City of Petoskey

Agenda

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According to the Attorney General, interrupting a public meeting in Michigan with hate speech or profanity could result in criminal charges under several State statutes relating to Fraudulent Access to a Computer or Network (MCL 752.797) and/or Malicious Use of Electronics Communication (MCL 750.540).

According to the US Attorney for Eastern Michigan, Federal charges may include disrupting a public meeting, computer intrusion, using a computer to commit a crime, hate crimes, fraud, or transmitting threatening communications.

Public meetings are being monitored and violations of statutes will be prosecuted.

CITY COUNCIL

September 21, 2020

1. Call to Order - 7:00 P.M. – Virtual meeting from remote locations

2. Recitation - Pledge of Allegiance to the Flag of the United States of America

3. Roll Call

4. Presentation – Hear presentation from Baird and Associates concerning Slope Failure Study

5. Consent Agenda – Adoption of a proposed resolution that would confirm approval of the following:

   (a) August 17, 2020 regular session and August 31, 2020 special session City Council meeting minutes

   (b) Acknowledge receipt of a report concerning certain administrative transactions since August 17, 2020

6. Miscellaneous Public Comments

7. City Manager Updates

8. Appointments – Consideration of appointments to the Compensation Commission and Planning Commission

9. New Business

   (a) Receipt, introduction and first discussion on the City's proposed 2021-2026 Capital Improvement Plan

   (b) Consider to approve an application to purchase and agreement of sale for MDOT railroad right-of-way between Emmet Street and Washington Street in the amount of $28,500

   (c) Adopt proposed resolution that would approve proposed ballot language concerning Mayor and Councilmembers terms of office

   (d) Consider to approve a social district application permit submitted by David Miekle, 425 Michigan Street LLC DBA The Back Lot

10. City Council Comments

11. Adjournment

City of Petoskey

Agenda Memo

BOARD: City Council

MEETING DATE: September 21, 2020 **PREPARED:** September 17, 2020

AGENDA SUBJECT: Presentation from Baird and Associates Regarding Slope Failure Study

RECOMMENDATION: That the City Council hear presentation

Background Representatives from Baird and Associates will be making a presentation on the enclosed Petoskey Slope Failure Study. As the slope failure issues affect the region, elected officials from Resort Township and Emmet County have been invited to hear the presentation to get a better understanding of coastal erosion issues in this area. Costs of the $81,000 study have been shared equally by Resort Township, Emmet County and the City of Petoskey.

Recommendation No action needed.

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Enclosure

Petoskey Slope Failure Study

Petoskey, Michigan

August 26, 2020 | 13269.601.R1.RevA

Baird.

Innovation Engineered.

baird.com

Petoskey Slope Failure Study

Petoskey, Michigan

Prepared for:

City of Petoskey Parks & Recreation
101 E. Lake St
Petoskey, Michigan 49770

Resort Township
2232 Resort Pike Road
Petoskey, Michigan 49770

Emmet County
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13269.601.R1.RevA

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Revision	Date	Status	Comments	Prepared	Reviewed	Approved
RevA	8/26/2020	Draft for Review		RPA/MM	EAL	EAL

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Tables

Figures

1. Introduction

1.1 Project Description

In late 2019 City of Petoskey (City) staff identified numerous minor slope failures along an elevated portion of the Little Traverse Wheelway (trailway), located between Magnus Park and East Park. This stretch of trailway is approximately one mile in length and founded on a historic railbed that is terraced into the mid-slope of a natural Lake Michigan coastal bluff on the south shore of Little Traverse Bay. A significant portion of the coastal bluff is vegetated from the shoreline to the crest along this reach, with U.S. Highway 31 running parallel to the trailway atop the bluff. There are also several residential properties located near the bluff crest along Arrowhead Drive near East Park, which are in Resort Township. The City of Petoskey is responsible for maintaining this portion of the trailway; however, the trailway cuts through multiple parcels of lands owned by others (i.e. Emmet County and Resort Township residential properties) through an easement agreement.

The combination of observed/ ongoing erosion and recent increase in Lake Michigan water levels raised concerns regarding the overall stability and safety of this reach of shoreline. To better understand and quantify the risks associated with the stability of the shoreline/ bluff between Magnus Park and East Park a group of key stakeholders, the City of Petoskey, Emmet County, and Resort Township (herein all referred to as Owner), retained W.F. Baird & Associates Ltd. (Baird) and OHM Advisors (OHM) to perform a preliminary investigation and analysis of the shoreline/ bluff, and develop conceptual design alternatives to potentially mitigation the ongoing issue(s).

Unfortunately, near the onset of this study (on April 13, 2020) a large section of coastal bluff slope collapsed during a Lake Michigan storm event; destroying approximately 150 lineal feet (LF) of trailway. Fortunately, there were no injuries and although the extent of the failure nearly reached the U.S. Highway 31, it did not cause damage to or require closure of this roadway, which is a main arterial route between Petoskey and neighboring municipalities.

The proximity of the slope failure and potential instability of the collapsed bluff slope in relation to the roadway is concerning. Immediately following this event, the Michigan Department of Transportation (MDOT) installed inclinometers to actively monitor for latent movement/ recession of the slope failure. At present, no activity has been reported since the installation of said devices. In addition, MDOT installed ground water monitoring wells near the recent bluff collapse (on July 28, 2020), the results of which are discussed and utilized in this study.

A project location map, highlighting the battery limits of this study, and the location of this recent major slope failure as well as additional minor slope failures along trailway (i.e. sloughing) is shown in Figure 1.1. Images of the April 13, 2020 slope failure are shown in Figure 1.2. An image of a separate sloughing failure (west of the coastal collapse) that was recently observed is shown in Figure 1.3.

1.2 Report Purpose

The purpose of this report is to provide a summary of the existing site conditions and preliminary engineering analysis (methodologies and results) pertaining to the stability of the bluff and shoreline, as well as provide conceptual mitigation design alternatives for the Owner's consideration. This report shall serve as a basis to help the Owners make informed decisions regarding this issue.

Figure 1.1: Project Location Map

Figure 1.2: Photo 1 - UAV Image of April 13, 2020 Coastal Bluff Slope Collapse (Baird, 2020)

Figure 1.3: Photo 2 – UAV Image of Minor Sloughing Failures (Baird, 2020)

2. Existing Conditions

Documenting the historic and current site conditions was completed to develop an understanding of the ongoing shoreline and bluff erosion issues. This section of the report provides a detailed summary of the existing conditions data review and field data collection effort. Existing conditions information is subsequently used in this study to support analysis and modeling efforts (i.e. GIS analysis, cross-shore sediment transport shoreline modeling, and slope stability modeling) – the methodologies and results of which are discussed in the following section of this report.

In addition, gaps, limitations, or other deficiencies in the available information that may impact the level of accuracy in the results of this study are identified, along with recommendations to address these deficiencies.

2.1 Background Data Review

Table 2.1 provides a summary description of existing conditions information collated and reviewed for this project.

Table 2.1: Existing Data Review

Data Type	Item Description
Property Ownership	An interactive property ownership map for the site was reviewed via Emmet County online viewer (see Figure 2.1).
Historic Slope Stability Study	NDG slope stability study (dated circa June, 2005).
Topographic Data	Topographic LiDAR data (USACE, 2012 and FEMA, 2015) was obtained via NOAA.
Bathymetric Data	Bathymetric LiDAR data (USACE, 2012) was obtained via NOAA.
Aerial Imagery	Historic USGS aerial imagery of the site was obtained from the following sources/ dates: • USGS - 1954 • USGS - 1956 • USGS - 1968 • USGS - 1974 • USGS - 1978 • USGS - 1993 • USGS - 1998 • USDA - 2005 • USDA - 2009 • NOAA - 2011 • USACE - 2012 • USDA - 2014 • USDA - 2016 • USDA - 2018

Data Type	Item Description
Critical Dune Mapping	Michigan Department of Natural Resources Great Lakes Information System: Department of Natural Resources: Land and Water Management Division Critical Dune Mapping. Source: https://www.michigan.gov/documents/egle/wrd-dune-cda-all_687912_7.pdf. Note, this property is not currently listed as a Critical Dune Area by the MDNR.
Historic Construction Documents	Trailway Construction Documents (NDG, 2007). U.S. 31 Roadway Construction Documents (MDOT, 2014).
Historic Geotechnical Data	(5) Soil Borings (NDG, 2005) (4) Ground Water Monitoring Wells (NDG, 2005).
MDOT	Two ground water monitoring wells (MDOT, 2020).

The following is a list of additional data Baird recommends be acquired for further review and analysis prior to future detailed design and engineering, or construction of a mitigation measure to address the ongoing issue.

Table 2.2: Additional Data Recommended for Review

Data Type	Item Description
Utility Locations	Existing utility location surveys (i.e. buried municipal/ private utilities, municipal water vs. private wells, etc.).
Geotechnical	Historic soil borings were reviewed for this study; however, additional/ deeper soil borings may be required to identify/ further define the geotechnical variability and slope stability for the site.
Natural Resources	Regional hydrogeology investigation to better assess/ understand groundwater properties/ implications.
Bathymetry	Acquire detailed bathymetric survey information extending from the existing shoreline to a depth of approximately 30 ft to capture any recent changes in the lakebed.

Figure 2.1: Property Ownership Map (Emmet County Equalization/GIS Department)

2.2 Field Data Collection

Baird and OHM performed multiple site visits to visually assess the site and perform field data collection tasks. Site visit dates and a brief description of the tasks completed is provided in Table 2.3.

Table 2.3: Field Data Collection Summary

Date	Description
April 22 - 23, 2020	Unmanned aerial vehicle (UAV) site mapping, survey control point collection, lakebed sediment and subsurface assessment (jet probes), and nearshore survey profiles – Baird/ OHM
March 27, 2020	Initial site visit to walk the project and assess the condition of the previously observed erosion and identify any new areas of concern – OHM.
April 13, 2020	General site observations following the coastal bluff collapse – OHM.
June 4, 2020	Site visit to assess the ground water conditions at the location of the coastal bluff collapse – OHM.

A detailed description of the project area and site-specific details (i.e. topography, bathymetry, geotechnical and coastal conditions) are summarized in the following sections of this report.

2.3 Project Area Description

The study area consists of approximately 5,500 lineal feet of continuous Lake Michigan shoreline, between Magnus Park and East Park. The area of focus (battery limits) for this study area is concentrated on the bluff and trailway corridor, extending from the shoreline to U.S. Highway 31 (see Figure 1.1). The coastal analysis aspects of the study extend lakeward to assess the general characteristics of the nearshore bathymetry, adjacent shorelines, the natural movement of sediment along the shoreline (littoral processes), lake level records, and wave data. In addition, the overall extent of the assessed site topography and drainage patterns extend inland (beyond U.S. Highway 31).

2.3.1 Overall Geological and Geomorphological Considerations

A natural slope—such as along the stretch of Little Traverse Bay under consideration—is highly dynamic. From a geological point of view the changes which occur on natural slopes and bluffs happen very quickly; in a matter of years, days, or minutes at times. For example, some geological phenomena (e.g., formation and subsequent erosion of mountain ranges, substantial movement of the Earth's plates, etc.) occur over the course of millions of years. By contrast, the changes we observe in how the waves change the toe of a bluff, or how the groundwater may change over the years, happen on a much faster scale. For example, the shoreline may change rapidly depending on a storm event or change in wind direction. Trees and brush, of course, grow in a matter of years or decades. Surface erosion may become visible after a single major storm. And, at times, a dramatic slope failure may occur as it did on this section of trail on April 13, 2020. These rapid changes are in stark contrast to the geological changes mentioned above. In short, these rapid changes (which occur on a "human timescale") as observed in the environment of a natural slope, may then also directly impact humans much more than those phenomena related to the "geologic timeframe."

2.3.2 Site Conditions and Background

A railroad once operated along what is now as the Little Traverse Wheelway (trailway) for 100 plus years. The trailway exists along a bench that is situated approximately midway up the bluff, with Little Traverse Bay

(connected to Lake Michigan) to the north. The slope in the area along the section of shoreline under consideration varies in grade, with the steepest portions having approximately 1.3 horizontal to 1 vertical (1.3H:1V), and the average being around 1.9H:1V.

Some evidence of shallow surface slides (not occurring in the recent past) are evident. We know of one past significant failure circa 1913 (as shown Figure 2.2); however, the location and exact date of this event could not be confirmed and this appears to be related to a landside "washout" as opposed to failure of the slope. More recently, several relatively shallow surface slides have occurred (first reported to the project team in late 2019). Finally, as noted, one other more significant slide occurred on April 13, 2020. This slide, as opposed to the recent shallow slides—was a rather deep-seated coastal bluff collapse. This particular slide was utilized to "tune" the soil parameters for the slope stability analyses aspects of this study (described in Section 4.2).

Figure 2.2: Historic Coastal Bluff Washout (1913)

The vegetation on the slope is highly variable with certain parts containing sparsely populated trees and brush. Other areas of the slope are heavily vegetated. Vegetation in the area of the bluff under consideration most often includes pines, aspen, cedar, and various shrubs and brush. Seepage exiting on the face of the slope at various elevations is sometimes visible. For example, some seepage was observed near the toe of the slope during the initial design work for the new trailway completed in 2009. More recently, we observed seepage at elevations higher than that of the trail in the area that recently failed.

Along this portion of shoreline there are several built features of note, including: the trailway, a group of condominiums situated along the top of the bluff near the western end of the battery limits (Pine Shores), several residential homes near the eastern end of the battery limits (Arrowhead Shores), a 170 LF section of steel sheet pile wall located along the lakeward edge of the trailway (located at the eastern portion of the battery limits), stormwater drainage infrastructure (i.e. two rip-rap drainage channels running perpendicular to/ down the bluff slope, which are located near the recent bluff collapse, and several drainage inlets/ outlets

along the trailway), pedestrian shoreline access stairways, trailway bridging, and a pile supported public lakefront overlook structure (located immediately west of the recent coastal bluff collapse).

The toe region of the slope at the shoreline, generally contains visible gravel, cobbles, and boulders.

The observed/ ongoing slope-related issues (i.e. shallow failures) were located east of the recent coastal bluff collapse, with the exception of minor failures to the immediate west of this recent, large failure.

2.4 Site Topography

Our team acquired and reviewed publicly available topographic LiDAR data (USACE, 2012 and FEMA, 2015) for the study area. In addition, a high-resolution, digital terrain model was processed from the UAV mapping conducted by Baird on April 22 and 23, 2020. The extents of the digital terrain model focused on the areas with observed slope failure issues (i.e. from the coastal bluff collapse area to East Park). Note, LiDAR data was utilized to assess topographic elevations for areas that the UAV survey was not able to generate representative data (i.e. areas with significant tree canopy cover).

An interactive 3D map of the post-processed UAV mapping can be viewed here: https://www.arcgis.com/home/webscene/viewer.html?webscene=88df78ec021c4708898c0dc4606beac0&viewpoint=cam:293.36456919,698.99409548,650.886,102689;141.599,59.625.

An overview map with topographic contours (extracted from the UAV digital terrain model) is show in Figure 2.3. A series of profiles (comparing the various bluff topography data sets) is show in Figure 2.4 and Figure 2.6. The comparison of topographic data (i.e. 2012 – 2020) portrays the extent of the recent coastal bluff collapse, as well as minor sloughing failures.

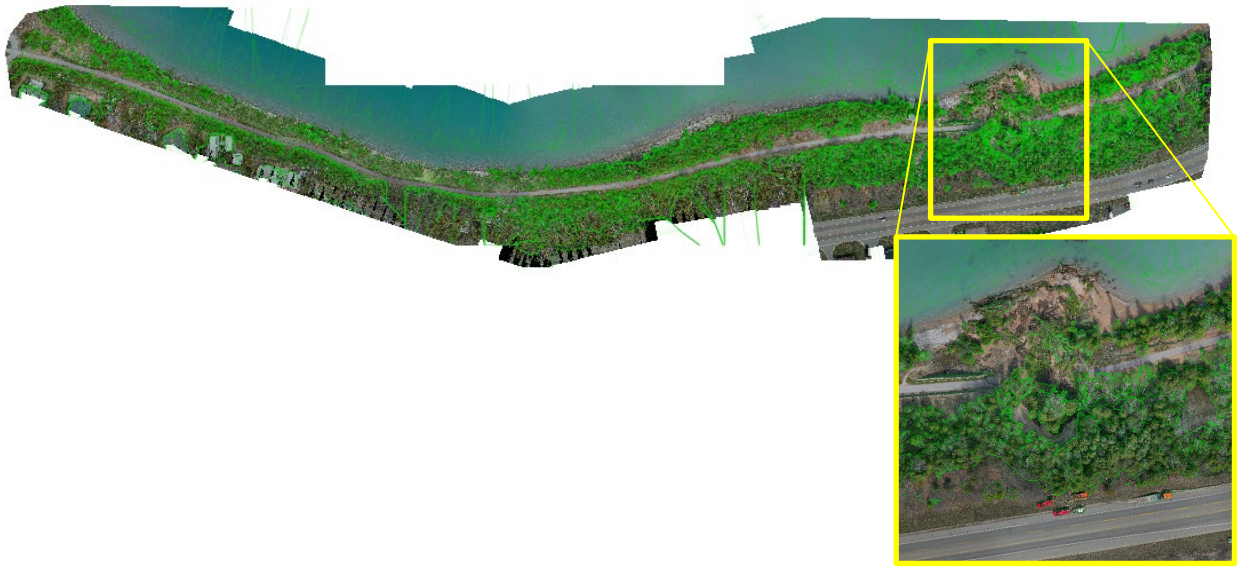

Figure 2.3: Site Topography (Baird, 4/22/2020)

