

Campus Profile

The following section discusses the existing conditions of the Grand Traverse Commons, including a description of the regional setting, characteristics for population, housing and commerce, planning and community development tools, land use and form, natural features, and infrastructure and utilities.

Regional Setting

The State of Michigan contains 3,200 miles of Great Lake shoreline, more than 11,000 inland lakes and an immense network of parks and forests. Michigan's natural heritage is perhaps its greatest resource and principle visitor attraction. One of Michigan's more impressive coastal features is the two peninsulas which jut into Lake Michigan. These peninsulas form what is called Grand Traverse Bay, which consist of an east and west arm. Traverse City is located at the southern tip of the west arm of Grand Traverse Bay, and is part of a region that is recognized as one of Michigan's finest recreational and tourism centers (see figure 3.1).

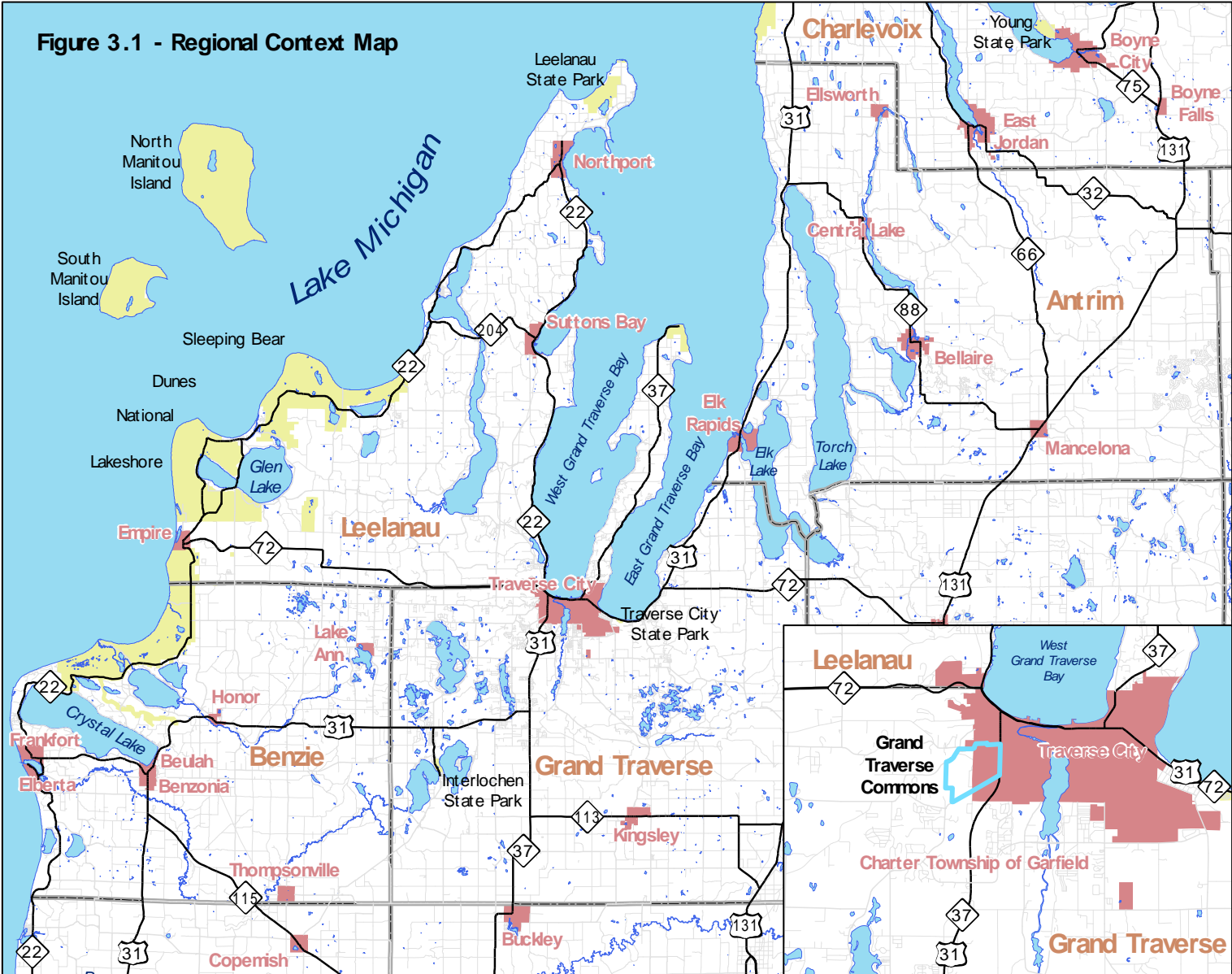
The Grand Traverse Commons is located within this region, less than a mile from Grand Traverse Bay. The site lies partly within the corporate municipal boundaries of the City of Traverse City and the Charter Township of Garfield (see map 1). The Grand Traverse Commons is generally bordered by Munson Medical Center to the north, Division Street to the east, Long Lake Road to the west and Silver Lake Road to the south.

One of predominant characteristics of the site is its natural setting. Approximately 250 acres of the 484-acre site consists of undeveloped natural areas. The remaining developed portion of the site is characterized by an open, campus setting. The undeveloped natural areas surround the central campus area with steep hills to the west and wetlands to the east. These hillsides are covered with beech, maple and hemlock trees, and open meadows. The undeveloped eastern portions of the site are comprised of wetlands contiguous to Kids Creek. The developed portions of the Grand Traverse Commons are located in the central portion of the site at the base of the hills to the west and above the low floodplain areas of Kids Creek to the south and east. It encompasses many species of mature trees as well as lawn areas.

