve such resources. Thirteen historic buildings and a historic district in the Village, as identified in the previous chapter, are listed on the National Register of Historic Places and the Wisconsin State Register of Historic Places.

Other Zoning Ordinances

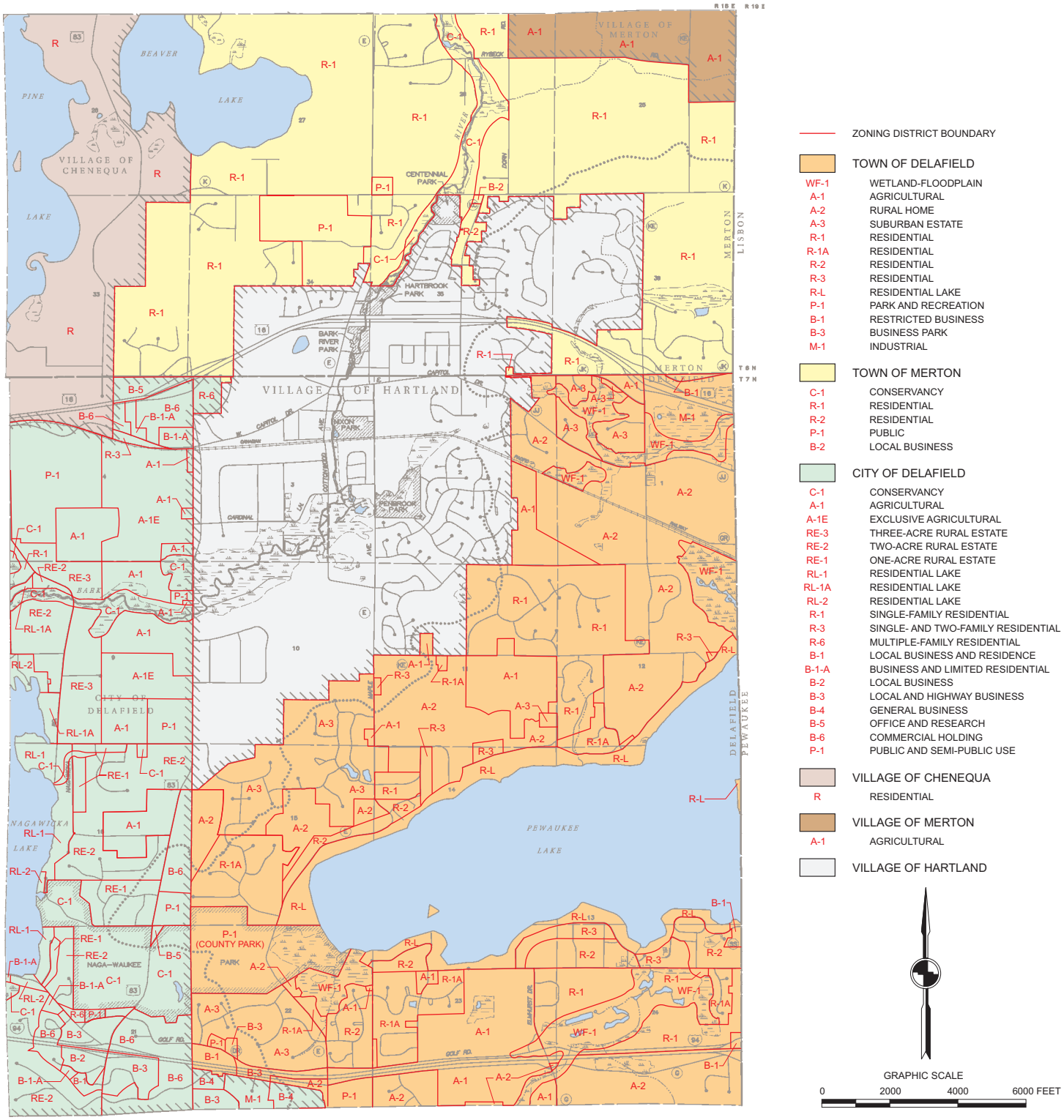
The study area, as noted in Chapter I, lies in Waukesha County and includes portions of the Village of Chenequa, the Town and City of Delafield, and the Town and Village of Merton, each of which have adopted their own zoning ordinances. Since the two Towns in the study area have adopted their own zoning ordinance under village powers, no civil divisions in the study area are under the jurisdiction of the County's general zoning ordinance. However, the shoreland areas in these Towns and certain annexed lands within the study area are regulated by the County's shoreland and floodland protection ordinance, explained below. In cases where regulations for the shoreland areas of Town and County conflict, the more restrictive regulations apply. Map 33 shows the existing zoning districts as of December 31, 1998, on lands in those civil divisions that are adjacent to the Village of Hartland and within the study area. The zoning district regulations for each civil division are summarized in Appendix A.

Waukesha County Ordinances

The Waukesha County Shoreland and Floodland Protection Ordinance was adopted on June 1970 and has been amended periodically. Shorelands are those areas lying within 1,000 feet of the shoreline—ordinary high-water mark—of navigable lakes, ponds, or flowages, or within 300 feet of the shoreline of navigable rivers or streams, or to the landward side of the 100-year recurrence interval floodplain, whichever distance is greater. The floodplains and shorelands in the towns of Waukesha County, including the Towns of Delafield and Merton in the

Map 33

EXISTING ZONING IN THE CIVIL DIVISIONS ADJACENT TO THE VILLAGE OF HARTLAND AND WITHIN THE STUDY AREA: 1998



Source: City of Delafield, Village of Chenequa, Village of Merton, Town of Delafield, Town of Merton, and SEWRPC.

study area, are regulated by this County ordinance. The County ordinance contains 23 zoning districts and two overlay districts. The ordinance includes a C-1 Conservancy/Wetland District that regulates all shoreland-wetlands five acres or larger in size.

Waukesha County Shoreland and Floodland Protection Ordinance regulations apply to areas in the Village of Hartland annexed after May 7, 1982, as indicated on Map 34. After annexation, the Village is responsible for administering the County regulations. Section 59.692(7) of the *Wisconsin Statutes* requires county shoreland regulations to remain in effect in areas annexed after that date unless the annexing city or village has adopted shoreland regulations that are at least as restrictive as the county's regulations. County shoreland regulations are usually more restrictive than city or village regulations, because State regulations requiring the adoption of shoreland zoning ordinances specify more restrictive standards for county ordinances than for city and village ordinances. Some of the provisions that must be included in county shoreland ordinances but are not required in city and village ordinances are larger minimum lot sizes; 75-foot minimum setback requirements from shorelines; limitations on clearing vegetation within 35 feet of shorelines; and restrictions on filling, grading, lagooning, dredging, ditching, and excavating in shorelands. The Waukesha County ordinance also includes a 75-foot minimum setback requirement from the 100-year floodplain or the landward edge of the C-1 Conservancy/Wetland District boundary and limitations on the type of accessory structures allowed within this 75-foot setback. All lands in the study area that are subject to the Waukesha County shoreland and floodland regulations, as of December 31, 1998, are shown on Map 34. As further indicated in this map, only lands annexed into the Village of Hartland after May 7, 1982, were subject to such County regulations.

Waukesha County also adopted a construction site erosion control ordinance on May 5, 1992, and a stormwater management ordinance on May 28, 1998. These ordinances were combined and are now referred to as the Waukesha County Construction Site Erosion Control and Stormwater Management Ordinance, which applies to the unincorporated areas of the County and certain annexed areas. Based on Section 59.693(10) of the *Wisconsin Statutes*, any lands annexed after May 5, 1992, are subject to the County's construction site erosion control regulations, and those annexed after May 28, 1998, are subject to the County's stormwater management regulations, as well as the erosion control regulations, unless the annexing city or village has adopted regulations that are at least as restrictive as the County's regulations. The Ordinance sets forth administrative procedures, performance standards, and enforcement standards. The Ordinance was enacted to preserve and protect the natural resources and quality of waters in the County by reducing the amount of sediment and other pollutants leaving construction sites.

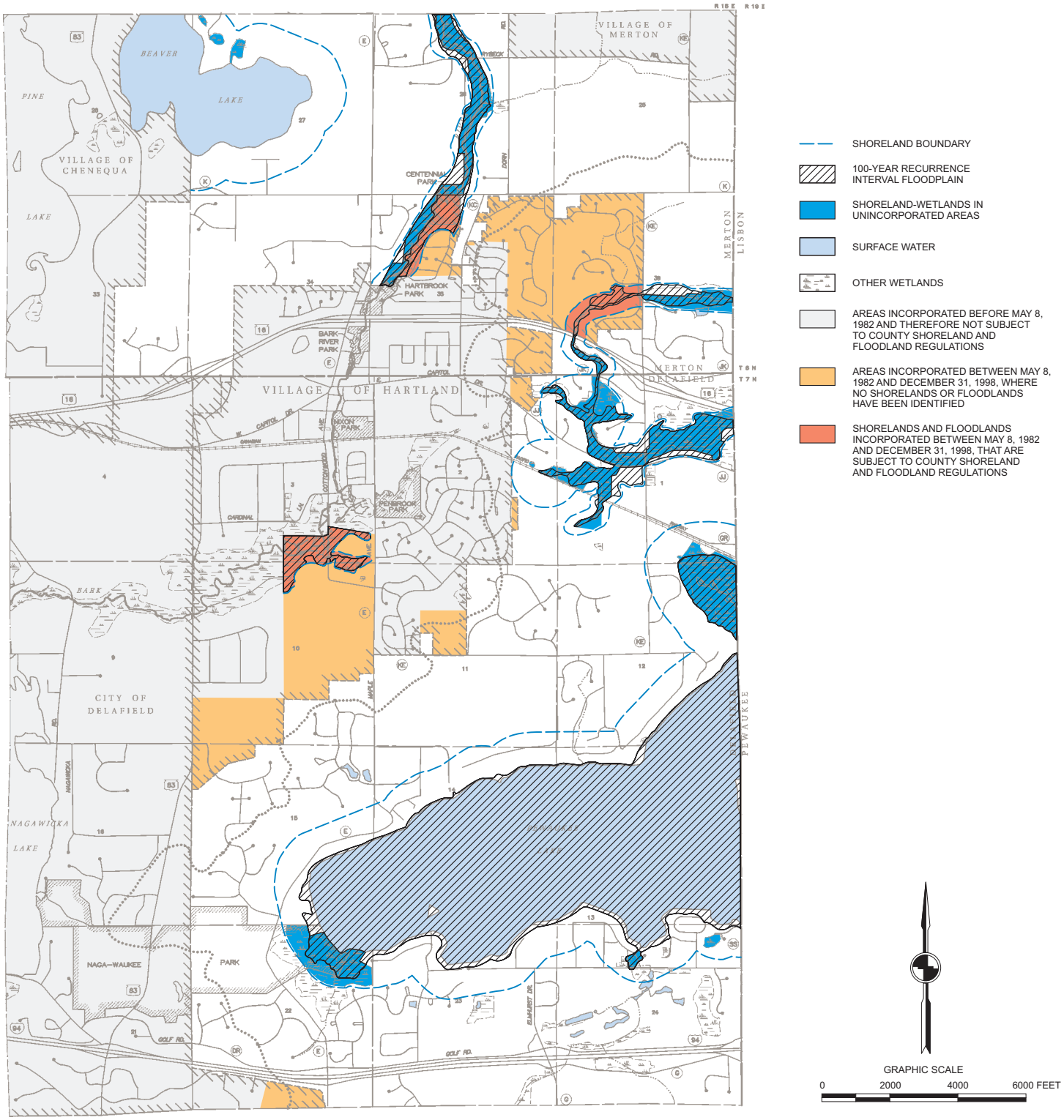
Land Division Regulations

A land division ordinance is a public law that regulates the division of land into smaller parcels. Land division ordinances provide for public oversight of the creation of new parcels and help ensure that new urban development is appropriately located; that lot size minimums specified in zoning ordinances are observed; that adequate rights-of-way for arterial, collector, and minor land-access streets are appropriately located and dedicated or reserved; that access to arterial streets and highways is limited in order to preserve the traffic-carrying capacity and safety of such facilities; that adequate land for parks, drainageways, and other open spaces is appropriately located and preserved; that street, block, and lot layouts are appropriate; and that adequate public improvements are provided.

Ideally, land division control regulations are a means of implementing or carrying out a community comprehensive plan. As such, land division regulations should coordinate and integrate development with the comprehensive plan, and they are, therefore, properly prepared within the context of such a plan. Since land division is not merely a means of marketing land, but rather the first step in the process of building a community, substantial benefits are derived from sound subdivision regulations. Much of the form and character of a community is determined by the quality of its land divisions and the standards which are built into them. Once land has been divided into blocks and lots, streets established, and utilities installed, the development pattern is permanently established and unlikely to be changed. For generations, the entire community, as well as the individuals who occupy these subdivisions, will be influenced by the quality and character of the subdivision design.

Map 34

AREAS IN THE VILLAGE OF HARTLAND STUDY AREA SUBJECT TO WAUKESHA COUNTY SHORELAND AND FLOODLAND PROTECTION ZONING REGULATIONS: 1998



Source: Waukesha County and SEWRPC.

Village of Hartland Land Division Ordinance

The Village of Hartland Land Division Ordinance is set forth in Chapter 18 of the Village's Municipal Code. By reference and associated text, the ordinance conforms to the procedures outlined in Chapter 236 of the *Wisconsin Statutes* for platting lands within the corporate limits of the Village and its extraterritorial plat approval jurisdiction area, that is, areas located outside of the Village's corporate limits but within one and one-half miles of those limits, except when this area may overlap another extraterritorial jurisdiction. When an extraterritorial jurisdiction overlaps with those of another city or village, a line equidistant from the corporate boundaries of each municipality concerned is used to determine the limit of extraterritorial jurisdiction. Such a situation exists and could arise because of the proximity of the Village of Hartland to the Cities of Delafield and Pewaukee and the Villages of Chenequa and Merton. Specifically, the ordinance regulates the creation of "subdivisions," defined as the division of land into five or more parcels of 1.5 acres or smaller, at any one time or by successive divisions within a five year period. Such land divisions are created by a subdivision plat. All other land divisions other than "subdivisions" are also regulated by this ordinance, and may be created through the use of a certified survey map.

The Village land division ordinance sets forth design standards and specific data requirements to be provided on all preliminary plats, final plats, and certified survey maps. Importantly, this ordinance requires a subdivider to install subdivision improvements such as sanitary sewers, water distribution lines, sidewalks, streetlights, street signs, street pavements, stormwater drainage facilities, and erosion and sediment control devices; to provide easements for certain improvements; and to make provision for park, playground, and open space sites or pay a fee in lieu of site dedication.

Other Land Division Ordinances

The Village of Chenequa, Town and Village of Delafield, and the Town and Village of Merton, all located within the Village of Hartland study area, have each adopted land division regulations. Similar to the Village of Hartland, these communities regulate subdivisions created by a subdivision plat and all other minor land divisions, other than "subdivisions," typically created through use of a certified survey map. Waukesha County also adopted a land division ordinance for unincorporated shoreland areas in the County. Any division of land, except the creation of parcels greater than 20 acres or those created to transfer adjacent lands, is regulated by the Waukesha County Shoreland and Floodland Subdivision Control Ordinance. The requirements of the County's ordinance apply in addition to the requirements of the land division ordinance of the affected Towns. In addition, Waukesha County reviews and has approval authority for all subdivisions in unincorporated areas, and has objecting authority for all subdivisions in incorporated areas. The County is designated by Chapter 236 of the *Wisconsin Statutes* as an objecting authority and may object to plats that are in conflict with adopted County plans for any parks, parkways, expressways, major highways, airports, drainage channels, schools, or other planned public developments. The Waukesha County Parks and Land Use staff regularly comments on all plats in the County.

Similar to the Village of Hartland land division ordinance, each of the abovementioned County and local land division ordinances set forth detailed design standards and specific data to be provided on all preliminary plats, final plats, and certified survey maps. These ordinances also require the subdivider to install subdivision improvements prior to final plat approval, although the types of improvements required varies among the civil divisions. The ordinances contain provisions for the dedication of lands for public use or open space purposes, such as parks and recreational facilities, or a fee in lieu of land dedication.

Official Mapping

Official mapping authority, granted to local governments under Section 62.23(6) of the *Wisconsin Statutes*, is an important but historically underutilized plan implementation device. An official map is one of the most effective and efficient devices to manage the problem of reserving land for future public use. The map is intended to identify the location and width of existing and proposed streets, highways, parkways, and drainageways, and the location and extent of railway rights-of-way, public transit facilities, parks, and playgrounds. The adoption of an official map prevents the construction of buildings or structures and their associated improvements on lands designated for future public use. The features shown on an official map may be extended to areas beyond the boundaries of a city or village, but within the extraterritorial plat approval jurisdiction of the municipality.

The Village recently adopted its first Official Map for the Village and environs on April 12, 1999. The Official Map reflects current conditions within the Village corporate limits based on present cadastral maps and also shows the location of three future streets just outside of the Village; a future street extending northeast from STH 83, between STH 16 and CTH K; a future street extending east from E. Imperial Drive, between the Village corporate limits to CTH KE; and the recently completed curved alignment of CTH KE southeast of the Village in the Town of Delafield. The official map should be updated from time to time to continue to facilitate the proper implementation of any adopted development plan proposals, including the development plan set forth in this report, relating to streets, highways, waterways and parkways, railways, public transit facilities, parks, and playgrounds.

The Town of Delafield and the Villages of Chenequa and Merton have also adopted official maps. These maps show general locations for future streets, parks, and parkways in order to reserve land for such future public use. Under Section 80.64 of the Statutes, counties may adopt highway-width maps showing the location and width of proposed new highways and the widths of any highways proposed to be expanded. Such maps serve a function similar to local official maps, but with jurisdiction limited to streets and highways. The Waukesha County Board initially adopted a highway-width map in 1954 and has amended it from time to time. The planned streets and street rights-of-way of the Waukesha County Established Street and Highway Width Map, as it applies to the study area in 1998, are shown on Map 35.

State and Federal Environmental Regulations

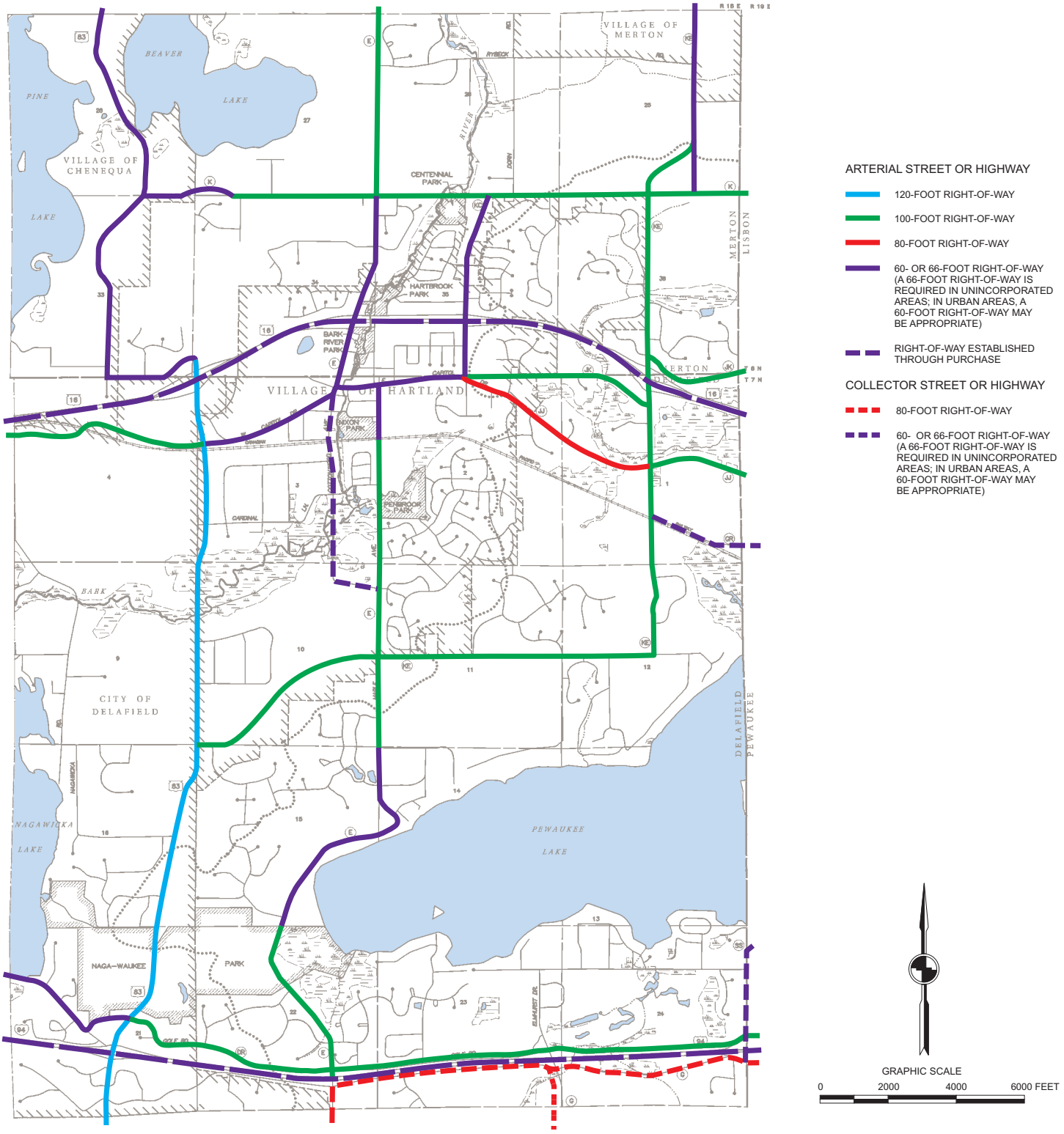
Chapters NR 110 and Comm 82 of the *Wisconsin Administrative Code* require that the Wisconsin Department of Natural Resources, in its regulation of public sanitary sewers, and the Wisconsin Department of Commerce, in its regulation of private sanitary sewers, make a finding that all proposed sanitary sewer extensions conform with adopted areawide water quality management plans and the sanitary sewer service areas identified in such plans, as illustrated in Map 29 of this chapter. If a locally proposed sanitary sewer extension is designed to serve areas not recommended for sewer service in an areawide water quality management plan, the State agencies concerned must deny approval of the extension. The State agency concerned must find that the area proposed to be served is located 1) within an approved sewer service area and 2) outside of areas involving physical or environmental constraints which, if developed, would have adverse water quality impacts. Areas in the Village of Hartland study area having such physical or environmental constraints may include wetlands, shorelands, floodplains, steep slopes, highly erodible soils and other limiting soil types, and groundwater recharge areas, as identified in Chapter III.

Chapter NR 103 of the *Wisconsin Administrative Code* establishes water quality standards for wetlands. These standards, like the more general policies set forth for wetlands protection under Section NR 1.95, are applied by the Wisconsin Department of Natural Resources in all its decisions under existing State authority. In cases where State certification of a proposed wetland modification is denied, the U.S. Army Corps of Engineers permit, discussed below, would also be denied. The water quality standards for wetlands are intended to provide protection to all waters of the State, including wetlands, for all present and potential future uses, such as for public and private water supply; for use by fish and other aquatic life, as well as by wild and domestic animals; for preservation of natural flora and fauna; for domestic and recreational uses; and for agricultural, commercial, industrial and other uses.

Under Section 404 of the Federal Clean Water Act as amended, the U.S. Congress has provided for the regulation of most wetlands in the Nation. That Statute requires the U.S. Army Corps of Engineers, working in cooperation with the U.S. Environmental Protection Agency, to regulate the discharge of dredged and fill materials into waters of the United States, including lakes, rivers, and wetlands. In carrying out this responsibility, the Corps of Engineers identifies waters of the United States, including wetlands, and determines when permits are required for the discharge of dredged and fill materials. Some silviculture, mining, and agricultural activities in water and wetland areas may be exempt from the individual permit requirement; certain minor activities, such as boat ramp construction and shore stabilization, may be undertaken under a pre-approved general, or nationwide, permit. Section 401 of the Act requires that the issuance of such Federal permits must be consistent with State water quality policies and standards.

Map 35

WAUKESHA COUNTY ESTABLISHED STREET AND HIGHWAY WIDTH MAP AS RELATED TO THE VILLAGE OF HARTLAND STUDY AREA: 1998



Source: Waukesha County and SEWRPC.

SUMMARY

Land use development can be guided and shaped in the public interest through planning efforts, the use of good topographic and cadastral maps and other planning data, and sound application of public land use controls. This chapter describes past local and areawide plan documents that relate to the Village of Hartland study area; existing topographic and cadastral—real property—maps available for this planning effort; and existing land use regulations in effect in the study area. The following summarizes the key findings:

- Pertinent recommendations of county and regional plans, as they relate to the Village of Hartland study area, have important implications for any local planning effort and include land use, transportation system, bicycle-way system, water quality management, agricultural soil erosion control, and park and open space plans. Past planning efforts by the Village of Hartland include plans related to land use, transportation, historic preservation, and park and open space elements.

- Topographic and cadastral maps were essential for preparing the master plan for the Village of Hartland. Topographic maps at scales of one inch equals 100 and 200 feet, with two-foot contour intervals, were prepared for the Village of Hartland and surrounding areas. Cadastral maps were also prepared for the same area which show existing property lines and street and railroad rights-of-way. Both types of maps are available in digital and hardcopy forms.

- Zoning regulations are in effect throughout the entire Village of Hartland study area. The Village of Hartland Zoning Ordinance regulates all land within the Village of Hartland corporate limits. The Town and City of Delafield, the Town and Village of Merton, and the Village of Chenequa each have an adopted zoning ordinance to regulate lands within their respective civil division.

- The Waukesha County Shoreland and Floodland Protection Ordinance applies to lands in the unincorporated portions of the study area as well as properties annexed into cities and villages after 1982. The Ordinance regulates lands which are located within 1,000 feet of navigable lakes, ponds, and flowages; and within 300 feet of navigable rivers and streams or to the landward side of the 100-year recurrence interval floodplain, whichever is greater.

- The Waukesha County Construction Site Erosion Control and Stormwater Management Ordinance protects the quality of waters in the County by reducing the amount of sediment and other pollutants leaving construction sites during land development and land disturbing activities.

- The division and improvement of land in the Village of Hartland study area are regulated by land division ordinances. The Village land subdivision control ordinance applies to all land in the Village and within its extraterritorial plat approval jurisdiction. All civil divisions in the study area have adopted land division regulations. The ordinances regulate subdivisions created by plats and other minor land divisions created by certified survey maps. Waukesha County has also adopted land division regulations that apply to the unincorporated shoreland and floodland areas in the County. These ordinances set forth requirements for the appropriate design of lots, subdivision access, and such necessary internal improvements as streets, drainage, and water and sewer facilities.

- Most communities within the Village of Hartland study area, except the City of Delafield and the Town of Merton, have an adopted Official Map. Official maps are intended to reserve land for future public use and open space sites such as streets, drainageways, parks, and parkways within civil divisions as well as the extraterritorial plat approval jurisdiction of cities and villages. Waukesha County has also adopted an Established Street and Highway Width Map that identifies planned streets and street rights-of-way within the County.

- A series of State and Federal environmental regulatory programs control the use of waters and wetlands and the potential water quality impacts of development. These include Chapters NR 103, NR 110, and Comm 82 of the *Wisconsin Administrative Code*, and Sections 401 and 404 of the Federal Clean Water Act.

Chapter VI

SURVEY AND OBJECTIVES

Planning is a rational process for formulating and meeting objectives. Therefore, the formulation of objectives is an essential task that must be undertaken before plans can be prepared. As part of the master planning process, a set of planning objectives, along with supporting principles and standards, were formulated by the Village Plan Commission based, in part, on the results of a community survey. Design guidelines were also formulated for evaluating and guiding future development in the Village. This chapter presents key findings of the community survey as well as the set of planning objectives and supporting principles and standards which were used as a guide in the preparation of the master plan.

COMMUNITY SURVEY

The public participation process undertaken as part of the Village planning effort included a community survey. Conducted in 1999, the survey provided Village residents and business operators an opportunity to share their views regarding various land use and development issues affecting the Village. The survey results are intended to provide the Village Plan Commission with additional insight into the preferences of the local residents and property owners. With this insight, the ability of the Plan Commission to make planning decisions likely to be supported by Village residents and businesses would be enhanced.

Prepared and administered by the University of Wisconsin-Extension, the survey consisted of a return mail questionnaire sent to all residents and nonresident property owners in the Village. In total, 3,523 questionnaires were mailed and 659 property owners responded, representing a return rate of about 19 percent. The survey findings indicate a preference to preserve the small village character and its remaining natural resources while growing somewhat larger in size, but at a slower rate than in the past few years. The majority of participants support single-family residential development and housing for the elderly, but do not support new two- and multi-family residential development. Most participants support commercial development, such as retail, service-oriented, and office-type businesses, but not new industrial development. The majority of respondents also support the continued establishment of a Bark River greenway and additional parks, recreational facilities, and interconnecting systems of walkways, bikeways, and recreational trails. Further improvements to the Village Center were favored by most residents and business owners as well as the establishment of landscape and design standards for all new intense-urban developments, such as multi-family residential, commercial, industrial, and institutional developments. The survey results are summarized in Appendix B and documented in a separate report titled, *Village of Hartland Community Survey Report*, July 2000.

OBJECTIVES, PRINCIPLES, STANDARDS, AND DESIGN GUIDELINES

The planning process included the formulation of a set of objectives intended to express the long-term planning goals of the Village of Hartland. While considering the community survey results, ten major planning objectives, accompanied by principles and standards which support and help explain the objectives, were formulated by the Village Plan Commission to guide the preparation of the master plan. The standards perform a particularly important function in the plan design process since they may be used as a basis to help estimate future community land use needs. In addition, design guidelines, as presented in Appendix C, were established for evaluating and guiding future urban development and redevelopment in the Village of Hartland, including the Village Center. The objectives and supporting principles, standards, and design guidelines should not be used as absolute decision rules for identifying land use patterns and facility needs, since the standards and design guidelines, particularly, should be applied with judgment in more detailed development planning and engineering studies which will be needed during plan implementation. Each Village objective, together with its supporting principles and standards, follows.

OBJECTIVE NO. 1 - LAND USE ALLOCATION

A balanced allocation of space to the various land use categories which meets the social, physical, and economic needs of the Hartland area.

Principle
The planned supply of land set aside for any given use should approximate the known and anticipated demand for that use.

Standard
The amount of land set aside for accommodating forecast growth in the Village of Hartland urban service area should be based upon Table 26.

OBJECTIVE NO. 2 - LAND USE SPATIAL ALLOCATION

A spatial distribution of various land uses which will result in a compatible and efficient arrangement of land uses.

Principle
The proper location and extent of commercial, educational, transportation, and recreational facilities are important determinants of the quality of urban life in the Hartland area and should be designed to meet the needs of the resident population.

Transportation and Utilities Principle
The transportation and public utility facilities and the land use pattern which these facilities serve and support are mutually interdependent in that the land use pattern determines the demand for, and loadings upon, transportation and utility facilities; these facilities in turn, are essential to, and form a basic framework for, land use development.

Standards
1. Urban development should be located to make maximum use of the existing transportation and utility systems.

2. All lands developed or proposed to be developed for urban uses should be located in areas readily serviceable by extensions of the existing public sanitary sewerage system, and, preferably, within the gravity-drainage area of the system.

3. All land developed or proposed to be developed for urban uses should be located in areas readily serviceable by extensions of the existing public water-supply system.

4. Adequate stormwater-management facilities should be provided for all development.

Urban Uses Principle
The proper location of urban uses to land can avoid or minimize hazards and dangers to health, safety, and welfare and can maximize amenity and convenience in terms of accessibility to supporting land uses.

Table 26

URBAN LAND USE STANDARDS FOR THE VILLAGE OF HARTLAND URBAN SERVICE AREA

Land Use Category	Development Standard (gross area)[a]
Residential	
Single-Family Dwellings	
Suburban-Density (1.5- to 4.9-acre lots)	180 to 587 acres per 100 dwelling units
Low-Density (20,000- to 65,339-square-foot lots)	55 to 179 acres per 100 dwelling units
Medium-Density (8,000- to 19,999-square-foot lots)	24 to 54 acres per 100 dwelling units
Two-Family Dwellings	
Upper-Medium-Density (5.5 to 8.7 dwelling units per net residential acre[b])	15 to 24 acres per 100 dwelling units
Multi-Family Dwellings	
High-Density (8.8 to 17.4 dwelling units per net residential acre[b])	7 to 14 acres per 100 dwelling units
Commercial	6 acres per 100 retail trade employees
Industrial	9[c] acres per 100 industrial employees
Governmental and Institutional[d]	
Public Elementary School	10 acres plus one acre per 100 student
Public Middle School	20 acres plus one acre per 100 student
Public High School	30 acres plus one acre per 100 student
Church	2.5 acres per 1,000 persons
Other[e]	4.5 acres per 1,000 persons
Public Outdoor Recreation	
Regional and Multi-Community	In accordance with the adopted Waukesha County Park and Open Space Plan
Community Park and Middle or High School Sites Combined[f]	3.1 acres per 1,000 persons
Neighborhood Park and Elementary School Sites Combined[f]	3.3 acres per 1,000 persons

[a]Gross area includes associated street rights-of-way and off-street parking for each land use category.

[b]Net residential acreage includes only those areas occupied by housing units and associated buildings plus required yards and open spaces. It does not include associated street or utility areas.

[c]Assuming a net land-to-building ratio of from 5:1 to 7:1. If the net land-to-building ratio is between 3:1 and 5:1, then 6.0 acres per 100 employees should be used.

[d]The overall standard for all governmental and institutional uses, including schools, churches, and other governmental and institutional uses, is 12 acres per 1,000 persons.

[e]This category includes hospitals, municipal buildings, libraries, post offices, police and fire stations, and other related governmental and institutional uses.

[f]School sites should be associated with a park site. Natural areas should also be incorporated into the design of a park site; however, such areas as steep slopes, floodlands, drainageways, wetlands, and woodlands should not be included when determining whether acreage standards have been met for accommodating certain recreational facilities. See Table 28 for more details.

Source: SEWRPC.

Standards

1. Facilities such as shopping centers, parks, schools, libraries, and other services should be situated so as to serve the largest population possible that the facilities are intended to serve. Sites for shopping, education, employment, and transit facilities to serve neighborhoods and the community should be provided, in part, in accordance with the standards set forth in Tables 27. Table 27 also provides walking and bicycling travel distance standards that should be met for neighborhood and community services. Sites for outdoor recreation facilities to serve neighborhoods and the community should be provided in accordance with the standards set forth in Table 28.

2. Urban residential uses should be located in well-planned neighborhood units served by centralized public sanitary sewerage and water supply facilities and contain, within reasonable walking and biking distances, necessary supporting local services such as parks, schools, and shopping areas. They should

Table 27

SITE AREA, SERVICE RADIUS, AND TRAVEL DISTANCE STANDARDS FOR COMMUNITY FACILITIES IN THE VILLAGE OF HARTLAND URBAN SERVICE AREA

Facility Type[a]	Service Capacity	Required Site Area (gross acres)	Service Radius: Medium-Density Neighborhood[b] (miles)	Walking Distances[c] (miles)		Biking Distances[c] (miles)	
				Optimum	Maximum	Optimum	Maximum
Shopping Facilities							
Retail and Service Centers							
Neighborhood[d]	4,000 to 10,000 persons	5-15	1.25	0.25	0.50	0.75	1.25
Community[e]	10,001 to 75,000 persons	15-60	1.75	0.50	0.75	1.00	1.75
Highway-Oriented Commercial Developments	15,000 vehicles or more per day[f]	- -[g]	- -	- -	- -	- -	- -
Employment Facilities							
Community Office Developments	1,000 or more employees	Minimum 20	- -	1.00	1.50	3.00	5.00
Community Industrial Developments	300 or more employees	Minimum 20	- -	1.00	1.50	3.00	5.00
Public Transit Facilities							
Local Transit Stops	- -	- -	0.25	0.25	0.50	0.75	1.00
Rapid-Transit Facilities[h]	- -	- -	3.00	0.50	1.00	1.00	3.00
Public Education Facilities							
Elementary School (Grades K-5)	350 to 500 students	13.5-15[i,j]	0.75[m]	0.25	0.50	0.75	1.00
Middle School (Grades 6-8)	750 to 900 students	27.5-29[i,k]	1.00[m]	0.50	0.75	1.00	1.50
Senior High School (Grades 9-12)	1,000 to 1,500 students	40-45[i,l]	1.50[m]	0.75	1.00	1.50	2.00
Community Libraries	- -	- -	1.50	0.75	1.00	1.50	2.00
Public Outdoor Recreational Facilities							
Sub-Neighborhood	-[n]	-[n]	-[n]	0.25	0.50	0.50	0.75
Neighborhood	4,000 to 8,000 persons	5-24[o]	0.75	0.25	0.50	0.50	0.75
Community	Minimum 7,500 persons	25-99	2.00	0.50	1.00	1.50	2.00
Multi-Community	- -	100-249	4.00	- -	- -	3.00	5.00
Major	- -	250 or more	10.00	- -	- -	3.00	5.00

[a] *Service radius standards for fire stations are presented under Objective No. 6 of this chapter.*

[b] *A medium-density neighborhood is defined as an area having between 2.2 to 6.1 dwelling units per net acre, with an average of approximately 6,500 persons per square mile.*

[c] *One-way distances from the farthest dwelling unit to the facility.*

[d] *A neighborhood shopping center is defined as concentrations of stores including a grocery store or supermarket as the anchor and other retail stores and services such as a pharmacy, variety store, beauty parlor, laundromat, or bank that meet the day-to-day needs of neighborhood residents. Neighborhood shopping centers should not deal in such shopper goods as clothing, furniture, and appliances.*

[e] *A community shopping center usually contains at least one supermarket and either a junior department store, discount store, or similar major tenant in addition to other retail stores and services found in neighborhood shopping centers. The need for a neighborhood shopping center can be met by a community shopping center.*

[f] *Indicates minimum average weekday traffic volume required on an abutting freeway, highway, or arterial street.*

[g] *A minimum site area of five acres at an interchange location should be provided for commercial developments serving freeway traffic.*

[h] *Includes park-and-ride lots and car-pool parking lots.*

[i] *Includes both land for the school building and for associated facilities such as parking, loading, and recreation facilities.*

[j] *Elementary school site area is based upon the standard of 10 acres, plus one acre for each 100 students.*

[k] *Middle school site area is based upon the standard of 20 acres, plus one acre for each 100 students.*

[l] *High school site area is based upon the standard of 30 acres, plus one acre for each 100 students.*

[m] *Arrowhead Union School District provides busing services for kindergarten students located one or more miles from their school and for students from grades one through 12 located two or more miles from their school; however, exceptions may be made due to the presence of hazardous conditions.*

[n] *To be determined on an individual sub-neighborhood basis for those sub-neighborhoods that are not an integral part of a specific neighborhood area due to distance or physical barriers such as separation by a major highway or waterway. Such parks should contain about three to five acres of area to accommodate at least a playground and a combined playfield/softball diamond facility.*

[o] *Neighborhood park sites not associated with a school site should contain between 10 to 15 acres in area per park site, depending on the types of outdoor recreation facilities needed to serve the neighborhood residents.*

Source: SEWRPC.

Table 28

STANDARDS FOR PUBLICLY-OWNED OUTDOOR RECREATION SITES FOR THE VILLAGE OF HARTLAND URBAN SERVICE AREA

Site Type	Size (gross acres)	Parks			Schools[a]		
		Minimum Per Capita Requirement (acres per 1,000 persons)[b]	Typical Facilities	Service Radius (miles)[c]	Minimum Per Capita Requirements (acres per 1,000 persons)[b]	Typical Facilities	Service Radius (miles)
Community	25-99	2.2	Swimming pool or beach, nature study area, picnic areas, soccer and other playfields, baseball diamonds, softball diamonds, tennis courts, passive activity area[d]	2.0[e]	0.9	Soccer and other playfields, baseball diamonds, softball diamonds, tennis courts	0.5-1.0
Neighborhood[f]	5-25	1.7	Picnic areas, softball diamonds, tennis courts, playground, soccer and other playfields, basketball goals, ice skating rink, passive activity area[d]	0.5-1.0[g]	1.6	Soccer and other playfields, playground, softball diamonds, tennis courts, basketball goals	0.5-1.0

[a]In urban areas, the facilities commonly found at school recreation sites often provide a substitute for facilities usually found in parks. Indeed, recreation lands at the neighborhood level are most appropriately provided through a joint community-school district venture with the recreational facilities and space being located on one site, available to serve the recreation demands of both the student and the resident neighborhood population.

[b]The per capita acreage standards for neighborhood and community recreation sites are intended to be applied in a combined fashion. In this respect, a total of at least 6.4 acres of land should be provided at neighborhood or community recreation sites for each thousand urban area residents. Of the 6.4 acres, 3.9 acres should be provided at neighborhood or community parks, and 2.5 acres should be provided at school recreation sites or, if not distributed to school sites, then added to neighborhood or community parks.

[c]In the application of these service radius standards, the need for a neighborhood park can be met by a community, multi-community, or major park. The need for a community park can be met by a multi-community or major park.

[d]A passive activity area is defined as an area that provides an opportunity for less athletic recreational pursuits such as pleasure walking, relaxation, and informal picnicking. Such areas are generally in all parks and consist of a landscaped area with mowed lawns, shade trees, benches, and picnic tables.

[e]This standard applies to urban areas with a resident population of at least 7,500 persons. If a municipal population is less than 7,500 persons, then at least one community park should still be provided to serve residents of the municipality.

[f]The acreage standards are for accommodating only outdoor recreational facilities typically located in a neighborhood, exclusive of the natural areas and the area required for school building site and associated parking and loading facilities. Natural areas should be incorporated into the design of a park site; however, acreages of areas with steep slopes, poor soils, floodlands, drainageways, wetlands, and woodlands should be considered as additions to the park-school acreage standards.

[g]A service radius of 0.5 mile should be used in high-density residential areas, 0.75 mile in medium-density residential areas, and 1.0 mile in low-density residential areas. A 0.75 mile radius is generally appropriate in the Village of Hartland urban service area.

Source: SEWRPC.

have reasonable access through the appropriate component of the transportation system to employment centers, community and major shopping centers, cultural and governmental centers, and secondary schools and higher educational facilities. Housing types should be provided pursuant to Objective No. 9 and at densities consistent with those shown in Table 26.

3. Rural and suburban residential uses should have reasonable access through the appropriate component of the transportation system to local service uses; employment, commercial, cultural, and governmental centers; and primary and secondary educational facilities.

4. Retail and service commercial uses should be located in planned centers. Commercial development on each corner of an intersection should be avoided. Avoidance of four-corner commercial development will help prevent the creation of traffic hazards, such as conflicts with turning movements and conflicts between pedestrian and vehicular traffic. Sites for new neighborhood and community commercial facilities should be provided in accordance with the service radius standards set forth in Table 27.

5. Industrial uses should be located in planned industrial centers with access to arterial street and highway facilities and reasonable access through an appropriate component of the transportation system to residential areas. Industrial uses should be provided with adequate water supply, public sanitary-sewerage and stormwater-management facilities, and power supply, including natural gas and electricity. Sites for new community industrial centers should be provided in accordance with the standards set forth in Table 27.

OBJECTIVE NO. 3 – VILLAGE CENTER AND EXISTING COMMERCIAL/INDUSTRIAL USE VITALITY

To maintain the vitality of the Village Center and existing commercial and industrial areas.

Principle
The Village Center is a vital civic, business, and cultural center for the Hartland area, and the continual proper care of the Village Center and existing commercial and industrial areas will help to ensure a viable, long-term business environment.

Village Center Principle
A Village Center provides community-level commercial facilities and services, cultural facilities, and other public and quasi-public facilities and services in convenient proximity to residential areas, where there are inter-connecting streets, sidewalks, and bicycle facilities to ensure ready access.

Standards
1. The Village Center should be established as a compact location of community-level retail and service businesses and specialty stores with some buildings containing mixed-uses, with principal commercial uses located on the lower street level and secondary residential uses located on the upper level. Housing for the elderly should also be accommodated in the vibrant Village Center due to convenient proximity to services, active recreational opportunities, and passive enjoyment of daily activities in the Village Center and along the Bark River.

2. The Village should continue to capitalize on and improve development orientation towards the Bark River corridor as it extends through, and is an integral part of, the Village Center.

3. New community-level commercial facilities and services should be located close to the peak flow of traffic and pedestrians, where such facilities can be conveniently accommodated and, whenever possible, made easily accessible to adequate parking and transportation facilities and utilities.

4. The Village Center should continue as a pedestrian- and bicycle-friendly environment by providing sidewalks and bicycle facilities with other attractive streetscape amenities, including benches, sculptures, and bike stands, where buildings are constructed close to sidewalks and attractive streetscaping is provided to create a unique visual experience.

5. Underdeveloped land in the Village Center should be redeveloped to contribute to the maintenance of a compact relationship between land uses which would reinforce the overall level of convenience and accessibility to downtown businesses as a group. Compact and continuous development in the Center encourages economic vitality and fosters a positive image of the Village.

Existing Commercial and Industrial Use Viability Principle
The preventative maintenance, rehabilitation, and redevelopment of existing commercial and industrial areas are important to the economic vitality of the Village.

Standards
1. Buildings and accessory features, including landscaping and parking lots, which have only minor deterioration should be upgraded and maintained in sound condition to the maximum extent possible.

2. Buildings and accessory facilities which have significantly deteriorated should be repaired and rehabilitated and measures should be taken to eliminate or minimize future deterioration.

3. Buildings and accessory facilities which have deteriorated to the point of becoming a health or safety hazard for occupants and which are not economically feasible to rehabilitate should be considered for replacement with new development.

OBJECTIVE NO. 4 - NATURAL RESOURCES PROTECTION

Encourage the protection and wise use of the natural resources and agricultural lands in the study area. The preservation of sufficient high-quality open space lands for protection of the underlying and sustaining natural resource base will enhance the social and economic well-being and environmental quality of the Hartland area.

Principle
The proper allocation of land uses can assist in maintaining an ecological balance between human activities and the natural environment. Such ecological balance and natural beauty are important determinants of a community's ability to provide a pleasant and habitable environment for all forms of life. Preservation of the most significant aspects of the natural resource base, that is, primary environmental corridors and significant agricultural lands, further contributes to the maintenance of the ecological balance, natural beauty, and economic well-being of the Village and environs.

Soils Principle
The proper relation of urban and rural land use development to soils can serve to avoid costly environmental and developmental problems, aid in the establishment of better settlement patterns, and promote the wise use of an irreplaceable resource.

Standards

1. Sewered urban developments should not be located in areas covered by soils having severe development limitations, such as high or fluctuating water tables, slow permeability rates, erodibility on slopes, low bearing capacity, high shrink-swell potential, and frost-heave. When development is proposed on soils exhibiting severe limitations, careful attention should be given in the design to properly overcome these limitations.

2. Unsewered rural developments surrounding the Village should not be located in areas covered by unsuitable soils for such developments. When development is proposed on soils exhibiting unsuitable conditions, careful attention must be given in the design to overcome these limitations properly. Such development should utilize open space and conservation design concepts whenever possible.

3. Undeveloped areas surrounding the Village that are covered by the most productive soils for agricultural use, those designated by the U.S. Natural Resources Conservation Service as comprising agricultural soil capability Classes I and II, and which are not required to meet the land use needs of the forecast design year resident population and economic activity levels for the Hartland area should be preserved for agricultural use.

4. The location of nonfarm residential development in prime agricultural areas surrounding the Village should be discouraged. If permitted, development should be limited to densities of five acres or greater per dwelling unit, provided the locations can accommodate an acceptable private well system and are covered by soils suitable for the use of onsite sewage-disposal systems. Such development should utilize open space and conservation design concepts.

Lakes and Streams Principle
Lakes and streams and their associated floodlands and shorelands contribute to the community's environmental health in a number of ways. They add to the atmospheric water supply through evaporation; provide a suitable environment for desirable and sometimes unique plant and animal life; provide the population with opportunities for certain scientific, cultural, and educational pursuits; constitute prime recreational areas; provide a desirable aesthetic setting for certain types of land use development; serve to store and convey flood waters; and provide a source of water.

Standards

1. Floodlands should not be allocated to any urban development which would cause or be subject to flood damage.

2. The floodwater storage capacity of natural floodlands should not be reduced by urban or rural development.

3. The flow capacity of perennial stream channels and associated floodlands should not be reduced below existing conditions.

4. Adequate stormwater drainage facilities should be provided for all development.

Wetlands Principle
Wetlands perform a variety of important functions that make them invaluable resources. These functions include: supporting a wide variety of desirable and sometimes unique plant and animal life; assisting in the stabilization of lake levels and streamflows; trapping and storing plant nutrients in runoff, thus reducing the rate of enrichment of surface waters and obnoxious weed and algae growth; contributing to the atmospheric oxygen supply; contributing to the atmospheric water supply; reducing stormwater runoff by providing area for floodwater impoundment and storage; trapping soil particles suspended in runoff and thus reducing stream sedimentation; and providing the population with opportunities for certain scientific, educational, and recreational pursuits.

Standard
Wetland areas adjacent to streams or lakes and wetlands within areas having special wildlife and other natural values should not be drained or filled and should not be allocated to any urban development except limited recreational use. To the extent practicable, areas immediately adjacent to and surrounding wetlands should be kept as a buffer with permanently vegetated open space uses within at least 15 feet of said wetlands.

Woodlands Principle
Woodlands assist in maintaining unique natural relationships between plants and animals; reduce stormwater runoff; contribute to the atmospheric oxygen supply; contribute to the atmospheric water supply through transpiration; aid in reducing soil erosion and stream sedimentation; provide the resource base for the forest product industries; provide the population with opportunities for certain scientific, educational, and recreational pursuits; and provide a desirable aesthetic setting for certain types of land use development.

Standard
Woodlands having an area of five acres or more should not be allocated to urban development except for limited recreational uses. When urban development does occur in such areas, the impact upon the woodland areas should be minimized by practicing sound conservation design principles.

Wildlife Principle
Wildlife, when provided with a suitable habitat, will supply the population with opportunities for certain scientific, educational, and recreational pursuits; comprises an integral component of the life systems which are vital to beneficial natural processes, including the control of harmful insects and other noxious pests and the promotion of plant pollination; provides food sources; offers an economic resource for the recreation industries; and serves as an indication of environmental health.

Standards
1. The most suitable habitat for wildlife, that is, the area wherein fish and game can best be fed, sheltered, and reproduce, is a natural habitat. Since the natural habitat for fish and game can best be achieved by preserving or maintaining in a wholesome state other resources such as soil, air, water, wetlands, and woodlands, the standards for each of these other resources, if met, would ensure the preservation of a suitable wildlife habitat and population.

2. Wildlife populations should be maintained in balance with the holding capacity of the land.

Natural Areas and Critical Species Habitats Principle
Natural areas and critical species habitats are important in a number of ways including economically, insofar as they support advances in agriculture and medicine; functionally insofar as they enhance surface-water and groundwater quality, minimize erosion, and enhance air quality; educationally; recreationally; aesthetically; scientifically; and biologically insofar as they maintain biological and genetic diversity. In a less tangible but equally important way, natural areas and critical species habitats contribute to mental well-being and to the overall quality of human life.

Standard
The remaining natural areas and critical species habitat areas should be preserved.

Environmental Corridor and Isolated Natural Resource Area Principle
The primary and secondary environmental corridors and isolated natural resource areas are a composite of the best individual elements of the natural resource base, including lakes, rivers, and streams and their associated floodlands, wetlands, woodlands, wildlife habitat areas; rugged terrain consisting of slopes 12 percent or greater; wet, poorly drained or organic soils; and significant geological formations. By protecting these elements of the natural resource base, flood damage can be reduced, soil erosion abated, water supplies protected, air cleansed, wildlife population enhanced, and continued opportunities provided for scientific, educational, and recreational pursuits.

Standards

1. All remaining undeveloped lands within designated primary environmental corridors[1] should be preserved in essentially natural, open use.

2. All remaining undeveloped lands within the designated secondary environmental corridors[2] and isolated natural resource areas[3] should be considered for preservation as urban development proceeds and be incorporated, as appropriate, for use as drainageways, floodwater detention areas, and parks.

OBJECTIVE NO. 5 - RECREATION

To provide an integrated system of public outdoor recreation sites and related open space areas that will provide the residents of the Hartland area with adequate opportunities to participate in a wide range of outdoor recreation activities.

Principle

The provision of outdoor recreation sites and related open space areas contributes to the attainment and maintenance of physical and mental health by providing opportunities to participate in a wide range of activities. An integrated park and related open space system properly related to the natural resource base, such as the existing surface water network, can generate the dual benefits of satisfying recreational demands in an appropriate setting and protecting and preserving valuable natural resource amenities. Finally, an integrated system of outdoor recreation sites and related open space areas can contribute to the orderly growth of the Hartland area by lending form and structure to urban development patterns.

Public Outdoor Recreation Sites and Facilities Principle

Public, general-use, outdoor recreation sites promote the maintenance of proper physical and mental health both by providing opportunities to participate in such athletic recreational activities as baseball, swimming, tennis, and ice-skating, activities that facilitate the maintenance of proper physical health because of the exercise involved, as well as opportunities to participate in such less athletic activities as pleasure walking, picnicking, or just rest and reflection. These activities tend to reduce everyday tensions and anxieties and thereby help maintain proper physical and mental well-being. Well designed and properly located public general-use outdoor recreation sites also provide a sense of community, bringing people together for social and cultural as well as recreational activities, and thus contribute to the desirability and stability of residential neighborhoods and of the communities in which such facilities are provided.

Standard

Local governments should provide recreation sites sufficient in size and number to meet the recreation demands of the resident population. Such sites should contain the natural resource or human-made amenities appropriate to the recreational activities to be accommodated therein and be spatially distributed in a manner which provides ready access by the resident population. To achieve this standard, the site requirements indicated in Table 28, as well as the service radius and travel distance standards established in Table 27, should be met.

Recreation-Related Open Space Principle

Effective satisfaction of recreation demands within the Region cannot be accomplished solely by providing general-use outdoor recreation sites. Certain recreational pursuits, such as hiking, biking, in-line skating, cross-country skiing, canoeing, and kayaking are best provided through a system of recreation corridors located on or adjacent to linear resource-oriented open space areas. Resource-oriented outdoor recreational activities rely on natural resource amenities for their very existence or are significantly enhanced by the presence of natural features. A well-designed system of recreation corridors offered as an integral part of linear open space lands also can serve to connect existing and proposed public parks, thus forming a truly integrated park and recreation-related open space system. Such open space lands, in addition, satisfy the human need for natural

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[1] *Primary environmental corridors are, by definition, at least two miles in length, 400 acres in area, and 200 feet in width.*

[2] *Secondary environmental corridors are at least one mile in length and 200 acres in area. Such corridors that link or serve to connect primary environmental corridor segments, particularly when the secondary corridors are related to surface drainage, have no minimum area or length criteria.*

[3] *Isolated natural resource areas are at least five acres in area and 200 feet wide. Such areas consist primarily of isolated wetland and woodland areas which have been separated physically from the environmental corridor network by intensive urban or agricultural land uses.*

surroundings, serve to protect the natural resource base, and ensure that many scenic areas and areas of natural, cultural, or historic interest assume their proper place as form determinants for both existing and future land use patterns.

Standards
The public sector should provide sufficient open space lands to accommodate a system of resource-oriented recreation corridors to meet the resident demand for trail-oriented recreational activities. To fulfill these requirements, the following standards should be met:

1. Resource-oriented recreation corridors should maximize use of environmental corridors, while protecting environmentally sensitive resources, for trail-oriented recreation activities; outdoor recreation facilities provided at existing public park sites; and existing recreational trail facilities. Major recreation corridors are identified in the Waukesha County Park and Open Space Plan.

2. The maximum vehicular travel distance to major recreation corridors should be five miles in urban areas and 10 miles in rural areas. Local recreation corridors should be conveniently accessible to residents in neighborhood units. These corridors should also function as a greenway system that interconnects local parks, and that ultimately connects to a major recreation corridor.

3. A minimum of 0.16 linear mile of recreation-related open space consisting of linear major recreation corridors should be provided for each 1,000 persons in the Region, including those in the Village of Hartland study area. No minimum size requirements are necessary for creating linear recreation corridors; however, a width of at least 200 feet wide is recommended to the extent practicable. There is no minimum length requirement for the provision of local recreation corridors since such corridors should be provided whenever possible.

OBJECTIVE NO. 6 – TRANSPORTATION SYSTEM

To provide an integrated transportation system with a high aesthetic quality which, through its location, capacity, and design, will effectively serve travel demand generated by the existing and proposed land uses.

Principle
An integrated transportation system connects various land use activities in neighborhoods, communities, counties, and the Region, thereby providing the accessibility needed to support these activities. As a major feature of a community, transportation facilities should possess a high aesthetic quality with proper visual relation to the land- and cityscape to help preserve the beauty of the physical environment, which is conducive to the mental health and well-being of people.

Standards
1. Arterial streets and highways and supporting collector and land access streets should provide access not only to all land presently devoted to urban use but also to land planned for such use. All streets and highways in the Village of Hartland urban service area should be placed into one of the following functional classifications:

   Minor Land-Access Streets
   This subsystem provides access to and from individual building sites.

   Collector Streets
   This subsystem collects traffic from urban uses abutting land access streets and conveys it to arterial streets and/or activity centers.

   Arterial Streets
   This subsystem provides for the expeditious movement of through traffic into, out of, and within the community. Where possible, arterial streets should not be located through existing or planned residential neighborhoods.

2. Streets and highways in the Village of Hartland urban service area should be improved to cross-sections that are similar to the Village of Hartland's preferred cross-sections shown in Figure C-1 in the street design guidelines section of Appendix C.

3. The Village should support a regional transportation system plan which includes a mass transit element for the greater Milwaukee area.

4. Off-street parking and loading facilities should be located near the land uses which they are intended to serve.

5. Bicycle and pedestrian facilities should be provided as part of an overall transportation system to reduce air pollution, reduce energy consumption, encourage outdoor recreational pursuits, improve public health, reduce transportation cost, and provide for convenient travel between residential areas and shopping centers, schools, parks, and transit facilities. A community bicycle and pedestrian facilities plan should be based, in part, on the planning and design standards established for such facilities in SEWRPC Planning Report No. 43, *A Regional Bicycle and Pedestrian Facilities System Plan for Southeastern Wisconsin: 2010*, December 1994 and in an amendment thereto. Bikeways and pedestrian ways should:

    a. Be provided to connect residential areas with major activity centers and places of employment located within reasonable walking and biking distances of such areas as indicated in Table 27.

    b. Bicycle parking and storage facilities should be provided at all major activity centers.

    c. The bikeway system plan should be detailed in the Village of Hartland park and transportation system plans.

6. Transportation facilities have a significant impact on the visual character of a community and, therefore, should meet the following standards:

    a. Transportation facility construction plans should be developed using sound geometric, structural, and landscape design standards which consider the aesthetic quality of the transportation facilities and the areas through which they pass.

    b. Transportation facilities should be so located as to avoid or minimize disturbance of visually pleasing buildings, structures, historic sites, and natural features and to enhance, and avoid interference with, vistas to such features.

OBJECTIVE NO. 7 - FIRE PROTECTION

To provide facilities necessary to maintain high-quality fire protection throughout the urban service area.

Principle
The adequacy of fire protection in the urban service area is dependent upon the relationship between the distribution of urban land uses and the location of facilities available to serve those urban uses.

Standards
1. Fire stations and equipment should be based, in part, on the fire protection service guidelines provided in the most recent edition of a document published by the Insurance Services Office (ISO) entitled *Fire Suppression Rating Schedule*.

2. A fire station service area should be based on the following fire equipment service area standards: two and one-half "road miles"—response distance lines—for a ladder company for areas containing five or more three-story buildings and one and one-half "road miles" for an engine company.[4] The fire protection service area or response district of an engine or ladder company, which must be housed in a fire station, is measured by the length of streets, "road miles," in all directions from a fire station. The distance standards should be reduced if streets are narrow or in poor condition; if traffic, one-way streets, topography, railway crossings, waterways, or other unusual locational conditions may hinder response; or if other circumstances peculiar to the particular response district or municipality indicate that such a reduction is needed.

[4]*The need for an additional engine company and/or ladder company should be further based on the number of hydrants or amount of lineal length of streets in a fire protection service area. For example, the total amount of hydrants or lineal length of streets should be determined for those areas lying within an existing fire station response district and for those areas lying within urban service areas that extend beyond this existing district. If the total number of hydrants or lineal miles of streets in the outlying urban service area exceeds 50 percent of the total number of hydrants or lineal miles of streets in the existing fire station service area, then an additional fire engine company and/or ladder company, housed in a fire station, should be provided and centrally located in the outlying urban area. For further explanation, refer to the* Field Procedures Reference Guide*, published by the ISO Commercial Risks Services, Inc., in January 1988.*

OBJECTIVE NO. 8 - LIBRARY SERVICES

To provide a full range of library services to meet the social, educational, informational, and recreational needs of the residents of the Hartland area.

Principle
The provision of adequate library facilities and services are an important component of the necessary educational and recreational opportunities that should be accessible to every person residing within a library's service area to ensure the social well-being of an area. The public library is a vital component of a community's culture. It functions as a resource capable of enhancing understanding and promoting the community's well-being.

Standards
1. Community libraries should be planned, at a minimum, to meet the State's most current library standards, including those specified in *Wisconsin Library Building Project Handbook*, 1990; *Public Library Space Needs: A Planning Outline*, 1998; and *Wisconsin Public Library Standard (3rd Edition)*, 2000, published by the Wisconsin Department of Public Instruction.

2. A community library should have interlibrary resource and service exchange agreements with school, academic, and special libraries within its service area and with other systems in the Region, as well as access to the resources of State- and National-level libraries through the interlibrary network.

OBJECTIVE NO. 9 - HOUSING

To provide adequate location and choice of housing types for varied age and income groups of different size households and for persons with special needs.

Principle
Adequate choice in the type, size, cost, and location of housing units will assure equal housing opportunity. Proper maintenance, preservation, and, as necessary, rehabilitation of the Village's existing housing stock will help to continue to contribute to an adequate supply of sound housing.

Standards
1. Housing units in the Village of Hartland urban service area should be geographically well distributed and include a full range of housing types, sizes, and costs, including detached single-family homes, two-family homes, multi-family townhouses, multi-family apartments and condominiums, and housing for persons with special needs.

2. The supply of vacant and available housing units should be sufficient to maintain and facilitate ready housing consumer turnover. Vacancy rates should be maintained at a minimum of 4 percent and a maximum of 6 percent for rental units, and a minimum of 1 percent and a maximum of 2 percent for homeowner units in a full range of housing types, sizes, and costs.

3. Residential densities in the Village of Hartland planned urban service area should generally be allocated as follows:

    a. Approximately 60 percent of the total housing units should consist of detached single-family dwelling units at densities of 5.4 units or less per net residential acre, or on lots 8,000 square feet or larger in size.

    b. Approximately 10 percent of the total housing units should consist of two-family dwellings at densities of 8.7 units or less per net residential acre.

    c. Approximately 30 percent of the total housing units should consist of multi-family dwellings at densities of 17.4 units or less units per net residential acre.

4. Important to the establishment of an adequate supply of sound housing is the continual need for preventive maintenance of existing housing units and early rehabilitation of deteriorating housing units undertaken as follows:

a. Basically sound housing units which have only minor defects[5] should be upgraded and maintained in proper condition to the maximum extent possible.

b. Sound housing units which have major defects[6] should be repaired and rehabilitated and measures should be taken to eliminate or minimize future deterioration.

c. Housing units which have deteriorated to the point of becoming a health or safety hazard for their occupants and which are not economically feasible to rehabilitate should be removed and replaced by decent, safe, and sanitary housing units.

OBJECTIVE NO. 10 - HISTORIC PRESERVATION

To preserve the historic heritage of the Village of Hartland.

Principle
The preservation of structures, sites, and districts possessing historical or architectural significance will promote the educational, cultural, and general welfare of residents of the Village of Hartland and provide for a more interesting, attractive and vital community. Accordingly, it is in the public interest to promote the protection, enhancement, perpetuation, and use of sites and improvements of special historic interest or value.

Standards
1. Historic sites, buildings, and structures identified in an intensive historic survey should be protected through the application and enforcement of the Village historic preservation ordinance and the Village of Hartland Architectural Board.

2. The standards promulgated by the U.S. Department of the Interior may be used for any historic preservation projects in the Village of Hartland. These standards govern all forms of historic preservation treatments, including acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction. The following general standards may be applied to treatments undertaken on designated historic properties in the Village of Hartland:

   a. Every reasonable effort should be made to use a structure or site for its originally intended purpose, or to provide a compatible use that requires minimal alteration of the site or structure and its environment.

   b. The distinguishing original qualities or character of a building, structure, or site and its environment should not be destroyed. The removal or alteration of any historic materials or distinctive architectural features should be avoided whenever possible.

   c. All buildings, structures, and sites should be recognized as products of their own time. This should be considered before alterations are undertaken which have no historical basis and which seek to create an antique appearance.

   d. Changes which may have taken place in the course of time are evidence of the history and development of a building, structure, or site and its environment. If these changes have acquired significance in their own right, their significance should be recognized and respected.

   e. Distinctive stylistic features or examples of skilled craftsmanship which characterize a building, structure, or site should be treated with sensitivity.

   f. Deteriorated architectural features should be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match that being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historical, physical, or pictorial evidence, rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.

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[5] *Minor defects are those defects which do not impair the livability of the housing unit nor accelerate the physical deterioration of the structure, e.g., peeling paint, loose gutters or downspouts, or cracked windows.*

[6] *Major defects are those defects which can impair the livability of the housing unit and may accelerate the physical deterioration of the structure, e.g., large areas of exposed unpainted or unprotected wood, cracks in walls, or missing roof shingles or siding materials.*

g. The surface cleaning of structures should be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage historic building materials should not be undertaken.

h. Every reasonable effort should be made to protect and preserve archaeological resources affected by, or adjacent to, any acquisition, protection, stabilization, preservation, rehabilitation, restoration, or reconstruction project.

i. Contemporary design for alterations and additions should not be discouraged when such changes do not destroy significant historical features and are compatible with the scale, mass, and architectural features of the historic property and its environment.

j. New additions should be designed so that if removed, the integrity of the structure is not impaired.

SUMMARY

This chapter presents the planning objectives chosen by the Village Plan Commission to express the physical development goals of the Village of Hartland and to guide the preparation of the Village master plan. These objectives, along with supporting principles, standards, and design guidelines, were based, in part, upon the results of a community survey conducted in 1999. Key findings include:

- A community survey indicated that most Village residents and business operators value its small-village character and precious natural resources. They prefer to grow somewhat larger in size but at a slower rate than the past few years; support single-family residential development and housing for the elderly but oppose new two- and multi-family residential development; support commercial development but not new industrial development; favored a Bark River greenway and additional parks, recreational facilities, and an interconnecting system of walkways, bikeways, and trails; and favored further improvements to the Village Center while establishing design standards for new intense urban developments.

- Ten planning objectives were formulated, with supporting principles and standards, intended to guide future planning and development. The objectives deal primarily with: 1) allocation of various land uses, 2) spatial distribution of various land uses, 3) maintenance of the vitality of the Village Center and existing commercial and industrial areas, 4) protection of the natural resource base, 5) provision of adequate recreational opportunities, 6) provision of an integrated transportation system with a high aesthetic quality, 7) provision of high-quality fire protection services, 8) provision of adequate library services, 9) provision of an adequate variety of housing types, and 10) preservation of historic resources.

- Design guidelines were established for use by local officials to provide guidance to developers and to evaluate development and redevelopment proposals, including related site, landscaping, and building plans. These guidelines may also provide potential design ideas for improving the visual quality of the Village or provide potential solutions to design problems with respect to both urban design and site planning for the Village, including the Village Center.

Chapter VII

THE MASTER PLAN

A master plan is an official statement of a municipality reflecting major objectives concerning the desirable physical development of the community. The master plan for the Village of Hartland, as set forth in this chapter, consists of recommendations for the type, amount, and spatial location of various land uses and supporting community facilities required to serve the needs of the Village residents through 2020. The master plan also recommends a street, recreation trail, and bicycle-way system and concentrated areas of important natural resources to be preserved. The plan further contains design recommendations for development and redevelopment in the Village, including the Village Center.

The master plan is intended to be used as a tool to help guide the physical development of the Hartland community into a more efficient and attractive pattern, and to promote the public health, safety, and general welfare of the community. The plan promotes the public interest rather than the interests of individuals or special groups. The very nature of the plan contributes to this purpose, for the plan facilitates consideration of the relationship of all development proposals, whether privately or publicly advanced, to the overall physical development of the entire community. The plan also provides a focus for citizen participation in the planning and subsequent development process.

The Village master plan is long-range, providing a means of relating day-to-day development decisions to long-term planning objectives. In the case of Hartland, the master plan is intended to provide for the future, as well as present, needs of the Village and its environs to the plan design year 2020. The plan, however, should not be considered rigid and unchangeable, but rather as a guide to help local officials and concerned citizens review development proposals. As conditions change from those used as a basis for the preparation of the plan, the plan should be revised as necessary. Accordingly, the plan should be reviewed periodically to determine whether the planning objectives are still valid, as well as to determine the extent to which the various objectives are being realized through plan implementation. The plan should be reviewed prior to 2010 to incorporate changes needed to comply with the comprehensive planning, or "Smart Growth," legislation enacted by the Wisconsin Legislature in 1999. This legislation requires any action of a local government relating to zoning, subdivision, or official mapping ordinances to be consistent with the community's Comprehensive Plan as of January 1, 2010.

PLAN FRAMEWORK

Existing Conditions, Plans, and Regulations

Information regarding the natural and built environments is essential to any sound master planning effort. An analysis of the natural resource base and existing land uses, community facilities, and public utilities of the Hartland study area was provided in Chapters III and IV of this report. The master plan for the Village of Hartland planned urban service area properly takes into account the location of important natural features, including soils

and topography, water resources and associated wetlands and floodplains, woodlands, and wildlife habitat areas, as well as areas already developed or committed to urban development.

Pertinent recommendations of areawide and local plans, as they relate to the Village of Hartland, have important implications for any local planning effort. Broader county and regional plans considered during the preparation of the Village master plan include land use, transportation system, bicycle-way system, water quality management, agricultural soil erosion control, and park and open space plans as discussed in Chapter V. Past planning efforts by the Village of Hartland that were also considered include plans related to land use, transportation, historic preservation, and park and open space elements.

The plan also considers local development objectives reflected in adopted land use regulations. Chapter V provides information on land use control ordinances in effect in the Village of Hartland study area, which include existing zoning, land division, official mapping, shoreland and floodland protection, and construction site erosion control and stormwater management ordinances. A series of State and Federal regulatory programs also control the use of waters and wetlands and the potential water quality impacts of development in the study area.

Survey, Objectives, and Design Guidelines

The preparation of the Village master plan and attendant planning objectives were guided by the Village Plan Commission and, in part, by the results of a community survey. The survey results indicated that most respondents wish to retain the small-village character and its precious natural features while growing somewhat larger in size. The majority of the respondents support the continued establishment of a Bark River greenway and additional parks, recreational facilities, and interconnecting systems of walkways, bikeways, and recreational trails. Respondents further favored continued improvements to the Village Center and establishing community-wide design standards for new intensive urban developments. The results of the survey are summarized in Chapter VI and further detailed in Appendix B.

The planning process included the formulation of a set of objectives, with supporting principles and standards, intended to express the long-term planning goals of the Village. Ten objectives were established in Chapter VI, based in part on the community survey results, to guide the preparation of the master plan. The objectives deal primarily with: 1) allocation of various land uses, 2) spatial distribution of various land uses, 3) maintenance of the vitality of the Village Center and existing business areas, 4) protection of the natural resource base, 5) provision of adequate recreational opportunities, 6) provision of an integrated transportation system with a high aesthetic quality, 7) provision of high-quality fire protection services, 8) provision of adequate library services, 9) provision of an adequate supply and range of housing types, and 10) preservation of historic resources.

Design guidelines set forth in Appendix C were also formulated as an element of the master plan for use by local officials to help guide and evaluate future development and redevelopment proposals, including site, landscaping, and building plans. These guidelines were used in the preparation of a detailed street and lot layout design for the Hartland planned urban service area. Specifically, proposed lot lines, street and cul-de-sac rights-of-way, and pedestrian or recreational trail access points are design features included in the detailed master plan based upon these guidelines. The guidelines may be further used as a basis for recommending potential solutions to design problems or to further enhance the visual quality of the Village, including the Village Center.

Hartland Planned Urban Service Area and Boundary Agreements

The master plan considered a planned sanitary sewer service area, sometimes used to define a planned urban service area, that was identified for the Hartland area as shown on Map 29 in Chapter V and in a report titled SEWRPC Community Assistance Planning Report No. 93, *Sanitary Sewer Service Area for the Village of Hartland, Waukesha County, Wisconsin*, April 1985, and amendments thereto. The Hartland planned sanitary sewer service area conveys the extent of area envisioned to be served by public sanitary sewer services, which are tributary to the Delafield-Hartland Water Pollution Control Commission (Dela-Hart) sewage treatment plant. This adopted planned service area would likely meet the public sanitary sewer service needs of the Village to the year 2020.

The master plan also considers an agreement the Village of Hartland entered into with the City and Town of Delafield in 1998, which provides a basis for establishing future municipal boundaries among the three communities and cooperative planning regarding certain areas of mutual interest. The agreement allows the municipalities to properly and logically plan for the future needs of their respective community, and to avoid future potential lawsuits related to annexations. Under the agreement, certain areas of the Town of Delafield would be incorporated into the Village of Hartland or the City of Delafield, and certain areas of the Town would be served by public sanitary sewer services provided by the Village of Hartland while remaining in the Town.

Neighborhoods and Special-Purpose Planning Districts

Inherent in the development of a comprehensive plan is the concept, long espoused by the Regional Planning Commission, that an urban area should be formed into a number of spatially organized, individually planned neighborhood units rather than as a single, large, formless mass. The individual neighborhoods should be focused around a central feature to promote a sense of place and physical unity. Insofar as possible, each neighborhood should be bounded by arterial streets, highways, or railways; major parks, greenways, or institutional lands; bodies of water or waterways; or other natural or cultural features that serve to clearly define and physically distinguish it from surrounding neighborhoods. A name, based on a distinct land feature or land use character including historic heritage, should be selected for neighborhood units to provide a sense of identity. Ideally, residential neighborhoods should be provided, within reasonable walking and biking distances, necessary supporting local day-to-day services needed by the residents, such as an elementary school, local park, and local shopping facilities. As a practical matter, given the trends toward lower residential densities and household size and changes in the urban land market, a single elementary school and one commercial center would likely serve two or more neighborhoods.

As part of the planning effort, ten neighborhoods, technically considered “subneighborhoods,” were identified within the Hartland planned urban service area and environs as shown on Map 36. The delineated “subneighborhoods” do not meet the criteria for classification as true neighborhood units in terms of the resident population of a single defined neighborhood that can sustain an elementary school or a neighborhood commercial center. Map 36 also identifies the location of public elementary schools, neighborhood parks, and local shopping facilities that would serve the neighborhoods. The neighborhoods were delineated so that they are bounded, insofar as possible, by distinct land features including the Bark River, the Canadian Pacific Railway, and the highways consisting of STH 16, STH 83, CTH E, CTH K, and CTH KE.

Four special-purpose planning districts are also identified on Map 36 and reflect the existing industrial or “business” park located to the north of the Bark River, and the new business park area to the south of the Bark River comprised of the so-called Geason, Bark River, and Cottonwood Commerce Centers. Another special-purpose planning district represents the Village Center, an area proposed to consist primarily of commercial retail and service developments mixed with residential uses, which would constitute a small percentage of overall land uses. The fourth planning district is the East Capitol Drive Historic District which is listed on the National and State Registers of Historic Places. Of the total 33 dwellings in this District, 23 buildings were identified as historically significant for their distinct architectural features.