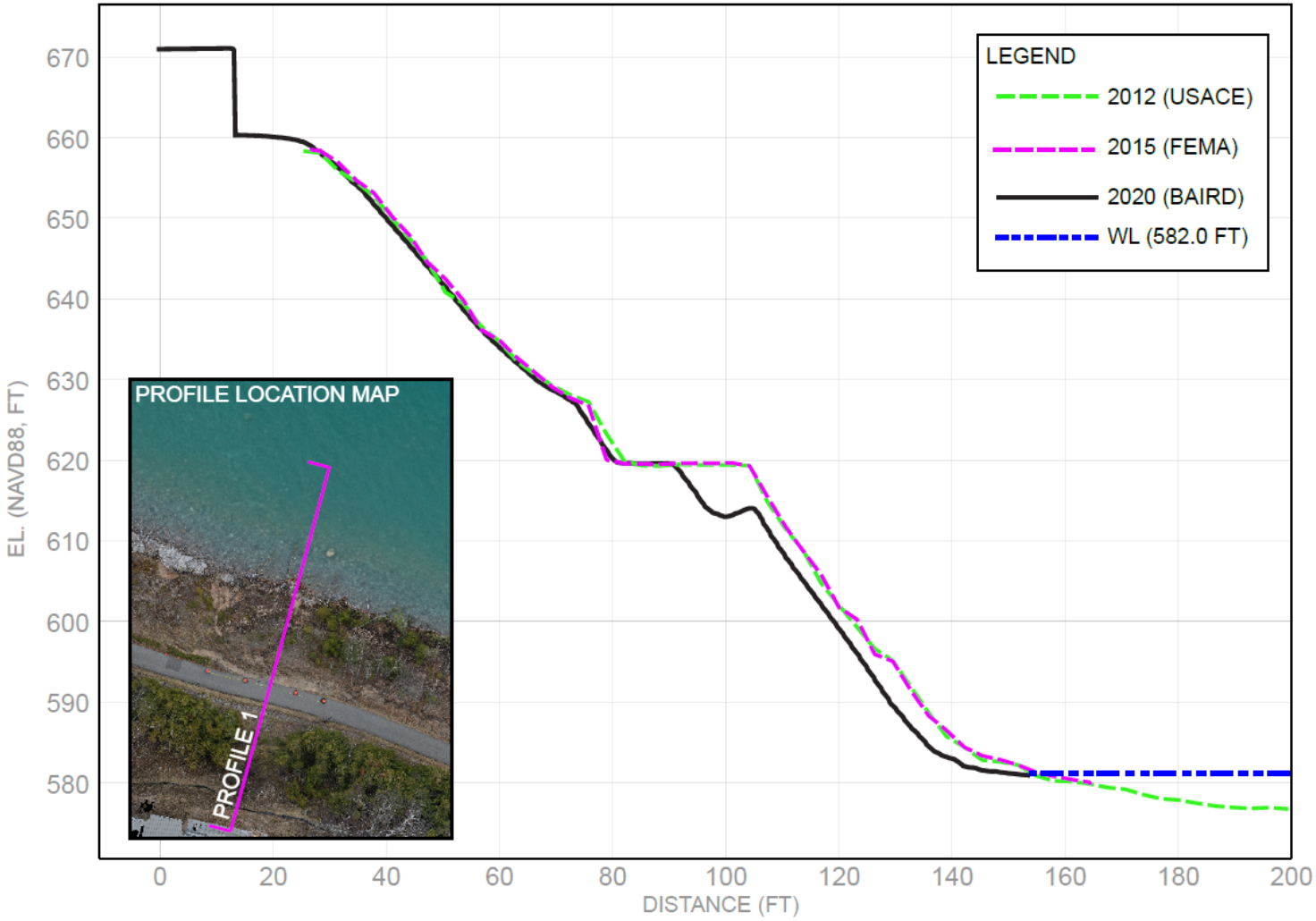

Figure 2.4: Bluff Profile Comparison (2012 to 2020) – Slough Failure

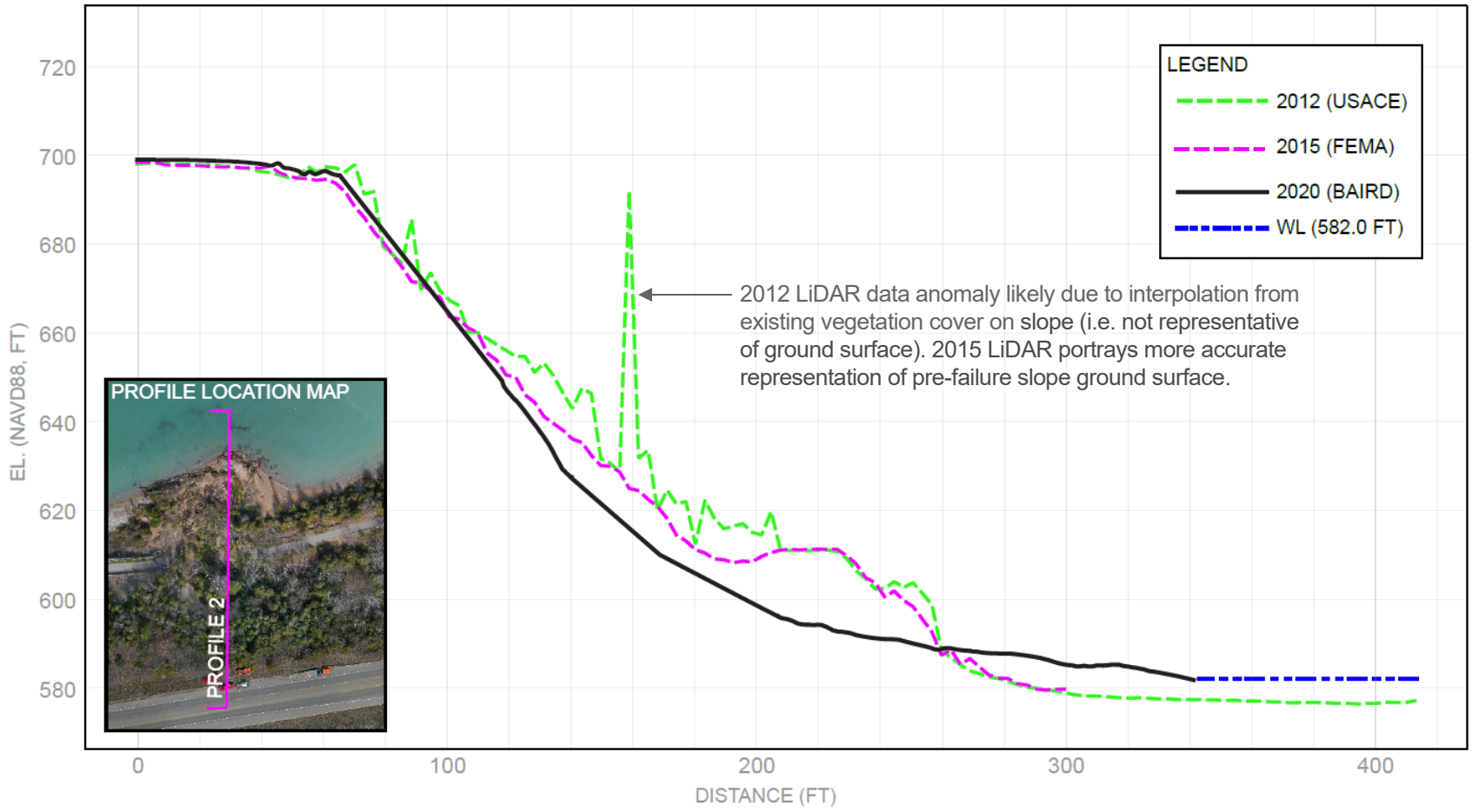

Figure 2.5: Bluff Profile Comparison (2012 to 2020) – Deep-seated Failure

2.5 Lakebed Bathymetry

Bathymetric LiDAR (USACE,2012) was obtained from NOAA's online data repository.[1] An overview map with USACE 2012 LiDAR data is provided in Figure 2.6. Baird also collected multiple survey profiles along the shoreline to verify the current elevation of the nearshore area. The location of Baird's nearshore survey profiles is shown in Figure 2.7. Note, these were collected by wading into the nearshore with survey equipment, therefore the depth is limited to approximately 3 feet for the profiles.

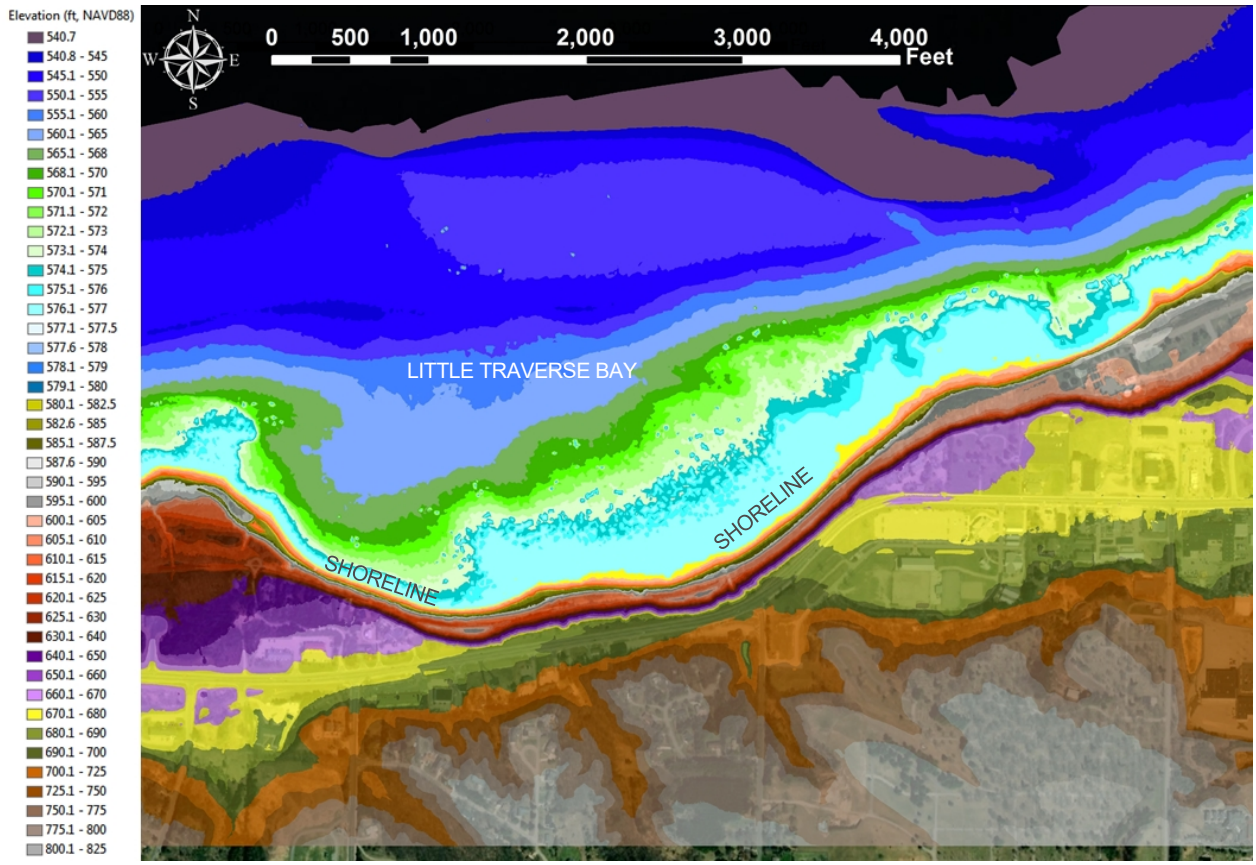

Figure 2.6: Site Bathymetry (USACE, 2012)

[1] Source: https://coast.noaa.gov/dataviewer/#/

Figure 2.7: Baird Nearshore Survey Profile Locations

2.6 Geotechnical Characterizes

2.6.1 Bluff

The soils making up the bluff are mainly lacustrine sand and gravel according to the *1982 Quaternary Geology of Michigan* map (MDNR, 1999 after W.R. Farrand, 1982). These ground conditions came about as a result of sediments accumulation during and after the latest (Wisconsinan) glaciation. Some of the ground conditions to the south of the trailway, and on the south side of US-31, are characterized as coarse textured glacial till.

Northwest Design Group (NDG) originally completed five (5) soil borings throughout this area in June of 2005. The location of these historic soil borings is shown in Figure 2.8.

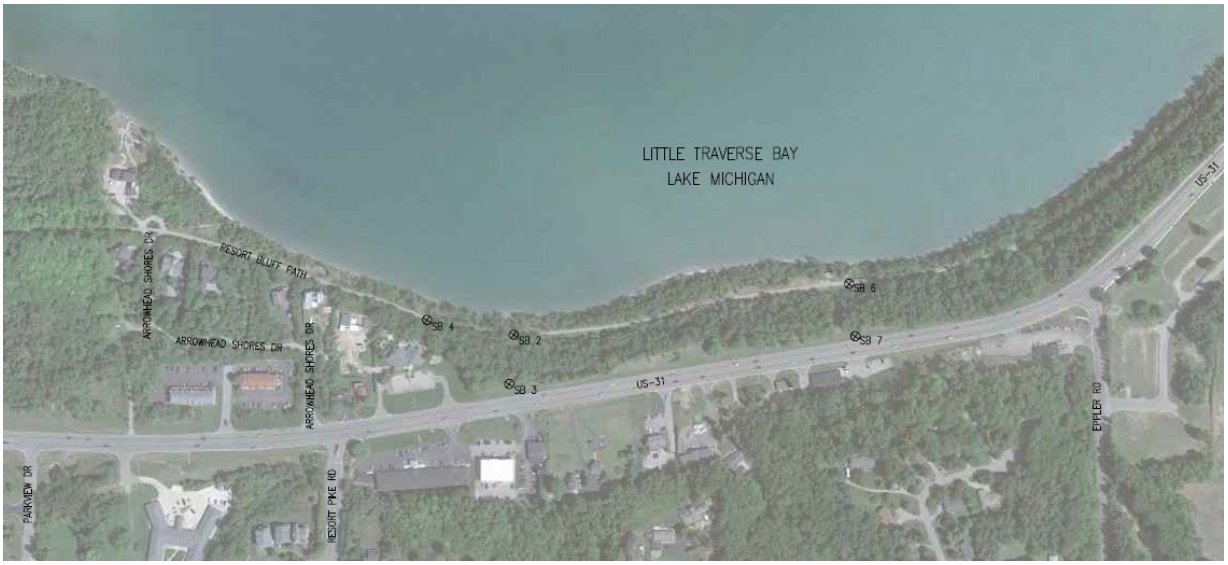

Figure 2.8: Historic Soil Boring Location Map (NDG, 2005)

The results of these borings generally indicated that the geotechnical conditions consist of fine to medium sands, with coarse sand, gravel, and cobbles occasionally encountered. The soil boring logs for these five (5) borings are included in Appendix A. For all of the borings, the soil near the surface was typically found to be loose to medium dense, while the deeper soils were dense to very dense. A 4-inch layer of hard clay was observed at a depth of 4 feet in soil boring 6, which was located near the middle of the trailway. In addition, limestone bedrock was encountered at a depth of 35 feet at the soil boring 2 location.

2.6.1.1 Groundwater

At the time of the drilling in June 2005, groundwater was observed in the borings at depths 10 to 16 feet higher than the lake levels at that time, which were approximately 578.2 feet IGLD 1985. Groundwater was not encountered in the borings at the top of the bluff (soil boring 3 and 7) due to the higher surface elevations at those borings.

As previously noted, MDOT installed two new ground watering wells (on July 28, 2020). In addition, while onsite MDOT surveyed the location where groundwater was observed discharging from the face of the bluff slope near the recent collapse.

The location/ results of MDOT's monitoring well installations and observations are summarized in Table 2.4. The horizontal coordinate system/ vertical datum for this data is as follows:

- Horizontal: NAD 1983 2011 State Plane Michigan Central FIPS 2112 Ft Intl.
- Vertical: IGLD 1985 Ft.[2]

Table 2.4: MDOT Groundwater Monitoring Well Installations/ Observations

Monitoring Well	Monitoring Well Location			Groundwater El.
	Easting	*Northing*	*Ground Elevation*	
1	19525429.2	748441.2	696.03	606.03
2	19525442.7	748369.4	698.33	610.13
Observed Groundwater Discharge	19525407.7	748578.3	597.85	597.85

[2] Note, two vertical datums are presented in this report (IGLD 1985, Ft and NAVD 88, Ft). IGLD 1985 is approximately 0.17 feet (~2 inches) below NAVD 88. Elevation conversion: IGLD 1985, Ft + 0.17 Ft = NAVD 88, Ft.

Figure 2.9: MDOT Groundwater Monitoring Well Map

2.6.1.2 Former (2008) Slope Stability Analyses

A relatively recent trailway improvement project (in 2008) was undertaken, and these project documents were reviewed for this study. As part of the trailway improvements of 2008, Northwest Design Group (NDG, now part of OHM Advisors) prepared a geotechnical report. This geotechnical report contained information about the background of the site along with initial slope stability analyses.

The results of the 2008 analyses indicated factors of safety of near, yet a bit greater, than unity for shallow surface slides. The factor of safety is a ratio of the resistance of the soil to that of the forces attempting to pull the slope downward, toward the shoreline. NDG estimated that the factors of safety for deeper-seated failure surfaces (that could potentially undermine or damage the trailway) ranged from about 1.1 to 1.3. NDG further noted that typical acceptable safety factors for this type of installation are between 1.3 to 1.5.

2.6.2 Shoreline

Information regarding the depth of erosive lakebed sediment (i.e. sand) in the nearshore was analyzed during the field data collection effort. Jet probes, which involve driving a steel pipe (attached to a hose and water pump) into the lakebed to a depth of refusal (or hardpan) to inform sediment layer thickness and subsequently erosion potential, were attempted at several locations along this shoreline where erosive conditions were identified (see Figure 2.10). However, the nearshore lakebed was not penetrable with the jet probe equipment as the lakebed in this area generally consists of stone material (cobble and boulders), as opposed to finer grain, sandy material. Based on these preliminary observations, it is assumed that minimal deepening or downcutting of the nearshore likely occurs due to energy associated with wind/ wave processes and shoreline transport. However, during periods of high lake levels waves reaching the toe of the bluff are able to erode material immediately adjacent to the shoreline. The erosion of the bluff toe leads to an over steepened/ undermined slope, causing sloughing and recession between the trailway and the shoreline, as shown in Figure 2.11. Additional analysis regarding erosion potential of the bluff toe is discussed in Section 4.

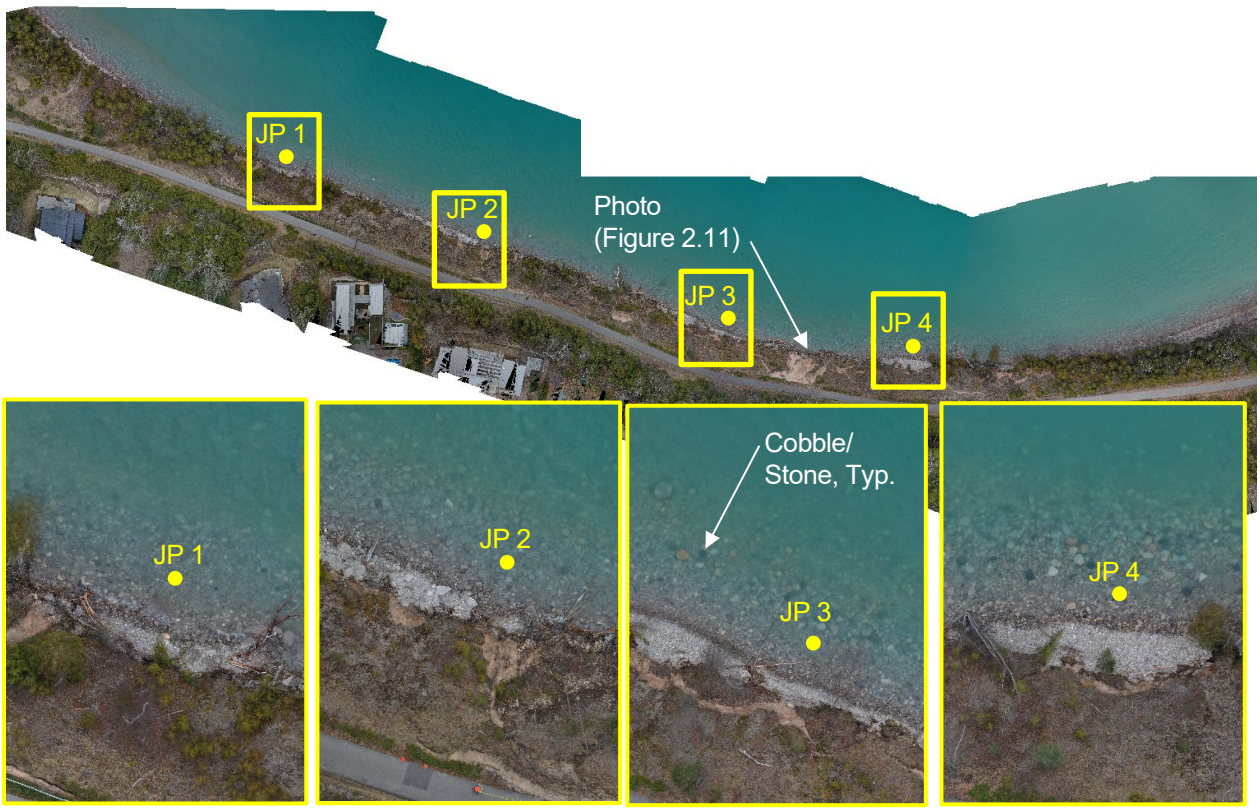

Figure 2.10: Jet Probe Location Map (4/23/2020, Baird)

Figure 2.11: Existing Slope Failure and Nearshore Bluff Recession

3. Coastal Analysis

Analyses were performed to characterize water level, wave, wind, ice, and sediment transport conditions at the project site and to determine water levels and wave conditions suitable for preliminary design. This section outlines the methodology and results of the analyses, as well as recommendations for more refined analyses.