Grand Traverse Commons - The 484 acre campus is located less than a mile from Grand Traverse Bay. The site lies partly within the corporate municipal boundaries of the City of Traverse City and the Charter Township of Garfield.



Photo taken by Jim Anderson



Population, Housing, Business, and Workforce Characteristics

The following section provides a basic summary of the population, housing and business/workforce characteristics of the Grand Traverse Commons. Information for this section was provided by several property owners within the Commons. The Joint Planning Commission should continue to work with local stakeholders to compile a more extensive summary.

Population

Based on data provided by the Minervini Group and the Grand Traverse Pavilions, approximately 400 people live within the Grand Traverse Commons. Approximately 300 people live at the Grand Traverse Pavilions. At the height of the summer season, approximately 100 people live in Building 50.

U.S. Census data shows that the population within the greater six-county region has grown substantially over the last 38 years (105%). In tune with these regional growth trends, the population of the Charter Township of Garfield increased by 248%. However, the population of the City of Traverse City decreased by 21%. Table 3.2 illustrates the population data for the region between 1970 and 2008.

Figure 3.2

	1970	1980	1990	2000	2008 Estimate
City of Traverse City	18,048	15,516	15,116	14,383	14,253
Garfield Charter Township	4,917	8,747	10,516	13,840	17,137
Grand Traverse County	39,175	54,899	64,273	77,654	86,071
Antrim County	12,612	16,194	18,185	23,110	24,109
Kalkaska County	5,272	10,952	13,497	16,571	17,066
Benzie County	8,593	11,205	12,200	15,998	17,396
Wexford County	19,717	25,102	23,360	30,484	31,673
Leelanau County	10,872	14,007	16,527	21,119	21,783

Source: U.S. Census Bureau, July 2009 - Compiled by the Northwest Michigan Council of Governments

Population - Approximately 400 people live within the Grand Traverse Commons.



Photo provided by The Minervini Group

Housing

Currently, Building 50 contains 61 residential units. Residential units come in a full range of sizes from studio apartments and live-work units averaging about 280 square feet, to more expansive luxury condominiums averaging about 3,500 square feet. The Minervini Group is currently renovating space for an additional 38 affordable workforce residential units and is planning to develop another 28 residential units in the old power plant. The Grand Traverse Pavilions has a large number of residential units within its primary building. The adjacent Evergreen, Hawthorn and Willow Cottages feature private suites, studio and one bedroom assisted living units.

Business and Work Force

The number of people who work within the Grand Traverse Commons is unclear. However, it is safe to assume the work force of the Grand Traverse Commons is substantial. Employing more than 5,000 people, the Munson Health Care System is the region’s largest employer. It is estimated that anywhere between 700 and 2000 people work within the Munson Medical Center (portions of which lie within or adjacent to the Grand Traverse Commons) on any given day.

There are currently 61 businesses located within the Village at Grand Traverse Commons - including offices, retail shops, eateries and wineries, and professional services. In total, the various businesses located within the Village at Grand Traverse Commons employs about 260 full-time workers and 110 part-time workers. The Grand Traverse Pavilions has more than 400 employees. There are a number of other private businesses, public services and non-profit organizations that are located throughout the in the Grand Traverse Commons, including Richmond and Associates Architects, SEEDS and Little Artshram. The State of Michigan and Traverse Bay Area Intermediate School District also have office buildings within the Commons.

Planning and Development Tools

Historic District Designation

In 1978, after extensive community action, a portion of the former Traverse City State Hospital was designated as a *Historic District* and placed on the National Register of Historic Places. Incorporating 15 historic buildings and their surrounding grounds, the district is roughly bounded by Division Street and

Building 50 Residential Units - Building 50 contains 61 residential units. Developers are planning to construct an additional 38 affordable workforce residential units.



Grand Traverse Commons Workforce - A worker processes grapes at the Left Foot Charley Winery.



Photo provided by The Minervini Group

Elmwood Avenue to the east, the non-motorized pathway (old railroad tracks) running through the designated City and TBAISD parkland to Red Drive to the south, Red Drive and Cottageview Drive to the west and Medical Campus Drive to the North. Map 2 shows the location of the Traverse City State Hospital Historic District.

The historic district designation does not preclude significant alteration to the historic state hospital buildings and the surrounding grounds. However, to qualify for the Federal Tax Incentives Program, redevelopment must be carried out in accordance with the National Parks Service, Secretary of Interior's Standards for the Historic Properties. The Secretary of the Interior's Standards for the Treatment of Historic Properties are organized under four "treatment standards" to simplify the understanding of what the treatments are and how they should be interpreted. The four treatment standards are Preservation, Rehabilitation, Restoration, and Reconstruction.

Although the National Park Service warns against arbitrarily mixing treatments, it would be very difficult to apply only one standard for a project of the scope of the Grand Traverse Commons. Rather, there will be some combination of all four treatments, with the primary treatment being Rehabilitation.

The National Park service defines the Standards for *Rehabilitation* as:

REHABILITATION is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural or architectural values.