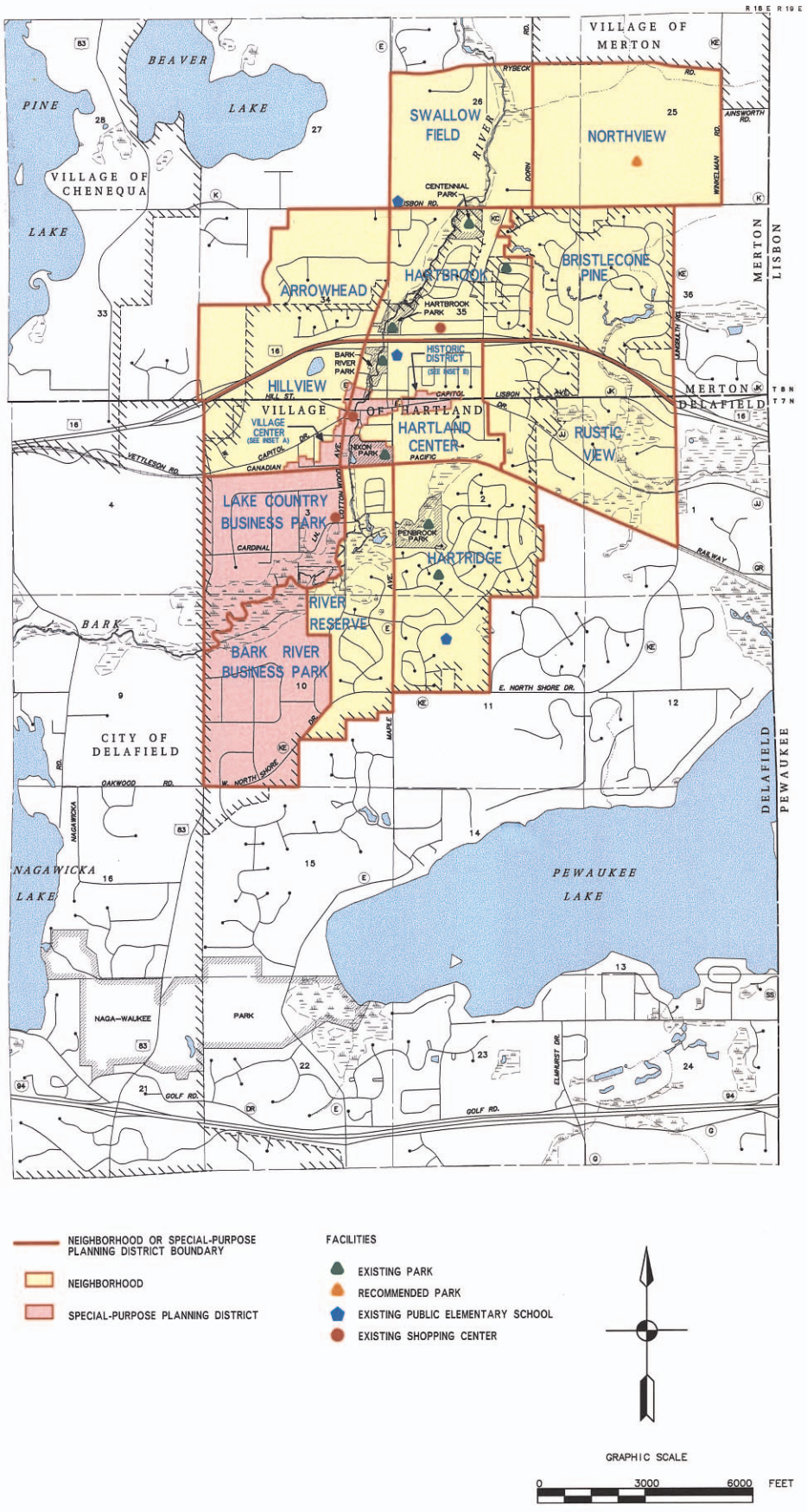
Future Population, Housing, and Employment Levels

The range of population, household, and employment levels envisioned under two realistic alternative future scenarios for the Village of Hartland—an intermediate-growth-centralized scenario and a high-growth-decentralized scenario—prepared by the Regional Planning Commission are set forth in Chapter II. Based on past and current development trends and the finite amount of developable lands in a defined planned urban service area, the future forecast levels for the Village would likely be close to the levels envisioned under the intermediate-growth-centralized scenario.

The population of the Village of Hartland may be expected to reach a resident population level of about 10,500 to 11,000 persons by the year 2020. This level represents an increase of about 2,600 to 3,100 persons, or 33 to 39 percent, over the year 2000 level of about 7,900 persons. The number of dwelling units within the Village may be expected to reach a housing stock of about 4,000 to 4,200 units. This level represents an increase of about 860 to

Map 36

POTENTIAL NEIGHBORHOODS, NEIGHBORHOOD FACILITIES, AND SPECIAL-PURPOSE PLANNING DISTRICTS IN THE VILLAGE OF HARTLAND STUDY AREA



NEIGHBORHOOD OR SPECIAL-PURPOSE PLANNING DISTRICT BOUNDARY

NEIGHBORHOOD

SPECIAL-PURPOSE PLANNING DISTRICT

FACILITIES

EXISTING PARK

RECOMMENDED PARK

EXISTING PUBLIC ELEMENTARY SCHOOL

EXISTING SHOPPING CENTER

GRAPHIC SCALE

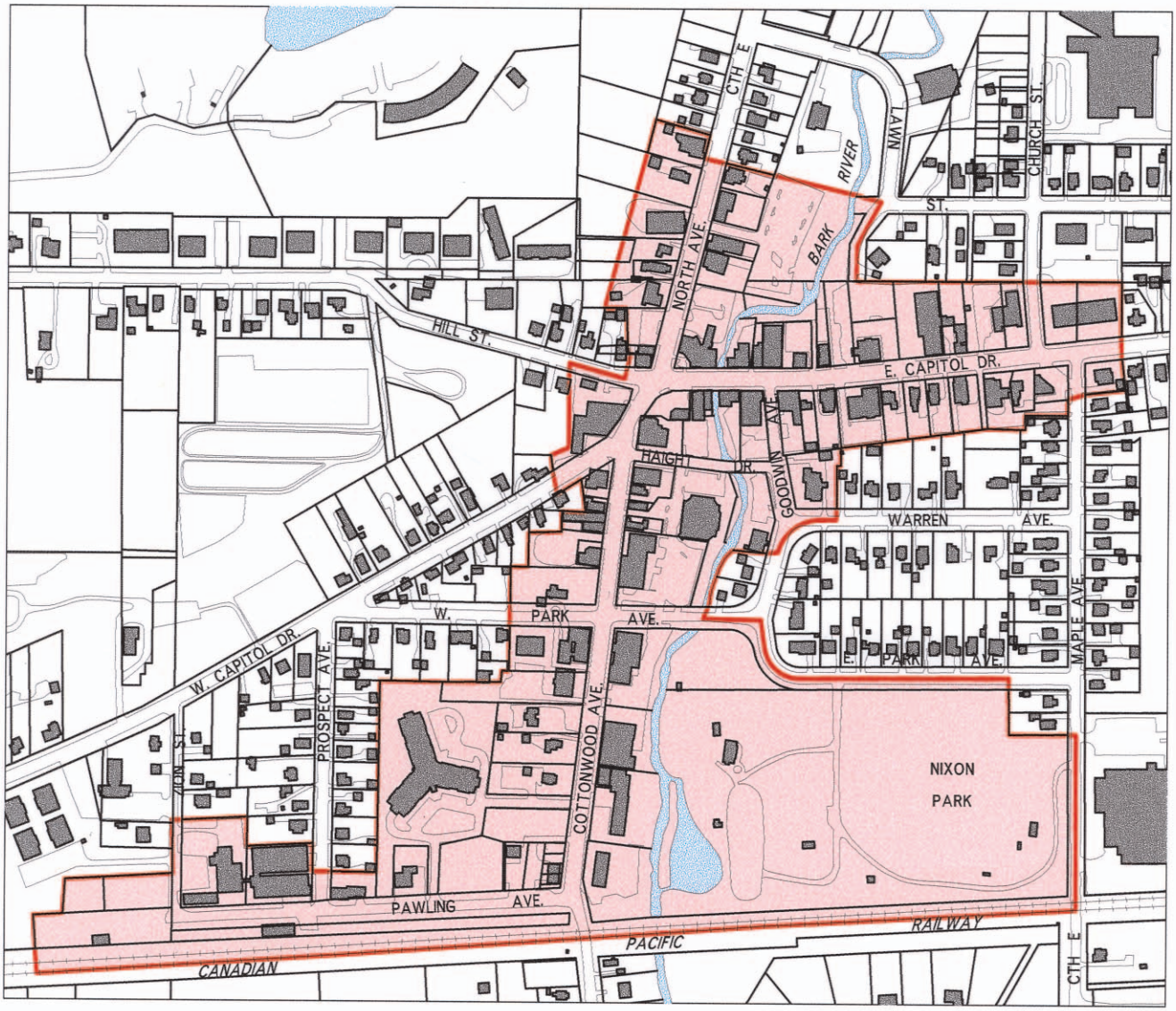
0 3000 6000 FEET

Source: SEWRPC.

Insets to Map 36

POTENTIAL NEIGHBORHOODS, NEIGHBORHOOD FACILITIES, AND SPECIAL-PURPOSE PLANNING DISTRICTS IN THE VILLAGE OF HARTLAND STUDY AREA

INSET A
HARTLAND VILLAGE CENTER



INSET B
EAST CAPITOL DRIVE HISTORIC DISTRICT

EXISTING BUILDINGS
EXISTING PAVEMENT AREAS
EXISTING PROPERTY LINES
EXISTING STREET RIGHT-OF-WAY LINES

GRAPHIC SCALE
0 500 1000 FEET

Source: SEWRPC.

1,060 units, or 27 to 34 percent, over the year 2000 total housing stock of about 3,140 units. The number of jobs may be expected to increase from about 3,600 jobs in 2000 to about 4,400 to 4,600 jobs by 2020. This level represents an increase of about 800 to 1,000 jobs, or 22 to 28 percent, over the 2000 level.

THE RECOMMENDED PLAN

The recommended master plan for the Village of Hartland planned urban service area is presented on Map 37. The data in Table 29 compare existing 1998 and recommended 2020 land uses in the Hartland planned urban service area. The plan indicates where certain types of urban development should be encouraged while preserving historic and environmentally significant resources.

In addition to showing the general land use pattern for the planned urban service area, Maps 37 and 43 also depict relatively precise urban development patterns. These patterns include a street system layout and attendant lot and block layouts for those areas recommended for new development within the planned urban service area, as well as certain adjacent areas in order to provide a complete potential development pattern for the area with interconnecting streets. These more precise plans are intended to foster sound development of the traffic circulation, storm water drainage, sanitary sewerage, and water supply systems. The precise development patterns were based upon careful consideration of such factors as soil suitability, land slopes, surface drainage patterns, flood hazards, woodland and wetland cover, existing and proposed land uses, and real property boundaries. To ensure protection and preservation of the environmentally sensitive areas identified on the master plan, such areas should be purchased by, or dedicated to, the local municipality, or protected by private deed restrictions or conservation easements.

An important recommendation of the master plan is the Village's desire to retain the "country" character surrounding the community, which would also help prevent the Village and other nearby developing urban municipalities from becoming indistinguishable from each other. To achieve this objective, cluster development, sometimes called conservation development, is recommended around the perimeter of the Village. Such cluster developments already exist to the south and east of the Village of Hartland in the Town of Delafield, including Hawk's Nest and Stillmeadow Subdivisions. Map 37 illustrates this recommended open space and conservation design concept for the undeveloped northern portion of the Hartland planned urban service area in the Arrowhead, Swallow Field, and North View Neighborhoods. A more detailed plan for this general area is presented in SEWRPC Memorandum Report No. 163, *A Hartland-Merton Cluster Development Plan, Waukesha County, Wisconsin*, December 2004. This detailed plan attempts to retain the country character of houses surrounded by permanently preserved open space, in which said character would also be projected to the public from adjacent collector and arterial streets. The aforementioned document includes design guidelines for establishing cluster developments and further illustrates how this design concept can provide opportunities to create interconnecting open space with preserved natural resources. In addition, the document shows a potential bikeway and pedestrian/recreation pathway system that links residents to adjacent subdivisions and key activity centers.

The recommendations shown on the master plan, while quite detailed, must, nevertheless, also be considered flexible. The plan is intended to be used as a point of departure for evaluating development proposals of private and public agencies as such proposals arise. It should not be presumed that developers cannot present development plans harmonious with sound community planning objectives and standards, nor that any development plan that is privately advanced and at variance in some respect with the adopted master plan is necessarily unacceptable. Local planning officials should remain receptive to proposed plan changes that can be shown to be better than the adopted plan while remaining compatible with the objectives for the development of the community as a whole.

Residential Development

Under the recommended plan, new residential development is proposed to occur both through the infilling of vacant platted residential lots and through the creation of new residential areas contiguous to, and extending outward from, existing residential development. Map 37 shows a recommended street and lot layout design for new

Table 29

SUMMARY OF 1998 EXISTING AND 2020 RECOMMENDED LAND USES IN THE HARTLAND PLANNED URBAN SERVICE AREA

Land Use Category[a]	Existing 1998 Land Use		Planned Change: 1998-2020		Planned 2020 Land Use	
	Acres	Percent	Acres	Percent Change	Acres	Percent
Urban						
Residential						
Single-Family						
Low-Density (32,670 sq. ft. or more per dwelling unit)	141	3.7	395	280.1	536	14.0
Medium-Low-Density (20,000 to 32,669 sq. ft. per dwelling unit)	194	5.1	142	73.2	336	8.8
Medium-Density (8,000 to 19,999 sq. ft. per dwelling unit)	510	13.3	28	5.6	538	14.1
Single-Family Subtotal	845	22.1	565	66.9	1,410	36.9
Two-Family						
Upper-Medium-Density (Up to 8.7 dwelling units per net residential acre)	108	2.8	12	11.1	120	3.1
Multi-Family[b]						
High-Density (Up to 17.4 dwelling units per net residential acre	144	3.8	19	13.2	163	4.3
Residential Subtotal	1,097	28.7	596	54.3	1,693	44.3
Commercial	133	3.5	130	97.3	263[c]	6.9
Industrial	210	5.5	151	71.9	361[c]	9.5
Transportation and Utilities[d]	142	3.7	1	0.7	143	3.7
Governmental and Institutional	262	6.9	169	64.5	431	11.3
Recreational[e]	220	5.7	12	5.5	232	6.1
Urban Subtotal	2,064	54.0	1,059	51.3	3,123	81.8
Nonurban						
Primary Environmental Corridor[f]	376	9.9	-4	-1.1	372	9.7
Secondary Environmental Corridor[f]	69	1.8	-35	-50.7	34	0.9
Isolated Natural Resource Areas	55	1.4	-2	-3.6	53	1.4
Agricultural and Other Open Lands	1,255	32.9	-1,018	-81.1	237[g]	6.2
Nonurban Subtotal	1,755	46.0	-1,059	-60.3	696	18.2
Total	3,819	100.0	--	--	3,819	100.0

[a]Street rights-of-way and off-street parking areas are included in the associated land use category.

[b]Includes acreage associated with senior housing developments.

[c]Includes 50 percent of areas shown as business parks on Map 37.

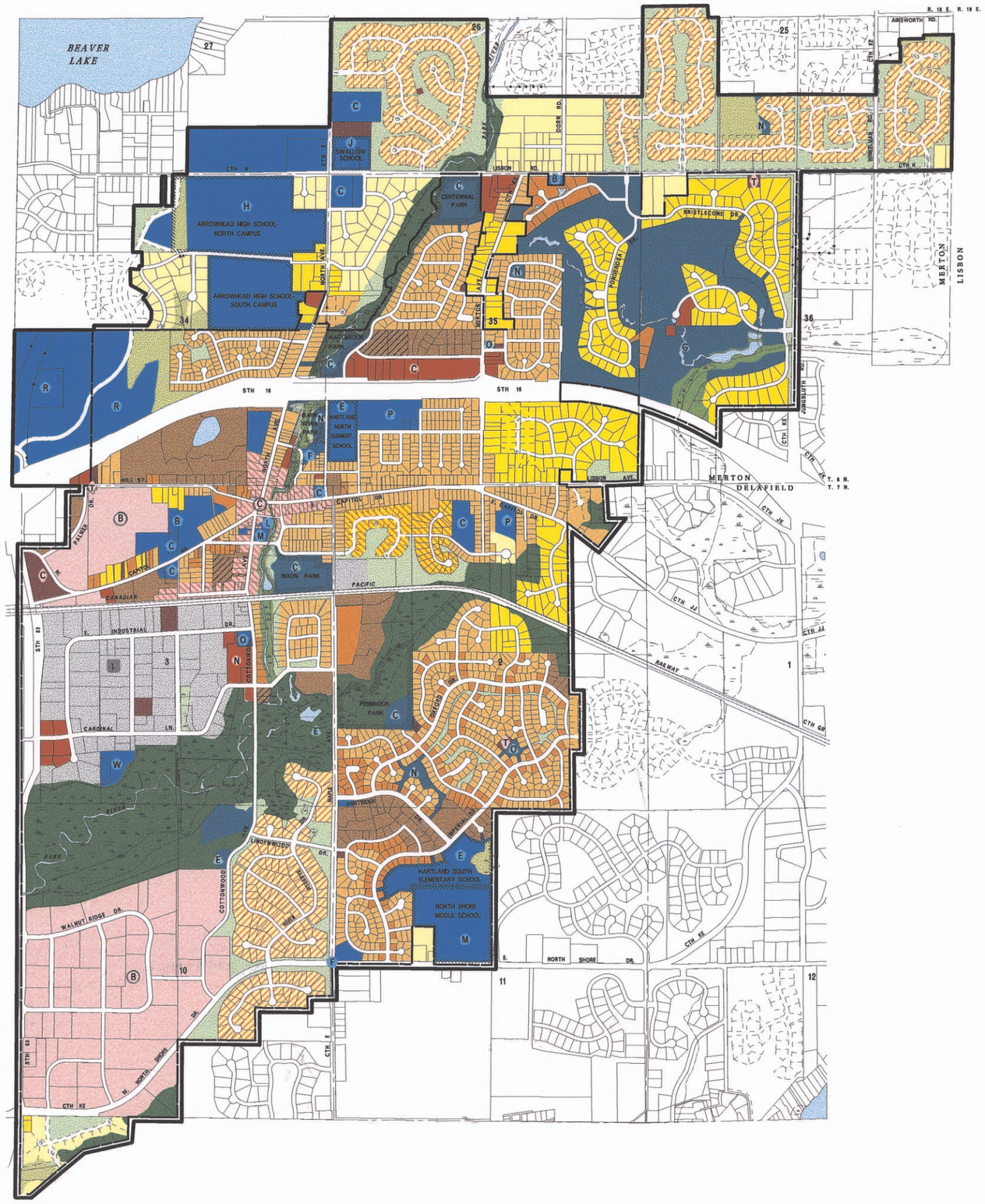
[d]Includes only the railway and STH 16 freeway rights-of-way, the commuter center, and communication and utility properties.

[e]Includes only areas for intensive outdoor recreational activities.

[f]Includes associated surface water areas.

[g]This total represents the areas identified as "Other Lands to be Preserved" and surface-water areas not encompassed in delineated environmental corridors or isolated natural resource areas in the recommended master plan.

Source: SEWRPC.



Map 37

RECOMMENDED MASTER PLAN FOR THE VILLAGE OF HARTLAND PLANNED URBAN SERVICE AREA: 2020

PLANNED URBAN SERVICE AREA BOUNDARIES: 2020
EXISTING CORPORATE LIMIT BOUNDARIES: 2000

SINGLE-FAMILY RESIDENTIAL DEVELOPMENT
- LOW-DENSITY (32,670 SQUARE FEET OR MORE PER DWELLING UNIT)
- LOW-DENSITY CLUSTER DEVELOPMENT (32,670 SQUARE FEET OR MORE PER DWELLING UNIT)
- MEDIUM-LOW-DENSITY (20,000-32,669 SQUARE FEET PER DWELLING UNIT)
- MEDIUM-LOW-DENSITY CLUSTER DEVELOPMENT (20,000-32,669 SQUARE FEET PER DWELLING UNIT)
- MEDIUM-DENSITY (8,000 - 19,999 SQUARE FEET PER DWELLING UNIT)

TWO-FAMILY RESIDENTIAL DEVELOPMENT
- UPPER-MEDIUM-DENSITY (UP TO 8.7 DWELLING UNITS PER ACRE)

MULTI-FAMILY RESIDENTIAL DEVELOPMENT
- HIGH-DENSITY (UP TO 17.4 DWELLING UNITS PER ACRE)
- SENIOR HOUSING (UP TO 17.4 DWELLING UNITS PER ACRE)

COMMERCIAL DEVELOPMENT
- RETAIL SALES AND SERVICES
- N NEIGHBORHOOD SHOPPING CENTER
- C COMMUNITY SHOPPING CENTER
- MIXED-USE COMMERCIAL/RESIDENTIAL (PART OF VILLAGE CENTER)
- BUSINESS AND PROFESSIONAL OFFICES
- B BUSINESS/LIMITED MANUFACTURING PARK

OTHER LAND USES

INDUSTRIAL
- I INDUSTRIAL PARK

TRANSPORTATION AND UTILITIES
- C COMMUTER CENTER
- T WATER TOWER

GOVERNMENTAL AND INSTITUTIONAL
- M MUNICIPAL BUILDING AND POLICE DEPARTMENT
- W PUBLIC WORKS
- L LIBRARY
- F FIRE STATION
- O POST OFFICE
- E PUBLIC ELEMENTARY SCHOOL
- M PUBLIC MIDDLE SCHOOL
- J PUBLIC ELEMENTARY/MIDDLE SCHOOL
- H PUBLIC HIGH SCHOOL
- R PRIVATE SCHOOL
- C CHURCH
- P CHURCH AND PRIVATE SCHOOL
- B CEMETERY

PARKS AND RECREATION
- N NEIGHBORHOOD PARK
- C COMMUNITY PARK
- E CONSERVANCY PARK
- G GOLF COURSE
- O OTHER PARK AND OPEN SPACE SITES

- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR
- ISOLATED NATURAL RESOURCE AREA
- OTHER LANDS TO BE PRESERVED
- SURFACE WATER
- EXISTING PROPERTY LINE
- EXISTING STREET RIGHT-OF-WAY LINES
- PROPOSED PROPERTY LINE
- PROPOSED STREET RIGHT-OF-WAY LINES

GRAPHIC SCALE

0 2000 4000 FEET

Source: SEWRPC.

residential areas within the planned urban service area. Map 43 shows an alternative layout if CTH KE was realigned north of Lisbon Road (CTH K) as discussed later. Table 29 indicates that areas designated for residential use under the recommended plan would total approximately 1,693 acres, or 44 percent, of the Village of Hartland 2020 planned urban service area. This represents an increase of about 596 acres, or 54 percent, over the 1998 level of about 1,097 acres of residential land. Incrementally, an estimated 149 acres of land is anticipated to be developed every five years to meet the Village's housing needs over the approximately 20-year planning period. A significant portion of the increase in residential development, about 400 acres or 67 percent, is recommended to consist of clustered-type residential development to help retain the country character surrounding the Village.

The plan further recommends that open space and conservation design concepts be applied, whenever possible, to residential development proposed on lands containing environmentally sensitive areas, as illustrated in Figure 2. When properly designed, clustered developments can help maintain the overall country character of the landscape, preserve significant natural features, and minimize road construction and other site improvement costs. Lot sizes, for example, could be reduced and clustered while the rest of the site concerned is retained in permanent open space. This reduction in lot sizes also provides greater design flexibility to situate housing units away from environmentally sensitive features, while the overall density of the development, including the open space area, would not be permitted to exceed the maximum residential development density determined by the zoning district in which the development is located.

As indicated on Map 37, the recommended master plan identifies eight categories of residential land uses based mostly upon the types of residential housing units that exist in the Village. Housing types in five of the classifications would be single-family housing units. The upper-medium-density classification would be two-family housing units and the two high-density residential classifications would consist of multi-family and senior housing with three or more dwelling units per building.

Single-Family Residential Development

Under the recommended plan, single-family residential development would total about 1,410 acres, or 37 percent, of the Village of Hartland 2020 planned urban service area. New areas of this residential classification are recommended to occur throughout the planned urban service area. The majority of the increase for all types of residential development would consist of single-family residential development, about 565 acres or 95 percent. As noted earlier, most of this increase would consist of cluster-type developments.

Low-Density Development

Low-density, single-family residential developments would have densities of 1.3 dwelling units or less per net acre, equivalent to 32,670 square feet (three-quarters of an acre) or more per dwelling unit. This residential classification also includes cluster-type developments with minimum lot sizes of 20,000 square feet surrounded by permanently preserved common open space, where the overall total calculated density of 1.3 dwelling units or less per net acre would be maintained. Under the recommended plan, low-density single-family residential developments would total about 536 acres, or 14 percent, of the entire planned urban service area. Clustered development would account for about 365 acres, or 92 percent, of this total increase, recommended mostly in the northern and south central part of the planned urban service area.

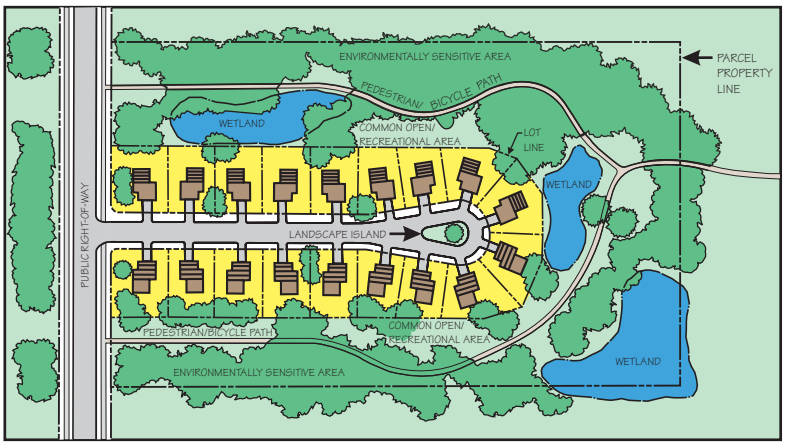
Medium-Low-Density Development

This classification of single-family residential development would have densities ranging from 1.3 to 2.2 dwelling units per net acre, equivalent to lot sizes ranging from 20,000 square feet to 32,759 square feet. The areas proposed for medium-low-density residential development under the recommended plan would total about 336 acres, or 9 percent, of the Hartland planned urban service area. New areas of this residential classification are recommended to occur mostly as cluster developments and in the planned residential and golf course development called Bristlecone Pines.

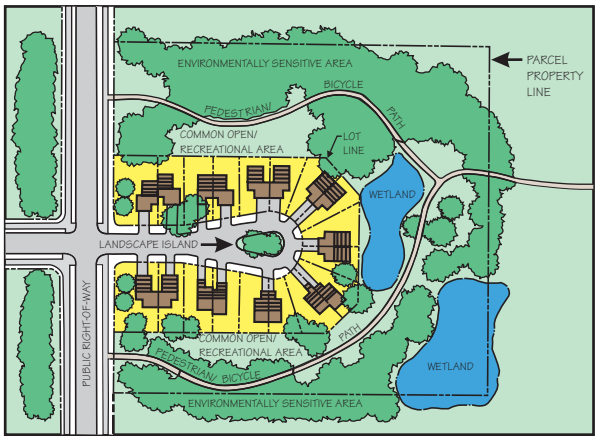
Figure 2

ALTERNATIVE RESIDENTIAL DEVELOPMENT DESIGNS COMPATIBLE WITH ENVIRONMENTALLY SENSITIVE AREAS

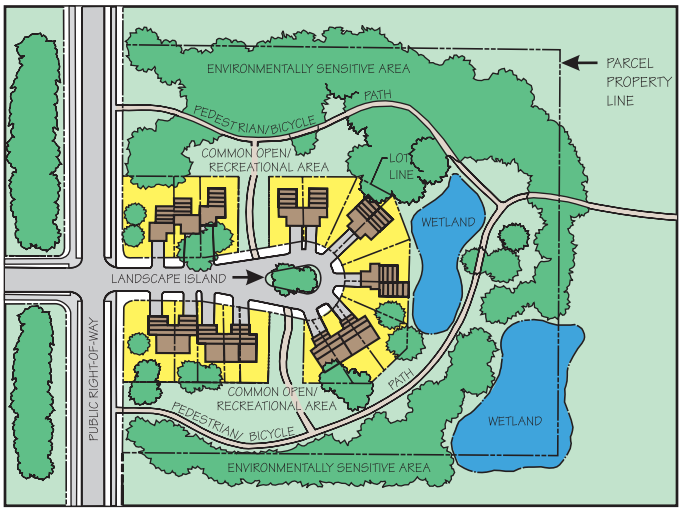
A. CLUSTERED SINGLE-FAMILY RESIDENTIAL DEVELOPMENT



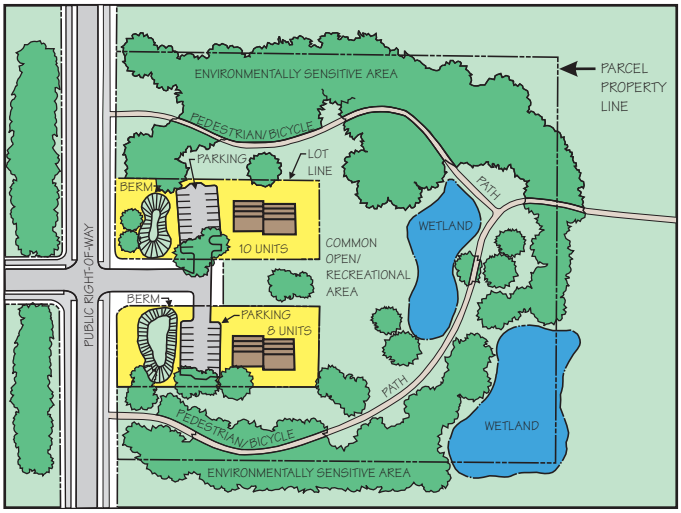
B. CLUSTERED TWO-FAMILY RESIDENTIAL DEVELOPMENT



C. CLUSTERED TOWNHOUSE RESIDENTIAL DEVELOPMENT



D. CLUSTERED MULTI-FAMILY RESIDENTIAL DEVELOPMENT



Source: SEWRPC.

Medium-Density Development

Under the recommended plan, new medium-density residential development would have densities ranging from 2.2 to 5.4 dwelling units per net acre, with lot sizes ranging primarily from 8,000 to 19,999 square feet. This residential classification would total about 538 acres, or 14 percent, of the Hartland planned urban service. Most of this type of residential development exists throughout the planned urban service area with some new areas proposed mostly as infilled development continuing to be served by a full range of public facilities, including public sewer and water, engineered stormwater drainage, street lighting, and sidewalks.

Two-Family Residential Development
The areas proposed for upper-medium-density, two-family residential development would total about 120 acres, or 3 percent, of the Village 2020 planned urban service area under the recommended plan. Densities for this classification would typically range from 5.8 to 8.7 dwelling units per net acre. These areas are proposed to occur both through the infilling of vacant platted lots and through the creation of new residential areas contiguous to, and extending outward from, such existing residential development.

Multi-Family Residential Development
The areas proposed for high-density, multi-family residential development under the recommended plan would have densities of 17.4 dwelling units or less per net acre. Areas under this classification would total about 163 acres, or 4 percent, of the planned urban service area, which includes approximately 15 acres of existing senior housing. New multi-family residential developments are proposed to be located adjacent to such existing land uses and to be served by public sanitary sewer and water supply. These areas are also recommended to be generally located in convenient proximity to commercial retail and service centers. Additional residential dwelling units under this classification, including senior housing and condominium units, may likely occur within the Village Center as discussed in the next section.

Commercial Development
The recommended master plan depicts various areas devoted to commercial land uses. Under the plan, commercial development would encompass an area of about 263 acres, or 7 percent, of the planned urban service area. This represents an increase that would almost double the 1998 level of about 133 acres for an incremental increase of about 33 acres every five years over the approximately 20-year planning period. Categories of commercial development shown on the plan include retail sales and services, mixed commercial-residential uses, and business and professional offices. Certain additional commercial development is also recommended to be integrated into a future commuter center as explained later.

Retail Sales and Services
The master plan recommends mostly the continued use of existing neighborhood- and community-oriented shopping centers as well as other individual retail sale and service establishments. Planned shopping centers are characterized by two or more stores located together to share common parking facilities for customer automobiles and a shopping environment geared to pedestrian use with connecting sidewalks. Additional retail sale and service development would likely occur within the Village Center as part of an ongoing redevelopment effort and as associated facilities within the business parks, as discussed below.

Neighborhood shopping centers provide a concentration of retail and service establishments oriented to meeting day-to-day retail and service needs of nearby residents. Typical uses in such centers may include a grocery store or supermarket as an anchor supplemented by pharmacies, banks, deli/bakeries, coffee shops, restaurants with seating facilities, laundry and dry cleaner outlets, barber or beautician shops, and other small retail and service establishments. The plan identifies a neighborhood shopping center located northwest of the intersection of Cottonwood Avenue and Cardinal Lane to continue to serve nearby residences.

Community-oriented or areawide shopping centers can also serve as the neighborhood center for nearby residences. In addition to providing for the sale of convenience goods that are normally found in neighborhood shopping centers, community retail sales and services should provide for additional shopper goods, such as clothing, furniture, appliances, building supplies, and specialty products such as florists, jewelry, hobby supplies, or recorded music, that are not day-to-day needs. This category may also include services such as savings and loan institutions, restaurants, movie theaters and other entertainment venues, service stations, and similar uses which require a location along an arterial street or highway carrying a high volume of traffic. Under the plan, the Village Center and a community shopping center located adjacent to STH 16, between North and Merton Avenues, are recommended to continue to serve the residents of the Village and environs.

Other general retail sales and services are characterized by individual stores with nonshared, onsite parking for customers and are mostly oriented to meet the general retail and service needs of residents of the general Hartland area. Typical commercial uses include car washes, motor fuel service stations, automotive sales and repair centers, general merchandise stores, hardware and sporting equipment stores, fast-food restaurants, and other general retail sales and service establishments. As indicated in the plan, such businesses will continue to exist throughout the planned urban service area.

Village Center (Mixed Commercial and Residential Uses)

Inset A on Map 36 identifies a Village Center as a special planning district containing the downtown area that is proposed to continue to serve as a major focal point for cultural and commercial activities in the Hartland area, supported by other nearby attractions in the Lake Country area. The Bark River is also a vital focal point of, and contributing factor to, the Village Center. The Hartland Village Center is proposed to consist primarily of commercial retail and service developments mixed with some residential uses. In addition to providing similar services as a neighborhood shopping center, this community-oriented commercial center would provide shopper goods such as clothing, furniture, and appliances. The Center should also foster the identity of the Village, an identity due, in part, to the historic character of the buildings located in this area and the adjacent East Capitol Drive Historic District, which is listed in both the National and Wisconsin Register of Historic Places.

To retain the Village Center as a lively and vibrant place, the presence of people drawn to and living within the Center is important to project a thriving atmosphere. The master plan, therefore, recommends that the Center should accommodate high-quality, mixed-use development that is attractive and sensitive to the character of this area. Mixed-use development may include business activities located on the lower level(s) of buildings and residential dwelling units in the upper level(s). The Village Center is also an ideal setting for senior housing due to convenient proximity to services, access to the library and community center, opportunity for recreational pursuits, especially walking and bicycling, and passive enjoyment of daily activities (people-watching) along the Bark River and the "Main Streets" (Cottonwood Avenue, North Avenue, and Capitol Drive) of the Village Center. The plan further recommends the re-development of the southwestern portion of the Village Center along Pawling Avenue. Recently this area was enhanced with street improvements to Pawling Avenue, the creation of additional offstreet public parking areas, and the development of a senior housing complex. Over time, this area should continue to be redeveloped for mostly professional offices mixed with some retail activities and residential uses. Professional service-type businesses could include offices and studios for artists, accountants, doctors, dentists, engineers, computer programmers, landscape architects, lawyers, real estate agents, and other recognized professions. The old railroad depot building in this area could be preserved and yet sensitively improved to accommodate a historic museum and potentially other small compatible uses, such as an art gallery, florist, gift/craft store, and/or coffee shop. Overall, business uses along Cottonwood Avenue, North Avenue, and Capitol Drive would consist primarily of retail trade and service developments while those along Pawling Avenue would contain mostly professional office-type developments. As redevelopment occurs in and near the Village Center, the boundaries delineating the Center in Map 36 may be refined accordingly.

Any development proposed within the Village Center should be sensitive to and compatible with the historic character as well as the desired design theme for the Center. The Village has been working actively to maintain and improve the vitality of the Center by providing significant street improvements, burying overhead utility lines, whenever possible, and improving building facades. Additional amenities such as street trees, decorative street lighting, attractive landscaped buffers along the railroad, and ornate street furniture should continue to be integrated into the streetscape. The plan recommends that the Village continue to maintain and improve the Village Center in accord with the historic preservation standards in Chapter VI, the design guidelines for the Center in Appendix C, and the design recommendations discussed later in this chapter.

Business and Professional Offices

This category includes a variety of business uses such as the offices and professional services of doctors, dentists, architects, engineers, attorneys, computer programmers, graphic artists, insurance agents, travel agents, financial planners, and other similar recognized professions and consultations services. These types of uses are recommended in the Village Center and two business/limited manufacturing parks consisting of mixed grouping

of offices, corporate headquarters, financial institutions, and medical facilities with limited light industrial uses and the respective support facilities in an attractive park-like setting. New commercial uses under this category are proposed as infill development in an existing business park located south of Bark River, comprised of the so-called Geason, Bark River, and Cottonwood Commerce Centers. In addition, a new business/light manufacturing park is recommended northeast of the intersection of W. Capitol Drive and Vettleson Road, near the future commuter center and the STH 16 and STH 83 interchange. Both business parks are located near STH 83 which provides immediate access to a freeway, STH 16.

Industrial Development

The plan envisions that the areas devoted to industrial land uses would occupy about 361 acres, or 10 percent, of the planned urban service area. This total acreage includes new limited light manufacturing or industrial uses that may develop as affiliated facilities in the two abovementioned business parks. Overall, the total acreage represents an increase of about 151 acres, or 72 percent, over developed industrial land in 1998. Incrementally, an estimated 38 acres of land is anticipated to be developed for industrial uses every five years over the approximately 20-year planning period. As identified on Map 37, the increase in industrial lands would also take place as infill development and through the expansion of such existing uses located in an industrial or "business" park located north of the Bark River. This industrial park would consist of predominantly general manufacturing operations with associated services, including professional offices, with convenient access to STH 16.

Communication and Utility Development

Communication and utility land uses would encompass about eight acres of the planned urban service area in 2020. Most of these uses reflected on the recommended master plan already exist along with a new site that would consist of a well and pumping station to be located in the northwestern part of the planned urban service area. Another well and pumping station may be provided in the northeastern part of the planned urban service area as development proceeds in that area; however, the location will be determined in the future. Other than new well and pumping station sites, no significant increase is anticipated for such land uses during the planning period.

Governmental and Institutional Development

As shown on Map 37, governmental and institutional land uses under the recommended plan would occupy about 431 acres, or 11 percent, of the planned urban service area. This represents an increase of about 169 acres, or 65 percent, over the 1998 level of about 262 acres of such uses. These uses include the continuation of existing governmental and institutional uses, as well as new and expanded areas for such facilities as discussed below. A significant portion of this increase is due to a potential new Lake Country Lutheran High School and Divine Redeemer Lutheran School (approximately 59 percent) and the future development of additional facilities for Arrowhead High School (about 31 percent).

The Village of Hartland should conduct a comprehensive community facilities study to determine the facility needs of the Village to meet future public demand. The facility study should address both short- and long-term needs, including spatial requirements, for services and a potential cultural center. The facility study may address, but is not limited to, administrative, public works, library, recreational, and police and fire protection services, as well as the location and/or amount of both land and building floor area necessary to provide the desired level of services to the target population in an efficient manner. Certain future Village services and physical facilities could be shared in a cooperative effort with surrounding communities to serve residents of two or more communities as discussed below.

Village Facilities

The plan tentatively envisions the continued use of the existing Municipal Building depending on the results of a future community facilities study as mentioned above. The study may recommend the location of a new municipal complex due to site constraints and/or the relocation of certain services in the building to a new site, thereby allowing the other remaining municipal operations to be expanded within the existing building. Because of the various factors that may affect the spatial requirements for various Village governmental operations, it is recommended that the Village retain a consultant to study the future spatial needs and desirable arrangement of Village governmental activities mentioned above prior to any expansion or development activities. If a different

site is needed to accommodate relocated or additional municipal operations to continue to provide adequate services for the community, the Village-owned property located northwest of the intersection of Cottonwood Avenue and Lindenwood Drive should be considered as an option if recreational facilities are not developed at that location. The master plan should then be amended accordingly to properly reflect any proposed expansion or development activities recommended by the study.

The Hartland Public Library was constructed in 1995 as the first stage of a two-stage building project. In the future, a second story is planned to be added to the building to meet the growing needs of residents throughout the Lake Country area. The library has reciprocal agreements to borrow and loan library materials with 16 other public libraries affiliated with the Waukesha County Federated Library System. Prior to expanding the library, the Village and Library Board may wish to explore the possibility of sharing certain facilities such as a community center or community meeting rooms.

Fire Protection Facilities

The plan recommends a potential new fire station to be located south of an existing railway in the vicinity of the intersection of CTH KE (E. North Shore Drive) with CTH E (Maple Avenue). A station in this area would enhance fire protection and emergency rescue services, while avoiding grade level railway crossings, to the southern portion of the Village and surrounding areas as new residential, commercial, and industrial development continues to occur in this general area. Prior to developing such a station, an in-depth fire protection service analysis should be conducted for this area with assistance from the Insurance Services Office. The new station may only be developed if the fire protection services are shared with adjoining communities such as the City and Town of Delafield as lands within these respective communities develop near the southern half of the Village of Hartland.

The existing Hartland Fire Department, consisting of firefighters and emergency medical technicians, would then concentrate on providing services to the northern part of the planned urban service area and environs. The Department is presently part of the Lake Area Mutual Aid Fire Departments which consist of twelve neighboring fire departments that work together in Haz-Mat, fire, and rescue emergencies and training. The Department also has and would likely continue to have a reciprocal service agreement with the recently renamed Lake Country Fire Department for structure fires in the Villages of Chenequa, Nashotah, or Hartland. The Village intends to continue to explore sharing fire protection and emergency rescue services with adjoining communities as development proceeds in the Hartland planned urban service area and environs.

Educational Facilities

The Village of Hartland is served by both public and private schools. As mentioned earlier, most of increase in governmental and institutional land uses is due to a potential new Lake Country Lutheran High School and Divine Redeemer Lutheran School and the future expansion of additional facilities for Arrowhead High School. The majority of the children within the Hartland planned urban service area will continue to be served by the Arrowhead Union High School District and two feeder school districts to this high school, Swallow and Hartland/Lakeside School Districts. These school districts have recently improved their respective facilities, including the development of the new North Shore Middle School and the significant expansion of Swallow School and Arrowhead High School, to meet present and future public educational needs.

The Arrowhead Union High School District continues to study if and to what extent certain high school facilities should be expanded to accommodate future enrollments and needs. As a result of this ongoing study and the concern of limited land available that can be provided with public utilities such as public sanitary sewer service, the District recently purchased land to the north of the existing high school, across CTH K (Lisbon Road), to reserve said land for potential future high school facilities. The recent improvement efforts by the various local school districts reflect their desire to continue to provide quality educational and recreational facilities to children of the Hartland area.

As part of a facility study, the Village should explore the potential to utilize facilities from surrounding schools, especially if such schools are planned to be expanded or new schools developed. For example, the Village may

request to utilize facilities such as a new theater, swimming pool, or other recreational facilities that may be constructed as part of a new school or a school expansion.

Park and Recreational Development

Specific recommended park and recreational uses for the Village planned urban service area are based, in part, upon recommendations contained in a document entitled, *Outdoor Recreation Plan, Village of Hartland, Waukesha County, Wisconsin*, February 1996, prepared by Ruekert & Mielke. In that report, recommendations were made regarding the development of trails and a new park, retrofitting existing facilities, and installing mostly accessory facilities at existing parks. Under the recommended master plan, public and private intensive outdoor recreational uses would encompass a total of about 232 acres of land, or 6 percent, of the Village planned urban service area. This represents an increase of about 12 acres, or 6 percent, over the 1998 level of about 220 acres. These acreages do not include those portions of the recreation sites that contain environmentally sensitive areas within the site boundaries, which are discussed under separate environmental land use categories.

The plan shown on Map 37 calls for the development of a new neighborhood park in the northeastern part of the planned urban service area. This park would serve the residents of this area as development continues. Map 37 also shows the potential recreational development of Village-owned property located northwest of the intersection of Cottonwood Avenue and Lindenwood Drive. This site may alternatively be developed to accommodate future municipal operations, depending upon the results of a facility study. The Village of Hartland presently shares a recreational program with the City of Delafield to provide activities that would serve residents of both communities. The Village should also continue to explore the potential to utilize existing and new recreational facilities of public and private schools and organizations such as athletic fields or swimming pools.

In addition to nearby lakes, the Village is surrounded by other major recreation attractions: about four and six miles north of the Village are, respectively, Monches County Park and Loew Lake State Park; about one mile south are the Lake Country Recreation Trail and Nagawaukee County Park, Ice Arena, and Golf Course; about three and nine miles southwest are, respectively, Lapham Peak State Park and the Kettle Moraine State Forest; about five miles southeast is the Retzer Nature Center; and about two miles west is Nashotah County Park.

Village Park System

The master plan recognizes the continued use of the Village's well-established park system. This system includes neighborhood parks with tot lots/playgrounds, small playfields, and basketball and other court games that serve nearby residents. The system also includes community parks that serve the Village as a whole with larger facilities such as official baseball diamonds and softball diamonds, soccer fields, and support facilities consisting of parking, night lighting, and concessions generally provided in community parks and not neighborhood parks. As identified on the master plan and on Map 15 in Chapter III, existing Village parks consist of community parks, such as Centennial, Hartbrook, Nixon, and Penbrook Parks, and smaller neighborhood and other types of parks, such as Bark River, Louis Joliet, Sunnyslope, Castle, and Nottingham Parks. These existing parks provide a variety of recreational facilities for local residents, from playgrounds to baseball diamonds as noted in Table 20 in Chapter III. The recreational needs of the Village residents would also be met by the recreational facilities located on public school sites, including the Mullet Ice Center. The plan recommends a new neighborhood park to be provided in the northeast part of the planned urban service area as residential development proceeds in this area.

Greenway

Linear environmental corridors in urban or urbanizing areas in Southeastern Wisconsin that are held in public ownership are often termed "greenways" or "parkways." Greenways are generally located along a stream or river, ridge line, or other linear natural feature and are intended to provide aesthetic and natural resource continuity. Greenways often serve as ideal locations for recreational trail facilities. The Village has been aggressively establishing the Bark River Greenway with trail facilities, as depicted on Maps 39 through 42. In addition, the adopted Waukesha County Park and Open Space Plan recommends that the greenway along the Bark River continue north and west of the Village, thereby serving as a location for a variety of resource-oriented recreation facilities, including bicycling, hiking, nature study, snowshoeing, ski-touring, river access, picnic areas, and

support facilities such as parking areas and restrooms, while preserving significant natural features along the River.

Trails

Trail-oriented facilities, such as bikeways, hiking trails, and a water trail, are advanced by the recommended master plan for both recreational and utilitarian purposes. As shown on Maps 38 through 42, a network of trails is recommended to traverse the Hartland study area, comprehensively linking residential areas and providing access to major activity centers as well as to significant natural resources. Maps 38, 39, and 41 show main trail routes within the Hartland study area. Maps 40 and 42 show more detailed network systems for the Village planned urban service area and environs indicating not only the primary routes, but also the secondary routes connecting residential areas to the main routes. This interlinked network of trails would provide the residents of the Hartland area opportunities for a longer and wider array of trail-oriented recreational pursuits, such as biking, hiking, and canoeing. These trails would also provide safe and convenient pedestrian and bicycle access to major recreation attractions mentioned earlier and to key activity centers such as parks, schools, and shopping areas.

Bikeways[1]

Approximately 56 linear miles of designated bikeways—sometimes called bike routes or bike trails--are recommended in the study area to serve recreational and utilitarian purposes by linking Village residents to significant urban and natural features identified on Maps 39 and 40. As indicated on Map 38, it is envisioned that the Village bikeways would be a part of and connect to a larger system of potential areawide bike trails in the Lake Country area, including the existing popular Bugline, Lake Country, and Glacial Drumlin Trails. The most popular bikeway in the Village is the multi-use Bark River Trail which is recommended to continue to extend north and west of the planned urban service area. It should be noted that collector and minor land-access streets within the planned urban service area can generally function as supplementary bikeways connecting to the primary bikeways shown on the abovementioned maps without widening roadways due to the usually low traffic speed and volume on these streets. Existing busy streets that are recommended as bikeways should provide bicycle facilities as such streets are reconstructed or resurfaced.[2] Bike trails should only be officially designated and used after proper improvements or facilities have been implemented to ensure safe usage.

Recreation Trails

Maps 41 and 42 show not only the multi-use Bark River Trail, but also the location of the Ice Age National Scenic Trail, which is designated on a portion of the same trail facility as the Bark River Trial, and other local recreation trails in the Hartland study area. The 1,000-mile Ice Age National Scenic Trail is planned to follow the glacial moraines stretching from Door County in northeastern Wisconsin to and through the Kettle Moraine area in Southeastern Wisconsin. As shown on Maps 41 and 42, about 9.3 miles of the Ice Age National Scenic Trail would traverse through the Hartland area, thus providing a valuable recreational amenity and opportunity for the Village residents. The Ice Age Park & Trail Foundation acquired and developed, with assistance from the late U.S. Congressman Henry S. Reuss of Wisconsin, volunteers from the local Ice Age Chapter, and students and

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[1]*A "bikeway" is a general term that includes any road, path, or way that may legally be used for bicycle travel. Types of bikeways include "bike paths," which are physically separated from motorized vehicles; "bike lanes," which are portions of roadways that are designated by striping, signing, and pavement markings for the exclusive or preferential use of bicycles; and "shared roadways," which are roadways that do not have designated bicycle lanes, but may legally be used for bicycle travel. A "bike route" or "bike trail" is a bikeway designated with directional and information markers, and may consist of a combination of bike paths, bike lanes, and shared roadways.*

[2]*It is recognized that major bicycle-related improvements, such as the ideal addition of separate bicycle paths, may not be acceptable at the time a street is resurfaced or reconstructed due to cost, space, or topographic constraints. However, consideration should be given at the time of resurfacing or reconstruction to re-striping the street; fixing pavement irregularities such as holes, cracks, and grates; paving street shoulders (no less than four feet wide); or making other improvements to better accommodate bicycle travel.*

Map 38

RECOMMENDED AREAWIDE BIKEWAYS FOR THE LAKE COUNTRY AREA AND THE VILLAGE OF HARTLAND STUDY AREA

TO THE KETTLE MORAINE STATE FOREST-NORTHERN UNIT

TO THE VILLAGE OF MENOMONEE FALLS

TO THE CITY OF WATERTOWN

TO THE VILLAGE OF COTTAGE GROVE

TO THE KETTLE MORAINE STATE FOREST-SOUTHERN UNIT

TO THE FOX RIVER AND NEW BERLIN TRAILS

- HARTLAND STUDY AREA
- BUGLINE TRAIL
- GLACIAL DRUMLIN TRAIL
- ALTERNATIVE ROUTE
- WOOLY MAMMOTH BIKE TRAIL (aka ICE AGE BIKE TRAIL)
- ALTERNATIVE ROUTE
- KETTLE MORAINE BIKE TRAIL
- KETTLE VIEW BIKE LOOP
- ALTERNATIVE ROUTE
- LAKE COUNTRY BIKE LOOP
- ALTERNATIVE ROUTE
- KEY CONNECTOR ROUTES
- SURFACE WATER

NOTE: TRAILS SHOWN PARALLEL TO EACH OTHER SHARE THE SAME TRAIL FACILITY.

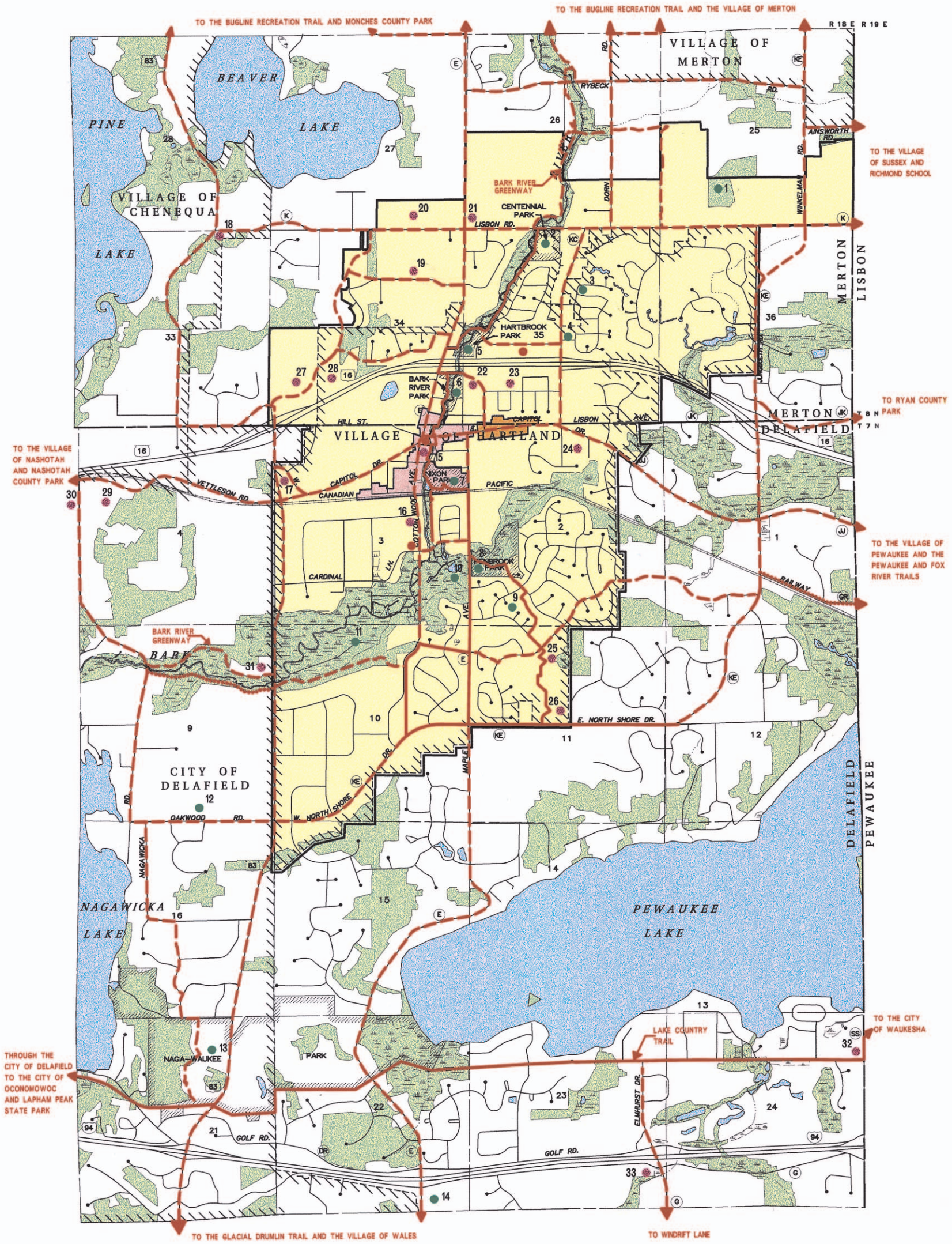
GRAPHIC SCALE

0 8000 16,000 FEET

Source: SEWRPC.

Map 39

RECOMMENDED BIKEWAYS FOR THE VILLAGE OF HARTLAND STUDY AREA



EXISTING 2000 CORPORATE LIMIT BOUNDARIES

HARTLAND PLANNED URBAN SERVICE AREA

VILLAGE CENTER

EAST CAPITOL DRIVE HISTORIC DISTRICT

ENVIRONMENTALLY SIGNIFICANT AREAS

SURFACE WATER

EXISITING BIKEWAY

RECOMMENDED BIKEWAY

ALTERNATIVE BIKEWAY

NOTE: ENVIRONMENTALLY SIGNIFICANT AREAS CONSIST OF AREAS DELINEATED AS ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS ON THE RECOMMENDED MASTER PLAN (SEE MAP 37).

GENERAL COMMERCIAL CENTER

SELECTED PARKS AND RECREATIONAL USES

1 FUTURE NEIGHBORHOOD PARK
2 CENTENNIAL PARK
3 LOUIS JOLIET PARK
4 SUNNYSLOPE PARK
5 HARTBROOK PARK
6 BARK RIVER PARK
7 NIXON PARK
8 PENBROOK PARK
9 CASTLE PARK
10 COTTONWOOD WAYSIDE (ALDO LEOPOLD OVERLOOK)
11 HARTLAND ICE AGE MARSH AND MAPLE WAYSIDE (JOHN MUIR OVERLOOK)
12 FUTURE CITY OF DELAFIELD PARK
13 NAGA-WAUKEE PARK AND ICE ARENA
14 SPORTS COMMONS

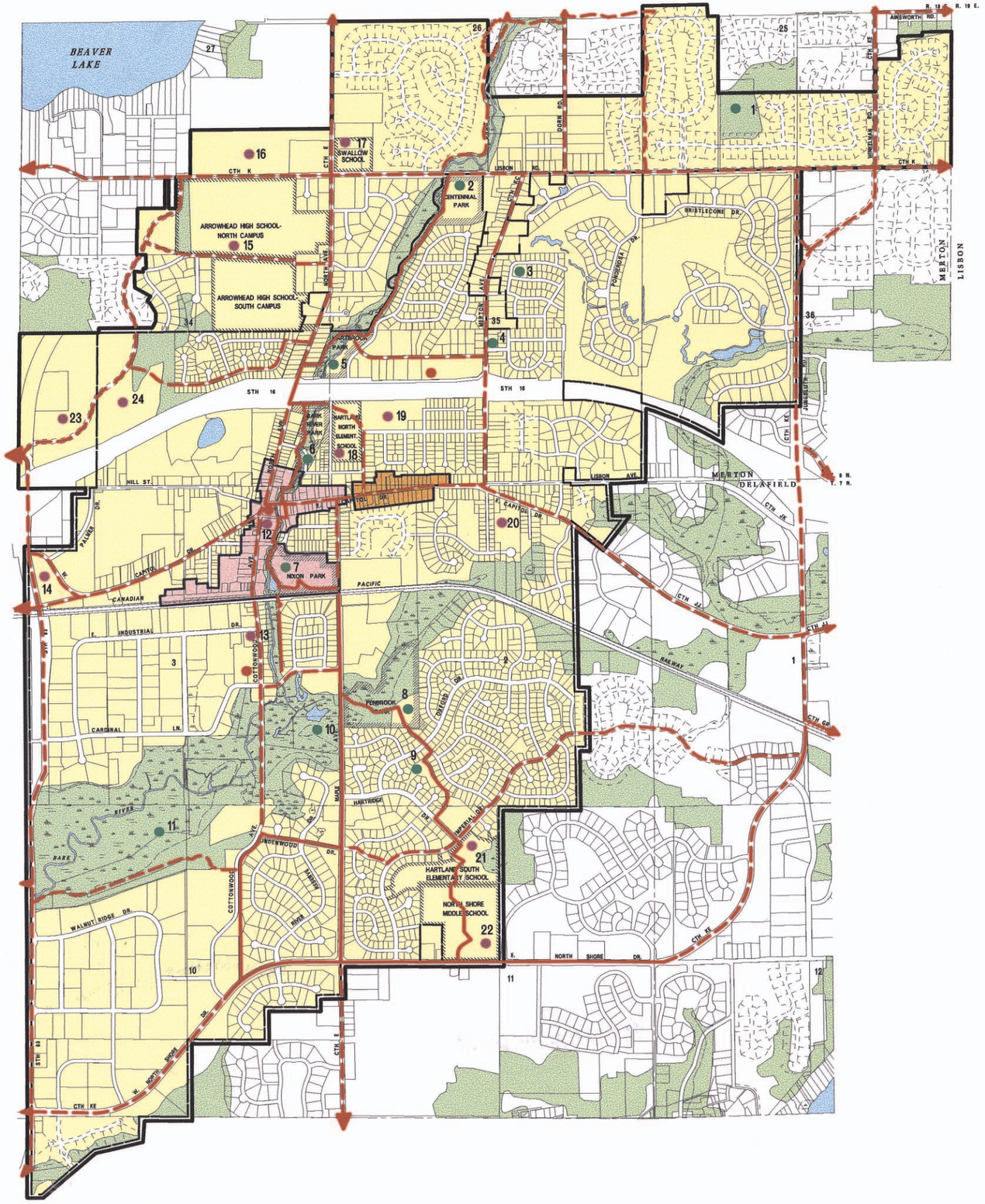
SELECTED GOVERNMENTAL AND INSTITUTIONAL USES

15 HARTLAND LIBRARY, COMMUNITY CENTER, MUNICIPAL BUILDING
16 HARTLAND POST OFFICE
17 FUTURE COMMUTER CENTER
18 CHENEQUA VILLAGE HALL
19 ARROWHEAD HIGH SCHOOL AND MULLETT ICE CENTER
20 FUTURE ARROWHEAD HIGH SCHOOL FACILITIES
21 SWALLOW SCHOOL
22 HARTLAND NORTH ELEMENTARY SCHOOL
23 ST. CHARLES CATHOLIC SCHOOL
24 ZION EVANGELICAL SCHOOL
25 HARTLAND SOUTH ELEMENTARY SCHOOL
26 NORTH SHORE MIDDLE SCHOOL
27 FUTURE LAKE COUNTRY LUTHERAN HIGH SCHOOL
28 FUTURE DIVINE REDEEMER LUTHERAN SCHOOL
29 UNIVERSITY LAKE SCHOOL
30 LAKE COUNTRY SCHOOL
31 WEE-KNOW SCHOOL
32 ST. ANTHONY-ON-THE-LAKE SCHOOL
33 PRAIRIE HILL WALDORF SCHOOL

GRAPHIC SCALE

0 3000 6000 FEET

Source: SEWRPC.



Map 40

RECOMMENDED BIKEWAYS FOR THE VILLAGE OF HARTLAND PLANNED URBAN SERVICE AREA AND ENVIRONS

- EXISTING 2000 CORPORATE LIMIT BOUNDARIES
- HARTLAND PLANNED URBAN SERVICE AREA
- VILLAGE CENTER
- EAST CAPITOL DRIVE HISTORIC DISTRICT
- ENVIRONMENTALLY SIGNIFICANT AREAS
- SURFACE WATER
- EXISTING BIKEWAY
- RECOMMENDED BIKEWAY
- ALTERNATIVE BIKEWAY
- GENERAL COMMERCIAL CENTERS
- SELECTED PARKS AND RECREATIONAL USES
  - 1 FUTURE NEIGHBORHOOD PARK
  - 2 CENTENNIAL PARK
  - 3 LOUIS JOLIET PARK
  - 4 SUNNYSLOPE PARK
  - 5 HARTBROOK PARK
  - 6 BARK RIVER PARK
  - 7 NIXON PARK
  - 8 PENBROOK PARK
  - 9 CASTLE PARK
  - 10 COTTONWOOD WAYSIDE (ALDO LEOPOLD OVERLOOK)
  - 11 HARTLAND ICE AGE MARSH AND MAPLE WAYSIDE (JOHN MUIR OVERLOOK)
- SELECTED GOVERNMENTAL AND INSTITUTIONAL USES
  - 12 HARTLAND LIBRARY, COMMUNITY CENTER, MUNICIPAL BUILDING
  - 13 HARTLAND POST OFFICE
  - 14 FUTURE COMMUTER CENTER
  - 15 ARROWHEAD HIGH SCHOOL AND MULLETT ICE CENTER
  - 16 FUTURE ARROWHEAD HIGH SCHOOL FACILITIES
  - 17 SWALLOW SCHOOL
  - 18 HARTLAND NORTH ELEMENTARY SCHOOL
  - 19 ST. CHARLES CATHOLIC SCHOOL
  - 20 ZION EVANGELICAL SCHOOL
  - 21 HARTLAND SOUTH ELEMENTARY SCHOOL
  - 22 NORTH SHORE MIDDLE SCHOOL
  - 23 FUTURE LAKE COUNTRY LUTHERAN HIGH SCHOOL
  - 24 FUTURE DIVINE REDEEMER LUTHERAN SCHOOL

NOTE: ENVIRONMENTALLY SIGNIFICANT AREAS CONSIST OF AREAS DELINEATED AS ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS ON THE RECOMMENDED MASTER PLAN (SEE MAP 37).

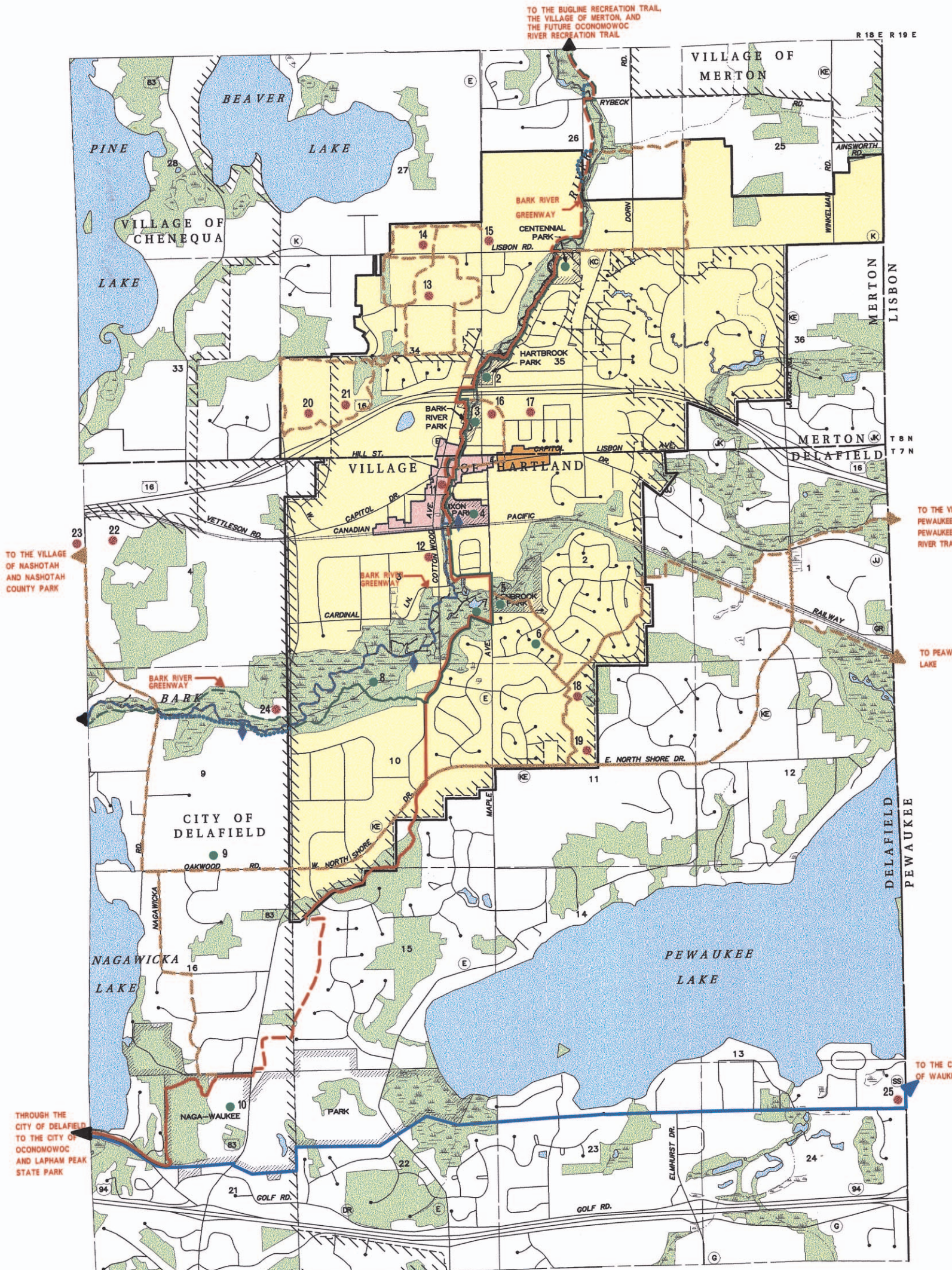
GRAPHIC SCALE

0 2000 4000 FEET

Source: SEWRPC.

Map 41

RECOMMENDED WATER TRAIL AND MAIN RECREATION TRAILS FOR THE VILLAGE OF HARTLAND STUDY AREA



- EXISTING 2000 CORPORATE LIMIT BOUNDARIES
- HARTLAND PLANNED URBAN SERVICE AREA
- VILLAGE CENTER
- EAST CAPITOL DRIVE HISTORIC DISTRICT
- ENVIRONMENTALLY SIGNIFICANT AREAS
- SURFACE WATER
- RECOMMENDED BARK RIVER WATER TRAIL
- RECOMMENDED CANOE/KAYAK ACESS POINTS
- EXISTING LAKE COUNTRY TRAILS
- EXISTING MAIN ICE AGE TRAIL
- RECOMMENDED ICE AGE TRAIL
- EXISTING BARK RIVER RECREATION TRAIL
- RECOMMENDED BARK RIVER RECREATION TRAIL
- ALTERNATIVE ICE AGE AND/OR BARK RIVER TRAIL
- EXISTING MAIN LOCAL TRAIL
- RECOMMENDED MAIN LOCAL TRAIL
- ALTERNATIVE LOCAL TRAIL

SELECTED PARKS AND RECREATIONAL USES

1. CENTENNIAL PARK
2. HARTBROOK PARK
3. BARK RIVER PARK
4. NIXON PARK
5. PENBROOK PARK
6. CASTLE PARK
7. COTTONWOOD OVERLOOK (ALDO LEOPOLD OVERLOOK)
8. HARTLAND ICE AGE MARSH AND MAPLE WAYSIDE (JOHN MUIR OVERLOOK)
9. FUTURE CITY OF DELAFIELD PARK
10. NAGA-WAUKEE PARK AND ICE ARENA

SELECTED GOVERNMENTAL AND INSTITUTIONAL USES

11. HARTLAND LIBRARY, COMMUNITY CENTER, MUNICIPAL BUILDING
12. HARTLAND POST OFFICE
13. ARROWHEAD HIGH SCHOOL AND MULLETT ICE CENTER
14. FUTURE ARROWHEAD HIGH SCHOOL FACILITIES
15. SWALLOW SCHOOL
16. HARTLAND NORTH ELEMENTARY SCHOOL
17. ST. CHARLES CATHOLIC SCHOOL
18. HARTLAND SOUTH ELEMENTARY SCHOOL
19. NORTH SHORE MIDDLE SCHOOL
20. FUTURE LAKE COUNTRY LUTHERAN HIGH SCHOOL
21. FUTURE DIVINE REDEEMER LUTHERAN SHOOL
22. UNIVERSITY LAKE SCHOOL
23. LAKE COUNTRY SCHOOL
24. WEE-KNOW SCHOOL
25. ST. ANTHONY-ON-THE-LAKE SCHOOL

NOTE: TRAILS SHOWN PARALLEL TO EACH OTHER SHARE THE SAME PATH. ENVIRONMENTALLY SIGNIFICANT AREAS CONSIST OF AREAS DELINEATED AS ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS ON THE RECOMMENDED MASTER PLAN (SEE MAP 37).

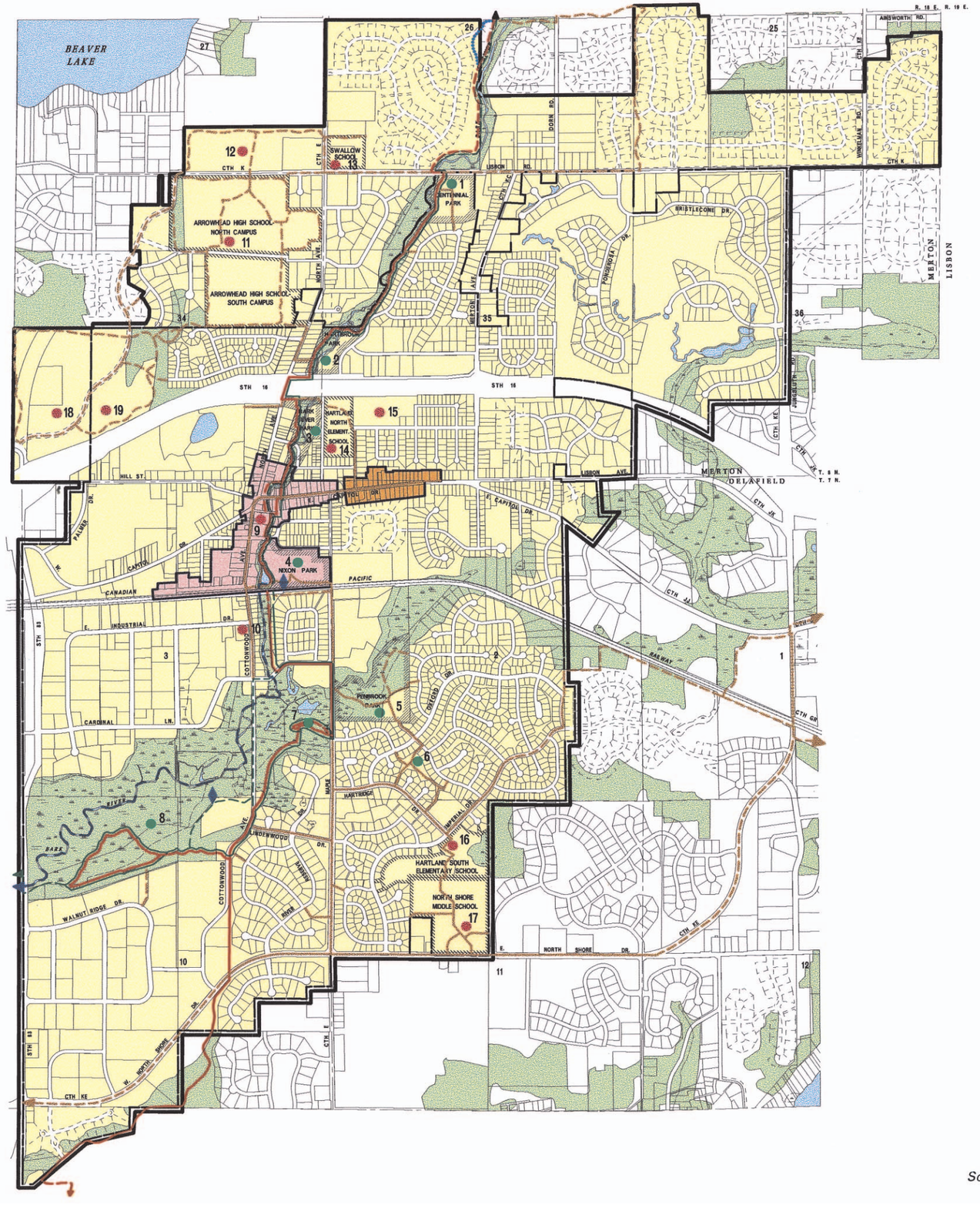
GRAPHIC SCALE

0 3000 6000 FEET

Source: SEWRPC.

Map 42

RECOMMENDED WATER TRAIL AND RECREATION TRAILS FOR THE VILLAGE OF HARTLAND PLANNED URBAN SERVICE AREA AND ENVIRONS



EXISTING 2000 CORPORATE LIMIT BOUNDARIES
HARTLAND PLANNED URBAN SERVICE AREA
VILLAGE CENTER
EAST CAPITOL DRIVE HISTORIC DISTRICT
ENVIRONMENTALLY SIGNIFICANT AREAS
SURFACE WATER
RECOMMENDED BARK RIVER WATER TRAIL
RECOMMENDED CANOE/KAYAK ACCESS POINT
EXISTING ICE AGE TRAIL
RECOMMENDED ICE AGE TRAIL
EXISTING BARK RIVER RECREATION TRAIL
RECOMMENDED BARK RIVER RECREATION TRAIL
ALTERNATIVE ICE AGE/BARK RIVER TRAIL
EXISTING LOCAL TRAIL
RECOMMENDED LOCAL TRAIL
ALTERNATIVE LOCAL TRAIL

SELECTED PARKS AND RECREATIONAL USES

1 CENTENNIAL PARK
2 HARTBROOK PARK
3 BARK RIVER PARK
4 NIXON PARK
5 PENBROOK PARK
6 CASTLE PARK
7 COTTONWOOD WAYSIDE (ALDO LEOPOLD OVERLOOK)
8 HARTLAND ICE AGE MARSH AND MAPLE WAYSIDE (JOHN MUIR OVERLOOK)

SELECTED GOVERNMENTAL AND INSTITUTIONAL USES

9 HARTLAND LIBRARY, COMMUNITY CENTER, MUNICIPAL BUILDING
10 HARTLAND POST OFFICE
11 ARROWHEAD HIGH SCHOOL AND MULLETT ICE CENTER
12 FUTURE ARROWHEAD HIGH SCHOOL FACILITIES
13 SWALLOW SCHOOL
14 HARTLAND NORTH ELEMENTARY SCHOOL
15 ST. CHARLES CATHOLIC SCHOOL
16 HARTLAND SOUTH ELEMENTARY SCHOOL
17 NORTH SHORE MIDDLE SCHOOL
18 FUTURE LAKE COUNTRY LUTHERAN HIGH SCHOOL
19 FUTURE DIVINE REDEEMER LUTHERAN SCHOOL

NOTE: TRAILS SHOWN PARALLEL TO EACH OTHER SHARE THE SAME PATH. ENVIRONMENTALLY SIGNIFICANT AREAS CONSIST OF AREAS DELINEATED AS ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS ON THE RECOMMENDED MASTER PLAN (SEE MAP 37).

GRAPHIC SCALE

0 2000 4000 FEET

Source: SEWRPC.

teachers from Arrowhead and Kettle Moraine High Schools, property along the south segment of the Bark River and east of this site. Park improvements to the so named Hartland Ice Age Marsh include establishing a trailhead parking lot at both sites, providing additional improved trail routes to overlooks, and constructing boardwalks through marshes. The existing Hartland Ice Age Marsh is comprised of a trail network with two overlooks and waysides: the Aldo Leopold Overlook and Cottonwood Wayside on the west of Cottonwood Avenue and the John Muir Overlook and Maple Wayside on the west side of Maple Avenue. A short section of a trail located near the Maple Wayside is one of only three handicapped-accessible sections of the Ice Age Trail in the State that is owned and maintained by the Ice Age Park and Trail Foundation. The trails within the Hartland Ice Age Marsh are recommended to be further improved to extend this handicapped accessible trail by continuing westward from the Maple Wayside to Cottonwood Wayside and along the Bark River.