3.1 Water Levels

Long term (monthly mean) lake levels were extracted from USACE records (USACE, 2020), which is determined from a coordinated set of gages on Lake Michigan. Monthly mean water levels for Lake Michigan-Huron are shown in Figure 3.1 from 1918 to present. As evident from the records, long term lake levels have fluctuated considerably in past decades.

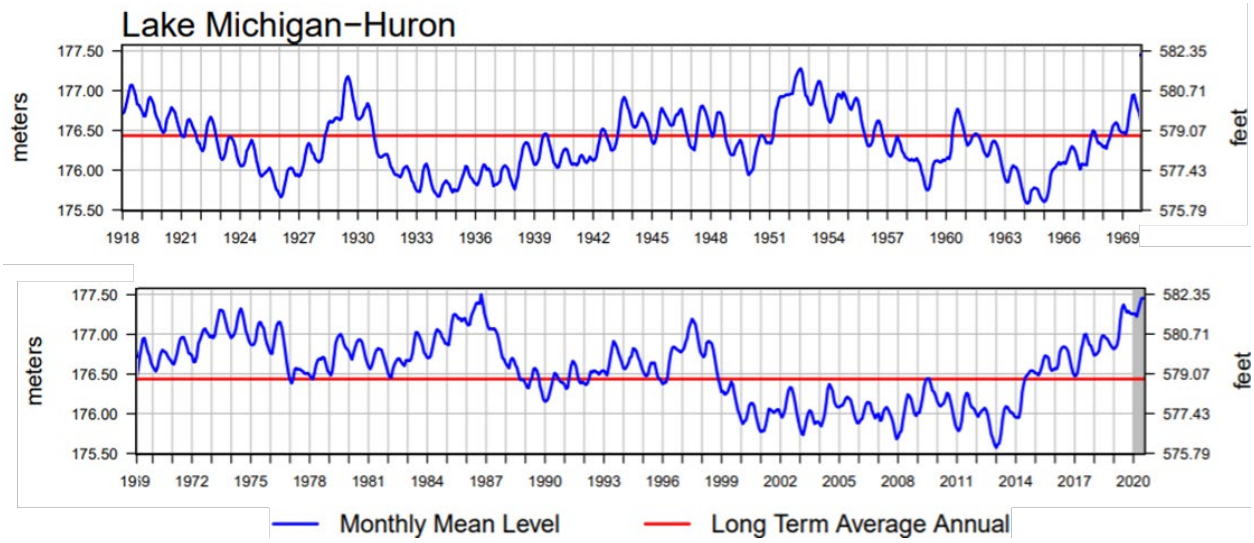

Figure 3.1: Monthly mean water levels (IGLD85) for Lake Michigan-Huron from 1918 to 2019 (adopted from USACE, 2019)

Great Lakes water levels tend to fluctuate on various time scales and are dependent on many factors. Interannual fluctuations are caused by changes in climatic conditions over the Great Lakes drainage basin (in particular, precipitation and evaporation). Seasonal fluctuations are caused by seasonal weather patterns in the region (i.e. precipitation and runoff), while short term localized variations are caused by the influence of individual storm events. A particular point of emphasis is the recent rise in lake levels on Lake Michigan-Huron following an extended period of relatively low lake levels from approximately 2000 to 2014. Long term trends show that water levels on Lake Michigan are currently the highest levels they've been in several decades.

The USACE does provide 12-month water level forecasts (USACE, 2020) for each of the Great Lakes, though they are subject to considerable uncertainty (as shown in Figure 3.2) and do not provide the information required for long-term design.

In addition to the long-term water level records, historical hourly water level observations were collected from a nearby tidal gage (NOAA-9087096) located in Port Inland, MI. Together, the long-term and short-term water

level records provide the input required for a joint-probability analysis to determine extreme water levels, surge levels, and combined water levels.

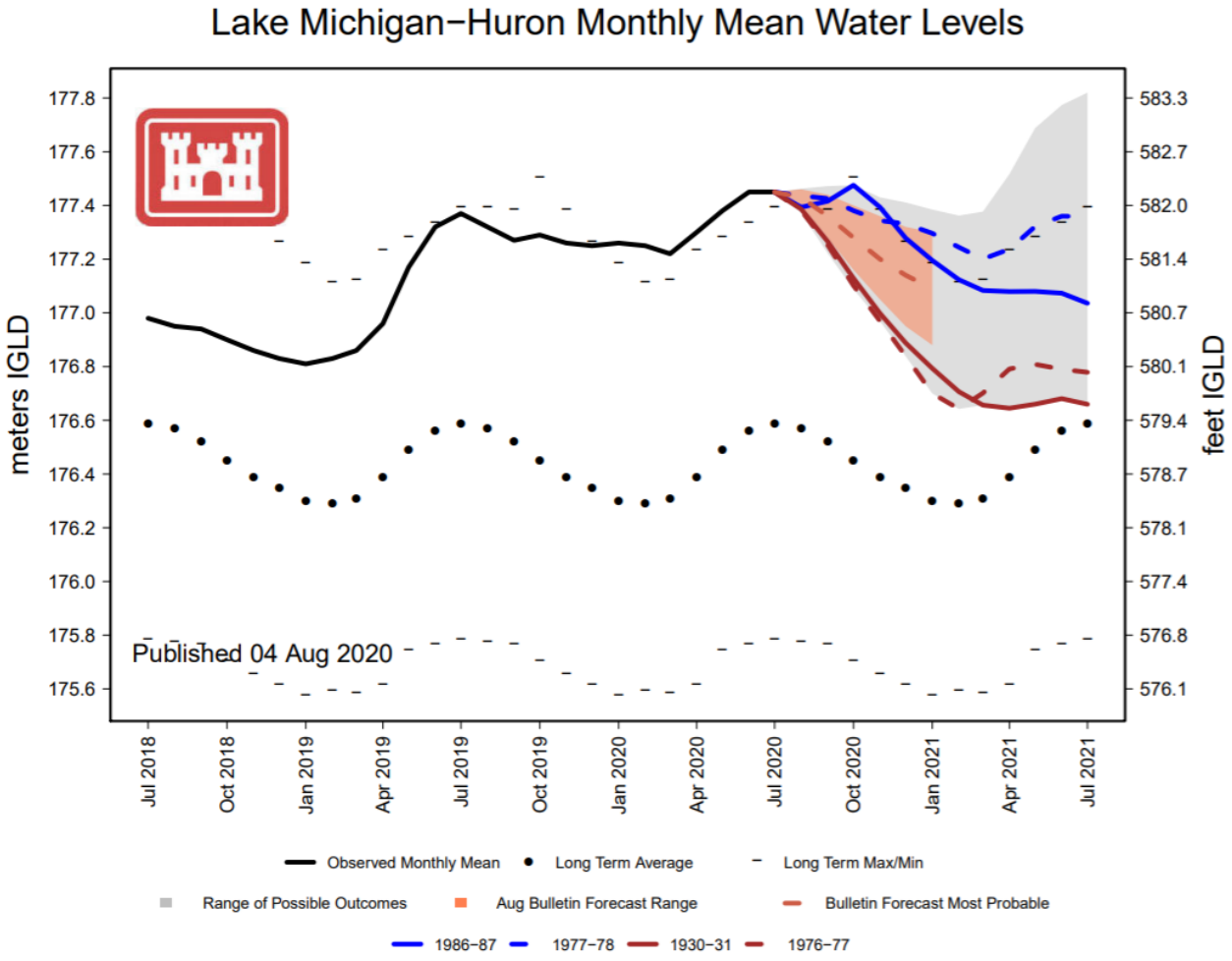

Figure 3.2: USACE 12-month water level forecast for Lake Michigan-Huron (USACE, 2012)

The joint-probability analysis was conducted according to *FEMA Great Lakes Coastal Guidelines* (FEMA, 2014), which prescribes the methodology outlined in Melby et al., 2012. The joint-probability analysis was performed for the period over which both long term and short term records overlapped (1970 to present). Annual maximums of monthly mean water levels were extracted from the data. Surge levels were extracted from the hourly time series using a 30-day Gaussian smoothing technique. Then, extreme surge levels were extracted using a peak-over-threshold (POT) method. A probability distribution was then fit to both datasets (according to Melby et al., 2012) to determine extreme values and combinations of each parameter.

The results are presented using terminology outlined in FEMA, 2014:

- Lake level – water level that includes the long-term water level changes in the Great Lakes plus seasonal water level changes.

- Storm surge/ Seiche – rise of the lake surface that occurs in response to barometric pressure variations (the inverse barometer effect) and to the stress of the wind acting over the water surface (wind setup component).
- Still water level (SWL) – water level defined by lake level plus storm surge/ seiche.

The results of the joint-probability analysis for Port Inland, MI (NOAA-9087096) are listed in Table 3.1.

Table 3.1: Port Inland, MI (NOAA-9087096) return period water levels

Water Level	Return Period Water Levels (ft. and ft. IGLD85)					
	2 year	5 year	10 year	25 year	50 year	100 year
Lake level	579.75	580.90	581.47	582.02	582.35	582.61
Storm surge	1.41	1.74	2.03	2.52	2.98	3.53
Still water level	581.29	582.43	583.03	583.66	584.06	584.43

Conversions of water levels on the Great Lakes from IGLD85 to LWD datums can be completed using conversion values provided by NOAA (https://tidesandcurrents.noaa.gov/gldatums.html). For Lake Michigan-Huron, 0 ft. LWD is equal to 577.5 ft. IGLD85.

It is important to note that the Port Inland gage is not located at Petoskey, and there are differences between the extreme water levels at these two sites. For the purposes of preliminary design of coastal and shoreline structures at Petoskey, the extreme water levels presented herein are considered generally representative and suitable for application.

3.2 Wave Climate

Due to the location within Little Traverse Bay, the project site generally experiences W–NW waves approaching from Lake Michigan and considerably smaller N–NE waves generated locally from wind forcing within Little Traverse Bay.

This section outlines the methodology used to characterize the wave conditions and to determine extreme wave conditions at the project site.

3.2.1 Deepwater Wave Hindcast

A wave buoy exists nearby (NOAA-45022, approximately 8km NW), with wave climate observations dating back to mid-2010. Because of the limited duration of observations available at this buoy, the data may not capture the full range of expected deepwater wave conditions (from Lake Michigan) in this area and is not sufficient to perform a statistical analysis to determine extreme wave conditions.

In order to overcome this limitation, deepwater wave information was extracted from Baird's existing 32-year (1979-2011) offshore wave hindcast for Lake Michigan. This hindcast was developed utilizing a 2D wave model for the entire lake, and Climate Forecast System Reanalysis (CFSR) wind conditions from NOAA (NOAA, 2018). Figure 3.3 shows the positions of the existing wave buoy as well as the nearest hindcast output point that was used to represent deepwater wave conditions for this analysis. A comparison of the overlapping periods of record for both the wave buoy and hindcast was conducted; the quantile-quantile plot is shown in Figure 3.4 along with a wave rose summarizing the wave conditions at the hindcast output point.

Figure 3.3: NOAA-45022 wave buoy and Baird CFSR hindcast output point

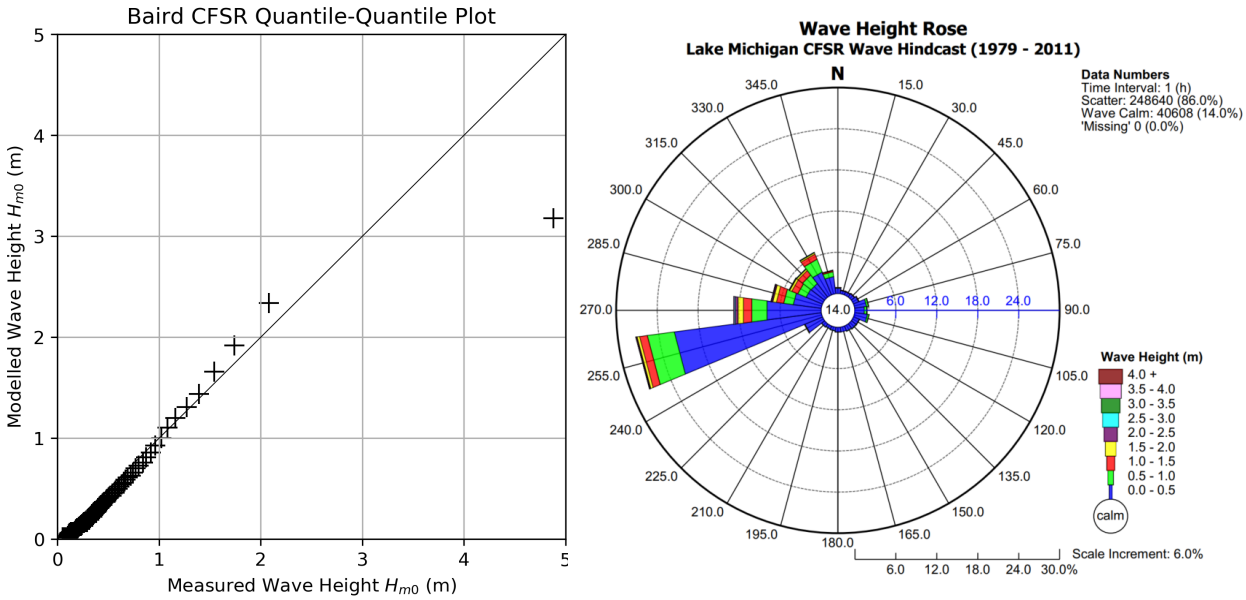

Figure 3.4: Quantile-quantile comparison of NOAA-45022 buoy and Baird's CFSR hindcast significant wave heights (left), Baird CFSR hindcast significant wave height rose (right)

The quantile-quantile plot shows that, in general, the Baird CFSR hindcast is in good agreement with the observed wave conditions near Petoskey but may tend to slightly over-estimate wave heights in the 1 m to 2.5 m range. An outlying data point with approximately 5 m significant wave height was recorded at the buoy that the hindcast under-estimates, but it is unclear whether this was an erroneous measurement or not.

3.2.2 Nearshore Waves

As deepwater waves propagate into shallow water, they begin to transform due to processes such as refraction, diffraction, shoaling, and breaking. These processes are dependent on the wave characteristics, local bathymetric conditions, and existing structures at areas of interest.

To determine nearshore wave conditions at the project site, Baird utilized the MIKE21 Spectral Wave (M21SW) model to transform deepwater waves. Various combinations of deepwater wave heights, periods, and directions were simulated using M21SW to develop a transfer function that defines the relationship for the change in wave characteristics from offshore to nearshore. The transfer function was then used to transfer the full 32-year hindcast to the project site, at a water depth of -10 m LWD.

Figure 3.5 and Figure 3.6 shows the extents of the M21SW model, the bathymetry, and the extraction points used for the project site.

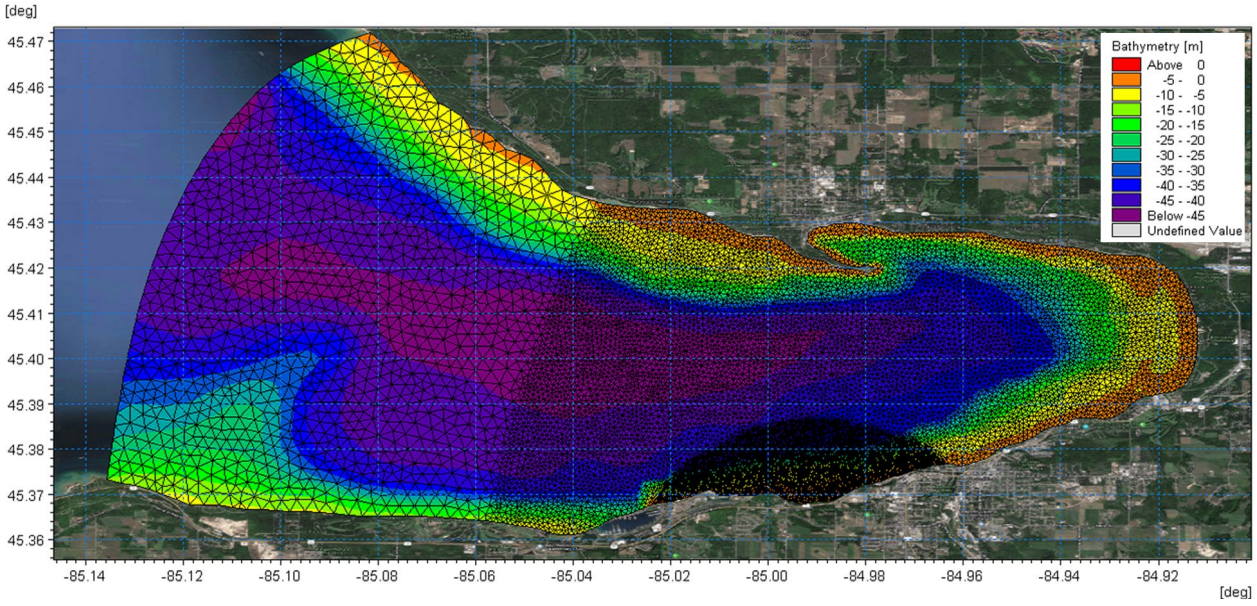

Figure 3.5: M21SW model extents used for deepwater wave transformation simulations (m LWD)

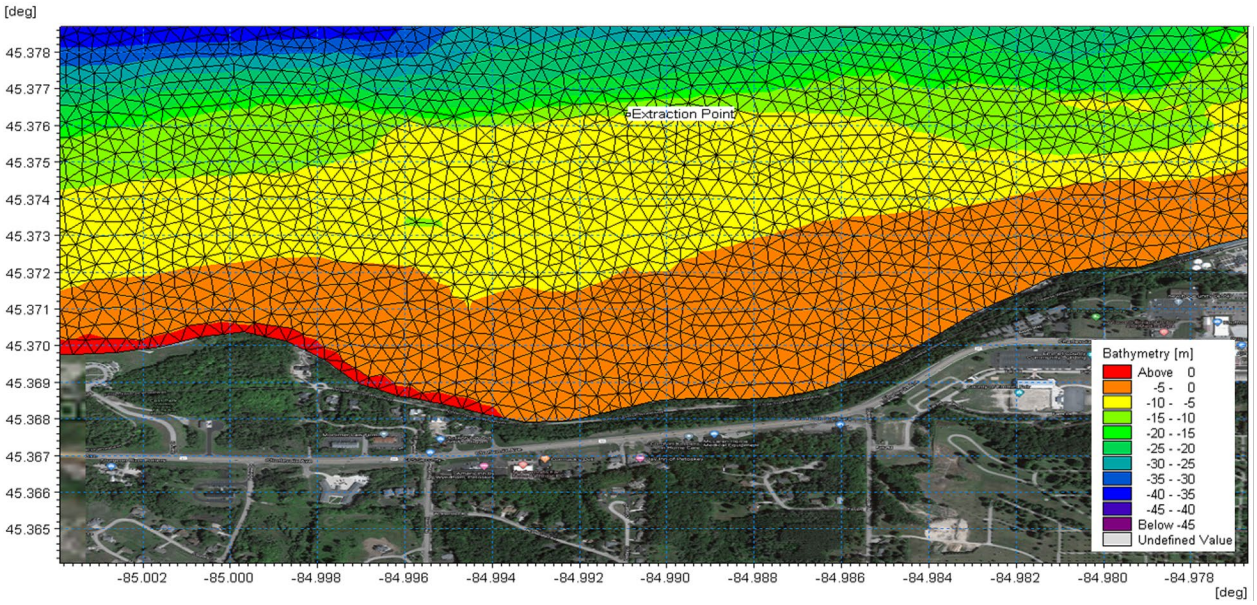

Figure 3.6: M21SW model grid and output points used for deepwater wave transformation simulations (m LWD)

The westerly deepwater waves tend to refract over the nearshore bathymetry and approach the site from the WNW direction.