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjunctive features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Previous discussions before the Joint Planning Commission have addressed a request to expand the Historic District to include the entire Grand Traverse Commons campus. The Joint Planning Commission is currently studying and reviewing the implications of such a designation to individual property owners outside the current Historic District.

Renaissance Zone Designation

In 1999, the State of Michigan designated the five-acre envelope around Building 50 a Renaissance Zone. The designation waives nearly all state and local taxes for residents and business who locate there. In 2002, the Renaissance Zone was expanded to include an additional 15 acres and 15 other buildings. The Renaissance Zone expires in 2017.

Brownfield Redevelopment Plan

In 2002, the Grand Traverse County Brownfield Redevelopment Authority (GTCBRA) approved a Brownfield Plan for properties located within the City portion of the Grand Traverse Commons. The plan outlines what redevelopment activities will occur and the manner in which they will be funded. Previous discussions before the GTCBRA, the City Commission, the Township Board and the County

Brownfield Redevelopment – Brownfields are abandoned, idle or under-used industrial and commercial properties, often in urban areas, where expansion or redevelopment is hindered or complicated by real or perceived environmental conditions. Michigan has created many options to overcome the obstacles, including cost-effective cleanup options, causation-based liability, liability protection for new owners, state funding for clean ups and grants and loan programs

Michigan Dept. of Environmental Quality

Board have addressed a request to amend the 2002 Brownfield Plan to include certain portions of the Grand Traverse Commons located in Garfield Township and increase the proposed funding budget. The four governmental bodies are currently studying and discussing the implications of this amendment. If an amended plan is approved, significant public funding will be available for additional redevelopment activities.

Existing Land Use

The characteristics of the land in the Grand Traverse Commons, and the way people use the land change over time. There is no greater evidence of this type of change than the Grand Traverse Commons, where forests were lumbered and replanted, slopes were leveled, and wetlands were drained and cultivated. Additional changes have also occurred for most of the historic buildings within the campus. The following pages describe the current land uses (by type) of the Grand Traverse Commons. Please note, the description of the current land uses precede the associated photos.

Medical Uses

There are a number of medical uses located in the northern portions of the campus, adjacent to Munson Medical Center. These uses include small medical offices, continuing care facilities, specialized hospitality services, and their large ancillary uses (e.g. parking areas, utilities).



Natural Uses

By far the largest use within the Grand Traverse Commons, the natural areas make up the entire west and east portions of the campus. Consisting of hills, meadows and wetlands, most of the natural areas are designated Township and City parklands. Many areas include trails and pathways for passive recreation.



Education Uses

Located between Red and Silver Drive, in the south-central portion of the campus, the Traverse Bay Area Intermediate School District occupies the Arnell Engstrom Building. The school complex houses school district administration offices and a school for students with special needs in grades 6 -12. This area also includes large recreation fields and playground equipment.



Cultivation & Community Uses

Located at the southern portion of the Grand Traverse Commons, this area is home to a community garden, community programming, and entrepreneurial agriculture ventures. The area is home to a series of historic barn, but is primarily open and contains environmentally sensitive landscapes. The area is currently under the direction of the City of Traverse City - Charter Township of Garfield Recreational Authority. The area also includes trails and pathways for passive recreation opportunities.



Mixed Uses

These areas and buildings have experienced some of the most dramatic changes over the last 15 years. Located in the center of campus, portions of Building 50 and the adjacent cottages and the surrounding landscape, have been transformed into a village-like atmosphere - including small retail shops, eateries and residential units. Large landscapes (historic front lawn) have been preserved, but are available to the public for events/celebrations and recreation. Large portions of Building 50 and the surrounding landscape remain undeveloped.



Professional & Community Service Uses

These areas are primarily used for professional and public services. Located around the Elmwood Avenue and 11th Street intersection, these areas include the State of Michigan Building and the All Faiths Chapel.



Adjacent Land Uses

The permitted uses of property located adjacent to the Grand Traverse Commons can have a direct impact on its character. The successful redevelopment of the Grand Traverse Commons depends in part upon the preservation of the existing character and intensity of the surrounding land uses to maintain existing view corridors and the overall scale and intensity of development. The land uses adjacent to the Grand Traverse Commons can be defined as traditional residential neighborhoods to the north and east, Munson Medical Center to the north and environmentally sensitive areas to the south and west. Over the last 15 years, traditional suburban commercial development and small medical offices have located adjacent to the Commons in the northwest. In addition, large medical buildings, cut into the hillside, (Copper Ridge) dominate lands adjacent to the Commons in the southwest.

Character and Form

Architecture, building placement, the natural environment, and public spaces - these components of form (and others) work together to help shape the unique character and identity of the Grand Traverse Commons. In an effort to consistently maintain the character of the Grand Traverse Commons, the Joint Planning Commission is considering the implementation of a form-based code (zoning). Form-based codes create a predictable public realm primarily by controlling physical form, with a lesser focus on land use, through regulations.¹ The following pages describe some of the existing form-based components of the Grand Traverse Commons (see Map 3). Please note, the description of the character and form precede the associated photos.

¹ Formed-Based Codes A Guide for Planners, Urban Designers, Municipalities and Developers. Parolek, Parolek and Crawford - John Wiley & Sons, Inc. 2008

Adjacent Land Use - The Grand Traverse Commons is adjacent to the Central and Kids Creek (picture below) Neighborhoods.