Map 41 also shows the main routes of a recommended local trail network that would traverse the Village of Hartland study area, ultimately connecting residential areas to key activity centers. A more detailed trail network system is shown on Map 42 for the Hartland planned urban service area, indicating not only the main trail routes but also the supplemental trail routes connecting planned residential areas to the main routes. Some of these recreation trails will connect to the Village's popular Bark River Trial, which is a shared-use, paved path that is wheelchair accessible and allows for a variety of trail-oriented uses, such as walking, bicycling, in-line skating, roller skiing, and cross-country skiing. As the popularity of this trail continues to grow, the path should be widened whenever possible. The master plan recognizes that privately owned and maintained trails, such as those within the Hartridge, Hawk's Nest, and Stillmeadows Subdivision, will continue to develop in the Hartland area, as illustrated in SEWRPC Memorandum Report No. 163, *A Hartland-Merton Cluster Development Plan, Waukesha County, Wisconsin,* December 2004.

Water Trail[3]

Another type of trail, the Bark River Water Trail, is recommended in the Bark River Greenway as shown on Maps 41 and 42. This approximately three-mile trail in the Hartland study area consist of the southern portion of the Bark River extending from Nixon Park in the Village to the River's confluence with Nagawicka Lake, which could then further connect to a potential water trail designated around the Lake and eventually to where the River continues to flow southwest to the Rock River. This water trail--sometimes referred to as a paddling trail or a canoeing/kayaking trail--would essentially identify part of the Bark River as a navigable waterway that could accommodate low-impact, human-powered watercraft such as canoes and kayaks. Such small watercraft typically create "no wake" and embrace the "Leave No Trace" code of outdoor ethics, which would promote the responsible use and enjoyment of the ecologically-sensitive marsh areas along the River. The trail would further serve as a place for solitude and respite from the urban environment, while providing educational and recreational opportunities for outdoor enthusiasts.

Important factors for establishing a water trail are the provision of safe and convenient access to a navigable waterway with unobstructed passageways. Access points in the Village could be established at Nixon Park, which is subject to changing water levels, and/or north of the developed trailhead for the Ice Age Trail at Cottonwood Wayside, which is presently under private ownership but is recommended to be acquired as part of the Hartland Ice Age Marsh. As an alternative, an access point could be provided southwest of the Cottonwood Avenue river crossing. In addition, an access point may be provided west of STH 83 in the City of Delafield as part of the Bark River Greenway. These put-in and take-out destinations should include adequate parking facilities with potential restrooms and picnicking areas. Other trail improvements would include removing litter, clearing logjams for navigability, installing wayfinding and educational signs, and providing safe portaging areas. In addition, narrow or low underpasses (i.e. small culverts or low bridges) should be replaced with larger openings, when

[3]*A "water trail" is an officially designated trail on a lake (typically along the shoreline), waterway, or portion of a waterway that usually contains a sufficient water level to navigate a small watercraft such as a canoe or kayak with unobstructed passageways while providing safe and convenient access points (put-in and take-out points). Support facilities for water trails may include parking areas, restrooms, and picnic areas.*

reconstruction is warranted, such as where Cardinal Lane and Cottonwood Avenue crosses the Bark River. Large box culverts or higher bridges are recommended, provided that the floodwater flow and storage capacity is not significantly affected, which is subject to approval by the Wisconsin Department of Natural Resources. Since bridges or overpasses may not be reconstructed for a period of time or not at all, an alternative is to provide safe portaging areas. A durable path should be provided for carrying watercraft, which should consist of more natural, less engineered facilities, such as submerged pavers with openings for vegetation to grow through to help retain the natural river bank appearance, along with providing proper roadside signage forewarning motor vehicle traffic of potential portage crossings.

Scenic Drive

The plan recognizes the continued recreational use of the Kettle Moraine Scenic Drive traversing through the Hartland area as shown on Map 15 in Chapter III. This pleasure driving route connects the Kettle Moraine State Forest--Northern Unit in Fond du Lac, Sheboygan, and Washington Counties with the Kettle Moraine State Forest--Southern Unit in Jefferson, Walworth, and Waukesha Counties. The total touring route is about 75 miles in length within the Southeastern Wisconsin Region, including 4.3 miles in the Village of Hartland study area along Vettleson Road and part of STH 83.

Environmentally Significant Areas

To effectively guide urban development and redevelopment in the Hartland area into a pattern that is efficient, stable, safe, healthful, and attractive, it is necessary to carefully consider the location of planned land uses in relation to the natural resource base of the area. Locating new urban development outside of environmental corridors and other environmentally sensitive areas will serve to maintain a high level of environmental quality in the community, and will also avoid costly development problems such as flood damage, wet basements, failing pavements, and infiltration of clear water into sanitary sewerage systems. Properly relating new development to such environmentally significant areas will also allow the scenic beauty of natural resource areas to serve as a humanizing feature for the residents of the Hartland area.

The Village master plan recommends substantial preservation of most remaining environmental corridors, isolated natural resource areas, and other environmentally significant areas. Development within these areas should be limited to required transportation and utility facilities, compatible outdoor recreation facilities, and very low density residential development carefully designed so as to minimize the impact on the natural features. Cluster design concepts are recommended over conventional subdivision design if residential development occurs within environmentally significant areas.

Primary Environmental Corridors

Environmental corridors, more fully described in Chapter III, are linear areas in the landscape that contain concentrations of high-value elements of the natural resource base. Primary environmental corridors contain almost all of the best remaining woodlands, wetlands, and wildlife habitat areas, as well as floodplains and steeply sloped areas where intensive urban development would be ill-advised.[4] The protection of the primary environmental corridors from additional intrusion by urban development is one of the principal objectives of the recommended master plan. Primary environmental corridors occupied approximately 376 acres, or 10 percent, of the planned urban service area in 1998. Table 29 indicates that under the recommended plan these corridors would occupy about 372 acres, or 10 percent, of the planned urban service area. This decrease is due to locally committed urban development. The remaining primary environmental corridors located mostly along the Bark River and the east central part of the planned urban service area should, to the maximum extent practicable, be preserved in essentially natural, open uses or maintained for resource preservation and limited recreation purposes. In some cases, very low-density residential development of no more than 0.2 dwelling units per net acre, equivalent to one dwelling unit per five acres, compatible with the preservation of the corridors, may be permitted to occupy corridor lands. Such development should utilize the cluster design concept and, accordingly, should be sensitively integrated with the natural features on the site.

[4]*Primary environmental corridors are at least two miles in length, 400 acres in area, and 200 feet in width.*

Secondary Environmental Corridor

The secondary environmental corridors in the Hartland planned urban service area are located along a portion of the Bark River and an intermittent watercourse, and include the wetlands associated with these waterways.[5] Under the plan, secondary environmental corridors would occupy about 34 acres, or 2 percent, of the planned urban service area. This is a decrease of about 35 acres, or 51 percent, from the 1998 total of about 69 acres due to the upgraded reclassification of secondary environmental corridor along a portion of the Bark River to primary environmental corridor. The secondary environmental corridors should be carefully integrated into urban development with the goal of preserving corridor resources. Such areas may serve as corridors for the movement of wildlife and may also lend themselves for certain uses, such as parks, drainageways, or stormwater detention or retention areas. These corridors also serve as links between primary environmental corridors.

Isolated Natural Resource Areas

Isolated natural resource areas consist of areas with important natural resource values which are separated geographically from environmental corridors. Most of the isolated natural resource areas in the Hartland planned urban service area consist of tracts of woodlands that are at least 200 feet wide and five acres in area. These areas, under the recommended plan, would occupy about 53 acres, or 1 percent, of the planned urban service area. This is a decrease of about two acres, or 4 percent, from the 1998 total of about 55 acres due to locally committed development in woodland areas. The plan recommends that the remaining areas be preserved in essentially natural, open space uses whenever possible, since these areas sometimes serve as the only available wildlife habitat in an area and lend natural diversity to the community. Similar to secondary environmental corridors, isolated natural resource areas also lend themselves for certain uses such as parks, drainageways, or stormwater detention or retention areas.

Other Lands to be Preserved

The plan also recommends other open lands to be preserved as identified on Map 37. This land use category includes the common open areas of residential developments, including cluster developments, and small natural areas containing important natural resource values. Even though the natural areas do not currently qualify as part of an environmental corridor or isolated natural resource area, they may be environmentally significant in the sense that they contain soils poorly suited for urban uses, wetland vegetation, steep slopes, or floodplains; or provide buffer areas between incompatible land uses and areas for detention or retention ponds. These areas are usually either located adjacent to lands classified as environmental corridor and isolated natural resource areas or are small areas less than five acres in size. Under the recommended master plan, other open lands to be preserved would occupy about 237 acres, or 6 percent, of the planned urban service area, of which a large portion, about 204 acres or 86 percent, would be located in the common areas of residential subdivisions. Similar to isolated natural resource areas, the preservation of these areas may provide the only available wildlife habitat in an area and lend unique character and natural diversity to the community. As natural vegetation develops on some of these undisturbed areas, the re-vegetated land may eventually be reclassified as environmental corridor or isolated natural resource area.

Development on Parcels Containing Environmentally Significant Areas

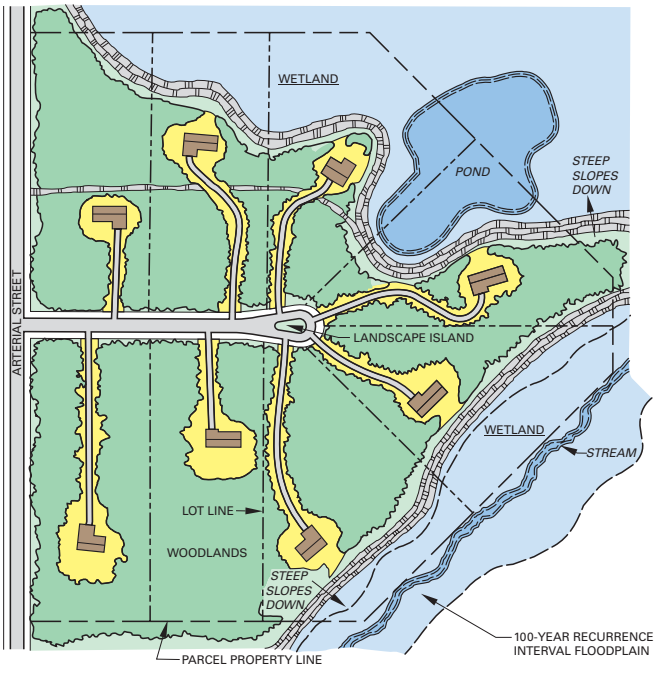
Where possible, the Village master plan recommends that housing units be located entirely outside of environmental corridors, isolated natural resource areas, and other environmentally significant areas as illustrated earlier in Figure 2. While calling for preservation of environmental corridor lands, the plan recognizes that in some cases it may be necessary to allow very low density residential development on the upland portion of such lands. It would be desirable for such development to utilize cluster, or conservation, development designs. Figure 3 shows three alternative design options for residential development within a primary environmental corridor. All the design options provide a means of preserving environmentally sensitive areas while maintaining an overall

[5]*Secondary environmental corridors are at least one mile in length and 100 acres in area, except where secondary corridors connect primary environmental corridor segments. In such cases, no minimum area or length criteria apply.*

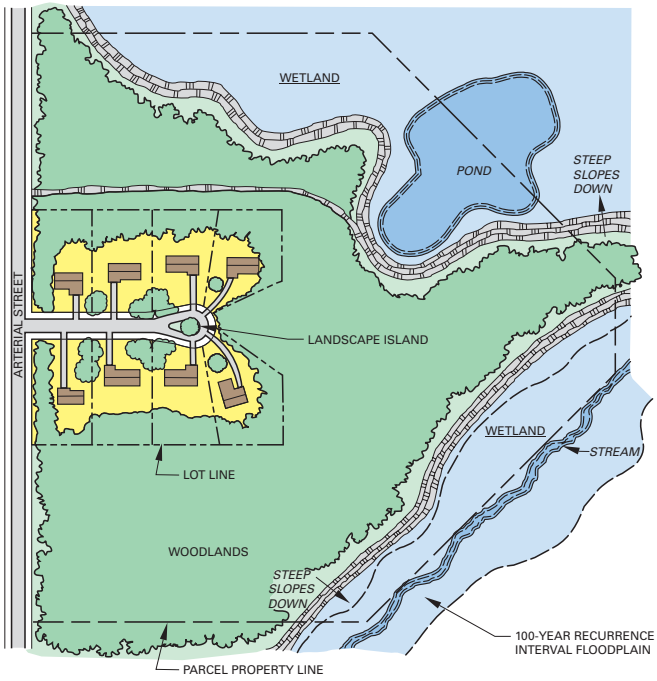
Figure 3

ALTERNATIVE RESIDENTIAL DEVELOPMENT DESIGNS COMPATIBLE WITH PRIMARY ENVIRONMENTAL CORRIDORS

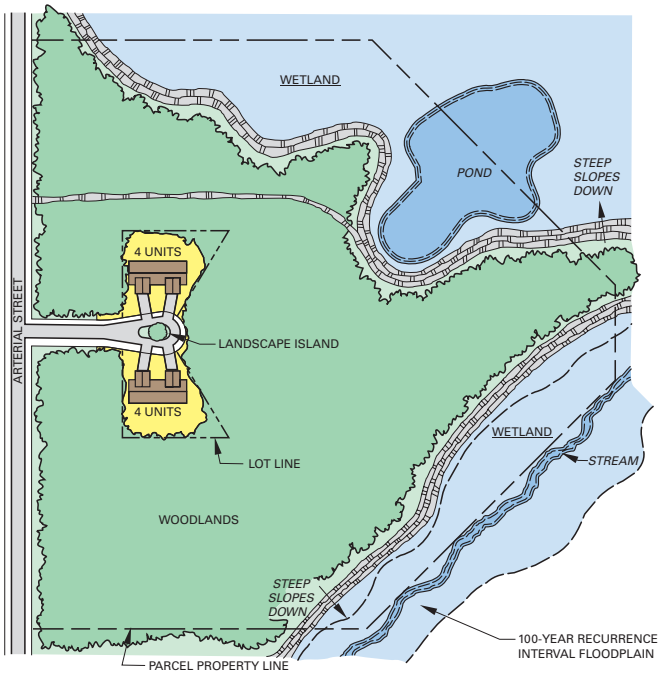
A. CONVENTIONAL FIVE-ACRE LOT DESIGN



B. CLUSTERED ONE-ACRE LOT DESIGN



C. CLUSTERED CONDOMINIUM DEVELOPMENT DESIGN



Source: SEWRPC.

density of no more than one dwelling unit per net five acres of land. The first alternative, Alternative A, shows the site divided into eight lots of five acres in size or greater. Each dwelling unit is carefully located to avoid environmentally sensitive features. Alternative B shows the same site with the dwelling units clustered on eight contiguous lots about one acre in size, which allows most of the site to remain undisturbed while still providing each homeowner with a private residence and yard. This design configuration also retains the natural character of the site as viewed from the adjacent arterial street. Alternative C shows the site with eight housing units clustered into two buildings, each containing four condominium units. This option would be most appealing to those who prefer living in a relatively undeveloped area, but are unwilling or unable to care for a detached housing unit and yard. It should be noted that even such limited development will have some impact on the resources concerned. The Village Plan Commission should carefully take into account such impacts as well as the effect the development may have on the environmental corridor as a whole in their review of development proposals.

While seeking to preserve environmental corridors, isolated natural resource areas, and other environmentally sensitive areas, the master plan recognizes that, besides limited residential development, land uses such as transportation and utility facilities and certain recreational uses may also be accommodated within these environmentally significant areas without jeopardizing their overall integrity. In this respect, general guidelines for the types of development that may be accommodated within various component natural resource features of environmental corridors have been prepared and are set forth in Appendix G. Even though these guidelines are not exhaustive, with good judgment they may be extended to, and be used for the evaluation of, proposals for similar types of development not specifically listed. It is recommended that conservation (or cluster) design techniques be used for any residential development occurring within an environmentally sensitive area.

Transportation System Development

The master plan recommends an integrated street system which, through its location, capacity, and design, can effectively serve the travel demand generated by the existing and proposed land uses incorporated in the recommended land use pattern. The attendant street system plan provides a framework for land use development in the Hartland area and is, therefore, regarded as a very important land use element. In the preparation of the street system plan, all modes of travel, including walking and bicycling, as well as transit and railway services, were considered with emphasis on how those modes may affect the utilization of the street network.

Street and Highway System

Transportation facilities, especially street and highway systems, are among the most important land use elements influencing the spatial distribution of development in a community. Map 26 in Chapter V graphically depicts the regional transportation system plan which details the recommended functional and jurisdictional system of arterial streets and highways that would serve the probable future traffic demand in the Hartland study area. It should be noted that, as a result of an alternative concepts study conducted by the Wisconsin Department of Transportation (WisDOT), the WisDOT and the Waukesha County Board acted to remove the long-planned STH 83 bypass, shown north of STH 16 on Map 26, from the State and County transportation plans, and instead to endorse retaining STH 83 on its existing alignment, as well as the recommendation of the regional transportation system plan to widen STH 83 south of STH 16 within the Village of Hartland study area to accommodate four travel lanes. The Village has already expressed transportation and design-related comments, as described in the design recommendations later in this chapter, to WisDOT for their consideration as part of a transportation improvements study being conducted by WisDOT for STH 83 from STH 16 south to CTH NN in the Village of Mukwonago.

In addition to incorporating a network of arterial streets and highways, the master plan shows existing and proposed street rights-of-way for other streets such as collector and minor land-access streets, as shown on Map 37. Collector streets, such as the proposed street with a north-south alignment between Lisbon Road (CTH K) and STH 16 on Map 37, were arranged to collect traffic from urban uses abutting minor land-access streets and to convey it to the arterial streets and activity centers identified on the plan. Collector streets should be related to special traffic generators such as schools, churches, shopping centers, and other proposed concentrations of population or activities, and to the arterial streets to which they connect. The minor land-access street network was designed to achieve the most efficient use of land; to discourage use by through traffic; to minimize street

area and cost; to provide an attractive setting for residential development; to facilitate the provision of efficient stormwater drainage, sanitary sewerage, and public water supply facilities; and to complement the natural terrain, thereby minimizing the need for extensive grading during the development process. All street locations were based upon careful consideration of a number of factors, including soil characteristics, topography, property boundaries, the hierarchy within the total street system, existing and proposed land uses, the principles of good neighborhood planning, and the design guidelines presented in Appendix C. Suggested cross-sections and attendant right-of-way widths for these streets are also shown in Figure C-1 of Appendix C. These cross-sections may be subject to variations with regard to a number of considerations, including topography, vehicular and pedestrian traffic patterns and volumes, traffic and parking lane widths, bicycle path and lane widths, and relation to adjacent land uses.

The plan map reflects a realignment of CTH KE in the northeast corner of the study area. The proposed alignment south of Lisbon Road (CTH K), preferred by the Village, is shown on Map 37. Waukesha County prefers a northern alignment as reflected on Map 43, which also shows alternative interconnecting streets and attendant lot layouts for the same general area. The master plan will be revised as needed when a final decision regarding the alignment is reached.

Commuter Center

The abovementioned regional transportation system plan also recommended that a "park-and-ride" lot be provided near the interchange of STH 16 and STH 83. Such a lot exists southwest of this interchange; however, a new facility is tentatively planned by WisDOT across the street from this lot and northwest of the intersection of W. Capitol Drive and Vettleson Road, as indicated on Map 37. The new lot or “commuter center” would be served by public transit and include services intended to increase park and ride usage by providing limited day-to-day retail and service needs of commuters and convenience facilities such as public telephones and restrooms, a sheltered transit station and travel/visitor information center, mail services, and a postal station. The proposed development of retail and convenience services (for example, dry cleaners and banking services) at the park-and-ride lot would be established within an aesthetically enhanced environment designed to complement the community’s desired visual character. By promoting transit and car-pooling for longer commuting trips, the vehicular travel demand as well as emission of air pollutants would be reduced, thereby saving motor fuel and capital investment in arterial street and highway improvements.

Railroad Service

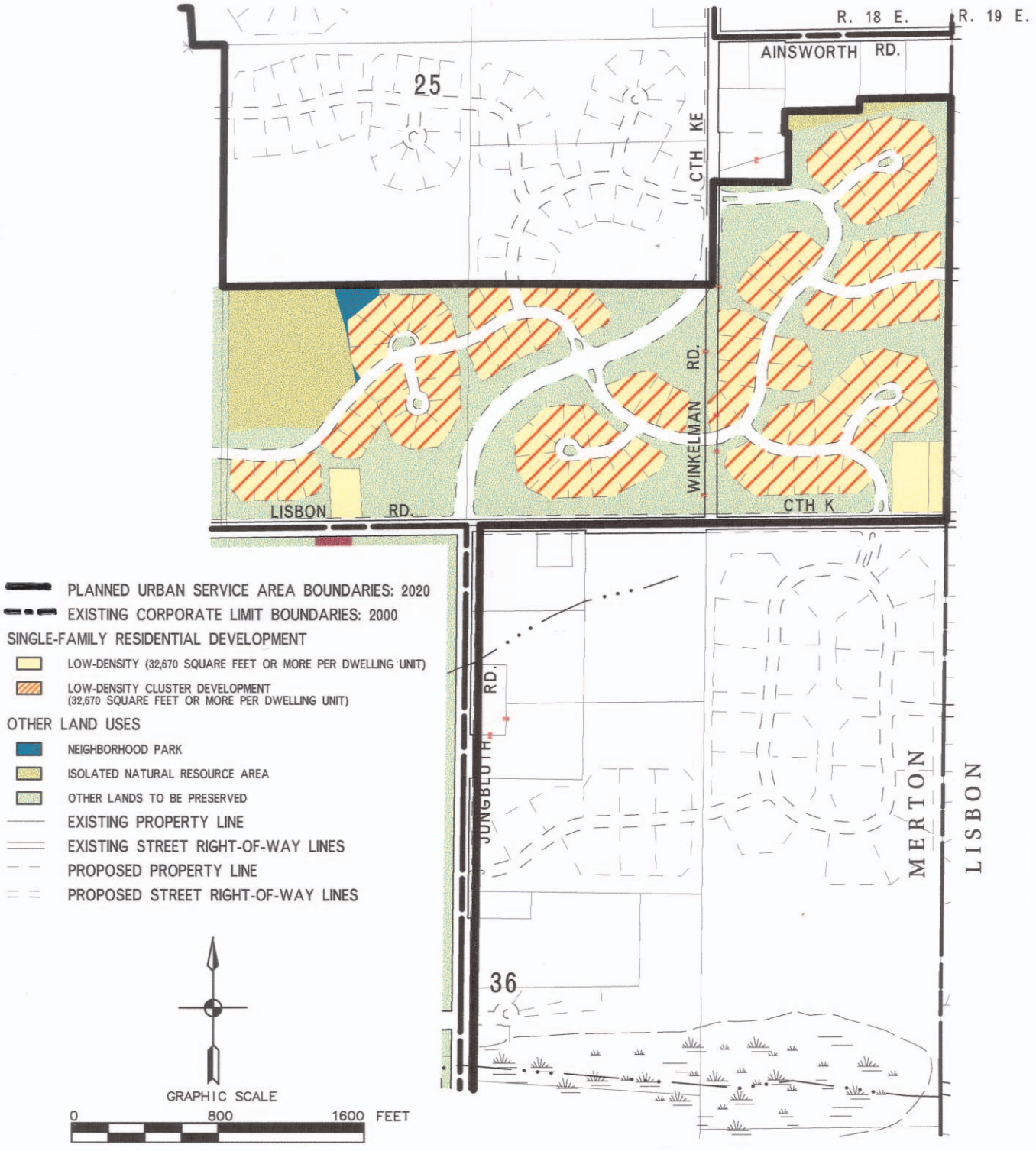
The recommended plan envisions that the Canadian Pacific Railway will continue to provide rail freight services over its main line through the Village of Hartland. This is the only railroad line in the Village and is part of a heavily used freight route between Chicago, St. Paul, and western Canada. Amtrak operates its Chicago-Seattle intercity passenger service over this line, the nearest stop being Milwaukee. The adopted regional transportation system plan for southeastern Wisconsin includes this railroad line as a possible candidate for consideration of commuter rail service as an alternative to express bus service. To date, further consideration of commuter rail service in this corridor has not been requested by affected local governments. The Wisconsin Department of Transportation has also considered initiation of a high speed intercity passenger rail service over this line between Milwaukee, Madison, and Minneapolis-St. Paul but has not yet made a decision to implement such a service.

DESIGN RECOMMENDATIONS

The Village Plan Commission requested, based in part on the results of a community survey, that this plan provide general design guidelines for enhancing the Village Center and other urban development within the Village urban service area. While it is not the purpose of the master plan to provide detailed plans for subareas and precise development and redevelopment recommendations, which may require structural condition surveys, commercial market analyses, and site- or building-specific analysis and engineered designs, it was determined that the plan should set forth generally applicable design guidelines that would help guide development in the Village. These guidelines would also be useful to public officials in the review and evaluation of site-specific development and redevelopment proposals and thereby assist in implementing the Village master plan.

Map 43

ALTERNATIVE LAYOUT FOR THE NORTHEAST PORTION OF THE VILLAGE OF HARTLAND PLANNED URBAN SERVICE AREA AND ENVIRONS



Source: SEWRPC.

General Recommendations

During the planning process, potential design improvements as well as design deficiencies were observed within the Village and environs. These observations indicated that several elements of design should be addressed within the Village, including elements relating to the Village Center, streetscaping, utility poles and lines, offsite landscaping, architectural compatibility, and certain transportation related factors. Based, in part, on the design guidelines set forth in Appendix C, specific recommendations for improving identified design elements and addressing certain design problems are herein provided. The appearance and proper design of urban development and redevelopment within the Village, consistent with the suggested design recommendations, will help to produce over time a more attractive community, and will help to stabilize or increase real property values to the advantage of both the community and individual property owners.

Village Center and Surroundings

General

The viability of the Village Center depends largely on its ability to attract people to work, shop, conduct personal business, and seek entertainment. The master plan recognizes that extensive renovation and razing of certain existing structures in the Center, together with significant streetscaping, to create an almost totally new downtown area may likely occur within the Center over time in order to remain a viable retail and service area and a hub for community activities. While redevelopment in the Center is desirable, it is also important that future redevelopment efforts work to preserve, as much as possible, its mature architecture and distinct physical character. After all, the character of the Village as a small, orderly urban community is reflected by the compact arrangement and architecture of the old “store front” commercial buildings in the Village Center and the presence of the Bark River flowing through it. The Center provides a unique type of shopping environment that is typically not duplicated in modern shopping areas. Even though the Village considers its historic "downtown" area as the Village Center, the boundaries of the Center have not been delineated. Inset A of Map 36 attempts to define the Center’s boundaries to help provide a more precise sense of location. As redevelopment proceeds in and near the Center, the boundaries may be refined accordingly.

Historic Resources

The Village should continue to capitalize on the concentration of unique historic buildings located in and near the Village Center as a source of community identity. By continuing to preserve this resource, a distinctive positive image of the Village would be projected upon pedestrians, bicyclists, and occupants of motor vehicles traveling through Center. Any proposed renovation to historic buildings, as well as new buildings proposed adjacent to such structures, should follow the historic preservation standards and design guidelines in Chapter VI and Appendix C, respectively. By comparing Map 36 and Map 19 in Chapter IV, it can be determined that the Center contains and is located near 17 historically significant buildings and the East Capitol Drive Historic District (see Inset B of Map 36). To date, the Historic District and 13 of the 17 buildings are listed on the National and Wisconsin Register of Historic Places. Opportunities for experiencing this District and the other historic features should be promoted by continuing to distribute the Village’s descriptive brochures or booklets with attendant maps entitled, *Historical and Architectural Heritage Tour of Hartland Wisconsin, An Historical and Architectural Walking Tour of Hartland,* and *Historic Walking Tour of Hartland.* The Village should further utilize these distinct features by identifying them with explanatory plaques along a marked historic trail. This trail should be established as part of the recreational trail network for the Village of Hartland shown on Map 42.

Design

By designating a Village Center and improving its streetscape scenery, this distinctive community identity would continue to retain its prominence as an important location for various social and economic activities. Any proposed new development within the Village Center should fit the visual urban context of its setting by adhering to the design guidelines specifically established for the Center in Appendix C. Figure C-31 in that Appendix provides a generalized example of potential streetscape façade improvements that could be applied to the Village Center to project a “curb appeal” to the passerby.

Map 44 schematically identifies additional streetscape improvements for a portion of the Village Center. The map shows a potential redesign for the intersection of Hill Street, North Avenue, E. Capitol Drive, and Cottonwood Avenue and the intersection of W. Capitol Drive, Haight Drive, and Cottonwood Avenue to create better defined intersections with articulated crosswalks. The map also recommends a more coordinated and efficient parking and traffic circulation layout for various areas, including the rear of buildings located south of E. Capitol Drive, between Goodwin Avenue and Maple Avenue (CTH E). Connections between business properties are recommended so that customers can drive between parking areas serving adjacent businesses. This arrangement reduces the number of driveway intersections along arterial streets, preserves open space, reduces construction cost, minimizes disruption of arterial traffic flow from vehicles entering onto and exiting off of the arterial; reduces the number of potential points of conflicts between through and turning traffic; and facilitates the control and separation of vehicles and pedestrian movements. Joint access reservations or easements should be provided for both shared cross-access and entrance drives mutually agreed upon between properties.

Buildings should continue to be located close to sidewalks to retain the pedestrian-oriented development pattern as opposed to setting buildings in the rear with parking in front, which would make the buildings less readily accessible from public sidewalks. Future redevelopment efforts involving property adjacent to the river should also seek to increase the visibility of, and pedestrian access to, the Bark River. “Transparent” facades should be provided, at least at the street level of storefronts, to increase the visibility of business activity from sidewalks and streets, thereby attracting pedestrians and potential customers. To retain this “inviting” atmosphere, clear or slightly tinted glass or related glazing material should be used rather than mirrored, smoked, or dark-tinted glass. Windows also allow patrons from the inside to peer outside to enjoy people-watching. For the same reason, buildings in the Village Center should be designed to allow tenants and customers to enjoy the activities in front of the buildings along the “main streets” (Capitol Drive, North Avenue, and Cottonwood Avenue) of the Center and in back of the buildings along the Bark River Greenway by properly integrating outdoor sitting areas, such as balconies, porches, decks, patios, and sidewalk cafes, into the overall facade design.

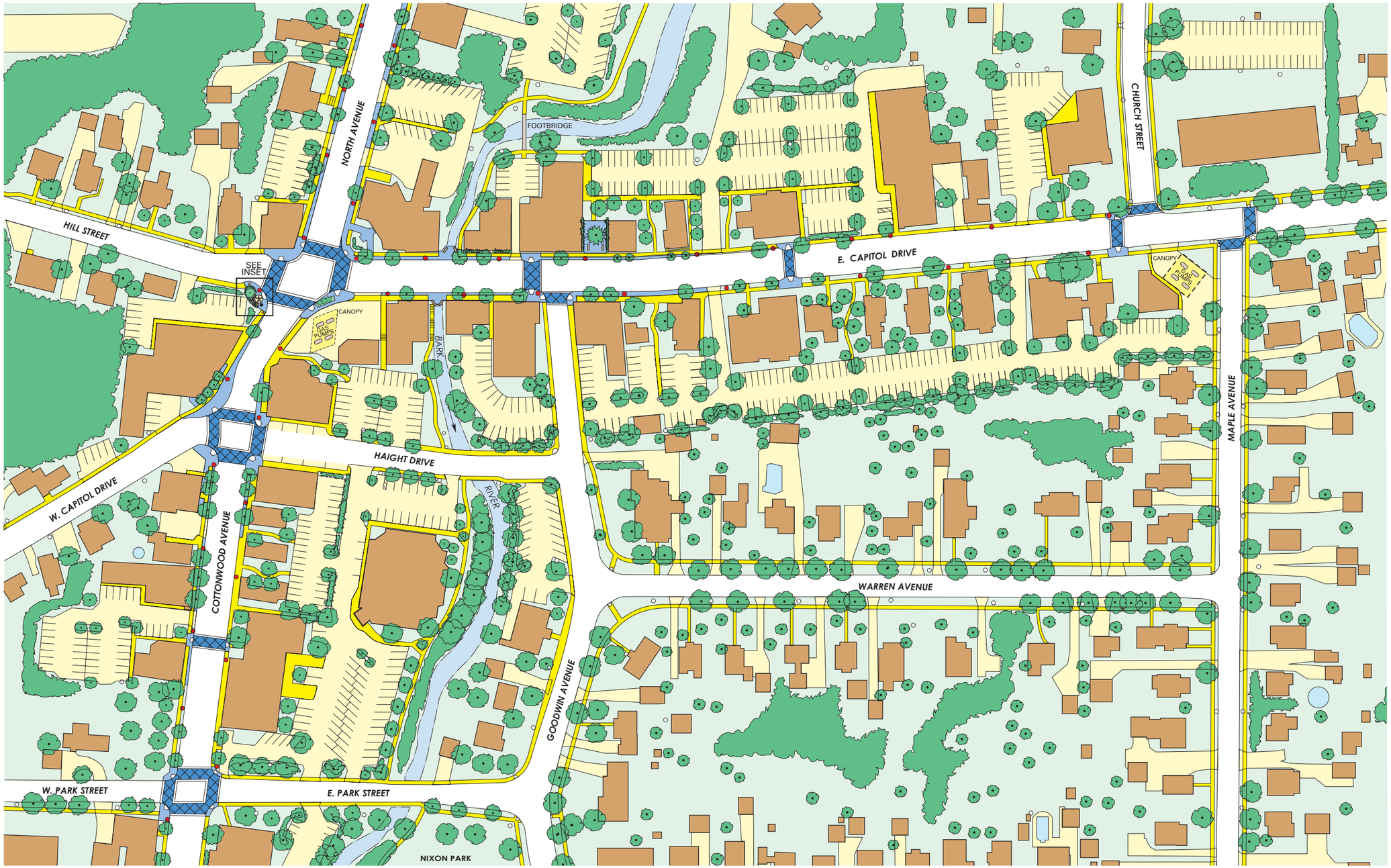
Proposed commercial or mixed-use buildings should reflect the architectural character of the Village Center with decorative facades covered by mostly ornate flat or low-pitched roofs in the central part of the Village Center and predominantly peaked gable and hip roofs for areas further from this core. The facades should be comprised of natural wood, stone, brick masonry, or a combination thereof; well-defined entryways; and architectural details. Unarticulated facade surfaces of plain “boxed” buildings constructed of cinder/concrete blocks, concrete slabs, or concrete panels with no decorative detailing should be discouraged.

Complementary streetscaping should be provided for the Village Center that reflects the overall design theme desired by community residents and business owners. The streetscape facade theme should be continued along Capitol Drive, North Avenue, Cottonwood Avenue, and Pawling Avenue. This theme may consist of a historic village setting or a historic theme with a contemporary flair supplemented with attractive landscaping. Historic photographs are an excellent means of identifying a potential theme for the Center. Discordant elements, such as the clutter of poles and wires and lack of landscaping, even if historically accurate, should be avoided.

Streetscaping features should continue to include trees, shrubs, and flowers planted along the street facades in the Center to enhance its attractiveness. “Hardscapes” consisting of such street and sidewalk features as wider sidewalks, decorative paving materials, flower planters, ornate signs, benches, bollards, bicycle stands, kiosks, or a clock tower could also be installed to provide a more interesting and comfortable shopping and walking experience. Such features are often successfully financed by community service organizations. Decorative street lamps, with colorful banners and/or flowers in hanging pots, at pedestrian scale and of a design compatible with the selected theme, should replace the existing lighting that appear too massive and disproportional in relation to the limited space between the buildings and streets. To avoid a disorganized, nonfunctional, or cluttered appearance, it is recommended that a design professional such as an architect or landscape architect design a unified plan for the use of hardscape features in the overall Village Center, so that a coordinated, aesthetically pleasing, and functional image may be achieved.

Map 44

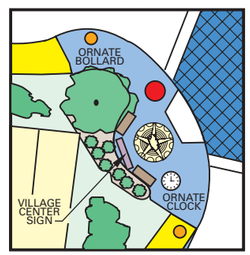
POTENTIAL GENERAL REDEVELOPMENT PLAN FOR A PORTION OF THE HARTLAND VILLAGE CENTER



BUILDING
SIDEWALK/PATH
DECORATIVE PAVING
ARTICULATED CROSSWALK
TREES
SHRUBS
GRASS
DECORATIVE STREET LIGHT
CONVENTIONAL STREET LIGHTS OR UTILITY POLES
ORNATE BENCH
HANDICAP ACCESSIBLE CURB RAMP
PARKING SPACES
SURFACE WATER

GRAPHIC SCALE
0 50 100 200 FEET

INSET



Source: SEWRPC.

Ultimately, all design features for the Village Center should be representative of a design theme desired by the community. Proposed developments and redevelopments should continue to help revitalize the Village Center by incorporating the aforementioned design elements. The Village has already been working towards improving the vitality of this Village Center. With continuing prudent planning and effective plan implementation on the part of the Village and the business community, the positive characteristics of the Center can be further enhanced.

Streetscaping

General

Streetscape improvements should be applied, not only in the Village Center as discussed above, but also along other streets located throughout the Village. Even though the design theme for the Center may not be implemented to the same extent in other areas of the Village, streetscaping features such as street trees, distinctive street signs with logos, and attractive street and traffic lights are recommended. Landscape plantings, especially trees, along streets and on abutting properties can help to define the street lines visually, add texture and color, provide shade and screening, and fill void spaces. Cul-de-sac turnarounds should include center landscaped islands containing trees. Street trees may be placed on gentle slopes with proper bracing for reinforcement. The streetscape may also include defined attractive gateways or main entryways as discussed below. If the provision of distinctive style streetlights (compatible to those eventually selected for the Village Center) throughout the Village is not practical, the traditional style of tall streetlights could be made more attractive by using colors, such as black or green, instead of the bare metal color. As another alternative, the poles could be colored black or green while the extended arms with the illumination head could remain silver (natural metallic color). The style or color selected for the streetlights should be emulated in the poles for street signs and traffic signs and signals as illustrated in Figure C-32 in Appendix C. The overall streetscape image of the planned urban service area should be brought into accord with the design guidelines set forth in Appendix C and the design recommendations discussed herein.

STH 83

The Village recognizes that arterial streets throughout the Region serve a function beyond the Village limits; however, such arterials located within the community are of paramount interest to the Village from both a safety and aesthetic perspective. Therefore, proper streetscaping is important along STH 83 which serves as a main "gateway" leading traffic into the Village. The Village recognizes that this highway may be converted to a four-lane divided highway; however, the Village has significant concerns on the impact such a widening will have on the safety and image of the community.

Village officials indicated that if such a highway improvement occurs, a number of factors should be considered in the design to ensure that a safe and attractive highway is established, including the provision of: a boulevard-type arterial with raised landscape medians as opposed to an open asphalt, two-way center-turn lane; attractive streetscaping such as street trees, medianscaping (as illustrated in Figure C-15 in Appendix C), and ornate raised channelizing islands as opposed to unattractive plain asphalt; and safe pedestrian/bicyclist crossings with defined crosswalks eventually at the intersection of STH 83 with Oak Road/ W. North Shore Drive (CTH KE) and possibly Cardinal Lane and W. Capitol Drive when lands located on the west side of the highway in the City of Delafield are developed in the future, including a future City park north of Oak Road. Additional improvements desired by the Village include separate shared pedestrian/bicycle paths on desirably both sides of STH 83, or at least on one side; and ornate or colored traffic light poles and street lights, possibly with colorful banners on streetlights at least at street intersections. Prior to any highway design activities, the Village of Hartland and the Wisconsin Department of Transportation, which has jurisdiction over this arterial, should work closely together to address transportation and design related elements of mutual concern.

Utility Lines and Poles

The overhead wires and supporting structures of the electric power and telephone communication facilities create a sense of visual clutter along streets within the Village. One possible solution for this problem is to continue to bury utility lines as has been done in the past along a portion of E. Capitol Drive within the Village. Another solution is to relocate overhead lines and supporting poles to less visible areas, such as along the rear of

properties. It is recommended that preferably all overhead utility lines within the Village planned urban service area be buried, especially along North Avenue, Cottonwood Avenue, and Capitol Drive which function as the “Main Streets” of the Village Center.

Signs and "Entryways"

General
Most freestanding advertising signs in the Village are provided with little or no landscaping around the base of the sign. By providing flower beds, colorful shrubs, and flowering trees in an elevated plant bed with decorative mulch at the base, without obstructing the face of the signs, their legibility and appearance could be improved as illustrated in Figure C-19 of Appendix C. Signs should contain a decorative structural base constructed of material similar to or compatible with the building materials of the principal structure on a site. Generally, the fewer the words on sign faces, the more comprehensible will be the signs. Large type-face lettering properly spaced is more easily read from long distances and from moving vehicles. Main "entryways" into the Village, the Hartland Village Center, parks, residential neighborhoods, commercial centers, and business parks should also be well-defined with attractive signs and/or landscaping to provide a sense of direction and identity, as illustrated in Figure C-16 in Appendix C. The design of entryways should be representative of the character of the area. Monument signs—sometimes called ground signs—are preferred over pole signs.

Village Welcome and Wayfinding Signs/Maps
Village "Welcome" signs are lacking in certain strategic locations. Such signs should contain large lettering and be situated at key roadside locations where the sign is large enough to be readily visible and legible by occupants of motor vehicles entering the Village of Hartland along major arterials. Specifically, “Welcome” signs indicating that one is entering the Village should be provided near the intersections of STH 83 with CTH KE (North Shore Drive), Cardinal Lane, and W. Capitol Drive; the intersections of CTH KE with CTH E (Maple Avenue) and CTH K (Lisbon Road); the intersection of Merton Avenue with Hartbrook Drive/STH 16 off-ramp; and where North Avenue and E. Capitol Drive (CTH JJ) meet the Village corporate limits. These signs should be low monument signs at a human scale, usually no more than four to six feet in height, on a decorative structural base surrounded by ornate landscaping and situated outside traffic vision clearance zones.

To further raise the profile of the community, the Village should eventually replace the existing street sign blades with unique bright and colorful street name signs containing a distinct icon or logo. Additional vibrant wayfinding or icon/symbol signs, containing similar color graphic features as the street name signs, may also be provided to direct traffic to public facilities or major activity centers such as schools, parks, the library, and the East Capitol Drive Historic District.

The popular and heavily used Bark River/Ice Age Trail, which traverses through the Village, also presents an economic opportunity for the community to tap into for potential business that could be generated from tourists or trail users. For example, colorful maps highlighting the location of services and attractions in the Hartland area should be posted at potential trail rest stops, such as near the Hartland Public Library; where the trail intersects with E. Capitol Drive (one of the “Main Streets” of the Village Center); Centennial, Hartbrook, Nixon, and Bark River Parks; and Cottonwood and Maple Waysides of the Hartland Ice Age Marsh to direct trail users to key attractions. Points of interest may include existing historic landmarks, the East Capitol Drive Historic District, restaurants, and convenience stores, as well as others that may develop in the future such as bakeries, ice cream shops, coffee/sandwich shops, art galleries, trailside sporting shops, and specialty stores. The map may further indicate to trail users their proximity to schools, Nagawaukee County Park, and other local parks and trails, including the Bugline and Lake Country Recreation Trails, as well connections to the Ice Age National Scenic Trail, which is a part of and extends beyond the Bark River Trail.

Village Center
To signify that one is in the heart of the Village Center, an ornate monument-type sign reflecting the design theme for the Center should be located on one of the corners of the intersection of Capitol Drive with North Avenue/Cottonwood Avenue. This sign should be surrounded by attractive landscaping, especially colorful

flowers, provided that sufficient space is available. Additional wayfinding signs should also be installed along Capitol Drive, Maple Avenue, North Avenue, and Cottonwood Avenue to direct and inform traffic in advance of the upcoming Village Center.

Parking, Service, and Outdoor Storage Areas

Many parking lots in the Village lack adequate landscaping and are not well-defined, creating unattractive and unsafe "seas of asphalt". The function and aesthetics of parking, service, and outdoor storage areas can be improved by providing landscape islands in the interior of the parking lots and at the end of parking rows; by screening parking lots, loading/unloading service areas, and outdoor storage areas from adjacent residential areas, public streets, and, whenever possible, the Bark River/Ice Age Trail; by requiring protective curbing around landscape areas; and by requiring permanent paving with striped parking spaces and, as necessary, "wheelstops" or low "bumpers". Where space is limited for screening parking lots within the Hartland Village Center, low decorative stone walls that could supplement as sitting areas or decorative fences (i.e. wrought iron fences) could be provided with flowers or ornamental grasses at the base.

It is important to note that the provision of landscape islands is recommended, not only for aesthetic reasons, but also for functional and safety purposes. Islands located at the end of parking rows separate parked vehicles from driveways; provide an indication of the parking orientation and layout; and provide visual clearance areas, except for the minor obstruction of a tree trunk or light pole located in the island, for vehicles driving out of the general parking areas onto adjacent driveways. Islands with landscaping should maintain a visual clearance zone between the heights of 2.5 feet and 10 feet above the mean pavement grade adjacent to said islands. Any plants proposed in these islands should be salt-tolerant. Figure C-10 in Appendix C provides parking lot design standards, and Figures C-5 and C-20 in this Appendix illustrate potential landscaping that could be provided for parking lots.

In some cases, the number of parking spaces and the width of traffic aisles provided for individual land uses may be inadequate; in other cases excessive. Too few parking spaces with inadequate traffic aisles create an inconvenience to tenants or customers and may encourage vehicles to park on public streets thus increasing the potential for pedestrian and vehicular traffic conflicts. Too many parking spaces with excessively wide traffic aisles and even driveway openings convey inefficient use of lands that could otherwise be converted to attractive landscaped areas. Parking needs and parking lot layouts, including the use of shared driveways and traffic aisles between compatible land uses as shown on Map 44, should be carefully examined for any proposed development or redevelopment projects in order to assess compliance with good design practices.

Buffers and Perimeter Landscape Strips

The provision of adequate and attractive perimeter landscaping strips, which may also function as buffers with plantings along the boundaries of many individual sites, is lacking within the Village. In some areas, perimeter landscaping strips are not provided and entrances and exits to parking areas, such as along Pawling Avenue, are not well-defined. Perimeter landscaping strips located around a parcel provide space for attractive landscaping, screening from incompatible land uses, and filtration of stormwater runoff. These strips further clearly define the boundaries and entrances of a property and provide separation between parking lots and public sidewalks and streets. Perimeter landscaping strips, however, are not necessary for abutting sites that share entrances, traffic aisles, and parking lots at a common lot line.

A buffer may be defined as a landscape area that surrounds a land use and reduces or blocks visual nuisances, air and noise pollutants, or other negative factors associated with that use. Buffers can benefit the Village in protecting property values by separating dissimilar land use types and intensities visually and physically. Buffers may represent a variety of features, including earth berms with plantings, fences and walls with plantings, wide open spaces, and grade separations in order to effectively buffer between dissimilar land uses. Landscaped buffer strips should be provided between new urban developments, as well as existing redeveloped areas, and any incompatible adjacent land uses. Figure C-17 in Appendix C shows alternative landscaping that could be provided in such buffer areas.

Building Foundation Landscaping
A significant number of commercial, industrial, and multi-family building elevations in the Village that are visible from public streets and adjacent to customer and tenant parking lots do not provide sufficient landscaping at their foundation. These highly visible building elevations should be landscaped along the foundation with decorative mulch, flowers, shrubs, and trees to complement and enhance the aesthetics of the building as well as of the site.

As illustrated in Figure C-18 of Appendix C, the planting beds do not necessarily have to be narrow linear strips located directly against a building, but may consist of large planting beds located at or near the dripline of roof overhangs. Building foundation plantings, including low planters, also help break up the monotony of tall and long continuous building walls.

Architectural Compatibility of Buildings and Related Structures
A number of existing buildings and related structures in the Village, including those in the Village Center, exhibit features that do not complement the neighboring buildings and structures. The architectural design guidelines established in Appendix C state that, although building facades of two adjacent buildings may be different, their overall appearance should be made compatible through the proper use of facade elements, including the building proportion and shape/form (i.e. roofline--pitch vs. flat roof), the fenestration (arrangement of openings such as windows and doors/entryways) and appurtenances of building facades, the use of materials and colors, and the style and placement of signs. Street trees and other general landscape materials that complement the buildings should be installed along the street facades of these buildings. Accessory buildings and structures should also reflect or be compatible with the architectural features of the principal building. To retain a human-scale environment, most buildings in the community should preferably be one to two stories in height, but no higher than three stories.

Appendix C provides architectural design guidelines that could be applied to the Village, including the Village Center. As noted in this Appendix, any historic preservation actions should be undertaken in accordance with the standards promulgated by the U.S. Department of the Interior for all forms of historic preservation including acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction of significant historic features, including buildings. In addition, any historic features listed on the national or state register of historic places must be protected and preserved in accordance with a historic preservation ordinance enacted by the Village.

Maintenance
The proper maintenance of buildings and other structures, as well as landscaping, will help retain the aesthetic appeal of buildings and grounds within the Village over time. Buildings, fences, walls, and other structures should be kept in good condition and proper appearance by performing such routine maintenance tasks as painting, staining, repairing, replacing, and cleaning when necessary. Building code compliance is an effective method for ensuring that structures are properly maintained.

Landscaping should be provided only if it will be properly maintained by watering, pruning, mowing, edging, staking, fertilizing, spraying, and replacing when necessary. To ensure that these features are properly installed and maintained, upon submittal and approval of landscape plans for development or redevelopment proposals, a comprehensive maintenance schedule and a financial guarantee should be required to ensure that the initial installation and maintenance of landscape materials is in accordance with the approved plans.

Specifically, plants selected for use in certain areas of the urban environment, such as parking lots and along streets, should be salt-tolerant. If turf grass is proposed in landscaped areas, it should be properly maintained and protected from pedestrian and vehicular traffic, otherwise decorative mulch, such as stone or shredded bark, with underlying weed barrier should be used. Where very heavy traffic occurs, “all-weather” surface material such as decorative pavers should be considered; however, excessive paving of open space areas with hard-surface materials such as asphalt or concrete should be discouraged. Flower beds should be provided only if provisions are made for proper maintenance. Decorative stone or bark mulch in plant beds should be kept weed-free and replenished over time, as necessary.

Vehicular Access Points and Shared Cross-Access
Excessive driveway access points along arterial streets within the Village add to the potential for traffic conflicts and accidents and decrease the traffic capacity and safety of the streets concerned. Driveways along major arterial streets, insofar as is practicable, should be reduced by eliminating driveways or combining driveways to establish shared driveways between adjoining properties with compatible uses. Promoting shared cross-access between parking lots on adjoining store properties, for example, will help reduce the number of entrance drives, as illustrated on Map 44. Access along major arterials can be further controlled by requiring no-access easements along the street frontage of proposed developments. Table C-2 in Appendix C specifies the minimum spacing that should be provided between driveways located along arterial streets. As development or redevelopment occurs along arterial streets, the Village should attempt to reduce or limit the number of driveways.

The function of arterial streets can be further improved by ensuring that private driveways are located at sufficient distances from the intersections of arterial streets with other public streets. Within certain areas of the Village, driveways are located too close to such intersections. In some cases, the spacing between public streets intersecting with an arterial street is also too close. To the extent practicable, these separation distances should be increased. As set forth on Figure C-4 in Appendix C, the distance between new direct public or private access and an arterial street intersection should be at least 115 to 230 feet, and preferably 250 feet where parcel size permits.

Pedestrian, Bicycle, and Recreation Trail Facilities
The Village should continue to provide pedestrian walkways, bikeways, and other recreation trails that would serve to link residents to important historic, recreational, and scenic areas. Pedestrian circulation is typically provided by concrete sidewalks or asphalt paths along at least one side of existing and new streets, parallel to the street pavement and within the street right-of-way. As development proceeds in the community, a need will arise for safe pedestrian and bicycle crossings at major arterial street intersections such as the intersections of CTH K (Lisbon Road) with CTH KE and CTH E (North Avenue) and those identified earlier along STH 83. Handicap ramps, pedestrian crossing lights, and defined crosswalks at these intersections will improve safety for pedestrians and bicyclists. In addition, paved shoulders or lanes marked for bicyclists should be provided along arterial streets designated as bikeways on Map 40 if a separate multi-use path is not provided. Paved shoulders or wide curb lanes should be provided on other arterial streets to accommodate bicycle travel. Bicyclists can ride on collector and minor land-access streets without widening such streets, since these streets usually accommodate low volumes of vehicle traffic traveling at slow speeds.

As noted earlier in this chapter, trail-oriented facilities are recommended to be provided for both utilitarian and recreational purposes. The Village should prepare a comprehensive trail facility plan for hikers, bicyclists, and canoeist/kayakers in order to identify the specific location and type of such facilities, including support facilities such as parking areas and restrooms, to be provided in the Village. Pedestrian and bicycle facilities should provide safe access to all land uses of neighborhood and community wide importance such as schools, parks, shopping areas, a community center, the East Capitol Drive Historic District, and the Hartland Village Center. Bicycle parking devices could be provided in the aforementioned locations to help promote the Village as a "bicycle-friendly" as well as a pedestrian-oriented community. As shown on Maps 39 through 42, a network of trails is recommended that traverses the Hartland area linking residential areas with each other and with major activity centers and significant natural areas, including the Hartland Ice Age Marsh. Maps 41 and 42 also show the water trail advanced by the recommended master plan. These trail-oriented facilities would be a part of a larger system of trails for the Lake Country area, as illustrated on Map 38, for bicycle trails which shows connections to the Bugline, Glacial Drumlin, and the Lake Country Recreation Trails. User-friendly maps should be provided for both trial location and wayfinding purposes, including identifying points of interest.

Positive Attributes
The Village is nestled in the “heart” (the community logo) of the Lake Country area. Some positive attributes can be enhanced and better utilized to improve the attractiveness of the Village. The growing community with its heavily traveled arterials and nearby major attractions, such as Lapham Peak State Park, Nashotah County Park, and Nagawaukee County Park and Ice Arena, along with the surrounding golf courses, lakes, and unique natural

features of the area, has a high potential to project a very positive image to the public. Since Capitol Drive, North Avenue, Cottonwood Avenue, and STH 83 are perceived as key arterials in the Village, these arterial streets should project attractive streetscape facades to present an appealing profile of the Village to people visiting the community. The Village Center should continue to be enhanced, as discussed earlier, to realize its full potential as a local cultural and business hub for the Hartland area fostered by restaurants, its concentration of historic commercial buildings, a community center, the Hartland Public Library, the Lake Country Playhouse, the popular Bark River/Ice Age Trail, and the nearby Mullett Ice Center and East Capitol Drive Historic District. The Center may be further supported by a potential cultural center that could serve a multi-purpose function such as a senior citizen center, community center, and local art gallery/museum.

In addition to the cultural attractions of the area, distinct natural resources exist throughout the Lake Country area and the nearby Kettle Moraine State Forest. Unique glacial land forms in the area include drumlin fields, the interlobate glacial moraine, and outwash plains. These features project interesting topography with naturally attractive vegetation surrounding lakes and meandering waterways. The provision of a recommended trail network, including along the Bark River as illustrated in Maps 38 to 42, would connect residential areas to the aforementioned major attractions, the well-established Village park system, and unique natural features, thereby providing opportunities for Village residents and visitors to participate in a wide array of distinctive recreational experiences. All of these popular features provide the Village economic opportunities that may be derived from tourists, recreational users, and trail users drawn to the Hartland area. As noted earlier, user-friendly maps should be provided for both trail location and wayfinding purposes that identify these positive features.

SUMMARY

This chapter has presented a master plan designed to achieve the planning objectives identified by the Village Plan Commission based, in part, on public input and the results of a community survey. The plan provides a recommended urban development pattern, including the amount and spatial distribution of residential, commercial, industrial, governmental, institutional, and recreational land uses that will meet the needs of the resident population of the Hartland area through the year 2020. A detailed street, block, and lot layout design is included in the master plan for those areas recommended for new development to foster sound development. An interconnecting network of trail-oriented facilities, such as a water trail, bikeways, and recreational trails, is further advanced by the plan to link residents to major activity centers and natural features of the Hartland area for utilitarian and recreational purposes.

The plan also provides design recommendations for the Village, including a general development/redevelopment plan for a portion of the Village Center. These recommendations are intended to help the Village continue its efforts to maintain and improve its unique visual character and the vitality of the Hartland Village Center. Specific recommendations include improvements to the streetscape in the community and Village Center; the identification and preservation of significant historic resources in the Center and the rest of the community; the reduction or elimination of overhead utility lines and supporting structures; the encouragement of landscaping by owners of private property; and the provision of architectural guidelines to ensure architectural compatibility of buildings and other structures. Any revitalization effort, including that for the Village Center, should play a significant role in instilling a sense of community identity and pride in Village residents and business owners.

The principal function of the plan is to provide information that local officials can use over time in making decisions about growth and development in the Hartland area. The master plan should not be considered inflexible. Such a plan is intended to be used as a guide in the public review of development proposals and as a tool to help local officials make decisions concerning such proposals. As conditions change from those used as the basis in the plan’s preparation, the plan should be revised. Accordingly, the plan should be reviewed periodically to determine whether the objectives are still valid and the extent to which these objectives are being realized. The adopted plan should, however, represent a commitment by the Village Plan Commission and Village Board to strive for the selected planning objectives.

The recommended plan, together with the supporting implementation measures, provides an important means for promoting the orderly development of the Village of Hartland and providing for a safe, healthful, attractive, and efficient environment. Consistent application of the plan will help assure protection of the Village's historic and natural resources, including environmental corridors and other environmentally sensitive areas, while providing for the needs of the existing and probable future resident population of the Village.

Chapter VIII

PLAN IMPLEMENTATION

The recommended master plan for the Village of Hartland is described in Chapter VII. The plan is not complete, however, until the steps necessary to implement the plan are specified. After formal adoption of the master plan, realization of the plan will require faithful, long-term dedication to the underlying objectives by Village officials concerned with its implementation. Adoption of the plan is only the beginning of a series of actions necessary to achieve the planning objectives expressed in this report. This chapter presents techniques that can be used to implement the plan.

PUBLIC INFORMATIONAL MEETINGS, PUBLIC HEARING, AND PLAN ADOPTION

For any planning process, it is good planning practice to hold public informational meetings and hearings on recommended plans before their adoption. Such actions provide an opportunity to acquaint residents and landowners of the Village, as well as adjoining communities, with the recommended plan and to solicit public reactions to the plan recommendations. The Village should send a summary of the preliminary recommended master plan to the local governing body of adjacent communities and invite them to the above referenced meetings. The plan should then be modified to reflect any pertinent new information and to incorporate any sound and desirable new ideas advanced at these meetings. Accordingly, a public informational meeting was held on December 7, 2004, and a public hearing was held on December 20, 2004. The Village also sent a copy of the preliminary recommended master plan document to the local governing body of adjacent communities and invited them to the abovementioned meetings.

An important step in plan implementation is the formal adoption of the recommended plan by the Village Plan Commission and certification of the adopted plan to the Village Board, pursuant to Section 62.23(2) of the *Wisconsin Statutes*. Formal adoption of the plan by the Village Board is also recommended to demonstrate acceptance and support by the governing body.[1] Upon such adoptions, the plan becomes the official guide to be used by Village officials in making development or redevelopment decisions. The master plan should serve as the basis on which all development proposals, such as rezoning requests, subdivision plats, and certified survey maps, are reviewed. Only those rezonings or land divisions which are consistent with the objectives of the plan should be approved.

The Village of Hartland Plan Commission adopted the recommended master plan on December 20, 2004, (see Appendix H), and certified the plan to the Village Board. The Board of Trustees of the Village of Hartland also adopted the plan on December 20, 2004 (see Appendix I).

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[1]*Under the Wisconsin comprehensive planning law adopted in 1999, comprehensive plans must be adopted by an ordinance of the governing body prior to January 1, 2010 (see Section 66.1001 of the* Wisconsin Statutes*).*

ZONING

Of all the means currently available to implement master plans, perhaps the most important and versatile is the zoning ordinance. The zoning districts applicable to the Village have been summarized in Table 25 in Chapter V with the application of those districts within the Village shown on Map 32 in that chapter. Following adoption of the master plan, the Village Plan Commission should initiate appropriate amendments to the Village zoningordinance and zoning district map to bring the ordinance and map into conformance with the concepts and proposals advanced in the adopted master plan, including the design guidelines. State law requires that a public hearing be held on any proposed amendments to the zoning ordinance. The hearing may, at the option of the Village Board, be held by the Board itself or by the Plan Commission. The latter option is recommended for the comprehensive rezoning of the Village that will be necessary to implement the master plan.

Certain key changes to the Village zoning ordinance are recommended to aid in the implementation of the master plan. These changes include modifications to the regulations of the existing zoning ordinance and revisions to the existing zoning district map to reflect plan recommendations.

Zoning Districts and Related Regulations

The majority of the existing zoning districts should be retained. Even though these districts and most of their related lot size and yard requirements would remain the same, additional uses may be added and other uses may be changed to permitted or conditional uses during a subsequent zoning ordinance amendment process following adoption of the master plan. Recommended changes to the existing zoning ordinance are described below.

Single-Family Residential Districts

Cluster development is recommended to be allowed in the SF-1 Single Family Residential District as either a permitted or conditional use. This type of development, sometimes called conservation subdivisions, utilizes design flexibility to preserve open space, including those containing environmentally sensitive areas as illustrated in Figures 2 and 3 in Chapter VII. Lot sizes could be reduced and clustered while the remaining portion of the site concerned is retained in permanent open space use. The overall density for the clustered development would be the same density as a site developed with a conventional subdivision design.

The Village should determine whether to retain or delete the RSE-1 Single-Family Residential Estate District, since no lands are zoned RSE-1. If the Village determines to retain this district, then cluster development should also be allowed as either a permitted or conditional use in this district.

To help implement an important recommendation of the master plan to maintain the “country” character around the periphery of the Village, the Village should establish a new cluster residential zoning district, or amend the RSE-1 District, that requires cluster development at a density of 1.3 or less dwelling units per net acre, equivalent to 32,670 square feet (three-quarters of an acre) or more per dwelling unit. Lands in this zoning district would be developed with a minimum lot size of 20,000 square feet while about 25 to 35 percent of the total site area would be retained in common areas as permanently preserved open space with possibly some recreational uses.

Park and Recreation District

The existing P-1 Park District should be retitled as P-1 Park and Recreation District to better indicate the types of uses intended for this district. Such uses include public and private parks and recreational uses, including fitness centers, athletic clubs, aquatic clubs, and even affiliated facilities like restaurants which may be allowed as a permitted or conditional use.

Conservancy District

The existing C-1 Conservancy District should be retitled the C-1 Lowland Conservancy District to better distinguish this district from the existing UCO Upland Conservancy Overlay District and to clearly indicate the type of resources to be protected under this district. The C-1 District would apply to all environmentally sensitive lowland areas consisting of ponds, waterways, and wetlands located in the areas designated as environmental

corridors, isolated natural resource areas, and "other open lands to be preserved" on the recommended master plan map.

Design-Related Provisions

To ensure that the built environment will continue to foster the attractiveness of the community and its Village Center as a place to live and work, the Village of Hartland zoning ordinance should include additional design-related provisions that are consistent with the design guidelines set forth in Appendix C, including the landscaping, architectural, and sign design guidelines. Additional design-related requirements may include, but not be limited to, minimum landscaping requirements for building foundation planting, maximum height allowed for outdoor lighting, minimum dimensions for freestanding sign landscaping, parking lot and service area screening from public view, and buffer yard landscaping between incompatible or dissimilar uses. An analysis of the existing zoning ordinance should be conducted to determine if other provisions are necessary to implement the design elements of the adopted master plan.

Zoning Map

Perhaps the most significant changes to the Village's zoning implementation tools are recommended revisions to the Village of Hartland zoning map to be more consistent with the master plan. The map should be amended to properly identify the basic zoning districts under certain overlay zoning districts. The current map does not identify or improperly designates a basic zoning district(s) underneath various overlay districts. For example, the map should properly identify the basic districts, such as RS-2 Single-Family Residential District, RD-1 Two-Family Residential District, and P-1 Park and Recreation District, for the various uses developed under the planned unit development overlay district for the Bristlecone Pines Planned Golf Course Community. The map currently identifies the basic zoning district as A-1 Agricultural/Holding District in which the permitted principal uses are agricultural-related uses.

Similarly, areas located under the FWO Floodway Overlay, FCO Floodplain Conservancy Overlay, and FFO Floodplain Fringe Overlay Districts should be properly delineated with a basic zoning district determined mostly by existing uses. The map presently does not identify an underlying basic zoning district for most areas located within these floodplain overlay districts.

The existing C-1 Conservancy District and UCO Upland Conservancy Overlay District should be updated to reflect the more current and accurate boundaries of the lowland and upland portions of environmental corridors and isolated natural resource areas shown on the recommended master plan map. These districts are intended to protect, insofar as is practicable, valuable natural resources such as wetlands and surface waters in the C-1 District and the woodlands, wildlife habitat areas, areas of steep topography, and related scenic areas under the UCO District. If development is allowed within the UCO District, cluster development should be encouraged to ensure that the development is carefully integrated with the natural features with minimal disturbance.

LAND DIVISION REVIEW AND REGULATIONS

Sound land division regulations are an important means of implementing a master plan and coordinating the layout, design, and improvement of private land development proposals within the Village. Land divisions and associated improvement of land within the Village are governed by the Village of Hartland Land Division Ordinance. The adopted master plan should serve as a basis for the review by appropriate Village officials of land subdivision plats and certified survey maps for areas in the Village and the Village's extraterritorial plat approval jurisdiction. The review should ascertain that each proposed land division is properly related to existing and proposed land uses. Land divisions should consider the proper layout of streets, blocks, and lots as well as the topography, soils, drainage, and vegetation of the site. Proposed subdivisions should be designed as integral parts of the larger community. Any proposed departures from the master plan should be carefully considered by the Village Plan Commission and should be allowed by that Commission only when it finds that such departures are warranted in the public interest. All subdivisions should be required to provide a full complement of urban services.

Certain changes are recommended to the Village land division ordinance. The ordinance should include provisions for sketch or concept plans to be presented at pre-application meetings, which may prevent expensive redesign cost and frustration, reduce formal plat review and approval processing time, avoid costly development problems, gain public acceptance, and help achieve a better design of proposed subdivisions. The sketch plan would identify the future development of the parcel, including general street and lot locations, and attendant site analysis information. Proposed minor land divisions that may eventually be incorporated into a larger development on an adjoining parcel held by the same owner should include such a sketch plan of the overall development showing the potential integration of the adjoining sites.

Other suggested changes that would improve the ordinance include requiring: the street, cul-de-sac turnaround, and pedestrian path/sidewalk design to be consistent with the standards established in Appendix C, including the minimum dimensions shown in Figure C-1 of that appendix; a minimum 30-foot wide rather than 20-foot wide landscaped buffer strip to be provided for proposed lots abutting limited access highways for purposes of noise attenuation and buffering; vision triangle clearance areas and attendant restrictions to be provided on plats; the minimum dimensions of horizontal curves for arterial and collector streets to be consistent with the dimensions established in Appendix C; and property lines at street intersections to be rounded with a minimum radius of 15 feet or greater, or of a comparable cut-off or chord in lieu of a rounded corner to be provided. In addition, the Village should consider amending its land division ordinance to include provisions specifically related to conservation subdivisions. These provisions could include, among others, standards regarding the amount of land to be retained in open use and requirements regarding the use of covenants, easements, or deed restrictions to ensure the preservation of open space land.

A complete analysis of the existing land division ordinance should be conducted to determine whether any other amendments are necessary to implement the master plan, including the pertinent design guidelines established in Appendix C.

OFFICIAL MAPPING

Sections 61.35 and 62.23(6) of the *Wisconsin Statutes* allow the village board of any village to establish an official map for the precise identification of right-of-way lines and site boundaries of streets, highways, waterways,[2] and parkways and the location and extent of railroad rights-of-way, public transit facilities, parks, and playgrounds. The official map, which has the force of law and is deemed to be final and conclusive, is intended to be used as a precise planning tool for implementing public plans for the aforereferenced features.

One of the basic purposes of the official map is to prohibit the construction of any structures and their associated improvements on land that has been designated for future public use. The official map is a plan implementation device that operates on a communitywide basis in advance of land development and can thereby effectively assure the integrated development of the street and highway system. Unlike subdivision control, which operates on a plat-by-plat basis, the official map can operate over the entire Village in advance of development proposals. The official map is a useful device to achieve public acceptance of long-range plans in that it serves legal notice of the government's intention to all parties concerned well in advance of any actual improvements. This map would help facilitate the proper implementation of the adopted master plan.

The existing Village of Hartland official map, adopted in 1999, has been periodically revised to reflect various changes that have taken place since the adoption of the map. This map should be updated to reflect the current Village corporate limits; the property lines of undeveloped lands that were recently subdivided, including those for new residential lots and the expanded Arrowhead High School site; and the future location and extent of street rights-of-way, a public transit facility, and a new park as recommended in the master plan.

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[2] *Waterways may be placed on the map only if included within a comprehensive surface water drainage plan.*

THE NEED FOR A COMPREHENSIVE TRAIL FACILITY SYSTEM PLAN

As noted in Chapter VII, a comprehensive trail facility system plan for hikers, bicyclists, and canoeist/kayakers should be prepared by the Village. This plan would serve as a refinement of the bikeway plans shown on Maps 39 and 40 and the water and recreational trail plans shown on Maps 41 and 42 in Chapter VII. The detailed facility plan would also serve as a refinement of the regional bicycle way system plan prepared by the Southeastern Wisconsin Regional Planning Commission as shown in Map 27 of Chapter V. The trail-oriented facility plan should include at least two basic types of plans. One plan or set of plans should indicate specific trail improvements that should be provided for each type of trail facility. The other "plan" should be a user-friendly map or set of maps (one for each different type of trail facility) for both wayfinding and educational purposes, including identifying points of interest or main attractions. The Village has already prepared a user-friendly brochure with a map identifying existing recreational trails in the Village. This brochure should eventually be updated as more trail facilities are developed, including a water trail, and to show connections to nearby areawide trails, such as the existing popular Bugline and Lake Country Recreation Trails as identified on Map 38 in Chapter VII.

Some of the facilities indicated in the detailed system plan would likely be a shared-use asphalt path, similar to the Bark River/Ice Age Trail, that serves a multi-purpose function as a pedestrian pathway, a bikeway, and a recreation trail. These types of facilities should ultimately assist in connecting, and providing safe and convenient access to, significant built and natural features of the study area for both recreational and transportation purposes. Such facilities will further help reduce air pollution, reduce energy consumption, encourage outdoor recreational pursuits, improve public health, reduce transportation costs, and provide for convenient travel between residential areas and support facilities of neighborhood and communitywide importance, such as schools, parks, the library, the community center, shopping centers, and employment areas.

A detailed water trail plan would not only help officially designate and delineate a Bark River Water Trail route, but it would also identify trail-related facilities that should be constructed and improvements that should be implemented to establish a safe and navigable trail corridor for both recreational and educational pursuits in an ecologically sensitive manner. The designation of an official water trail may further instill a sense of trail stewardship among canoeists/kayakers to respect the quality of the water and become good caretakers of the river. Specific trail improvements and support facilities that should be identified on the plan may include providing parking facilities, restrooms, handicapped access, and picnicking areas; removing litter and fallen trees for navigability; installing wayfinding and educational signs; and improving underpasses or providing safe portaging areas with durable paths and crossing signs.

The detailed facility plan should identify which segments of a trail should be used for certain recreation activities such as hiking, cross-country skiing, in-line skating, and biking, as well as provide specific design standards for safety and construction purposes. Design standards may include minimum easement or right-of-way widths, type of pavement surface and base, minimum pavement and shoulder widths, type of signage, construction cost, and other related information. The bicycle facility aspects of the plan should distinguish which bikeways should consist of paths separate from street pavements, paths located on street pavements with identified bicycle lanes on each side, or "shared roadways"—signed bicycle routes with no delineated bike lanes on streets that contain wide curb lanes or paved shoulders and have low traffic speeds and volumes, such as collector and minor land-access streets. A facility system should be planned in a comprehensive and continuous, rather than a piecemeal, fashion. For example, it is important to preferably provide continuity and consistency in the type of bikeway facility provided instead of switching from short segments of bike lanes to wide curb lanes to bike lanes on the same street. All proposed facilities should be further based on site-specific engineering studies prior to development.

To establish bikeways and recreation trails without careful study could be very costly. Completion of an overall plan reduces needless duplication and improves overall efficiency and helps in the decision-making process in determining the necessary easement or right-of-way widths needed to accommodate such facilities adequately. Not only will the plan help the Village channel local funds efficiently, but will also enable the Village to qualify

for potential government assistance programs and funding such as the Surface Transportation Program-Enhancement Program funds and the Congestion Mitigation and Air Quality Improvement Program funds (CMAQ) established under Federal and State transportation law. Funding of such facilities within street rights-of-way can best be accomplished through the incorporation of improvements into larger roadway improvements which is usually the most cost-effective approach. Facilities developed in this manner are often referred to as "incidental" improvements by the Wisconsin Department of Transportation when such improvements are part of new road construction or reconstruction projects using State and/or Federal funding. The Village should work with surrounding communities, Waukesha County, and the Wisconsin Department of Transportation to insure that, as the trail facilities are planned and developed, adequate connections with surrounding facilities are established.

THE NEED FOR CONTINUED REVITALIZATION PLANNING

The concentration of historic places in and near the Village Center, as shown on Map 19 in Chapter IV, indicates that the area is rich in historic resources, thereby contributing to the unique character of the Village. The Village should capitalize on this character by continuing to revitalize the historic "downtown" area, the Village Center, and its environs. Design plans for the area should be at a high level of specificity, and apply to both detailed development and redevelopment proposals. The detailed plans may include business market analyses, structural condition surveys, and detailed proposals with respect to streetscaping, landscaping, signs, parking, bicycle/pedestrian facilities, and any necessary offsite traffic improvements. Basic design recommendations for further enhancing the Center are provided in Chapter VII. For example, such plans may encompass a detailed streetscape plan that includes, but is not limited to, proposed decorative street lighting and tree plantings provided along the rest of the "main streets" (W. Capitol Drive and North Avenue) of the Village Center and possibly Pawling Avenue, or a landscape plan that recommends ornate benches, trellises, and planting beds to be strategically situated along the popular Bark River Trail. The plans should also include building-specific proposals for preserving or restoring historic buildings.

The Village should also work closely with the Wisconsin Department of Transportation since this Department has jurisdiction over STH 83, which functions as a "gateway" leading traffic to the Village of Hartland. Because STH 83 may likely convert to a four-lane arterial, it is important that the arterial design reflect an aesthetic quality that is representative of the Village's desired character with proper streetscaping, as described in Chapter VII.

CAPITAL IMPROVEMENTS PROGRAM

A Capital Improvements Program (CIP) is a list of major public improvements needed in a community over a short-term period, typically the next five years, arranged in order of priority of need and adjusted to the community's ability to finance them. Major public improvements include such items as streets, sanitary sewers, storm sewers, water mains, and public buildings and parks, which together form the "urban infrastructure" required to support urban land use development and redevelopment. A CIP is intended to promote well-balanced community development without overemphasis on any particular phase of such development, and to promote coordinated development both in time and between functional areas. With such a program, required bond issues and tax revenues can be foreseen and provisions made. Lands needed for the projects can be acquired in a timely fashion and staged construction facilitated.

It is recommended that those elements of the adopted master plan requiring public expenditures for implementation, including streets, streetscaping, recreational facilities, government buildings and equipment, and revitalization projects, be included the Village's CIP, which is established for a five-year period and reviewed and updated annually.

INTERGOVERNMENTAL COOPERATION AND BOUNDARY AGREEMENTS

The master plan presented in this report includes planning recommendations for certain areas beyond the present corporate limits of the Village of Hartland. The Village abuts portions of the City of Delafield, Town of Merton,

and Town of Delafield and is near the Villages of Chenequa and Merton. Under Wisconsin law, cities and villages have been granted a considerable measure of influence over development in adjacent town areas. Incorporated communities have extraterritorial subdivision plat approval authority; they may administer extraterritorial zoning jointly with the adjacent town; and they may annex unincorporated areas.

It is recommended that the Village of Hartland and the neighboring communities continue to take a cooperative approach to planning and decision-making regarding future land use in areas of mutual concern. Activities in this respect could range from periodic meetings of Village officials with those of neighboring municipalities for the purpose of discussing land use matters, to preparing and executing formal agreements regarding future boundaries and arrangements for the provision of public services, as provided for under Sections 66.0301 and 66.0307 of the *Wisconsin Statutes*. Such cooperative efforts increase the likelihood for coordinated development within the boundary areas, achieving, insofar as practicable, planning objectives for all communities involved.

In 1998, the Village of Hartland entered into an agreement with the City and Town of Delafield that provides a basis for establishing future municipal boundaries among the three communities and provides for cooperative planning regarding certain areas of mutual interest. The agreement is intended to provide for adequate and logical growth between the municipalities so that each can properly and logically plan for the future needs of their respective community, and to avoid future potential lawsuits related to annexations. Under the agreement, certain areas of the Town of Delafield would be incorporated into the Village of Hartland or the City of Delafield, and certain areas of the Town would be served with public sanitary sewer service provided by the Village of Hartland while remaining in the Town. The Village has and wishes to continue to prepare development plans with the Village and Town of Merton for certain defined neighborhoods.

The Village of Hartland and the City of Delafield have also demonstrated a spirit of cooperation by jointly sharing recreation programs to serve both communities. In addition, the Hartland Fire Department has an automatic mutual aid agreement with the recently renamed Lake Country Fire Department, which serves the Villages of Chenequa and Nashotah, where the two Fire Departments would jointly provide fire protection services, if called upon, for structure fires that may occur in the three communities. The Village is open to exploring the potential to jointly own and operate a new fire station with other communities that may be located in the southern portion of the Village which could also serve adjacent areas in the City and Town of Delafield. The Village intends to continue to explore other cooperative arrangements in the future to share public services and facilities with adjacent communities.