Figure 3.7 summarizes the nearshore wave conditions as a result of applying the transformation. Figure 3.8 shows the general refraction pattern observed in the M21SW simulations.

The majority of waves at the project site occur within the 0 m to 0.25 m height range, with some occurring in the 0.25 m to 1 m range, and less frequent larger waves. Westerly approaching offshore waves tend to refract due to nearshore bathymetry.

There is a topographical feature (at East Park) that leaves an area of sheltering on the west side of the project area, approximately near Arrowhead Dr. As shown in Figure 2.6 (and Figure 3.6), the east side of the project area tends to have shallower bathymetry that extends further from the shoreline. This localized difference appears to cause more wave transformation, leading to higher wave heights from shoaling and subsequent breaking closer to shore.

There also appears to be sections of shoreline along the project site where concentration of wave energy is occurring. Notably, these include both the locations of minor sloughing and the coastal bluff collapse on (outlined in Section 1, Figure 1.2 and Figure 1.3).

3.2.3 Locally Generated Waves

The locally generated wave climate within Little Traverse Bay was determined by applying CFSR winds over the M21SW model domain. Due to the location of the hindcast point and model boundary, waves from approximately 0° to 180° will not propagate to the project sites. This modeling approach accounts for these waves, as well as the wave growth that would occur over the fetch from the model boundary to the project site.

Similar to the deepwater wave transformation, a range of wind speeds and directions were simulated to generate a transfer function. This transfer function was then used to transfer the Baird 32-year hindcast wind records to locally generated waves at the same project site extraction point (at -10 m LWD).

In general, the majority of the winds approached from the WSW-NW directions. This resulted in waves from those directions, mostly in the 0 m to 0.5 m height range. A smaller proportion of waves approached from the NW-NE directions, mainly in the 0 m to 0.5 m height range.

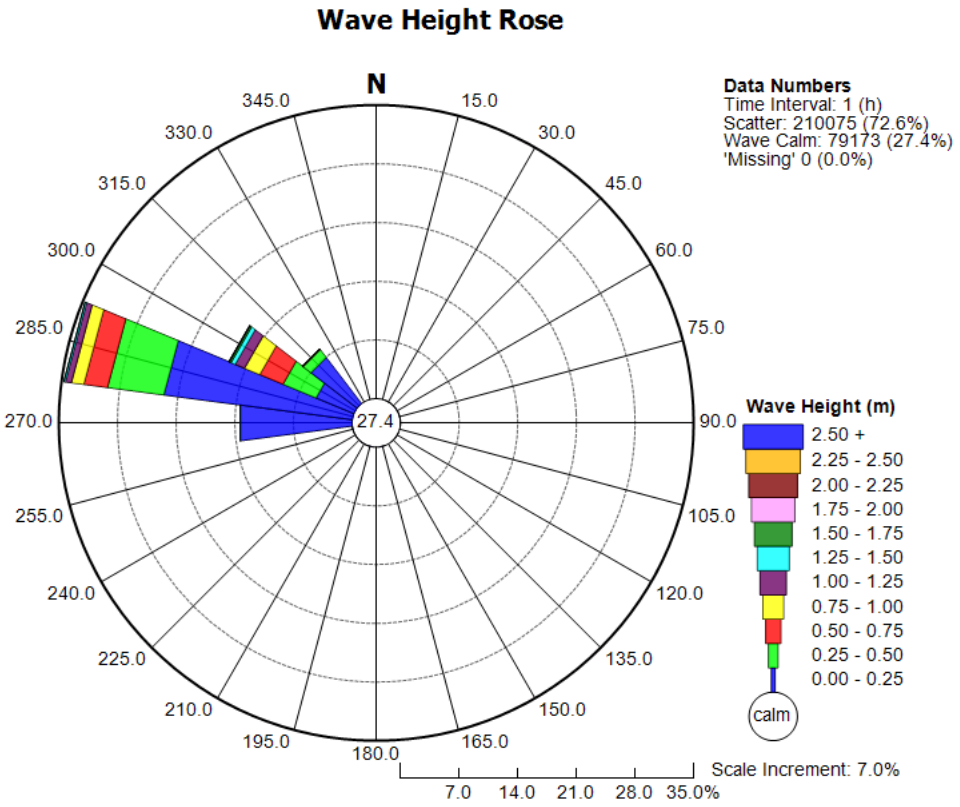

Figure 3.7: Significant wave height rose at each project site (deepwater transformation only)

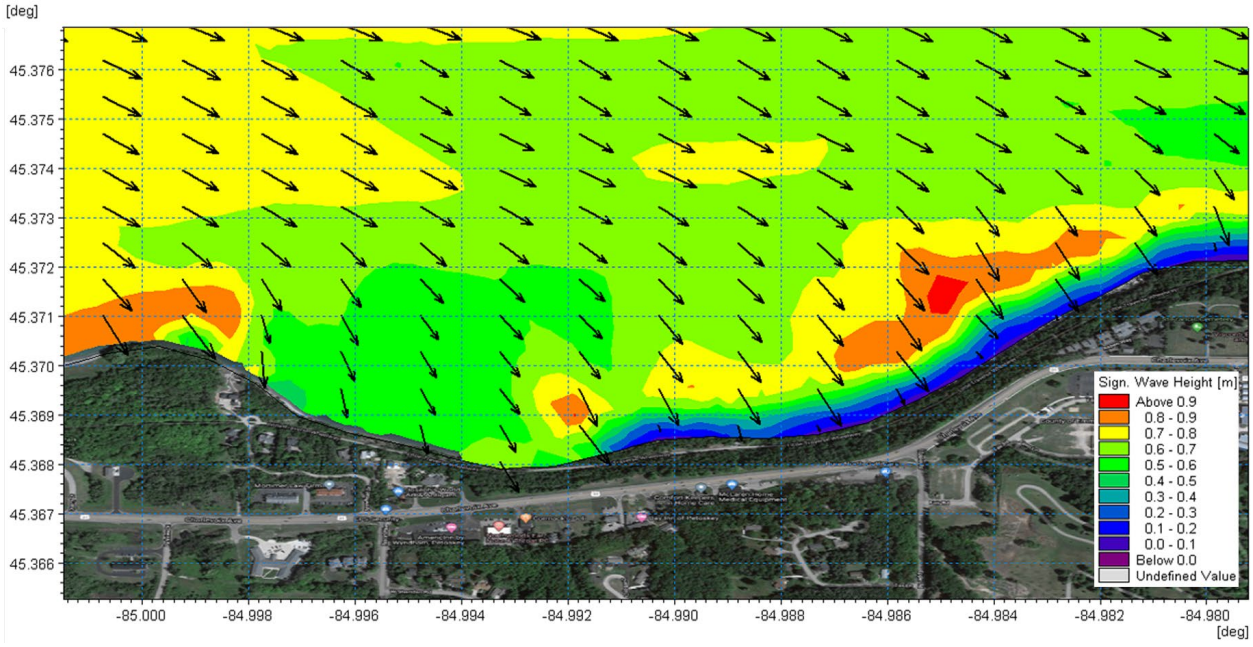

Figure 3.8: General refraction pattern observed in M21SW simulations

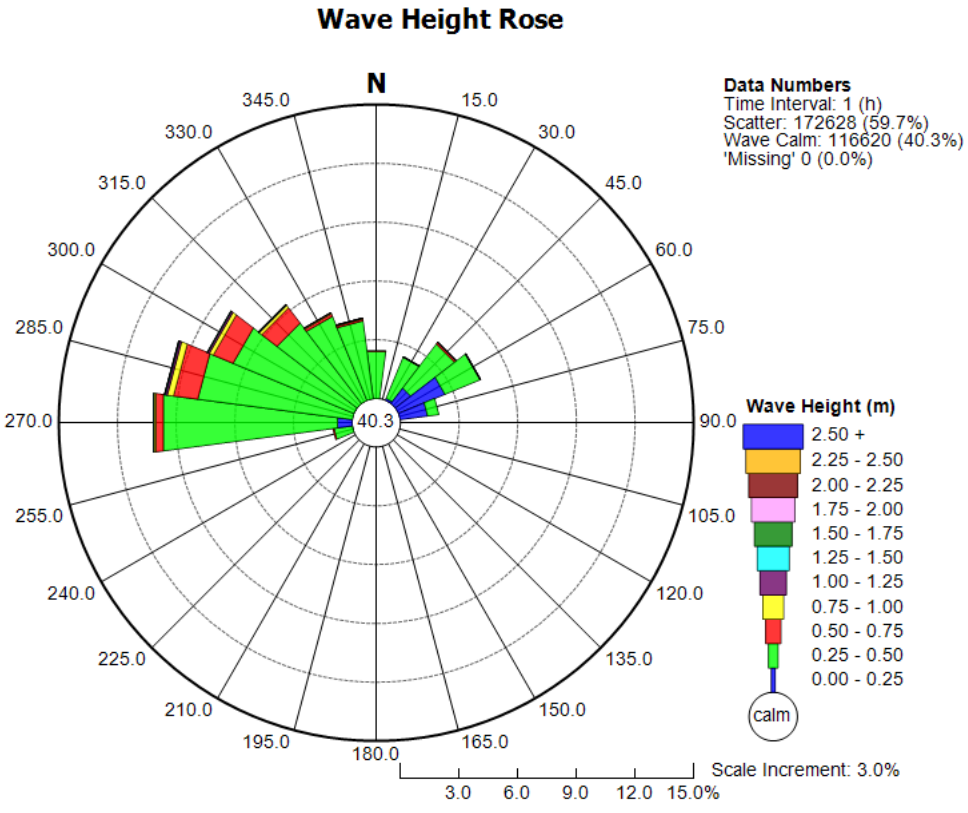

Figure 3.9: Significant wave height rose at Bayfront Park Central (local transformation only)

3.2.4 Combined Wave Climate

The transformed deepwater waves (approaching from Lake Michigan) were combined with the locally generated waves to develop an estimate of the overall wave climate at the project site. The resulting wave rose presented in Figure 3.10 summarizes the overall wave climate. The overall wave climate is generally similar to the transformed deepwater wave conditions, albeit with some slight height and directional changes. The majority of waves tends to approach the project site from approximately the WNW direction. A small portion of waves (locally generated) also approaches from approximately the NE direction. Most waves at the project site occur within the 0 m to 0.50 m height range, with some occurring in the 0.50 m to 1 m range, and less frequent larger waves.

A tabular summary of the wave climate (frequency of occurrence of by wave height and direction) is provided for the project site, refer to Table 3.2). The values in each cell of the tables show the frequency of wave conditions occurring within that specific significant wave height bin and wave direction bin (i.e. 43.40% of waves are ≥ 0.00 m and < 1.75 m in height, and come from directions ≥ 285° and < 300°).

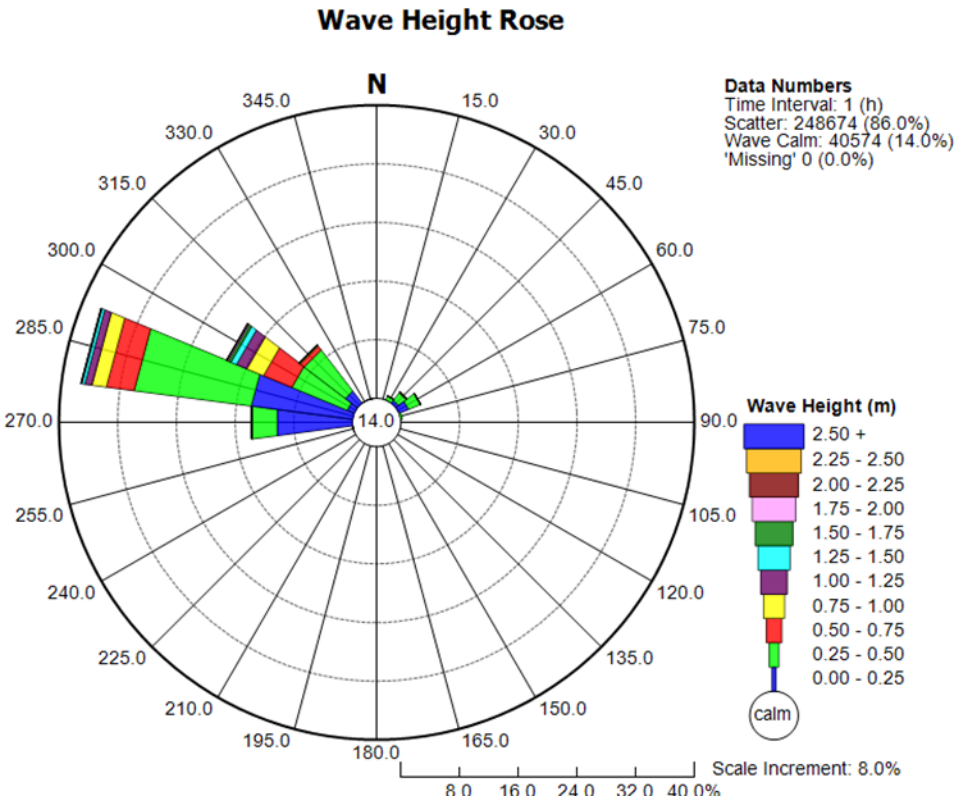

Figure 3.10: Significant wave height rose at each project site (combined wave climate)

Table 3.2: Combined significant wave height and mean wave direction joint occurrence table

Significant Wave Height (m)	Mean Wave Direction (degrees)																							
	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	Total
0.00	0.00	0.00	0.10	0.60	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.10	16.20	1.20	2.40	0.00	0.00	34.20
0.25	0.00	0.00	0.60	1.50	2.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	18.70	9.50	8.20	0.00	0.00	44.90
0.50	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.50	4.90	0.80	0.00	0.00	10.30
0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.30	2.80	0.10	0.00	0.00	5.30
1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20	1.80	0.00	0.00	0.00	3.00
1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.90	0.00	0.00	0.00	1.40
1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.40	0.00	0.00	0.00	0.50
1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.20
2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.10
2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.70	2.20	3.70	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.10	43.40	21.90	11.60	0.00	0.00	100.00

3.2.5 Extreme Waves

To determine the characteristics and recurrence intervals of extreme wave conditions at the project sites, a statistical analysis was performed on the overall wave climate at the project site determined from M21SW modelling.

Table 3.3 summarizes the extreme wave conditions for various return periods at the project, extracted at the same extraction point mentioned previously.

Table 3.3: Extreme wave conditions at the project site

Site	Return Period (yr)	H_s (ft.)	T_p (s)	Mean Wave Direction (deg.)
Project Site	2	7.46	6.0 - 9.0	280 - 300
	5	7.90	6.5 - 9.0	280 - 300
	10	8.19	7.0 - 10.0	280 - 300
	25	8.51	7.0 -10.0	280 - 300
	50	8.73	7.0 - 10.0	280 - 300
	100	8.94	7.5 - 10.5	280 - 300

*Note: H_s = significant wave height, is defined as the average of the largest one third of the waves in a wave train; the maximum wave height (H_{max}) may be 1.5 to 2 times this value.

3.3 Preliminary Ice Analysis

A preliminary analysis was conducted to characterize ice conditions at the project site during winter months, floe patterns during spring break-up, and to identify potential issues concerning the design of shoreline structures or shoreline stability. This section summarizes the data that was collected and results from the ice preliminary analysis.

From analysis of satellite imagery in the area, Little Traverse Bay tends to completely freeze over during most winters. Figure 3.11 shows this area frozen over during February 2017. Ice in the bay typically forms from floes that are generated within the bay and ice that is pushed into the bay from westerly winds; these then freeze together to form large sheets. During extremely cold temperatures, the bay will completely freeze up and remain static until spring break-up. However, local accounts suggest that ice can shift during winter months due to wind and water conditions within Lake Michigan (Sherburne, 2013).

Figure 3.11: Completely frozen Little Traverse Bay in February, 2017 (from Google Earth Engine)

Historical observations of ice coverage and thickness do exist near the NOAA-45022 wave buoy, located approximately 8 km from the project site. Ice concentration charts (derived from satellite imagery) and gridded forms of the same data are available for download from NOAA (https://www.glerl.noaa.gov/data/ice/), along with a wealth of additional information regarding historical and forecasted ice conditions on the Great Lakes. Figure 3.12 shows the maximum extent of ice coverage and concentration on Lake Michigan for winter 2018-2019. As shown in Figure 3.12, Little Traverse Bay tends to experience total or nearly total ice coverage.

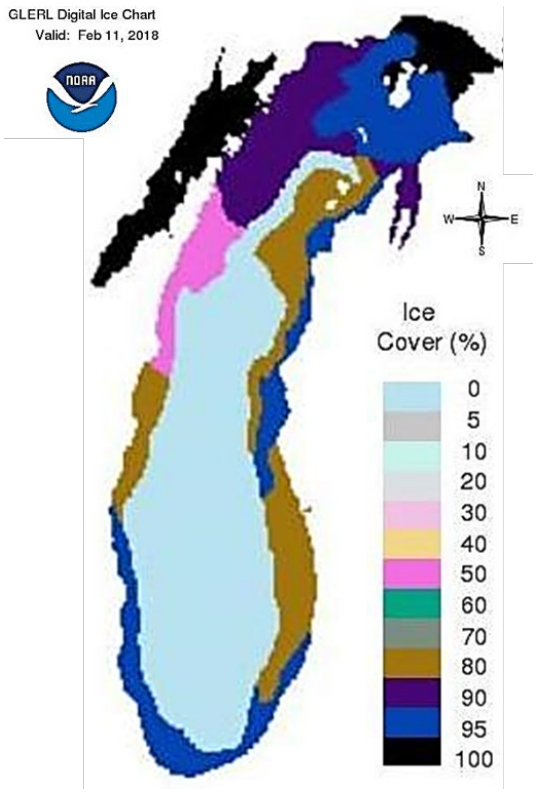

Figure 3.12: Maximum extent of ice coverage and concentration on Lake Michigan for winter 2018-2019

This same information (extracted from a gridded format) is shown in Figure 3.13 near the NOAA-45022 wave buoy, superimposed with historical ice thickness observations collected by NOAA (https://nsidc.org/data/g00803). The ice thickness records only span the winters of 1965-1977 but provide an indication of the range of ice thicknesses that may be present at the project sites during a typical winter.