Building Form - “Beautiful buildings are more than scientific. They are true organisms, spiritually conceived; works of art, using the best technology by inspiration rather than the idiosyncrasies of mere taste or any averaging by the committee mind.”

Frank Lloyd Wright

Medical Zone - Located along Medical Campus Drive, in the northwest portion of the campus.

- Buildings: One-story, masonry
- Front Building Setbacks (street & sidewalk): Setback from the street
- Parking: Surface lot, in front of building
- Primary Entrances: One, centrally located
- Windows: Equal increments; horizontal
- Exterior Colors: Earth-Tone Ocher
- Natural & Building Features: Tall tree-line adjacent to street, green metal roof, manicured lawn



Cottages North - Located off Cottage Drive and Medical Campus Drive, in the north portion of the campus

- Buildings: Three-story, masonry
- Front Building Setbacks (street & sidewalk): Set near the street
- Parking: Surface lot & Parking deck
- Primary Entrances: One, centrally located
- Windows: Equal increments; vertical and horizontal
- Exterior Colors: Earth-Tone Beige
- Natural & Building Features: Front porch, building oriented toward lawn, eaves, cottages in historic district



Pavilions - Located off Medical Campus Drive, in the northeast portion of the campus

- Buildings: Two-story, masonry
- Front Building Setbacks (street & sidewalk): Setback from the street
- Parking: Surface lot - In front of buildings
- Primary Entrances: One, centrally located
- Windows: Equal increments; vertical and horizontal
- Exterior Colors: Earth-Tone Beige
- Natural & Building Features: Green metal roof, back of building oriented toward large open lawn, partially located within the historic district



Mixed Use Warehouse - Located off Red and Yellow Drive, west of Building 50

- Buildings: One to three-story, masonry - stone and wood
- Front Building Setbacks (street & sidewalks): Set near the street
- Parking: Limited surface lot
- Primary Entrances: One, centrally located
- Windows: Equal increments; vertical and horizontal and large expanses
- Exterior Colors: Colors vary: Bright Yellow & Earth-Tone Ocher, Beige
- Natural & Building Features: Building situated within natural areas, front of buildings oriented toward large open courtyard/parking area, open seating in front of buildings



Mixed Use Kirkbride - Located in the center of campus, Building 50

- Buildings: Three-and-a-half-story, masonry and stone
- Front Building Setbacks (street & sidewalks): Set near the street
- Parking: Surface lot - Located behind the building, some on-street parking
- Primary Entrances: Several entrances
- Windows: Equal increments; vertical and horizontal
- Exterior Colors: Earth-Tone Beige
- Natural & Building Features: Front of building orientated toward large open arboretum, porches, spires and cupola



Cottages South - Located between Red and Silver Drive, just south of Building 50

- Buildings: Three-story masonry, wood and stone
- Front Building Setbacks (street & sidewalks): Set back from the street - sidewalks adjacent to buildings
- Parking: None
- Primary Entrances: Multiple entrances
- Windows: Equal increments; vertical and horizontal
- Exterior Colors: Earth-Tone Beige
- Natural & Building Features: Front of building orientated toward large open lawns, back of building located close to street and natural areas, soffits, turrets, porches



Education - Located between Red and Silver Drive, just south of the Cottages

- Buildings: One to two-story, masonry
- Front Building Setbacks (street & sidewalk): Building set back from the street
- Parking: Small surface lots in front of building and large lot on both sides of building
- Primary Entrances: Multiple entrances
- Windows: Equal increments; vertical
- Exterior Colors: Earth-Tone Ocher
- Natural & Building Features: Distinct vertical windows on second floor, long red metal roof, adjacent to large recreation field and natural areas, buildings appear on two levels in congruence with the slope of the site, parking areas are shared



Community Service - Located off Elmwood, north of 11th street

- Buildings: One and five-story buildings, - combination of masonry, wood and stone
- Front Building Setbacks (street & sidewalk): Set near the street
- Parking: On-street parking and surface lots behind buildings
- Primary Entrances: Predominantly one primary entrance
- Windows: Equal increments; vertical and horizontal
- Exterior Colors: Earth-Tone Ocher
- Natural & Building Features: All faiths chapel has a long steep pitched roof, back of Chapel faces onto the historic front lawn, large central portion of state office building has unique brick and concrete features



Mixed Use Elmwood - Located off Elmwood, south of 11th street

- Buildings: Two story, masonry and wood
- Front Building Setbacks (street & sidewalk): Set near the street
- Parking: Small surface lots behind buildings, on-street parking with impervious surface
- Primary Entrances: One primary entrance
- Windows: Equal increments; vertical and horizontal
- Exterior Colors: Earth-Tone Beige or Grey and Bright Yellow
- Natural & Building Features: Building parallel to street, front porches, eaves and buildings placed close together.



Mixed Use Cultivation - Located in the southwest portion of the campus

- Buildings: Small and large one to two-story, combination of masonry with wood, and stone
- Building Setbacks (street & sidewalk): Buildings set near the informal service roads - No sidewalks
- Parking: On-Fields
- Primary Entrances: One primary entrance
- Windows: Equal increments; vertical and horizontal
- Exterior Colors: Earth-Tone Beige and brown
- Natural & Building Features: The location is home to the historic barns, adjacent to large expanses of open space and natural areas, gravel roads, some areas are actively cultivated, many buildings are in poor condition, large barns have two-toned brick exterior.