PLAN REEVALUATION

A master plan is intended to serve as a guide for decision-making regarding development and redevelopment in a community. As a practical matter, local master plans should be prepared for a long-range planning period, typically about 20 years. The design year chosen as a basis for the preparation of the Village of Hartland master plan is 2020. A master plan should be evaluated regularly to ensure that it continues to reflect local development conditions and planning objectives. In general, it is recommended that this reevaluation take place every 10 years, or more frequently if warranted by changing conditions. The Village should, however, reevaluate the plan prior to 2010 and make those modifications needed to comply with the State of Wisconsin Comprehensive Planning requirements as explained below.

The Wisconsin Legislature in 1999 adopted the so-called “Smart Growth” legislation, which requires any action of a local government that affects land use to be consistent with the community’s Comprehensive Plan beginning on January 1, 2010. The law was amended in 2004 to limit activities that must be consistent with the local comprehensive plan by 2010 to implementation of zoning, subdivision, and official mapping ordinances. A new definition of a comprehensive plan, consisting of nine elements, is set forth in Section 66.1001 of the *Wisconsin Statutes*. Section 66.1001 sets forth requirements for public participation in the development of a comprehensive plan and requires that such a plan be adopted by an ordinance of the local governing body.

The “Smart Growth” legislation does not affect the ability of local governments to prepare and adopt master plans, or elements thereof, prior to 2010. However, this plan should be evaluated prior to 2010, and any necessary changes should be made both to reflect new or changed development conditions and local planning objectives, and to incorporate additional information needed to comply with the “Smart Growth” legislation.

SUMMARY

This chapter presents information on various master plan implementation measures which should be considered by the Village. They include public informational meetings and hearings; plan adoption procedures; suggested revisions to the Village zoning ordinance, zoning map, and land division control regulations; additions and amendments to site planning and design control regulations; updates to the Village official map and capital improvements program; and approaches to intergovernmental cooperation. All require a strong commitment by the Village government to the implementation of the master plan. The plan also recommends the preparation, within its framework, of other plans to further refine and detail the recommendations set forth in the master plan document, including a comprehensive water, bicycle, and recreational trail facility system plan for the Village and more detailed revitalization plans for the Village Center and environs.

The master plan, once adopted, should serve as the basis on which all development proposals, such as rezoning requests, subdivision plats, and certified survey maps, are reviewed. Only those proposals which are consistent with the objectives of the plan should be approved. The adopted Village master plan should be reevaluated as necessary to ensure that it continues to properly reflect current conditions and planning objectives. The Village should reevaluate the plan prior to 2010 and make those modifications needed to comply with the Wisconsin comprehensive planning requirements set forth in Section 66.1001 of the *Wisconsin Statutes*.

APPENDICES

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Appendix A

SUMMARY OF EXISTING ZONING DISTRICTS FOR THE CIVIL DIVISIONS ADJACENT TO THE VILLAGE OF HARTLAND AND WITHIN THE STUDY AREA: 1998

The following tables are summaries of existing zoning ordinances and should not be used as a guide to answer zoning related questions. Refer to official local zoning ordinances for specific zoning requirements.

A. CITY OF DELAFIELD ZONING CODES

Zoning District	Permitted Principal Uses	Conditional Uses	Minimum Lot Size		Minimum Yard Requirements			Maximum Principal Building Height (feet)
			Total Area	Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
C-1 Conservancy	Harvesting of wild crops, sustained yield forestry, dams and hydro-electric power stations, utility conduits and lines, nonresidential buildings in conjunction with raising of animals, public parks and buildings	Developments which are compatible and harmonious with the natural features of the conservancy district area and the surrounding land uses	- -	- -	- -	- -	- -	- -
A-1 Agricultural and Residential Holding	Agricultural-related uses, farm dwellings, nurseries, greenhouses, hatcheries, roadside stands	Commercial kennels, cemeteries, noncommercial clubs, outdoor recreation areas, riding academies, public and semi-public uses, solar energy collection devices, quarrying	3 acres	200	50	30	50	35
A-1E Exclusive Agricultural	Agricultural-related uses, farm dwellings, nurseries, greenhouses, horticulture, roadside stands	Same as in A-1 conditional uses	35 acres	200	50	30	50	35
RE-3 Three-Acre Rural Estate	Single-family dwellings, keeping of horses for noncommercial purposes	Cemeteries, noncommercial clubs and outdoor recreation areas, riding academies, public and semi-public uses, temporary model home and sales office, solar energy collection devices, planned developments, quarrying	3 acres	200	50	30	30	35
RE-2 Two-Acre Rural Estate	Single-family dwellings	Same as RE-3 conditional uses	2 acres	200	50	30	30	35
RE-1 One-Acre Rural Estate	Same as RE-2 permitted uses	Same as RE-3 conditional uses	1 acre	140	50	20	20	35
RL-1 Residential Lake	Same as RE-2 permitted uses	Same as RE-3 conditional uses	40,000 square feet	100	50	15	15	35
RL-1A Residential Lake	Same as RE-2 permitted uses	Same as RE-3 conditional uses	20,000 square feet	80	50	15	15	35
RL-2 Residential Lake	Same as RE-2 permitted uses	Same as RE-3 conditional uses	10,000 square feet	50	25	8	8	35
R-1 Single-Family Residential	Same as RE-2 permitted uses	Same as RE-3 conditional uses	30,000 square feet	120	50	20	20	35
R-1D Single-Family Residence-Downtown	Same as RE-2 permitted uses	Same as RE-3 conditional uses	10,000 square feet	100	30	15	20	35
R-2 Single- and Two-Family Residential	Single- and two-family dwellings	Same as RE-3 conditional uses	30,000 square feet	120	50	20	20	35
R-3 Single- and Two-Family Residential	Same as R-2 permitted uses	Same as RE-3 conditional uses	20,000 square feet	100	50	16	16	35
R-4 Single- and Two-Family Residential	Same as R-2 permitted uses	Same as RE-3 conditional uses	7,900 square feet	66	35	10	10	35
R-5 Planned Development	None	Planned residential development	- -	- -	30	30	30	35
R-5A Planned Development-St. John's Single- and Two-Family Residential	Single- and two-family dwellings	See St. John's-On-The-Lake subdivision document	- -	- -	35	20	20	35

A. CITY OF DELAFIELD ZONING CODES (continued)

Zoning District	Permitted Principal Uses	Conditional Uses	Minimum Lot Size		Minimum Yard Requirements			Maximum Principal Building Height (feet)
			Total Area	Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
R-6 Multiple-Family Residential	Attached multiple-family dwellings	Same as RE-3 conditional uses	Efficiency units, 2,500 square feet; One-bedroom units, 3,000 square feet; Two-bedroom units, 4,000 square feet; Three-bedroom units, 5,000 square feet	100	30	15	50	35
R-7-EH Multi-Family Elderly Housing	Attached multi-family dwellings	Same as RE-3 conditional uses	Efficiency units, 1,200 square feet; One-bedroom units, 1,350 square feet; Two-bedroom units, 1,,500 plus additional 250 for each additional bedroom	100	30	15	50	35
CBD-1 Central Business	Retail stores, services, offices, shops, clinics, churches, financial institutions, restaurants	Single- and two-family dwellings, multi-family dwellings, public and semi-public uses, automobile service stations, boat sales and services, private schools, indoor theaters, quarrying, art studios, drive-through restaurants, noncommercial clubs, cemeteries	4,500 square feet	45	- -	- -	- -	35
CBD-2 Central Business	All CBD-1 permitted uses plus single- and two-family dwellings	Multi-family dwellings, public and semi-public uses, lodging establishments	4,500 square feet	45	10	10	10	35
CBD-3 Special Campus	None	Planned mixed-use development	2 acres	- -	30	10	10	- -
B-1 Local Business and Residence	Retail stores, services, dry cleaning, offices, post offices, governmental offices, residential dwelling units in a commercial building, single-family residences	Cemeteries, noncommercial clubs, outdoor recreational facilities, riding academies, public and semi-public uses, boat sales and services, quarrying automobile service stations, drive-through restaurants, art studios	5,000 square feet	100	30	10	10	35
B-1-A Business and Limited Residence	Retail stores, bakeries, beauty parlors, clinics, offices, studios, restaurants, taverns, funeral homes	Same as B-1 conditional uses	10,000 square feet	100	30	10	30	35
B-2 Local Business	All B-1 permitted uses, excluding residential dwelling units	Same as B-1 conditional uses plus drive-in restaurants	15,000 square feet	120	30	10	30	35
B-3 Local and Highway Business	All B-2 permitted uses plus amusement establishments, animal hospitals, auction rooms, blueprinting, garden supplies, hotels, medical laboratories, motels, offices, printing establishments, research labs, schools, taxidermists, drive-through restaurants	Same as B-2 conditional uses plus landfills, incinerators, pool halls, dance halls	20,000 square feet	120	30	10	30	35
B-4 General Business	All B-3 permitted uses plus bakeries, warehousing, wholesaling, and distribution operations	Same as B-3 conditional uses plus sales and service of mopeds and permitted light manufacturing uses in the M-1 District, except express facilities and food processing plants	20,000 square feet	120	30	10	30	35
B-5 Office and Research Commercial	Professional offices, financial institutions, clinics, hospitals, medical laboratories, restaurants	Same as B-1 conditional uses	40,000 square feet	120	30	20	30	35

A. CITY OF DELAFIELD ZONING CODES (continued)

Zoning District	Permitted Principal Uses	Conditional Uses	Minimum Lot Size		Minimum Yard Requirements			Maximum Principal Building Height (feet)
			Total Area	Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
B-6 Commercial Holding Zone	None	Planned developments	--	--	30	Varies	30	--
M-1 Limited Industrial	Wholesale and warehouse activities and light industrial uses	Cemeteries, noncommercial clubs, outdoor recreational facilities, riding academies, public and semi-public uses, boat sales and services, planned unit developments, solar energy collection devices, automobile service stations, landfills, sales and services of mopeds, adult-oriented establishments, quarrying	1 acre	150	50	10	30	35
SW-1 Shoreland-Wetland	Harvesting of wild crops, hunting and fishing, silviculture, existing agricultural cultivation and pasturing, maintenance of existing streets, bridges, and drainage systems	New streets, utilities, railroad lines, parks and recreation areas	--	--	--	--	--	--
P-1 Public and Semi-Public Use	Public office and service buildings, schools, churches, cemeteries, hospitals, nursing homes, libraries, museums, clubs	Quarrying, riding academies, solar energy collection devices	40,000 square feet	120	30	20	30	35
FW Floodplain	Agricultural uses except structures, horticulture, parking and loading areas, certain recreation uses, docks and piers, utilities, streets, bridges	--	--	--	--	--	--	--
FF Flood Fringe	Agricultural uses, residential uses, commercial uses, industrial uses; public utilities, streets, bridges	--	--	--	--	--	--	--
GFP General Floodplain	All FW and FF permitted uses	--	--	--	--	--	--	--

Source: City of Delafield Zoning Codes and SEWRPC.

B. VILLAGE OF CHENEQUA ZONING CODE[a]

Zoning District	Permitted Principal Uses	Conditional Uses	Minimum Lot Size		Minimum Yard Requirements			Maximum Principal Building Height
			Total Area	Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
Residence	Single-family dwellings, municipal utilities and buildings, churches and temples, schools, country clubs, farming, nurseries, wind energy conversion systems	--	2 acres	150	75	10	25	3 stories
Shoreland-Wetland	Certain recreation uses, existing agricultural uses, piers, docks, walkways, silviculture, harvesting of wild crops, construction and maintenance of streets, bridges, utilities, drainage systems, and nonresidential buildings	--	--	--	--	--	--	--

[a]*No floodplain regulations were included in this zoning code since no floodplain studies were conducted to delineate floodplains within the Village, even though there appears to be floodplain in the Village due to the presence of lakes.*

Source: Village of Chenequa Zoning Code and SEWRPC.

C. VILLAGE OF MERTON ZONING ORDINANCE

Zoning District	Permitted Principal Uses	Conditional Uses	Minimum Lot Size		Minimum Yard Requirements			Maximum Principal Building Height (feet)
			Total Area	Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
A-1 Agricultural	Agricultural-related uses, single-family dwellings, roadside stands	Housing for farm laborers, animal hospitals, veterinary clinics, commercial feed lots	5 acres	200	50	20	50	35
R-1 Residential	Single-family dwellings	Parks, schools, churches, two-family dwellings	40,000 square feet	140	50	20	50	35
R-2 Residential	Same as R-1 permitted uses	Same as R-1 conditional uses	30,000 square feet	120	50	20	50	35
R-3 Residential	Same as R-1 permitted uses	Parks, schools, churches	20,000 square feet	100	50	20	40	35
R-4 Multi-Family Residential	Two-family and multi-family dwellings	Parks, schools, churches, boardinghouses	15,000 square feet	80	50	15	30	35
B-1 Neighborhood Business	None	Retail stores, services, offices, shops, financial institutions, restaurants, taverns, schools, veterinary clinics, gasoline service stations, drive-in establishments	1 acre	100	50	20	30	35
B-2 Community Business	Retail stores, services, offices, shops, financial institutions, restaurants, taverns, specialty shops, department stores, hotels, libraries, post offices	Gasoline service stations, automobile sales and services, funeral homes, machine shops	20,000 square feet	85	- -	None; 10, if provided	30	35
I-1 Limited Industrial	None	Light industrial, wholesaling, warehousing, lumberyards, offices, motor vehicle sales and services, gas stations, restaurants, drive-in theaters, outside storage and manufacturing	2 acres	150	50	10	30	45
P-1 Public and Semi-Public	Schools, colleges, universities, churches, libraries, museums, public offices, public service buildings, parks	Water tanks and towers, sewage plants, golf courses and driving ranges, cemeteries	20,000 square feet	85	50	20	30	60
C-1 Wetland Conservancy	Certain recreational uses, existing agricultural uses, piers, docks, walkways, silviculture, harvesting of wild crops, maintenance of existing fences, streets, bridges, and drainage systems	New streets, parks and recreation areas, utilities, railroad lines	- -	- -	- -	- -	- -	- -
C-2 Upland Conservancy	Streambank protection, forest and game management, sustained yield forestry, harvesting of wild crops, wildlife preserves, hiking trails	Agricultural uses, parks and recreation areas, utilities	- -	- -	- -	- -	- -	- -
FLO Floodland Overlay	Streambank protection, agricultural uses excluding structures, parking and loading areas, nurseries, truck farming, utilities, viticulture, wildlife preserves, certain recreation uses	Floodproofed structures, navigational structures, bridges, marinas, municipal water and sewage systems	- -	- -	- -	- -	- -	- -

Source: Village of Merton Zoning Ordinance and SEWRPC.

D. TOWN OF MERTON ZONING ORDINANCE

Zoning District	Permitted Principal Uses	Conditional Uses	Minimum Lot Size		Minimum Yard Requirements			Maximum Principal Building Height (feet)
			Total Area	Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
C-1 Conservancy	Grazing, harvesting of wild crops, hunting and fishing, sustained yield forestry, dams and hydro-electric power stations, telephone and telegraph and power transmission lines	None	- -	- -	- -	- -	- -	- -
A-1 Agricultural District	All C-1 permitted uses plus single-family dwellings, public parks and recreation areas, farming, roadside stands, horticulture, home occupations, professional offices	Airports, landing fields, antique shops, art studios, animal hospitals, kennels, cemeteries, churches, commercial fish and bait ponds, feed lot, private clubs, restaurants, taverns, disposal sites, public and semi-public uses, outdoor theaters, quarrying	3 acres	200	50	20	20	35
A-2 Rural Home	All A-1 permitted uses plus keeping of poultry	Antique shops, gift shops, art studios, cemeteries, churches, commercial fish and bait ponds, residential planned development, public and semi-public uses, private clubs, restaurants, taverns	3 acres	200	50	30	30	35
A-3 Suburban Estate	All A-2 permitted uses	Same as A-2 conditional uses	2 acres	175	50	25	25	35
R-1 Residential	All A-3 permitted uses	Same as A-2 conditional uses	1 acre	150	50	20	20	35
R-2 Residential	All R-1 permitted uses	Same as A-2 conditional uses	30,000 square feet	120	50	20	20	35
R-3 Residential	All R-2 permitted uses plus two-family dwellings	Same as A-2 conditional uses plus two-family dwellings, mobile home parks	20,000 square feet	120	50	20	20	35
P-1 Public	Public facilities	Cemeteries, private clubs, public and semi-public uses	- -	- -	50	50	50	- -
B-1 Restricted Business	All R-3 permitted uses plus small retail shops, boarding houses, offices	Cemeteries, churches, two-family dwellings, private clubs, public and semi-public uses, disposal sites, restaurants, taverns	20,000 square feet	120	50	20	20	35
B-2 Local Business	All B-1 permitted uses plus financial institutions, clinics, taverns, restaurants	Auto service stations, animal hospitals, cemeteries, churches, commercial fish or bait ponds, drive-in establishments, two-family dwellings, feed lots, private clubs, public and semi-public uses, disposal sites, outdoor theaters, quarrying, restaurants	20,000 square feet	120	50	10	10	35
B-3 General Business	All B-2 permitted uses plus wholesalers, distributors, theaters, dance halls, dry cleaning, auto sales and repair, bottling plants, hotels, colleges	Same as B-2 conditional uses plus laboratories	20,000 square feet	120	50	10	10	35
Q-1 Quarrying	All A-1 permitted uses plus quarrying, ready-mix plants	Animal hospitals, cemeteries, commercial fish or bait shops, public and semi-public uses, disposal sites	3 acres	200	20	50	50	35
M-1 Limited Industrial	All B-3 and A-1 permitted uses plus light industry	Same as B-3 conditional uses excluding churches and two-family dwellings	1 acre	150	50	10	10	60
M-2 General Industrial	All M-1 permitted uses plus quarrying	Same as M-1 conditional uses plus salvage yards	1 acre	150	50	10	10	60

Source: Town of Merton Zoning Ordinance and SEWRPC.

E. TOWN OF DELAFIELD ZONING ORDINANCE

Zoning District	Permitted Principal Uses	Conditional Uses	Minimum Lot Size		Minimum Yard Requirements			Maximum Principal Building Height (feet)
			Total Area	Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
WF-1 Wetland-Floodplain	Grazing, harvesting of wild crops, hunting and fishing, sustained yield forestry, public utilities, outdoor recreation facilities	Cemeteries, fish hatcheries, public and semi-public uses	--	--	100	100	100	30
A-1 Agricultural	All WF-1 permitted uses plus agricultural-related uses, single-family dwellings	Airports and landing fields, animal hospitals, kennels, campgrounds, gift shops, cemeteries, religious assemblies, fish hatcheries, commercial greenhouses, elderly housing units, laboratories, mobile home parks, public and semi-public uses, residential planned development	40 acres	200	50	20	20	30
A-E Exclusive Agricultural	All A-1 permitted uses plus farm dwellings	Airports and landing fields, fish hatcheries, commercial greenhouses, public and semi-public uses	35 acres	660	100	50	50	30
A-2 Rural Home	All A-1 permitted uses	Gift shops, cemeteries, religious assemblies, fish hatcheries, commercial greenhouses, elderly housing units, fur farms, public and semi-public uses, residential planned development	3 acres	200	50	30	30	30
A-3 Suburban Estate	Single-family dwellings, horticulture, outdoor recreation structures	Cemeteries, religious assemblies, fish hatcheries, elderly housing units, public and semi-public uses, residential planned development	2 acres	200	50	25	25	30
R-1 Residential	All A-3 permitted uses	Cemeteries, religious assemblies, fish hatcheries, elderly housing units, public and semi-public uses, residential planned development	1.5 acres	200	50	20	20	30
R-1A Residential	All A-3 permitted uses	Same as R-1 conditional uses	1 acre	150	50	20	20	30
R-2 Residential	Single-family dwellings, home occupations, public parks and recreation areas	Same as R-1 conditional uses	30,000 square feet	120	50	20	20	30
R-3 Residential	All R-2 permitted uses	Same as R-1 conditional uses	20,000 square feet	120	50	20	20	30
R-L Residential Lake	All R-2 permitted uses	Same as R-1 conditional uses plus marina, restaurants	20,000 square feet	100	50	15	15	30
P-1 Park and Recreation	Recreational uses, arbore-tums, nature preserves, grazing, sustained yield forestry	Campgrounds, cemeteries, fish hatcheries, public and semi-public uses	1 acre	150	100	50	50	25
B-1 Restricted Business	Retail stores, services, offices, restaurants	Gift shops, automobile service stations, convenience stores, cemeteries, religious assemblies, fish hatcheries, commercial greenhouses, commercial truck parking, drive-in establishments, laboratories, hotels, public and semi-public uses	20,000 square feet	120	50	10	10	30

E. TOWN OF DELAFIELD ZONING ORDINANCE (continued)

Zoning District	Permitted Principal Uses	Conditional Uses	Minimum Lot Size		Minimum Yard Requirements			Maximum Principal Building Height (feet)
			Total Area	Width (feet)	Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	
B-2 Shopping Center	All B-1 permitted uses (except residential uses) plus display galleries, laundromats, medical clinics	Animal hospitals, automobile service stations, convenience stores, cemeteries, religious assemblies, fish hatcheries, drive-in establishments, laboratories, public and semi-public uses	20,000 square feet	120	50	10	10	30
B-3 Business Park	Professional offices, corporate offices, studios	Animal hospitals, cemeteries, religious assemblies, fish hatcheries, commercial truck parking, public and semi-public uses, laboratories, hotels, restaurants	5 acres	330	100	50	50	30
M-1 Industrial	All A-1 permitted uses (except residential uses) plus industrial and commercial operations	Automobile service stations, convenience stores, animal hospitals, kennels, cemeteries, religious assemblies, fish hatcheries, commercial greenhouses, fur farms, group day care centers, laboratories, hotels, motels, outdoor theaters, public and semi-public uses, quarrying	3 acres	200	100	50	50	30

Source: Town of Delafield Zoning Ordinance and SEWRPC

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Appendix B

SUMMARY OF THE VILLAGE OF HARTLAND COMMUNITY SURVEY RESULTS

Appendix B-1

VILLAGE OF HARTLAND COMMUNITY SURVEY NUMERIC RESULTS- RESPONSES WITH PREFERENCES

Following is the community survey form that was mailed, with collective data entered. The portion of respondents actually selecting the optional choices of each question is shown, in addition to revealed preferences which exclude "No Opinion".

Dear Village of Hartland Residents and Business Operators,

The Village Plan Commission, assisted by the Southeastern Wisconsin Regional Planning Commission (SEWRPC), is updating our land use and traffic circulation plan to help guide growth and development through the year 2020. The plan will provide a basis for the Village Board and Plan Commission to make informed land use and zoning decisions for the next couple of decades. This survey is being conducted jointly with the University of Wisconsin-Extension and SEWRPC to obtain your opinions on important related issues. Your comments will help to shape the development of the plan.

Please take a few minutes to read through the survey, then answer the questions as best you can. Responses from individual surveys will remain confidential. Written comments are welcome where space provides. When you have completed the survey, please refold and seal the form so that the return address is showing. As a service to the Village, UW-Extension staff working with SEWRPC will tabulate the returned surveys and report back to the Plan Commission with their findings.

For your responses to be used in the planning process, this form must be returned by April 30, 1999.

The Village of Hartland thanks you for your cooperation and assistance in this very important matter.

David Lamerand, Village President

RESPONDENT STATUS: Are you completing this survey as a. . .**(check only one)**
596 Resident of the Village 31 Business operator in the Village 32 Both 4 Neither

Note: If you neither live in the Village, nor operate a business there, please stop now and return the survey.

PART A: QUALITY OF LIFE

1. Why do you live in the Village? **(Check up to four items)**

64 Born/raised in the Village
138 Proximity to employment
134 Proximity to metro area
353 Safe community/ feeling of security
381 Found a suitable residence
184 Parks and natural areas
117 Affordability
291 Quality of schools
16 Government services
139 Friendly people
386 Small-village atmosphere
25 Don't live in the Village (local business operator)
2,228

2. What has happened to the quality of life in the Village over the past five years? **(Check only one)**

134 Improved
174 Declined
173 Remained the same
645
* No opinion *(Omitted)*
114 Have lived or operated a business in the Village less than 5 years

3. Which items have the greatest **positive** influence on the quality of life in the Village? **(Check up to three)**

296 Fire and police protection
133 Water and sewer services
63 Traffic
202 Community events/activities
348 Quality of schools
373 Parks and open spaces
63 Condition of roads
149 Availability of shopping/ retail services
55 Amount of development occurring
20 Other:_____
1,702

4. Which items have the greatest **negative** influence on the quality of life in the Village? **(Check up to three)**

24 Fire and police protection
37 Water and sewer services
338 Traffic
15 Community events/activities
35 Quality of schools
21 Parks and open spaces
111 Condition of roads
118 Availability of shopping/ retail services
451 Amount of develop- ment occurring
42 Other:_____
1,192

PART B: VILLAGE GROWTH

1. From 1990 to 1997 the Village's population grew from 6,906 residents to 7,825 residents, or about 13 percent. The population of the Village should increase at what rate through the year 2020? **(Check only one)**

153 Present rate
18 Faster rate
350 Slower rate
116 No growth
637

2. From 1990 to 1997, total housing units in the Village increased from 2,374 units to 2,919 units, or about 23 percent. Housing units in the Village should increase at what rate through the year 2020? **(Check only one)**

116 Present rate
14 Faster rate
370 Slower rate
137 No growth
637

3. What size, physically, would you like to see the Village in 10 - 20 years? **(Check only one)**

227 Present size
6 Much larger
284 Somewhat larger
121 Wish it were smaller
638

4. What best describes your vision of or for the Village? **(Check any that apply)**

295 A small village that should stay that way
318 A community that should add quality of life services and recreation/entertainment, which probably means some growth
101 An expanding industrial and commercial center for north western Waukesha County's "Lake Country", that provides a destination and employment for residents and non-residents alike
* No opinion *(Omitted for this presentation)*
27 Other:_____
753

PART C: GENERAL LAND USE OPTIONS FOR HARTLAND

Please place an "x" in the box after each statement which best represents your opinion.

STATEMENT **For statements 1, 2, and 3: The Village's housing mix presently consists of about 50% detached single-family units, 12% two-family units, and 38% multi-family units.**	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	SUM OF THOSE GIVING AN OPINION*
1. The development of **single-family housing units** should be encouraged in the Village.	216	287	76	45	624
2. The development of **two-family housing units** should be encouraged in the Village.	27	169	246	171	613
3. The development of **multi-family housing units** should be encouraged in the Village.	12	52	212	348	624
4. The development of elderly housing should be encouraged in the Village.	112	345	104	34	595
5. The development of single-family housing units affordable to moderate-income families should be encouraged in the Village.	143	313	108	63	627
6. The Village should encourage the development of office-type businesses.	67	281	161	75	584
7. The Village should encourage industrial development.	47	199	219	125	590
8. The Village should encourage commercial (retail and service-oriented) development.	81	244	172	100	597
9. The Village should not encourage particular types of development, but allow free market forces to determine the pattern.	40	150	246	132	568
10. The Village should discourage further development.	108	153	257	73	591
11. The Village should provide more playgrounds, parks, and recreational facilities.	126	268	169	24	587
12. Village parks should be linked to one another with a system of bikeways and recreational trails that may also be linked with County trails.	214	253	87	43	597
13. Residential areas within the Village should be linked to one another and to key activity centers like the library, schools, community center, and parks with a system of bikeways and walkways.	191	239	132	31	593
14. Parks, bikeways, or walkways in the Village would not be utilized well enough to warrant more.	50	117	269	139	575
15. The protection of woodlands, wetlands, floodlands, and other open spaces in and around the Village is important.	461	165	7	5	638
16. Unless a productive use can be found for woodlands or other upland open spaces in and around the Village, they may as well be developed.	13	38	172	415	638

17. Comments on land use options: _____

_____

_____

_____

*"No Opinion" responses were omitted for this presentation.

PART D: SPECIFIC DIRECTIONS AND POLICY OPTIONS

Please place an "x" in the box after each statement which best represents your opinion.

STATEMENT	STRONGLY FAVOR	FAVOR	OPPOSE	STRONGLYOPPOSE	SUM OF THOSE GIVING AN OPINION*
1. The Village should encourage compatible small businesses and specialty shops to locate Downtown.	237	345	19	8	609
2. The Village should encourage mixed-use development of commercial (lower level) and residential (upper level) uses in the Downtown area.	62	247	152	42	503
3. The Village should further improve the Downtown/Village Center with streetscaping and building revitalization.	169	301	90	16	576
4. The Bark River through Downtown should be better protected, better utilized, and/or made more visible.	235	281	57	9	582
5. Businesses should be encouraged or improved in other areas of the Village, not just Downtown.	146	343	80	21	590
6. Traffic circulation and intersection control within and through the Village should be improved for safety and to reduce congestion.	182	271	91	19	563
7. A parkway and nature preserve along the Bark River should continue to be established through the Village.	312	262	32	15	621
8. Greenspace requirements in the Village should be increased for all new multi-family, commercial, institutional and industrial development.	299	216	50	18	583
9. Comprehensive landscape and design standards should be established for all new multi-family, commercial, industrial, and institutional development in the Village.	284	228	60	23	595
10. People should be able to do whatever they want with land they own/purchase in the Village.	38	73	260	233	604

*"No Opinion" responses were omitted for this presentation.

PART E: RESIDENT PROFILE AND OTHER PREFERENCES
(Nonresident business operators, please skip to Question No. 6)

4.

1. How long have you lived in the Village of Hartland?
(Check only one)

163 Less than 5 years
159 10 to 19 years
114 5 to 9 years
196 20 or more years
632

2. What best describes your place of residence?
(Check one only)

478 Single-family residence: owner-occupied
9 Single-family residence: rented
28 Two-family residence: owned, occupy one unit
14 Two-family residence: rented
64 Multi-family residence
35 Other:_____
628

3. What is the occupation of your main household income earners?
(Check substantial employment only)

284 Professional/Admin.
19 Clerical/Office
69 Skilled Trade/Craft
17 Services
49 Sales
29 Education/Government
22 Factory
107 Retired
8 General Labor
21 Other:_____
625

4. Where do your main household income earners work?
(Check only primary or substantial employment locations)

39 At home
91 Elsewhere in the Village
84 Other locations in the "Lake Country" area
199 Other locations in Waukesha County
175 Locations outside Waukesha County
44 Numerous locations on the road
632

5. Where does your household make its purchases of goods and services? **(Check up to three locations reflecting most of your purchasing)**

256 Downtown Hartland
158 Hartland, north of Hwy. 16
328 Elsewhere in Hartland
353 Other "Lake Country" communities
376 Elsewhere in Waukesha County
71 Outside Waukesha County
1,542

6. Any other comments? (Insert sheets as needed)
_____
_____
_____

Appendix B-2

VILLAGE OF HARTLAND COMMUNITY SURVEY RESULTS- PREFERENCES AS A PERCENT OF RESPONDENTS

Following is the community survey form that was mailed, with collective data entered. The portion of respondents actually selecting the optional choices at each question is generally the basis for calculating percentages, in addition to revealed preferences which exclude "No Opinion".

Dear Village of Hartland Residents and Business Operators,

The Village Plan Commission, assisted by the Southeastern Wisconsin Regional Planning Commission (SEWRPC), is updating our land use and traffic circulation plan to help guide growth and development through the year 2020. The plan will provide a basis for the Village Board and Plan Commission to make informed land use and zoning decisions for the next couple of decades. This survey is being conducted jointly with the University of Wisconsin-Extension and SEWRPC to obtain your opinions on important related issues. Your comments will help to shape the development of the plan.

Please take a few minutes to read through the survey, then answer the questions as best you can. Responses from individual surveys will remain confidential. Written comments are welcome where space provides. When you have completed the survey, please refold and seal the form so that the return address is showing. As a service to the Village, UW-Extension staff working with SEWRPC will tabulate the returned surveys and report back to the Plan Commission with their findings.

For your responses to be used in the planning process, this form must be returned by April 30, 1999.

The Village of Hartland thanks you for your cooperation and assistance in this very important matter.

David Lamerand, Village President

RESPONDENT STATUS: Are you completing this survey as a. . .**(check only one)**
596 Resident of the Village 31 Business operator in the Village 32 Both 4 Neither

Note: If you neither live in the Village, nor operate a business there, please stop now and return the survey.

PART A: QUALITY OF LIFE

1. Why do you live in the Village? **(Check up to four items)**

10% Born/raised in the Village	18% Affordability
21% Proximity to employment	44% Quality of schools
20% Proximity to metro area	2% Government services
54% Safe community/ feeling of security	21% Friendly people
	59% Small-village atmosphere
58% Found a suitable residence	4% Don't live in the Village
28% Parks and natural areas	(local business operator)

2. What has happened to the quality of life in the Village over the past five years? **(Check only one)**

23% Improved	* No opinion *(Omitted)*
29% Declined	19% Have lived or operated
29% Remained the same	a business in the Village
100%	less than 5 years

3. Which items have the greatest **positive** influence on the quality of life in the Village? **(Check up to three)**

45% Fire and police protection	10% Condition of roads
20% Water and sewer services	23% Availability of shopping/ retail services
10% Traffic	
31% Community events/activities	8% Amount of development occurring
53% Quality of schools	
57% Parks and open spaces	3% Other:_____

4. Which items have the greatest **negative** influence on the quality of life in the Village? **(Check up to three)**

4% Fire and police protection	17% Condition of roads
6% Water and sewer services	18% Availability of shopping/ retail services
51% Traffic	
2% Community events/activities	68% Amount of develop- ment occurring
5% Quality of schools	
3% Parks and open spaces	6% Other:_____

PART B: VILLAGE GROWTH

1. From 1990 to 1997 the Village's population grew from 6,906 residents to 7,825 residents, or about 13 percent. The population of the Village should increase at what rate through the year 2020? **(Check only one)**

24% Present rate	55% Slower rate
3% Faster rate	18% No growth
100%	

2. From 1990 to 1997, total housing units in the Village increased from 2,374 units to 2,919 units, or about 23 percent. Housing units in the Village should increase at what rate through the year 2020? **(Check only one)**

18% Present rate	58% Slower rate
2% Faster rate	22% No growth
100%	

3. What size, physically, would you like to see the Village in 10 - 20 years? **(Check only one)**

36% Present size	44% Somewhat larger
1% Much larger	19% Wish it were smaller
100%	

4. What best describes your vision of or for the Village? **(Check any that apply)**

46% A small village that should stay that way
49% A community that should add quality of life services and recreation/entertainment, which probably means some growth
16% An expanding industrial and commercial center for north western Waukesha County's "Lake Country", that provides a destination and employment for residents and non-residents alike
* No opinion *(Omitted for this presentation)*
4% Other:_____

PART C: GENERAL LAND USE OPTIONS FOR HARTLAND

Please place an "x" in the box after each statement which best represents your opinion.

STATEMENT **For statements 1, 2, and 3: The Village's housing mix presently consists of about 50% detached single-family units, 12% two-family units, and 38% multi-family units.**	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	SUM OF THOSE GIVING AN OPINION*
1. The development of **single-family housing units** should be encouraged in the Village.	35%	46%	12%	7%	100%
2. The development of **two-family housing units** should be encouraged in the Village.	4%	28%	40%	28%	100%
3. The development of **multi-family housing units** should be encouraged in the Village.	2%	8%	34%	56%	100%
4. The development of elderly housing should be encouraged in the Village.	19%	58%	17%	6%	100%
5. The development of single-family housing units affordable to moderate-income families should be encouraged in the Village.	23%	50%	17%	10%	100%
6. The Village should encourage the development of office-type businesses.	11%	48%	28%	13%	100%
7. The Village should encourage industrial development.	8%	34%	37%	21%	100%
8. The Village should encourage commercial (retail and service-oriented) development.	14%	41%	29%	16%	100%
9. The Village should not encourage particular types of development, but allow free market forces to determine the pattern.	7%	27%	43%	23%	100%
10. The Village should discourage further development.	18%	26%	44%	12%	100%
11. The Village should provide more playgrounds, parks, and recreational facilities.	21%	46%	29%	4%	100%
12. Village parks should be linked to one another with a system of bikeways and recreational trails that may also be linked with County trails.	36%	42%	15%	7%	100%
13. Residential areas within the Village should be linked to one another and to key activity centers like the library, schools, community center, and parks with a system of bikeways and walkways.	32%	41%	22%	5%	100%
14. Parks, bikeways, or walkways in the Village would not be utilized well enough to warrant more.	9%	20%	47%	24%	100%
15. The protection of woodlands, wetlands, floodlands, and other open spaces in and around the Village is important.	72%	26%	1%	1%	100%
16. Unless a productive use can be found for woodlands or other upland open spaces in and around the Village, they may as well be developed.	2%	6%	27%	65%	100%
17. Comments on land use options: _____ _____ _____ _____					

*"No Opinion" responses were omitted for this presentation.

PART D: SPECIFIC DIRECTIONS AND POLICY OPTIONS

Please place an "x" in the box after each statement which best represents your opinion.

STATEMENT	STRONGLY FAVOR	FAVOR	OPPOSE	STRONGLY OPPOSE	SUM OF THOSE GIVING AN OPINION*
1. The Village should encourage compatible small businesses and specialty shops to locate Downtown.	39%	57%	3%	1%	100%
2. The Village should encourage mixed-use development of commercial (lower level) and residential (upper level) uses in the Downtown area.	12%	49%	30%	9%	100%
3. The Village should further improve the Downtown/Village Center with streetscaping and building revitalization.	29%	52%	16%	3%	100%
4. The Bark River through Downtown should be better protected, better utilized, and/or made more visible.	40%	48%	10%	2%	100%
5. Businesses should be encouraged or improved in other areas of the Village, not just Downtown.	25%	58%	13%	4%	100%
6. Traffic circulation and intersection control within and through the Village should be improved for safety and to reduce congestion.	32%	48%	16%	4%	100%
7. A parkway and nature preserve along the Bark River should continue to be established through the Village.	51%	42%	5%	2%	100%
8. Greenspace requirements in the Village should be increased for all new multi-family, commercial, institutional and industrial development.	51%	37%	9%	3%	100%
9. Comprehensive landscape and design standards should be established for all new multi-family, commercial, industrial, and institutional development in the Village.	48%	38%	10%	4%	100%
10. People should be able to do whatever they want with land they own/purchase in the Village.	6%	12%	43%	39%	100%

*"No Opinion" responses were omitted for this presentation.

PART E: RESIDENT PROFILE AND OTHER PREFERENCES
(Nonresident business operators, please skip to Question No. 6)

4.

1. How long have you lived in the Village of Hartland?
   (Check only one)
   26% Less than 5 years 25% 10 to 19 years
   18% 5 to 9 years 31% 20 or more years
   100%

2. What best describes your place of residence?
   (Check one only)
   76% Single-family residence: owner-occupied
   1% Single-family residence: rented
   4% Two-family residence: owned, occupy one unit
   2% Two-family residence: rented
   10% Multi-family residence
   6% Other:_____
   100%

3. What is the occupation of your main household income earners? **(Check substantial employment only)**
   45% Professional/Admin. 3% Clerical/Office
   11% Skilled Trade/Craft 3% Services
   8% Sales 5% Education/Government
   4% Factory 17% Retired
   1% General Labor 3% Other:_____
   100%

4. Where do your main household income earners work?
   (Check only primary or substantial employment locations)
   6% At home
   14% Elsewhere in the Village
   13% Other locations in the "Lake Country" area
   31% Other locations in Waukesha County
   28% Locations outside Waukesha County
   7% Numerous locations on the road
   100%

5. Where does your household make its purchases of goods and services? **(Check up to three locations reflecting most of your purchasing)**
   39% Downtown Hartland
   24% Hartland, north of Hwy. 16
   50% Elsewhere in Hartland
   54% Other "Lake Country" communities
   57% Elsewhere in Waukesha County
   11% Outside Waukesha County

6. Any other comments? (Insert sheets as needed)
   _____
   _____
   _____

Appendix B-3

VILLAGE OF HARTLAND
COMMUNITY SURVEY SALIENT FINDINGS

RESPONDENT PROFILE

596	Village residents	90%
31	Resident business operators	5%
32	Business operators only	5%
659		9 others without data

RESIDENTIAL STATUS:

487	Single family	77%
42	Two family	6%
64	Multifamily	10%
506	Owners	81%
78	Renters	12%

MAIN OCCUPATIONS:

284	Professional/Administrative	45%
107	Retired	17%
69	Skilled Trade/Craft	11%

MAIN EMPLOYMENT LOCATIONS:

199	Waukesha County outside of "Lake Country"	31%
175	Outside of Waukesha County	28%
130	Somewhere in Hartland	20%
84	Other locations in "Lake Country"	13%

QUALITY OF LIFE

WHY LIVE IN THE VILLAGE?

Small village atmosphere	59%
Suitable residence	58%
Safe community/security	54%
Quality of schools	44%

QUALITY OF LIFE IN LAST 5 YEARS:*

Declined	29%
Remained the same	29%
Improved	23%
Been in Village less than 5 years	19%

POSITIVE INFLUENCES:

Parks and open spaces	57%
Quality of schools	53%
Fire and police protection	45%
Community events/activities	31%

NEGATIVE INFLUENCES:

Amount of development	68%
Traffic	51%

*Percents for this question are calculated based upon the actual number of responses, less those offering no opinion. Other questions in Part A (and a few elsewhere) allowed multiple responses, thus, those percentages are calculated based on the ratio of times selected over maximum respondents available (X/659).

VILLAGE GROWTH

PREFERRED POPULATION INCREASE:	
Slower rate	55%
Present rate	24%
No growth	18%
Faster rate	3%
PREFERRED HOUSING INCREASE:	
Slower rate	58%
No growth	22%
Present rate	18%
Faster rate	2%
VILLAGE SIZE IN 10 - 20 YEARS:	
Somewhat larger	45%
Present size	36%
Wish it were smaller	19%
Much larger	1%
PREFERRED VISION:	
Grow somewhat/add services	49%
Stay a small village	46%
Expanding industrial and commercial center	16%

DEVELOPMENT PREFERENCES

	Yes	No
HOUSING OPTIONS:		
Encourage single family	81%	19%
Encourage two-family	33%	68%
Encourage multi-family	10%	90%
Encourage elderly housing	77%	23%
Encourage affordable single-family housing	73%	27%
COMMERCIAL AND INDUSTRIAL DEVELOPMENT		
Encourage office-type businesses	59%	41%
Encourage industrial development	42%	58%
Encourage retail and service development	55%	45%
Encourage/improve businesses in other areas, not just downtown	83%	18%
DOWNTOWN ISSUES		
Encourage small businesses and specialty shops	96%	4%
Encourage mixed-use development of commercial (lower level), residential (upper)*	61%	38%
Improve village center with street-scaping and revitalization	81%	19%
Bark River should be better protected, better utilized, more visible	88%	12%
Traffic circulation and intersection control should be improved**	80%	19%
Household purchases of goods and services made downtown	39%	- -

*A substantial 156 persons did not respond or had no opinion regarding this statement (24% of possible respondents).

**Also applies elsewhere traveling through the Village.

PARKS, THE ENVIRONMENT AND QUALITY CHECKS

	Yes	No
PARKS AND RECREATIONAL FACILITIES		
Provide more playgrounds, parks and recreational facilities	67%	33%
Link parkways with bikeways and recreational trails	78%	22%
Link residential areas together and to activity centers with bikeways and walkways	72%	27%
Parks, bikeways, walkways not utilized enough to warrant more	29%	71%
ENVIRONMENTAL ISSUES		
Protection of woodlands, wetlands, flood-lands, open spaces is important	98%	2%
Unless productive uses found for woodlands or open spaces, may as well develop	8%	92%
Continue establishing parkway and nature preserve along Bark River	92%	7%
Increase greenspace requirements for new multi-family, commercial, industrial, institutional development	88%	12%
QUALITY OF GROWTH "TRUTH" CHECKS		
Don't encourage types of development/allow free market to determine	33%	66%
Discourage further development	44%	55%
Establish comprehensive landscape and design standards for new multi-family, commercial, industrial, institutional development	86%	14%
People should be able to do whatever they want with land they own	18%	82%

Appendix C

DESIGN GUIDELINES

Good general land use planning alone does not ensure a safe and attractive community, since "planning by design," that is, attention to the detailed layout and design of any development, is also crucial. To help direct proposed development and redevelopment activities in the Village of Hartland and its Village Center, basic design guidelines should be established. The guidelines presented herein are intended to serve as a basis for determining desired physical development layouts and appearances, and not as inflexible, rigid, and narrow rules that may stifle innovative design alternatives. These guidelines should be used by Village officials to provide detailed guidance to applicants and to assist in the evaluation of development proposals including site, landscaping, and building plans.

BASIC URBAN AND SITE PLANNING DESIGN GUIDELINES

Neighborhoods

Neighborhood Units
Neighborhoods should be developed in a spatially organized manner around a central feature, or focal point, such as a neighborhood park or elementary school, to promote a sense of physical unity as a planned unit rather than a large, formless, and unidentifiable mass.

Neighborhood Identification
Delineated neighborhood units, insofar as is practicable, should be bounded by arterial streets; major parks, greenways, or institutional lands; bodies of water or waterways; or other natural or cultural features which serve to clearly define and physically distinguish each unit from the surrounding units. A name should be selected for each neighborhood based on a distinct land feature or land use character, including historic heritage, to provide a sense of identity. Main "entryways" into neighborhoods should be well-defined for identification, directional, and aesthetic purposes, as well as to further instill a sense of unity.

Neighborhood Facilities
The location and amount of land needed for neighborhood facilities should be based, in part, on the standards specified in Tables 26 and 27 of Chapter VI. Recreational lands at the neighborhood level should be centrally located to provide a focal point for neighborhood interaction and activities and should be developed, whenever possible, in conjunction with a neighborhood elementary school site. The elementary school and recreational facilities should be provided on a common site available to serve the recreation demands of both the school students and the resident neighborhood population. Individual recreational facility requirements should be based upon the values listed in Table 28 of Chapter VI.

Neighborhood Access to Facilities
Residents of neighborhoods should be afforded safe and convenient access to parks, schools, shopping centers, employment centers, and other community facilities. The walking and bicycling distances to these facilities should not exceed the maximum distance standards established in Table 27. Bicycle and pedestrian ways should be connected to or be a part of a trail system that provides access for both utilitarian and recreational purposes. Neighborhoods should also have ready access to an arterial street system, and, thereby, to urban activities and

services, through an internal network of minor and collector streets designed to facilitate vehicular circulation as well as bicycle and pedestrian circulation, while discouraging heavy volumes of arterial traffic through the neighborhood.

Streets, Bicycle, and Pedestrian Facilities[1]

Street Cross-Sections

The Village's desired cross-section designs for streets as well as bicycle and pedestrian ways are graphically shown in Figure C-1. On the shared roadways identified in this figure, bicyclists and motorists would share a travel lane. Collector and minor land-access streets can generally accommodate bicycle travel without widening the roadway due to the usually low traffic speeds and volumes. Sidewalks or pedestrian paths should be provided in areas of existing or planned urban development in accordance with the criteria established by the Village, as set forth in Table C-1. If curvilinear sidewalks or pedestrian paths are desired, additional right-of-way may be necessary to provide a minimum distance from the face of curb to right-of-way line of no less than 15 feet. It is recommended that the minor land-access street cross-section for industrial development be the same as the cross-section for a collector street.

Street Grades

Unless necessitated by exceptional topography, the maximum grade of any street should not exceed the following: arterial streets, 6 percent; collector streets, 8 percent; and minor land-access streets, alleys, and frontage streets, 10 percent. The grade of any street should in no case exceed 10 percent. The minimum grade of any street should preferably be 0.75 percent, and in no case be less than 0.50 percent. The minimum grade of road crowns should be 2 percent. The change in grade across a street intersection within 100 feet of the property line limits of said intersection should not exceed 3 percent, and preferably should be limited to 1.5 percent. In addition, the maximum grade of any street in an industrial area should not exceed 3 percent. All street grades should be established so as to avoid excessive grading, the promiscuous removal of groundcover and trees, and indiscriminate leveling of the terrain.

Street Intersections

Streets should intersect each other as nearly right angles as topography and other limiting factors of good design permit. Angles above approximately 60 degrees usually produce only a small reduction in visibility, which often does not warrant realignment closer to 90 degrees. In addition, the number of streets converging at one intersection should be held to a minimum, preferably to not more than two streets at one intersection; the location of street intersections immediately below the crest of hills should be avoided; the number of intersections along arterial streets and highways should be held to a minimum; and the distance between such intersections should generally not be less than 1,200 feet measured from the centerline of each street. Minor land-access street openings onto arterial streets should be minimized to improve traffic flow and reduce traffic hazards.

Property lines at street intersections should be rounded to an arc with a minimum radius of 15 feet, or, preferably, should be cut off by a straight line through the points of tangency of an arc having a radius of 15 feet or greater. This dimension may need to be increased or an easement should be provided if unique landscaping is proposed at

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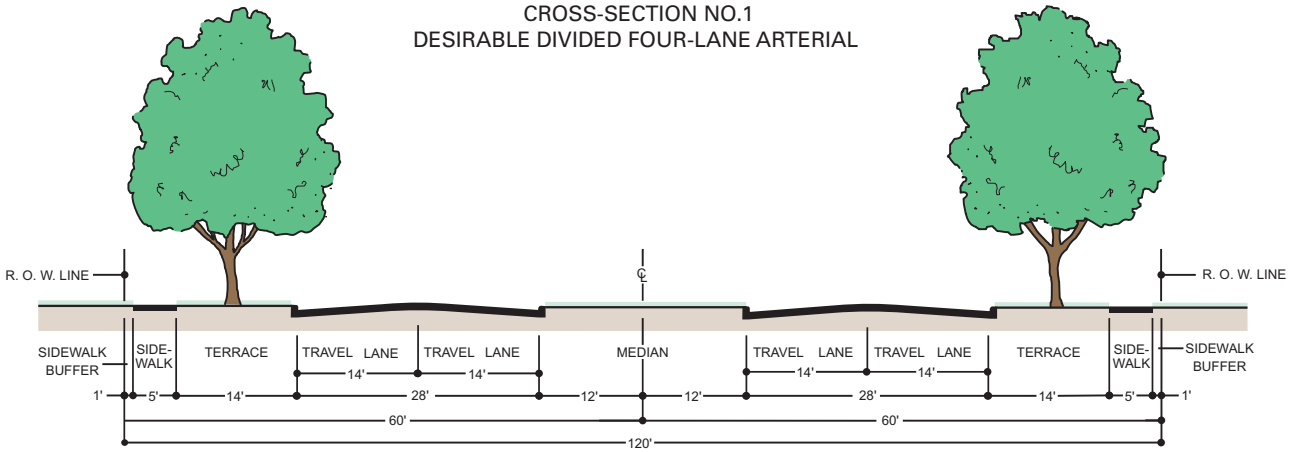
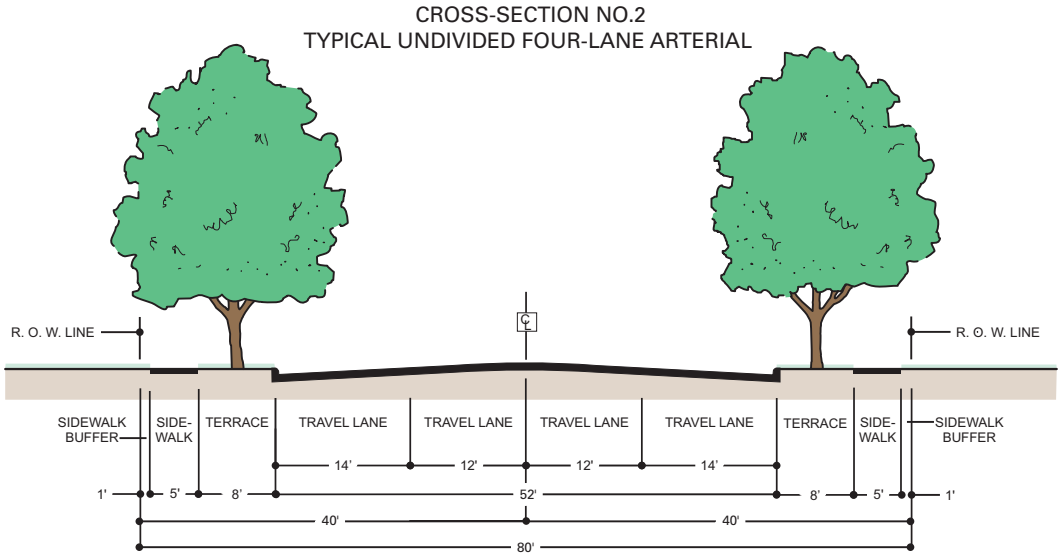
[1]*The design guidelines set forth in this section are not intended to serve as a comprehensive guide to the design of streets and highways, including those accommodating bicycle and pedestrian facilities, but are intended to suggest the general type of design treatments that may be appropriate in certain situations. Precise design specification should be determined during engineering studies for specific street, highway, and bicycle-way projects, and should be based, in part, on the recommendations contained in the most recent edition of,* A Policy on Geometric Design of Highways and Streets *and the* Guide for the Development of Bicycle Facilities*, both published by the American Association of State Highway and Transportation Officials, and the* Manual on Uniform Traffic Control Devices, *published by the U.S. Department of Transportation, Federal Highway Administration.*

Figure C-1

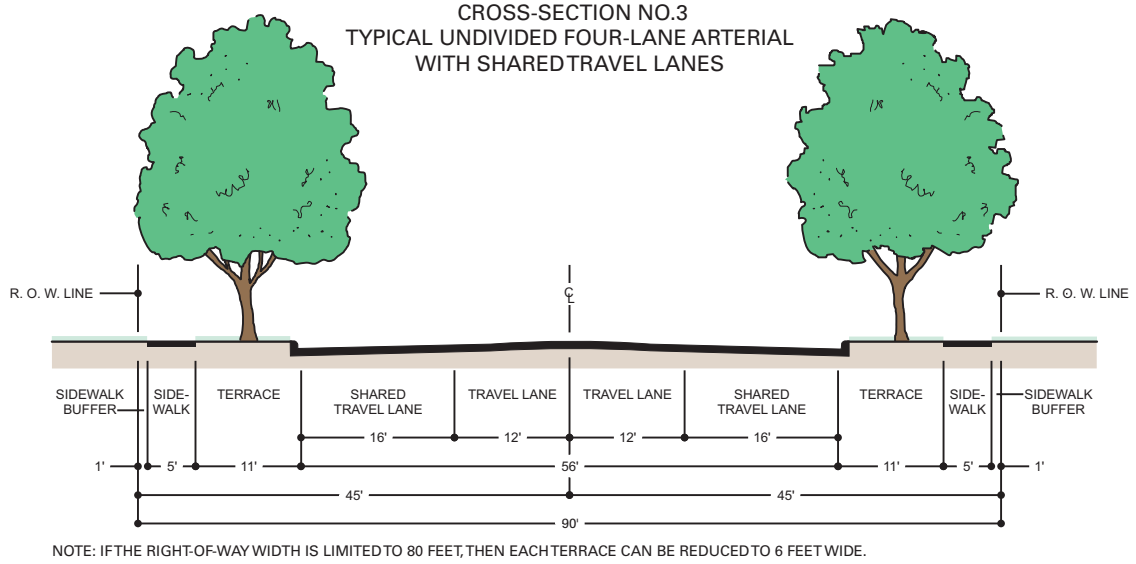
TYPICAL CROSS-SECTIONS FOR STREETS, HIGHWAYS, BICYCLE WAYS, AND PEDESTRIAN WAYS IN THE VILLAGE OF HARTLAND[1]



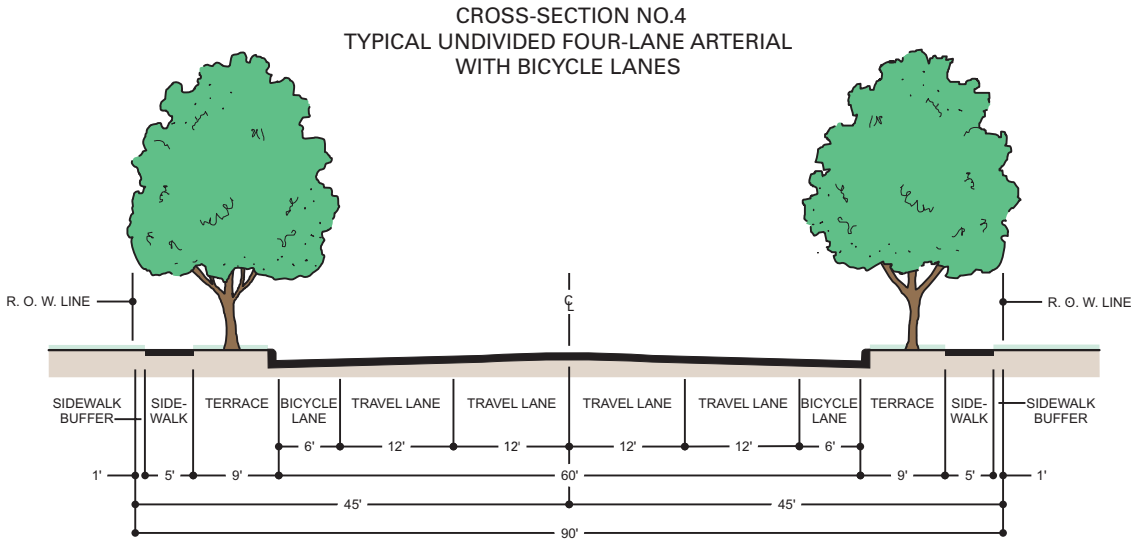


street corners such as those for defining a main entryway into a subdivision or a "gateway" into the community or Village Center while still recognizing traffic vision requirements. At street intersections, as a general guide, the minimum radius of curb return, where curbs are used, or of the outside edge of pavement, where curbs are not used, should be at least 15 feet or, preferably, 20 feet. This radius may need to be increased to meet the minimum turning radii of various motor vehicles, as illustrated in Figure C-2.

Figure C-1 (continued)



NOTE: IF THE RIGHT-OF-WAY WIDTH IS LIMITED TO 80 FEET, THEN EACH TERRACE CAN BE REDUCED TO 6 FEET WIDE.

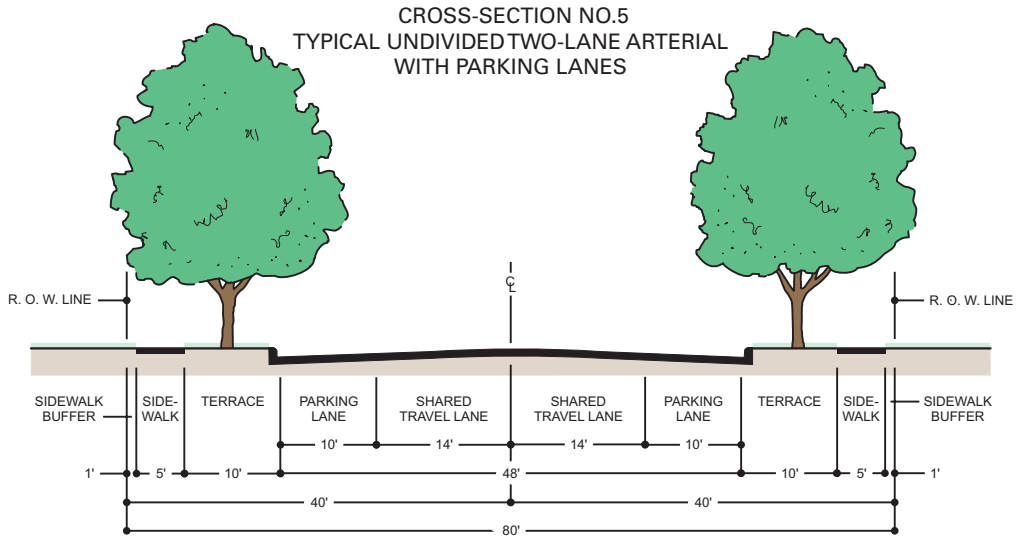


NOTE: A 6-INCH WIDE SOLID WHITE STRIPE SHOULD BE USED TO DISTINGUISH THE OUTSIDE TRAVEL LANE FROM THE BICYCLE LANE. IF THE RIGHT-OF-WAY WIDTH IS LIMITED TO 80 FEET, THEN EACH TRAVEL LANE CAN BE REDUCED TO 11 FEET WIDE AND EACH TERRACE TO 6 FEET WIDE.

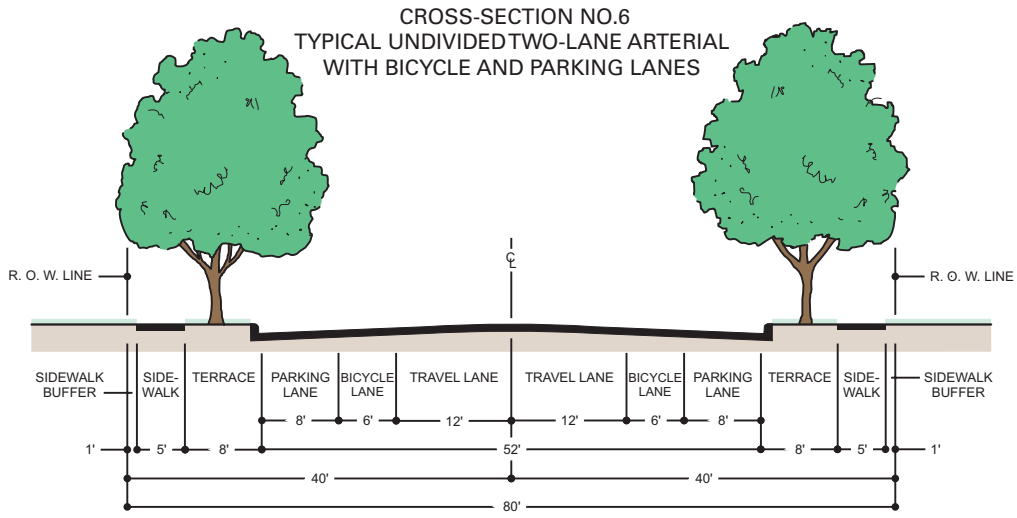
Street Jogs

If the distance between the centerline intersections of any street and any intersecting arterial street is less than 250 feet, measured from the centerline of the intersecting streets, or less than 125 feet, measured from the centerline of other intersecting streets, then the street location should be adjusted so that the distance is increased or the connection across the intersecting street is continuous in alignment, thus avoiding a jog in the flow of traffic. Minor and collector streets need not necessarily continue across arterial streets.

Figure C-1 (continued)



NOTE: A 4-INCH WIDE SOLID WHITE STRIPE OR MARKED PARKING STALLS SHOULD BE USED TO DISTINGUISH THE TRAVEL LANE FROM THE PARKING LANE.

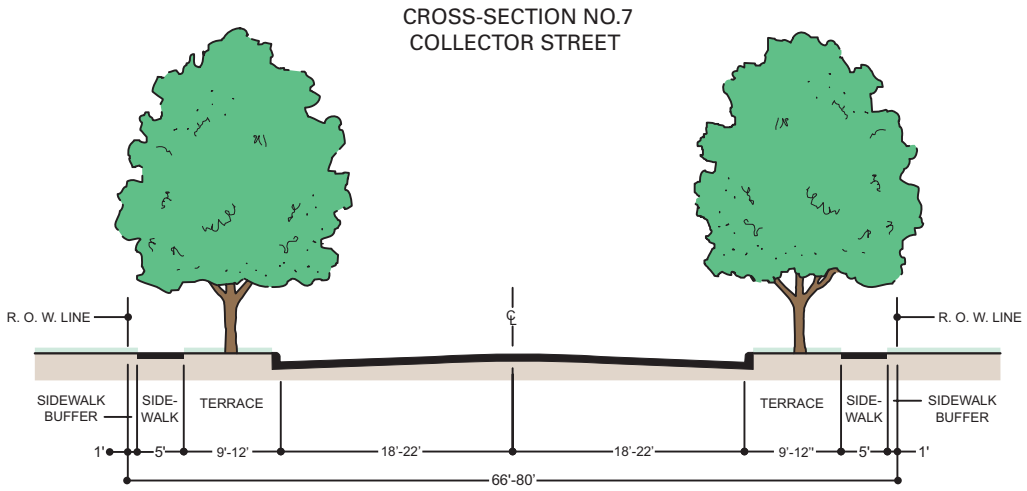


NOTE: A 6-INCH WIDE SOLID WHITE STRIPE SHOULD BE USED TO DISTINGUISH THE TRAVEL LANE FROM THE BICYCLE LANE. A 4-INCH WIDE SOLID WHITE STRIPE OR MARKED PARKING STALLS SHOULD BE USED TO DISTINGUISH THE BICYCLE LANE FROM THE PARKING LANE.

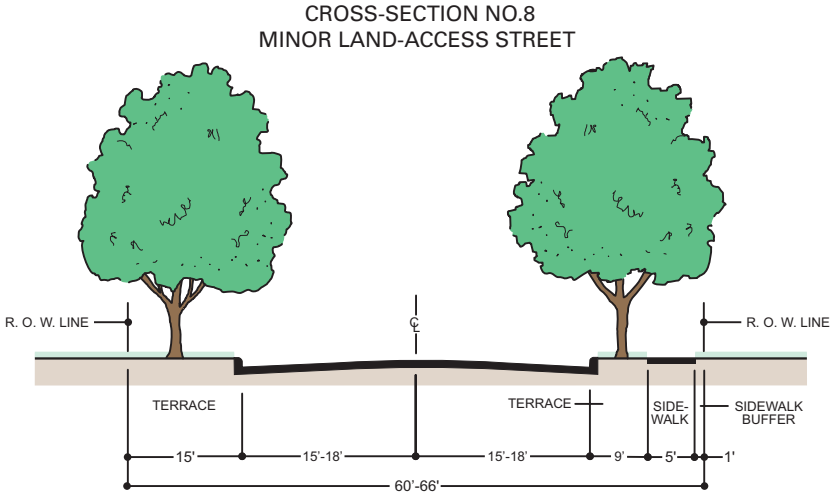
Street Curvatures

When a continuous street centerline deflects at any point by more than seven degrees, a circular curve should be introduced with a radius of curvature on the centerline of not less than the following: arterial streets, 500 feet; collector streets, 300 feet; and minor streets, 100 feet. A tangent at least 100 feet in length should be provided between reverse curves on arterial and collector streets. All changes in street grades that exceed one percent should be connected by vertical curves that meet the standards for stopping sight distance established in the American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*. Minimum curve radii should be further based on the function of traffic speed, sight distances, and other factors.

Figure C-1 (continued)



NOTE: THE PAVEMENT AND RIGHT-OF-WAY WIDTH FOR A COLLECTOR STREET MAY VARY FROM 36 FEET OF PAVEMENT WIDTH AND 66 FEET OF RIGHT-OF-WAY WIDTH TO 44 FEET OF PAVEMENT WIDTH AND 80 FEET OF RIGHT-OF-WAY WIDTH. THE NARROWER WIDTH WOULD APPLY TO COLLECTOR STREETS CARRYING AVERAGE WEEKDAY TRAFFIC VOLUMES OF UNDER 3,000 VEHICLES PER AVERAGE WEEKDAY AND MINIMAL TRUCK OR BUS TRAFFIC. THE WIDER WIDTH WOULD APPLY TO COLLECTOR STREETS CARRYING TRAFFIC VOLUMES EXCEEDING 3,000 VEHICLES PER AVERAGE WEEKDAY AND/OR CARRYING SIGNIFICANT BUS OR TRUCK TRAFFIC.

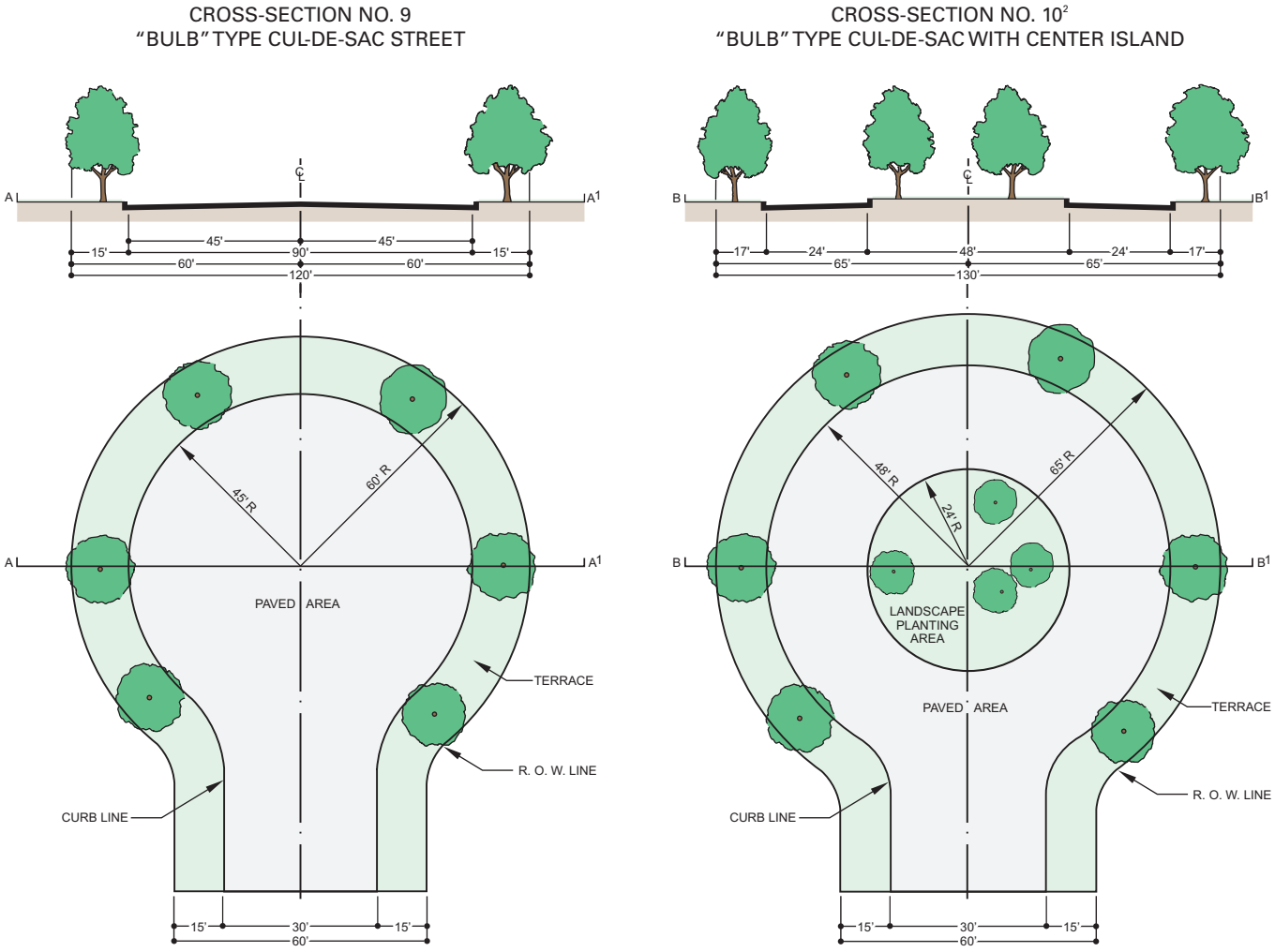


NOTE: THE PAVEMENT AND RIGHT-OF-WAY WIDTH FOR A MINOR LAND-ACCESS STREET MAY VARY FROM 30 FEET OF PAVEMENT WIDTH AND 60 FEET OF RIGHT-OF-WAY WIDTH TO 36 FEET OF PAVEMENT WIDTH AND 66 FEET OF RIGHT-OF-WAY WIDTH. THE NARROWER WIDTH WOULD APPLY TO LAND-ACCESS STREETS CARRYING AVERAGE WEEKDAY TRAFFIC VOLUMES OF UNDER 1,500 VEHICLES PER AVERAGE WEEKDAY, WITH LITTLE TRUCK AND NO BUS TRAFFIC AND LIMITED DEMAND FOR ON-STREET PARKING. THE WIDER WIDTH WOULD APPLY TO LAND-ACCESS STREETS WITH AVERAGE WEEKDAY TRAFFIC VOLUMES OF 1,500 OR MORE VEHICLES PER AVERAGE WEEKDAY, DEMAND FOR ON-STREET PARKING, AND SOME TRUCK AND BUS TRAFFIC.

Frontage Streets

Outer separations at any intersections between arterial streets and paralleling frontage roads should be 150 feet or more in width for traffic safety purposes, where practical and feasible. Narrow separations such as 20 feet wide between arterial streets and paralleling frontage roads, except at intersections, are acceptable.

Figure C-1 (continued)



Half-Streets

The platting of half-streets should be avoided. Half-streets put an unrealistic reliance on the chance that adjacent property owners will develop their adjacent properties at the same time. If half streets are allowed and then improved, their narrow width may result in street maintenance as well as traffic circulation problems.

Cul-de-Sac Streets

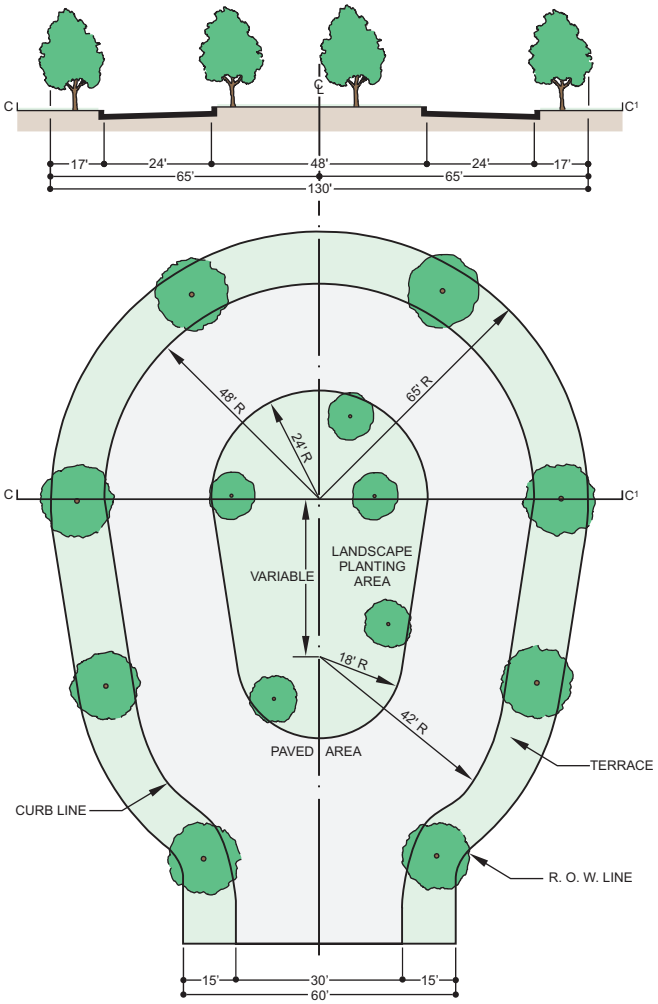
To minimize potential speeding and mid-street turn-arounds, the length of streets designed to have one end permanently closed with a turn-around should not exceed 750 feet. Cul-de-sac streets should terminate in a circular or tear-drop turn-around, as shown in Figure C-1, with preferably center landscaped islands maintained by private means such as a homeowners or condominium association. Such privately maintained landscaped islands should also be provided in the center of "eyebrow" turn-arounds (half circular cul-de-sacs).

Curb Ramps

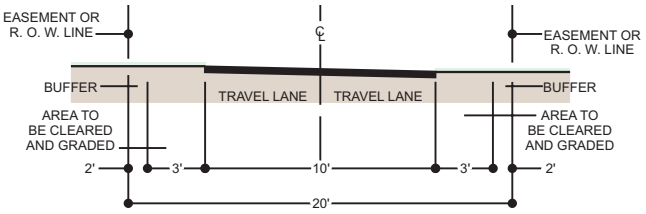
Curb ramps should be provided in accordance with the Americans with Disabilities Act and with Section 66.0909 of the *Wisconsin Statutes*.

Figure C-1 (continued)

CROSS-SECTION NO.11[2]
"TEAR-DROP" TYPE CUL-DE-SAC STREET
WITH CENTER ISLAND

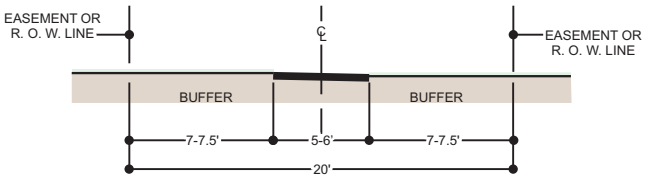


CROSS-SECTION NO.12
TWO-WAY BICYCLE AND PEDESTRIAN PATH
OUTSIDE STREET RIGHT-OF-WAY



NOTE: CENTERLINES ARE NOT NORMALLY REQUIRED ON BICYCLE PATHS. WHERE CONDITIONS SUCH AS LIMITED SIGHT DISTANCE MAKE IT DESIRABLE TO SEPARATE TWO DIRECTIONS OF TRAVEL, A SOLID YELLOW LINE SHOULD BE USED TO INDICATE NO TRAVELING TO THE LEFT OF THE CENTERLINE.

CROSS-SECTION NO.13
PEDESTRIAN WAY



NOTE: PEDESTRIAN WAYS INTENDED TO BE SHARED WITH BICYCLES SHOULD CONTAIN A MINIMUM PAVEMENT WIDTH OF 8 FEET WHERE FEWER THAN 50 USERS ARE ANTICIPATED DURING THE PEAK-USE HOUR. A MINIMUM 10-FOOT WIDE PATH SHOULD BE PROVIDED FOR SHARED-USE WHERE MORE THAN 50 USERS ARE ANTICIPATED.