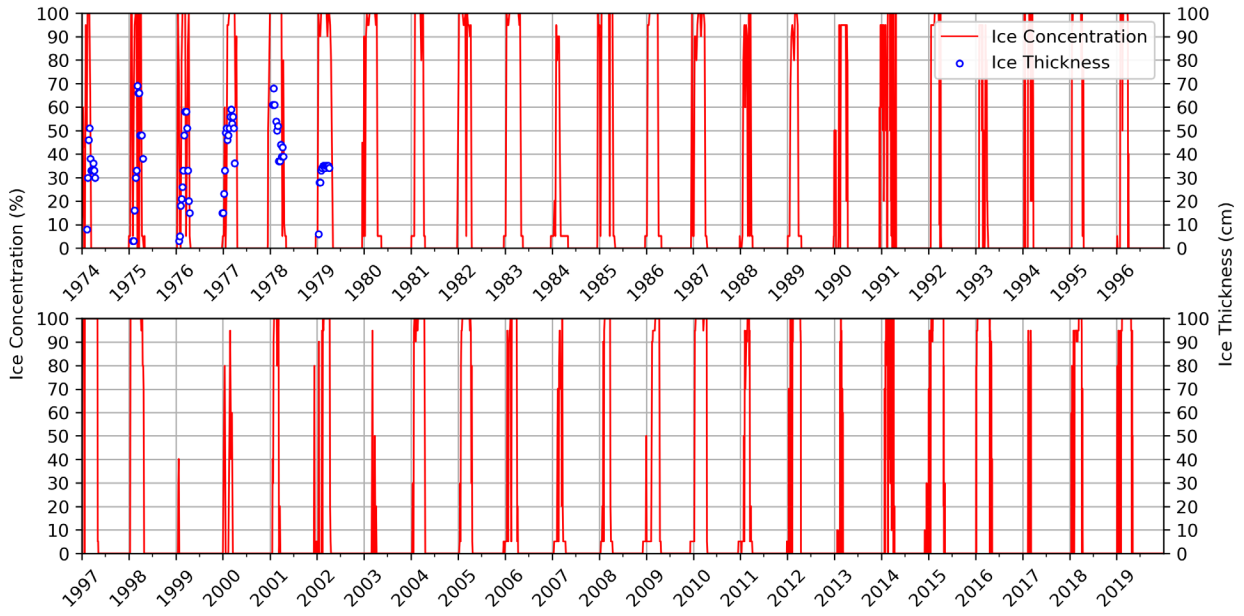

Figure 3.13: Time history of ice concentration and thickness near NOAA-45022 wave buoy

Analysis of this data indicates that, near the project site, ice begins to develop around mid to late December, with maximum coverage for approximately 3 months, and begins to melt and break up around late March to early April. Variations from this general trend have occurred and should be taken into account. Ice thicknesses have been observed in the area up to 70 cm. Figure 3.14 shows the transport patterns that can occur during the spring melt and break-up process along the Petoskey shoreline and at project site.

Figure 3.14: Spring melt and break-up transport patterns in March, 2010 (from Google Earth)

Due to the nature of dominant wind and wave conditions along the shoreline, ice floes tend to move eastward, leaving the project site relatively ice free following the spring break-up process. Due to the interruption of this longshore transport from the breakwater at Petoskey City Marina, ice can build up on the west side of the

breakwater and along the shoreline east of the project site; this can reduce the amount of longshore ice transport that occurs during spring.

Ice is a key consideration for the design of shoreline structures and shoreline stability. Freeze and thaw cycles can affect the integrity of revetment stone and induce movement or entrapment of filter material. Interaction of shoreline structures with moving ice floes can produce effects that may not occur due to forces typically considered in revetment or shoreline design. During the spring break-up process, ice debris may increase loading experienced by shoreline structures during wave action.

Baird recommends that a detailed assessment of ice conditions at the project sites be undertaken prior to final design development, including the following items:

- Further analysis of historical data available from NOAA and other sources;
- Typical extreme ice thicknesses and material properties near the project sites;
- Local experience of spring break-up processes; and
- Local experience and/or literature review of ice-related damage to coastal structures in the area.

3.4 Preliminary Sediment Transport Analysis

A preliminary sediment transport investigation was undertaken to better understand longshore transport patterns, and to identify potential issues for the design of structures and shoreline stability at the project site.

A field investigation was conducted on April 22 – 23, 2020, which included the collection and analysis of bed material at the project site using jet probes. This is discussed in more detail in Section 2.4. The results of this investigation showed that the bed material along the shoreline and nearshore area generally consists of coarse material ranging up to cobbles and boulders in size, which is common for the area. It is expected that the lakebed in the area is generally stable.

Historical boreholes have shown that the geotechnical conditions in the bluff material are of fine to medium sands, with coarse sand, gravel, and cobbles occasionally encountered. The bluff material is generally non-cohesive and finer than the bed material. The bluff is therefore more susceptible to erosion/wash-out from coastal forces. Undercutting of the bluff toe or damage to the slope face can occur during storms with both low/high water levels and extreme wave conditions. Material can also be eroded from the bluff over time due to general coastal processes in the area.

It appears that there is limited supply of sediment in general, resulting mainly in narrow cobble and gravel beaches throughout the area. Based on the bed and bluff material, it is expected that the main source of sediment is the finer grained material eroded from the bluff along the shoreline, and from similar processes and sources further west along the shoreline. This finer grained bluff material is sorted and transported away from the larger bed material by easterly littoral currents resulting from the dominant wave/refraction patterns along the shoreline near the project site.

It is likely that the project site shoreline experiences most of its longshore transport during extreme wave conditions and is generally otherwise stable. Natural headlands exist at the east and west extents of the project site, and a smaller, less pronounced headland exists near the middle (immediately west of the April 13, 2020 coastal bluff collapse location). These features may contribute to localized build-up of sediment on their west sides, though the amount of sediment supply in the area suggests this may only occur temporarily during storms when sediment gets washed into the lake.

4. Shoreline and Slope Stability Analysis

Analyses were completed to understand the stability of the shoreline/ bluff throughout the project battery limits. This included numerical modeling of the bluff toe erosion, and bluff slope stability modeling. The results and conclusions of the analyses are provided below.

4.1 Numerical Modeling of Potential Future Bluff Toe Erosion

While the nearshore lakebed conditions are assumed to be relatively stable due to the observation of cobble and stone material (as opposed to sand), erosion at the toe of the shoreline bluff caused by wave action may result in oversteepening of the bluff slope and trigger eventual bluff failure/ recession. Baird utilized the COSMOS model to estimate the extents of bluff toe erosion under a variety of wave and water level conditions. COSMOS is a two-dimensional (2D) profile change model that consists of several predictive modules for simulation of nearshore processes. The COSMOS model requires lakebed profile, sediment size/type, waves, and water levels as input. A cross-shore profile was developed from the bathymetry and topographic data as described in Section 2. The profile extends from the top of the bluff, offshore to a depth of approximately 33 ft (10 m) as shown in Figure 4.1. It was assumed that the lower portion of the shoreline bluff contains more than 85% sand with median grain size of 0.21 mm for the model calculations. The model was run for a total of two storm events (see Figure 4.2), which represent the top two storms in the 35-year hindcast, at three water levels (2, 10, and 100-year return period). This combination resulted in six modeled scenarios.

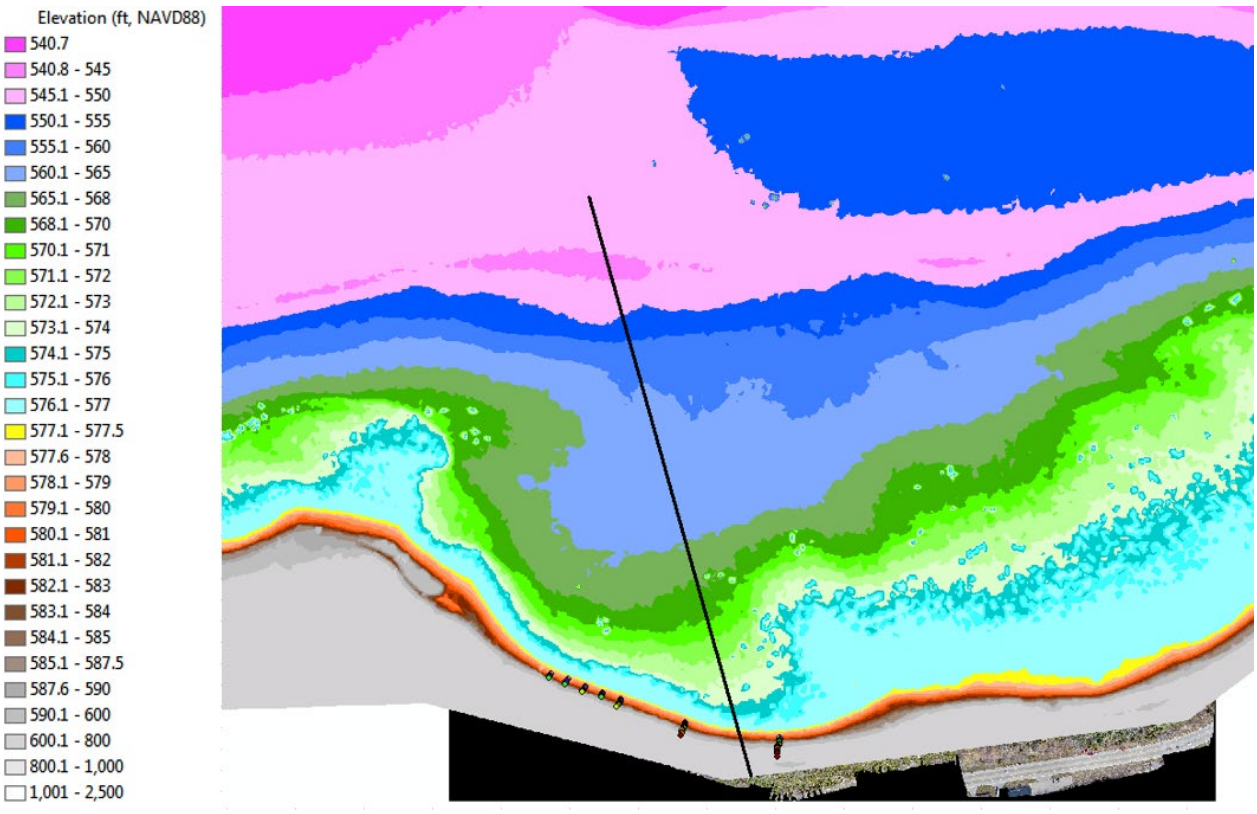

Figure 4.1: COSMOS Profile Location

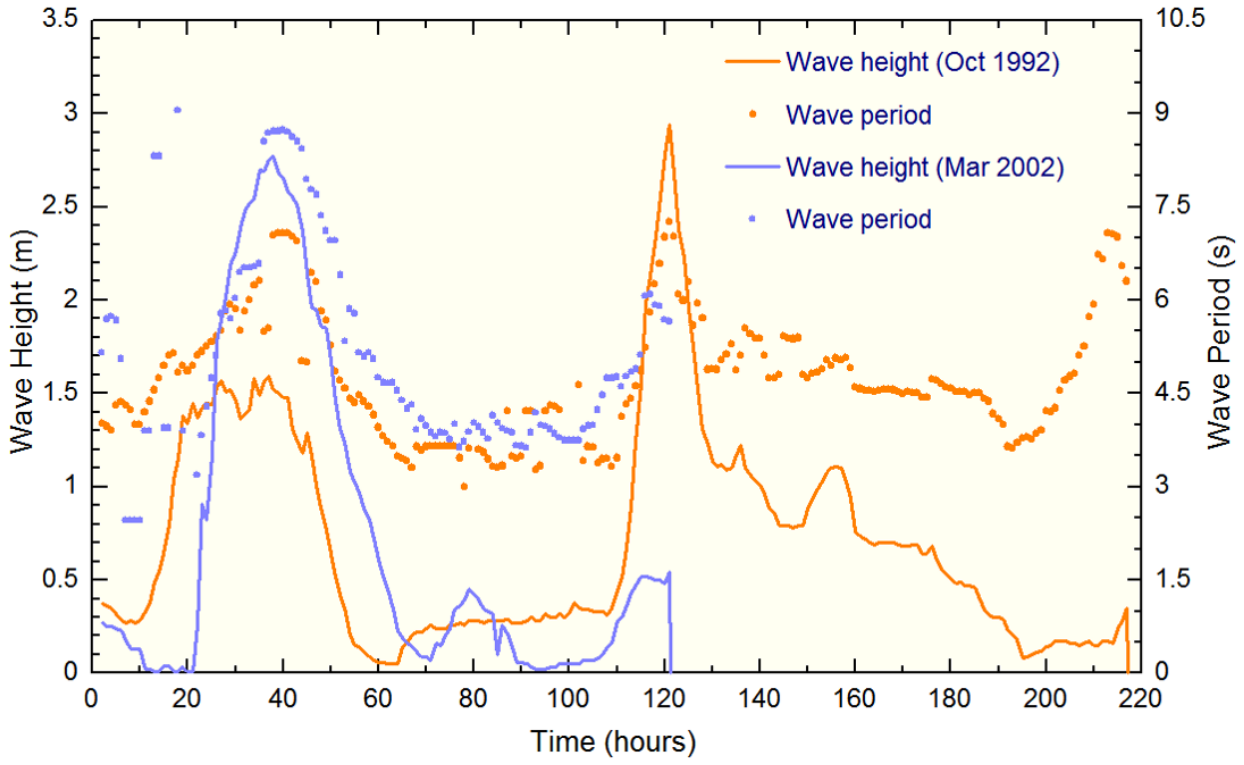

Figure 4.2: Hourly Time Series of Selected Three Storms

The approximate return period for the three selected storm events used in the COSMOS model is shown below.

- October 1992 (100-year event)
- March 2020 (100-year event)

Predicted toe erosion for all cases are summarized in Figure 4.3. COSMOS predicted up to 13 m (~43 ft) of toe erosion (or recession) under the 100-year lake level in combination with the October 1992 storm, which is the least likely modeled event based on return period. COSMOS also predicted up to 10 m (~33 ft) of toe erosion under the 2-year lake level in combination with the March 2020 storm. It should be noted that COSMOS assumes the lakebed material is non-erodible substrate (i.e. cobble and stone) and the material at the toe of the bluff is sand material with no cohesion. These results will be considered in slope stability analysis discussed in the next section.

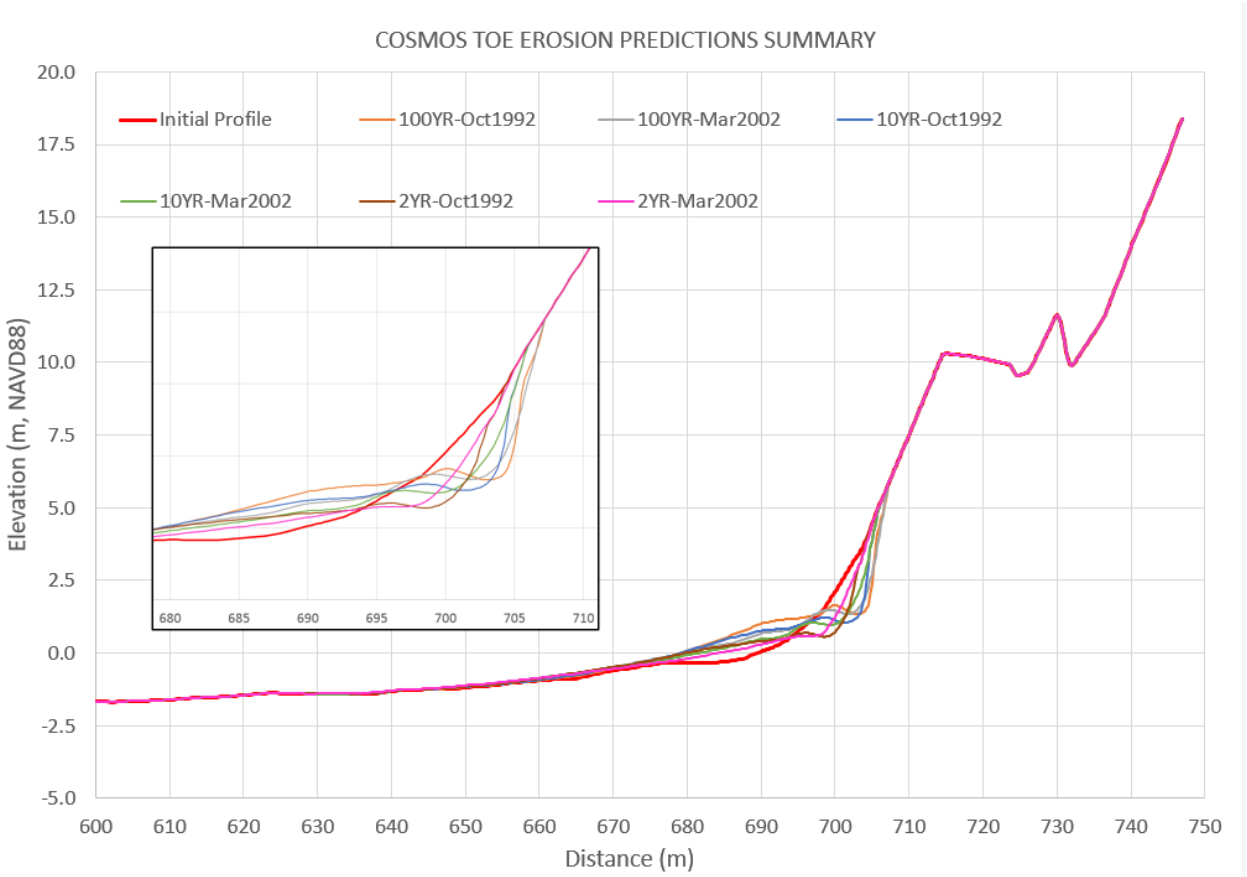

Figure 4.3: Predicted Toe Erosion for Nine different Scenarios (a close up of the toe area is shown in the inset figure)

A profile through the same location that was modeled (comparing the 2015 FEMA LiDAR with the 2020 Baird UAV survey data) shows approximately 12 m (~40 ft) of recession at the toe of the bluff, with patterns similar to that portrayed in the COSMOS results (i.e. minimal erosion/ change in lakebed elevation/ recession of the nearshore bluff toe), as shown in Figure 4.4.

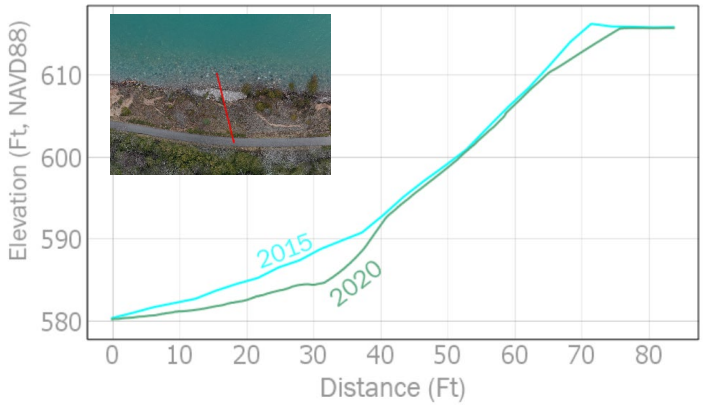

Figure 4.4: Survey Profile Comparison (2015 FEMA LiDAR and 2020 Baird UAV)

4.2 Slope Stability Evaluation

Two main types of slope movement were considered in our analyses:

1. Shallow surface slides
2. Deep-seated failures/ slides.

Shallow slides typically consist of relatively thin “veneers” of earth which move downslope. The movement may range from rather high velocity to a creep over several weeks, months, or years. The failure surface, or sliding surface, is typically parallel to the surface of the slope. Since failures of this type are commonly rather thin compared with their length, they are often treated as “infinite slopes” for the purpose of analysis.

The shallow slides are also often referred to as “nuisance” slides since they often do not do substantial damage at the time, and appear to be more a nuisance than anything. This colloquial phrase (nuisance slide) may be a rather dangerous misnomer at times, as even these relatively shallow slides may negatively affect the trail, an adjacent retaining wall, or other structural element in or near their paths. Furthermore, if shallow slides occur several times over the course of years or decades, the cumulative effects have greater potential to negatively affect a structure of even greater importance yet (ie. a residence, the trailway, stairways, etc.).