Conservation Zone - Located along on the west and east portions of the campus

- Natural Features: Large open expanses, steep hillsides, wetlands and Kids Creek

Building Descriptions

There are about 50 buildings located on the Grand Traverse Commons. For the purposes of describing existing conditions, these buildings can be grouped into seven basic categories related to their use and construction time period.

Construction Period: 1883 - 1915

Original Use: Historically significant buildings intended to house and treat patients

Building Character: Brick masonry walls and heavy timber construction systems - roofs are generally pitched and include towers or spires as architectural accents

Construction Period: 1885 - 1915

Original Use: Support buildings for purposes such as storage, maintenance shops, and food preparation

Building Character: Brick masonry walls and heavy timber construction systems - roofs are generally pitched and include towers or spires as architectural accents

Construction Period: 1920 - 1955

Original Use: Patient care structures

Building Character: Constructed of reinforced concrete with brick and limestone exterior walls and details

Construction Period: 1920 - 1955

Original Use: Support buildings

Building Character: Larger buildings are reinforced concrete framed with brick and concrete masonry wall systems - the smaller buildings have concrete masonry walls and light wood framed roof systems and tend to be box-like in visual character, with flat roofs

Construction Period: 1890 - 1957

Original Use: Residences

Building Character: Sympathetic to historic buildings, but some are basic 1950's housing stock (these buildings have been removed)

Construction Period: 1990 - 1932
Original Use: Agricultural uses
Building Character: Large well constructed (masonry and heavy timber) barns

Construction Period: 1955 - Present
Original Use:
Building Character: Varies

Existing Buildings

The following pages describe the current or possible use of the existing buildings throughout the Grand Traverse Commons. Buildings are also categorized by type and age. Building descriptions in parenthesis indicate the original use of the buildings. The location of each building is illustrated on Map 4.

Building Type: Barns
Years Constructed: 1900 - 1932
Building(s): 204 (cathedral barn) 206 (barn), 208 (milk house), 211 (granary), 221 (garage), 222 (horse barn/garage), 223 (auto repair garage), 226 (granary/root cellar), 228 (bus garage)
Current/Future Use: Buildings 204 and 206 have recently been and continue to be re-developed. The Recreational Authority hopes to use the buildings to host large community and private events. Buildings 211, 222, 228, 223, and 221 are planned to be preserved (some in their current state) for ancillary uses by the Recreational Authority.



Building Type: Main Building
Years Constructed: 1885
Building(s): 50 (Psychiatric Hospital)
Current/Future Use: Building 50 is home to 61 residential units and 61 businesses (retail, commercial professional services). Future plans call for the development of over 190,000 additional square feet.



Building Type: Cottages
Years Constructed: 1890 - 1915
Building(s): 21, 23, 25, 27, 28, 29, 30, 32, 34, 36, 40
Current/Future Use: Buildings 21, 23, 25, and 27 are home to medical related and hospitality services
Buildings 29, 30, 32, 34, and 36 are vacant
Building 40 may become a hotel and conference center



Building Type: Pre 1920 Service Buildings
Years Constructed: 1890 - 1917
Building(s): 61 (upholstery shop), 62 (root cellar), 63(root cellar), 69
Current/Future Use: Building 69 is home to a Store/Café.
Buildings 61, 62, and 63 are vacant



Building Type: Post 1920 Service and Storage Buildings
Years Constructed: 1920 - 1956
Building(s): 53, 56, 57, 59, 58, 60, 65, 67
Current/Future Use: Building 53 is home to a Winery, and roaster and coffee bar.
Building 67 is home to a food production facility
Buildings 56, 57, 58, 60, and 65 are vacant.



Building Type: Pre 1931 Residential Buildings
Years Constructed: 1890 - 1931
Building(s): 79, 80, 82, 84, 88
Current/Future Use: Building 79 is a residential dwelling
Building 80 is home to “Helens House” of the Women’s Resource Center
Building 84 is vacant
Building 88 is home to a professional office



Building: All Faiths Chapel
Year Constructed: 1963
Building: 43
Current/Future Use: Building 43 is used by a variety of community service agencies, including the Women’s Resource Center and a Cooperative Pre-School.



Building: State Office Building
Year Constructed: 1938
Building: 42 (nurse’s dormitory)
Current/Future Use: Building 42 is used as an office building



Building(s): Traverse Bay Area Intermediate School District (TBAISD) Building
Year Constructed: 1970
Building: 46 (Arnell Engstrom Children’s Hospital))
Current/Future Use: Building 42 is home to school administration offices and a school



Building: 66
Years Constructed: 1970
Current/Future Use: Building 66 is home to a bakery



Building: The Pavilions
Years Constructed: 1999 (replaced the “flat top” buildings 33, 35, 37, 37a, 39, 40)
Current/Future Use: The Pavilions is home to medical related, hospitality and continuing care services



Building: 44 - Greenspire Montessori School
Years Constructed: 2004
Current/Future Use: Building 44 was formally home to the Greenspire Montessori Junior High School. It is currently vacant.



Natural Features

Topography and Drainage

The topography of the Grand Traverse Commons site is characteristic of lateral moraines in the Grand Traverse area that were formed about 12,000 years ago during the Wisconsin period of glaciation. The campus occupies part of the eastern slope of the lateral moraine that forms the western boundary of the West Arm of Grand Traverse Bay and the Boardman River Watershed. Kids Creek, which runs through the site, is a tributary to the Boardman River and the site lies within the Kids Creek Watershed, which is a sub-watershed of the larger Boardman River Watershed.