[1]ALSO SEE TABLE C-1 PERTAINING TO THE PROVISION OF SIDEWALKS. THE VILLAGE OF HARTLAND'S PREFERRED CROSS-SECTIONS SHOWN IN THIS FIGURE ARE, IN ALL CASES, TYPICAL, AND ARE SUBJECT TO VARIATIONS WITH REGARD TO A NUMBER OF CONSIDERATIONS, INCLUDING TOPOGRAPHY, TRAFFIC PATTERNS AND VOLUMES, TRAFFIC AND PARKING LANE WIDTHS, RIGHT-OF WAY WIDTHS, AND ADJACENT LAND USES. NECESSARY VARIATIONS SHOULD BE DETERMINED DURING PRELIMINARY ENGINEERING STUDIES FOR SPECIFIC STREET AND HIGHWAY PROJECTS. THESE CROSS-SECTIONS ARE SHOWN IN ORDER TO PROVIDE THE APPROPRIATE JURISDICTIONAL AGENCIES AND LOCAL OFFICIALS WITH AN INDICATION BOTH OF THE AMOUNT OF RIGHT-OF-WAY WIDTH THAT SHOULD BE CONSIDERED FOR RESERVATION TO ACCOMMODATE THE REQUIRED NUMBER OF TRAFFIC LANES, AND OF WHAT PAVEMENT WIDTHS THAT MAY BE USED AS A STARTING POINT FOR ENGINEERING STUDIES.

[2]THE VILLAGE DETERMINED THAT ANY LANDSCAPED ISLANDS PROPOSED IN THE TURN-AROUNDS SHOULD BE PROPERLY MAINTAINED BY PRIVATE MEANS SUCH AS A HOMEOWNER OR CONDOMINIUM ASSOCIATION.

Source: SEWRPC.

Table C-1

RECOMMENDATIONS FOR THE PROVISION OF SIDEWALKS IN AREAS OF EXISTING OR PLANNED URBAN DEVELOPMENT IN THE VILLAGE OF HARTLAND

Roadway Functional Classification	Land Use	New Streets[a,b]	Existing Streets[a,b]
Arterial Streets[c]	Industrial	Both sides	Both sides
	Commercial	Both sides	Both sides
	Residential	Both sides	Both sides
Collector Streets and Minor Land-Access Streets[d]	Industrial	At least one side[e]	At least one side
	Commercial	At least one side[e]	At least one side
	Residential	At least one side[e]	At least one side

[a]Sidewalks may be omitted along sides of streets where there are no existing or anticipated uses that would generate pedestrian trips on that side. Sidewalks proposed through environmentally sensitive areas should be reviewed on a case-by-case basis to determine if such a sidewalk is needed, or if there are alternative routes or options that may be less disruptive such as, for example, a boardwalk over wetlands.

[b]Asphalt pathways may be provided in place of concrete sidewalks along busy arterial and collector streets, except for those in the Village Center for aesthetic reasons, when the pathway would function as a shared recreation path for walking, bicycling, and in-line skating, and would connect to parks and schools.

[c]Where there are marginal access control or service and frontage roads, the sidewalk along the main road may be eliminated and replaced by a sidewalk along the service or frontage road on the side away from the main road.

[d]Sidewalks need not be provided along courts and cul-de-sac streets less than 600 feet in length, unless such streets serve multi-family development or connect to points of interest with pedestrian outlots or easements located between lots leading to, for example, schools, parks, or shopping areas. Also, sidewalks need not be provided along the side of streets that are served by adjacent parallel off-street walkways or recreation trails; however, sidewalks should be provided on the opposite side of said street.

[e]Sidewalks should be provided along both sides of busy collector streets where there are existing or anticipated uses that would generate pedestrian trips on each side.

Source: Village of Hartland and SEWRPC.

Bicycle and Pedestrian Facilities

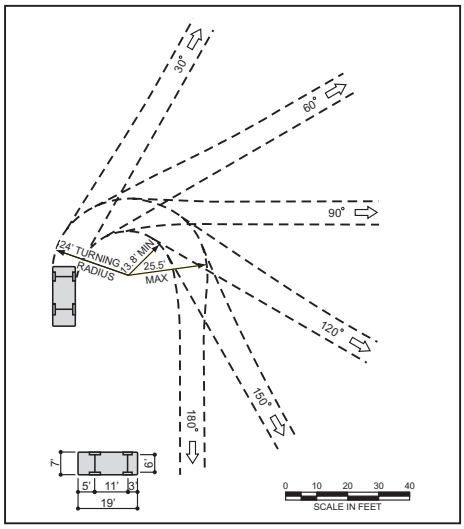
Bikeways[2] and pedestrian facilities should be provided for safe and convenient access to activity centers and places of employment. The provision of such facilities should be based, in part, on Figure C-1, Table C-1, and the

[2]A "bikeway" is a general term that includes any road, path, or way that may legally be used for bicycle travel. Types of bikeways include "bike paths," which are physically separated from motorized vehicles; "bike lanes," which are portions of roadways that are designated by striping, signing, and pavement markings for the exclusive or preferential use by bicycles; and "shared roadways," which are roadways that do not have a designated bike lane, but may be legally used for bicycle travel. A "bike route" is a bikeway designated with directional and information markers, and may consist of a combination of bike paths, bike lanes, and shared roadways.

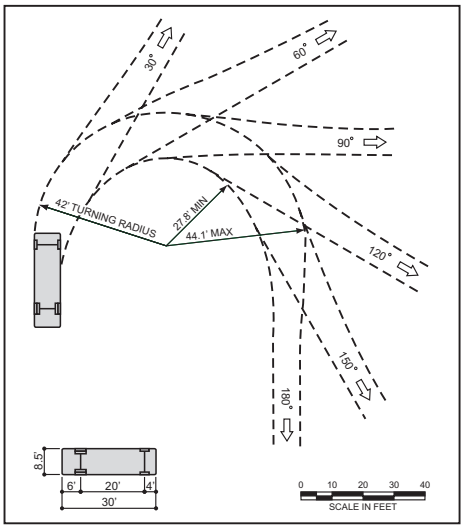
Figure C-2

TURNING RADII OF SELECTED MOTOR VEHICLES

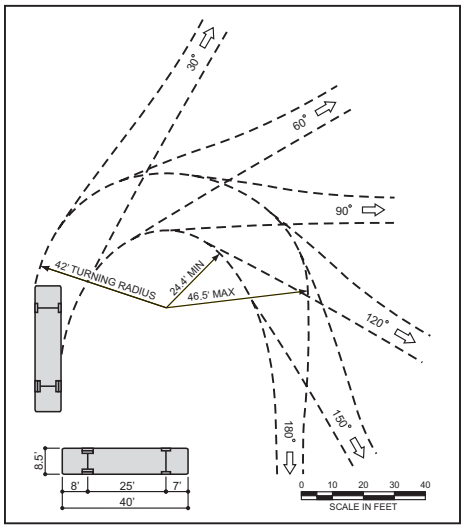
A. PASSENGER CAR



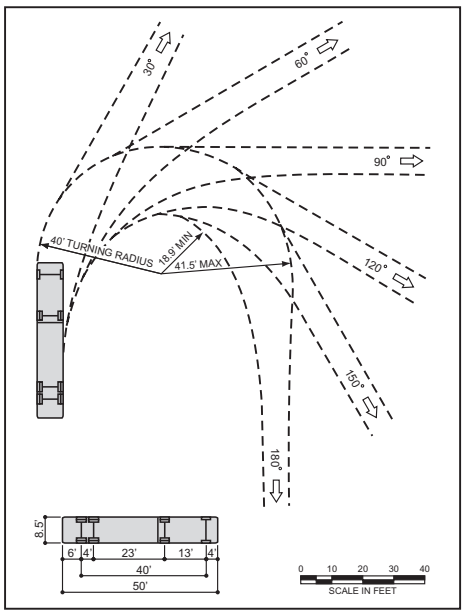
B. SINGLE-UNIT TRUCK



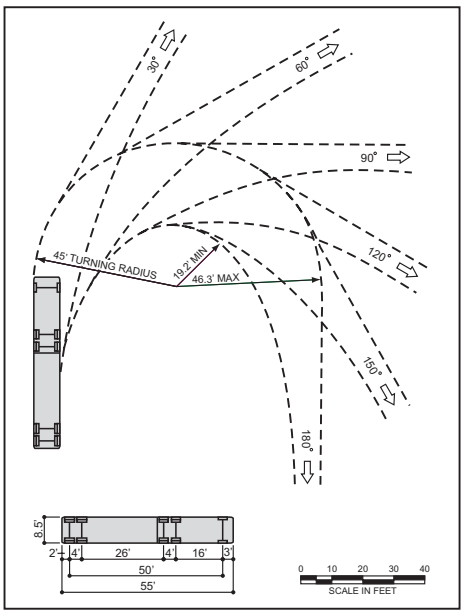
C. 40-FOOT-LONG BUS



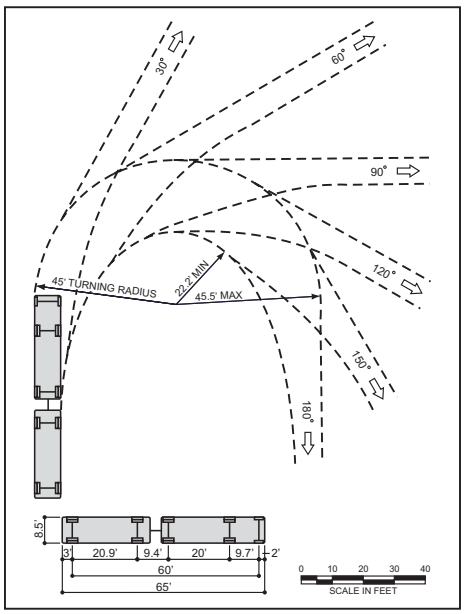
D. 50-FOOT-LONG INTERMEDIATE SIZE SEMITRAILER COMBINATION TRUCK



E. LONG LARGE-SIZE SEMITRAILER COMBINATION TRUCK



F. 65-FOOT-LONG SEMITRAILER-FULL TRAILER COMBINATION TRUCK



NOTE: THE TURNING TEMPLATES SHOW THE TURNING PATHS OF THE AASHTO DESIGN VEHICLES. THE PATHS SHOWN ARE FOR THE LEFT FRONT OVERHANG AND THE OUTSIDE REAR WHEEL. THE LEFT FRONT WHEEL FOLLOWS THE CIRCULAR CURVE; HOWEVER, ITS PATH IS NOT SHOWN.

Source: American Association of State Highway and Transportation Officials (AASHTO).

planning and design standards established in SEWRPC Planning Report No. 43, *A Regional Bicycle and Pedestrian Facilities System Plan for Southeastern Wisconsin: 2010*, which includes specific design guidelines such as desirable grades, sight distances, pavement widths, crosswalks, and other standards. Off-street bike and pedestrian ways should be provided to connect cul-de-sac streets and adjacent streets across blocks of 900 feet or longer, and should be provided to connect adjacent subdivisions, subdivisions and activity centers, and activity centers and employment centers where alternative on-street routes are unduly circuitous. Examples of site designs that facilitate bicycle and pedestrian travel are illustrated in Figure C-3.

Whenever a street or highway that is designated as a bikeway is constructed, reconstructed, or resurfaced, such streets should accommodate bicyclists in accordance with Figure C-1. On streets with low traffic speed and volumes that contain a cross-section design with roadside swales and no curb and gutter, a paved shoulder with a width of at least four feet, and preferably five or six feet, should be provided to accommodate bicyclists if a separate path is not practical.

If a community desires a long gently curving sidewalk or path versus a straight linear alignment along streets, additional right-of-way may be necessary. In order to accommodate street trees and pedestrian ways, while minimizing obstruction of utilities in the tree terrace and yet contain sufficient space to curve the sidewalk or path, the distance from the face of curb to the right-of-way line should be at least 15 feet. In addition, such sidewalks or asphalt paths should also be at least four feet from the face of the curb to provide space for snow storage and utility location. This additional right-of-way should provide sufficient space for design flexibility to provide a more interesting free-flowing pedestrian pathway that gently winds around staggered street trees or even plant beds.

Vehicular Access

Access and Street Intersections

Driveways on corner lots should be set back sufficiently from intersecting streets so that they do not interfere with traffic movement. The corner clearance between new direct public or private access and an arterial street intersection should be a minimum of 115 to 230 feet or, preferably, 250 feet where land parcel size permits, as illustrated in Figure C-4. The clearance distance is defined as the distance between the nearest face of curb or edge of pavement of the intersecting street and the nearest face of curb or edge of pavement of the nearest access point upstream or downstream of the intersection.

Arterial Highway Access Barriers

No-access easements for motorized vehicles and physical barriers, such as ditching, curbing, fencing, plantings, berms, or other landscape barriers, should be provided to prevent undesirable vehicular access to arterial streets or highways and to properly and safely channelize traffic movements. When plantings are used as an access barrier, the width of the landscaped area should be at least 10 feet. If berms are used as barriers, the width of the landscaped area should be able to accommodate the size of the berms, based on their slope, crown, height, and form. When structural barriers are used, the minimum width could be five feet, preferably wider, with landscaping such as trees and shrubs provided between the structure and adjacent right-of-way. Where applicable, openings should be provided in the barriers for convenient bicycle and pedestrian access to adjacent streets. The vision clearance triangle standards discussed herein should also be observed. Figure C-5 illustrates alternative landscaping methods for barriers with parking lot screening.

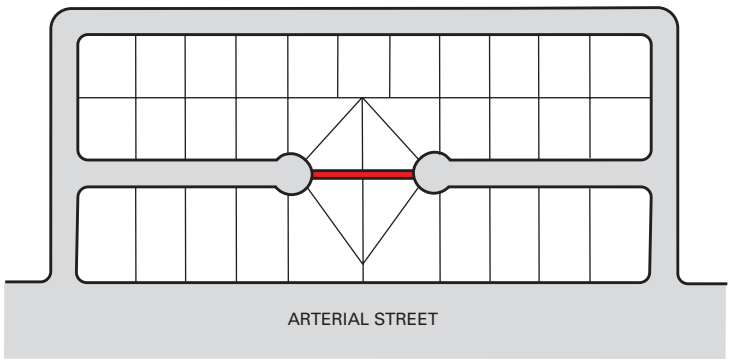
Reverse-Frontage Lots to Limit Arterial Highway Access

Reverse-frontage lots should be located adjacent to arterial streets or highways to limit vehicular access from abutting land uses. A landscaped buffer strip at least 30 feet wide should be provided with a nonaccess reservation along the rear property lines of residential reverse-frontage lots, as shown in Figure C-6. The landscaped buffer strip should be completed as part of a development to ensure proper installation and design continuity. Normal lot depths should be increased relative to the width of the buffer strip.

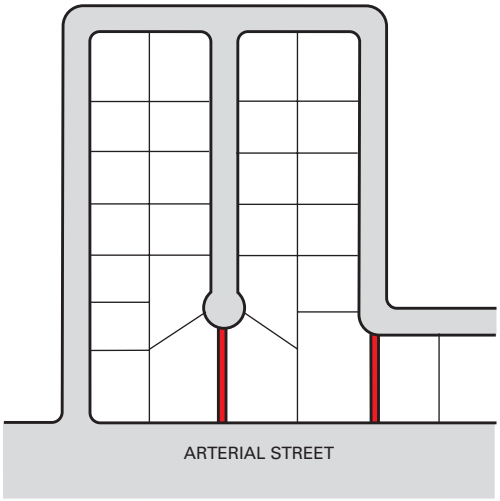
Figure C-3

EXAMPLES OF SITE DESIGNS WHICH FACILITATE BICYCLE AND PEDESTRIAN TRAVEL

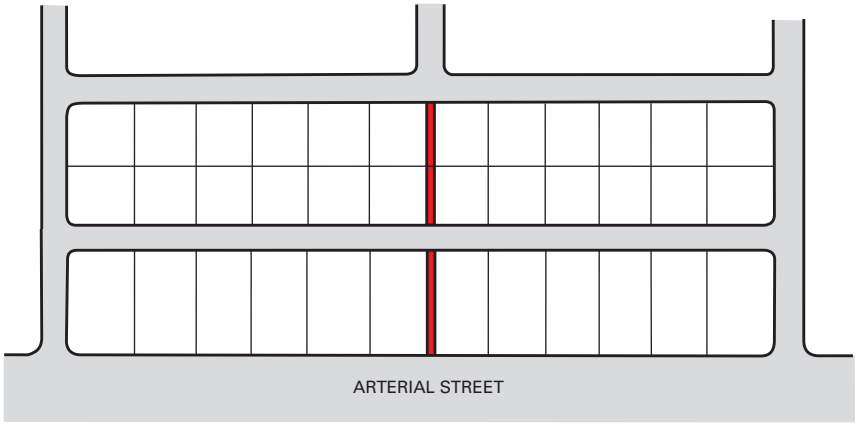
A. BICYCLE AND PEDESTRIAN CONNECTIONS BETWEEN CUL-DE-SAC STREETS



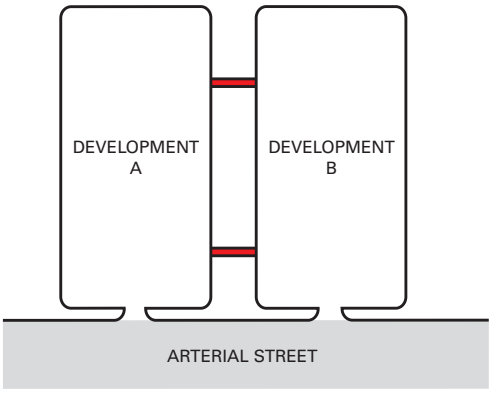
B. BICYCLE AND PEDESTRIAN CONNECTIONS ACROSS BLOCKS



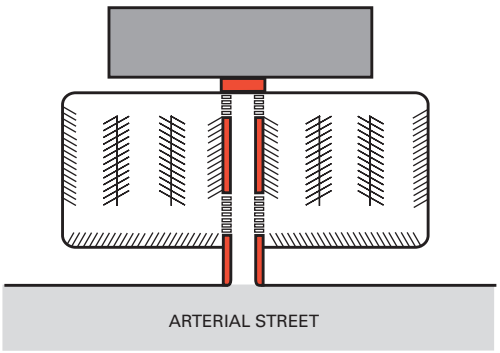
C. BICYCLE AND PEDESTRIAN CONNECTIONS ACROSS LONG BLOCKS



D. BICYCLE AND PEDESTRIAN CONNECTIONS BETWEEN ADJACENT DEVELOPMENTS



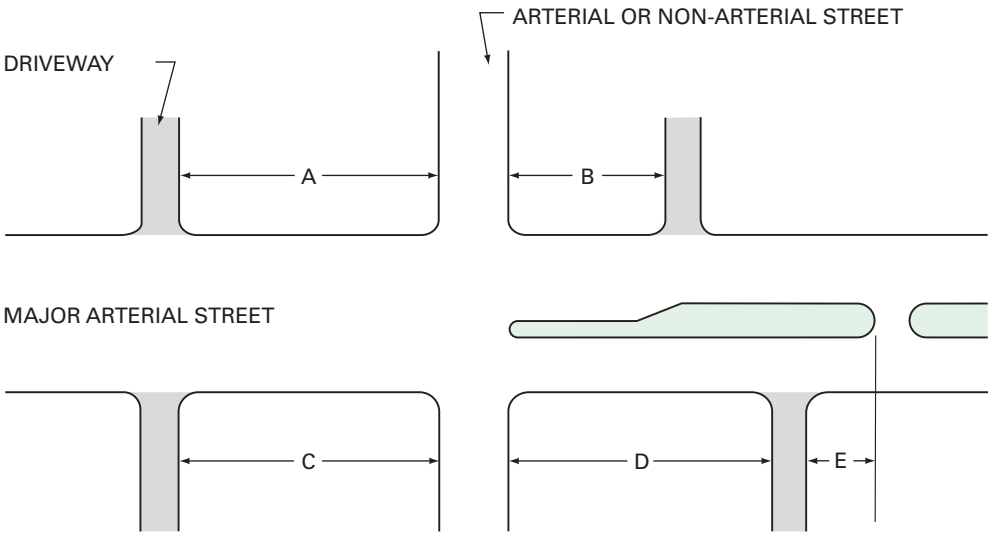
E. DESIGN OF PARKING LOT TO FACILITATE BICYCLE AND PEDESTRIAN ACCESS (WHERE PARKING CANNOT BE LOCATED TO REAR OF BUILDING)



Source: SEWRPC.

Figure C-4

DESIRABLE MINIMUM CORNER CLEARANCES AT SIGNALIZED AND UNSIGNALIZED STREET INTERSECTIONS



INTERSECTION OF MAJOR ARTERIAL AND ARTERIAL/NON-ARTERIAL STREET CONTROLLED BY TRAFFIC SIGNAL

Key	Corner Clearance (feet)
A	230
B	115
C	230
D	230
E	150

INTERSECTION OF MAJOR ARTERIAL AND ARTERIAL/NON-ARTERIAL STREET CONTROLLED BY STOP SIGNS ON ARTERIAL/NON-ARTERIAL STREET

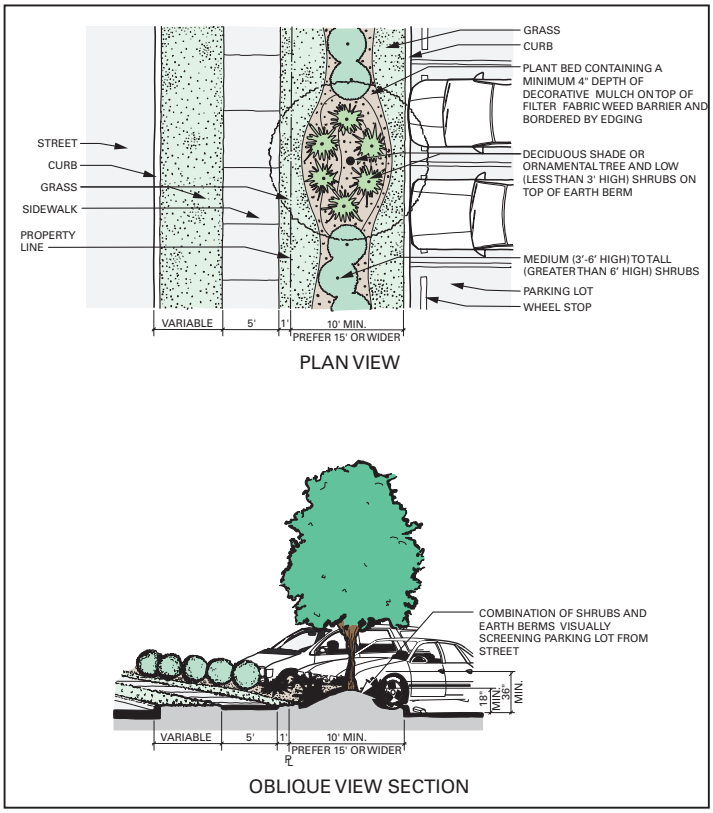
Key	Corner Clearance (feet)
A	115
B	85
C	115
D	115
E	150

Source: Institute of Transportation Engineers and SEWRPC.

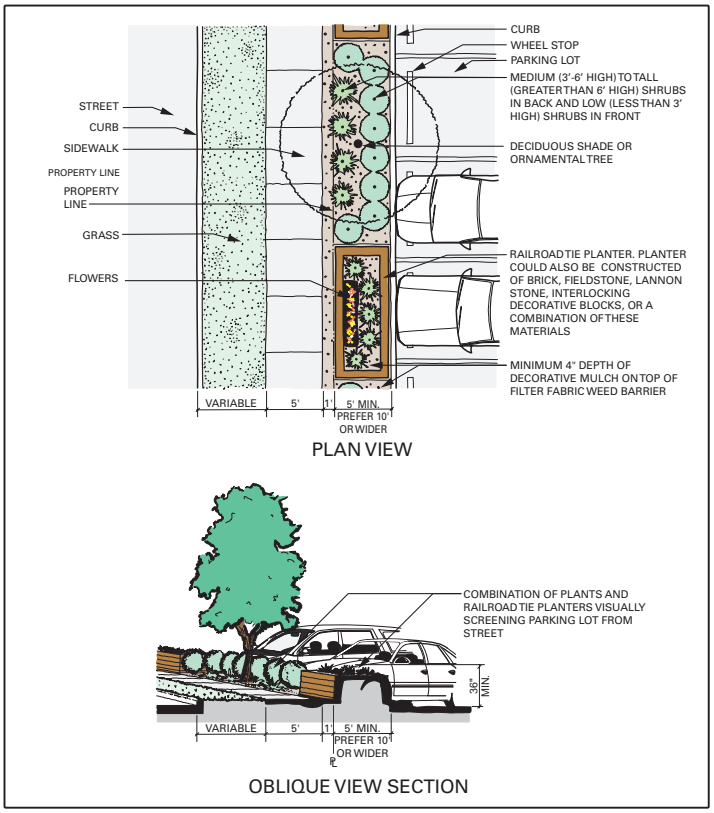
Figure C-5

ALTERNATIVE LANDSCAPING FOR HIGHWAY ACCESS BARRIERS AND PARKING LOT SCREENING

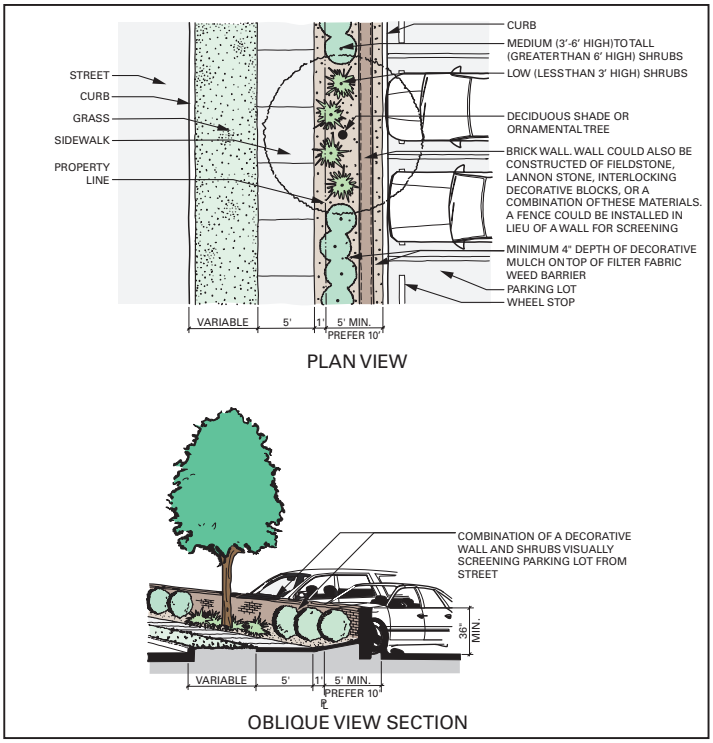
A. SCREENING WITH BERMS AND PLANTS



B. SCREENING WITH PLANTS AND PLANTERS



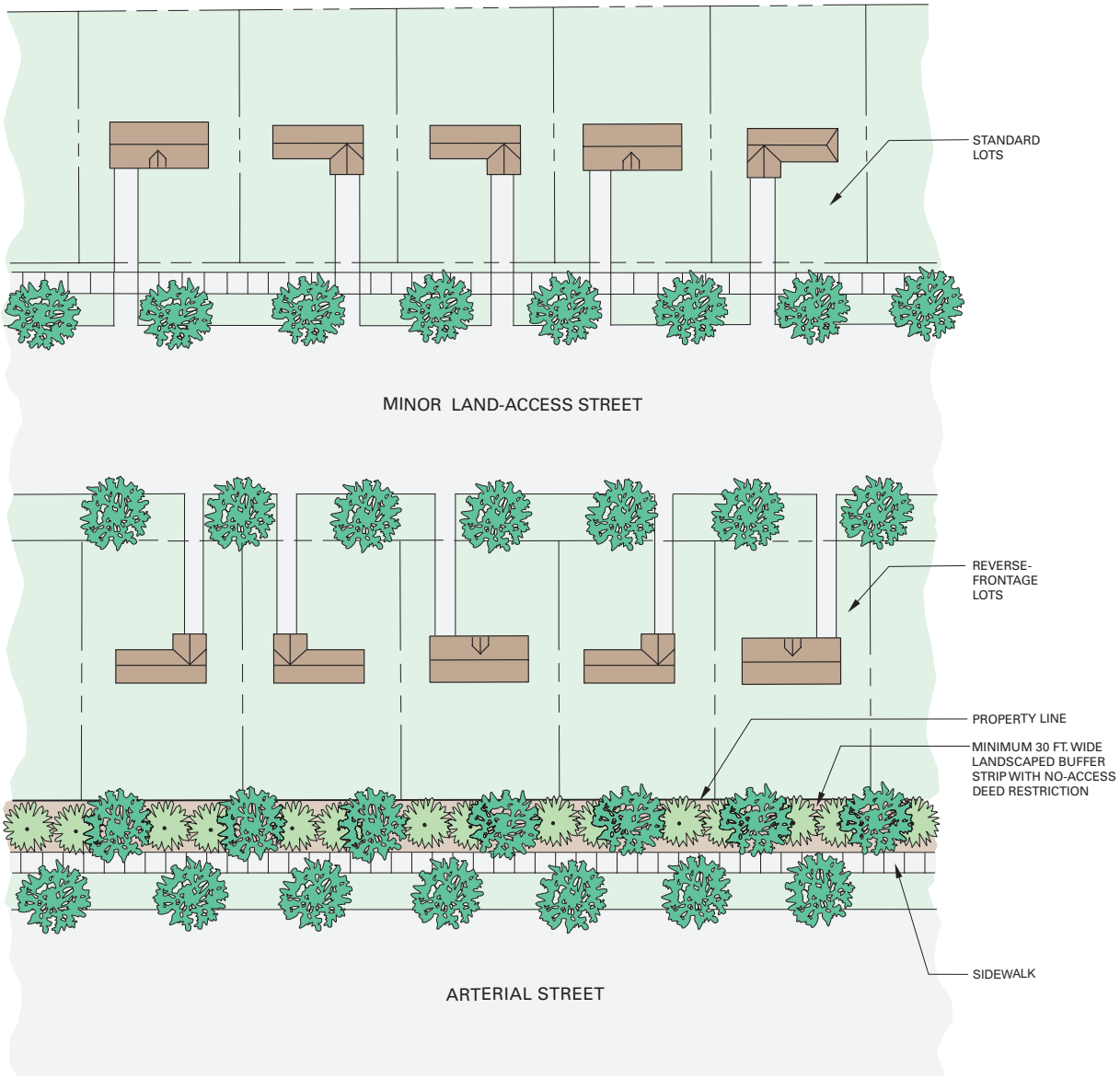
C. SCREENING WITH WALL AND PLANTS



Source: SEWRPC.

Figure C-6

REVERSE-FRONTAGE LOTS TO LIMIT VEHICULAR ACCESS TO ARTERIAL STREETS



Source: SEWRPC.

Looped Land-Access Streets and Shared Driveways/Traffic Aisles

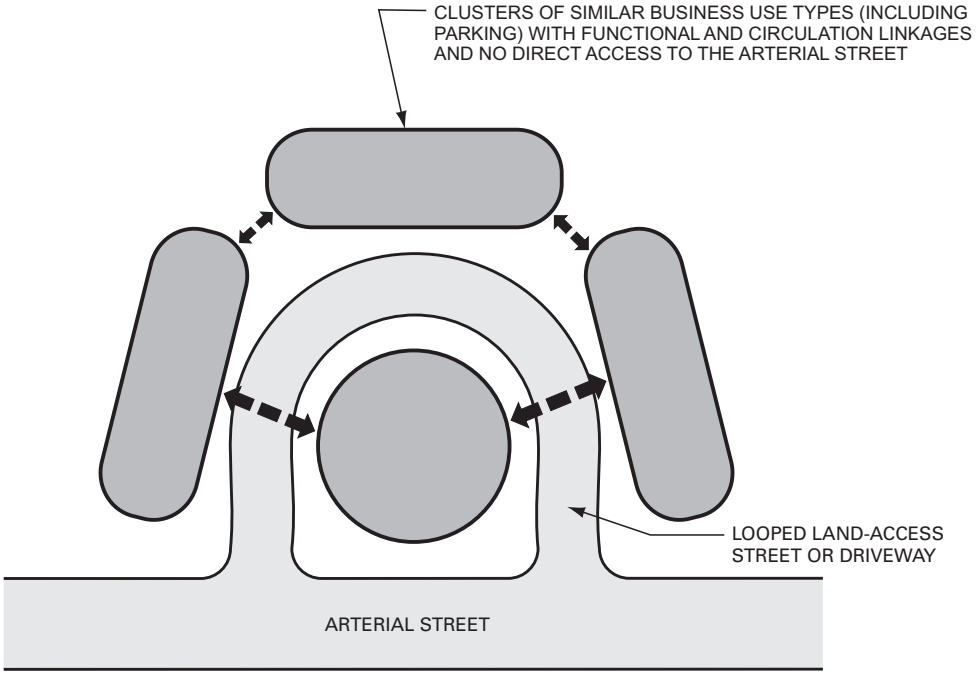
Looped land-access streets and shared drives should be used, when feasible, to help reduce the potential number of driveway intersections along an arterial for commercial areas, as illustrated in Figure C-7. In cases where parking lots are located in the front yard, shared traffic aisles should be used between adjoining compatible uses, such as abutting commercial uses, that are aligned parallel with arterial streets to help reduce the number of access points and vehicles entering onto and exiting off the arterials.

Alignments and Shared-Use of Driveways

Driveways should intersect each other and streets at as nearly right angles as topography and other limiting factors of good design permit. Driveway entrances along both sides of an arterial should be aligned as illustrated in Figure C-8 to help reduce the number of driveways needed and limit some of the confusion caused by unaligned driveways. Also, the use of shared driveways, except for single-family residential uses, and parking lots between

Figure C-7

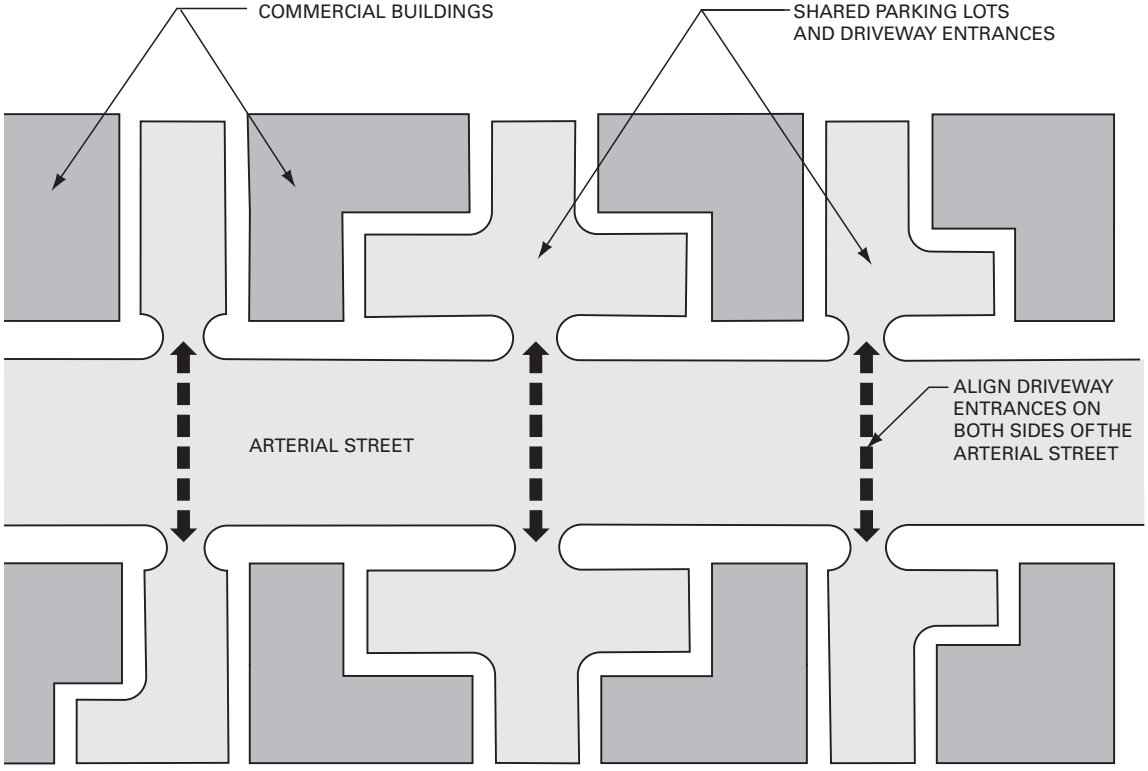
DESIRABLE LOOPING OF DRIVEWAYS AND LAND-ACCESS STREETS IN COMMERCIAL AREAS



Source: SEWRPC.

Figure C-8

DESIRABLE ALIGNMENT AND SHARED USE OF DRIVEWAYS AND PARKING LOTS IN COMMERCIAL AREAS



Source: SEWRPC.

compatible land uses should be promoted, as shown in Figure C-8. In such cases, the driveway centerline may be the property line between two parcels of land or may be a mutually agreed-upon access easement.

Driveway Design for Entering Vehicles

Driveway design along arterial streets should allow an entering vehicle a turning speed of 15 miles per hour to help reduce interference with through arterial street traffic. Driveway design and placement should be coordinated with internal site circulation and off-street parking design so that the driveway entrance to the site can absorb the maximum expected rate of inbound traffic during a normal peak-traffic period. Driveway widths should also be based on the minimum turning radii required for the types of vehicles entering and exiting the site, as illustrated in Figure C-2. In general, driveways should be at least 10 feet wide for one- and two-family dwellings, and 24 feet wide at the right-of-way line for all other uses. In addition, driveway widths should not exceed 24 feet at the right-of-way line and 30 feet at the roadway for residential land uses, and should not exceed 30 feet at the right-of-way line and 35 feet at the roadway for all other land uses. Local officials may determine that a wider opening may be necessary, after a recommendation by the Village Engineer, to prevent a traffic hazard.

Driveway Spacing

Driveway spacing should be determined as a function of street operating speeds. The minimum spacing between access driveways along an arterial street or highway should be determined according to Table C-2. These spacings are based on average vehicle acceleration and deceleration rates and are considered necessary to maintain safe traffic operation.

Maximum Number of Driveways per Parcel

Generally, where abutting street frontage is less than 400 feet along arterial streets and highways, a maximum of one driveway opening may be permitted to a particular site, except reverse-frontage lots, from each of any one or two abutting arterial streets and highways. One additional driveway entrance along a single continuous parcel of land with frontage in excess of 400 feet may be permitted. When a shared driveway is used, it should be considered as a single direct-access driveway.

Traffic Visibility

Sight Distance and Driveway Placement

Direct-access driveway placement on abutting arterial streets and highways should be such that an exiting vehicle will have the minimum unobstructed sight distance listed in Table C-3 for the operating design speed of the abutting arterial street or highway.

Vision Triangles

A vision clearance triangle should be provided in which obstructions, such as structures, vegetation, and parked automobiles, are minimized between the heights of 2.5 and 10 feet above the mean curb grade adjacent to the triangular space formed by intersecting nonarterial street (collector and minor land-access streets) right-of-way lines and a line joining points on such lines at a point 15 feet from their intersection, as shown in Figure C-9. In the case of streets intersecting arterial streets and railways, the corner cutoff distances establishing the vision clearance triangle should be increased to 50 feet, as illustrated in Figure C-9. Vision clearance triangles at intersections with State or County Trunk Highways should meet the vision corner requirements of the State or Waukesha County highway agency that has jurisdiction, but in no case should they be less than those specified in Figure C-9 except in the Village Center where many buildings are on or close to street right-of-way lines. The aforementioned standards may be modified on a case-by-case basis within the Village Center by the appropriate government agency having jurisdiction.

Single-trunk trees and pole signs may be permitted within the vision clearance triangle provided they are located as far away from the intersection as possible and that the bottom of the tree canopy or the sign face is at least 10 feet above the adjacent mean curb grade. Trees, when planted, should be pruned of branches lower than about five

Table C-2

HIGHWAY OPERATING SPEED AND MINIMUM SPACING BETWEEN DIRECT-ACCESS DRIVEWAYS

Highway Speed Limit (mph)	Minimum Spacing (feet)
25	105
30	125
35	150
40	185
45	230
50	275

Source: American Planning Association and the Wisconsin Department of Transportation.

Table C-3

HIGHWAY DESIGN SPEED AND MINIMUM REQUIRED SIGHT DISTANCE FOR DIRECT-ACCESS DRIVEWAY PLACEMENT

Highway Design Speed (mile per hour)	Minimum Sight Distance (feet)	Desirable Sight Distance (feet)
30	200	200
35	225	250
40	275	325
45	325	400
50	400	475

Source: American Association of State Highway and Transportation Officials and the Wisconsin Department of Transportation.

feet above grade; thereafter, all trees should be pruned of branches below 10 feet, when feasible, in relation to tree size as it grows. Open fences with less than 25 percent opaqueness and necessary utility poles and traffic, directional, and street name signs may also be allowed; however, any proposed objects within the clearance triangle should be coordinated with the government agency having jurisdiction.

Blocks

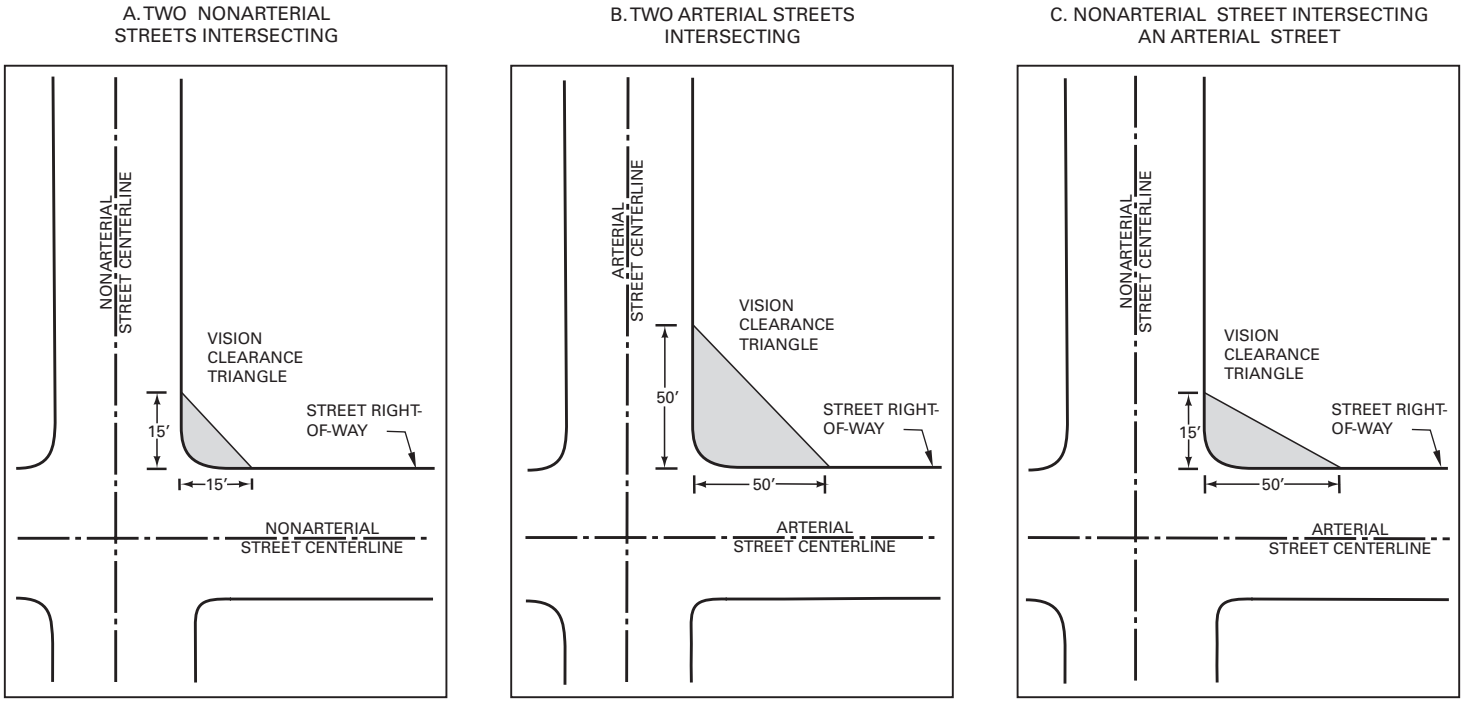
General

The widths, lengths, and shapes of blocks should be suited to the planned use of the land; subdivision ordinance requirements; the need for convenient access, control, and safety of street traffic; and the preservation of and minimal adverse impact upon natural resource features, including the limitations and opportunities provided by topography.

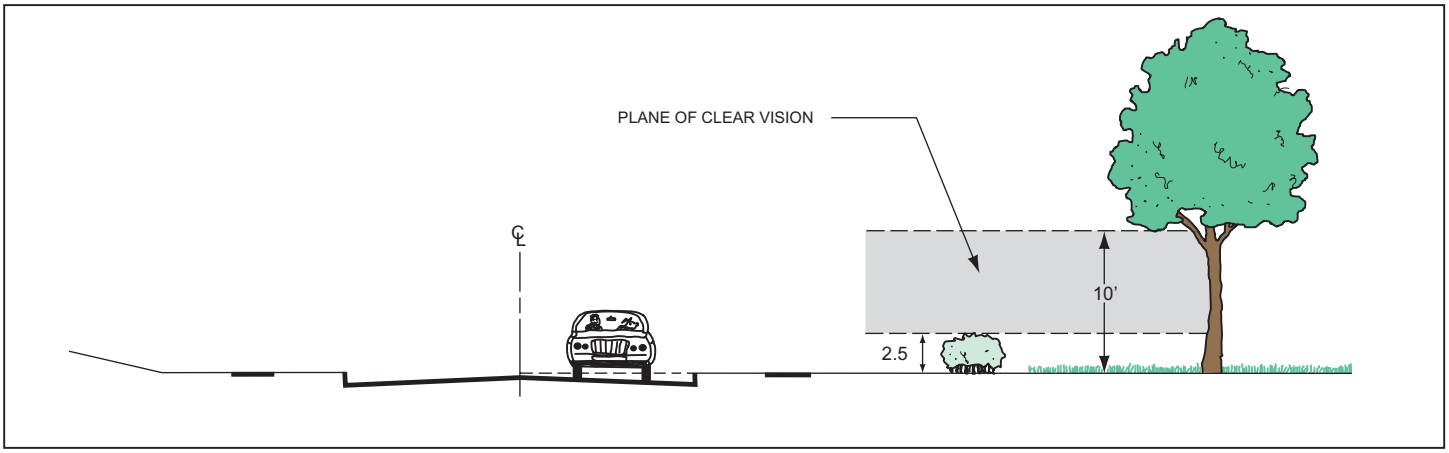
Figure C-9

VISION CLEARANCE TRIANGLES

PLAN VIEWS



CROSS-SECTION VIEW



Source: SEWRPC.

Length

Blocks in residential areas should not be less than 600 feet nor generally more than 1,500 feet in length unless otherwise dictated by the preservation of natural resource features, including exceptional topography or other limiting factors of good design.

Mid-Block Bicycle and Pedestrian Ways

Bicycle and/or pedestrian ways should be provided near the center and entirely across any block exceeding 900 feet in length to provide adequate pedestrian and bicycle circulation and access to schools, parks, shopping centers, churches, or transportation facilities. Bicycle and pedestrian ways should consist of easements or dedicated rights-of-way at least 20 feet in width. Pavement widths of at least five feet, or wider depending on the type and volume of users, should be provided, as indicated in Figure C-1.

Width

Blocks should be wide enough to provide for two tiers of lots of appropriate depth except where a single tier of lots may be necessary to separate developments from through traffic, such as with reverse frontage lots, or to protect and preserve natural resources.

Lots

General

The size, shape, and orientation of lots should be appropriate for the location of a proposed subdivision, for the preservation of natural resources, and for the type of development and use contemplated. The lots should be designed to provide an aesthetically pleasing building site and a proper architectural setting for the building contemplated.

Side Lot Lines

Unless justified by the configuration and preservation of natural resource features, side lot lines should be at right angles to straight street lines or radial to curved street lines on which the lots face. Lot lines should follow municipal boundary lines rather than cross them.

Double-Frontage Lots

Double-frontage, or "through," lots should be prohibited, except where necessary to provide separation of development from arterial traffic, as shown in Figure C-6, or to overcome specific disadvantages of topography and orientation.

Access

In general, every lot should front or abut a public street.

Lot Size

Lot sizes should contain sufficient area to adequately accommodate buildings, parking, landscaping, screening, and all required yards. Area and dimensions of all lots should conform to the requirements of the Village zoning ordinance.

Lot Depth and Proportion

It is recommended that the depth of new lots should generally be at least 120 feet. Normal lot depths should be increased relative to the width of any buffer strips provided along abutting arterial streets, highways, and railways. In certain cases, the depth should be increased to accommodate shared land-access road or traffic aisles between adjoining compatible uses and aligned parallel with arterial streets to help reduce the number of access points along arterials. Excessive depth of lots in relation to width should be avoided whenever possible unless justified for the preservation of natural resources; a proportion of two-and-one-half to one (2.5:1) is suggested as a maximum depth-to-width ratio. Flag lots, easements, and other lot stacking techniques should be avoided whenever possible, unless necessary to preserve natural resources or overcome specific disadvantages of topography and/or orientation.

Lot Width

Lots within the interior of a block should have a width at the building setback line that conforms to the Village zoning ordinance. In general, required minimum lot widths should be increased if a utility easement, bicycle way, pedestrian way, or a landscaped buffer strip is provided.

Corner Lots
Corner lots should have an additional width of at least 20 feet to permit adequate building setbacks from side streets.

Commercial Spatial Considerations

Commercial Business Clustering
Businesses with similar characteristics should form commercial clusters versus strips within proximity of one another in order to better define identifiable commercial areas for the user, provide functional linkages of similar business types, and provide circulation linkages for vehicular, bicycle, and pedestrian traffic. Businesses may be located so as to form the following three general types of clusters:

1. *Shopping center retail sales and services,* characterized by onsite parking for customer automobiles and a pedestrian-oriented shopping environment. Uses in this category would include general merchandise stores, food stores, apparel and accessory stores, drug stores, department stores, gift shops, cleaners, barbers and hairdressers, banks and savings and loan institutions, and restaurants (other than drive-in or drive-through).

2 *Automobile-oriented retail sales and services,* characterized by sales and services to commercial customers in the automobile. These types of commercial uses are not pedestrian oriented. Uses in this category include gasoline stations, automobile sales and service, car washes, drive-in banking, drive-in/drive-through restaurants, hotels, motels, and "big-box" retail stores.

3. *Offices,* including professional offices, medical offices, dental offices, clinics, and printing and photo reproduction services.

Traffic Circulation Between Adjacent Properties
Provision for traffic circulation between adjacent commercial uses should be provided through coordinated access drives, shared parking lots, and interconnecting bicycle and pedestrian ways, as shown in Figures C-3, C-7, and C-8.

Onsite Vehicular Circulation
The vehicular circulation system within and around individual commercial parcels should be developed so as to provide easy access to parking facilities from the larger community without lessening the safety or capacity of arterials. Conflicts between vehicles and pedestrians should be avoided where possible and, where conflicts cannot be totally avoided, conflicts should be minimized. Also, delivery and service circulation patterns on the site should not conflict with customer circulation.

Onsite Queued Vehicle Storage
Sufficient onsite space should be provided to accommodate at least three queued vehicles waiting to park or exit the parking lot without utilizing any portion of the arterial street right-of-way or interfering with arterial street traffic and safety. For drive-through services, queuing area to accommodate at least seven vehicles should be provided onsite.

Onsite Service and Loading Areas
Service and loading areas should be located for convenient service vehicle access. Service and loading areas should not conflict with pedestrian or general vehicular traffic in the area. Also, service and loading areas should be screened or located in the rear of buildings to shield them from view by the public and customers.

Parking Lots

Number of Parking Spaces

Parking spaces should be provided in sufficient number to meet the applicable zoning requirements. Reserved parking stalls should be provided for the physically disabled pursuant to the Americans with Disabilities Act and Section 346.503 of the *Wisconsin Statutes*. When warranted, adjustments to the minimum number of parking spaces required should be allowed to avoid constructing unneeded and excessive impervious surfaces in areas that could otherwise be preserved or converted to landscaped open space.

Parking Lot Location

Parking lots should be sited to minimize walking distances to the facility the parking lot is serving. Parking spaces for the disabled should be located as close as possible to a building entrance which allows such persons to enter and leave the parking area without assistance and, if possible, without crossing traffic lanes or passing behind other parked vehicles.

Parking Lot Dimensions

Minimum design dimensions for parking lots are shown in Figure C-10. Dimensions for handicapped parking spaces should comply with those established in the Americans with Disabilities Act.

Parking Lot Drive Width

Parking lot drives should have a minimum width as specified in Figure C-10 based on the parking space angle and whether the drive or traffic aisle will accommodate one- or two-way traffic.

Surfacing

All traffic aisles and off-street parking lots should be graded and hard-surfaced with concrete or asphalt so as to be dust-free and properly drained. Parking areas for five or more vehicles should have the aisles and parking spaces clearly marked in order to distinguish between parking stalls and vehicular circulation areas.

Parking Visibility from Arterial Streets

Parking lots should be partially visible from an adjoining arterial street or highway, have clearly marked entrances and exits, and be visually distinguishable from public rights-of-way. Parking lots with spaces perpendicular to arterial street rights-of-way and with direct access to the right-of-way without a service drive should be prohibited.

Curbs and Barriers Near Structures and Lot Lines

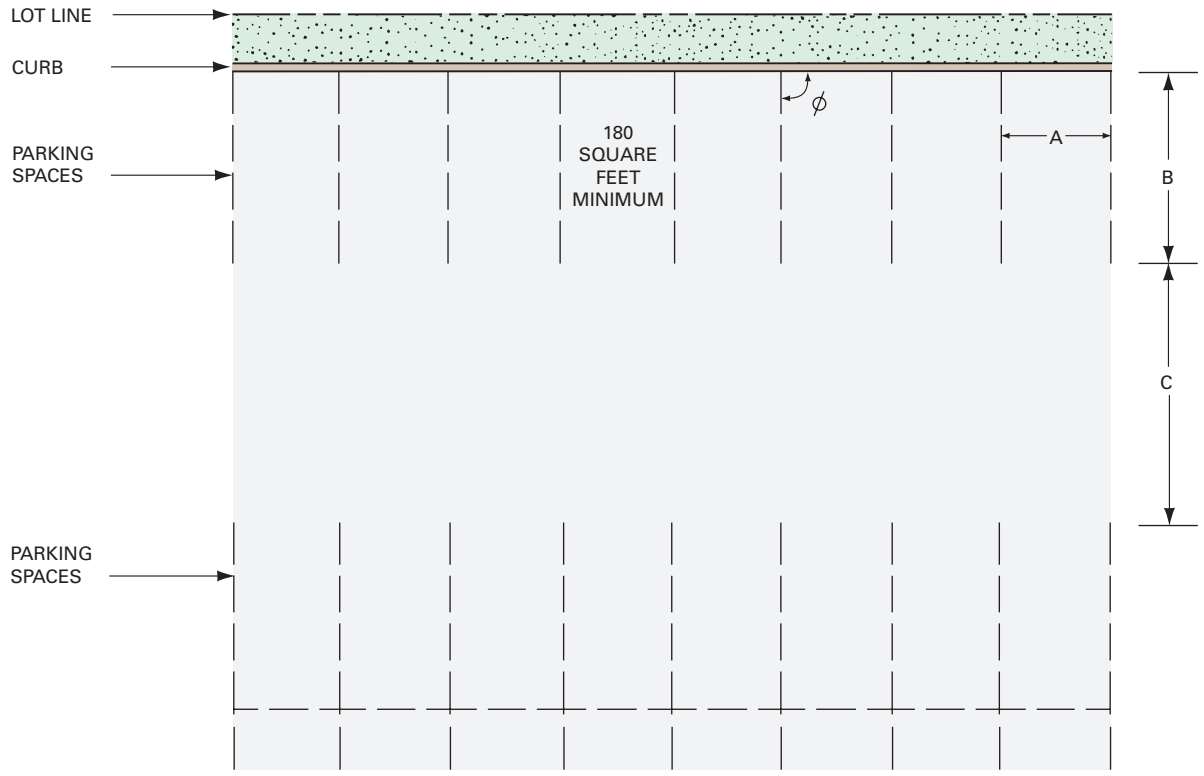
Curbs or barriers should be installed a minimum of five feet, and preferably 10 feet, from structures and property lines to prevent parked vehicles from damaging structures or from extending over lot lines and sidewalks. In addition, adequate space should be provided for landscaping and visual screening which would further help prevent vehicles in off-street park areas from directly backing onto public sidewalks and streets.

Parking Lot Lighting

Parking lot lighting should serve four purposes. First, the lighting should provide for the safe movement of pedestrian and vehicular traffic. Second, it should aid in the provision of an environment which promotes security and crime prevention. Third, the lighting should aid in creating an aesthetically pleasing environment at nighttime, as well as during the daylight hours. Fourth, the lighting for commercial parking lots should assist in promoting the use of commercial facilities both day and night.

Figure C-10

SUGGESTED DESIGN DIMENSIONS FOR PARKING LOTS AT VARIOUS ANGLES



Design Dimensions (feet)	Key	Degrees (ø)				
		0	30	45	60	90
Stall Width	A	9	10	10	10	10
Stall Length	B	22	18	18	18	18
Aisle Width	C	12	12	12	16	24[a]

[a]*Two-way aisle.*

Source: SEWRPC.

Parking lots should be lit to meet current standards issued by the Illuminating Engineering Society of North America (IESNA),[3] which ranges from 0.2 to 2.0 footcandles based on the type of use the parking lot is serving as well as the extent of desired security. All outside lighting should be arranged and shielded to prevent glare, reflection, nuisance, inconvenience, or hazardous interference of any kind on, to, or with adjoining streets or residential properties. The intensity of illumination should not exceed 0.5 footcandles at property lines. In general,

[3]*Lighting standards should be based on the most recent edition of IESNA Document RP-20,* Lighting for Parking Facilities. *The recommended illumination values provided are meaningful only when used in conjunction with other elements. The most critical elements are luminaire mounting height, spacing, transverse location of luminaries, luminaire selection, traffic conflict areas, border areas, transition lighting, alleys, and roadway lighting layouts.*

light poles for parking lots should not exceed 25 feet in height and should be placed at least four feet from tire-stops or paved areas, or protected by other approved means. All wiring should be placed underground.

Landscaping

General

A landscape design for a site should be integrated with the overall site plan and consistent with the desired community character, and not be considered merely as an afterthought. Landscaping enhances the overall attractiveness of a community and contributes to the general welfare of the public by providing shade, shelter, and screening. Plants selected for use in the urban environment, such as in parking lots and along streets, should be salt-tolerant. Decorative mulch, such as stone or shredded hardwood bark, with underlying filter fabric weed barrier should be used in lieu of turf grass where heavy pedestrian and vehicular traffic is present or where the availability of water is limited. If such grass is proposed in landscaped areas, it should be properly maintained and protected from pedestrian and vehicular traffic, otherwise an "all-weather" surface material should be used, such as decorative pavement surface or stone mulch with underlying weed barrier. Excessive pavement of open space areas with hard-surface materials such as asphalt or concrete should be discouraged. Flower beds should only be provided if provisions are made for proper maintenance. Berms are beneficial for plants especially if more suitable planting soil is placed above areas containing poor soil and drainage. Invasive plants identified in Appendix D should not be used in landscaping. The finished side of proposed fences should face the street or neighboring property with the supporting structural components of the fence facing away from adjacent streets or properties. In addition, any proposed landscaping should recognize traffic safety requirements including those for sight distances, vision triangles, and vehicular recovery areas.

Natural native plants, including prairie grass and wildflowers, should be used in areas of steep topography, along rural roadways, and in designated "natural" areas of parks and greenways to preserve or achieve a natural appearance while reducing maintenance cost. To preserve water supply, natural landscaping and xericscaping—a landscape arrangement with plants that require minimal water—should be encouraged.

Existing Vegetation

Every effort should be made to protect and retain existing native trees, shrubbery, vines, and grasses not actually lying in public streets, drainageways, paths, and trails. Removal of existing vegetation should be minimized and, when permitted, cutting and clearing should be conducted so as to prevent erosion and sedimentation and to preserve and improve scenic qualities. Existing invasive plants identified in Appendix D, however, should be removed provided that wholesale clearing in the absence of a detailed restoration plan does not result with attendant problems of bare ground and erosion. Trails constructed in environmentally sensitive areas should be designed so as to result in the least removal and disruption of vegetation with minimal impairment to the natural beauty of the area. Trees should be protected and preserved during construction as illustrated in Figure C-11 and in accordance with sound tree conservation practices, including the use of wells, islands, or retaining walls whenever abutting grades are altered. Special consideration should be given to preventing soil compaction and stockpiling of soil or construction materials in existing tree root zones, even if such placement is temporary.

Wind and Landscape Planting

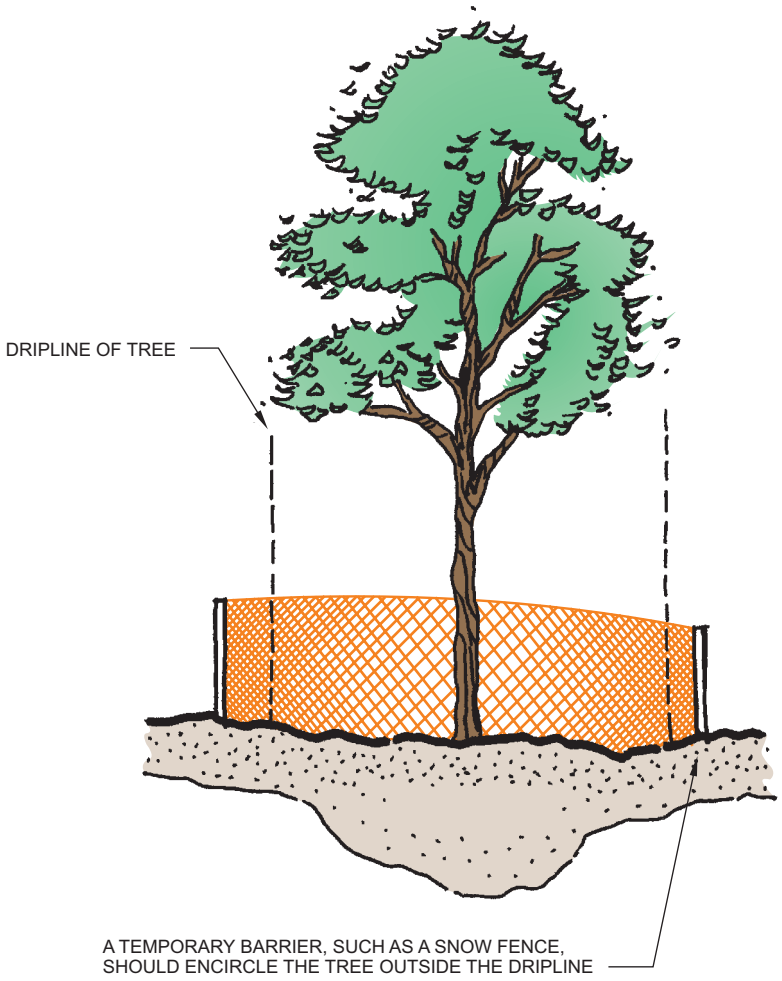
Landscaping should be provided to minimize winter wind and to promote summer wind effects on structures. Winter wind protection is afforded by providing landscaping of an adequate height on the west side of buildings. An optimum distance between a windbreak and a building is approximately twice the height of the windbreak. A windbreak consisting of two rows of coniferous trees is nearly optimal for efficiency, and additional rows would not significantly increase its effectiveness as a windbreak. Figure C-12 illustrates the concept.

Noise and Landscaping

Groups of trees, shrubs, and other landscape masses, such as earth berms or ornate solid fences and walls, can serve as noise barriers and should be utilized where noise could create problems for neighboring land uses. Such landscaped noise barriers are most effective when the barrier is near the noise source or receiver.

Figure C-11

PROTECTION OF EXISTING TREES



Source: SEWRPC.

Solar Access and Landscape Planting

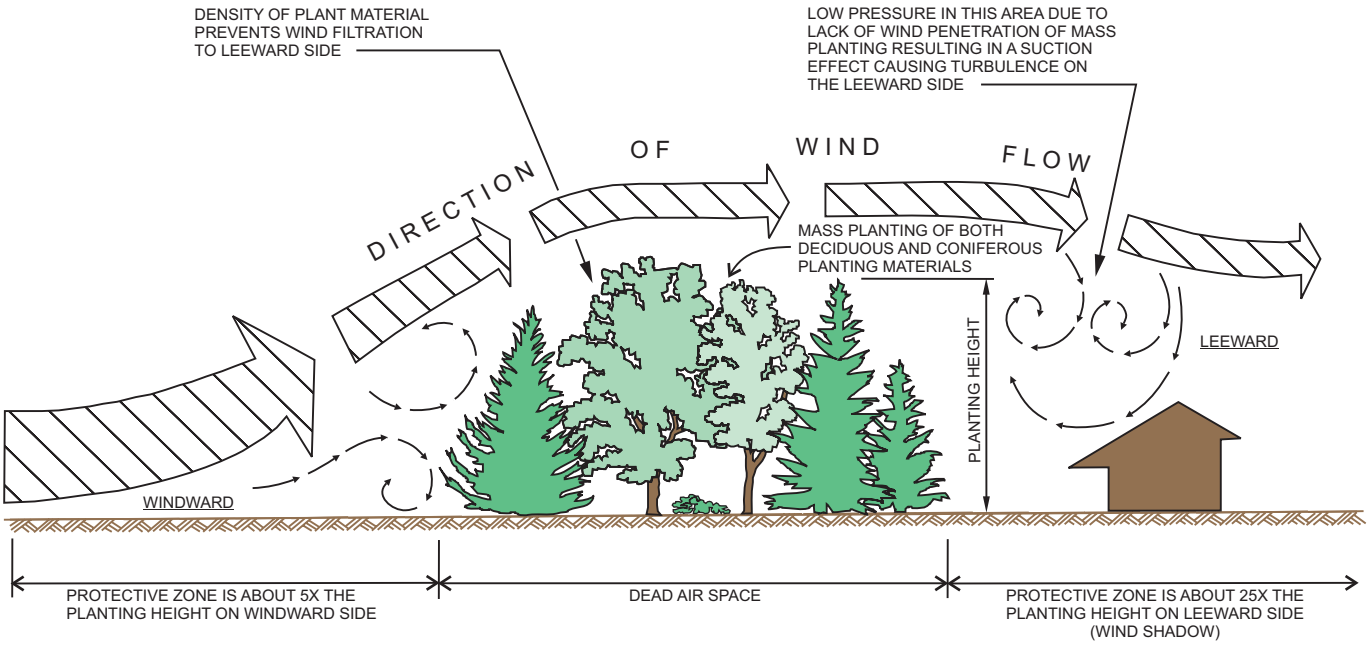
With respect to solar access, plants installed to the south of structures should be deciduous species with a broad branching habit and open twig patterns that would provide shading in the summer and permit sunlight through the branches in the winter. Figure C-13 illustrates these concepts.

Selection of Landscape Plants

Trees and shrubs, meeting the most recent edition of the American Standard for Nursery Stock, should be planted at appropriate intervals along public rights-of-way, adjacent to buildings, and in other designated onsite planting areas. The type of planting should be determined by the topographic features and microclimate of the site. The spacing of plants should be determined by soil conditions, land use, terrace width, utility locations, and design theme. Appendix E sets forth the species characteristics of various trees, shrubs, ornamental grasses, groundcovers, and vines to aid in the selection of landscape plantings based, in part, upon species hardiness to environmental conditions. For regulatory purposes, Appendix E also recommends desirable sizes and spacing of certain plant species to be used for buffering or screening. The installation of flowers are encouraged if properly maintained; otherwise, groundcover or ornamental grasses could be used, which require little maintenance.

Figure C-12

LANDSCAPING FOR PROTECTION FROM WIND

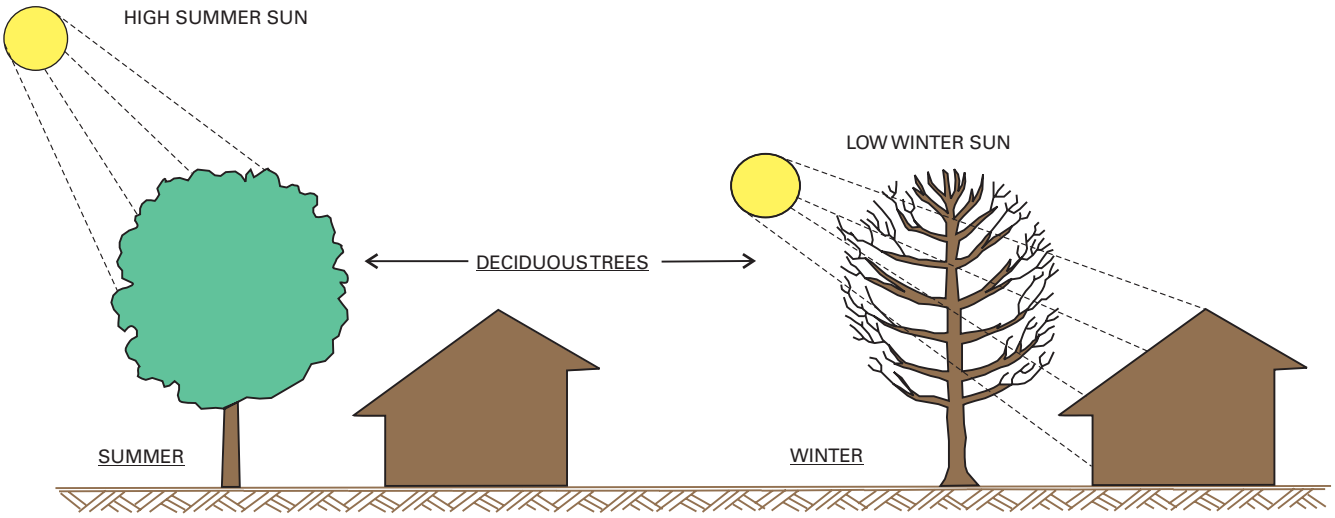


A MASS PLANTING OF LANDSCAPE MATERIALS, INCLUDING BOTH DECIDUOUS AND CONIFEROUS VARIETIES, CAN DECREASE THE WIND VELOCITY ABOUT FIVE TIMES THE PLANTING HEIGHT ON ITS WINDWARD SIDE AND ABOUT TWENTY-FIVE TIMES ITS HEIGHT ON THE LEEWARD (WIND SHADOW) SIDE OF THE MASS PLANTING.

Source: SEWRPC.

Figure C-13

DECIDUOUS LANDSCAPE PLANTING AND SEASONAL SOLAR ACCESS

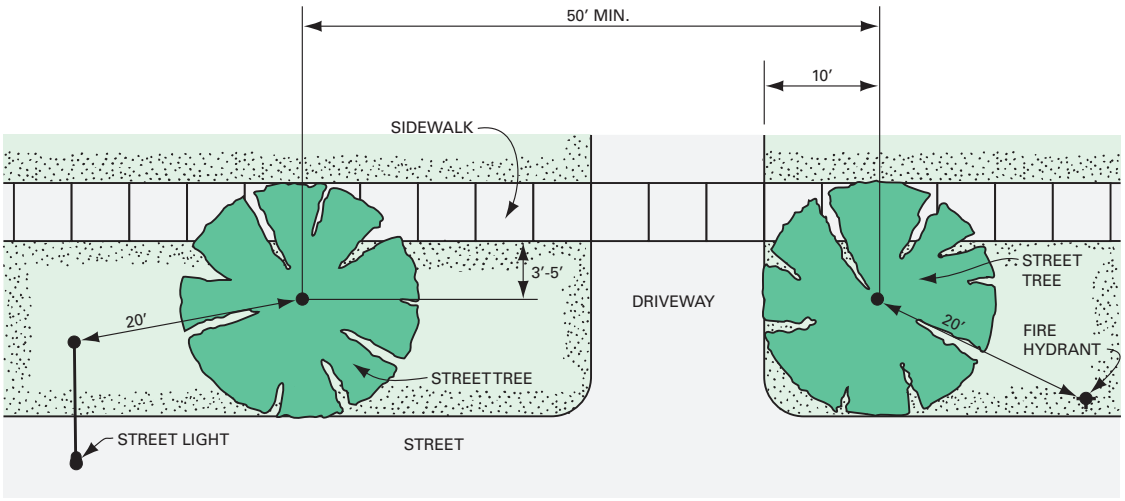


GENERALLY, LANDSCAPE PLANTINGS TO THE SOUTH OF STRUCTURES SHOULD BE BROAD, DECIDUOUS SPECIES WITH OPEN TWIG PATTERNS, AFFORDING THE PASSAGE OF LIGHT THROUGH THE BRANCH STRUCTURE IN THE WINTER. THE CHOICE OF DECIDUOUS PLANTINGS SHOULD BE MADE SINCE THEY DROP THEIR LEAVES IN THE FALL AND ALLOW LOW WINTER SUN TO PENETRATE THEIR BRANCHING STRUCTURE. IN THE SUMMER, THE DECIDUOUS PLANTINGS CAN ALSO PROVIDE SUN SHADING OF THE STRUCTURE, THUS LOWERING UNWANTED SUMMER HEAT GAIN.

Source: SEWRPC.

Figure C-14

MINIMUM STREET TREE PLANTING DISTANCES IN PUBLIC RIGHTS-OF-WAY



Source: SEWRPC.

Street Trees

Street trees should be provided along public rights-of-way to reduce air temperature by providing shade, and reduce air pollutants by converting carbon monoxide to carbon dioxide. Appendix F provides a list of trees that may be used as street trees. A minimum of one deciduous shade tree of at least two inches in diameter measured at 4.5 feet above ground level, about chest height, and meeting the American Association of Nurserymen's Standards for nursery stock should be planted for each 50 feet of street frontage. Trees may be planted closer together than suggested in Appendix F depending on the type of tree selected, the desired design effect to be achieved, and the amount and quality of growing space provided for the root system. Existing healthy trees that are noninvasive and properly preserved should be allowed to fulfill the Village's street tree requirement. Figure C-14 shows the minimum distances a street tree should be located from certain physical features within a street right-of-way.

Street Terraces

Sidewalks located immediately adjacent to motor vehicle travel lanes discourage pedestrian travel because of the perception of hazard. A landscaped or surfaced area (i.e. brick-paved street edge), referred to herein as a "terrace", should be provided between the curb or edge of pavement and the inside edge of sidewalks to provide separation between motor-vehicles and pedestrian traffic. Terraces provide a more pleasant pedestrian environment by permitting an area off the sidewalk for benches, street lights, sign posts, utility poles, refuse containers, and other street furniture; provide an area for street trees and other landscaping; allow driveway aprons to be located outside of the sidewalk area; provide additional area for snow storage; and reduce splashing of pedestrians by passing motor vehicles operating on wet pavements. Terraces that are to contain trees should be at least six feet wide, preferably 10 feet or wider, to allow sufficient space for the root system while minimizing damage to adjacent pavements, especially sidewalks. If the terrace is 15 feet or wider, trees may be staggered instead of arranged in a linear row. Generally, large street trees should not be planted in terraces less than four feet wide unless a tree grate or other methods are provided and/or a landscape device is used to control the lateral growth of the root system in certain locations, especially near sidewalks. Precaution should be taken when placing trees near utility lines.