The deeper-seated slides have an obvious danger recognized by most observers in that a larger volume of earth/ soil may slide downslope. Much like shallow failures, this movement may occur slowly over the course of weeks, months, or years, or rather suddenly, as in the April 2020 slide. The deep-seated failures may be predicted using instrumentation (such as that recently installed by MDOT near the April slide site). It is MODT’s hope, for example, that the monitor wells and the inclinometers may serve to warn them (and the public) of subsequent, retrogressive failures; possibly jeopardizing that area of US-31. These monitoring approaches, among other options, are included later in the table pertaining to mitigation options.

Both types of analyses (deep-seated and shallow slides) are addressed in Section 4.2.1 and 4.2.2, respectively.

4.2.1 Deep-seated slope failures

OHM used the computer software STABLPro by Ensoft for the slope stability analyses for the deep-seated mode of failure. Most slope stability approaches (there are many) use certain common parameters and ideas. Figure 4.5 shows a schematic of a typical “method by slices” type of slope stability analysis. In this figure, one example slice is shown in an expanded fashion to illustrate a typical ‘freebody’ diagram forces on that slice. Note that two types of forces (shear and normal, and/or side forces aligned at some angle off of perpendicular from the adjacent surface) are typically included on each surface, representing the stress conditions on each slice. The shear forces act parallel to a surface and the side forces typically act perpendicular to each surface, although these forces vary depending on the analysis approach used. The Bishop method has been shown to yield reasonable results, consistent with observed behavior and many of the more computationally rigorous methods, all while retaining the benefit of the operator being able to solve for the factor by safety by hand, when required.

The Bishop approach—like a number of commonly used slope stability approaches used in practice—is a *limit equilibrium* approach. A limit equilibrium approach generally includes examining driving forces (those forces trying to pull a slope down) and resisting forces (those forces trying to keep the slope up, in its existing configuration). A profile under consideration is typically divided into discrete slices or sections, where each slice has a given area, and therefore weight. Additionally, each slice has a calculated friction force present at the base of that slice, acting at a given angle depending on the location of the slice bottom along the assumed circular failure surface. As a matter of the analysis method, we note that ascertaining displacements of a slope

are not possible with this approach. Instead, a limit equilibrium analysis speaks more directly to a failure involving shearing the ground on some failure surface below grade. Therefore, the limit equilibrium method is not well-suited to estimating conditions necessary for failure types of very slow rate (e.g., slope creep over long periods of time). On the other hand, it does give an indication of a slope's general stability (with the actual rate of failure remaining unknown).

The minimum factor of safety desired for this application is normally between 1.3 and 1.5. Note that this factor of safety range does not guarantee that slope instability will be precluded. Rather, the factor of safety may be thought of as corresponding to a general risk assessment figure. For example, the greater the factor of safety, the less likely it should be for the factor of safety to drop below unity (i.e. 1.0), which represents the factor of safety suggesting a "failure". Part of the challenge of estimating the actual factor of safety relates to how well we are able to estimate soil parameters, the ground profiles, groundwater conditions, and other factors.

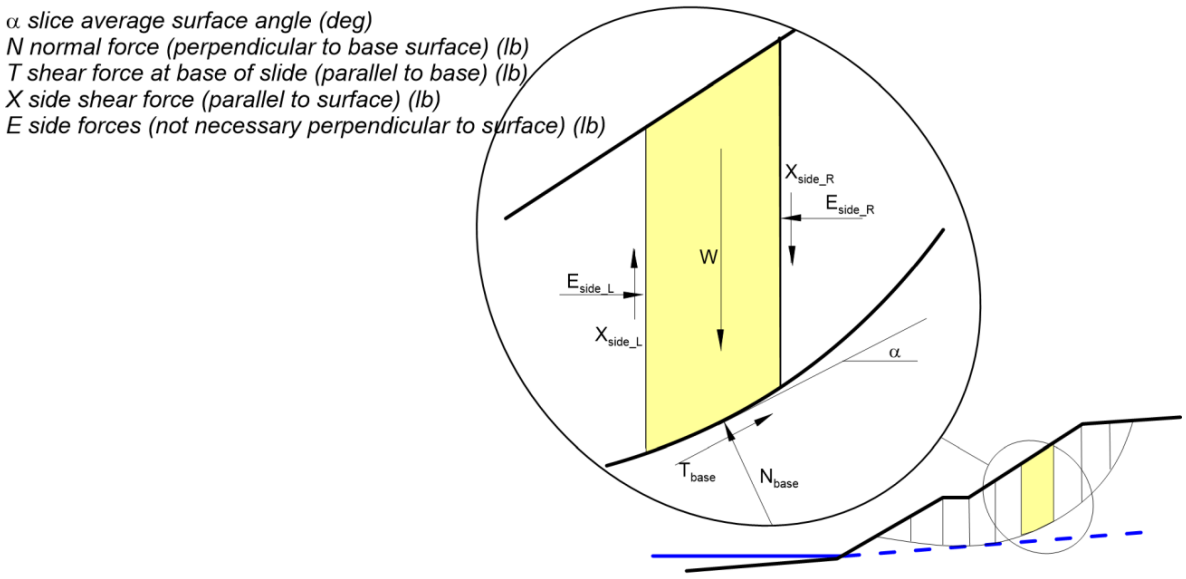

Figure 4.5: "Method by Slices" General Approach to Slope Stability Analysis

Using the April 2020 deep-seated failure surface as a guide (observed/measured failure geometry, current lake levels, etc.), OHM calibrated the soil strength parameters for use in the deep-seated slope stability analyses. It should be noted that this overall analysis also required judgements in terms of actual soil properties and parameters, and groundwater levels within the slope to define that surface which was believed to be present at the time of the failure.

Figure 4.6 was used as a means of calibrating the soil parameters including unit weight, internal angle of friction, and cohesion intercept (γ, ϕ', and c', respectively). For this trial, the factor of safety was forced to be near that of unity, as this analysis represents the pre-failure and post-failure slope geometry of the recent April 2020 slope failure. The ground topography and profile for the representative section (pre and post failure) were obtained using a combination of current UAV topographic information recently collected for this study, along with existing topographic information from the previous 2008 project for the area. For this initial trial, we used

an assumed toe erosion of approximately 20 horizontal feet into the slope. We note that this particular parameter (toe erosion) was not directly observed by anyone leading up to the failure, and it represents an assumed condition-yet one that is probable at the time of the failure. We then assumed groundwater conditions based on MDOT's recent monitoring well readings in this area of the bluff. This parameter, too, is assumed on some level as the groundwater elevations recorded in July by MDOT may not be entirely representative of the groundwater conditions at the time of the failure in April 2020. A moist unit weight, γ, of 108 pcf; a saturated unit weight, γ_{sat}, of 120 pcf; a friction angle, ϕ', of 29 degrees; and a cohesion intercept, c', of 24 psf were used in subsequent analyses of potential deep seated failures for three representative profiles along the section of interest in this study. The profile locations are shown in Figure 4.7.

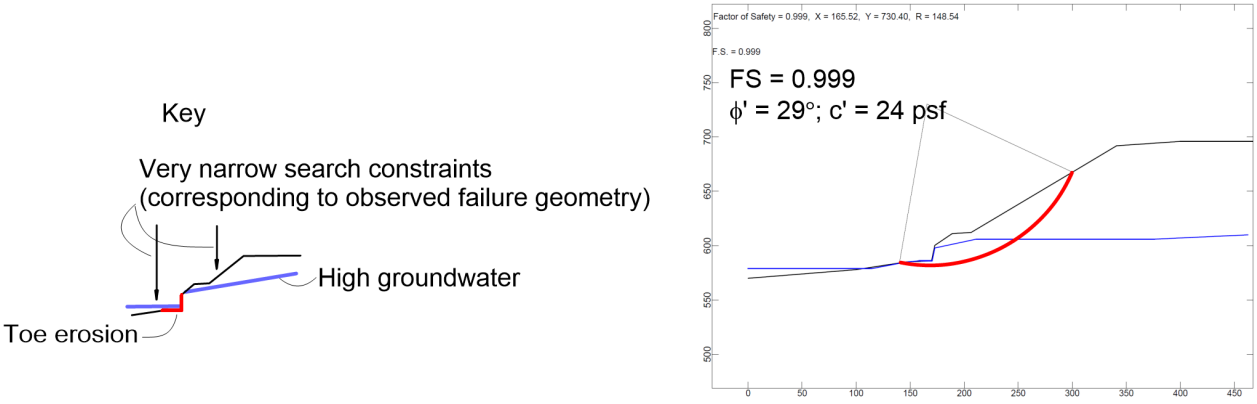

Figure 4.6: Slope Stability Model As Used for Calibration of Soil Parameters

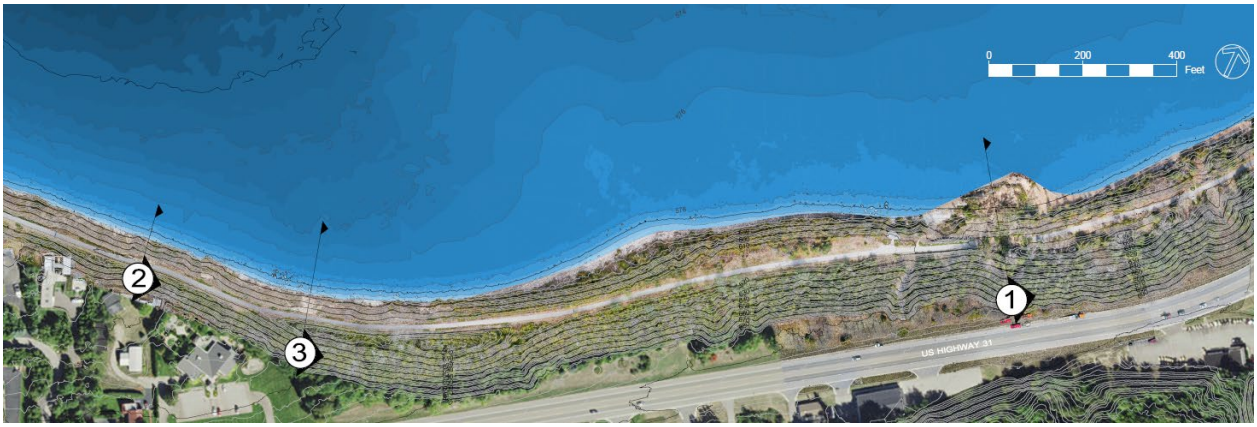

Figure 4.7: Slope Stability Analysis Profile Locations

After the calibration of the ground parameters (results shown in Figure 4.6) using the recent failure as a back analysis, limit equilibrium analyses were conducted in forward analysis applications on the same original profile (Profile 1) and two others (Profile 2 and 3), but with each analysis featuring different conditions. Once again the purpose of this exercise was to compare the relative contributions to the factor of safety with each varying condition for the purpose of studying the main factors leading to this—and future—failures. An average bay

elevation of 579 feet IGLD 1985 was used for all subsequent analyses. The results for each forward analysis (Profile 1 through 3) are summarized below.

Profile 1 Summary

Figure 4.8 (A) includes the Profile 1 slope geometry with an elevated groundwater level consistent with a wet season (i.e. during the spring or sometime shorter after, depending on lag time related to groundwater appearance, etc.). Toe erosion is included in this trial as well. In essence, this particular trial is intended to model the slope under rather extreme conditions to observe the factor of safety under these conditions. The factor of safety was 0.975; below unity, or the failure conditions (FS=1).

Figure 4.8 (B) had similar conditions to that of Figure 4.8 (A), except that the ground water elevation was lowered. The factor of safety with this reduction in bay level was 1.179; approximately 20% improvement in factor of safety (FS) from the analysis in Figure 4.8 (A).

Figure 4.8 (C) included the higher groundwater table, but without the 20 feet of toe erosion. From this trial, we see the factor of safety decreases to 1.121, yet still an approximate 15% improvement over the conditions in Figure 4.8 (A).

Figure 4.8 (D) did not include toe erosion, and the groundwater table was lowered. These conditions represent the most favorable in terms of slope stability. The factor of safety in this case was 1.193; about 22% greater than the condition in Figure 4.8 (A) where there was toe erosion combined with a high groundwater table.

We see that the elevated groundwater appears to represent a change in factor of safety (slope stability) by 6% to 20% (as compared with equal toe conditions), while the addition of the toe erosion seems to reduce or alter the factor of safety by between 1% and 15%, with the groundwater conditions remaining constant. It is clear that both groundwater position/ elevation and the presence of toe erosion play important roles in the stability of a slope. Notably, when the two occur simultaneously (elevated groundwater and toe erosion), the effect on the factor of safety is reduced further yet; near or below that of the failure condition (FS=1).

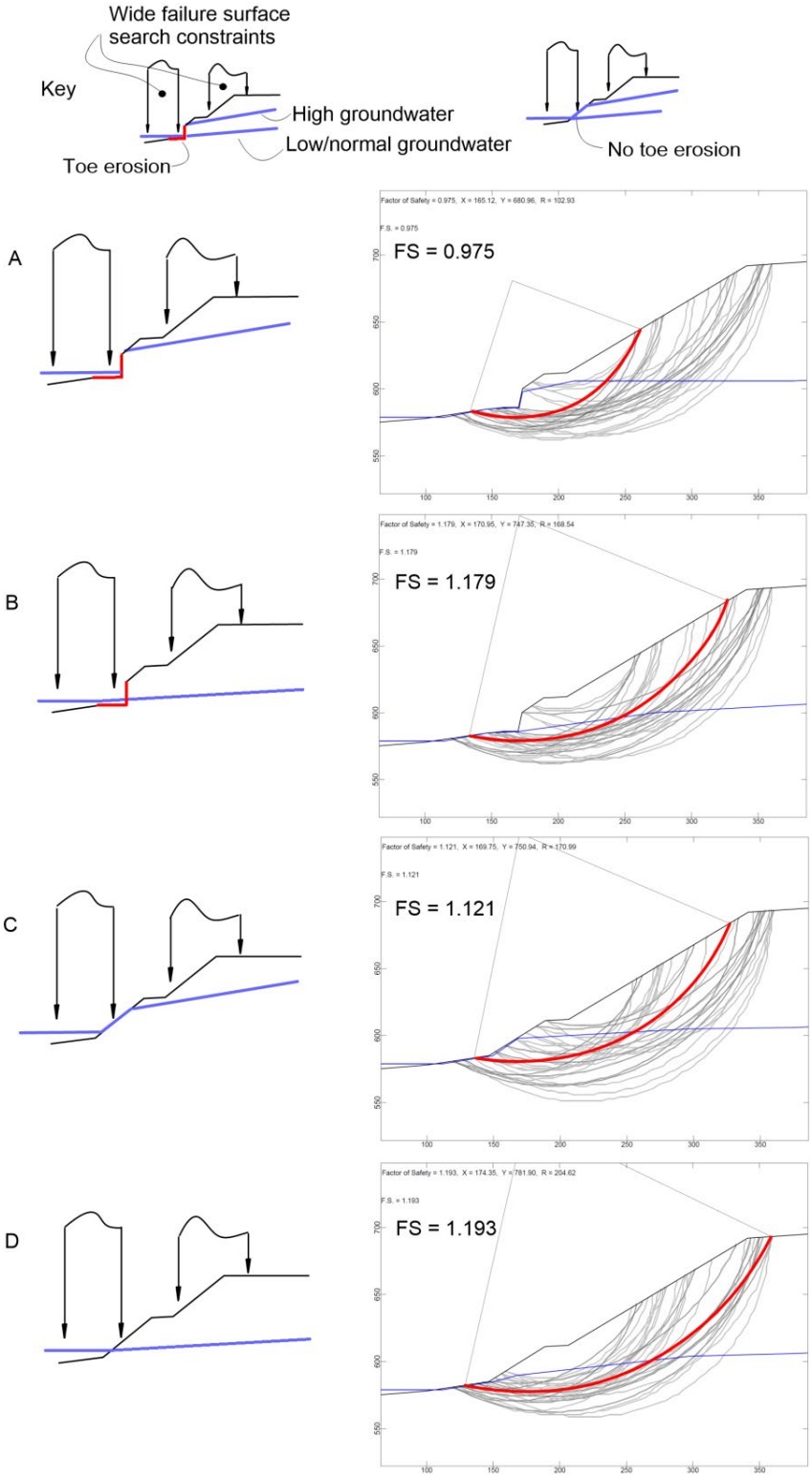

Figure 4.8: Profile 1 Slope Stability Analysis

We performed a similar suite of slope stability analyses on a different profile (Profile 2) as shown in Figure 4.9 (A through D).

Profile 2 Summary

Using the same soil parameters, groundwater condition, and toe erosion assumptions, this location also appeared to be relatively unstable. We note that even though many of the following factors of safety results indicate failure, this may or may not exactly match the observed condition of the slope. There is a possibility that the parameters, toe erosion, and/or groundwater conditions are different at that site. The main idea of this exercise is to take the same parameters and conditions and apply them to a slightly different slope profile geometry to observe the results.

In this case, the effects of the toe erosion individually, holding the groundwater constant (i.e. comparing Figure 4.9 (A with C) and Figure 4.9 (B with C)) yields a difference of about 10%. The effects of examining groundwater individually (i.e. comparing Figure 4.9 (A with B) and Figure 4.9 (C with D)) suggests a variation of around 30%. Once again, both of these contributing factors are important when considering the stability of a slope.

Finally, we examined Profile 3 in a similar way (see Figure 4.10 A through D).

Profile 3 Summary

This profile was rather unique in that it featured a rather prominent swale on the roadside of the existing trail. It is important to note that the critical failure surface (shown in red) was found to be on the upper part of the slope, likely due to the geometry and steepness of the ground in that area (see Figure 4.10 (B) and (D)). Figure 4.10 (A) and (C), on the other hand, exhibited a deeper-seated failure surface, extending from near the crest of the bluff to the beach area. This is a reminder that localized deep-seated failures should be considered along with the failures extending throughout the bluff face.

A comparison between Figure 4.10 (A) and Figure 4.10 (C), along with Figure 4.10 (B) and Figure 4.10 (D), to examine the effect of toe erosion only, suggested a difference between 4 and 7%. A comparison between Figure 4.10 (A) and Figure 4.10 (B), and Figure 4.10 (C) with Figure 4.10 (D), showed a difference between 2 and 5%. Interestingly, for this particular slope geometry, the toe erosion played a greater role than the groundwater elevation, although both features led to measurable differences in the stability of the slope.