The topography of the Grand Traverse Commons generally slopes downward from west to east. The extreme western portion of the site contains steep slopes which lessen in grade moving eastward. Gentle slopes characterize the central portion of the site. The eastern portion of the site is quite flat and contains Kids Creek and its adjacent floodplain and wetlands. The steeper slopes in the extreme western portion of the site are heavily wooded and undeveloped. These steep slope areas occupy approximately 40 acres of the site with grades of about 20%. The central area of the site where the majority of the existing buildings are located has gently sloping terrain with grades that are roughly 3% to 5%.

The wetlands occupy approximately the eastern 2,000 feet of the campus between Silver Lake Road and Eleventh Street and approximately the eastern 1,000 feet of the campus between 11th Street and 7th Street. Kids Creek flows through the middle of the wetlands. Details of the site's topography are shown on Map 5.

The predominant natural drainage facility on the site is Kids Creek which is located in the easterly portion of the campus. Kids Creek has the potential to be high quality trout stream. However, the DEQ has listed Kids Creek as an impaired stream because sediments have negatively impacted macroinvertebrate habitat, resulting in reduced fish habitat. Efforts are currently underway to address these issues. As previously described, Kids Creek flows through wetlands on the site and is a tributary to the Boardman River and the West Arm of Grand Traverse Bay. Kids Creek falls about 10 feet from its point of entry on the site at Silver Lake Road on the south to where it exits the site on the north at Seventh Street.

Kids Creek - Kids Creek is a tributary of the Boardman River.



The Kids Creek floodplain occupies a significant portion of the wetland on the eastern portion of the Grand Traverse Commons. Both a 100 year and a 500 year floodplain have been computed for Kids Creek by the U.S. Soil Conservation Service and Fishbeck, Thompson, Carr and Huber (a civil engineering, environmental, and architectural firm in Grand Rapids).

The U.S. Soil Conservation floodplain delineation was undertaken in 1973 following the flooding of the Kids Creek Basin. At the request of the City of Traverse City, the floodplain delineation was recalculated by Fishbeck, Thompson, Carr and Huber in 1991 to take into account stormwater improvements made since the 1973 evaluation undertaken by the U.S. Soil Conservation Service and the impact of these improvements upon the floodplains boundaries. While the Fishbeck, Thompson, Carr and Huber determination has not been adopted or generally accepted as the “official” floodplain determination, it is referenced in this plan to highlight the inconclusiveness regarding the current and actual boundaries of the floodplain. Map 6 depicts the Fishbeck, Thompson, Carr and Huber floodplain.

The precise location of both the 100 and 500 year floodplain for Kids Creek is shown on Map 6. The width of the 100 year flood plain varies from approximately 400 feet to 1,000 feet in the south and central portion of the wetland area adjacent to the creek. In the northern portion of the wetland (north of Eleventh Street), the 100 year floodplain ranges from about 200 to 800 feet wide. A number of springs and small feeder creeks emanate from the hillside on the Grand Traverse Commons. Most of these streams and springs flow continuously. A small stream west and slightly south of Munson Medical Center is routed through a storm drain on Sixth Street near Munson Medical Center. This storm sewer channels into an excavated stream channel adjacent to the main parking lot at Munson Medical Center.

Soil Conditions

Soils on the site were mapped by the Soil Conservation Service (SCS) in 1966 and updated in 1990. The SCS soil mapping has been reproduced for the campus, as shown on Map 7. The specific soil classifications used by the SCS are listed on the soils map. Map 8 illustrates the slopes of the campus based on soils data.

Soils on the site are diverse and characteristic of the mixture of sands, gravel, silts and clays that are found in lateral moraines in northwestern Michigan. There are also muck deposits in the wetland areas and in some of the upland areas of the site. This condition is unusual in this part of Michigan. The upland mucks are attributable to the high water table and springs on portions of the westerly hillside. The

predominant soil types on the site are sandy loams. Loam is an agricultural term that refers to a mixture of sand, silt and clay. The sandy loam soils indicate that the portion of sand in the loam is higher than the silt and clay content.

Six soil borings were made in December, 1993. The borings were made in the north central portion of the site. One boring was made immediately east of Elmwood Avenue near the former area of Orange Drive. The other five borings were made 100 to 600 feet west of Elmwood Avenue from the north boundary of the site to Eleventh Street. The borings were made to obtain preliminary information about soil suitability for building foundation construction and stormwater retention and detention facilities.

The soil borings generally confirmed the SCS soil classification. Soils east of Elmwood Avenue were predominately mucks having a water table within two to three feet of the ground surface. Soils immediately west of Elmwood Avenue near the north property boundary have a water table within about three feet of the ground surface. Soils near the surface were mixtures of sand, silt, marl, and muck.

Deposits of muck and marl were limited to the upper three to five feet of soil. The soils in this area may not be suitable for construction of shallow building foundations. Removal of unsuitable soils or special foundation construction techniques may be required. Additional soil borings will be needed in this area before any design and construction is considered.

The soils typically were more sandy and the water table deeper in the borings that were made further west of Elmwood Avenue and south of the north property boundary. A 20 foot deep soil boring made near Eleventh Street revealed predominately sand. Groundwater was not encountered.