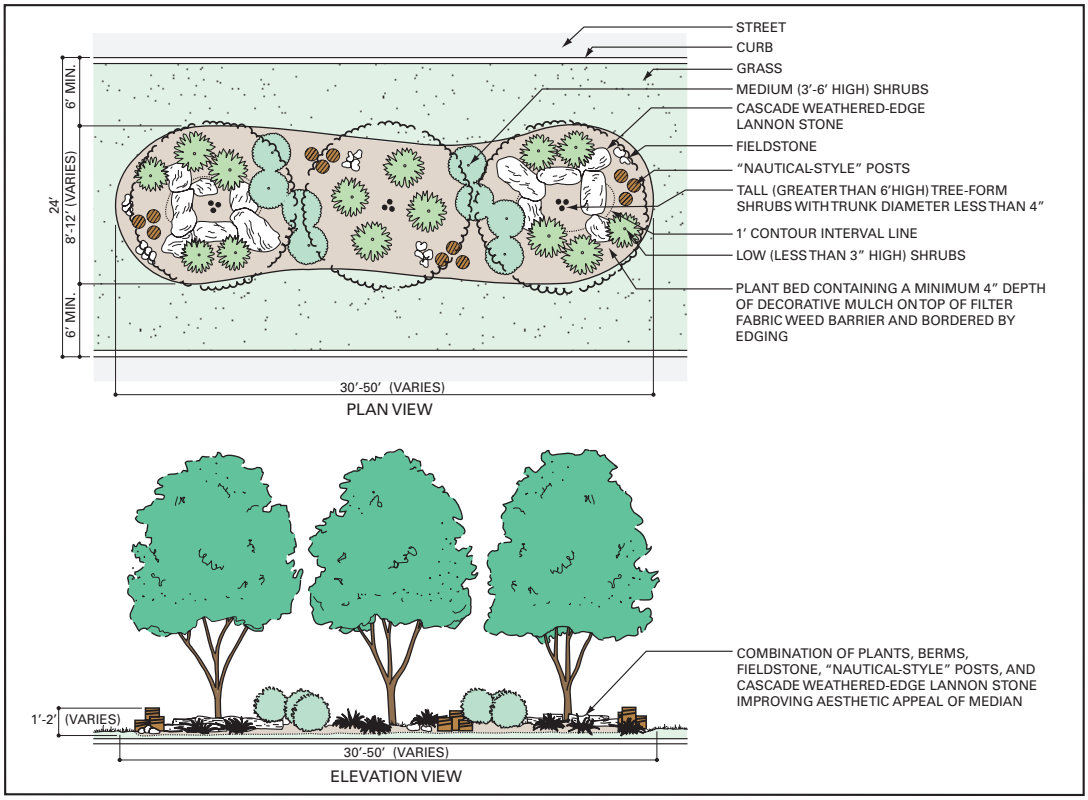
Median Landscaping

While recognizing traffic visibility requirements, large elevated plant beds, such as those shown in Figure C-15, should be provided in all raised street medians to dramatically improve the streetscape of the community. Landscaping in state trunk highway rights-of-way requires a permit from the Wisconsin Department of

Figure C-15

ALTERNATIVE LANDSCAPE BEDS FOR HIGHWAY MEDIANS

A. LANDSCAPING WITH BERMS, POSTS, STONES, AND PLANTS



B. LANDSCAPING WITH PLANTERS AND PLANTS

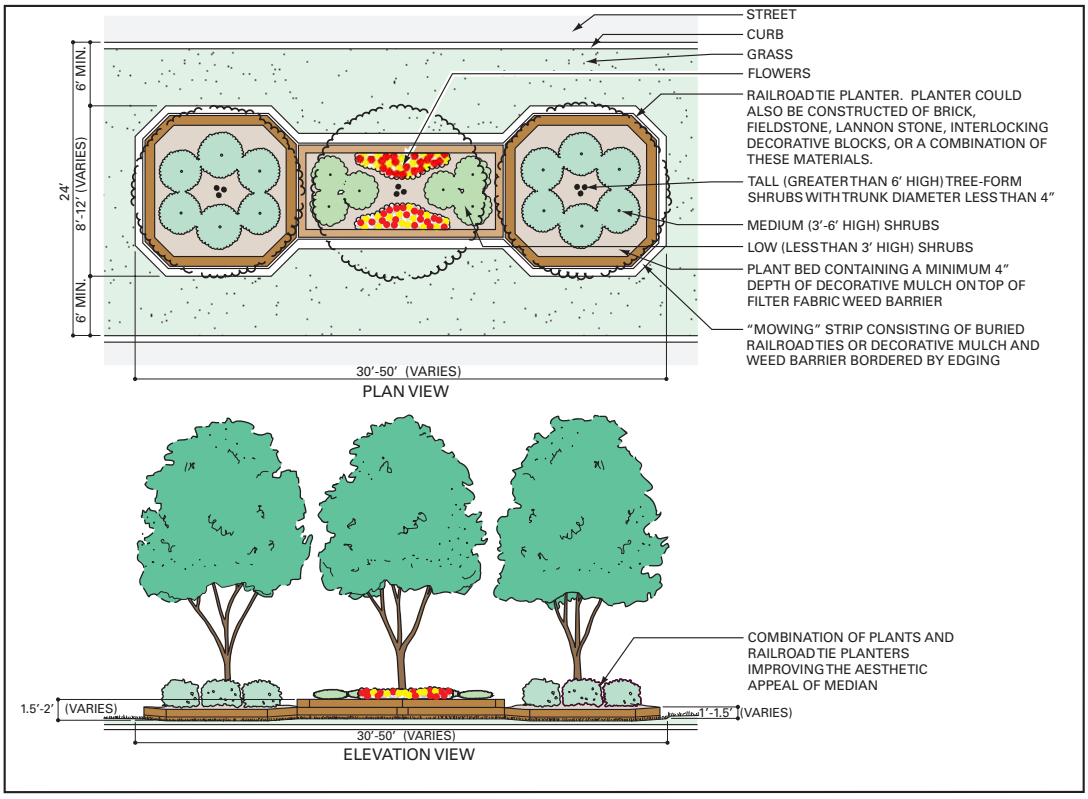
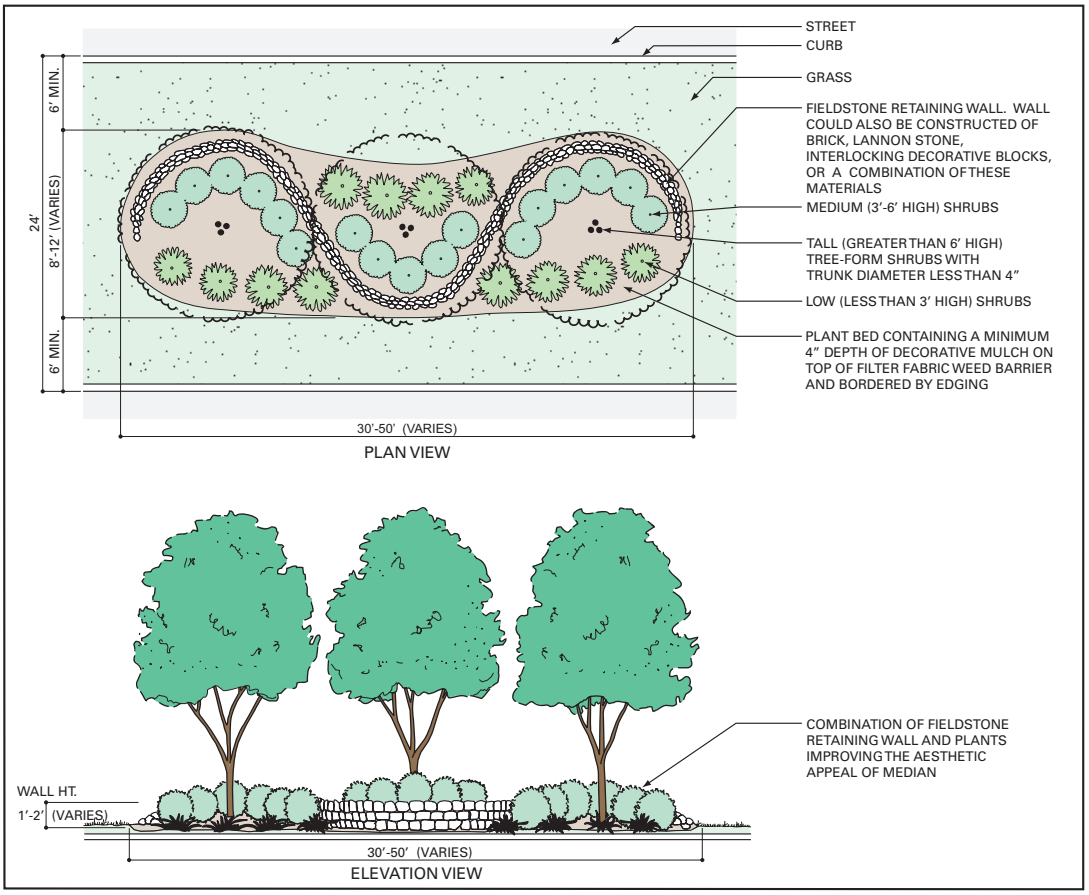


Figure C-15 (continued)

C. LANDSCAPING WITH FIELDSTONE WALL AND PLANTS



Source: SEWRPC.

Transportation (WisDOT). WisDOT permits plants with a trunk diameter of four inches or greater in the tree banks alongside highways with low speed limits, but prohibits such plant sizes in the medians. Tall shrubs shaped into a tree form, instead of large deciduous trees, could provide some vertical accent in the highway medians, as illustrated in Figure C-15. If WisDOT was to grant a special exception to its requirement and permit plants that would grow to a trunk diameter of four inches or greater in the medians, then deciduous shade or ornamental trees could be used in lieu of the tree-form shrubs.

Raised medians four feet or less in width should not be comprised of asphalt, but should contain either ornate concrete or, preferably, decorative masonry pavement, or even flowers and ornamental grasses if properly maintained. Raised channelizing islands should also consist of decorative brick and not unattractive plain asphalt, since they may serve as a safe haven for pedestrians waiting to cross busy streets. As an alternative, such medians may contain a mixed brick and concrete masonry pattern or a color-stamped concrete or asphalt pattern.

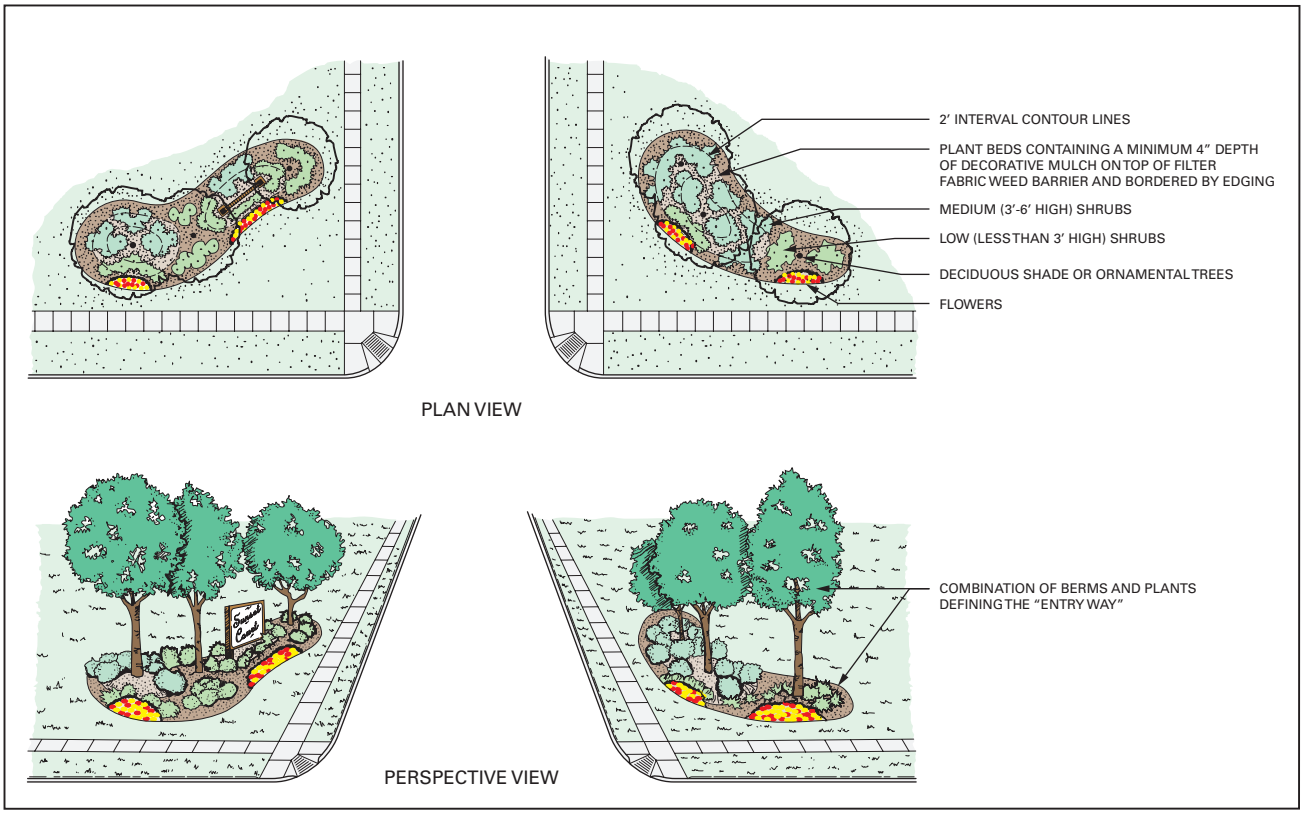
"Gateway" or Main "Entryway" Landscaping

Main "entryways"—sometimes referred to as "gateways"—into parks, residential neighborhoods, historic districts, village centers, and business or industrial centers should be well-defined with attractive landscaping and signs to provide a sense of identity as well as direction. Collector and minor land-access streets functioning as main entrances into residential neighborhoods and business or industrial parks should contain an attractive entryway that may consist of landscaped boulevard-type street entrance. Proper design and maintenance of

Figure C-16

ALTERNATIVE LANDSCAPING FOR MAIN "ENTRYWAYS"

A. LANDSCAPING WITH BERMS AND PLANTS



B. LANDSCAPING WITH RETAINING WALLS AND PLANTS

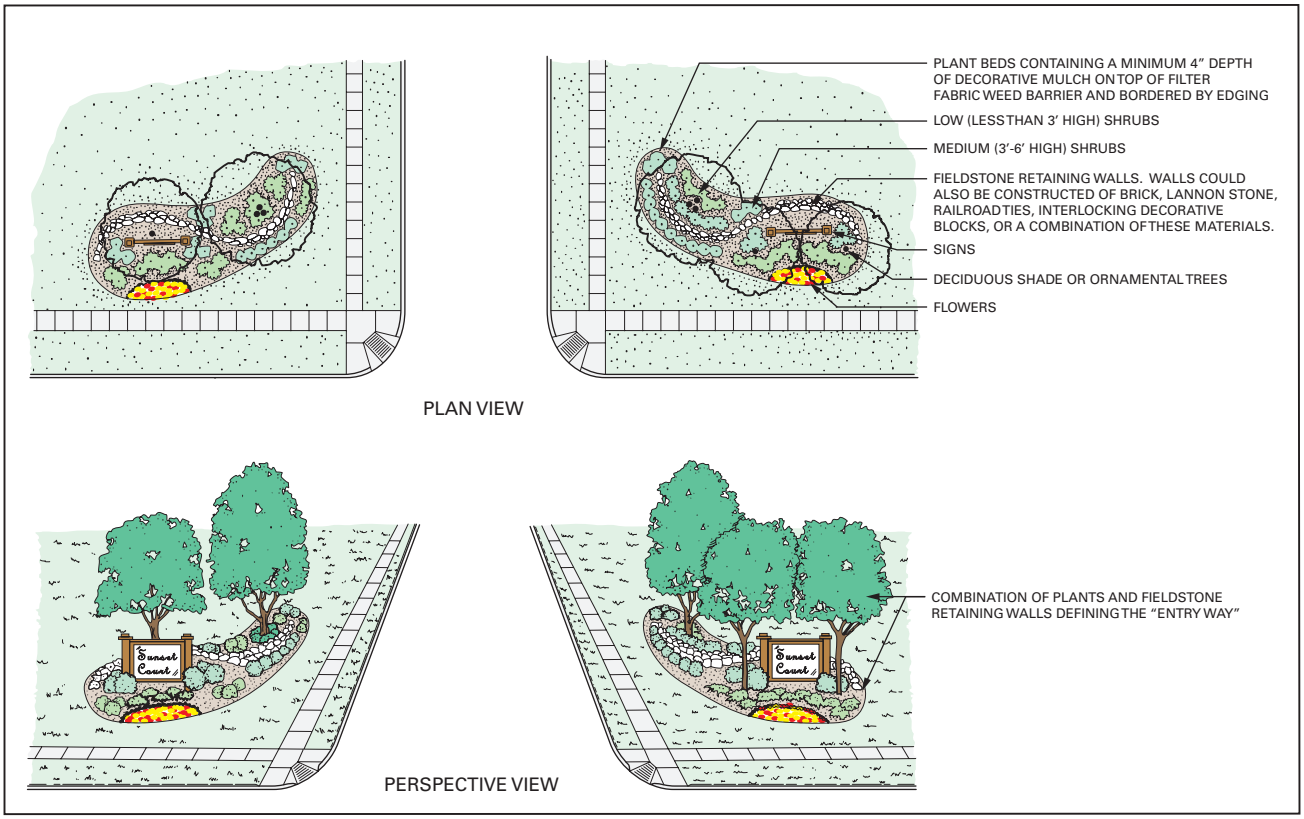
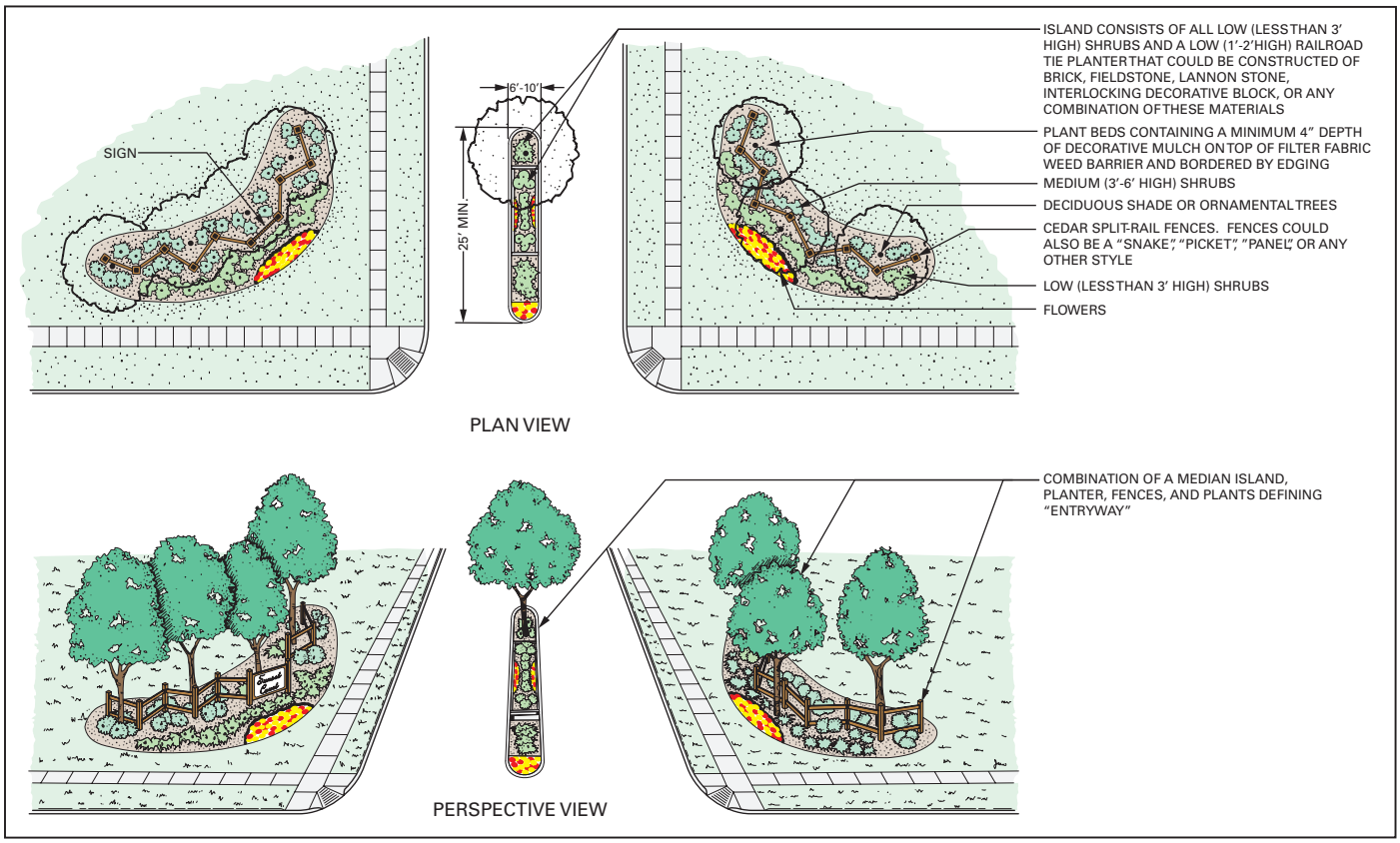
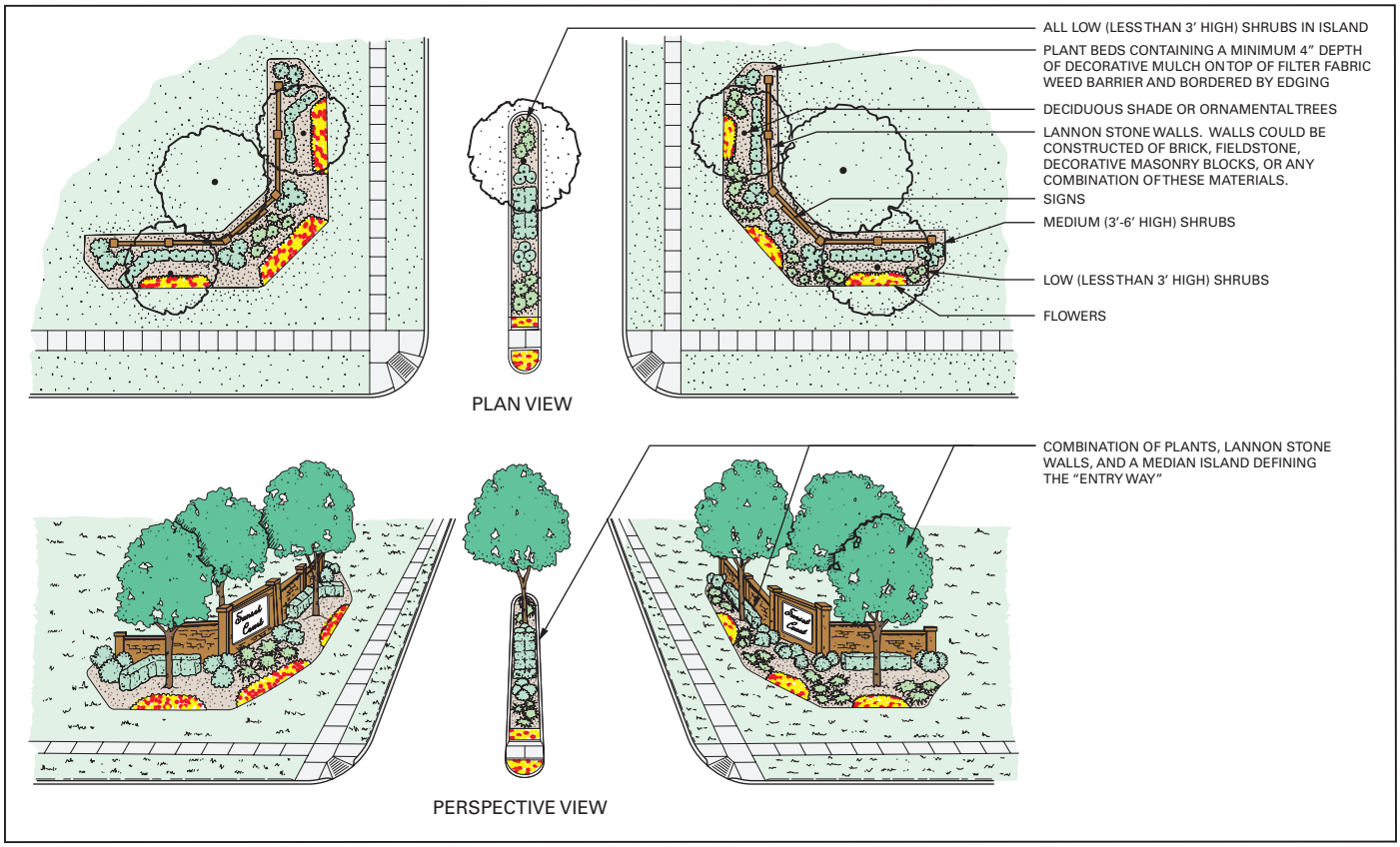


Figure C-16 (continued)

C. LANDSCAPING WITH AN ISLAND, FENCES, AND PLANTS



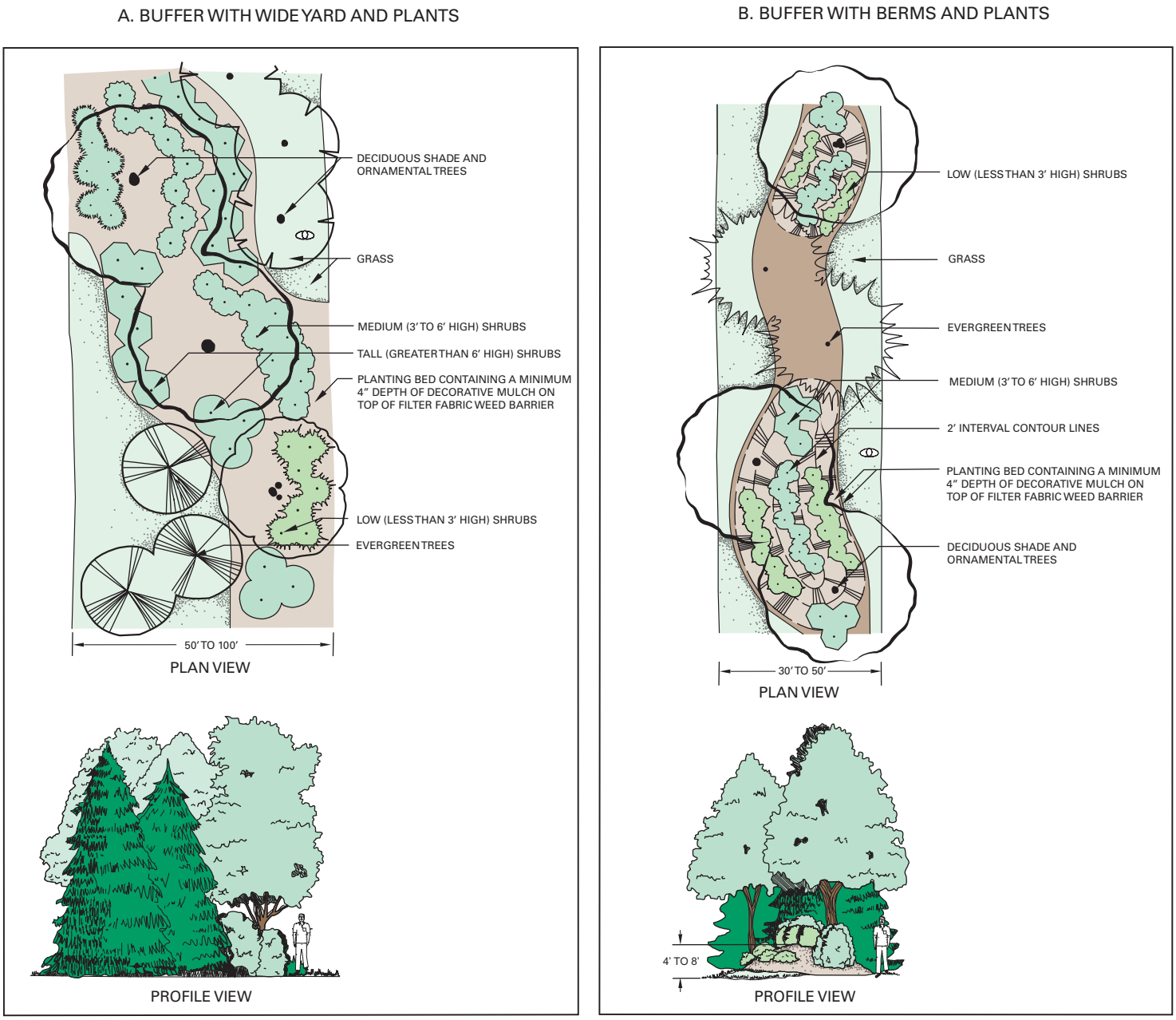
B. LANDSCAPING WITH AN ISLAND, FREESTANDING WALLS, AND PLANTS



Source: SEWRPC.

Figure C-17

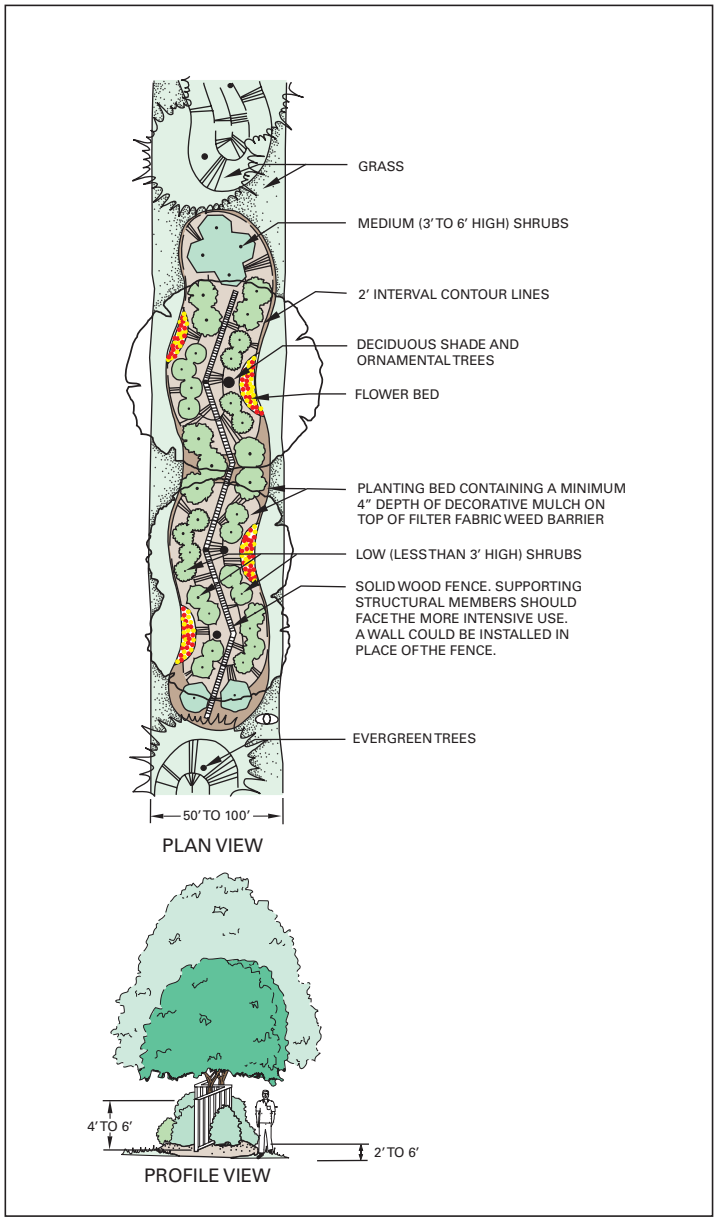
ALTERNATIVE LANDSCAPING FOR BUFFERS BETWEEN INCOMPATIBLE USES



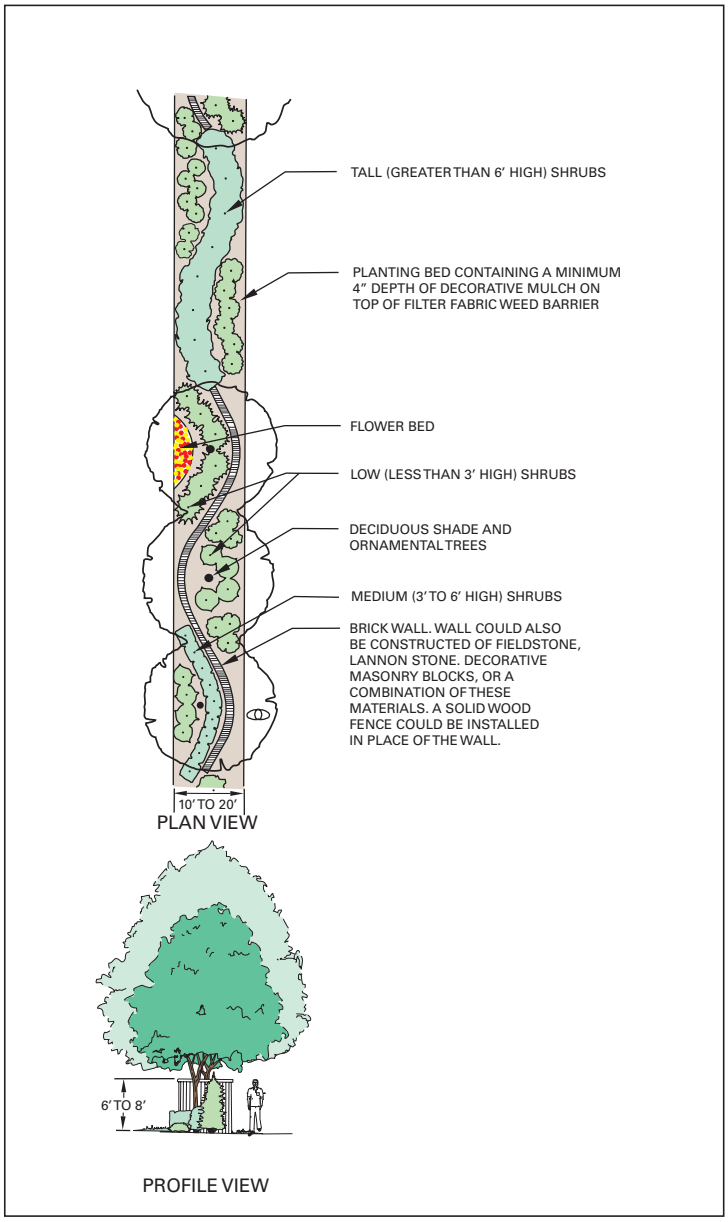
landscaped entryways, especially those containing center landscaped islands, are crucial for retaining aesthetic appeal and function without obstructing traffic visibility or turn movements. Figure C-16 illustrates alternative landscape designs for such entryways. Other alternative landscaping layouts are provided in Figure C-19. Low ground signs— "monument" signs—rather than high pole or pylon signs, are recommended. The Village has determined that the upkeep of most landscaped entryways, except those representing the Village as a whole such as defined gateways, should be primarily the responsibility of property owners or private organizations such as a subdivision homeowners association or neighborhood organization.

Figure C-17 (continued)

C. BUFFER WITH BERMS, FENCING, AND PLANTS



D. BUFFER WITH WALLS AND PLANTS



Source: SEWRPC.

Buffer and Perimeter Landscape Strips

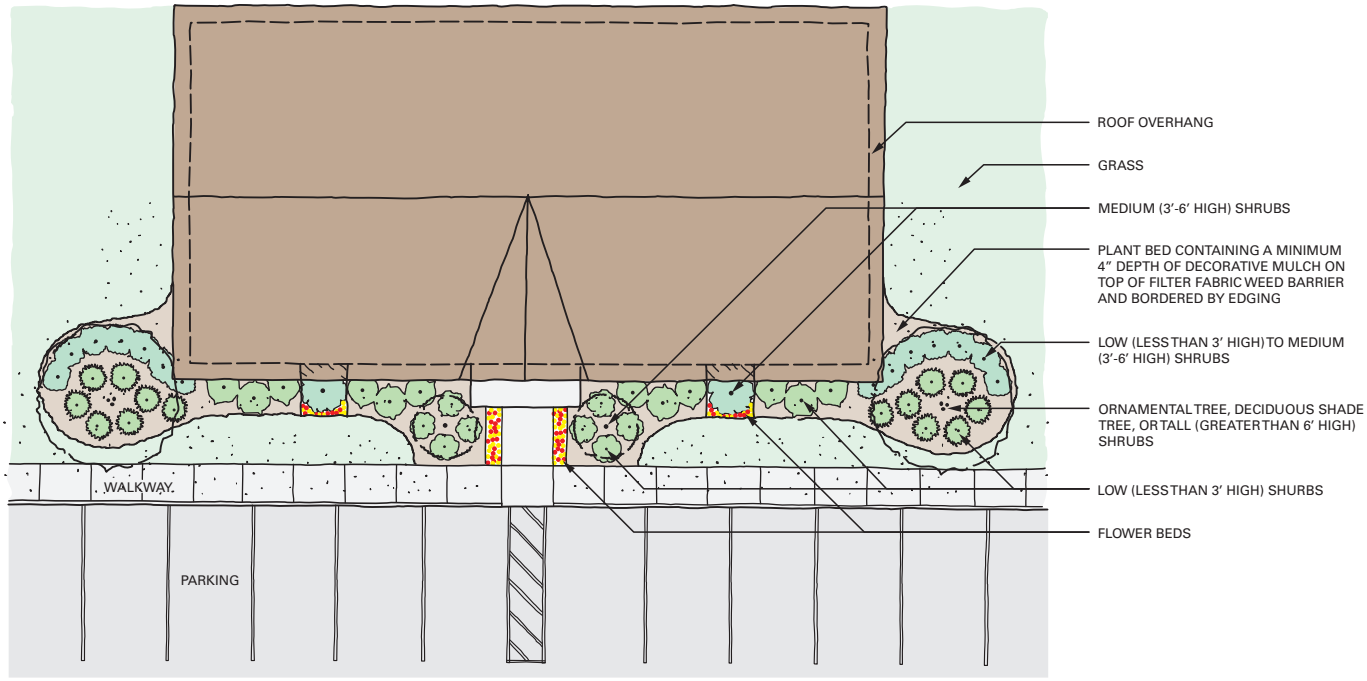
Perimeter landscape strips, which may also function as a landscaped buffer strip, should be located around parcels to provide open space for attractive landscaping, screening from incompatible lands uses, and filtration of stormwater runoff. These strips also help define the boundaries of properties and entrances and provide a separation between parking lots and public rights-of-way. Such strips, however, are not necessary for adjoining sites that share entrances, traffic aisles, or parking lots at the common lot line.

Landscaped buffer strips, sometimes referred to as transitional yards, should be provided between incompatible uses to screen or block visual nuisances, air and noise pollutants, or other negative impacts. Buffers could consist

Figure C-18

ALTERNATIVE LANDSCAPING FOR FRONT ELEVATIONS OF BUILDINGS

A. LANDSCAPING ALONG BUILDING FOUNDATION WITH CONTINUOUS PLANTING BEDS



PLAN VIEW

ELEVATION VIEW

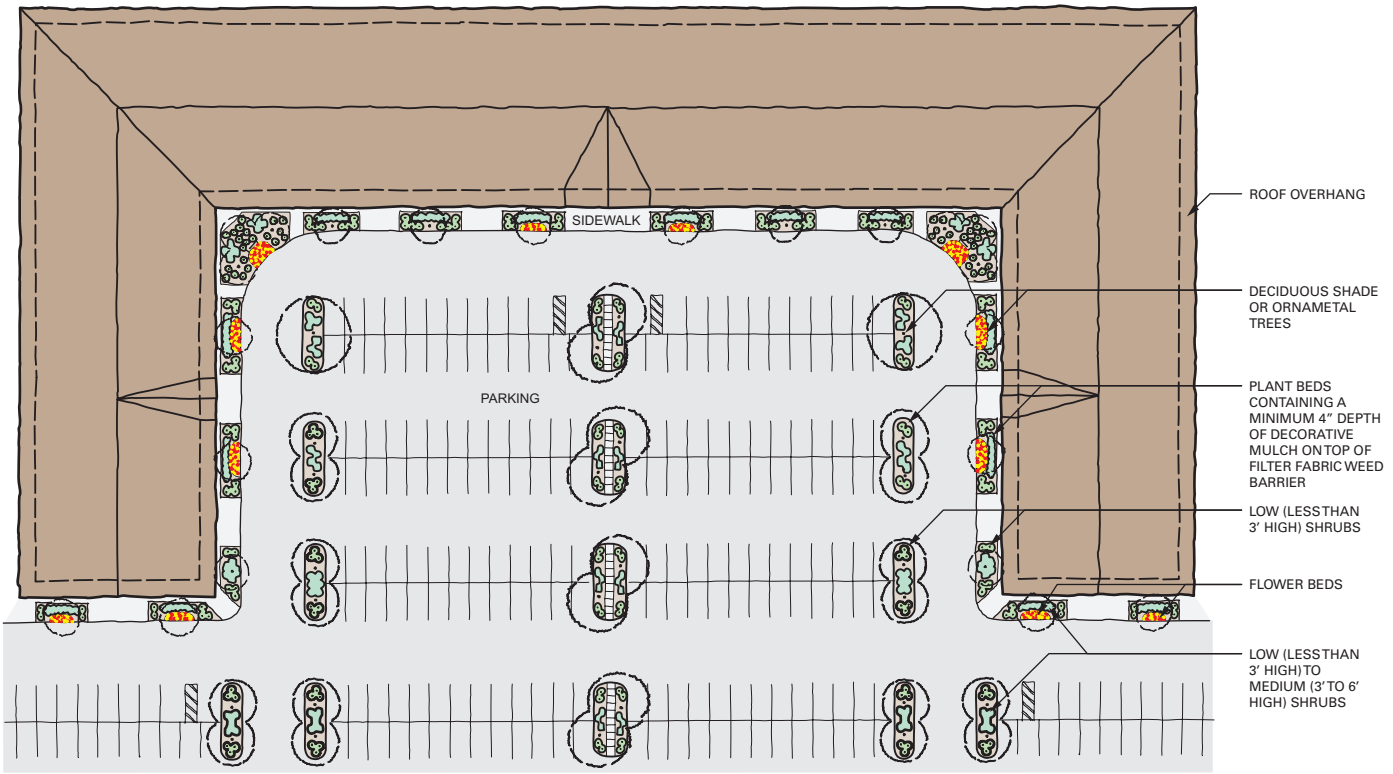
of various landscape features such as earth berms with landscape plantings; fencing and walls with plantings; wide open spaces; and grade separations in order to effectively buffer between dissimilar uses. Landscaped buffer strips provided along public streets should be designed to ensure a desired visual character of the community. Figure C-17 illustrates alternative landscaping that could be provided in such buffer strips, including those along the rear of reverse-frontage lots. Openings for pedestrian or bicycle access should be provided, and the standards for vision triangles mentioned earlier should be recognized. Also, buffers strips should not be located on any portion of existing or dedicated rights-of-way.

Building Foundation Landscaping

Landscaping adjacent to building foundations contributes to the overall aesthetics of the site as well as the architectural attractiveness of a building, as graphically illustrated in Figure C-18. Landscaped areas at least five

Figure C-18 (continued)

B. LANDSCAPING WITH GROUPINGS OF PLANTING BEDS NEAR BUILDING FOUNDATION AND ROOF OVERHANG



PLAN VIEW

ELEVATION VIEW

Source: SEWRPC.

feet wide, or preferably wider, and comprised of a combination of decorative mulch, flowers, ornamental grasses, groundcover, shrubs, or trees should be provided adjacent to building elevations, excluding entrances, visible from streets and parking areas. Foundation planting beds need not be continuous nor directly against the building. Planting areas could be consolidated into large groupings of beds instead of a continuous planting strip and located at or near the dripline of roof overhangs, as illustrated in Figure C-18. These planting areas could also reduce air-conditioning cost by absorbing potential refraction of warm solar radiation from adjacent pavement into buildings.

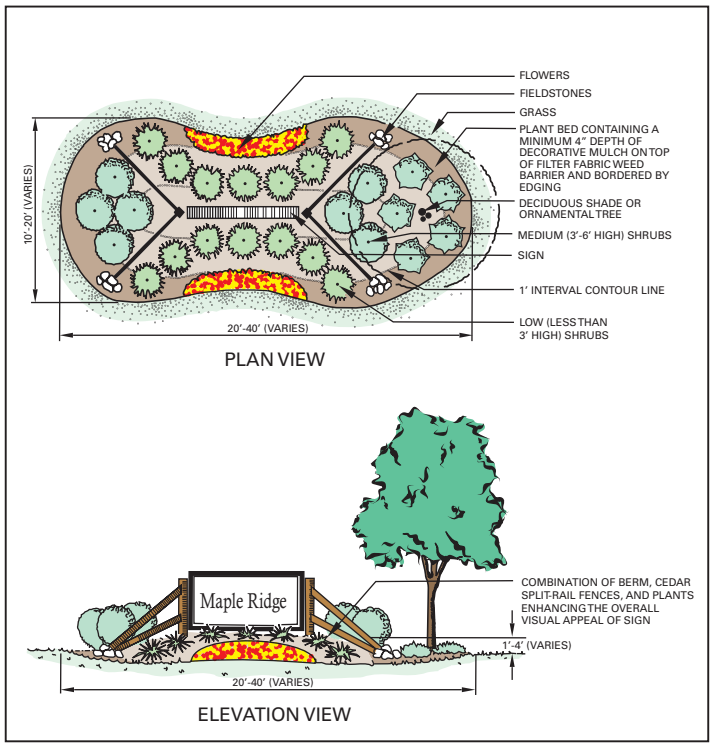
Sign Landscaping

A landscaped bed should be placed at the base of freestanding advertisement signs to improve the aesthetics as well as noticeability of the signs. A planting area of at least 150 square feet and consisting of a combination of decorative mulch, flowers, groundcover, or ornamental shrubs, should be provided around the sign without obstructing the sign face, as illustrated in Figure C-19.

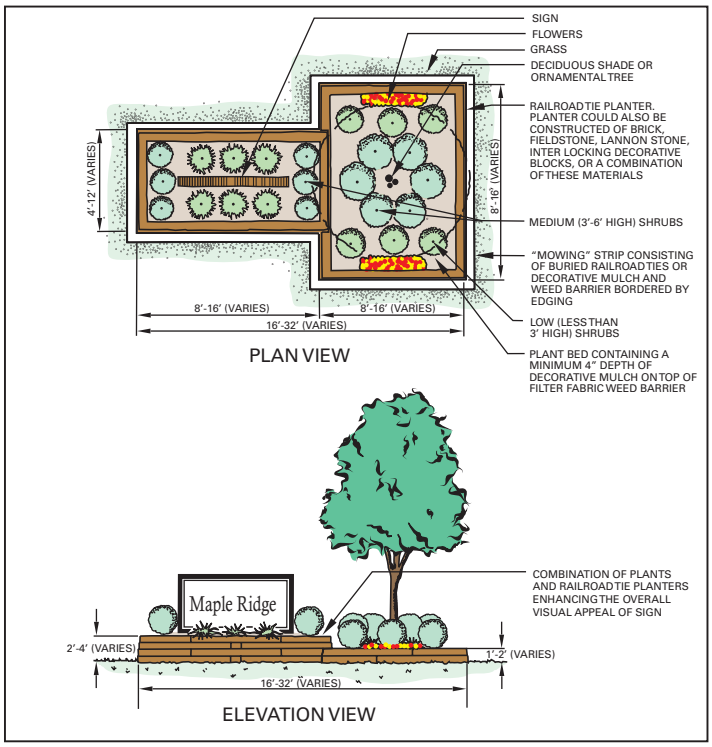
Figure C-19

ALTERNATIVE LANDSCAPING FOR FREESTANDING ADVERTISEMENT SIGNS

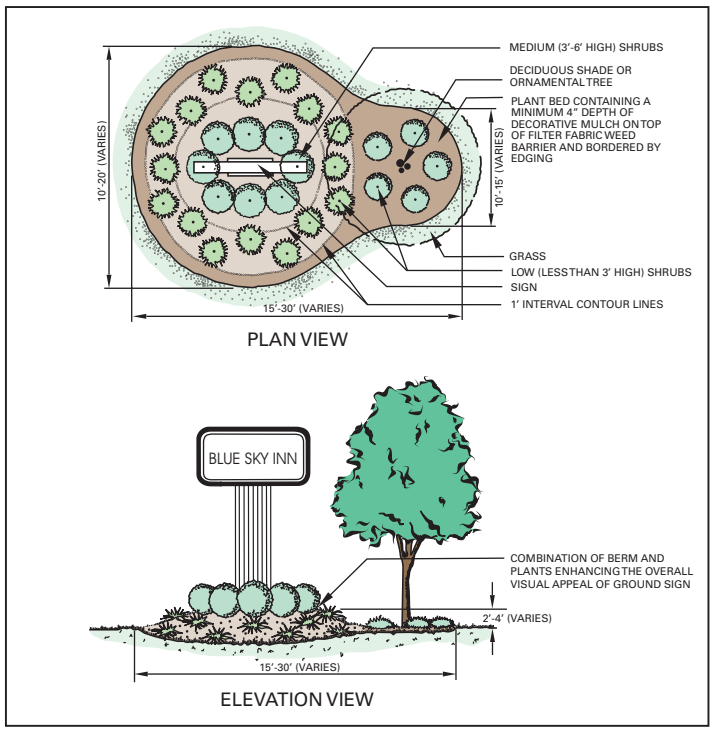
A. LANDSCAPING WITH BERM, DECORATIVE FENCES, AND PLANTS



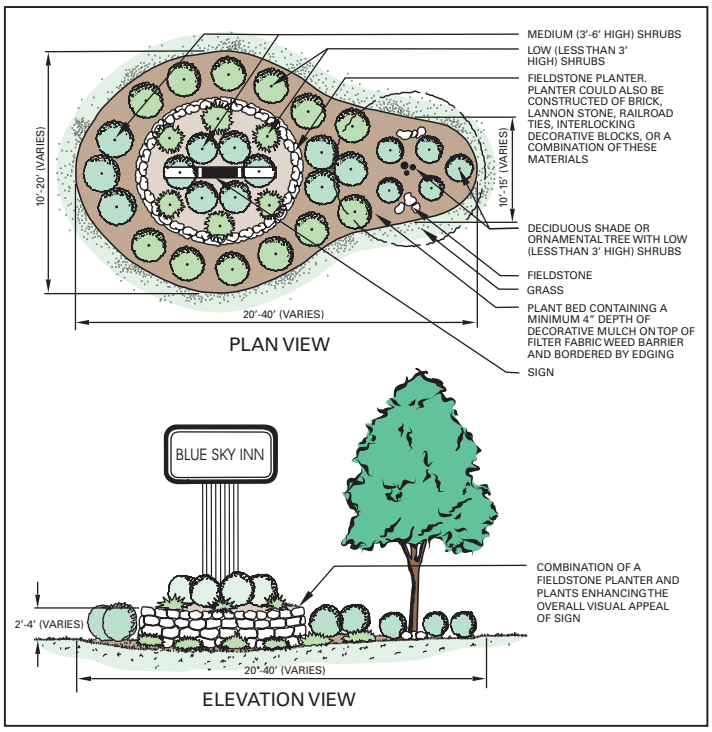
B. LANDSCAPING WITH PLANTS AND PLANTERS



C. LANDSCAPING WITH BERM AND PLANTS



D. LANDSCAPING WITH FIELDSTONE PLANTER AND PLANTS



Source: SEWRPC.

General Parking Lot Landscaping

The interior of off-street parking areas serving 10 or more vehicles should be provided with evenly dispersed landscaped areas totaling not less than 5 percent of the total surfaced parking area. In general, the size of each landscaped area should be at least 150 square feet and not less than six feet wide, preferably 10 feet wide if trees are provided. Trees should be provided at the rate of one deciduous tree at least two inches in caliper at chest height—approximately five feet above ground—for every 15 parking spaces and should be located in the landscaped areas provided within the parking lot. Location of landscaped areas, selection of plant materials, protection afforded the plantings, including curbing and/or wheel stops, and provision for maintenance should be considered. Landscaping should be provided in parking lots similar to that shown in Figure C-20.

Parking Lot Landscaped Islands

At the end of each parking bay, or row of spaces, a landscaped island of a similar dimension as a parking space should be provided to separate the bays from each other or from traffic lanes. Parking bays preferably should not be constructed more than 200 feet in length without providing a landscaped island contiguous to said parking bay, as illustrated in Figure C-20. The dimensions of a landscaped island may vary from the parking space dimension to provide desirable geometric design features, such as rounded corners and angles, to facilitate maneuvering of automobile traffic. However, the total area of any island should not be decreased to less than 150 square feet as a result of such design changes.

It is important to note that the provision of islands is recommended not only for aesthetic purposes, but also for functional and safety purposes. Islands separate parked vehicles from driveways; provide an indication of the parking orientation and layout, especially if parking stripes are absent; provide additional snow storage areas; and provide a visual clearance area, except for the minor obstruction of a tree trunk or light pole located in the island, for vehicles driving out of the general parking areas onto adjacent driveways. Islands that function as visual clearance areas should maintain a clear zone between the heights of 2.5 feet and 10 feet above the mean pavement grade adjacent to these islands. Turf grass should be avoided in islands unless properly maintained. As an alternative to grass, decorative mulch, such as stone or shredded hardwood bark, with underlying fiber-like weed barrier may be placed in islands.

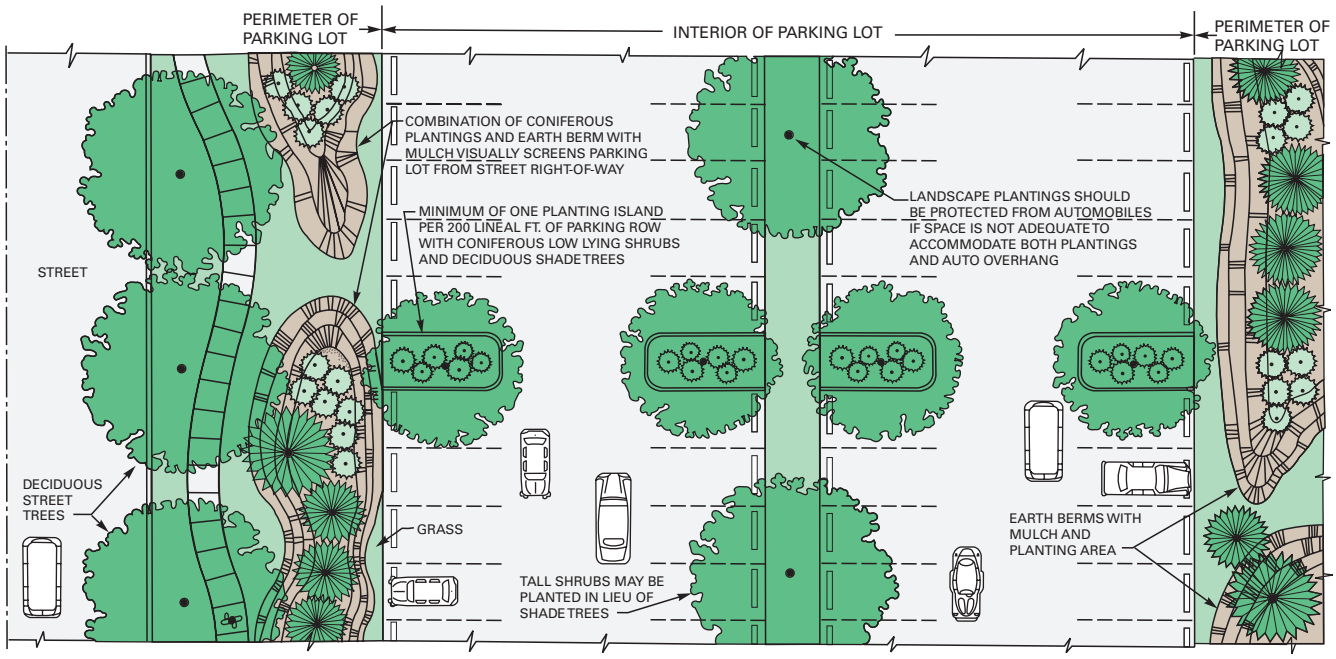
Parking and Service Area Screening

Parking areas and loading/unloading service areas, if adjoining a residential use, should be screened from such residential uses by a solid wall, fence, berm, dense evergreen planting, or other effective means, constructed and maintained at a height of at least six feet, or higher for loading/unloading areas. Loading docks should be located preferably to the rear of buildings or, alternatively, to the side of buildings especially if located on a reverse-frontage lot abutting two streets, facing away from public view, including from street rights-of-way. If such orientation is not practical due to site constraints, then the abovementioned screening should be provided. Parking lots visible from and within 100 feet of a street right-of-way should also be partially screened to “soften” the visual effect of such a use. The screen could consist of a combination of plantings on top of berms or in planters, provided the combined height is at least three feet above the parking surface after three years. Figure C-5 illustrates alternative landscape screening for parking lots visible to the public. The parking lot screen may be reduced in height or eliminated if a difference in grade will screen the parking lot. Also, openings for pedestrian and bicycle access should be provided, and the standards for vision clearance triangles should be recognized.

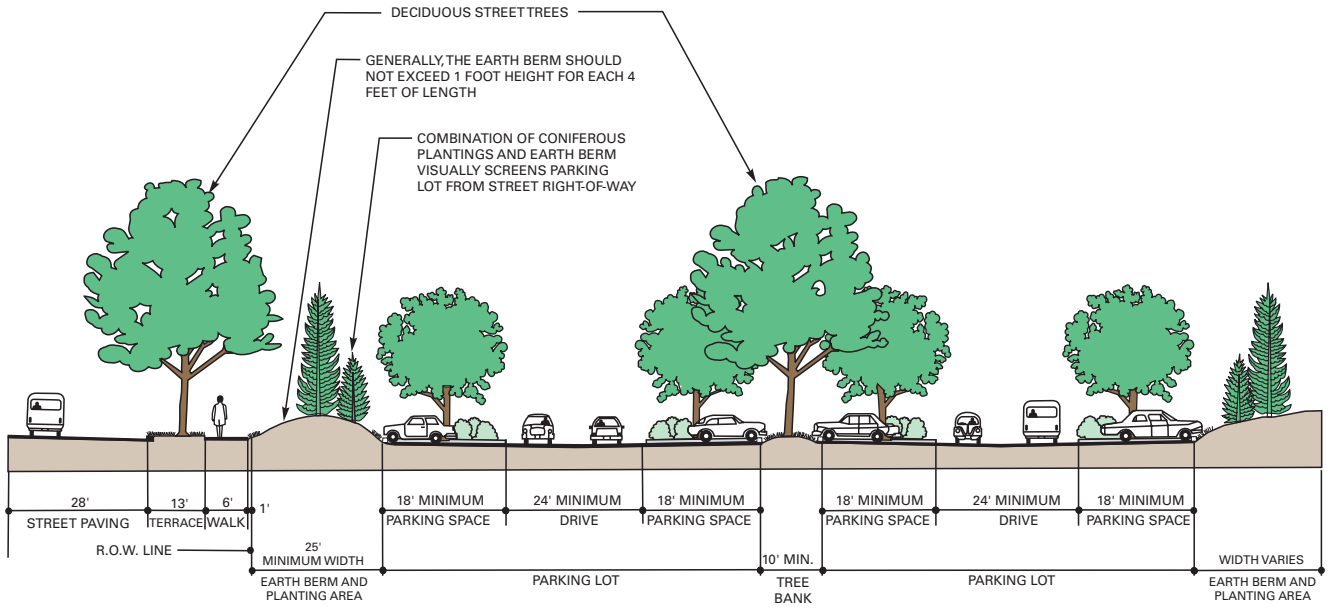
If a berm is used as a screen, it should have a minimum height of 1.5 feet and a crown of at least four feet wide, with side slopes no greater than one foot of vertical distance to four feet of horizontal distance. The berms should be curving or undulating. Fences and walls, excluding planters, should be constructed no less than three feet high and should be built of material compatible with the principal building of the site. Where applicable, gaps should be provided between the screen to allow for pedestrian and bicycle access.

Figure C-20

RECOMMENDED LANDSCAPING FOR PARKING LOTS



PLAN VIEW



SECTION VIEW

Source: SEWRPC.

When only plantings are used for screening, the width of the perimeter landscape area should be at least of 10 feet. If berms are provided as barriers, the width of the landscape area should be adequate to accommodate the size of the berm based on their slope, crown, height, and form. When structural barriers are used, the minimum width could be five feet. Plantings should be provided between the structure and the adjacent property line in order to reduce the visual impact and monotony of a continuous structure.

Outside Storage Area Screening and Surfacing

Outside storage areas for inventory, materials, equipment, supplies, and other materials utilized in the day-to-day operation of a principal business use should be hard-surfaced with concrete or asphalt, and screened from view from public streets with appropriate vegetation, fencing, or walls of a material compatible with the principal structure and the surrounding area. The outdoor display of certain products or merchandise may be allowed if the display is essential to a business, such as a landscape-nursery or car-sales business, and attractive periphery landscaping is provided.

Dumpster and Mechanical Equipment Screening

Dumpsters, utility boxes, and other mechanical equipment should be unobtrusive or shielded from view while still maintaining necessary access. Dumpsters should be screened, on all four sides by a solid fence or wall, from public view and adjacent properties. Dumpsters should be located preferably next to and in the rear of buildings or, alternatively, to the side and be screened with material that is identical to, or compatible with, the building. Dumpsters located near a building could utilize the building as one of the walls surrounding the dumpster. If security is a concern, the front portion or gate could consist of a partial screen with 50 percent or less opaqueness, such as a chain link gate with durable slats that are a color compatible with the rest of the screen. The height of the fence or wall should be at least one foot above the top of the dumpster to help prevent the wind from spreading debris over the structure. Plantings should also be provided adjacent to the structure in a surrounding landscape bed at least five feet wide, or preferably wider, as shown in Figure C-21. Rooftop and at-grade mechanical equipment should also be placed in an unobtrusive location or effectively screened from public view. The method used for screening should be compatible with the landscaping and building architecture of the site.

Site Furniture and Amenities

Site furniture and amenities should be provided to serve pedestrians and bicyclists and add visual variety to commercial centers. Site furniture and amenity items include lighting luminaires and posts, planters, benches, fences and gates, handrails, drinking fountains, water fountains, sculptures, clocks, bike stands, garbage receptacles, fire hydrants, phone booths, bollards, kiosks, newspaper boxes, sunshading devices, parking meters, mailboxes, and signage. The design and placement of such items should contribute to the overall design theme of a commercial area, serving an aesthetic as well as a utilitarian function, while adding a sense of design continuity and human scale.

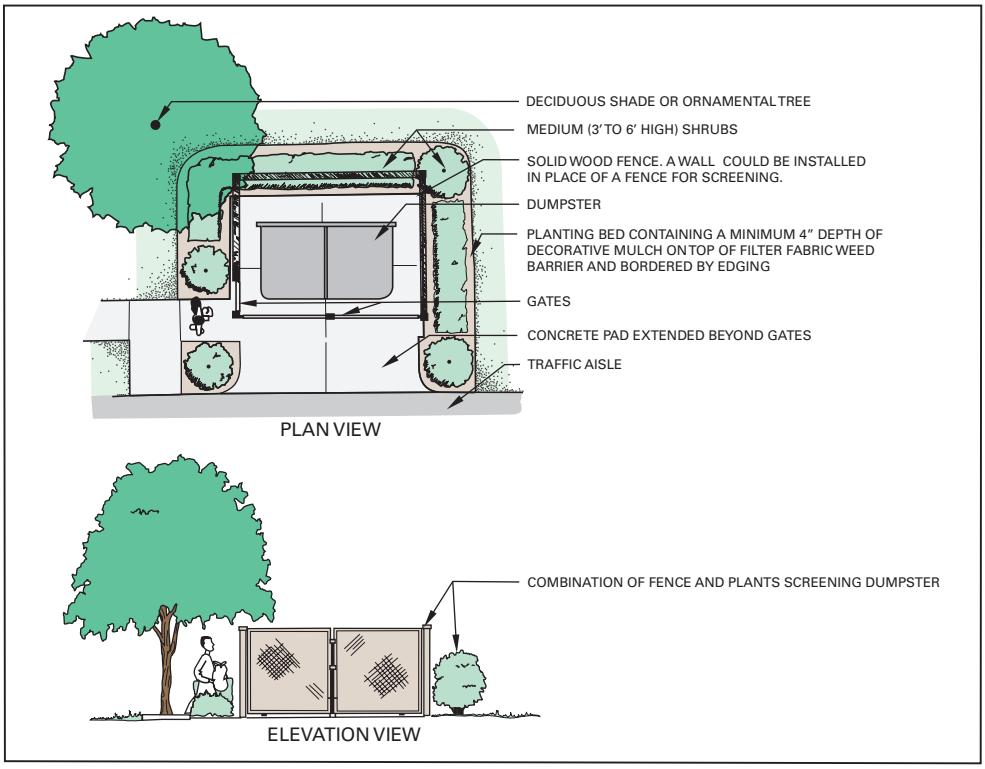
Building Facades

Buildings throughout the Village should contain attractive building facades, including business buildings facing public streets and parking lots. To retain or establish a unified architectural setting, building designs should be compatible with a unique style desired for a particular location or with the predominant architectural style of a defined area, such as an established residential neighborhood, a business park, a historic district, or a central business district. Nevertheless, variations of the same style should be obtained, without being radically different, to avoid monotony. Specifically, architectural style should not be overly restricted; however, proposed buildings should be reviewed on their individual merit based upon desired building design, building materials, longevity of the color choice(s) (fad/nonfad), statement in relation to overall design theme, compatibility with the character and color of adjacent structures, similarity between the overall size and mass of the proposed and adjacent structure(s), and unity with existing structures on the project site. Buildings in the village should preferably be one to two stories in height, but no more than three stories high in order to retain a “small Village character” with a human scale.

Figure C-21

ALTERNATIVE SCREENING FOR DUMPSTERS

A. SCREENING WITH FENCE AND PLANTS



B. SCREENING WITH WALL AND PLANTS

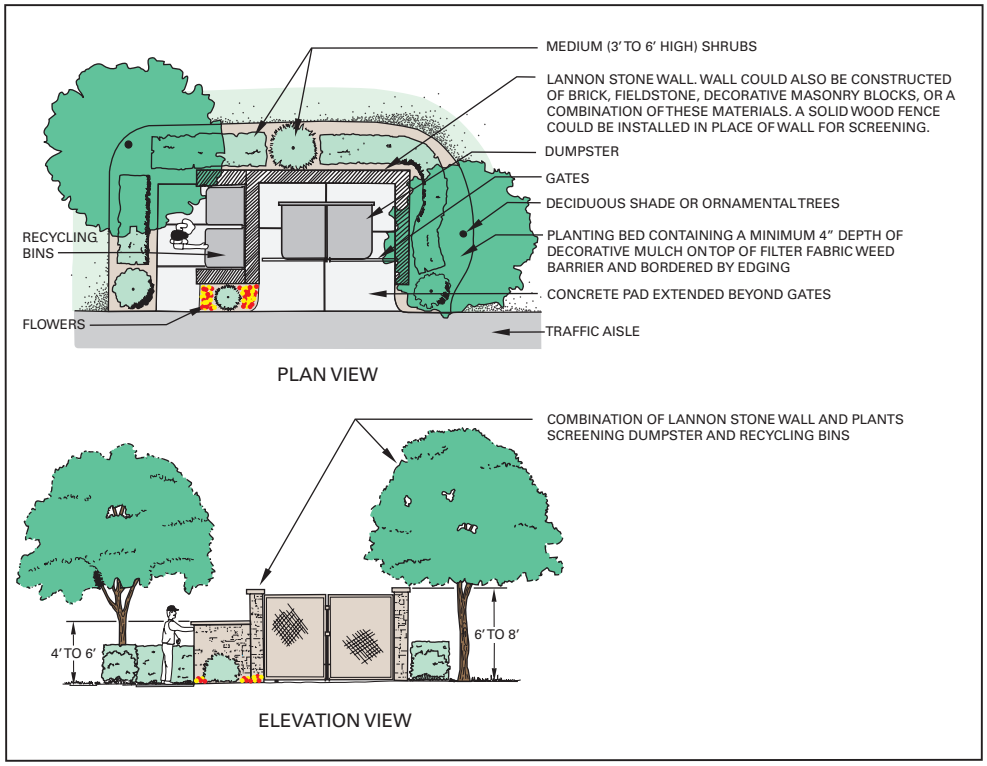
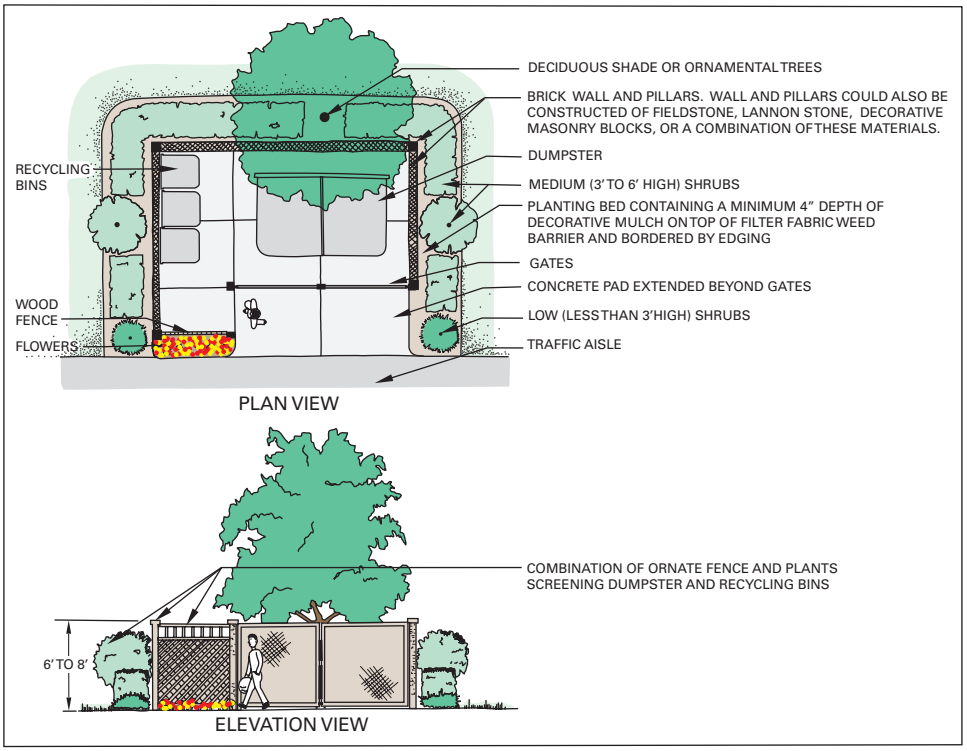


Figure C-21 (continued)

C. SCREENING WITH FENCE, WALL, AND PLANTS



Source: SEWRPC.

To create attractive facades and some variation in architectural styles to avoid excessive repetition and drabness, emphasis should be placed on: the creation of a varied roof line on a building by using, for example, a pitched roof with dormers or multiple pediments with gables to break the roofline; use of some variation in door and window style, size, and shape that are still proportionate to the building scale and mass; creation of well-defined main entryways, facade protrusions and recesses with porches and entryways, and wall offsets and recesses; use of columns, porticos, overhangs, projections, arcades, and arches; use of subtle colors harmonious to the surrounding area and the Village as a whole, with bright colors used only for accent; and use of attractive finished material, such as stone, brick, wood, or even decorative masonry blocks with accenting color banding. The facades of multi-family residential, commercial, industrial, governmental, and institutional buildings that face public streets and parking areas should consist of at least 30 percent of such finished material. Attractive aluminum or vinyl siding that has the appearance of wood siding or a "brushed" surface should be used instead of those with a smooth metal-faced finish, which should be discouraged.

In addition, large buildings, especially "big-box" retail stores, that are devoid of any architectural character should be avoided, since they typically consist of long continuous walls without a "break" —a protrusion or recession in the wall or a change in façade style. Public entryways should be clearly defined by the use of porticos, overhangs, or projections. For residential areas, garages should be de-emphasized without changing the building architecture. The front or main elevation of buildings facing public streets should not be overly dominated by more than 50 percent by the appearance of an individual garage, especially three-car garages, or a row of garages in multi-family residential areas with the large doors facing the front and the front yards, oftentimes occupied by mostly paved driveways with little landscaping. As alternatives, the doors of three-car garages could be oriented to face the side yard, and the row of garages for multi-family residential areas could be oriented to face the side or rear yards. Rows of doors for storage or mini-warehouse facilities should also be oriented to face side or rear yards, if possible. Otherwise, such doors should be buffered from public view.

Signs

General

In addition to conforming to the requirements of a community sign ordinance, signs should be designed to complement the overall character of the area and its buildings. Lettering on signs should be functional as well as visually pleasing. Truly functional lettering uses a typeface which is properly spaced and easy to read and makes its message clear from the distance at which it is intended to be read. Generally, the less cluttered and fewer the words on the sign face, the more likely people will be able to read the sign with ease.

Low ground signs—"monument" signs--of no more than four to six feet in height, supported by ornate columns or pillars on the sides and/or a structural base width of at least 75 percent of the width of the sign face, are usually considered more attractive and desirable than high pole or pylon signs. All freestanding signs should be surrounded by attractive landscaping at the base. Ideally, freestanding signs should also be panel signs with at least of 20 percent comprised of materials similar to the building materials of the principal structure. If pole signs are proposed, they should not exceed a height of 20 feet above the mean centerline street grade nor 35 square-feet per face to be in keeping with the pedestrian scale of a community. Wall signs attached to buildings should not extend above the roofline nor, except in the Village Center, the top of the second floor window, whichever is lower. Projecting signs should be avoided. Overall, the sign composition, structural material, color, logo, and location should be compatible with the building architecture.

Main "Entryway" and "Gateway" or Community "Welcome" Signs

Main "entryways" into parks, residential neighborhoods, historic village centers, and business or industrial centers should be well-defined with attractive signs to provide a sense of identity as well as direction. Community "Welcome" signs should also be provided at key locations along arterial streets functioning as main "gateways" into a community and/or a village center. The design should be representative of the character of the community and should reflect the design theme desired by the community residents.

Street and Wayfinding Signs

Street signs should be located at each street intersection and should be legible for all user groups. Simple "icon" or graphic symbol signs could also be used for aesthetic as well as wayfinding purposes such as, for example, identifying a public parking lot or providing symbolic directions to a public library. Unique street name signs should be provided that are different from the traditional rectangular street blades by consisting of a blue or red background with white letters and an icon at the end that reflects the community logo or neighborhood character. Even ornate street-sign poles and distinctively shaped street signs, such as elliptical or oval shapes, could be used for unique aesthetics.

Street Light and Traffic Pole Styles

The traditional style of tall streetlights could be made more attractive by using colors, such as black or green, instead of the bare silver metal color. As an alternative, the poles could be colored black or green while the extended arm with the illumination head could remain silver. Low uniquely-designed street lights should preferably be installed along the "Main Street(s)" of a community. The style or color selected for street lights should be emulated in the poles of street signs and traffic signs and signals.

Utilities and Easements

Above-Ground Utility Cables

The location or relocation of above-ground utilities underground should be considered. Overhead wires detract from the overall appearance of an area and typically add to visual clutter.

Utility and Drainage Easements

Utility easements of widths deemed adequate for the intended purpose, but no less than 10 feet, should be provided and centered on side and rear lot lines wherever possible or advisable for electric power and communication wires and conduits; storm and sanitary sewers; and gas, water, and other utility lines. Where a

land division is traversed by a watercourse, drainageway, or street, an easement should be provided for drainage purposes.

Cellular Towers
Antennas preferably should be co-located on existing structures such as water towers, public buildings, and utility transmission towers. If a new freestanding cell tower is warranted, such structures should be designed with an unguyed, monopole style and accommodate at least four antennas to reduce the need for, and the visual clutter of, additional structures in the vicinity. Guyed towers and lattice towers should be discouraged, unless the lattice appearance or an alternative design would better blend in with the surrounding environment.

Ornate Bridges and Retaining Walls
When new bridges and retaining walls need to be installed or existing faceless bridges and walls need to be replaced, they should be constructed with an unique design instead of the bland traditional, one-size-fits-all style. The facades of parapets and walls could consist of ornate materials such as fieldstone, lannon stone, decorative masonry, interlocking geometrically-shaped blocks, ornate precast concrete panels, or poured-concrete walls with unique "color-stamped" patterns or geometric patterns defined by scorelines and "brushed" surfaces with smooth edges as opposed to plain poured-concrete surfaces. Unless a community wishes to intentionally screen motor vehicles, the parapet—low wall or railing–of bridges should be partially "open," and yet function as a barrier for safety reasons, so that motorists can see through the parapet to enjoy the scenery from the bridge, including those over waterways.

Stormwater Management Facilities
Stormwater management facilities should be adequate to serve a proposed development, and may include curbs and gutters; catch basins and inlets; storm sewers; open channels; roadside swales; culverts; water detention or retention facilities; infiltration facilities; and existing natural depressions, wetlands, and streams. The facilities should be of adequate size and grade to accommodate peak rates and volumes of runoff through and from a proposed development, and should be so designed as to prevent and control nonpoint source pollution and to present no hazards to life or property. When natural features on the site are to be incorporated in the stormwater management system, appropriate measures should be implemented to avoid degrading the quality of those features. Stormwater facilities should, as a minimum, follow the design standards established by the Wisconsin Department of Natural Resources (DNR) in a document titled, *Wisconsin Storm Water Manual, Part Two: Technical Design Guidelines for Storm Water Best Management Practices*.

Stormwater detention or retention basins should have a 10- to 20-foot wide gently sloping "safety shelf" with a maximum depth of one foot around the perimeter and should be graded to a safe slope, no steeper than one vertical to four horizontal above the "safety shelf." Such basins should blend into the landscape with a natural form to avoid the "ice cube tray" appearance.

Erosion and Sedimentation Control
Earthmoving activities, such as grading, topsoil removal, mineral extraction, road cutting, waterway construction or enlargement, excavation, channel clearing, ditching, drain tile laying, dredging, and lagooning, should be so conducted as to prevent erosion and sedimentation and to minimize disturbance to natural fauna, flora, watercourses, water regimen, and topography. Construction activities should be planned so that the soil is disturbed a minimal amount of time. In general, cut and filled lands outside street rights-of-way should be graded to a slope not exceeding 25 percent or the angle of repose of the soil, whichever is less. All erosion control measures should meet the requirements for such measures in the Village of Hartland Zoning Code and the design standards identified by the DNR in a document titled, *Wisconsin Construction Site Best Management Practice Handbook.*

To help prevent erosion and sedimentation, a developer should plant grasses, shrubs, trees, and vines—the species and size of which are to be determined based on those identified in Appendix E. The Village may require a developer to provide or install protection and other rehabilitation measures such as fencing, slopes, riprap, wells,

revetments, berms, jetties, clearing, dredging, snagging, drop structures, brush mats, willow poles, and grade stabilization structures.

General Maintenance
A complete and thorough public maintenance program for public lands, as well as individual private maintenance programs, especially in commercial areas, should be established. Improvements to buildings and their continued positive appearance depend on proper maintenance procedures. Maintenance programs should include staking, watering, fertilizing, spraying, weeding, pruning, replacing and other general maintenance of landscape planting areas; picking up litter and emptying trash containers in a timely fashion; sweeping, cleaning, and repairing paved surfaces; and the care and maintenance of site furniture and the repair and/or replacement of non-functioning streetlights and fixtures and other amenities. Establishing a maintenance program will help to ensure the continued attractiveness and viability of the community.