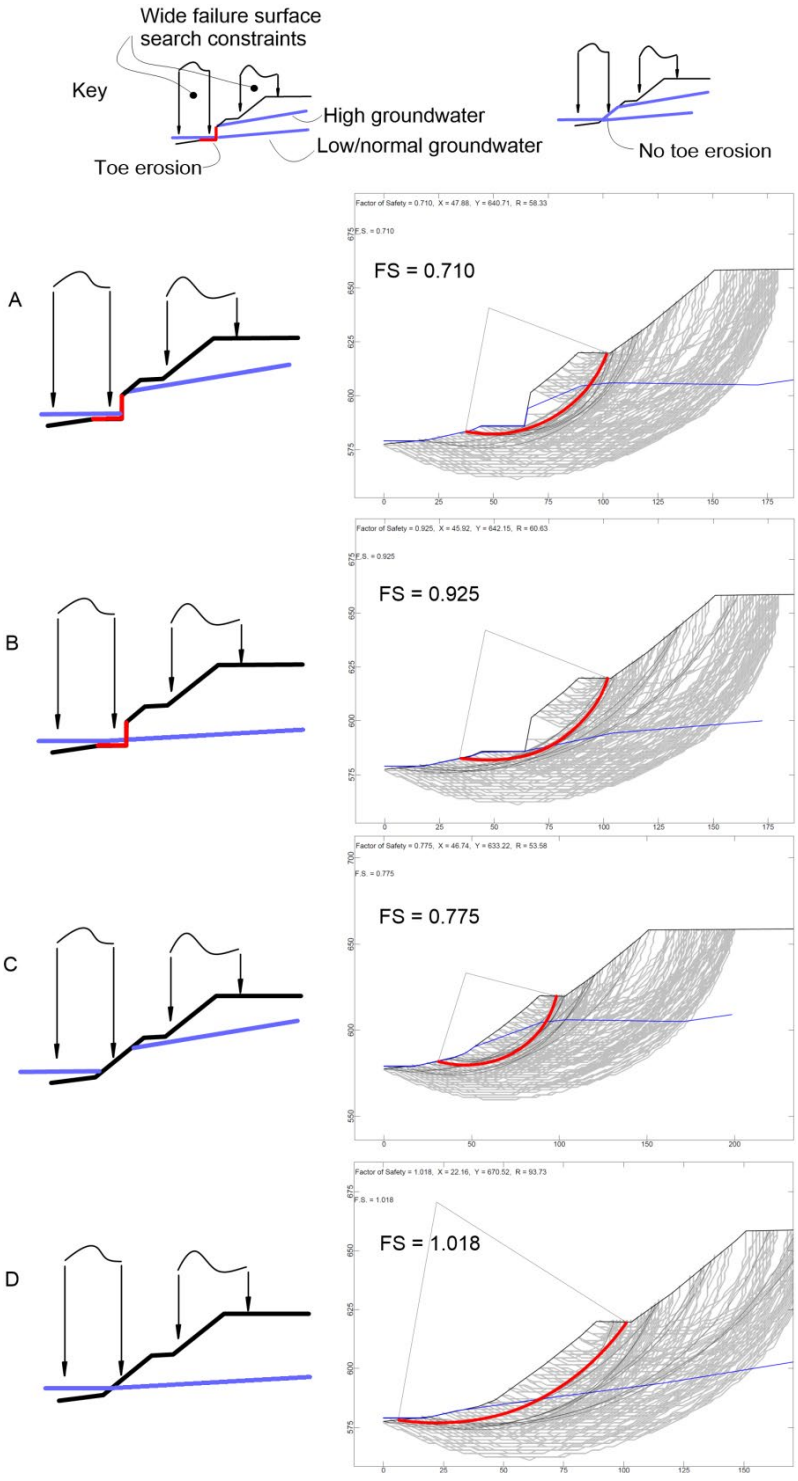

Figure 4.9: Profile 2 Slope Stability Analysis

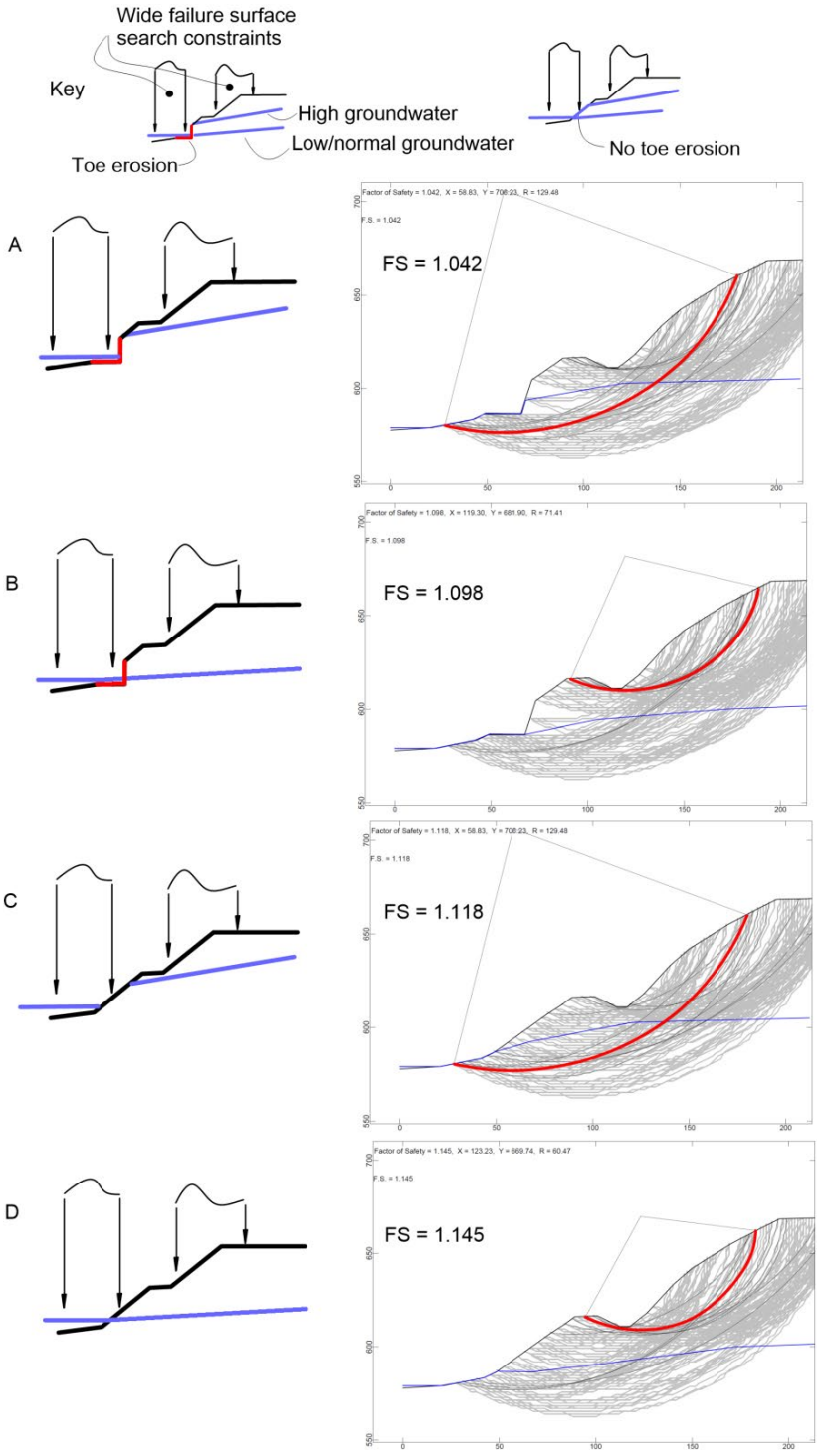

Figure 4.10: Profile 3 Slope Stability Analysis

4.2.2 Shallow slope failures

Although STABLPro may be adapted for use in evaluating both shallow and deep slides, it is often more convenient to utilize this software for slides of the deeper variety. The analysis approaches in STABLPro are better suited for circular failure surfaces. Shallow slides, on the other hand, may be evaluated using relatively simple equations as the surfaces of these slides may often be represented as a planer surface. In fact, the shallow slide analysis may often be evaluated using what is sometimes referred to as “infinite slope” analyses, with determining the tendency for sliding in a manner similar to calculating the angle at which a wooden block begins to slide down a flat table surface when elevated.

The causes and variables involved in the shallow slope failures were examined analytically for general conditions using a modified version of the infinite slope analysis. The infinite slope analysis used was modified to help take into account the effects of root systems within the ground. Root systems tend to add strength to the ground. Soil is mainly frictional material meaning that it derives its strength from the weight of the overlying soil at a point, multiplied by a friction coefficient, coming in the form of a “friction angle” parameter, ϕ’, similar in concept to the classical physics experiment of a block of wood sliding on a table surface. In that case, the more force you place vertically on the block, the greater the resistance of the block to sliding. A second strength parameter, seemingly independent of the overlying soil overburden weight is the cohesion intercept, c’. This parameter helps to provide a more complete soil strength “envelope” for a given analysis type such as these.

Table 4.1 includes two soil strength conditions: upper row with ϕ’ = 29 degrees and c’ = 10 psf; and the lower row with ϕ’ = 33 degrees and c’ = 10 psf. We note that ϕ’ is the internal friction angle of the soil, while c’ is the cohesion intercept. These parameters are commonly used in soil mechanics to describe the rate of increase of shear strength with increasing vertical effective stress. The greater the values, the greater the soil strength expected.

The US Forest Service infinite slope equation (1994) was used as a means to investigate sliding on the face of the bluff. The Cr parameter—tree/plant root strength—was one of the primary parameters of interest. In the case of an infinite slope analysis, a slice of soil parallel to the slope face may be stable at one time. Then, with some amount of toe erosion (perhaps near the beach due to wave action), that slice of soil would lose some of its ability to maintain equilibrium. The question that then comes in is whether the friction of the soil along the potential shearing plane has enough strength to stay in place. The plant/tree root “cohesion” contribution also becomes important, among other parameters. Figure 4.11 shows a depiction of the US Forest Service approach for reference.

Table 4.1: Shallow Slope Failure Analyses Results

		Condition of slope, grounwater, roots system, etc.											
Soil strength parameters		"Base line" conditions as a benchmark		If slope becomes saturated with seepage parallel to the slope		With no tree roots		With lack of roots and seepage parallel to the slope		With lack of roots and 1/2 depth seepage parallel to slope		With partial roots and 1/2 depth seepage parallel to slope	
ϕ' = 29, c'=10psf	Root cohesion	C_r	100 psf	C_r	100 psf	C_r	0 psf	C_r	0 psf	C_r	0 psf	C_r	75 psf
	Soil cohesion	C'_s	10 psf	C'_s	10 psf	C'_s	10 psf	C'_s	10 psf	C'_s	10 psf	C'_s	10 psf
	slope angle	α	33 deg	α	33 deg	α	33 deg	α	33 deg	α	33 deg	α	33 deg
	tree surcharge	q_o	10 psf	q_o	10 psf	q_o	0 psf	q_o	0 psf	q_o	0 psf	q_o	5 psf
	moist unit weight	γ	108 pcf	γ	108 pcf	γ	108 pcf	γ	108 pcf	γ	108 pcf	γ	108 pcf
	saturated unit weight	γ_{sat}	125 pcf	γ_{sat}	125 pcf	γ_{sat}	125 pcf	γ_{sat}	125 pcf	γ_{sat}	125 pcf	γ_{sat}	125 pcf
	water unit weight	γ_w	62.4 pcf	γ_w	62.4 pcf	γ_w	62.4 pcf	γ_w	62.4 pcf	γ_w	62.4 pcf	γ_w	62.4 pcf
	vadose thickness	D	2 ft	D	2 ft	D	2 ft	D	2 ft	D	2 ft	D	2 ft
	saturated thickness	D_w	0 ft	D_w	2 ft	D_w	0 ft	D_w	2 ft	D_w	1 ft	D_w	1 ft
	friction angle	ϕ'	29 deg	ϕ'	29 deg	ϕ'	29 deg	ϕ'	29 deg	ϕ'	29 deg	ϕ'	29 deg
	Factor of safety	1.44		0.96		0.91		0.48		0.68		1.06	
ϕ' = 33, c'=10psf	Root cohesion	C_r	100 psf	C_r	100 psf	C_r	0 psf	C_r	0 psf	C_r	0 psf	C_r	75 psf
	Soil cohesion	C'_s	10 psf	C'_s	10 psf	C'_s	10 psf	C'_s	10 psf	C'_s	10 psf	C'_s	10 psf
	slope angle	α	33 deg	α	33 deg	α	33 deg	α	33 deg	α	33 deg	α	33 deg
	tree surcharge	q_o	10 psf	q_o	10 psf	q_o	0 psf	q_o	0 psf	q_o	0 psf	q_o	5 psf
	moist unit weight	γ	108 pcf	γ	108 pcf	γ	108 pcf	γ	108 pcf	γ	108 pcf	γ	108 pcf
	saturated unit weight	γ_{sat}	125 pcf	γ_{sat}	125 pcf	γ_{sat}	125 pcf	γ_{sat}	125 pcf	γ_{sat}	125 pcf	γ_{sat}	125 pcf
	water unit weight	γ_w	62.4 pcf	γ_w	62.4 pcf	γ_w	62.4 pcf	γ_w	62.4 pcf	γ_w	62.4 pcf	γ_w	62.4 pcf
	vadose thickness	D	2 ft	D	2 ft	D	2 ft	D	2 ft	D	2 ft	D	2 ft
	saturated thickness	D_w	0 ft	D_w	2 ft	D_w	0 ft	D_w	2 ft	D_w	1 ft	D_w	1 ft
	friction angle	ϕ'	33 deg	ϕ'	33 deg	ϕ'	33 deg	ϕ'	33 deg	ϕ'	33 deg	ϕ'	33 deg
	Factor of safety	1.69		1.12		1.07		0.56		0.79		1.25	

$$FS = \frac{C_r + c' + \cos^2\alpha[q_o + \gamma(D-D_w) + (\gamma_{sat} - \gamma_w)D_w]\tan\phi'}{\sin\alpha\cos\alpha[q_o + \gamma(D-D_w) + (\gamma_{sat} \times D_w)]}$$

α slope & sliding surface angle (deg)
q_o surcharge due to trees/brush (psf)
D total soil thickness above the sliding surface (ft)
D_w saturated soil thickness (ft)
C_r tree/plant root strength (psf)
c' soil cohesion (psf)
ϕ' effective internal friction angle (deg)
γ moist soil unit weight (pcf)
γ_{sat} saturated soil unit weight (pcf)
γ_w unit weight of water (pcf)
FS factor of safety with respect to sliding

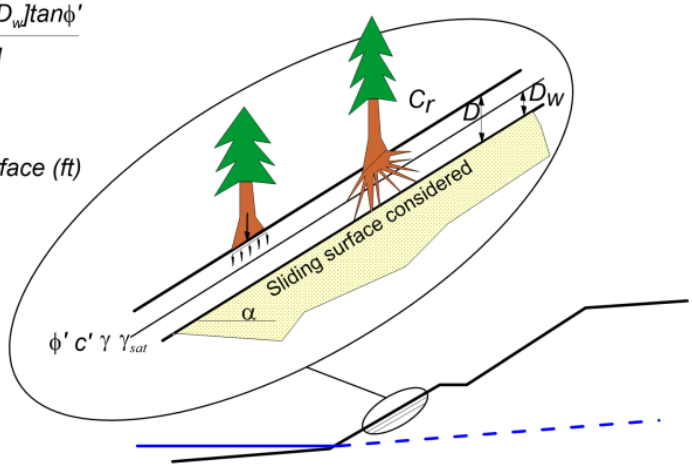

Figure 4.11: US Forest Service Infinite Slope Equation and Schematic

In reviewing existing literature on the subject, a reasonable C_r has been found to be on the order of 100 psf added to the contribution due to friction. We considered this strength contribution, along with a reduced root cohesion parameter of 50 psf to investigate the general effects on the factor of safety with respect to sliding.

The role of surface water (precipitation and run off from a variety of areas on the site to a point of interest) and groundwater add to the level of complexity of the stability of slope in an infinite slope mode of potential failure. For example, if the zone of potential sliding becomes saturated, with water filling a portion of the potential failure zone (and in particular, if the water seeps downward, parallel to the ground), the factor of safety with respect to sliding may be reduced dramatically.

Table 4.1 shows a series of trial analyses for shallow failures. There are two main rows; the top row of results correspond to a friction angle, ϕ', of 29 degree and cohesion intercept, c', of 10 psf for the soil, while the bottom row examines the effects on the stability if the ground strength parameters are 33 degrees and 10 psf for ϕ' and c', respectively. It should be noted that any number of trials and conditions may be run for future discussions. For now, the purpose of showing and briefly describing Table 4.1 is to demonstrate the most important factors in slope instability under this mode of failure, and to obtain a feel for the relatively contributions.

Note that the slope angle (also an important factor) for each of the example analyses is 33 degrees; equivalent to an approximate 1.5h:1v slope. This slope angle was observed at various areas along the bluff face during our site review.

We that note for the first row, when Cr is set to 100 psf and the tree surcharge is 10 psf for a 2 ft thick potential failure section, with no groundwater within that zone of potential failure, the factor of safety is 1.44. When the tree root cohesion vanishes, along with the tree surcharge pressure, the factor of safety falls to 0.91; indicating failure conditions. If the friction angle of the soil (as in the second row) is increase to 33 degrees (perhaps a better estimate of near-surface friction angle for these soils), the initial factor of safety is 1.69, dropping to 1.07 under the same conditions as described above; certainly a dramatic decrease, yet still slightly above sliding conditions. However, we must point out that even if the FS is slightly above unity, the slope may experience a different type of movement, often called “creep.” Creep may be observed primarily by trees and/or power poles leaning over. In the case of trees, the creep often happens so slowly that the trunks of the trees may appear

curved, while the tree continually tries to grow straight up. This creates a bowing effect of the tree. For this reason, it is beneficial to aim for factors of safety of about 1.5 or greater, where possible.

4.3 Existing Conditions Analysis Conclusion

A series of slope stability analyses were completed. Some of these analyses were intended to model specific on-site conditions (i.e. deep-seated failures for Profiles 1 through 3), while other analyses were not intended for any specific area along the shoreline, but rather intended to be more general for comparison purposes (i.e. infinite slope analysis). Regardless of the type of analysis approach, the results helped to inform and guide our judgement about the mitigation measures developed (to be described further in Section 5). The main conclusions developed with regard to these analyses and research conducted are summarized below:

- Toe erosion and groundwater conditions (elevation) are important factors in the stability of the bluff along this section of shoreline. Under some slope profile geometries, groundwater appears to play a larger role in the stability, while in other cases, toe erosion may be the biggest contributing factor regarding slope stability.
- High groundwater within the slope combined with the presence of toe erosion leads to the greatest amount of instability and chances of a deep-seated failure. Conversely, where groundwater is maintained at a low elevation and the toe is protected, the stability of the slope is at its greatest for a given profile.
- Shallow slope failures are also influenced by the condition/ presence and geometry of the toe. If the toe is compromised, the section of earth will depend on the internal strength of the ground, along with the presence and extent of tree/ plant/ bush root systems, and whether water is present. If surface or groundwater collects in a potential sliding zone and begins seeping downslope internally, the stability of the slope falls dramatically.
- COSMOS modeling indicates that rather extensive toe erosion is possible along this section of shoreline, which has also been validated along some areas of the shoreline to date by direct observation. Wave action in the Little Traverse Bay area is highly dynamic and is capable of quickly changing the configuration of the shoreline.
- In understanding shoreline and bluff geomorphology from elsewhere along the Great Lakes, we have observed, once again, that these shorelines are generally dynamic, prone to erosion, and ever-changing systems. This bluff has been eroding and changing since its formation through wave and wind action, and gravity constantly pulling the earth downward to a lower energy configuration (continually attempting to make the area flatter, overall). Although these processes will continue, certain mitigation approaches may help control these phenomena to allow for continued use of the shoreline for the enjoyment of the residents of the City of Petoskey, Resort Township, and Emmet County, along with their visitors to the area.

The results and conclusions presented in this report supersede any previous project correspondence. Potential mitigation measures are discussed in the next section of this report. These measures have been developed specifically to counteract the detrimental effects of toe erosion and elevated groundwater levels, along with measures promoting slope stability and safety of the area by additional means.

5. Potential Mitigation Measures

5.1 Overview

During the course of the various analyses, potential shortcomings of the existing bluff in terms of its stability were identified. These observations led to the development of several preliminary remedial work options, each of which may help improve the stability of the bluff in different ways.