Except for the wetland areas and the small areas of upland mucks, the soils are amenable to development. Soil deposits in the area will typically support low-rise buildings on conventional shallow footings. Mid-rise buildings may require deep foundations. Development on slopes steeper than 10% should receive special measures for erosion control. Development should be avoided on slopes greater than 15%.

Groundwater on the easterly and westerly portions of the campus (on the hillside and near the wetlands) may restrict the practical depth of basements which may necessitate dewatering for utility construction. Perimeter drains for structures and basements are recommended as a rule for any new construction.

Natural Features - Tree-line and steep slopes of the Garfield Township Parkland



Natural Systems

The Grand Traverse Commons has a variety of natural systems that give it its appealing character and provide a setting for sensitive development. These natural systems include wetlands, meadows, and arboretum, park-like open space and woodlands which are characterized by a variety of vegetation. Map 9 illustrates the natural systems.

Wetlands

The wetlands are contiguous along the entire portion of the Grand Traverse Commons, between Elmwood Avenue and Division Street. Kids Creek runs the full length of the wetlands and indicator plants such as Black Willow, Eastern Cottonwood, Poplars, Redtwig Dogwood and Cattails are prominent. The soil type in the wetlands area is Edwards Muck on post-glacial sediment. Much of the wetlands area adjacent to Kids Creek was used as agricultural fields when the State Hospital was in operation.

Upstream development has created an increase in the amount of water flowing through Kids Creek, and the resultant sand erosion to the edge and bottom conditions of Kids Creek. The most obvious problem with water quality on the campus is sand erosion and the infiltration of oils and salts from parking lots, roadways into the natural system.

Forested wetlands form pocket environments at the top of the bluffs along the western side of the campus. These areas are sensitive to development and provide a home for a variety of wildlife. A sampling of the animals living in these areas include, Beaver, White Tail Deer, Eastern Cottontail, Ruffed Grouse, Downy Woodpecker, Great Horned Owl, and Red Squirrel.

Meadows

Up from the wetlands the land changes to either natural meadow or a developed, park-like landscape. The natural meadow extends from the wetlands to the base of the bluffs along the south side of the campus. It encompasses the Traverse Bay Area Intermediate School District property and the barns area and is the most dominant land type viewed from Silver Lake Road. The meadow contains pockets of cattail marsh indicating underground seeps. The natural meadow is as important as the wetlands as a natural setting and peripheral buffer for the site.

Wetlands - Wetland area near Silver Drive.



Park-Like Open Space and Arboretum

The developed, park-like landscape consists of the maintained open lawn adjacent to all of the primary buildings on the Grand Traverse Commons. This area includes the historic front lawn of Building 50 (arboretum), which contains one of the most extensive collections of northern hardy tree species in Michigan.

Woodlands

The wooded bluffs provide a backdrop along the entire western edge of the site and are characterized by mixed hardwood species including Sugar Maples, White Ash, Ironwood, American Beech, and mature Eastern Hemlock which indicates that succession here is at an advanced climax phase.

The topsoil layer is thin in the wooded bluffs and the underlying soil is Kalkaska Sand. The steep slopes are highly erodible and undevelopable, except for passive recreation use.

Vegetation

The vegetation on the Grand Traverse Commons closely relates to the landform of the campus. The plant communities found are easily defined in terms of land characteristics such as wetlands, meadows, woodlands, and the maintained lawn area. Many studies and plant surveys have been completed describing the plant communities such as Steve Redman's, the *Flora of the State Hospital Grounds at Traverse City, Michigan*. The fact that this site contains such a wide variety of plant communities and a large number of species of northern hardy trees on the historic front lawn area puts the Grand Traverse Commons in a unique position to function as a major arboretum in northern Michigan.

The campus contains over 100 tree types within the tree families of Cherry, Ash, Oak, Maple, Apple, Elm, Hawthorn, Beech, Chestnut, Sycamore, Walnut, Aspen, Poplar, Birch, and Willow. The continued preservation and enhancement of the existing arboretum is an important objective in the redevelopment of the Grand Traverse Commons. The management of such an arboretum should provide central control of grounds maintenance, interpretive programs, plant propagation, complete plant cataloging, and control of theme collections and arboreta expansion.

Arboretum- Collected and planted by Dr. Munson from his extensive trips around the world, the arboretum contains one of the most extensive collections of northern hardy trees in Michigan and other unique trees not native to northern Michigan (Ginko Biloba).



Infrastructure and Utilities

A detailed update of new and/or improved utility infrastructure was not determined under this master planning process. As a result, the following section highlights some of the basic improvements to utility infrastructure for the Grand Traverse Commons since 1994. Information for this section was provided by the City of Traverse City Engineering Department, The Minervini Group, DTE Energy and Traverse City Light and Power. The Joint Planning Commission should continue to work with City and Township staff and local utility companies to complete a more thorough update. Detailed maps illustrating the location of the existing utilities can be provided by the City of Traverse City Engineering Department.

Water and sewer treatment is supplied by the City of Traverse City's municipal systems. Natural gas is available on the campus from Michigan Consolidated Gas Company (under DTE). Electrical service is available from two sources which include Traverse City Light & Power and Consumers Power Company.