VILLAGE CENTER DESIGN GUIDELINES

Design Concept
The Village Center should be designed with a human-scale focus supplemented with attractive streetscaping that complements unique buildings geared towards a pedestrian- and bicycle-friendly atmosphere. The Center should consist of mixed uses, with predominantly commercial establishments and limited residential and cultural/institutional uses, as outlined in Objective No. 3 of Chapter VI. Housing for the elderly should also be located in the Center due to convenient proximity to businesses meeting the needs of senior citizens. In addition, the Center should present opportunities for people-watching from inside and outside of buildings, while capitalizing on the beauty of the Bark River greenway and recreation corridor as an important natural contributing factor to drawing people to the Village Center.

More specifically, the individuality or uniqueness of the Village Center should be characterized mostly by certain areas of picturesque flat-roof, historic buildings and pitched-roof buildings, such as gable or prairie-style hip roofs, complemented with building facades consisting primarily of red or cream-city colored brick or light-colored natural materials, such as treated wood and native lannon stone, with large transparent window panels at the street level. Attractive streetscaping should serve to enhance these building facades and further project the community's desired design theme for the Center as described in detail below.

Entryway/Gateway Identification
A sense of definition and arrival to the Village Center should be established at "entryways" or arterial streets leading into the downtown area along with streetscape improvements, including decorative street lights, brick-paved street edges, articulated crosswalks, and entrance monuments. Entrance monuments should be placed at key entryways—sometimes referred to as gateways—consisting of low monument signs set in a decorative base, such as an ornate stone or brick wall, surrounded by attractive landscaping as illustrated earlier in Figure C-16, if sufficient space is available, and in Figure C-22 for those areas with spatial constraints.

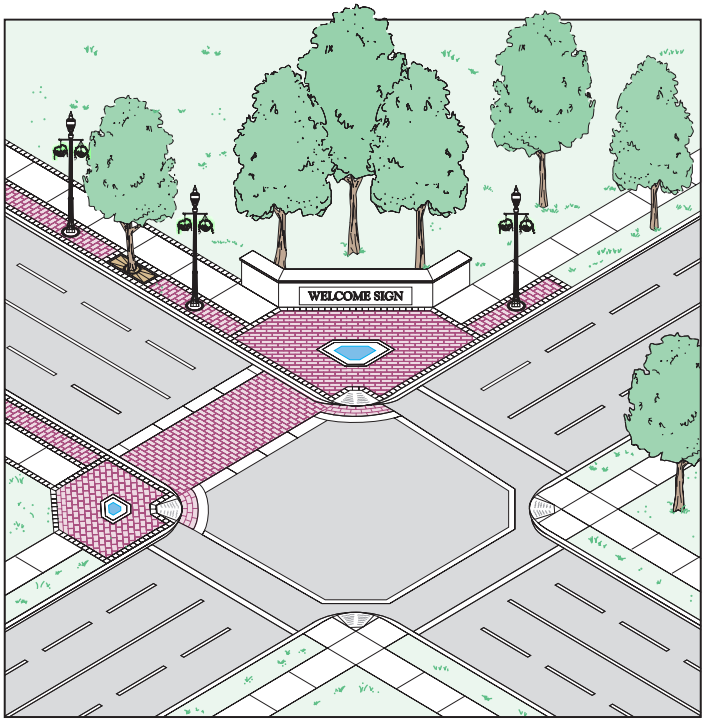
Parking Layouts and Linkages
The use of shared driveways and parking lots linked by a common traffic aisle between compatible land uses should be encouraged to help reduce the number of access points for vehicles entering onto and exiting off the arterials. The drive or traffic aisle serving parking lots should extend to the property line in planned commercial areas so that, as development occurs over time, the drive would simply be extended to the adjoining property's parking lot.

To be consistent with a pedestrian-oriented setting for the Village Center, parking lots in front of buildings, as shown in Figure C-24, should be avoided and preferably located in the rear yard. As an alternative, parking lots could be located in the side yard while buildings would still be placed close to sidewalks. If parking is allowed in the front yard in certain areas of the Village Center, such as beyond the central area where some existing buildings

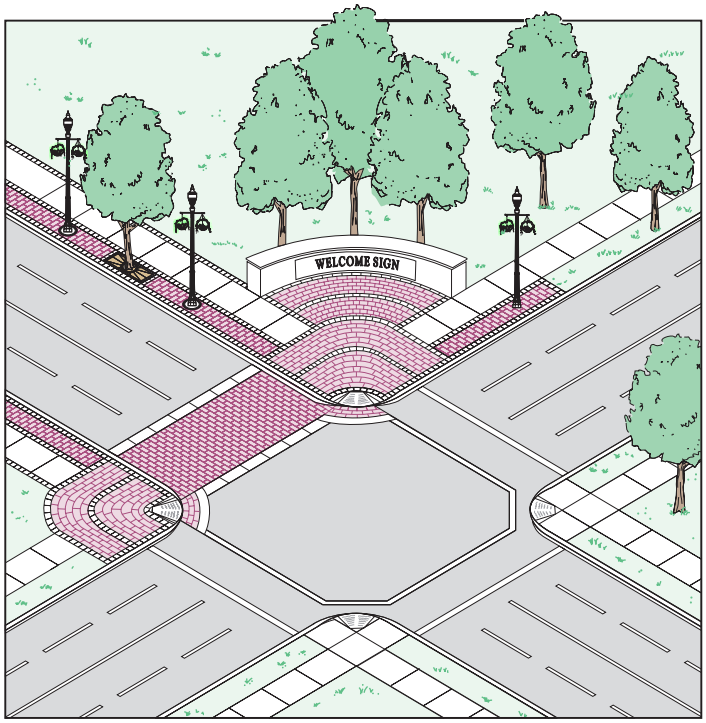
Figure C-22

ILLUSTRATIONS OF POTENTIAL VILLAGE CENTER GATEWAY DESIGNS

A.



B.



C.

D.

Source: SEWRPC.

are not close to sidewalks, the number of parking rows in front of buildings should be minimized to no more than two rows with the remaining spaces located in the side and/or rear yards.

Walkways should be provided to connect the sidewalks along Cottonwood Avenue, North Avenue, and Capitol Drive to the Bark River Trail, large parking areas, and the rear of buildings, especially where parking lots in the back of neighboring buildings are connected.

Building Streetscape Facades

General

The guidelines herein are not intended to restrict individual architectural expression, but rather to direct the expression towards a standard of quality and compatibility with neighboring buildings and to complement and contribute to a desirable community identity for the Village Center. The structural shapes of buildings, their proportions, the placement of openings such as doors and windows, the placement of signs, and various other building details all contribute to the overall streetscape appearance. Although the facades of two adjacent buildings may be different, their overall appearance can be made compatible through the proper use of these visual elements. Treatment plans for individual building facades should take into account the design character of the surrounding area and the various urban design guidelines set forth herein to assure a degree of compatibility of architectural design with neighboring structures, without being very dramatically different.

In the Village Center, many of the storefronts, store entries, residential homes (including those in the nearby East Capitol Drive Historic District), and other building facades still retain to some degree their original architectural character. For buildings that have historic architectural significance, every effort should be made to enhance or recapture this original image pursuant to the standards for historic preservation promulgated by the U. S. Department of the Interior, and as outlined in Objective No. 10 in Chapter VI. The character projected by historic buildings in the Village Center should be maintained by continuing to encourage new structures to respect the form, materials, and detailing of surrounding existing historic buildings. These guidelines need not necessarily stifle creative architectural design, since new contemporary buildings could be designed to be in sync with the scale and rhythmic pattern of surrounding buildings. Two buildings could still be distinctly different yet seamlessly interrelated by retaining, for example, the cornice or soffit line of a building or group of buildings to ensure horizontal continuity while maintaining scale. The alignment or pattern of doors and windows, protrusions and recesses of entryways, and wall offsets and recesses can also help ensure both horizontal and/or vertical continuity between buildings, as illustrated in Figure C-23. Canopies and awnings, in addition to providing shade from direct sunlight and protection from rain and snow, can preserve and promote the overall horizontal visual continuity of the Village Center and can assist in the development of a uniform and visually compatible signage system.

Building Setbacks and Street Wall

New buildings in the Village Center should be set back the same distance as the majority of the existing buildings. To retain a pedestrian-oriented Village Center, compatibly scaled buildings following existing setback lines will reinforce the existing character of the Center. Out-of-scale buildings, set either too close or too far off the street edge, should be discouraged, as illustrated in Figure C-24.

Building setbacks from streets should be uniform wherever possible. Such uniformity in the streestscape facade or street wall adds to pedestrian comfort by enclosing and defining the space and provides a sense of continuity to the streetscape. Also, business buildings close to sidewalks allow pedestrians and potential customers to admire attractive window displays. New buildings should be constructed to a “build-to” line to provide such continuity. Preferably such buildings should be slightly set back at least five to 10 feet to accommodate building foundation plantings, if space permits. Planters could be used if the location of existing buildings would preclude the use of planting beds. The build-to line in the Village Center should be established based on the existing setback distance most prevalent in the area. As an alternative to a strict build-to line, new buildings may be set back based on a

Figure C-23

RHYTHM OF WINDOWS AND ENTRANCES

A. RHYTHM OF WINDOWS

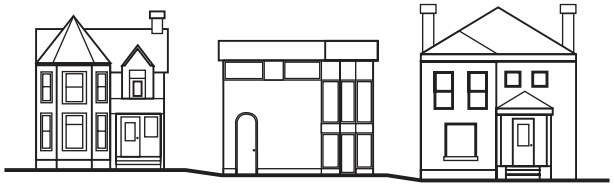
DESIRABLE

UNDESIRABLE

B. RHYTHM OF OPENINGS

DESIRABLE

UNDESIRABLE

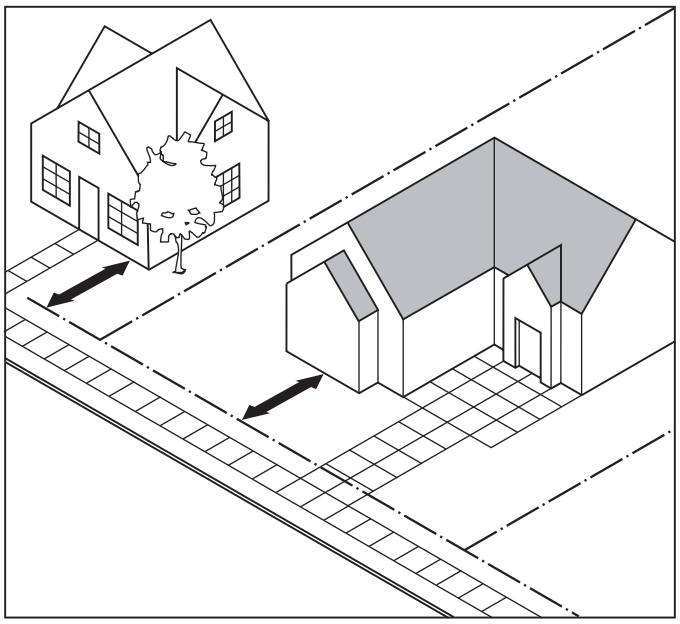


Source: American Planning Association and SEWRPC.

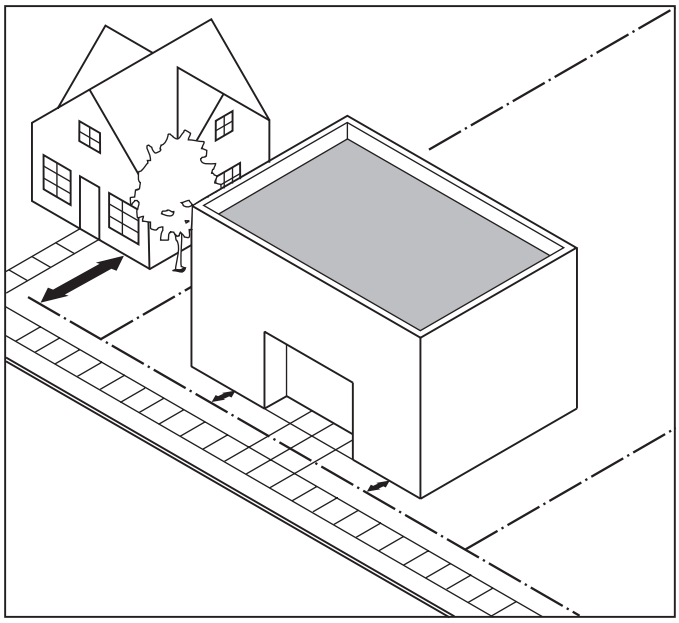
Figure C-24

BUILDING SETBACKS

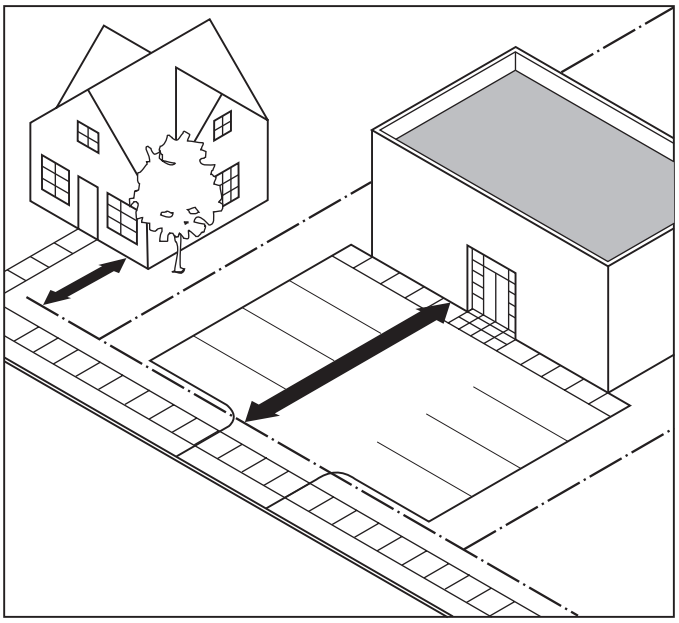
DESIRABLE



UNDESIRABLE - - SETBACK IS TOO CLOSE



UNDESIRABLE - - SETBACK IS TOO FAR



Source: Planning and Design Institute, Inc. and SEWRPC.

"build-within" range, or a distance that equals the average setback distance of the existing buildings adjacent on each side. Another alternative is to construct a strong architectural feature, such as an ornate fence or brick wall, at the build-to line, with the building itself set somewhat further back.

Large "blank" wall surfaces and long gaps in the street wall should be avoided. When parking lots are located in side yards or when side yards between buildings are too wide, elements of a street wall at the build-to line should be provided, either in the form of landscaping, such as hedges or tree lines, or in the form of structural elements, such as decorative fences or low walls, which would provide a "seam" to reinforce and continue the overall uniform setback.

Urban Scale and Mass[4]

The relative proportion, or scale and mass, of a building in relation to its neighboring buildings, to the pedestrian or observer, and to the surrounding area should be considered when new buildings are built or when existing buildings are remodeled or altered. Visual elements that contribute to this overall scale and mass in the Village Center include the visual rhythm and proportion of the elements of the building facades, the architectural detailing, the visual directional emphasis of the streetscape (which can either be horizontal or vertical), the symmetrical or asymmetrical character of the building facades, the mass of individual buildings, the size and configuration of open spaces, the type and color of building materials, the building height and width, and the presence or absence of landscaping materials and street furniture. These elements of urban scale and mass should be considered whenever possible to create an attractive environment. Figure C-25 illustrates the relationship of urban scale and mass to a streetscape. To retain the human-scale setting, most buildings in the Village Center should be two stories in height, but no higher than three stories.

Streetscape Rooflines and Roof Shapes

The upper edges of building roofs or rooflines visually define the upper edge or height of the building and streetscape. The visual continuity of these urban design elements should be maintained, if warranted, and building development or redevelopment with dramatically opposing rooflines should be discouraged. Figure C-26 illustrates the relationship of rooflines and roof shapes to an overall building streetscape.

Some groups of buildings in the central part of the Village Center, near the intersection of Capitol Drive with Cottonwood Avenue and North Avenue, contain flat roofs that are not easily viewed from the street level. However, the rooflines and parapet walls (a wall that extends beyond the roof) of some of these structures have pronounced and similar details which create both interest and visual unity among these structures. The visual continuity of the upper edges of these buildings, which visually defines the upper edge or height of the overall streetscape, should be maintained, if warranted. The edges of any flat rooflines on buildings should preferably be softened by "capping-off" the top with ornate cornices, pediments, finials, and/or parapets.

In this central location, other areas that are not within but are near the vicinity of existing flat-roof buildings should either replicate this roof style or provide a low pitched roof such as a low hip roof—sometimes referred to as a prairie-style building—to somewhat complement the low horizontal roofline image.

Further from this core, buildings consist primarily of peaked roofs versus flat-roof buildings. In general, buildings in these areas should continue to use the hip-style roofs, which may contain a low- or high-pitched roof, or provide a varied pitched roofline by using, for example, a gable roof with dormers or multiple pediments that also contain gables.

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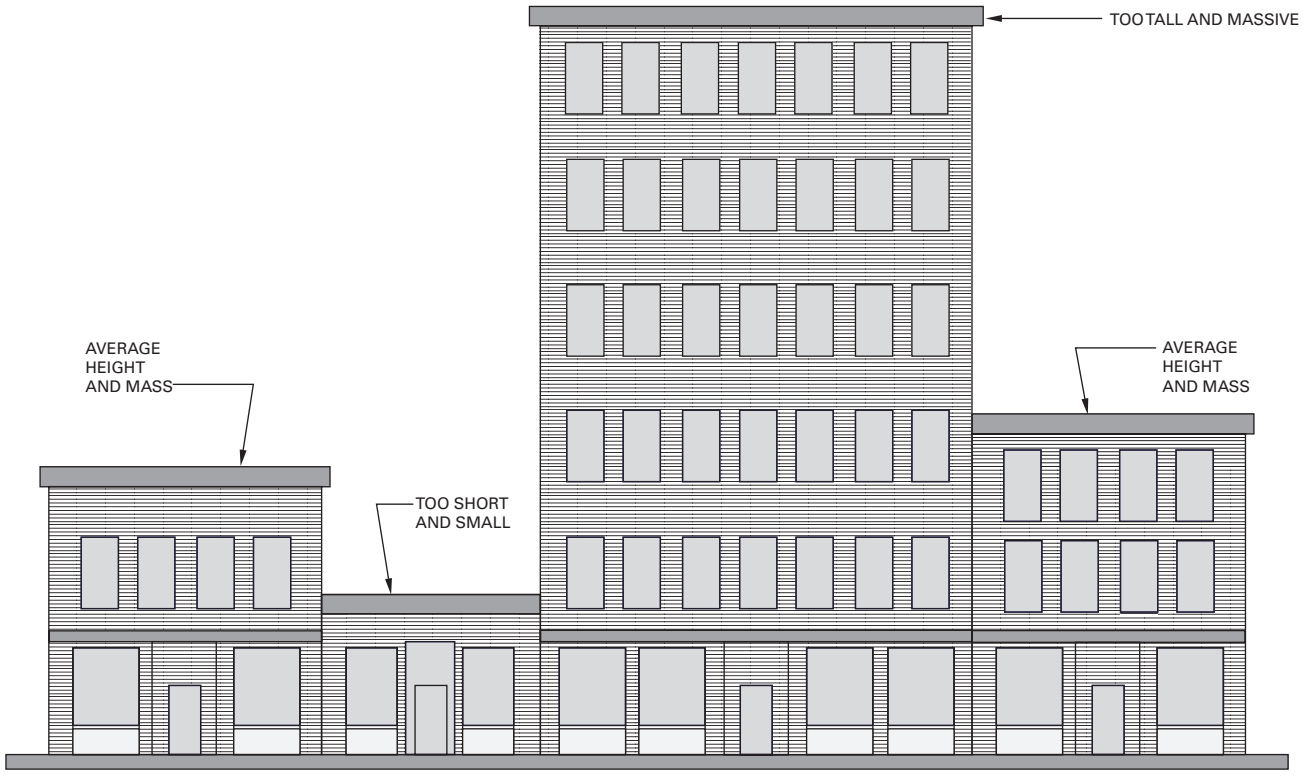
[4]*The mass of a building refers to the overall bulk or volume of space which a building encloses. Scale is conveyed by elements of the building façade where doorways, windows, and architectural details enable people to gauge its relative size and character in relation to the size of the human body.*

Figure C-25

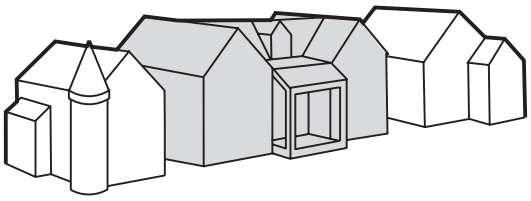
URBAN SCALE AND MASS OF BUILDINGS

A. ELEVATION VIEW OF BUILDING SCALE AND MASS

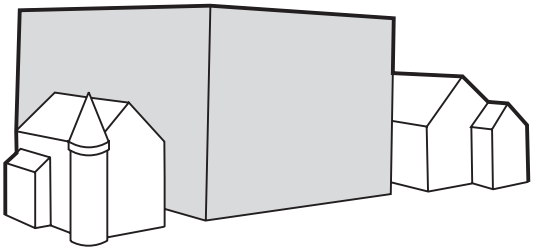


B. SCALE - - RHYTHM AND PROPORTION

DESIRABLE (ALTERNATIVE IS TWO SEPARATE SMALLER BUILDINGS)

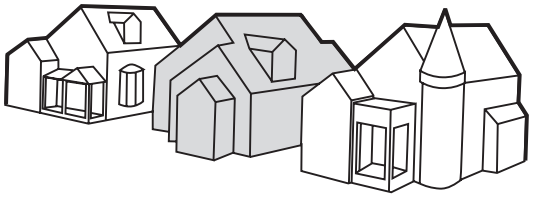


UNDESIRABLE

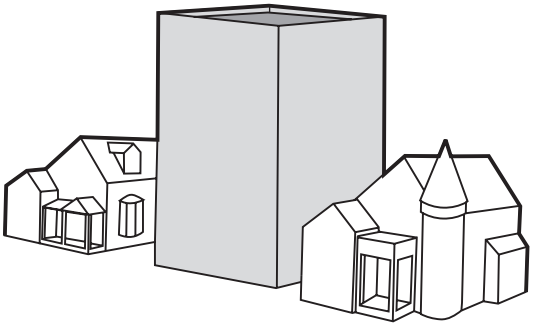


C. MASS

DESIRABLE



UNDESIRABLE

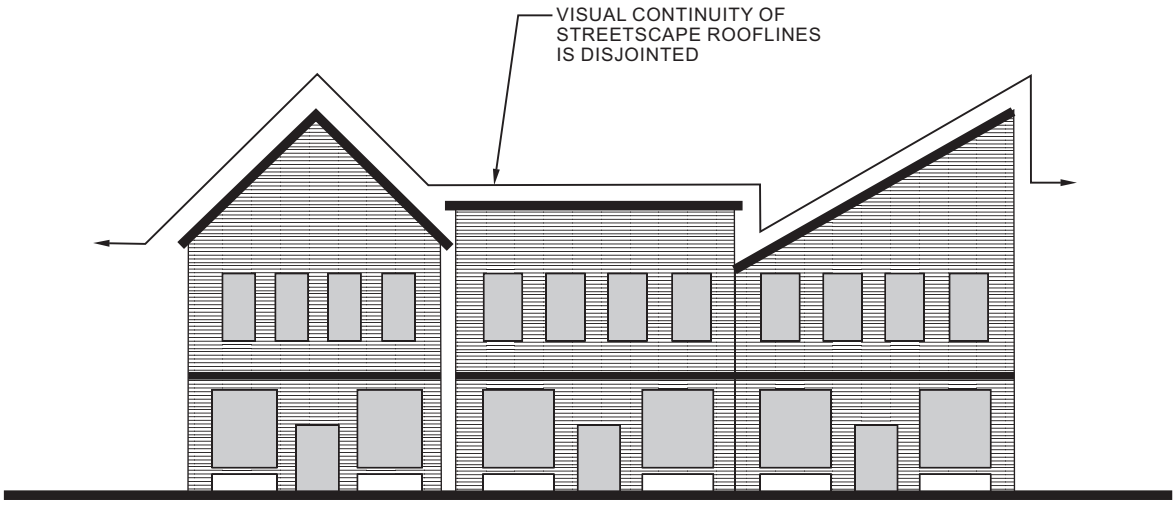


Source: American Planning Association and SEWRPC.

Figure C-26

ROOFLINES AND SHAPES OF BUILDINGS

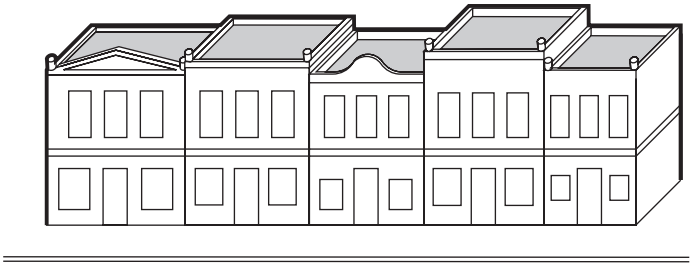
A. ROOF LINE



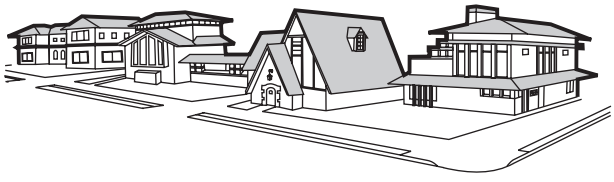
B. ROOF SHAPE

DESIRABLE GROUPING

DESIRABLE GROUPING



UNDESIRABLE GROUPING

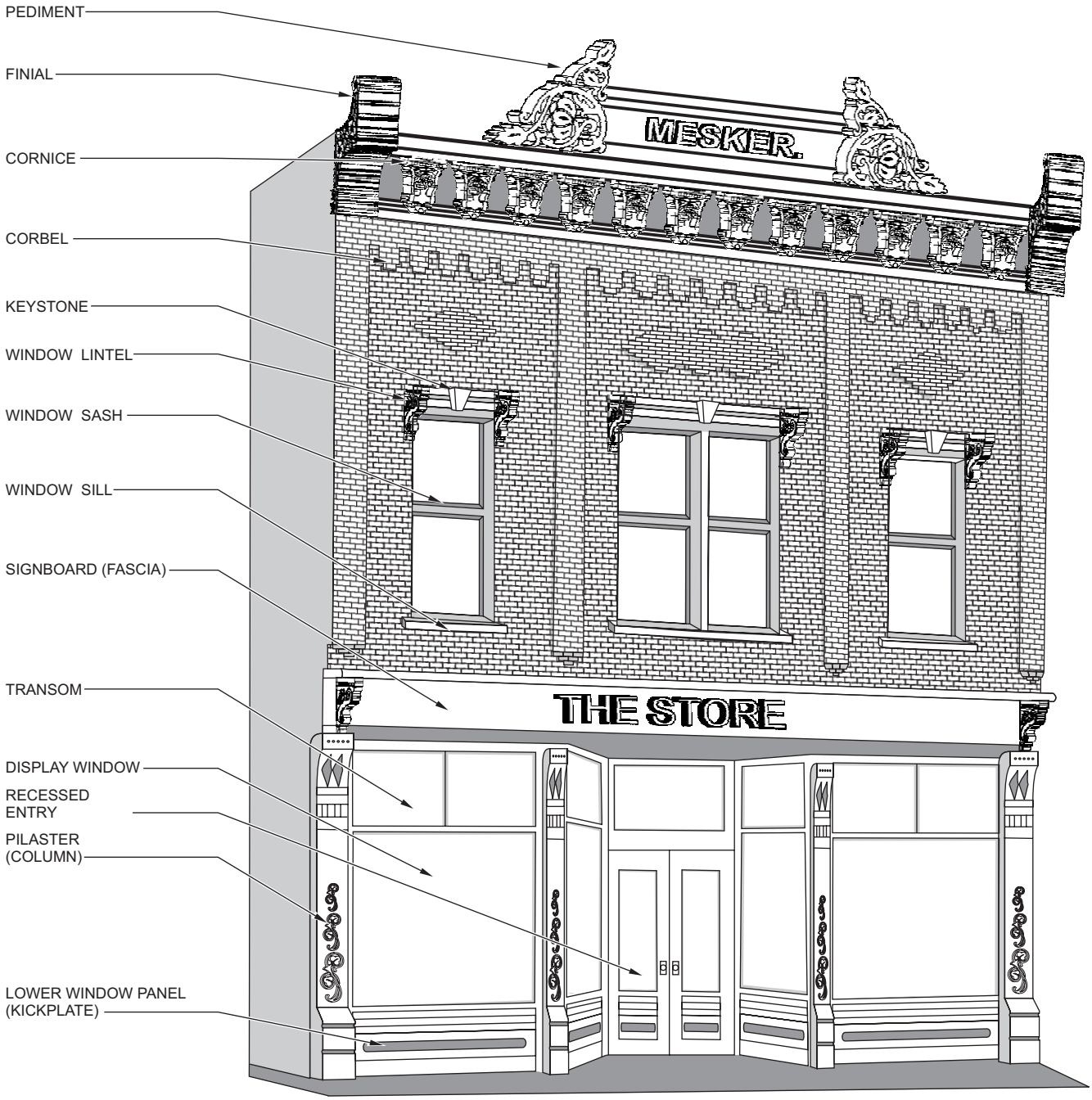


UNDESIRABLE GROUPING

Source: American Planning Association and SEWRPC.

Figure C-27

ARCHITECTURAL FEATURES OF A HISTORIC COMMERCIAL BUILDING



Source: SEWRPC.

Architectural Details

Architectural details and building ornamentation (if present) often represent historic elements of architecture and are important components of the overall character of the Village Center. The distinctiveness of older buildings is directly associated with their architectural details. Figure C-27 defines the various architectural features of a historic commercial buildings with offices or residential quarters in the upper level. Unsympathetic design changes to a building can destroy both the architectural character of the building and the overall streetscape, as

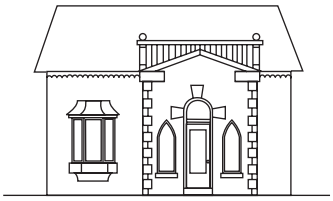
Figure C-28

RESTORATION AND REPLICATION OF EXISTING HISTORIC BUILDINGS

A. HISTORIC RESIDENTIAL BUILDING

DESIRABLE

UNDESIRABLE



B. HISTORIC COMMERCIAL BUILDINGS

DESIRABLE

UNDESIRABLE

Source: American Planning Association and SEWRPC.

illustrated in Figure C-28. Significant architectural details, where they exist, should not be lost in rehabilitation or "modernization" of existing buildings. Remodeling efforts should attempt to retain any rich architectural details. However, efforts to transform an existing building into an earlier period through the use of details that were not originally used on the structure do not usually retain the original architectural integrity of the building.

Consequently, if there is an introduction of modern detail or a mixture of old and new parts on the building, the overall visual character of the building should not be spoiled.

Selection of Materials and Colors

Selection of materials and colors for both architectural and landscape design should be based upon material and color unity, the atmosphere and character desired, the prevailing material and color composition of surrounding buildings and landscape features, the harmoniousness of materials and colors used with other materials and colors, and climatic considerations. Since the primary exterior materials used in the Village Center are natural stone, wood, brick, and brick masonry and, to a limited extent, decorative concrete masonry, deviation from these materials should be minimized. By using these predominant materials, the overall building façade texture of the Village Center would be maintained. Overly conflicting material use and relationships, such as those shown in Figure C-29, should be avoided. Also, plain concrete block buildings, as shown in Figure C-24, and smooth metal-faced buildings that are characterless should be discouraged.

The selection of colors for privately-owned buildings is generally an individual decision. However, the use of colors does have a significant effect upon the overall appearance of the Village Center. Colors which overwhelmingly clash with the overall visual character of the Center should be avoided. Colors should be selected to complement the colors of surrounding buildings and such natural building materials as wood, stone, and masonry. Entire color schemes should consist of neutral subdued hues or earth tone colors such as reds, browns, or beiges. Trims, canopies, or wall signs may be highlighted with complementary accenting colors without overbearing the integrity of the facade, as shown in Figure C-31. Overall, buildings should consist of a predominantly neutral color tone to avoid overdoing the color scheme with an overwhelming mix of different colors in order to retain a coherent connecting color theme in the Village Center, but yet allow limited highlighting colors for some variation in the color scheme to help avoid a drab or monotonous appearance.

All proposed material and color schemes for individual buildings should be reviewed on their individual merit based upon desired building design, building materials, longevity of the color choices, statement in relation to overall theme, compatibility with the character and color of adjacent structures, and unity with existing structures in the immediate vicinity.

Windows

Windows are an important contributing factor in ensuring horizontal and vertical continuity between two buildings, as illustrated earlier, and in establishing a vibrant, “welcoming” atmosphere in the Village Center. Large window displays for businesses should be provided at the street level, as shown in Figure C-23, to not only attract the interest of the passing pedestrian, but also to draw potential customers inside. Window displays should be uncluttered and preferably free of signs or, if permitted, a window sign should occupy no more than 25 percent of the pane on which it is displayed.

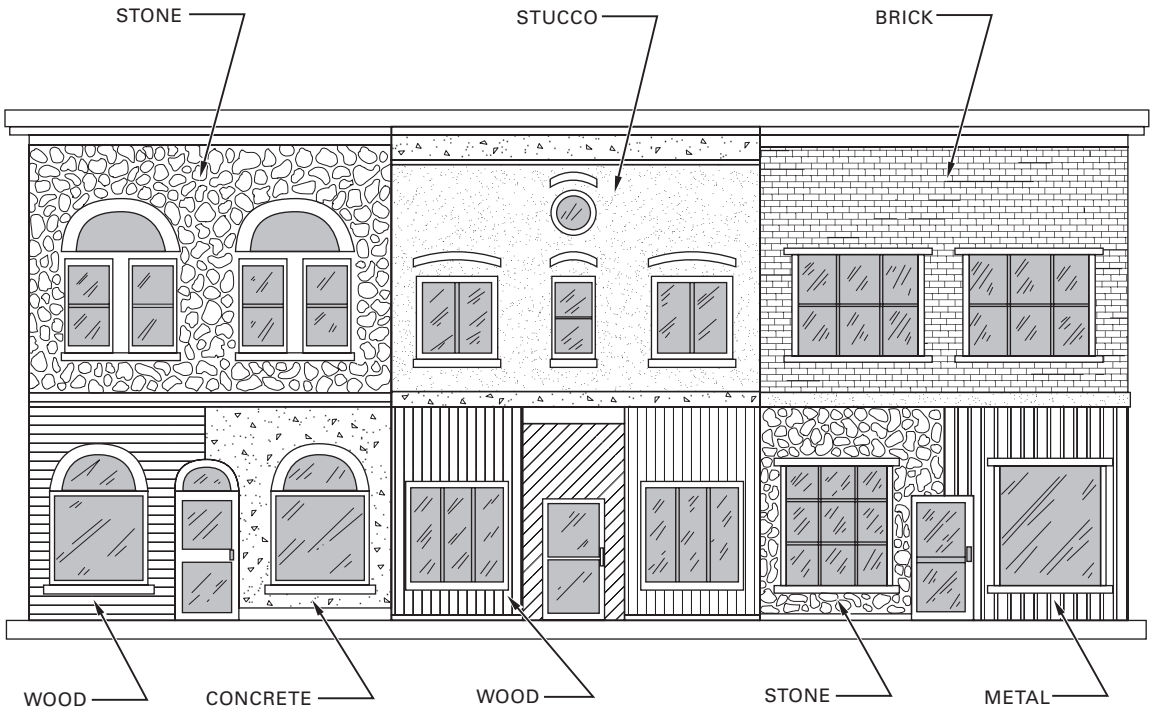
Boarded and dark-tinted windows also detract from the pedestrian atmosphere and should be avoided, at least at the street level, in order to retain an “inviting” facade at this level. To still achieve energy-efficiency and yet retain transparent windows, the following alternative materials could be used: glass with “low E” (emissivity) coatings, which reflects heat in the summer but keeps it in during the winter and still lets light through; glazing with ground-up glass—a ceramic “frit” or enamel—silk-screened onto the surface which is not completely transparent, but allows passers-by to somewhat see through it; double panes of glass with sunshades; lightly tinted windows with some transparency; and canopies and overhangs provided they do not interrupt architectural façade details. Importantly, windows also allow patrons from the inside to peer outside to enjoy people-watching, which, in turn, provides more “eyes” on the streets, thereby providing a greater sense of security.

Accessory Buildings and Structures

Accessory buildings and structures should be compatible with principal structures in terms of building facade character, roof shapes, materials, colors, and architectural details, particularly if these accessory structures are visible from public areas.

Figure C-29

USE OF MATERIALS ON BUILDING FACADES



NOTE: THE USE OF MANY CONFLICTING MATERIALS RESULTS IN VISUAL CHAOS.

Source: SEWRPC.

Landscaping

General

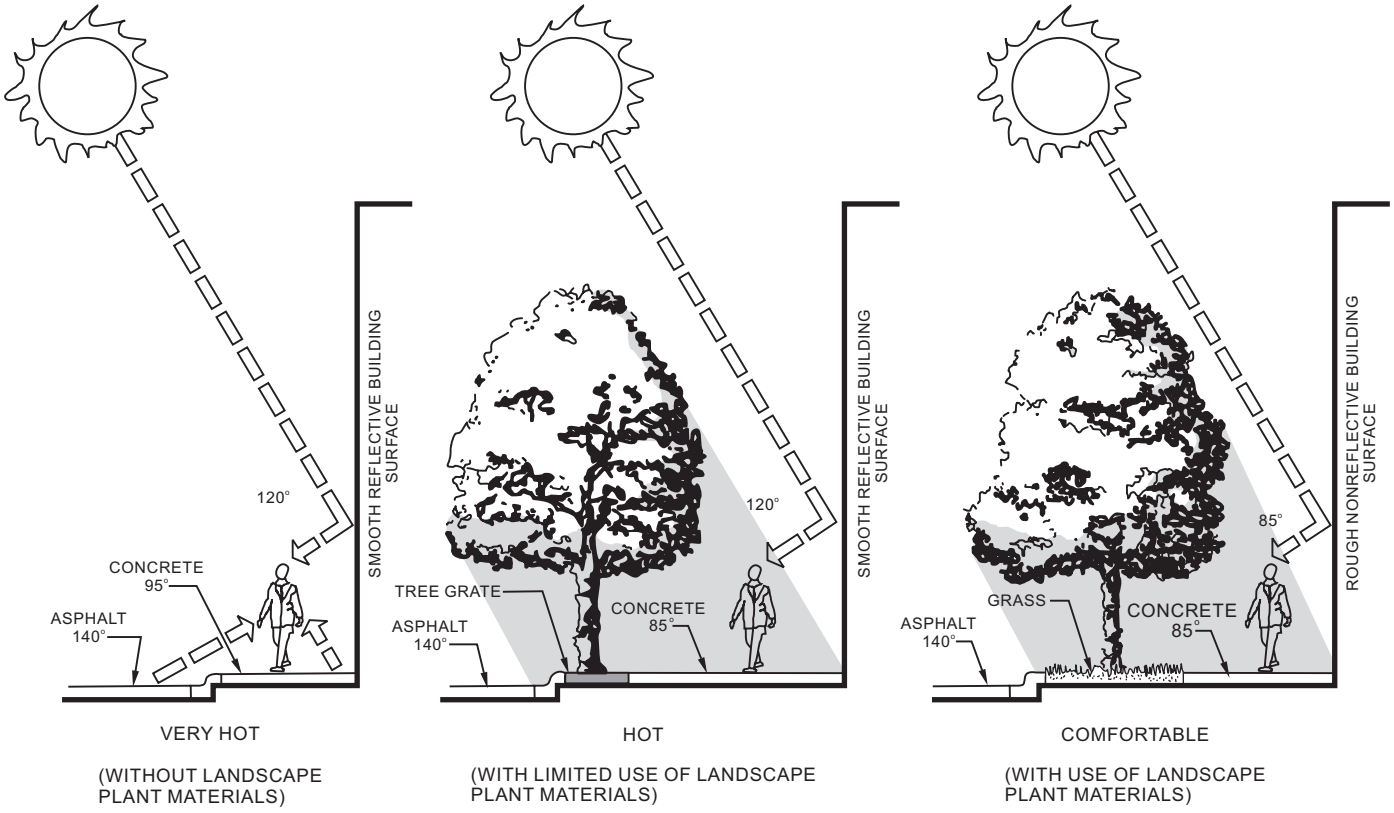
Landscape designs for sites in the Village Center should be integrated with overall site and building plans, not merely as an afterthought, and should be consistent with the desired design theme for the Center. Ultimately, landscaping provides functional and aesthetic characteristics that would improve the character of a Village Center as well as the community. Landscape plantings can provide shade and shelter, act as noise buffers and visual screens, assist in channeling pedestrian and vehicular traffic, reduce air pollutants, act as wind breaks, and decrease insolation (incoming solar radiation) before it reaches the ground, thus preventing re-radiation (long-wave radiation) from asphalt and concrete surfaces, as shown in Figure C-30. The design guidelines outlined earlier for landscaping should be used along with the recommendations below in addressing areas with site constraints such as limited space.

Street Trees

Deciduous canopy trees should be provided wherever possible, while encouraging the provision of ornate tree guards for protection. For those areas with limited space between the building and face of curb, columnar or small to medium scale street trees could be provided and spaced closer together than canopy-type trees, as shown in Figure C-31.

Figure C-30

EFFECT OF LANDSCAPE PLANTINGS ON AIR TEMPERATURE AND PEDESTRIAN COMFORT



NOTE: AN OVERALL BASE TEMPERATURE OF 90° WAS USED IN EACH CASE. ADAPTED FROM "PLANNING FOR ENERGY CONSERVATION", CITY OF DAVIS, CALIFORNIA.

Source: SEWRPC.

Sidewalks

Where space permits, wide sidewalks should be provided to further contribute to a pedestrian-friendly atmosphere; however, a terrace, such as a brick-paved or patterned — "color-stamped" — concrete street edge, as illustrated in Figure C-31, should be provided as a separation between roadways and pedestrian travel to reduce the perception of hazard while providing a more pleasant pedestrian environment.

Parking Lot Screening

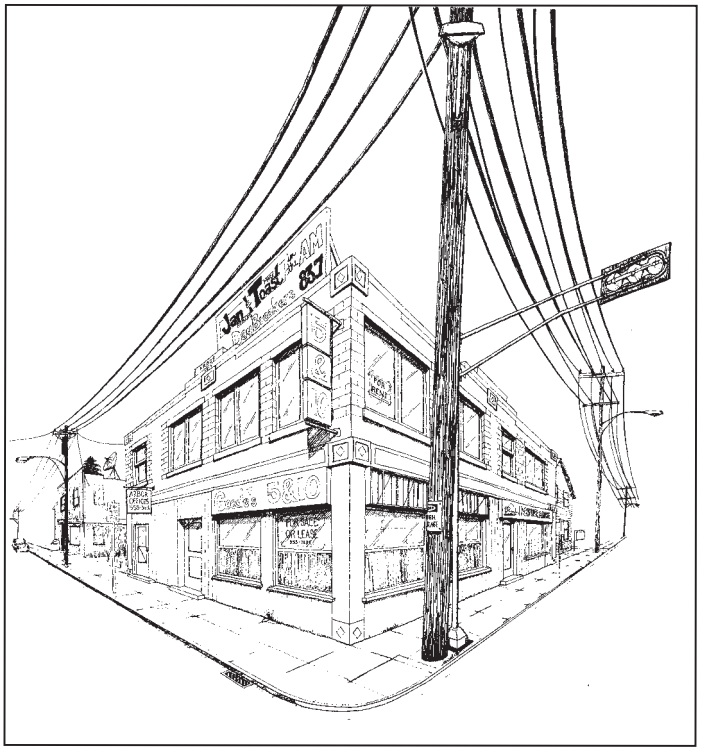
In so far as is possible, the visual effects of parking lots should be partially screened from public streets, as illustrated earlier in Figure C-5, and abutting residential areas to soften the visual impact in accordance with the guidelines established earlier; however, site area may be limited. In such cases, an attractive wrought-iron fence with brick masonry pillars or a solid ornate wall possibly constructed of materials similar to the principal building, may be provided with shrubs, flowers, or ornamental grass at the base that would complement the architectural theme of the building. Such screening from public streets may also function as a significant contributing element of a street wall as discussed earlier. Where parking lots face residential uses, a solid screen of at least six feet in height should be provided.

Buffers

Landscaped buffer yards should be provided between dissimilar uses, as illustrated earlier in Figure C-17. If space is limited, a solid ornate fence or wall should be provided, preferably with landscaping such as shrubs or ornamental grasses provided along at least the finished side of the screening structure; otherwise, the structure

Figure C-31

TYPICAL STREETSCAPE IMPROVEMENTS APPLICABLE TO VILLAGE CENTERS



PERSPECTIVE VIEW BEFORE IMPROVEMENTS

PERSPECTIVE VIEW AFTER POTENTIAL IMPROVEMENTS

Source: SEWRPC.

could be placed on the property line. Provision of some buffering between incompatible uses is preferable to none at all.

Building Foundation Landscaping

Ideally, building foundation landscaping should be provided along the front elevation of buildings facing public streets and parking lots, as shown earlier in Figure C-18. However, space may be limited in the central part of the Village Center. As alternatives, large plant containers, flower boxes under window sills, or low elevated planter beds, which may be constructed of the same materials as the principal building, should be provided along the building elevation to help define entrances and add variation to long continuous building facades, as illustrated with plant pots and containers in Figure C-31.

Site Furniture and Amenities

Site furniture and amenities should be provided to serve pedestrians and bicyclists while evoking a traditional "small Village" character. Such features include lighting standards, traffic standards, planters, benches, fences and gates, handrails, drinking fountains, water fountains, sculptures, clocks, bike stands, garbage receptacles, fire hydrants, phone booths, bollards, kiosks, newspaper boxes, sunshading devices, parking meters, mailboxes, and signage. Uniquely designed bike stands should be provided at designated bicycle parking areas, such as at the library, schools, parks, grocery stores, or in other areas along commercial corridors. The design and arrangement of these items should contribute to the overall design theme of the Village Center, serving aesthetic and utilitarian functions, while adding a sense of design continuity and human scale.

Above-Ground Utility Wires, Mechanical Equipment, and Dumpsters
In the Village Center, the relocation of above-ground utilities either underground or, if not practical, to alleys or the rear of properties, should be considered, since these wires detract from the overall appearance of the Village Center and typically add to visual clutter, as illustrated in Figure C-31. Dumpsters and mechanical equipment should be placed in an unobtrusive location and/or screened from view, as shown earlier in Figure C-21. If space is limited, dumpsters or mechanical equipment should be located in the rear, or, at a minimum, the structural screening shown in Figure C-21 should be provided. Rooftop and at-grade mechanical equipment should also be effectively shielded from public view.

Yards
Front, rear, and side yards should be kept clean and proper garbage receptacles used. Other unsightly features should be screened from view in a creative fashion. Entrances for the general public should provide a walkway which exhibits safe and attractive features, including landscape plantings when practicable. Where a building site or yard is exposed to public view, consideration should be give to its urban features and to its impact on the surrounding area.

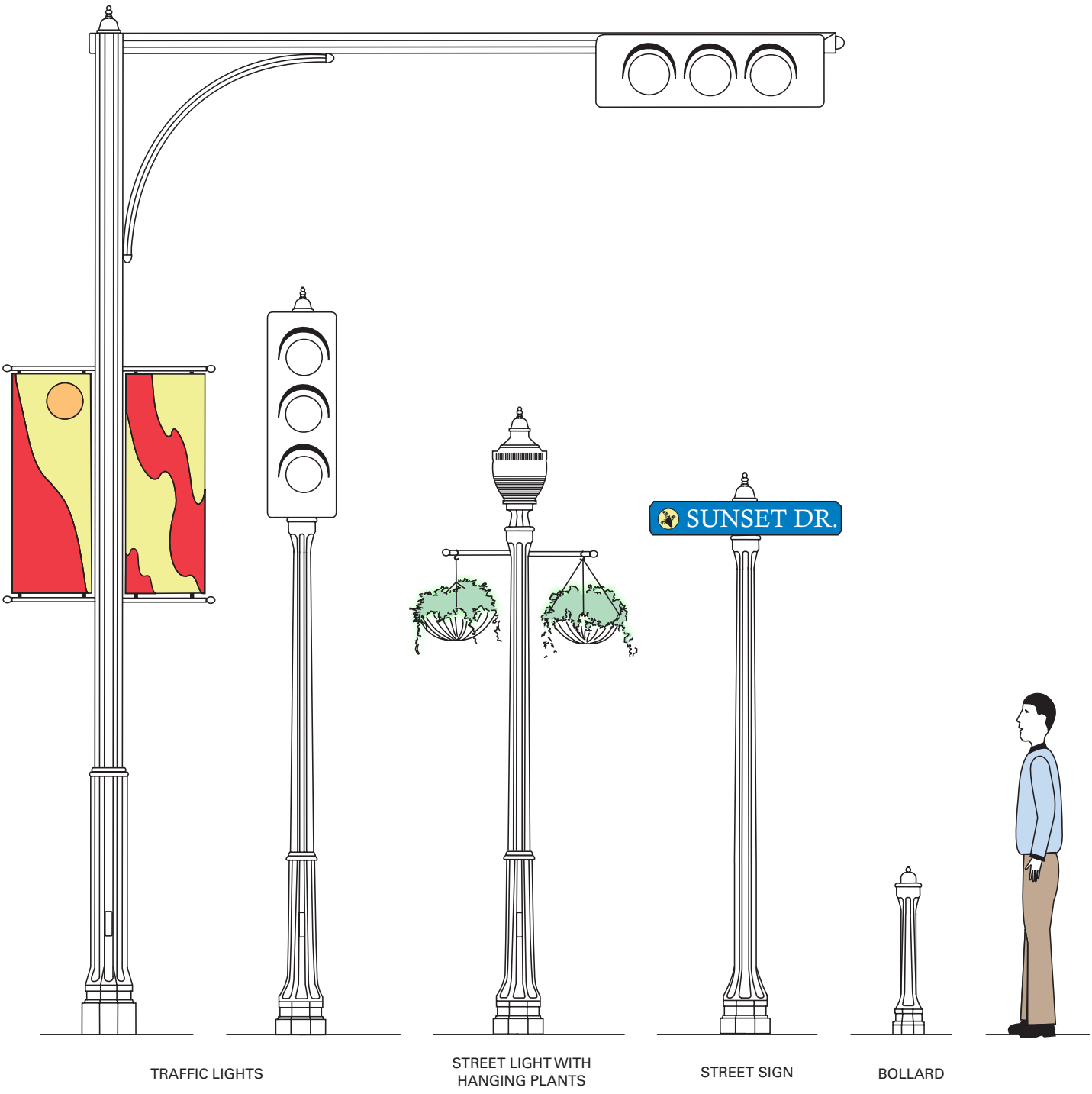
Street Lighting and Traffic Poles
Lighting in the Village Center should relate to both human and building scale. Primary lighting luminaires within the Center should be mounted on decorative posts that are in proportion with the setting, at a height of about 10 to 15 feet. As an alternative, slightly taller decorative posts at a height of about 20 feet could be used, but such posts should be supplemented with bright colorful banners to be in keeping with the human scale desired for the Center. Lighting fixtures or luminaires should be placed so that the light overlaps at a height of about seven feet. Posts and luminaires designed with colorful banners or hanging planters should reflect the desired theme for the Hartland Village Center. The overall illumination should be about 2.0 footcandles to help contribute to a secure and lively street life. If distinctive style streetlights are not practical, the traditional style of tall streetlights could be made more attractive by using colors, such as black or green, instead of the bare metal color. As another alternative, the pole could be colored black or green while the extended arm with the illumination head could remain silver. Due to interest in conserving energy and the night sky for star gazing, such lights should be shielded to efficiently project lighting downwards without reducing the sense of security and the desired degree of illumination. At the same time, such directed illumination would not shine into dwelling units that may be located on the second or third floor level of buildings. The distinct design style of the streetlights should also be emulated in bollards and poles for street signs and traffic signs and signals, as illustrated in Figures C-31 and C-32.

Signs
The sign design guidelines outlined earlier under the basic urban and site planning design guidelines should be used, including the provision of graphically unique street signs and color “icon” or symbolic directional signs for wayfinding purposes. Signs in the Village Center should be placed in visually pleasing and logical places of building facades that are void of openings, projections, and architectural details. The heights of signs should be consistent between stores in the same block streetscape. Standard "franchise" and "brand name" signs should be avoided. A master sign for businesses within a multi-tenant building or center should display the owner, business, or shopping center name only. Window signs should not dominate more than 25 percent of the total glass area of any individual display window.

Since the building facades in the central location of the Village Center have predominantly flat storefronts that are oriented parallel to streets and close to sidewalks, flush-mounted face signs (wall or canopy signs) are recommended. Most signs within the central location of the Village Center where space is limited should consist of wall signs not extending above the roofline nor the second floor window sill, as shown earlier in Figure C-27. Projecting signs should be avoided. Beyond this central location, where more space is available in existing front yards, most signs should also consist of flush-mounted face signs and/or low monument signs, about five to six feet in height, made of natural stone or wood-carved material and set in an attractive base. Monument signs should be surrounded by landscaping, as noted earlier in Figures C-16 and C-19.

Figure C-32

COMPATIBLE STREET ELEMENT STYLES



Source: SEWRPC.

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Appendix D

INVASIVE PLANTS

The following list of invasive plants should not be used for landscaping. If these plants are already located in existing natural areas, it is recommended that they be removed to protect native vegetation, provided that wholesale clearing in the absence of a detailed restoration plan does not result in problems related to bare ground and erosion.

Common Name(s)	Botanical Name(s)
TREES	
Black Locust	*Robinia pseudoacacia*
White Poplar	*Populus alba*
SHRUBS	
European Barberry	*Berberis vulgaris*
Common Buckthorn	*Rhamnus cathartica*
Glossy, Columnar, or Tall-Hedge Buckthorn	*Rhamnus frangula*
Most Honeysuckles	*Lonicera (L.) tatarica, L. x bella, L. morrowii,* and *L. maackii*
Autumn Olive	*Elaeagnus umbellate*
Russian Olive	*Elaeagnus angustifolia*
Multiflora Rose	*Rosa multiflora*
VINES	
Porcelain Berry	*Ampelopsis brevipedunculata*
Japanese Honeysuckle	*Lonicera japonica*
FORBS	
Spotted Knapweed	*Centaurea maculosa*
Japanese Knotweed	*Polygonum cuspidatum*
Purple Loosestrife	*Lythrum salicaria*
Garlic Mustard	*Alliaria petiolata*
Dame's Rocket	*Hesperis matronalis*
Leafy Spurge	*Euphorbia esula*
Canada Thistle	*Cirsium arvense*
Musk or Nodding Thistle	*Carduus nutans*
Crown Vetch	*Coronilla varia*
Black Swallow-Wort	*Vincetoxicum nigrum*
GRASSES	
Reed Canary Grass	*Phalaris arundinacea*
Quack Grass	*Elytrigia repens* or *Agropyron repens*

Source: SEWRPC.

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Appendix E

A PLANT SELECTION GUIDE FOR LANDSCAPE PLANTING IN THE VILLAGE OF HARTLAND

The following tables list plants recommended for landscape use within the Village of Hartland. The plant selection guide is divided into seven tables consisting of deciduous trees, evergreen trees, deciduous shrubs, evergreen shrubs, ornamental grasses, groundcovers, and vines. A summary of plant characteristics follows each name and the first five tables further group the plants by height. The tables are not exhaustive, but include plants that are usually available within southeastern Wisconsin. Prior to selecting plants for a specific location, various site characteristics should be carefully analyzed including soil type, drainage conditions, air temperature, growing space, sunlight exposure, wind exposure, salt exposure, utility lines, traffic visibility, snow compaction, and other site conditions that will significantly affect the growth of plants.

As a general guide, trees and shrubs used for buffering or screening purposes should consist of the following minimum sizes:

1. Deciduous shade trees and ornamental trees should contain a caliper size of at least two inches and 1.5 inches in diameter, respectively, which are measured at least six inches above the root system, or ground level.

2. Evergreen trees should be at least five to six feet in height.

3. Deciduous and evergreen shrubs used to screen parking areas from public streets should be at least 18 to 24 inches in height and grow to obtain an overall screening height of at least three feet above the parking surface after three years. A minimum plant size of five to six feet in height is suggested for buffering between incompatible land uses. Smaller plants could be used if combined with other landscape measures, such as planters or berms, provided the desired degree of buffering or screening is achieved.

Deciduous trees selected for installation along streets should contain a caliper size of at least two inches in diameter, measured 4.5 feet (about chest height) above ground level. The over-use of one type of tree should be avoided. For a more complete guide to street tree planting, refer to the sources referenced at the end of this appendix.

Abbreviations used in the following tables include:

cvs. – cultivars;
f. – forma;
spp. – species;
ssp. – subspecies;
var. – variety.

A. DECIDUOUS TREES

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL TREES -- 40-100 feet in height; plant at least 40-50 feet apart; columnar species, 20-30 feet apart				
● *Ash, Green (G.A.)	Fraxinus pennsylvanica	F	Oval-irregular	Dry to wet soil; tolerates poor drainage; twiggy and weak-wooded; pest or disease problem may limit use; yellow fall color
Aerial G.A.	'Aerial'	F	Columnar	Narrow, upright branching
Marshall Seedless G.A.	'Marshall Seedless'	F	Oval	Seedless; glossy, dark green foliage; improved habit of growth
Patmore G.A.	'Patmore'	F	Oval	Seedless; shining green leaves; straight trunk yellow fall color
Summit G.A.	'Summit'	F	Upright	Finer textured foliage
● *Ash, White (W.A.)	Fraxinus americana	M	Rounded	Moist soil; tolerates poor drainage; dioecious (requiring pollination); orange to purple fall color; salt-tolerant
Autumn Applause W.A.	'Autumn Applause'	M	Oval	Seedless; deep red fall color
Autumn Purple W.A.	'Autumn Purple'	M	Rounded	Seedless; superior fall color
Champaign County W.A.	'Champaign County'	M	Oval	Seedless; shiny dark green foliage; yellow to purplish fall color
Rosehill W.A.	'Rosehill'	S	Oval	Seedless; dark green foliage; bronze-red fall color
Skyline W.A.	'Skyline'	M	Oval	Seedless; upright habit
*Beech, American	Fagus grandifolia	S	Oval	Moist, rich soil; smooth, gray bark; yellow-bronze fall color; difficult to transplant; shallow root system sensitive to trampling
Beech, European	Fagus sylvatica	S	Rounded	Moist, rich soil; less difficult to transplant than F. grandifolia; several cultivars available
Catalpa, Northern	Catalpa speciosa	F	Oval	Poor, dry soil; showy, white, June flowers; coarse; litter problem; no fall color; subject to verticillium wilt
*Cherry, Black	Prunus serotina	M	Oval	Dry soil; white flowers and littering black fruits; orange fall color; subject to black knot
*Coffeetree, Kentucky	Gymnocladus dioica	M	Upright	Moist, rich soil; coarse and rugged; dioecious; litter problem
● Elm, Hybrid (H.E.)	Ulmus x 'New Horizon'	F	Upright	Dutch elm disease resistant; urban
Regal H.E.	'Regal'	F	Upright	Dutch elm disease resistant; urban
● Ginkgo (G.); Maidenhair Tree (Male Only)	Ginkgo biloba	S	Pyramidal	Urban; dioecious, females produce smelly fruits; fan-shaped leaves; golden yellow fall color
Autumn Gold G.	'Autumn Gold'	S	Conical	Urban; fruitless; yellow fall color
Lakeview G.	'Lakeview'	S	Columnar	Urban; fruitless; yellow fall color
Sentry G.	'Fastigiata'	S	Columnar	Fruitless; yellow fall color
● *Hackberry, Common (C.H.)	Celtis occidentalis	M	Vase	Tolerates alkaline soils; "pebbled" bark; hard black fruits; pest or disease problem and witches' broom may limit use; yellowish fall color
Prairie Pride C.H.	'Prairie Pride'	M	Vase	Superior branch structure; glossier leaves; no witches' broom
*Honeylocust, Common	Gleditsia triacanthos	F	Vase	Urban; tolerates poor drainage; salt-tolerant; dioecious, females produce pods; fine-textured foliage; wicked thorns; pest or disease problems may limit use; yellow fall color

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL TREES -- 40-100 feet in height; plant at least 40-50 feet apart; columnar species, 20-30 feet apart (continued)				
● Honeylocust, Thornless Common (T.C.H.)	Gleditsia triacanthos var. inermis	F	Vase	Tolerates poor drainage; thornless, as are all the following; pest or disease problem may limit use; salt-tolerant
Imperial T.C.H.	'Imperial'	F	Rounded	Podless; low-growing; flat-topped; pest or disease problem may limit use
Majestic T.C.H.	'Majestic'	F	Irregular	Podless; resistant to diseases; pest problems may limit use
Moraine T.C.H.	'Moraine'	F	Irregular	Usually fruitless; dense foliage
Shademaster T.C.H.	'Shademaster'	F	Irregular	Podless; vase shape in age; pest or disease problem may limit use
Skyline T.C.H.	'Skyline'	F	Upright	Podless; tends to form central leader; pest or disease problem may limit use; good golden fall color
Sunburst T.C.H.	'Sunburst'	F	Irregular	Podless; yellow new foliage; poor branch structure; pest or disease problem may limit use
Horsechestnut (H.)	Aesculus hippocastanum	M	Rounded	Urban; coarse; litter problem; difficult to transplant; pest or disease problems may limit use; salt-tolerant; showy, white, May flowers; no fall color
● Bauman H.	'Baumanni'	M	Rounded	Showy white flowers; fruitless
Larch, European	Larix decidua	F	Pyramidal	Full sun; graceful, fine-textured; transplant in spring before buds open; litter problem
Larch, Japanese	Larix kaempferi	F	Wide-pyramidal	Similar to above, more picturesque
*Linden, American (A.L.); Basswood	Tilia americana	M	Rounded	Salt-sensitive; coarse; rich soils
● Redmond A.L.	'Redmond'	M	Pyramidal	Urban; dark green foliage
● Linden, Littleleaf (L.L.)	Tilia cordata	S	Pyramidal	Urban; moist soil; poor branch structure, needs training while young; fragrant flowers; yellow fall color
Chancellor L.L.	'Chancellor'	S	Pyramidal	Uniform, upright habit
Glenleven L.L.	'Glenleven'	M	Pyramidal	Straight, upright habit
Greenspire L.L	'Greenspire'	S	Pyramidal	Improved branching habit
● Linden, Silver	Tilia tomentosa	S	Pyramidal	Tolerates heat and drought
● Maple, Norway (N.M.)	Acer platanoides	M	Rounded	Urban; dense canopy; competitive roots; salt-tolerant; late, yellow fall color
Cleveland N.M.	'Cleveland'	F	Oval-upright	Uniform, dense foliage
Columnar N.M.	'Columnare'	F	Columnar	Indistinct central leader
Crimson King N.M.	'Crimson King'	S	Rounded	Dense foliage; dark red leaves all summer
Deborah N.M.	'Deborah'	F	Oval	New foliage reddish; bronze by summer; an improved 'Schwedleri'
Emerald Lustre N.M.; Pond N.M.	'Emerald Lustre'	F	Oval	More winter-hardy
Emerald Queen N.M.	'Emerald Queen'	F	Oval	Vigorous; crisp foliage
Greenlace N.M.	'Greenlace'	S	Rounded	Deeply divided, fine-textured leaves
Harlequin N.M.; Silver Variegated N.M.	"Drummondii'	S	Rounded	Variegated, cream-edged leaves
Royal Red N.M.	'Royal Red'	S	Rounded	Best for purple summer foliage
Schwedler N.M.	'Schwedler'	M	Oval	Purplish-red new leaves turn bronze-green; orange to yellow fall color
Summershade N.M.	'Summershade'	F	Oval	Leathery dark green leaves; yellow fall color
Superform N.M.	'Superform'	M	Rounded	Straight trunk; dense, dark foliage; yellow fall color

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL TREES -- 40-100 feet in height; plant at least 40-50 feet apart; columnar species, 20-30 feet apart (continued)				
● *Maple, Red (R.M.)	Acer rubrum	F	Rounded	Moist, acid soil; tolerates poor drainage; smooth gray bark turns flaky with age; yellow, orange, or red fall color
Autumn Flame R.M.	'Autumn Flame'	F	Rounded	Early, scarlet fall color
Bowhall R.M.	'Bowhall'	F	Oval	Orange fall color
Red Sunset R.M.	'Red Sunset'	F	Rounded	Late, scarlet fall color
Schlesinger R.M.	'Schlesingeri'	F	Rounded	Red-orange fall color
*Maple, Silver (S.M.)	Acer saccharinum	F	Vase	Moist soil; tolerates poor drainage; fine-textured; weak-wooded; competitive roots; subject to storm damage; yellowish or no fall color
Celebration S.M.	'Celebration'	F	Vase	Seedless
Upright S.M.	'Pyramidale'	F	Pyramidal	Improved branch structure
● *Maple, Sugar (S.M.)	Acer saccharum	M	Rounded	Rich soil; sun; salt-sensitive; oval when young; competitive roots; yellow, orange, or red fall color
Black Maple	ssp. nigrum	M	Rounded	Scorch-resistant; leathery leaves
Green Mountain S.M.	'Green Mountain'	M	Rounded	Scorch-resistant; leathery leaves
Legacy S.M.	'Legacy'	M	Rounded	Scorch-resistant; leathery leaves
*Oak, Bur	Quercus macrocarpa	S	Rounded	Dry to wet soil; full sun, acorns; difficult to transplant; no fall color
● Oak, Pin	Quercus palustris	M	Pyramidal	Moist, acid soil; acorns; pendulous lower branches; iron chlorosis on alkaline soil; red fall color
● *Oak, Red	Quercus rubra	M	Rounded	Well-drained soil; urban; pyramidal when young; acorns; often sold as Q. borealis; red fall color
*Oak, Swamp White	Quercus bicolor	S	Rounded	Moist to wet soil; urban; tolerates poor drainage
*Oak, White	Quercus alba	S	Rounded	Dry soil; subject to iron chlorosis; red fall color; difficult to transplant
Tuliptree; Tulip Magnolia	Liriodendron tulipfera	F	Upright	Rich, moist soil; purchase from northern source; unique leaves, interesting June flowers; yellow fall color
● Zelkova, Japanese (J.Z.)	Zelkova serrata	M	Vase	Dutch elm disease resistant; urban; dark green foliage; yellow-orange-brown fall color
Green Vase J.Z.	'Green Vase'	F	Vase	Dutch elm disease resistant; more upright branching habit; bright green foliage; bronze-red fall color
Village Green J.Z.	'Village Green'	F	Vase	Dutch elm disease resistant; dark green foliage; rusty red fall color

A. DECIDUOUS TREES (continued)

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
MEDIUM TREES -- 30-40 feet in height; plant at least 20-35 feet apart, depending on spread				
*Birch, River (R.B.)	Betula nigra	M	Vase	Wet to dry soil; intolerant of alkaline soils; tolerates poor drainage; pinkish, peeling bark; yellow fall color
Heritage R.B.	'Heritage'	M	Vase	Lighter bark color
Birch, Whitespire	Betula platyphylla var. japonica 'Whitespire'	M	Pyramidal	White bark; heat tolerance results in greater resistance to bronze birch borer
Buckeye, Ohio	Aesculus glabra	S	Rounded	Rich, moist soil; yellow-green flowers; orange fall color
• Cherry, Sargent (S.C.)	Prunus sargentii	M	Upright	Sun; well-drained soil; early, pink flowers; red fall color
Columnar S.C.	'Columnaris'	M	Columnar	Glossy dark green foliage; red-orange fall color; polished bark
Chokecherry, Amur	Prunus maackii	M	Rounded	Amber, exfoliating bark; does well in containers
Corktree, Macho Amur	Phellodendron amurense 'Macho'	M	Vase	Urban; dry soil; seedless; compound leaves; corky bark; yellow fall color
• Elm, Lacebark; Chinese Elm	Ulmus parvifolia	M	Vase	Dutch elm disease resistant; exfoliating bark
• Horsechestnut, Ruby Red	Aesculus x carnea 'Briotii'	S	Rounded	Rich, moist soil; subject to sunscald; cone-shaped red flowers; nearly fruitless
• Pear, Callery (C.P.)	Pyrus calleryana	M	Rounded	Sun; weak branch structure needs training while young; glossy dark green foliage; early, white flowers; red fall color
Aristocrat C.P.	'Aristocrat'	M	Pyramidal	More horizontal branch structure than 'Bradford'; thornless; glossy, dark green leaves; red-purple fall color
Autumn Blaze C.P.	'Autumn Blaze'	M	Rounded	Most winter-hardy; horizontal branching; some thorns
Bradford C.P.	'Bradford'	M	Pyramidal	Full sun; resistant to fire blight; thornless; inconspicuous fruits; glossy dark green leaves; white flowers; scarlet-purple fall color
Chanticleer C.P.; Cleveland Select C.P.	'Chanticleer'	M	Columnar	Upright branches; thornless
Redspire C.P.	'Red Spire'	M	Pyramidal	Glossy, dark leaves; yellow, crimson, purple fall color
Select C.P.	'Select'	M	Pyramidal	Glossy green leaves; red-orange fall color; white flowers
Katsuratree	Cercidiphyllum japonicum	M	Vase	Moist soil; dioecious; small pods; form controlled by pruning, wide-spreading if multi-trunked; yellow to apricot fall color
Willow, Golden Weeping	Salix x sepulcralis Tristis'	F	Weeping	Wet soil; tolerates poor drainage; bright yellow twigs; fine-textured; litter problem

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
LOW TREES -- 15-30 feet in height; plant at least 15-30 feet apart, depending on spread				
*Chokecherry (C.)	Prunus virginiana	M	Upright	Dry, infertile soil; suckering habit; white flowers; yellow to orange fall color
Canada Red C.; Shubert C.	'Canada Red'; 'Shubert'	M	Upright	Sun; foliage changes from green to purple in the summer
Crabapples, Ornamental; Flowering Crabapples (C.)	Malus spp. and cvs.			All require well-drained soil and sun. Most possess a high degree of resistance to the apple scab disease
Adams C.	'Adams'	M	Spreading	Slightly susceptible to fire blight; rose-red flowers; persistent deep red fruits
Betchel C.	'Betchel'	M	Upright-spreading	Pink flowers
Bob White C.	'Bob White'	M	Rounded	Moderately susceptible to fire blight; scab resistant; white flowers; persistent yellow fruits
Candied Apple C.	'Candied Apple'	M	Weeping	Slightly susceptible to scab; pink flowers; persistent cherry-red fruits; foliage tinged with red
Coralburst C.	'Coralburst'	M	Rounded	Disease resistant; coral-pink buds; rose-pink flowers; dwarf-type tree
Dolgo C.	'Dolgo'	F	Upright-spreading	Disease resistant; white flowers; crimson fruits
Donald Wyman C.	'Donald Wyman'	M	Rounded-spreading	Disease and scab resistant; white flowers; persistent bright red fruits
Indian Magic C.	'Indian Magic'	M	Vase	Pink flowers; moderately susceptible to scab; glossy red fruits
Indian Summer C.	'Indian Summer'	M	Rounded	Disease resistant; rose-red flowers; persistent red fruits
Jack C.	Malus baccata 'Jackii'	M	Upright-spreading	Slightly susceptible to fire blight; scab-resistant; white flowers; tiny, dark red fruits
Japanese C.	Malus floribunda	M	Spreading	Slightly susceptible to scab and powdery mildew; moderately susceptible to fire blight; pink-white flowers; yellow-red fruits
Kelsey C.	'Kelsey'	M	Upright-spreading	Pink flowers; semi-dwarf tree
Mary Potter C.	'Mary Potter'	S	Horizontal	Moderately susceptible to fire blight and scab; white flowers; red fruits
Ormiston Roy C.	'Ormiston Roy'	M	Rounded	Slightly susceptible to fire blight; scab resistant; white flowers; persistent yellow fruits
Pink Spires C.	'Pink Spires'	M	Upright	Moderately susceptible to scab and slightly susceptible to fire blight and leaf spot; pink flowers; purplish-red fruits; copper fall color
Professor Sprenger C.	'Professor Sprenger'	M	Upright-spreading	Disease and scab resistant; white flowers; persistent orange fruits
Profusion C.	'Profusion'	M	Rounded-spreading	Slightly susceptible to fire blight; bronze-green foliage; rose-red flowers; deep red fruits
Radiant C.	'Radiant'	F	Upright	Susceptible to scab; pink flowers; compact, symmetrical tree
Red Barron C.	“Red Baron”	M	Upright	Magenta-red flowers; glossy, dark red fruits; reddish fall foliage
Red Jade C.	“Red Jade”	S	Weeping	Moderately susceptible to scab and powdery mildew; white flowers; glossy red fruits
Red Jewel C.	'Red Jewel'	M	Upright-spreading	Moderately susceptible to scab; white flowers; persistent bright red fruits

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
LOW TREES -- 15-30 feet in height; plant at least 15-30 feet apart, depending on spread (continued)				
Crabapples, Ornamental; Flowering Crabapples (C.) (continued)				
Red Splendor C.	'Red Splendor'	M	Vase	Slightly susceptible to scab and moderately to fire blight; pink flowers; bright red fruits remain into winter
Royalty C.	'Royalty'	S	Vase-upright	Severely susceptible to scab and slightly to fire blight; purple-red flowers; dark red fruits
Sargent C.	Malus sargentii	S	Spreading	Slightly susceptible to scab, fire blight, and leaf spot; white flowers; dark red fruits; dwarf tree
Sentinel C.	'Sentinel'	S	Upright	Slightly susceptible to fire blight and scab; white flowers; persistent bright red fruits
Snowdrift C.	'Snowdrift'	S	Vase	Slightly susceptible to scab and fire blight; white flowers; orange-red fruits
Spring Snow C.	'Spring Snow'	S	Vase	Severely susceptible to scab and slightly to fire blight; white flowers; fruitless
Van Eseltine C.	'Van Eseltine'	M	Vase	Severely susceptible to scab and fire blight; pink flowers; yellow fruits
White Cascade C.	'White Cascade'	S	Weeping	Disease resistant; white flowers; yellowish fruits
Zumi Calocarpa C.	Malus sieboldii var. zumi 'Calocarpa'	S	Pyramidal	Slightly susceptible to scab, mildew and severely to fire blight; white to pink flowers; bright red fruits
*Dogwood, Pagoda	Cornus alternifolia	M	Spreading	Cool, moist soil; shade; blue-black fruits on red stalks; early, maroon fall color
*Hawthorn, Cockspur (C.H.)	Crataegus crus-galli	S	Spreading	Urban; sun; persistent, brick red fruits; thorns; orange to red fall color
● Thornless C.H.	var. inermis	M	Spreading	Few thorns; dark green foliage; bright red fruits
*Hawthorn, Dotted	Crataegus punctata	S	Spreading	Moist, heavy soil; sun; picturesque; susceptible to rust
*Hawthorn, Downy	Crataegus mollis	S	Spreading	Sun; large, red, early-ripening fruit; susceptible to rust; yellow fall color
Hawthorn, Washington	Crataegus phaenopyrum	M	Upright	Urban; sun; thorns; latest blooming; small, persistent, orange-red fruits in clusters; orange fall color
Hawthorn, Winter King	Crataegus x viridis 'Winter King'	M	Upright	Sun; few thorns; glossy leaves; persistent red fruits; silver bark
● *Hophornbeam; Ironwood	Ostrya virginiana	S	Pyramidal	Dry soil; shade; catkins; elm-like leaves; yellowish fall color
● *Hornbeam, American; Blue Beech; Ironwood; Musclewood	Carpinus caroliniana	S	Spreading	Moist soil; shade; smooth, gray, muscle-like trunk; orange fall color
● Lilac, Japanese Tree (J.T.L.)	Syringa reticulata	S	Horizontal	Sun; large, pyramidal, cream-white fragrant flower cluster in June; tan fruits; salt-tolerant
Ivory Silk J.T.L.	'Ivory Silk'	S	Oval	Straight, single trunk
Summer Snow J.T.L.	'Summer Snow'	M	Globe	Glossy dark green leaves; large creamy-white flowers; cherry-like bark
Magnolia, Loebner (L.M.)	Magnolia x loebneri	S	Pyramidal	Rich soil; sun; difficult to transplant
Leonard Messel L.M.	'Leonard Messel'	S	Pyramidal	Pink flowers
Merrill L.M.	'Merrill'	S	Pyramidal	White flowers
Magnolia, Saucer	Magnolia x soulangiana	S	Rounded	Rich soil; sun; large pink flowers; difficult to transplant; subject to alkaline soil-induced chlorosis
Magnolia, Star	Magnolia stellata	S	Rounded	Well-drained soil; sun; well-drained soil; early white flowers

A. DECIDUOUS TREES (continued)

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
LOW TREES -- 15-30 feet in height; plant at least 15-30 feet apart, depending on spread (continued)				
Maple, Amur (A.M.)	Acer ginnala	M	Rounded	Partial shade; red fruits; orange-red fall color; usually multiple trunk
Bailey Compact A.M.	'Bailey Compact'	M	Rounded	More compact; 10' height
● Maple, Globe Norway	Acer platanoides 'Globosum'	S	Globe	Urban; dense canopy; useful on a standard under utility wires; 20' height; yellow fall color
*Mountainash, American	Sorbus americana	S	Oval	Cool soil; white flowers; orange-red fruits
Mountainash, European	Sorbus aucuparia and cvs.	M	Oval	Cool soil; orange fruits; pest or disease problem
Mountainash, Korean	Sorbus alnifolia	S	Oval	Cool soil; simple leaves; small flowers and fruits; subject to fire blight; orange to red fall color
*Mountainash, Showy	Sorbus decora	S	Upright	Cool soil; large, reddish fruits; pest or disease problem
*Plum, American	Prunus americana	F	Horizontal	Dry soil; sun; suckering habit; white flowers; yellow to orange fall color
Plum, Newport	Prunus x 'Newport'	M	Rounded	Sun; reddish-purple summer foliage
Redbud, Eastern	Cercis canadensis	M	Spreading	Sun or shade; purplish-pink flowers; yellow fall color; "Columbus strain" is the most winter-hardy
*Serviceberry, Allegany (A.S.)	Amelanchier laevis	S	Upright	Moist soil; white flowers; edible fruits; orange to red fall color
Cumulus A.S.	'Cumulus'	S	Upright	Single trunk
*Serviceberry, Apple (A.S.)	Amelanchier x grandiflora	S	Upright	Moist soil; white flowers; edible fruits orange to red fall color
Autumn Brilliance A.S.		S	Spreading	Bright red-orange fall color
Princess Diana A.S.	'Princess Diana'	S	Spreading	Bright red-orange fall color
Strata A.S.	'Strata'	S	Spreading	Horizontal branching
*Serviceberry, Downy; Juneberry	Amelanchier arborea	S	Upright	Dry soil; suckering; gray bark; edible fruits; white flowers; yellow fall color
Willow, Contorted; Corkscrew Willow	Salix matsudana 'Tortuosa'	F	Upright	Wet soil; tolerates poor drainage; sun; twisted branches; pest or disease problem
Willow, Laurel	Salix pentandra	M	Rounded	Wet soil; sun; glossy, dark green foliage; dense habit; good screening plant

[a]*The following letters represent: S - Slow; M - Moderate; and F - Fast.*

●Street tree (also see Appendix F). Only male Ginkgo trees should be selected for this purpose. The overuse of one type of tree should be avoided.

*Wisconsin native.

B. EVERGREEN TREES

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL TREES -- 60-80 feet in height; plant at least 25-35 feet apart, depending on spread				
Fir, Douglas	Pseudotsuga menziesii	M	Pyramidal	Half-shade; flat, dark green needles
Fir, White	Abies concolor	M	Pyramidal	Dry soil; heat; gray-green foliage
*Hemlock, Canadian	Tsuga canadensis	M	Pyramidal	Moist soil; shade; soft, feathery foliage
*Pine, Eastern White	Pinus strobus	M	Pyramidal	Moist soil; sun; picturesque; soft, green foliage subject to blister rust
Spruce, Colorado Blue	Picea pungens var. glauca	S	Pyramidal	Sun; urban; blue needles; stiff, formal habit
Spruce, Norway	Picea abies	F	Pyramidal	Deep soil; dark green foliage; long cones; pendulous branchlets
MEDIUM TREES -- 40-60 fee in height; plant at least 25-35 feet apart, depending on spread				
Pine, Austrian	Pinus nigra	M	Pyramidal	Sun; salt-tolerant; urban; stout, dark green needles; pest or disease problem
*Pine, Jack	Pinus banksiana	M	Pyramidal	Dry soil; sun; yellow-green winter color; salt-tolerant
*Pine, Red	Pinus resinosa	F	Pyramidal	Dry soil; sun; reddish bark; yellow-green winter color
Pine, Scots; Scotch Pine	Pinus sylvestris	F	Irregular-pyramidal	Dry soil; sun; orange bark; bluish needles
Pine, Swiss Stone	Pinus cembra	S	Columnar-pyramidal	Sun; narrow habit
Spruce, Serbian	Picea omorika	S	Columnar-pyramidal	Sun; narrow habit; pendulous branchlets
*Spruce, White	Picea glauca	M	Pyramidal	Moist soil; sun; light green needles
LOW TREES -- 15-40 feet in height; plant at least 10-25 feet apart, depending on spread				
*Arborvitae, American,(A.A.); White Cedar	Thuja occidentalis	M	Columnar-pyramidal	Moist soil; half-shade; light green, soft, scale-like foliage, brownish-green in winter; screening plant
Dark Green A.A.	'Nigra'	S	Columnar-pyramidal	Dark green foliage persistent through winter
Hetz Wintergreen A.A.	'Hetz Wintergreen'	F	Columnar-pyramidal	Narrow columnar form with single leader; dark green foliage
Pyramidal A.A.	'Pyramidalis'	S	Columnar-pyramidal	Bright green, soft textured foliage
Sunkist A.A.	'Sunkist'	S	Columnar-pyramidal	Yellow foliage
Techny Dark-Green A.A.	'Techny'; 'Mission'	S	Columnar-pyramidal	Deep green foliage, year-round
Juniper, Chinese (C.J.)	Juniperus chinensis	S	Columnar-pyramidal	Dry soil; sun; blue-green foliage; rust resistant
Iowa C.J.	'Iowa'	S	Columnar-pyramidal	Dense columnar form; fruits
Mountbatten C.J.	'Mountbatten'	S	Columnar-pyramidal	Narrow, columnar form; large fruits

B. EVERGREEN TREES (continued)

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
LOW TREES -- 15-40 feet in height; plant at least 10-25 feet apart, depending on spread (continued)				
*Redcedar, Eastern (E.R.)	Juniperus virginiana	S	Columnar-pyramidal	Dry soil; sun; brownish winter color; susceptible to cedar-apple rust; salt tolerant
Burk E.R.	'Burkii'		Columnar-pyramidal	Fine-textured, gray-green foliage
Canaert E.R.	'Canaertii'	S	Columnar-pyramidal	Dark green, tufted foliage
Silver E.R.	'Glauca'	S	Columnar-pyramidal	Silver-gray foliage; informal habit
Hill Dundee E.R.	'Hillii'	S	Columnar-pyramidal	Gray-green foliage turns purple in winter; no fruits
Spruce, Black Hills	Picea glauca var. densata	S	Pyramidal	Dry soil; sun; narrow, dense habit; salt-tolerant
Yew, Upright Japanese	Taxus cuspidata	S	Pyramidal	Shade; urban; deep green needles; often sold as Taxus cuspidata 'capitata'

[a]*The following letters represent: S - Slow; M - Moderate; and F - Fast.*

*Wisconsin native.

C. DECIDUOUS SHRUBS

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL SHRUBS -- 8-10 feet in height, sometimes 15 feet; plant at least 4-6 feet apart				
Beautybush	Kolkwitzia amabilis	F	Upright	Alkaline soil; sun; pink flowers in June; shredded bark; leggy
*Bladdernut, American	Staphylea trifolia	M	Upright	Moist soil; shade; whitish flowers; green to brown, bladder-like fruits; white-striped bark
Buckeye, Bottlebrush	Aesculus parviflora	M	Mounded	Moist soil; semi-shade; white flowers in July
Buffaloberry	Shepherdia argentea	M	Irregular	Dry soil; sun; yellowish flowers; dioecious; edible red fruits; silvery foliage; thorns
Cherry, Manchu; Nanking Cherry	Prunus tomentosa	S	Rounded	Dry soil; sun; white flowers; edible, red fruits
Cotoneaster, Manyflowered	Cotoneaster multiflorus	M	Mounded	Well-drained soil; sun; white flowers; red fruits; very wide-spreading; subject to fire blight
Dogwood, Corneliancherry (C.D.)	Cornus mas	M	Oval	Shade; urban; yellow flowers in April; flower buds may be injured or killed during some winters; edible red fruits
Golden Glory C.D.	'Golden Glory'	M	Upright	Darker green foliage
*Dogwood, Gray	Cornus racemosa	S	Erect	Dry or wet soil; shade; white flowers; white fruits; purple fall color
*Dogwood, Pagoda	Cornus alternifolia	M	Spreading	Moist soil; shade; white flowers; blue fruits; horizontal branches; early, maroon fall color
*Dogwood, Redosier (R.D.)	Cornus sericea	F	Spreading	Wet, moist soil; tolerates poor drainage; white flowers; white fruits; red twigs; often sold as C. stolonifera
Bailey R.D.	f. baileyi	F	Erect	Wet, moist soil; tolerates shade; bright red twigs
Yellowtwig R.D.	'Flaviramea'	F	Spreading	Yellow bark in winter
Euonymus, European (E.E.); Spindletree	Euonymus europaea	M	Tree-like	Dry soil; urban; striped bark; persistent, pink fruits; orange to purple fall color
Red Cap E.E.	'Red Cap'	M	Tree-like	Bright pink fruits
Euonymus, Winged;Burning Bush	Euonymus alata	S	Spreading	Well-drained soil; sun or shade; well-drained soil; corky, winged twigs; pink to rose fall color
Forsythia, Meadowlark	Forsythia x 'Meadowlark'	F	Upright	Sun; deep yellow flowers in April
Fringetree	Chionanthus virginicus	S	Spreading	Moist soil; shade; spidery white flowers; dioecious; blue fruits; coarse
Hydrangea, Peegee	Hydrangea paniculata 'Grandiflora'	F	Upright	Moist soil; white to pink flowers in August; persistent, tan flower clusters
Lilac, Chinese	Syringa x chinensis	M	Vase	Dry, alkaline soil; purple-lilac flowers; fine-textured; good screening plant
Lilac, Common	Syringa vulgaris cvs.	M	Upright	Well-drained soil; sun; white, pink, lilac, purple, fragrant flowers; subject to mildew
Lilac, Hyacinth	Syringa x hyacinthiflora cvs.	M	Upright	Sun; white, pink, lilac, purple flowers; early blooming
Lilac, Japanese Tree	Syringa reticulata	M	Tree-like	Sun; white flowers in June; tan fruits; cherry-like bark; often sold as S. amurensis japonica
Lilac, Preston	Syringa x prestoniae cvs.	M	Rounded	Sun; pink to purple flowers; late-blooming; coarse-textured; possible disease problem
Magnolia, Star	Magnolia stellata	S	Rounded	Rich soil; white flowers; orange fruits; finest-textured magnolia
Maple, Dwarf Amur	Acer ginnala nana	M	Upright	Scarlet fall color
*Ninebark, Common	Physocarpus opulifolius	M	Vase	Dry soil; semi-shade; white flowers; red, capsular fruits; shredded bark; coarse
Peashrub, Siberian	Caragana arborescens	F	Erect-oval	Dry, alkaline soil; yellow flowers; greenish twigs; salt-tolerant
Pearlbush	Exochorda racemosa	M	Leggy	Sun; pearl-like flower buds

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL SHRUBS -- 8-10 feet in height, sometimes 15 feet; plant at least 4-6 feet apart (continued)				
Plum, Double Flowering; Flowering Almond; Rose-Tree-of-China	Prunus triloba	S	Rounded	Sun; double, pink flowers, no fruit
Privet, Amur	Ligustrum amurense	F	Erect	Dry soil; white flowers; black fruits; hedge plant; salt-tolerant
Privet, Cheyenne	Ligustrum vulgare 'Cheyenne'	F	Erect	Dry soil; urban; white flowers; black fruits; hedge plant
*Serviceberry; Juneberry (Also see Low Deciduous Trees)	Amelanchier spp.	S	Upright	Partial shade; alkaline soil; white flowers; edible purple fruits; smooth, gray bark; yellow to orange fall color; fire blight sometimes a problem
Serviceberry, Shadblow	Amelanchier canadensis	S	Upright	Moist soil; white flowers; black fruits
Smoketree (S.); Smokebush	Cotinus coggygria	M	Rounded	Sun; dry soil; pinkish "smoke-like" inflorescence; subject to verticillium wilt
Nordine Red S.	'Nordine Red'	M	Rounded	Purplish summer foliage
Royal Purple S.	'Royal Purple'	S	Upright	Purple foliage; reddish-purple fall color
*Sumac, Smooth	Rhus glabra	F	Suckering	Dry soil; sun; persistent red fruits; smooth stems; scarlet fall color; salt-tolerant
*Sumac, Staghorn (S.S.)	Rhus typhina	F	Suckering	Dry soil; sun; persistent red fruits; felty stems; salt-tolerant; orange to red fall color
Shredleaf S.S.; Cut Leaf S.S.	'Dissecta'	F	Picturesque	Dry soil; sun; red fruits; dissected leaves; orange to red in fall
Tamarisk (T.)	Tamarix ramosissima	F	Irregular-upright	Dry soil; sun; salt-tolerant; tiny, pink flowers; very fine-textured; often sold as T. pentandra
Cheyenne Red T.	'Cheyenne Red'	F	Irregular-upright	Deep reddish pink flowers
*Viburnum, American Cranberrybush	Viburnum trilobum	M	Upright	Moist soil; shade; lacy, white flowers; persistent
Viburnum, Arrowwood	Viburnum dentatum	M	Vase	Moist soil; shade; white flowers in June; blue fruits; maroon fall color
*Viburnum, Blackhaw	Viburnum prunifolium	S	Spreading	Partial shade; white flowers; black fruits; single- or multi-trunked; maroon fall color
Viburnum, Burkwood	Viburnum x burkwoodii	M	Upright	Moist, well-drained soil; partial shade; dark green foliage; wine-red fall color
Viburnum, European Cranberrybush	Viburnum opulus	M	Upright	Moist soil; lacy white flowers; persistent red fruits
*Viburnum, Nannyberry	Viburnum lentago	M	Upright	Moist or dry soil; sun or shade; white flowers; black fruits; leggy; subject to mildew; maroon fall color
Viburnum, Sargent	Viburnum sargentii	M	Upright	Lacy white flowers; persistent, red fruits; rough bark
Viburnum, Wayfaringtree (W.V.)	Viburnum lantana	M	Upright	Dry soil; shade; white flowers; red to black fruits; late maroon fall color
Mohican W.V.	'Mohican'	M	Upright	More compact with showier fruits
*Wahoo, Eastern	Euonymus atropurpurea	M	Tree-like	Moist soil; tiny purple flowers; orange to purple fall color
Willow, Goat; French Pussy Willow	Salix caprea	F	Oval	Wet or dry soil; sun; large, silver catkins in early spring
*Witchhazel, Common	Hamamelis virginiana	M	Spreading	Shade; yellow flowers in October; yellow fall color

C. DECIDUOUS SHRUBS (continued)

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
MEDIUM SHRUBS -- 5-8 feet in height; plant at least 3-4 feet apart				
Bayberry	Myrica pennsylvanica	M	Upright	Dry soil; sun; gray, fragrant fruits; dioecious; semi-evergreen; suckering; salt-tolerant
Cherry, Purpleleaf Sand	Prunus x cistena	F	Rounded	Dry soil; sun; white flowers; purple foliage all season
Chokeberry, Red	Aronia arbutifolia	S	Erect	Wet soil; shade; tolerates poor drainage; white flowers; red fruits; red fall color
Cotoneaster, Hedge	Cotoneaster lucidus	M	Upright	Dry soil; partial shade; black fruits; good hedge plant; C. acutifolius is similar; orange to maroon fall color
Cotoneaster, Peking	Cotoneaster acutifolius	M	Upright-vase	Partial shade; black fruits; good hedge plant; orange to maroon fall color
Cotoneaster, Spreading	Cotoneaster divaricatus	M	Mounded	Dry, alkaline soil; dies back in severe winters red fruits; fine-textured; late maroon fall color
Crabapple, Jewelberry	Malus 'Jewelberry'	M	Spreading	Disease resistant; white flowers; persistent, 1/2" dia., red fruits; 8' mature height
Crabapple, Sargent (S.C.)	Malus sargentii	S	Spreading	Slightly susceptible to scab, fire blight and leafspot; white flowers; red fruits; 8' mature height
Tina S.C.	'Tina'	S	Spreading	Disease resistant; 5' mature height
Dogwood, Creamedge; Variegated Dogwood	Cornus alba 'Argenteo-marginata'	F	Mounded	Moist soil; white flowers and fruits; variegated foliage with creamy-white margins; often sold as C. elegantissima
Dogwood, Isanti Red	Cornus sericea 'Isanti'	F	Rounded	Moist soil; white flowers and fruits; bright red twigs; compact form; often sold as C. stolonifera
Euonymus,Nordine Winged; Nordine Burning Bush	Euonymus alata 'Nordine Strain'	S	Spreading	Sun or shade; pink and orange fruits; often sold as 'Koreana'; red fall color
Dwarf Winged Evonymus; Dwarf Burning Bush	'Compacta'	S	Rounded	Sun or shade; small-winged branches; dense form; red fall color
Forsythia, Sunrise	Forsythia x 'Sunrise'	F	Spreading	Sun; urban; large, deep yellow flowers in April
*Hazelnut; American Filbert	Corylus americana	M	Rounded	Dry soil; shade; catkins in March; edible nuts; orange fall color
Jetbead	Rhodotypos scandens	M	Spreading	Dry soil; shade; white flowers; black fruits in clusters of four
Lilac, Miss Kim	Syringa patula 'Miss Kim'	S	Rounded	Sun; coarse; purple flowers; maroon autumn foliage
Lilac, Meyer; Palibin Lilac	Syringa meyeri 'Palibin'	S	Rounded	Sun; purple flowers; dense; fine-textured; good informal hedge plant often sold as S. palibiniana
Lilac, Persian	Syringa persica	M	Upright	Sun; bluish-green foliage; lilac, purple flowers; susceptible to mildew
Mockorange, Glacier	Philadelphus x virginalis 'Glacier'	F	Rounded	Sun; double, white, fragrant flowers
Mockorange, Lemoine	Philadelphus x lemoine cvs.	F	Upright	Moist, well-drained soil; sun; semi-dwarf; single white flowers
Privet, Golden Vicary	Ligustrum x vicaryi	M	Vase	Sun; bright yellowish-green foliage
Privet, Regel's Border	Ligustrum obtusifolium var. regelianum	F	Spreading	Dry soil; shade; white flowers; blue-black fruits; late, purple fall color
Rose, Father Hugo	Rosa hugonis	F	Vase	Poor soil; sun; yellow flowers; sparse red fruits; fine-textured
*Rose, Prairie; Climbing Rose	Rosa Psetigera	F	Sprawling-mounded	Sun; pink flowers in July; can be used as a climber; red fruits; orange fall color

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
MEDIUM SHRUBS -- 5-8 feet in height; plant at least 3-4 feet apart (continued)				
Rose, Rugosa	Rosa rugosa cvs.	F	Rounded	Dry soil; sun; white, yellow, pink or red flowers; large, edible red fruits; salt-tolerant; includes 'Grootendorst'
Spirea, Bridalwreath	Spiraea prunifolia	F	Vase	Sun; white flowers; arching branches
Spirea, Ural False	Sorbaria sorbifolia	F	Erect	Sun; fuzzy white flowers; suckering
Spirea, Vanhoutte	Spiraea x vanhouttei	F	Vase	Sun; white flowers; arching branches; salt-tolerant
Viburnum, Koreanspice	Viburnum carlesii	S	Rounded	Shade; urban; pink to white, fragrant flowers; blue-black fruits; red fall color
*Viburnum, Witherod	Viburnum cassinoides	M	Rounded	Wet, acid soil; tolerates poor drainage; white flowers; pink to red to blue fruits; red fall color
Weigela, Old-Fashioned; Cardinal Bush	Weigela florida	M	Spreading	Well-drained soil; pink, funnel-shaped flowers
Weigela, Red Prince	Weigela x 'Red Prince'	M	Spreading	Well-drained soil; red flowers
Willow, Dwarf Arctic	Salix purpurea 'Gracilis'	F	Rounded	Wet soil; sun; fine-textured silvery leaves; hedge plant
*Winterberry	Ilex verticillata	S	Upright	Wet, acid soil; tolerates poor drainage; dioecious; red fruits
LOW SHRUBS -- 2-5 feet in height; plant at least 2½-3 feet apart				
Barberry, Japanese (J.B.)	Berberis thunbergii	M	Rounded	Dry soil; shade; red fruits; thorns; good hedge plant; orange fall color
Redleaf J.B.	var. atropurpurea	M	Rounded	Sun; red summer foliage
Crimson Pygmy J.B.	'Crimson Pygmy'	S	Low mound	Sun; red summer foliage; 2' height
Rosy Glow J.B.	'Rosy Glow'	M	Rounded	Sun; rose-red-whitish leaves
Barberry, Korean	Berberis koreana	M	Upright	Sun; showy; thorns; suckering; coarse; red fruits and autumn foliage
Box or Boxwood, Green Velvet	Buxus x 'Green Velvet'	S	Rounded	Shade; broadleaf evergreen; good hedge plant; protection from severe low temperatures and winter winds
Box or Boxwood, Wintergreen Korean Littleleaf	Buxus sinica var. insularis 'Wintergreen'	S	Rounded	Shade; broadleaf evergreen; good hedge plant; protection from severe low temperatures and winter winds
*Chokeberry, Glossy Black	Aronia melanocarpa var. elata	S	Suckering	Wet soil; shade; white flowers; black fruits; red fall color
*Cinquefoil, Bush; Potentilla (P.)	Potentilla fruticosa	S	Rounded	Dry soil; sun; blooms all summer
Abbotswood P.	'Abbotswood'	S	Rounded	White flowers; blue-green foliage
Gold Drop P.	'Gold Drop'; 'Farrei'	S	Rounded	Yellow flowers; small green leaves
Goldfinger P.	'Goldfinger'	S	Rounded	Yellow flowers; yellow-green foliage
Jackman P.	'Jackmanii'	S	Rounded	Larger bright yellow flowers; medium-green foliage; salt-tolerant
McKay's White P.	'McKay's White'	S	Rounded	Cream flowers; yellow-green foliage
Primrose Beauty P.	'Primerose Beauty'	S	Rounded	Pale yellow flowers; silvery foliage
Cotoneaster, Cranberry	Cotoneaster apiculatus	S	Mounded	Dry soil; red fruits; red fall color
Cotoneaster, Rock	Cotoneaster horizontalis	M	Spreading	Sun; dark glossy green foliage; fishbone-pattern branches; brogjt red fruits; reddish-purple fall color
Coralberry, Indiancurrant; Buckbrush	Symphoricarpos orbiculatus	F	Suckering	Dry soil; shade; pink fruits; good bank cover

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
LOW SHRUBS -- 2-5 feet in height; plant at least 2½-3 feet apart (continued)				
Currant, Alpine	Ribes alpinum	M	Rounded	Shade; urban; good hedge plant; salt-tolerant
Daphne, Burkwood (B.D.)	Daphne x burkwoodii	S	Rounded	Well-drained soil; partial shade; well-drained soil; semi-evergreen; fragrant pinkish flowers
Carol Mackie B.D.	'Carol Mackie'	S	Rounded	Variegated leaves
Deutzia, Compact Lemoine	Deutzia x lemoinei 'Compacta'	S	Rounded	Well-drained soil; white flowers
Floweringalmond, Pink Dwarf	Prunus glandulosa 'Sinensis'	S	Rounded	Well-drained soil; sun; double, pink flowers; no fruits; narrow leaves
Floweringquince, Texas Scarlet	Chaenomeles x superba 'Texas Scarlet'	M	Spreading	Dry soil; urban; red flowers; yellow, edible fruits; thornless; flower buds may be injured or killed during some winters
Forsythia, Bronx	Forsythia viridissima 'Bronxensis'	S	Low mound	Sun; small yellow flowers; fine-textured; purple fall color
Honeysuckle, Clavey's Dwarf	Lonicera x xylosteoides 'Clavey's Dwarf'	M	Rounded	Dense growth;. good hedge or screening plant
Emerald Mound Honeysuckle	'Emerald Mound'; 'Nana'	M	Mounded	Rich, bluish-green foliage; dense, compact form
Miniglobe Honeysuckle	'Miniglobe'	S	Globe	Dense 2' height globe
*Honeysuckle, Dwarf Bush	Diervilla lonicera	S	Mounded	Dry soil; shade; yellow flowers; good bank cover
Hydrangea, Smooth	Hydrangea arborescens	S	Mounded	Moist soil; shade; white, clustered flowers; dense; bloom on new wood
Annabelle Hydrangea	'Annabelle'	S	Mounded	White clustered flowers; dense
Snowhill Hydrangea	'Grandiflora'	S	Mounded	Smaller flower clusters and less dense than above
Mockorange, Golden	Philadelphus coronarius 'Aureus'	S	Rounded	Sun; white flowers; yellow summer foliage
Ninebark, Dwarf Common	Physocarpus opulifolis 'Nanus'	S	Rounded	Dry soil; shade; creamy-white flowers; red capsular fruits; shredded bark
Oregongrape, Mayhan	Mahonia aquifolium 'Mayhan'	S	Suckering	Shade; urban; yellow flowers; blue fruits; holly-like evergreen foliage; needs shelter from winter sun and wind
Privet, Lodense	Ligustrum vulgare 'Lodense'	S	Rounded	Dry soil; dense compact form; susceptible to blight
Rose, Virginia	Rosa virginiana	M	Suckering	Sun; pink flowers; persistent red fruits; red stems; good bank cover
*St. Johnswort, Kalm's	Hypericum kalmianum	S	Rounded	Dry soil; sun; yellow flowers; shiny brown twigs
*Serviceberry, Running	Amelanchier stolonifera	M	Suckering	Dry soil; shade; white flowers; edible fruits; orange fall color
*Snowberry	Symphoricarpos albus	F	Vase	Best in dry soil; shade; tiny pink flowers; showy white fruits; salt-tolerant; may be sold as S. rivularis
Spirea, Billiard	Spiraea x billiardii	M	Upright	Sun; pink flowers in July and August
Spirea, Bumalda (S.)	Spiraea x bumalda	M	Rounded	Dry soil; sun; summer flowering
Anthony Waterer S.	'Anthony Waterer'	M	Rounded	Raspberry red flowers
Froebelii S.	'Froebelii'	M	Rounded	Pinkish flowers; coppery fall color
Goldflame S.	'Goldflame'	M	Rounded	Gold leaves; red-tipped young shoots; coppery fall color
Spirea, Grefsheim	Spiraea x cinerea 'Grefsheim'	S	Mounded	Sun; white flowers in early May; fine-textured; may be sold as 'Graciosa'

C. DECIDUOUS SHRUBS (continued)

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
LOW SHRUBS -- 2-5 feet in height; plant at least 2.5-3 feet apart (continued)				
Spirea, Japanese (J.S.)	Spiraea japonica	S	Mounded	Sun; pale pink flowers in summer
Daphne J.S.	var. alpina	S	Mounded	Only 10 inches high with tiny flowers
Goldmound J.S.	'Goldmound'	S	Mounded	Gold summer foliage
Little Princess J.S.	'Little Princess'	S	Mounded	Pale pink flowers
Spirea, Japanese White	Spiraea albiflora	M	Mounded	Sun; white flowers in summer
Spirea, Snowmound	Spiraea nipponica 'Snowmound'	S	Mounded	Sun; white flowers; blue-green foliage; possible disease problem
Stephanandra, Cutleaf	Stephanandra incise 'Crispa'	F	Mounded	Sun; well-drained, acid soil; excellent ground cover
*Sumac, Fragrant (F.S.)	Rhus aromatica	M	Mounded	Dry soil; sun; salt-tolerant; red fruits; fragrant foliage, turns orange-maroon in fall
Gro-Low F.S.	'Gro-Low'	M	Mounded	Uniform 2 1/2' height; glossy leaves
Viburnum, Compact European Cranberrybush	Viburnum opulus 'Compactum'	S	Rounded	Partial shade; white flowers; persistent, red fruit; dense habit
Viburnum, Dwarf European Cranberrybush	Viburnum opulus 'Nanum'	S	Globe	Shade; no flowers or fruits; twiggy
Viburnum, Dwarf Koreanspice	Viburnum carlesii 'Compacta'	S	Rounded	Partial shade; dense, compact form; white, fragrant flowers; red fall color
Willow, Silver Creeping	Salix repens var. nitida	S	Spreading	Moist soil; sun; silvery foliage; ground cover
*Winterberry, Red Sprite	Ilex verticillata 'Red Sprite'	S	Upright	Wet, acid soil, tolerates poor drainage; dioecious; large red fruits

[a] *The following letters represent: S - Slow; M - Moderate; and F - Fast.*

* Wisconsin native

D. EVERGREEN SHRUBS

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL SHRUBS -- 8-10 feet in height, sometimes 15 feet; plant at least 6-8 feet apart, depending on spread				
Arborvitae, Ware; Siberian Arborvitae (Also see Low Evergreen Trees)	Thuja occidentalis 'Wareana'	M	Broad-pyramidal	Moist soil, half-shade; dark green foliage; may be sold as T.o. 'Robusta'
Juniper, Chinese (C.J.)	Juniperus chinensis			Sun; well-drained soil
Ames C.J.	'Ames'	M	Broad-pyramidal	Bluish green foliage
Fairview C.J.	'Fairview'	M	Narrow-pyramidal	Bluish-green foliage; silver berries
Hetz C.J.	'Hetzi'	F	Ascending-spreading	Silvery blue foliage
Kettleer C.J.	'Kettleeri'	F	Broad-pyramidal	Green foliage
Robusta Green C.J.	'Robusta Green'	M	Broad-pyramidal	Tufted brilliant green foliage
Spartan C.J. (Also see Low Evergreen Trees)	'Spartan'	F	Pyramidal	Rich green foliage
Juniper, Rocky Mountain; Colorado Redcedar	Juniperus scopulorum	S	Narrow-pyramidal	Well-drained soil; sun; bluish-green foliage
Blue Heaven Juniper (J.)	'Blue Heaven'	S	Narrow-pyramidal	Blue foliage; heavy cone bearer
Blue Wichita J.	'Wichita Blue'	S	Narrow-pyramidal	Silvery blue foliage
Medora J.	'Medora'	S	Pyramidal	Blue foliage
Moffett J.	'Moffett'	S	Pyramidal	Silvery green foliage
Sutherland J.	'Sutherland'	S	Pyramidal	Green foliage
Welch J.	'Welch'	S	Narrow-pyramidal	Bluish-green foliage

D. EVERGREEN SHRUBS (continued)

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
MEDIUM SHRUBS -- 2-8 feet in height; plant at least 4-6 feet apart, depending on spread				
Arborvitae (A.)	Thuja occidentalis			Moist soil; half-shade; green foliage
Globe A.	'Globosa'	S	Globular	Green foliage turns grayish green in winter
Hetz Midget A.	'Hetz Midget'	S	Globular	Bright green foliage
Holmstrup A.	'Holmstrup'	S	Globular	Dark green foliage; compact
Rheingold A.	'Rheingold'	S	Mound	Golden foliage
Woodward Globe A.	'Woodwardii'	M	Globular	Bright green foliage
Juniper, Blue Star Singleseed	Juniperus squamata 'Bluestar'	S	Mounded	Sun; blue foliage
Fishtail Juniper	'Meyeri'	S	Irregular-bushy	Bluish-white foliage
Juniper Chinese (C.J.)	Juniper chinensis			Sun; well-drained soil
Blaauw C.J.	'Blaauw'	M	Upright-vase	Grayish-blue foliage
Blue Pfitzer Juniper	'Pfitzeriana Glauca'	F	Spreading	Bluish-gray foliage; no fruit
Gold Tip Pfitzer Juniper	'Pfitzeriana Aurea'	M	Spreading	Green foliage with gold tips
Maney C.J.	'Maney'	M	Upright-vase	Bluish-green foliage
Mint Julep C.J.	'Mint Julep'	S	Upright-bushy	Yellow-green foliage; also sold as 'Sea Green'
Old Gold C.J.	'Old Gold'	M	Spreading	Green foliage with gold tips; bronze-gold foliage in winter; no fruits
Pfitzer Juniper	'Pfitzeriana'	F	Wide-spreading	Green foliage; no fruits; salt-tolerant
Schroeder Compact Juniper	'Pfitzeriana Compacta'	M	Spreading	Compact green foliage
*Juniper, Oldfield Common	Juniperus communis var. depressa	S	Spreading	Well-drained soil; sun; light green foliage turns brown in winter
Pine, Mugo	Pinus mugo var. mugo	M	Mounded	Dry soil; sun; green foliage
Spruce, Dwarf Alberta	Picea glauca 'Conica'	S	Pyramidal	Shelter from winter sun; light green foliage
Spruce, Nest	Picea abies 'Nidiformis'	S	Spreading	Sun; grayish-green foliage; nest-like shrub
Yew, Anglojapanese	Taxus x media cvs.	S	Round or Upright	Shade; very dark green foliage; needs ideal conditions
Densiformis Yew (Y.)	'Densiformis'	M	Spreading	Bright green foliage; protected shady areas
Hicks Y.	'Hicksii'	S	Upright	Columnar with flat top; dark green foliage
Tauton Y.	'Tautonii'	S	Spreading	Most winter-burn resistant cultivar
Ward Y.	'Wardii'	S	Spreading	Dense dark green foliage
Yew, Dwarf Japanese	Taxus cuspidata 'Nana'	S	Mounded	Shade; urban; very dark green foliage; needs ideal conditions
Intermedia Japanese Yew (J.Y.)	'Intermedia'	S	Rounded	Dark green foliage
Spreading J.Y.	'Expansa'	S	Spreading	Shade; urban; very dark green foliage; needs ideal conditions

D. EVERGREEN SHRUBS (continued)

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
LOW SHRUBS -- 6-24 inches in height; plant at least 4-6 feet apart, depending on spread				
Juniper, Chinese	Juniperus chinensis			Well-drained soil; sun
Japanese Garden Juniper	var. procumbens	S	Creeping	Bluish-green foliage year-round
Dwarf Japanese Garden Juniper	'Nana'	S	Creeping	Dwarf and dense
Kallay's Compact Pfitzer Juniper	'Pfitzeriana Kallay's Compact'	M	Spreading	Pale green foliage
Sargent Juniper	var. sargentii	M	Creeping	Green or bluish-green foliage in 'Glauca' cultivar
Juniper, Petite Common	Juniperus communis 'Petite'	M	Creeping	Dense; compact; fruits
Creeping Common Juniper	'Repanda'	M	Creeping	Sun; green foliage in winter
*Juniper, Creeping	Juniperus horizontalis	M	Creeping	Dry soil; variable color-brown in winter; subject to blight disease
Bar Harbor Juniper (J.).	'Bar Harbor'	M	Creeping	Bluish-green foliage turning purple in winter
Blue Chip J.	'Blue Chip'	M	Creeping	Blue foliage year-round
Blue Rug J.	'Wiltonii'	M	Flat-trailing	Silvery blue foliage and fruits
Hughes J.	'Hughes'	M	Spreading	Silvery blue foliage; radial branching habit
Webber J.	'Webberi'	M	Creeping	Bluish-green foliage; mat-like
Wisconsin J.	'Wisconsin'	M	Creeping	Bluish-green foliage turning steel blue in winter
Youngstown J.; Andorra J.	'Youngstown'	M	Radial-creeping	Grayish-green foliage turning purple in winter
Juniper, Savin	Juniperus sabina	S	Low-spreading	Well-drained soil; sun
Broadmoor Juniper (J.)	'Broadmoor'	S	Mounded	Soft grayish-green foliage; fine-textured
Buffalo J.	'Buffalo'	S	Low-spreading	Bright green foliage; fine-textured
Calgary Carpet J.	'Calgary Carpet'	S	Low-spreading	Soft green foliage

[a]*The following letters represent S - Slow; M - Moderate; and F - Fast.*

*Wisconsin native.

E. ORNAMENTAL GRASSES

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL GRASSES -- 6-8 feet in height				
Bluestem, Big	Andropogon, gerardii 'Sentinel'	F	Upright clumps	Moist and dry soils; green or blue-green leaves; orange to copper-red fall color
Dot Grass, Little	Miscanthus sinensis 'Puenktchen'	F	Upright	Green foliage with horizontal yellow bands; spiky texture
Feather Grass, Silver (S.F.G.)	Miscanthus sinensis 'Silverfeder'		Upright	Sun; green foliage; large feathery silvery flowers
Sirene S.F.G.	'Sirene'	F	Upright	Sun; green foliage; large feathery silvery flowers
*Indian Grass (I.G.)	Sorghastrum nutans	F	Upright clumps	Sun; drought tolerant; green to bluish foliage; showy flower panicles
Indian Steel Grass	'Indian Steel'	F	Upright clumps	Sun; green to bluish foliage; showy flower panicles
Blue I.G.	'Sioux Blue'	F	Upright clumps	Powder-blue foliage; erect form; yellow fall color
Maiden Grass (M.G.); Japanese Silver Grass; Eulalia	Miscanthus sinensis			Moist soil; sun to light shade
Adagio M.G.	'Adagio'	F	Upright	Very narrow green foliage; yellow fall color
Goliath M.G.	'Goliath'	F	Upright	Green foliage; red-orange fall color
Gracillimus M.G.	'Gracillimus'	F	Rounded	Fine textured green foliage; golden-yellow fall color; copper-red inflorescence
Graziella M.G.	'Graziella'	F	Upright	Narrow green leaves; fluffy silver inflorescence; red-orange fall color
Helga Reich M.G.	'Helga Reich'	F	Upright	Fine textured green foliage
July M.G.	'Juli'	F	Upright	Broad, green foliage
Large Fountain M.G.	'Gross Fontane'	F	Upright	Green foliage; midsummer flowers
Malepartus M.G.	'Malepartus'	F	Upright	Wide green foliage; fluffy, white flowers; gold fall color
Morning Light M.G.	'Morning Light'	F	Upright-rounded	Narrow white variegated foliage; reddish flowers
Sarabande M.G.	'Sarabande'	M	Upright	Fine textured silvery foliage
Variegated M.G.	'Variegatus'	F	Upright	Green and white striped foliage
Moor Grass, Tall Purple (T.P.M.G.)	Molinia caerulea ssp. arundinacea	M	Upright-mounded	Moist soil; stately inflorescence; green to gray-green foliage; golden-yellow fall color
Mountain Friend T.P.M.G.	'Bergfreund'	M	Upright-mounded	Golden-yellow fall color
Skyracer T.P.M.G.	'Skyracer'	F	Upright	Deep orange-yellow fall color
Transparent T.P.M.G.	'Transparent'	M	Arching	'Transparent' between foliage and flowers
Porcupine Grass	Miscanthus sinensis 'Strictus'	F	Upright-rounded	Sun; green foliage with yellow bands; spikey effect
Ravenna Grass	Saccharum ravennae ; Erianthus ravennae	F	Upright clumps	Sun; drought tolerant; hardy pampas grass; gray-green foliage; orange to red-tinted fall color; 12' height
Reed Grass, Feather	Calamogrostis x acutiflora 'Karl Foerster'; 'Stricta'	F	Upright clumps	Well-drained, moist soil; sun to light shade; open and feathery; deep green foliage
Silver Grass, Purple; Flame Grass	Miscanthus sinensis 'Purpurascens'	M	Rounded	Sun to light shade; green foliage; deep salmon, orange and red fall colors

E. ORNAMENTAL GRASSES (continued)

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL GRASSES -- 6-8 feet in height (continued)				
Switch Grass (S.G.); Panic Grass	Panicum virgatum	F	Upright clumps	Sun; drought tolerant; inflorescence with narrow wide spreading branches
Blue S.G.	'Heavy Metal'	F	Upright clumps	Glaucous blue foliage; pink tone inflorescence
Blue Sky S.G.	'Prairie Sky'	F	Upright clumps	Deep blue foliage
Dallas Blues S.G.	'Dallas Blues'	F	Upright clumps	Blue foliage
Tall S.G.	'Cloud Nine'	F	Upright clumps	Blue-green foliage; dark gold fall color
Zebra Grass (Z.G.)	Miscanthus sinensis 'Zebrinus'	M	Upright	Lax green foliage with horizontal yellow bands; copper tinted flowers
Little Nicky Z.G.	'Hinjo'	M	Compacted	Horizontal yellow-banded foliage
MEDIUM GRASSES -- 3-5 feet in height				
*Bluestem, Little (L.B.)	Schizachyrium scorparium; Andropogon scorparium	M	Upright clumps	Moist to dry soils; sun; good drainage; fine-textured purplish to blue-green leaves; orange to orange-red fall color
The Blues L.B.	'The Blues'	M	Upright clumps	Deep blue foliage
Fountain Grass	Pennisetum alopecuroides	M	Cascading mounds	Sun to light shade; green leaves, golden-yellow fall color; foxtail-like inflorescence; dark purple flowers
Frost Grass; Siberian Graybeard	Spodiopogon sibiricus	M	Upright clumps	Moist soil; sun to light shade; not drought resistant; green leaves with gray hair inflorescence; deep red to burgundy fall color
Maiden Grass, Little Fountain	Miscanthus sinensis 'Kleine Fontane'	M	Upright	Moist soil; sun to light shade; green foliage; midsummer flowers
Oats, Northern Sea; Wild Oats; Wood Oats	Chasmanthium latifolium	M	Clumps	Moist soil; light shade; green foliage; dangling oatlike spikelets; gold to red-bronze fall color
Reed Grass, Korean Feather; Fall Blooming Reed Grass	Calamagrostis brachytricha	F	Upright-arching clumps	Moist soil; sun to light shade; glossy green foliage; purple-red to silver gray flowers
Reed Grass, Variegated Feather	Calamagrostis arundinacea 'Overdam'	F	Upright clumps	Striped green and yellow foliage; feathery
Rye Grass, Wild	Leymus arenarius	F	Upright	Sun to light shade; drought tolerant; bluish foliage; narrow spike inflorescence
Switch Grass, Red (R.S.G.)	Panicum virgatum	M	Upright clumps	Sun, drought tolerant; inflorescence with widespreading branches
Hanse Herms R.S.G.	'Hanse Herms'	M	Upright clumps	Lax-stemmed and arching green foliage; burgundy red fall color
Red-Rays Switch Grass	'Rotstrahlbusch'	M	Upright clumps	Green foliage; red-burgundy fall color
Shenandaoh R.S.G.	'Shenandaoh'	M	Upright clumps	Green foliage; burgundy fall color

E. ORNAMENTAL GRASSES (continued)

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
LOW GRASSES -- 8-24 inches in height				
Blood Grass, Japanese	Imperata cylindrica var. koenigii 'Red Baron'; 'Rubra'	S	Upright	Moist, fertile soil; sun; drought tolerant; green base and red tip leaves; rarely blooms
*Dropseed, Prairie	Sporobolus heterolepis 'Wisconsin'	S	Clumps	Drought tolerant; fine-textured; glossy green leaves; sweet fragrance; deep orange fall color
Fescue, Blue (B.F.)	Festuca glauca	S	Dense tufts	Sun; good drainage; fine-textured; 10" height
Elijah B.F.	'Elijah Blue'	S	Dense tufts	Silver-blue foliage; 10" height
Solling B.F.	'Solling'	S	Dense tufts	Silver-gray foliage; 8" height
Fountain Grass (F.G.)	Pennisetum alopedcuroides			
Dwarf F.G.	'Hameln'	M	Cascading mounds	Sun; green leaves; groundcover massing; cream-white flowers
Little Bunny F.G.	'Little Bunny'	M	Cascading mounds	Miniature grass
Hair Grass, Tufted; (T.H.G.) Tussock Grass	Deschampsia cespitosa			
Northern Lights T.H.G.	'Northern Lights'	M	Tufted clumps	Moist soil; sun to light shade; hairlike and striped cream-white and green foliage
Schottland T.H.G.	'Schottland'	M	Tufted clumps	Dark green foliage; light green inflorescence
Hakone Grass, Golden Variegated	Hakonechloa macra 'Aureola'	S	Cascading mounds	Moist soil; light shade; striped yellow and green leaves
June Grass; Hair Grass	Koeleria macrantha; Koeleria cristata	M	Upright	Sun; blue-gray foliage; bright green flowers
Mondo Grass, Black	Ophiopogon planiscapus 'Niger'	M	Upright	Moist soil; sun; deep purplish-black foliage
Moor Grass, Purple (P.M.G.)	Molinia caerulea	M	Mounded clumps	Moist soil; light shade; green foliage; slender stalks with narrow panicles; golden-yellow fall color
Variegated P.M.G.	'Variegata'	M	Mounded clumps	Striped light yellow to cream, white foliage; bright yellow stalks
Faithful Ray P.M.G.	'Dauerstrahl'	M	Mounded clumps	Green-leaved and arching
Oat Grass, Blue (B.O.G.)	Helictotrichon sempervirens	M	Dense tufts	Moist, well-drained soil; sun; silver blue foliage semi-evergreen; arching stems
Sapphire Fountain B.O.G.	'Sapphire'	M	Dense tufts	Bright steel blue foliage
Oat Grass, Striped Bulbous; Tuber Oat Grass	Arrhenatherum elatius ssp. bulbosum 'Variegatum'	S	Mounded clumps	Dry soil; light shade; striped white and dark green foliage
Quaking Grass, Perennial	Briza media	M	Clumps	Sun to light shade; ornamental flower spikelets; green foliage
Sedge, Creeping Broad-Leaved	Carex siderosticha 'Variegata'	S	Clumps	Moist fertile soil; light shade; striped white and green foliage; 8" height
Sedge, Japanese; Kan Suge	Carex morrowii 'Variegata'	M	Tufted clumps	Moist soil; striped white and green foliage
Sedge, Tufted	Carex elata 'Bowles Golden'; 'Aurea'	M	Dense tufts	Moist soil; light shade; golden-striped foliage
Woodrush, Greater	Luzula sylvatica 'Marginata'	M	Tufted clumps	Moist soil; light shade; drought tolerant; dark green glossy foliage with cream white edging

[a] *The following letters represent S - Slow; M - Moderate; and F - Fast.*

*Wisconsin native.

F. GROUNDCOVER

Common Name	Botanical Name	Growth Rate[a]	Remarks
GROUNDCOVER			
Bugleweed	Ajuga reptans and cvs.	F	Moist soil; shade; white, red, purple, or blue flowers; evergreen foliage; 4-6" height
Cinquefoil, Cushion	Potentilla verna nana	M	Sun; well-drained soil; small yellow-green foliage; yellow flowers; 3" height
Cotoneaster, Cranberry	Cotoneaster apiculatus	S	Dry soil; sun; red fruits; herring-bone pattern branches; red fall color; 2' height
Daylily	Hemerocallis cvs.	M	Partial shade; showy flowers; herbaceous; 1-3' height
Deadnettle, Spotted	Lamium maculatum cvs.	F	Shade; variegated leaves; pink or white flowers; aggressive; 6-8" height
Euonymus, Purpleleaf Wintercreeper (Also see Vines—Bigleaf Wintercreeper)	Euonymus fortune 'Colorata'	F	Shade; evergreen leaves turn purple in winter; needs shelter from winter sun and wind; 6-18" height
Fleeceflower, Low Japanese	Polygonum cuspidatum var. compactum	F	Dry soil; herbaceous; pink flowers; red fruits; red fall color; aggressive; often sold as P. reynoutria; 1-2' height
Goutweed, Silveredge; Snow-on-the-Mountain; Bishop's Weed	Aegopodium podagraria 'Variegatum'	F	Sun or shade; herbaceous; variegated foliage; aggressive; 1' height
Hat, Bishop's	Epimedium spp.	F	Rich soil; shade; herbaceous; yellow or red flowers; 1' height
*Honeysuckle, Dwarf Bush	Diervilla lonicera	M	Dry soil; shade; yellow flowers; 3' height
Ivy, Bulgarian	Hedera helix 'Bulgaria'	F	Shade; broadleaf evergreen; needs shelter from winter sun and wind; 6-8" height
Juniper (Also see Low Evergreen Shrubs)	Juniperus spp.	F	Dry soil; sun; needled evergreen; 6-24" height
Lily, Plantain; Funkia	Hosta cvs.	M	Shade; green, blue, gold, and variegated leaves; white or lavender flowers; 6-24" height
Lily-of-the-Valley	Convallaria majalis	F	Shade; moist soil; herbaceous; small, fragrant, white flowers; dark green foliage; 8" height
Pachysandra, Japanese (J.P.); Japanese Spurge	Pachysandra terminalis	S	Moist soil; shade; evergreen foliage; needs shelter from winter sun and wind; 6-8" height
Green Carpet J.P.	'Green Carpet'	S	Lower growing; glossier leaves; 6" height
Periwinkle; Myrtle	Vinca minor and cvs.	M	Shade; blue flowers in May; broadleaf evergreen; 6" height
Phlox, Moss	Phlox subulata and cvs.	M	Sun; dry, infertile soil; small, clustered, pink or white flowers; needle-like, semi-evergreen leaves; good bank cover; 6" height
Stephanandra, Cutleaf	Stephanandra incise 'Crispa'	F	Sun; well-drained, acid soil; fine-textured; 3' height
Stonecrop; Sedum	Sedum spp.	M	Dry, infertile soil; sun; rock gardens; succulent; 2-8" height
Strawberry, Barren	Waldsteinia ternata	M	Partial shade; herbaceous; yellow flowers; 4-6" height
Sumac, Gro-Low Fragrant	Rhus aromatica 'Gro-Low'	M	Dry soil; sun; orange-maroon fall color; 2½' height
Trefoil, Bird's-foot	Lotus corniculatus	M	Wet, acid soil; sun; tolerates poor drainage; yellow flowers; good bank cover; not for refined areas; 1-2' height
*Wildginger, Canada	Asarum canadense	M	Rich soil; shade; large, heart-shaped leaves; 6" height
Woodruff, Sweet	Galium odoratum	F	Shade; herbaceous; white flowers; fine-textured; 6-8" height

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*Wisconsin native.

G. VINES

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
VINES				
Akebia, Fiveleaf	Akebia quinata	M	Twining	Shade; bluish-green leaves in the summer; rosy-purple flowers; purple fruits
*Bittersweet, American	Celastrus scandens	F	Twining	Dry soil; shade; yellow and red terminal fruit clusters; dioecious; plant both sexes
Bittersweet, Oriental	Celastrus orbiculatus	F	Twining	Dry soil; shade; small, orange-yellow fruits
Clematis (C.)	Clematis cvs.			Cool, alkaline soil; large, showy flowers of many colors
Ernest Markham C.	'Ernest Markham'	F	Twining petioles	Large red flowers
Henryi C.	'Henryi'	F	Twining petioles	Creamy white flowers
Jackman C.	Clematis x jackmanii	F	Twining petioles	Purple flowers
Nelly Moser C.	'Nelly Moser'	F	Twining petioles	Mauve-pink flowers
Ramona C.	'Ramona'	F	Twining petioles	Blue flowers
Clematis, Sweet Autumn	Clematis maximowicziana	F	Twining petioles	Semi-shade; small, white flowers in September; often sold as C. paniculata
Creeper, Engelmann Virginia; Woodbine	Parthenocissus quinquefolia 'Engelmannii'	F	Holdfasts and tendrils	Shade or sun; finer textured than the species; blue fruits; red fall color; salt-tolerant
Dutchmanspipe	Aristolochia durior	M	Twining	Shade; curious flowers; huge leaves; good screen
Euonymus (E.), Bigleaf Wintercreeper	Euonymus fortunei var. vegeta	F	Aerial rootlets	Shade; broadleaf evergreen; needs shelter from winter sun and wind
Emerald Gaiety E.	'Emerald Gaiety'	F	Aerial rootlets	Deep green leaves with white margins
Emerald and Gold E.	'Emerald and Gold'	F	Aerial rootlets	Deep green leaves with yellow margins
Emerald Pride E.	'Emerald Pride'	F	Aerial rootlets	Dark green foliage; compact, close branching habit
Sarcoxie E.	'Sarcoxie'	F	Aerial rootlets	Upright form; glossy green foliage with whitish veins
Fleecevine, Silver; Silver Lace Vine	Polygonum aubertii	F	Twining	Sun; small, clustered, white flowers in September
Grape	Vitis spp. and cvs	F	Tendrils	Sun; edible fruits
Honeysuckle, Dropmore Scarlet	Lonicera x browii 'Dropmore Scarlet'	F	Twining	Shade or sun; red flowers all season; red fruits; subject to aphids
Honeysuckle, Everblooming; Goldflame Honeysuckle	Lonicera heckrottii	F	Twining	Shade or sun; pink and yellow flowers; subject to aphids
Hydrangea, Climbing	Hydrangea anomala spp. petiolaris	S	Aerial rootlets	Shade; moist soil; white flowers; exfoliating cinnamon bark
Ivy, Boston; Japanese Creeper	Parthenocissus tricuspidata	F	Holdfasts	Shade; blue fruits; maroon fall color
Veitch Boston Ivy	'Veitchii'	F	Holdfasts	Fine-textured; less aggressive than the species; young leaves purple
Kiwi, Arctic Beauty; Kolomikta Actinidia	Actinidia kolomikta	F	Twining	Sun; pink and white blotches on leaves; dioecious; plant both sexes
Trumpetcreeper; Trumpetvine	Campsis radicans	F	Aerial rootlets	Moist soil; sun; orange to red, trumpet-shaped flowers; suckering
Wisteria, Kentucky	Wisteria macrostachya	M	Twining	Sun; drooping lavender flower clusters

[a]*The following letters represent S - Slow; M - Moderate; and F - Fast.*

*Wisconsin native.

Source: E. R. Hasselkus, A Guide to Selecting Landscape Plants for Wisconsin*, University of Wisconsin-Extension, Madison, Wisconsin, 1991; Michael A. Dirr,* Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses*, 4th Ed., Stipes Publishing Company, Champaign, Illinois, 1990; Richard D. Schein, Ph.D.,* Street Trees: A Manual for Municipalities*, Treeworks, State College, Pennsylvania, 1993; Henry D. Gerhold, Willet N. Wandell, and Norman L. Lacasse,* Street Tree Factsheets*, Pennsylvania State University, University Park, Pennsylvania, 1993; Henry D. Gerhold, Norman L. Lacasse, and Willet N. Wandell,* Compatible Tree Factsheets for Electric Lines and Restricted Spaces, Including Evergreens for Screens*,* 2nd Ed., *Pennsylvania State University, University Park, Pennsylvania, 2001; M. Hockenberry Meyer, D. B. White, and H. Pellett,* Ornamental Grasses for Cold Climates*, North Central Regional Extension Publication 573, University of Minnesota-Extension, St. Paul, Minnesota, 1998*; *Rick Drake,* The Color Encyclopedia of Ornamental Grasses, *Timber Press, Inc., Portland, Oregon, 1999; and SEWRPC.*

Appendix F

POTENTIAL STREET TREES

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL TREES -- 40-100 feet in height; plant at least 40-50 feet apart; columnar species, 20-30 feet apart				
*Ash, Green (G.A.)	Fraxinus pennsylvanica	F	Oval-irregular	Dry to wet soil; tolerates poor drainage; twiggy and weak-wooded; yellow fall color; pest or disease problem may limit use
Aerial G.A.	'Aerial'	F	Columnar	Narrow, upright branching
Marshall Seedless G.A.	'Marshall Seedless'	F	Oval	Seedless; glossy, dark green foliage; improved habit of growth
Patmore G.A.	'Patmore'	F	Oval	Seedless; shining green leaves; yellow fall color; straight trunk
Summit G.A.	'Summit'	F	Upright	Finer textured foliage
*Ash, White (W.A.)	Fraxinus americana	M	Round	Moist soil; tolerates poor drainage; dioecious (requiring pollination); orange to purple fall color; salt-tolerant
Autumn Applause W.A.	'Autumn Applause'	M	Oval	Seedless; deep red fall color
Autumn Purple W.A.	'Autumn Purple'	M	Round	Seedless; superior fall color
Champaign County W.A.	'Champaign County'	M	Oval	Seedless; shiny dark green foliage; yellow to purplish fall color
Rosehill W.A.	'Rosehill'	S	Oval	Seedless; dark green foliage; bronze-red fall color
Skyline W.A.	'Skyline'	M	Oval	Seedless; upright habit
Elm, Hybrid (H.E.)	Ulmus x 'New Horizon'	F	Upright	Dutch elm disease resistant; urban
Regal H.E.	'Regal'	F	Upright	Dutch elm disease resistant; urban
Ginkgo (G.); Maidenhair Tree (male only)	Ginkgo biloba	S	Pyramidal	Urban; dioecious, females produce smelly fruits; fan-shaped leaves; golden yellow fall color
Autumn Gold G.	'Autumn Gold'	S	Conical	Urban; fruitless; yellow fall color
Lakeview G.	'Lakeview'	S	Columnar	Urban; fruitless; yellow fall color
Sentry G.	'Fastigiata'	S	Columnar	Fruitless; yellow fall color
*Hackberry, Common (C.H.)	Celtis occidentalis	M	Vase	Tolerates alkaline soils; "pebbled" bark; hard black fruits; yellowish fall color; pest or disease problem and witches' broom may limit use
Prairie Pride C.H.	'Prairie Pride'	M	Vase	Superior branch structure; glossier leaves; no witches' broom
Honeylocust, Thornless Common (T.C.H.)	Gleditsia triacanthos var. inermis	F	Vase	Tolerates poor drainage; thornless, as are all the following; pest or disease problem may limit use; salt-tolerant
Imperial T.C.H.	'Imperial'	F	Round	Podless; low-growing; flat-topped; pest or disease problem may limit use
Majestic T.C.H.	'Majestic'	F	Irregular	Podless; resistant to diseases; pest problems may limit use
Moraine T.C.H.	'Moraine'	F	Irregular	Usually fruitless; dense foliage
Shademaster T.C.H.	'Shademaster'	F	Irregular	Podless; vase shape in age; pest or disease problem may limit use
Skyline T.C.H.	'Skyline'	F	Upright	Podless; tends to form central leader; good golden fall color; pest or disease problem may limit use
Sunburst T.C.H.	'Sunburst'	F	Irregular	Podless; yellow new foliage; poor branch structure; pest or disease problem may limit use
Horsechestnut, Bauman	Aesculus hippocastanum 'Baumanni'	M	Round	Urban; showy white flowers; fruitless
Linden, Redmond	Tilia americana 'Redmond'	M	Pyramidal	Urban; dark green foliage

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
TALL TREES -- 40-100 feet in height; plant at least 40-50 feet apart; columnar species, 20-30 feet apart (continued)				
Linden, Littleleaf (L.L.)	Tilia cordata	S	Pyramidal	Urban; moist soil; fragrant flowers; poor branch structure, needs training while young; yellow fall color
Chancellor L.L.	'Chancellor'	S	Pyramidal	Uniform, upright habit
Glenleven L.L.	'Glenleven'	M	Pyramidal	Straight, upright habit
Greenspire L.L	'Greenspire'	S	Pyramidal	Improved branching habit
Linden, Silver	Tilia tomentosa	S	Pyramidal	Tolerates heat and drought
Maple, Norway (N.M.)	Acer platanoides	M	Round	Urban; dense canopy; competitive roots; late, yellow fall color; salt-tolerant
Cleveland N.M.	'Cleveland'	F	Oval-upright	Uniform, dense foliage
Columnar N.M.	'Columnare'	F	Columnar	Indistinct central leader
Crimson King N.M.	'Crimson King'	S	Round	Dense foliage; dark red leaves all summer
Deborah N.M.	'Deborah'	F	Oval	New foliage reddish; bronze by summer; an improved 'Schwedleri'
Emerald Lustre N.M.; Pond N.M.	'Emerald Lustre'	F	Oval	More winter-hardy
Emerald Queen N.M.	'Emerald Queen'	F	Oval	Vigorous; crisp foliage
Harlequin N.M.; Silver Variegated N.M.	'Drummondii'	S	Round	Variegated, cream-edged leaves
Greenlace N.M.	'Greenlace'	S	Round	Deeply divided, fine-textured leaves
Royal Red N.M.	'Royal Red'	S	Round	Best for purple summer foliage
Schwedler N.M.	'Schwedler'	M	Oval	Purplish-red new leaves turn bronze-green; orange to yellow fall color
Summershade N.M.	'Summershade'	F	Oval	Leathery dark green leaves; yellow fall color
Superform N.M.	'Superform'	M	Round	Straight trunk; dense, dark foliage; yellow fall color
*Maple, Red (R.M.)	Acer rubrum	F	Round	Moist, acid soil; tolerates poor drainage; smooth gray bark turns flaky with age; yellow, orange, or red fall color
Autumn Flame R.M.	'Autumn Flame'	F	Round	Early, scarlet fall color
Bowhall R.M.	'Bowhall'	F	Oval	Orange fall color
Red Sunset R.M.	'Red Sunset'	F	Round	Late, scarlet fall color
Schlesinger R.M.	'Schlesingeri'	F	Round	Red-orange fall color
*Maple, Sugar (S.M.)	Acer saccharum	M	Round	Sun; rich soil; salt-sensitive; oval when young; competitive roots; yellow, orange, or red fall color
Black Maple	ssp. nigrum	M	Round	Scorch-resistant; leathery leaves
Green Mountain S.M.	'Green Mountain'	M	Round	Scorch-resistant; leathery leaves
Legacy S.M.	'Legacy'	M	Round	Scorch-resistant; leathery leaves
Oak, Pin	Quercus palustris	M	Pyramidal	Moist, acid soil; acorns; pendulous lower branches; red fall color; iron chlorosis on alkaline soil
*Oak, Red	Quercus rubra	M	Round	Urban; pyramidal when young; acorns; red fall color; well-drained soil; often sold as Q. borealis
Zelkova, Japanese (J.Z.)	Zelkova serrata	M	Vase	Dutch elm disease resistant; urban; dark green foliage; yellow-orange-brown fall color
Green Vase J.Z.	'Green Vase'	F	Vase	Dutch elm disease resistant; more upright branching habit; bright green foliage; bronze-red fall color
Village Green J.Z.	'Village Green'	F	Vase	Dutch elm disease resistant; dark green foliage; rusty red fall color

Common Name	Botanical Name	Growth Rate[a]	Form	Remarks
MEDIUM TREES -- 30-40 feet in height; plant at least 20-35 feet apart, depending on spread				
Cherry, Sargent (S.C.)	Prunus sargentii	M	Upright	Sun; well-drained soil; early, pink flowers; red fall color
Columnar S.C.	'Columnaris'	M	Columnar	Glossy dark green foliage; red-orange fall color; polished bark
Elm, Lacebark; Chinese Elm	Ulmus parvifolia	M	Vase	Dutch elm disease resistant; exfoliating bark
Horsechestnut, Ruby Red	Aesculus x carnea 'Briotii'	S	Round	Rich, moist soil; cone-shaped red flowers; subject to sunscald; nearly fruitless
Pear, Callery (C.P.)	Pyrus calleryana	M	Round	Sun; early, white flowers; glossy dark green foliage; red fall color; weak branch structure needs training while young
Aristocrat C.P.	'Aristocrat'	M	Pyramidal	Glossy, dark green leaves; red-purple fall color; more horizontal branch structure than 'Bradford'; thornless
Autumn Blaze C.P.	'Autumn Blaze'	M	Round	Most winter-hardy; horizontal branching; some thorns
Bradford C.P.	'Bradford'	M	Pyramidal	Full sun; inconspicuous fruits; glossy dark green leaves; scarlet-purple fall color; white flowers; resistant to fire blight; thornless
Chanticleer C.P.; Cleveland Select C.P.	'Chanticleer'	M	Columnar	Upright branches; thornless
Redspire C.P.	'Red Spire'	M	Pyramidal	Glossy, dark leaves; yellow, crimson, purple fall color
Select C.P.	'Select'	M	Pyramidal	Glossy green leaves; red-orange fall color; white flowers
LOW TREES -- 15-30 feet in height; plant at least 15-30 feet apart, depending on spread				
Hawthorn, Thornless Cockspur	Crataegus crusgalli var. inermis	M	Spreading	Few thorns; dark green foliage; bright red fruits
*Hophornbeam; Ironwood	Ostrya virginiana	S	Pyramidal	Dry soil; shade; catkins; elm-like leaves; yellowish fall color
*Hornbeam, American; Blue Beech; Ironwood; Musclewood	Carpinus caroliniana	S	Spreading	Moist soil; shade; smooth, gray, muscle-like trunk; orange fall color
Lilac, Japanese Tree (J.T.L.)	Syringa reticulate	S	Horizontal	Sun; large, pyramidal, cream-white fragrant flower cluster in June; tan fruits; salt-tolerant
Ivory Silk J.T.L.	'Ivory Silk'	S	Oval	Straight, single trunk
Summer Snow J. T. L.	'Summer Snow'	M	Globe	Glossy dark green leaves; large creamy-white flowers; cherry-like bark
Maple, Globe Norway	Acer platanoides 'Globosum'	S	Globe	Urban; dense canopy; yellow fall color; useful on a standard under utility wires; 20' height

[a]*The following letters represent: S - Slow; M - Moderate; and F - Fast.*

* Wisconsin native.

NOTE: The abbreviations ssp. and var. represent subspecies and variety, respectively.

Source: E. R. Hasselkus, A Guide to Selecting Landscape Plants for Wisconsin*, University of Wisconsin-Extension, Madison, Wisconsin, 1991; Michael A. Dirr,* Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses*, 4th Ed., Stipes Publishing Company, Champaign, Illinois, 1990; Richard D. Schein, Ph.D.,* Street Trees: A Manual for Municipalities*, Treeworks, State College, Pennsylvania, 1993; Henry D. Gerhold, Willet N. Wandell, and Norman L. Lacasse,* Street Tree Factsheets*, Pennsylvania State University, University Park, Pennsylvania, 1993; Henry D. Gerhold, Norman L. Lacasse, and Willet N. Wandell,* Compatible Tree Factsheets for Electric Lines and Restricted Spaces, Including Evergreens for Screens, 2nd Ed., *Pennsylvania State University, University Park, Pennsylvania, 2001; and SEWRPC.*

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Appendix G

GUIDELINES FOR DEVELOPMENT CONSIDERED COMPATIBLE WITH ENVIRONMENTAL CORRIDORS

Component Natural Resource and Related Features within Environmental Corridors[a]	Permitted Development															
	Transportation and Utility Facilities (see General Development Guidelines below)				Recreational Facilities (see General Development Guidelines below)											Rural Density Residential Development (see General Development Guidelines below)
	Streets and Highways	Utility Lines and Related Facilities	Engineered Stormwater Management Facilities	Engineered Flood Control Facilities[b]	Trails[c]	Picnic Areas	Family Camping[d]	Swimming Beaches	Boat Access	Ski Hills	Golf	Playfields	Hard-Surface Courts	Parking	Buildings	
Lakes, Rivers, and Streams	--[e]	--[f,g]	--	--[h]	--[i]	--	--	X	X	--	--	--	--	--	--	--
Shoreland	X	X	X	X	X	X	--	X	X	--	X	--	--	X	X[j]	--
Floodplain	--[k]	X	X	X	X	X	--	X	X	--	X	X	--	X	X[l]	--
Wetland[m]	--[k]	X	--	--	X[n]	--	--	--	X	--	--[o]	--	--	--	--	--
Wet Soils	X	X	X	X	X	--	--	X	X	--	X	--	--	X	--	--
Woodland	X	X	X	--	X	X	X	--	X	X	X	X	X	X	X[p]	X
Wildlife Habitat	X	X	X	--	X	X	X	--	X	X	X	X	X	X	X	X
Steep Slope	X	X	--	--	--[q]	--	--	--	--	X[r]	X	--	--	--	--	--
Prairie	--	--[g]	--	--	--[q]	--	--	--	--	--	--	--	--	--	--	--
Park	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	--
Historic Site	--	--[g]	--	--	--[q]	--	--	--	--	--	--	--	--	X	--	--
Scenic Viewpoint	X	X	--	--	X	X	X	--	X	X	X	--	--	X	X	X
Natural Area or Critical Species Habitat Site	--	--	--	--	--[q]	--	--	--	--	--	--	--	--	--	--	--

NOTE: An "X" indicates that facility development is permitted within the specified natural resource feature. In those portions of the environmental corridors having more than one of the listed natural resource features, the natural resource feature with the most restrictive development limitation should take precedence.

GENERAL DEVELOPMENT GUIDELINES

- Transportation and Utility Facilities: All transportation and utility facilities proposed to be located within the important natural resources should be evaluated on a case-by-case basis to consider alternative locations for such facilities. If it is determined that such facilities should be located within natural resources, development activities should be sensitive to, and minimize disturbance of, these resources, and, to the extent possible following construction, such resources should be restored to preconstruction conditions.

  The above table presents development guidelines for major transportation and utility facilities. These guidelines may be extended to other similar facilities not specifically listed in the table.

- Recreational Facilities: In general, no more than 20 percent of the total environmental corridor area should be developed for recreational facilities. Furthermore, no more than 20 percent of the environmental corridor area consisting of upland wildlife habitat and woodlands should be developed for recreational facilities. It is recognized, however, that in certain cases these percentages may be exceeded in efforts to accommodate needed public recreational and game and fish management facilities within appropriate natural settings.

  The above table presents development guidelines for major recreational facilities. These guidelines may be extended to other similar facilities not specifically listed in the table.

- Residential Development: Limited residential development may be accommodated in upland environmental corridors, provided that buildings are kept off steep slopes. The maximum number of housing units accommodated at a proposed development site within the environmental corridor should be limited to the number determined by dividing the total corridor acreage within the site, less the acreage covered by surface water and wetlands, by five. The permitted housing units may be in single-family or multi-family structures. When rural residential development is accommodated, conservation subdivision designs are strongly encouraged.

  Single-family development on existing lots of record should be permitted as provided for under county or local zoning at the time of adoption of the land use plan.

Footnotes to Appendix G

[a] *The natural resource and related features are defined as follows:*

Lakes, Rivers, and Streams: Includes all lakes greater than five acres in area and all perennial and intermittent streams as shown on U. S. Geological Survey quadrangle maps.
Shoreland: Includes a band 50 feet in depth along both sides of intermittent streams; a band 75 feet in depth along both sides of perennial streams; a band 75 feet in depth around lakes; and a band 200 feet in depth along the Lake Michigan shoreline.
Floodplain: Includes areas, excluding stream channels and lake beds, subject to inundation by the 100-year recurrence interval flood event.
Wetlands: Includes areas that are inundated or saturated by surface water or groundwater at a frequency, and with a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.
Wet Soils: Includes areas covered by wet, poorly drained, and organic soils.
Woodlands: Includes areas one acre or more in size having 17 or more deciduous trees per acre with at least a 50 percent canopy cover as well as coniferous tree plantations and reforestation projects; excludes lowland woodlands, such as tamarack swamps, which are classified as wetlands.
Wildlife Habitat: Includes areas devoted to natural open uses of a size and with a vegetative cover capable of supporting a balanced diversity of wildlife.
Steep Slope: Includes areas with land slopes of 12 percent or greater.
Prairies: Includes open, generally treeless areas which are dominated by native grasses; also includes savannas.
Park: Includes public and nonpublic park and open space sites.
Historic Site: Includes sites listed on the National Register of Historic Places. Most historic sites located within environmental corridors are archeological features such as American Indian settlements and effigy mounds and cultural features such as small, old cemeteries. On a limited basis, small historic buildings may also be encompassed within delineated corridors.
Scenic Viewpoint: Includes vantage points from which a diversity of natural features such as surface waters, wetlands, woodlands, and agricultural lands can be observed.
Natural Area and Critical Species Habitat Sites: Includes natural areas and critical species habitat sites as identified in the regional natural areas and critical species habitat protection and management plan.

[b] *Includes such improvements as stream channel modifications and such facilities as dams.*

[c] *Includes trails for such activities as hiking, bicycling, cross-country skiing, nature study, and horseback riding, and excludes all motorized trail activities. It should be recognized that trails for motorized activities such as snowmobiling that are located outside the environmental corridors may of necessity have to cross environmental corridor lands. Proposals for such crossings should be evaluated on a case-by-case basis, and if it is determined that they are necessary, such trail crossings should be designed to ensure minimum disturbance of the natural resources.*

[d] *Includes areas intended to accommodate camping in tents, trailers, or recreational vehicles which remain at the site for short periods of time, typically ranging from an overnight stay to a two-week stay.*

[e] *Certain transportation facilities such as bridges may be constructed over such resources.*

[f] *Utility facilities such as sanitary sewers may be located in or under such resources.*

[g] *Electric power transmission lines and similar lines may be suspended over such resources.*

[h] *Certain flood control facilities such as dams and channel modifications may need to be provided in such resources to reduce or eliminate flood damage to existing development.*

[i] *Bridges for trail facilities may be constructed over such resources.*

[j] *Consistent with Chapter NR 115 of the* Wisconsin Administrative Code.

[k] *Streets and highways may cross such resources. Where this occurs, there should be no net loss of flood storage capacity or wetlands. Guidelines for mitigation of impacts on wetlands by Wisconsin Department of Transportation facility projects are set forth in Chapter Trans 400 of the* Wisconsin Administrative Code.

[l] *Consistent with Chapter NR 116 of the* Wisconsin Administrative Code.

[m] *Any development affecting wetlands must adhere to the water quality standards for wetlands established under Chapter NR 103 of the* Wisconsin Administrative Code.

[n] *Only an appropriately designed boardwalk/trail should be permitted.*

[o] *Wetlands may be incorporated as part of a golf course, provided there is no disturbance of the wetlands.*

[p] *Only if no alternative is available.*

[q] *Only appropriately designed and located hiking and cross-country ski trails should be permitted.*

[r] *Only an appropriately designed, vegetated, and maintained ski hill should be permitted.*

Source: SEWRPC

Appendix H

VILLAGE OF HARTLAND
PLAN COMMISSION RESOLUTION - 12/20/2004

A VILLAGE PLAN COMMISSION RESOLUTION ADOPTING THE VILLAGE OF HARTLAND MASTER PLAN

WHEREAS, the Village of Hartland, pursuant to the provisions of Section 62.23 of the *Wisconsin Statutes*, has created a Village Plan Commission; and

WHEREAS, it is the duty and function of the Village Plan Commission, pursuant to Section 62.23(2) of the *Wisconsin Statutes*, to make and adopt a master plan for the physical development of the Village of Hartland; and

WHEREAS, the Village of Hartland requested the Southeastern Wisconsin Regional Planning Commission (SEWRPC) to help prepare a master plan for the Village. The plan includes:

1. The collection, compilation, processing, and analyses of various types of population, housing, economic, natural resource, historic resource, recreation and open space, land use, transportation, utilities, community facilities, and other information pertaining to the Village;

2. A forecast of growth and change;

3. Statements of objectives, principles, standards and related design guidelines, and the results of a community survey;

4. A master plan;

5. Recommended activities to implement the plan over time; and

WHEREAS, the aforementioned forecasts, inventories, analyses, objectives, master plan, and implementation recommendations are set forth in a published report entitled SEWRPC Community Assistance Planning Report No. 254, *A Master Plan for the Village of Hartland: 2020, Waukesha County, Wisconsin;* and

WHEREAS, the Village of Hartland Plan Commission held public meetings to acquaint residents, landowners, and local government officials of the Village and neighboring communities with the plan recommendations, including a public informational meeting held on December 7, 2004 and a public hearing held on December 20, 2004; and

WHEREAS, the Village Plan Commission has carefully considered the plan over an extended period of time, including public statements and requests during the planning process, and has proceeded to incorporate, where deemed appropriate, changes to the recommended master plan; and

WHEREAS, the Village Plan Commission considers the plan to be a necessary guide to the future development of the Village and environs.

NOW, THEREFORE, BE IT RESOLVED, that pursuant to Section 62.23(3)(b) of the *Wisconsin Statutes*, the Village of Hartland Plan Commission hereby adopts SEWRPC Community Assistance Planning Report No. 254 and the attendant recommended master plan as a guide for the future development of the Village of Hartland and its environs; and

BE IT FURTHER RESOLVED, that the Clerk of the Village of Hartland on behalf of the Plan Commission transmits a certified copy of this resolution, after recording the action on the adopted plan, to the Board of Trustees of the Village of Hartland, Waukesha County, Wisconsin, to the Southeastern Wisconsin Regional Planning Commission and to Waukesha County.

Passed and adopted this 20th day of December, 2004, by the Village of Hartland Plan Commission.

David C. Lamerand, Chairperson

ATTEST:

Connie Casper, CMC, Village Clerk

VILLAGE OF HARTLAND
INCORPORATED
SEAL
JANUARY 18, 1892
WISCONSIN

Appendix I

VILLAGE OF HARTLAND
BOARD OF TRUSTEES

RESOLUTION NO. 12/20/2004

A VILLAGE BOARD RESOLUTION ADOPTING THE VILLAGE OF HARTLAND MASTER PLAN: 2020

Whereas, the Village of Hartland, pursuant to the provisions of Section 62.23 of the Wisconsin Statutes, has created a Village Plan Commission; and

Whereas, the Village Plan Commission has prepared, with the assistance of the Southeastern Wisconsin Regional Planning Commission (SEWRPC), a master plan for the physical development of the Village of Hartland. Said plan is embodied in SEWRPC Community Assistance Planning Report No. 254, *A Master Plan for the Village Of Hartland: 2020, Waukesha County, Wisconsin;* and

Whereas, The Village Plan Commission on the 20th day of December, 2004, adopted SEWRPC Community Assistance Planning Report No. 254 and the attendant recommended master plan, and has submitted a certified copy of that resolution to the Board of Trustees of the Village of Hartland; and

Whereas, the Board of Trustees of the Village of Hartland concurs with the Village Plan Commission and the objectives and recommendations set forth in SEWRPC Community Assistance Planning Report No. 254.

Now, Therefore, Be It Resolved, that the Board of Trustees of the Village of Hartland hereby adopts SEWRPC Community Assistance Planning Report No. 254 and the attendant recommended master plan as a guide for the future development of the Village of Hartland and its environs.

Passed and Adopted this 20th day of December, 2004, by the Board of Trustees of the Village of Hartland.

David C. Lamerand, Village President

ATTEST:

Connie Casper, CMC, Village Clerk

VILLAGE OF HARTLAND
INCORPORATED
SEAL
JANUARY 18, 1892
WISCONSIN