Water System

The existing water system consists of a complex network of four, six, eight, ten and twelve inch water mains. The City of Traverse City system is currently connected to the site at two locations. A twelve-inch main connects at the intersection of Elmwood Avenue at Seventh Street. A second twelve-inch main runs from Division Street to Elmwood Avenue, south of the State Office Building and connects to a six-inch main which currently services Building 50a. A twelve-inch water line was extended to the Barns area in 2008 and connected with a ten-inch main line just north of the TBAISD Building.

Sanitary Sewer System

The campus contains an extensive network of sanitary sewers and sanitary sewer services to individual buildings. The sanitary sewers are eight, ten, and twelve inches in diameter. Manhole spacing is less than 300 feet. All buildings on the site are served by sanitary sewer, including the Barns, which was serviced by a line extension in 2008. Waste water is discharged into the Traverse City sewage collection system at Seventh Street. The entire sanitary sewer system flows by gravity. There are no sewage pumping stations on the site. The sewers are buried in individual trenches. Because leaking sewers can be a health hazard and can release explosive concentrations of methane gas, no sewers are constructed in the tunnel system.

Utilities - A water main was extended to the Barns area in 2008.



Water and Sewer Conditions

Most of the utility systems have been constructed or reconstructed within the last 50 to 70 years. The condition of the various utilities varies with the type and location of the particular systems. An in-depth study about the condition of the water and sewer system was not conducted as part of the 1994 district planning process or this master planning process. However, at this time, no notable problems about the sewer condition have been identified.

In general, the water and sewer systems are typical of any comparable municipal area of similar age. That is, there are no known problems with the condition of the water and sewer system that would limit new development on the site or make it prohibitively expensive. However, the water supply pressure to portions of the site is somewhat less than required for multi-story fire suppression needs.

The City has identified solutions to the low pressure conditions including linking to other high-pressure service areas in adjacent pressure districts. In addition, the age and condition of the existing watermain behind Building 50 (from Medical Campus Drive to the TBAISD Building) warrants replacement.

A sanitary sewer condition and hydraulic report was completed for the Grand Traverse Commons in 2004. The report identifies a number of improvements to the system, including allowing the City to accept private sewers into the public system. The sanitary sewer report is available through the City of Traverse City Engineering Department.

Natural Gas

The natural gas system serving the Grand Traverse Commons site is owned by DTE Energy (d.b.a MichCon). The site is served by a six-inch gas main from Silver Lake Road on the south and two-inch and four-inch gas mains from the intersection of Elmwood Avenue and Seventh Street. The natural gas system replaced the central steam heating system that was in use when the Traverse City State Hospital was in operation. The natural gas system may require some additional distribution piping to serve any new development.

Electrical

The site is served by two electrical utilities. They are Traverse City Light & Power and Consumers Power Company. Electrical power from these utilities serves all of the buildings on the site. Like the natural gas system, the electrical distribution network required modifications to accommodate future development projects. Additionally the *1990 Adaptive Reuse Plan* recommended that all utility lines be buried. In order to serve the campus, the Joint Planning Commission will have to work with the City of Traverse City and other utilities to establish a campus-wide infrastructure program for the purpose of selecting the most efficient manner for providing electrical service to the Grand Traverse Commons. Over the last several years TCLP has completed and is currently working on a number of modifications to the electrical distribution network and is gradually burying utility lines.

Storm Sewer System

The campus has a limited storm sewer system. The majority of the storm sewer system is in the northern portion of the developed area. The storm sewers in this area range in size from six-inches to thirty-six-inches. The smaller diameter pipes serve the northwestern portion of the site and function as individual storm sewer leads and catch basins. The pipe diameters get progressively larger to the east where they discharge to the wetlands adjacent to Kids Creek.

Storm sewers in the vicinity of the Pavilions drain to the north central portion of the campus in addition to the wetlands adjacent to Kids Creek. These storm sewers range in size of between six and fifteen inches.

Other locations that have storm sewers are the Silver Drive area and the Traverse Bay Area Intermediate School District area. These storm sewers drain to the east and the wetlands adjacent to Kids Creek.

All of the existing storm sewers within the Grand Traverse Commons eventually discharge into the flood plain and wetlands adjacent to Kids Creek. Best management practices shall be applied whenever feasible to minimize discharge into Kids Creek, the flood plain and the wetlands.

The capacity of the system is unknown but it seems to adequately serve the existing development. Except for road culverts, storm sewers only exist in areas of the site that are developed. Construction of

new storm sewers and stormwater retention and detention facilities to serve any new development should be included in new development projects.

Tunnel System

The types of tunnels existing on the Grand Traverse Commons property vary from location to location. The tunnel systems accommodate utility networks which connect most of the historically significant structures on the campus. The services now abandoned consisted of steam, domestic water, electrical and data cables.

The tunnel system also supported a comprehensive movement system which allowed the circulation of both pedestrian and materials from building to building. There are three types of tunnels - crawl tunnels, walking tunnels, and combined tunnels. The crawl tunnels were constructed to house utilities. The combined tunnel is located between the former power plant and Building 50. Most of the tunnels surveyed for the *1994 District Plan* appeared to be reusable for both pedestrian circulation and new utility service required by new development. In 2007, The Minervini Group removed asbestos and added lighting to one of the primary tunnels that connected Building 50 to the North Cottages. The Minervini Group currently uses portions of the tunnel system to house electric and telecommunications infrastructure.