There are two main modes of slope instability that were presented in Section 4.2: 1) relatively shallow "surface" slides, and 2) potential deeper-seated slope failures. A high-level summary of potential mitigation measures for the Owner's consideration for addressing the slope stability for either of these two main modes of failures is provided in Table 5.1. The items in this table have to do with either:

1. Remedial repair of affected areas to date,
2. Mitigation measures to promote greater stability on areas that have not yet experienced apparent instability, and/ or
3. Monitoring approaches.

5.1.1 Remedial Repair of Affected Areas to Date

As previously discussed, numerous areas of the slope have experienced on-going shallow surface sliding and movement. Other areas have experienced deeper-seated failures, including the most recent in April 2020, along with another past failure in 1913.

For shallow failures (those that have experienced sliding or are actively sliding at a slow rate), a number of mitigation techniques are available to consider in arresting the downslope movement (refer to Table 5.1).

5.1.2 Mitigation Measures to Promote Greater Stability

Here, again, two major modes of earth movement—shallow and deep slides—are of interest. The following sections discuss each type of slide in more detail.

The areas of the slope along the shoreline not currently experiencing signs of shallow or deep slides may be strengthened with a number of mitigation techniques. It must be cautioned that it is often challenging to know, with certainty, where such slides will occur. However, two approaches may be taken in addressing instability in these areas: treat/strengthen the entire slope shoreline and face, and/or identify discrete sections of concern along the bluff face. One consideration may be the relatively importance of an area, or the level of potential damage should a failure or slope movement occur. Note, the schematic designs developed for this project area focus on addressing specific areas within the project battery limits where ongoing issues were identified during this study.

5.1.2.1 Shallow slides

Areas of the bluff face not currently experiencing sliding may be subject to earth movement in the future. It is often difficult to identify these areas. On the other hand, a survey with the intent of identifying relatively steep areas may be helpful in prioritizing areas for mitigation.

During our study, we observed that all of the shallow slides observed occurred on the lakeward edge of the trail; near the shoreline. This suggests to us that wave action and erosion near the beach elevation and area may be an important contributing factor. Conversely, we did not observe obvious signs of shallow slides on the

roadside of the trail; well upslope of the beach. We note that it is certainly possible for shallow slides to occur anywhere on the slope, but when wave-related erosion is not a factor, the slope generally appears to be more stable.

Certain areas of localized steepness (i.e. in the areas of the existing swales adjacent to the trails) are believed to be areas of interest in the context of likely shallow slide areas (see Section 5.4 for more discussion).

Table 5.1 provides potential measures for shallow slides mitigation and/or prevention.

5.1.2.2 Deep slides

Primary factors related to whether a deep-seated failure is imminent along the bluff face include: 1) groundwater location/elevation, 2) condition of the toe near the beach, and 3) geometry/steepness of the slope. Several secondary factors contribute as well (i.e. surface water management, existing and condition of the swales, surcharge loadings on and near the bluff crest and/or on the face of the bluff).

The mitigation measures developed very often are intended to address one of the primary factors, but also may be introduced into the bluff face to strengthen the existing ground (i.e. soil nailing).

Table 5.1 provides potential measures for deep slides mitigation and/or prevention. Figure 5.1 shows a number of example mitigation approaches for a given section along the bluff (Profile 2). The purpose of Figure 5.1 is to help illustrate relative improvements for various mitigation approaches. Below is a description of the various options evaluated:

- Figure 5.1 A shows a “baseline” of sorts in that this slope includes no toe erosion and a rather high (internal) groundwater table. The level of the bay in this example is also elevated to the approximate current levels. The factor of safety with respect to a relatively deeper, circular failure is 0.904, indicating failure conditions (FS<1).
- Figure 5.1 B shows the change in the factor of safety when a buttressed zone is added near the beach area. In this case, the factor of safety increases to 1.079; a value that is now greater than unity. This is an approximate 20% increase over the baseline conditions (Figure 5.1 A).
- Figure 5.1 C features the same conditions as in in the baseline figure (Figure 5.1 A), with the exception of some grading applied to the upper part of the slope. In this case, that area of the slope has been flattened to some degree. The factor of safety become 0.912; only about 1% improvement over the baseline condition (Figure 5.1 A).
- Figure 5.1 D includes the installation of soil nail elements, driven or installed to about 30 to 40 feet at the angle shown. Notice that the buttress and the slope flattening measures have both been cleared, as to compare this latest mitigation measure (soil nails). The factor of safety under these conditions was 1.022; an approximate 13% improvement over the baseline conditions (Figure 5.1 A).
- Figure 5.1 E includes a combination of a toe buttress and upper slope flattening/re-grading. In this scenario the factor of safety is 1.167; nearly a 30% increase over the baseline condition (Figure 5.1 A).
- Figure 5.1 F includes the original slope geometry, with no other mitigations measures other than horizontal drains to lower the internal groundwater elevation. With this adjustment, the factor of safety increases to 1.169 (about 30%) over the baseline condition (Figure 5.1 A).
- Finally, Figure 5.1 G includes all four of the mitigation measures discussed at various times above (toe buttress, upper slope flattening, soil nails, and horizontal drains near the toe of the slope) as a means to observe the effects of all measures existing together at once. In this case, the factor of safety increases to 1.544; approximately 70% more than the baseline conditions (Figure 5.1 A).

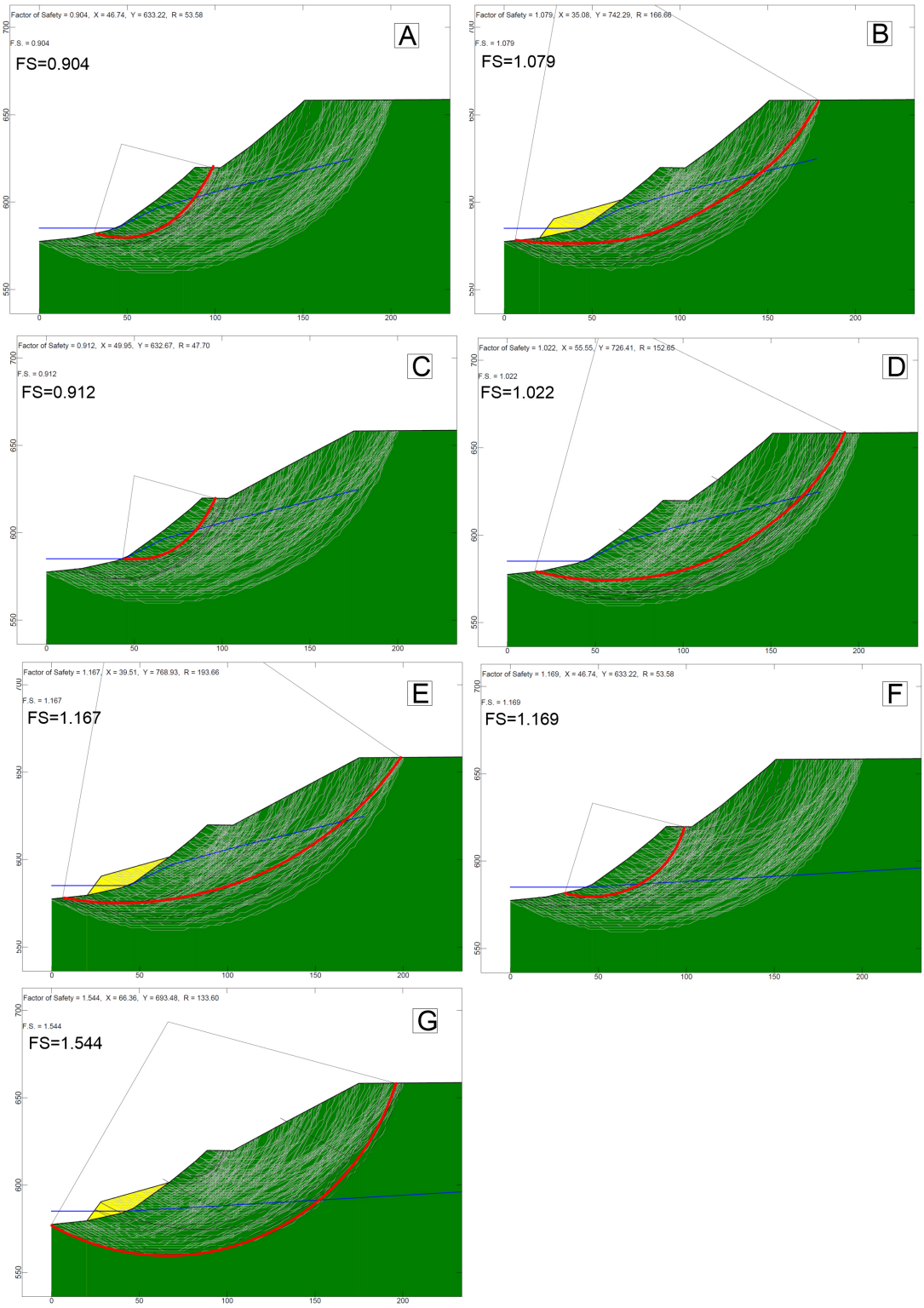

Figure 5.1: Potential Mitigation Measures for Deep-seated Failures

A second round of analyses was undertaken to investigate the efficacy of some more specific mitigation measures that we have developed for this project, which includes placing a continuous cobble beach along the shoreline and re-grading the bluff slope to a more stable angle (i.e. 30 degrees). The results of the slope stability modeling with these mitigation measures included are shown in Figure 5.2, and summarized below:

- Figure 5.2 (A) shows the existing conditions for the slope stability modeling Profile 2 location, with a FOS of 1.154.
- Figure 5.2 (B) shows the inclusion of a cobble beach along the shoreline and regrading of the nearshore bluff slope at the Profile 2 location. Said improvements increase the FOS to 1.357.
- Figure 5.2 (C) shows the pre-failure conditions for the slope stability modeling Profile 1 location (where the April 2020 failure occurred). The FOS (1.095), nearing unity, which correlates with the failure that occurred.
- Figure 5.2 (D) shows the inclusion of a cobble beach along the shoreline, regrading of the nearshore bluff slope, rebuilding the trailway at a lower elevation, and regrading the area of upland bluff that failed. Said improvements increase the FOS to 1.278.

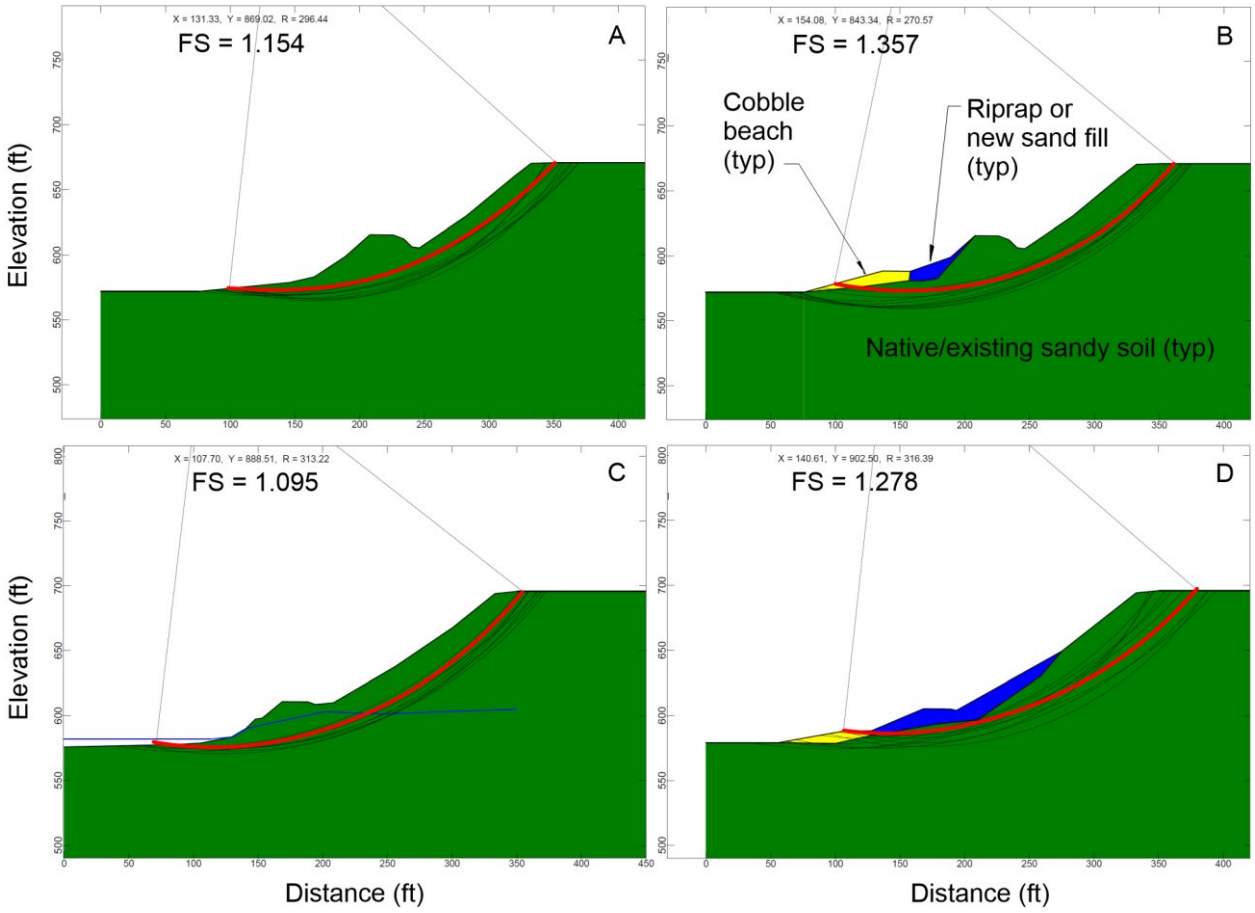

Figure 5.2: Mitigation Measures for Preliminary Site-Specific Purposes

5.1.3 Monitoring Approaches

Monitoring approaches generally include one or more of the following: 1) visual observation and logging of the ground, and 2) groundwater monitor wells, and 3) inclinometers installed at various locations on the bluff face. This list is not exhaustive and there may be others to consider.

5.2 Current Surface Drainage Observations

In further developing our analyses, certain areas where additional information may be useful were identified. One such area is that of the regional and/or perched groundwater tables possibly present in the vicinity of the trail. We used limited existing information concerning the regional ground water with respect to how those levels may affect the slope stability in the area. However, it is widely known that groundwater table elevation(s) may vary with time and season; both on an annual basis as well as cycles over the course of decades. For this reason, we suggest that a hydrogeologic study may be of benefit as long term solutions to stabilizing the slope are explored.

In the context of this site and needs for the study, we anticipate that a hydrogeological study would consist of the installation of a number of groundwater monitor wells throughout the area (not necessarily within the area of the slope or the slope movement). In a comprehensive hydrogeological study, as an example, monitoring wells (perhaps similar to those recently installed by MDOT) would be installed at areas including near the crest of the slope, near the existing elevation of the trail, and possibly in areas on the south side of US-31.

The goal of a detailed hydrological study would be to understand if there is a relationship between regional hydrology (including precipitation) and local ground water levels. This would be very important when interpreting the well monitoring data recently collected by MDOT. It is also possible that local ground water elevations are sensitive to swale features (located in the mid-slope of the bluff along the landward edge of the trailway), as shown in Figure 5.3. Installing additional ground water monitoring wells in the swale areas is recommended so that this data can be assessed and compared with other non-swale areas. The goal of this study is to better understand the issues causing high ground water levels in the slope (i.e. whether it is a regional or local phenomenon) as our slope stability modeling indicates the overall stability of the slope is very sensitive to ground water elevation.

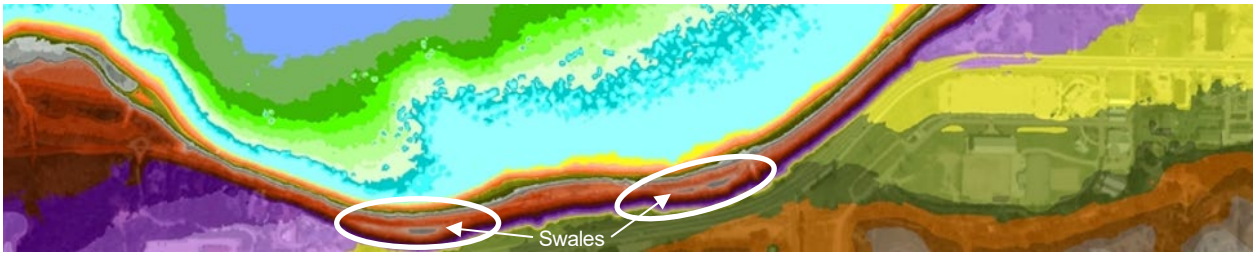

Figure 5.3: Mid-slope Swale Location

Table 5.1: Summary of Potential Mitigation Measures

Option	Category[3]	Description	Advantages	Disadvantages	Cost[4]
Toe revetment	RR/ MM	Stone revetment installed near the toe of the slope to provide both protection from wave action and/or to provide a heavy mass of earth materials to help further stabilize the slope.	Commonly used approach/widely accepted as a solid practice for stabilizing shoreline position. Helpful for both shallow and deep-seated failure concerns.	May not necessarily help solve localized/ ongoing failures well upslope of the toe, and construction access may be challenging.	H
Cobble Beach	RR/MM	Develop an expansive cobble beach along the shoreline to dissipate incoming wave energy and buttress the slope toe.	Maintains/ improves public shoreline access and common to this area. Helpful for both shallow and deep-seated failure concerns.	Requires large volume of stone material to provide adequate beach width and crest elevation.	H
Re-grading slope	RR/ MM	Slope flattening either on the bayside of the trail and/or on the roadside of the trail intended to improve overall stability of the slope overall or in localized zones.	Relatively common, construction equipment needed is readily available in the area. Helpful for both shallow and deep-seated failure concerns.	May involve a large amount of earthmoving, and construction access may be challenging.	H - VH
Trail elevation	MM	Alter (raise/lower) existing trail elevation in various areas along alignment to arrive at a slope geometry with greater stability.	Requires relatively common equipment available in the area.	May involve a large amount of earthmoving, and construction access may be challenging.	M-H
Surface drainage	MM	Construct controlled drainage elements (riprap-lined drainage ways, French drains, etc.) to control surface water/ precipitation as it seeks to reach the level of the lake.	Relatively common best management practice for storm water runoff. Helpful for both shallow and deep-seated failure concerns.	May require numerous drainage paths/areas along the trail adding to cost. Additional study required to determine locations needed.	M - H
Under drainage by gravity	MM	Construct/install horizontal drains near the toe of the slope to permanently draw groundwater down in the area.	High groundwater may be prevented, and water may be drained by non-mechanical means (by gravity).	Site access near the toe (for the equipment anticipated) may be limited, rather costly, there is a chance the groundwater will be lower than the	H-VH

[3] Category reference: RR = Remedial Repair; MM = Mitigation Measure; M = Monitoring.
[4] Comparative CAPEX cost reference: L = Low; M = Medium; H = High; VH = Very High.

Option	Category[3]	Description	Advantages	Disadvantages	Cost[4]
				drainage elements. Addresses mainly deep-seated failures.	
Under drainage by mechanical means	MM	Install vertical groundwater wells with submersible pump intended to permanently lower groundwater in the vicinity of the face of the slope.	Wells may be installed to very deep levels; well below the level of the bay, which may help lower the groundwater table further yet than the gravity system described above.	Requires electricity during the times of operation. May negatively affect existing groundwater, existing wells in the area. Addresses mainly deep-seated failures.	H-VH
Soil nails/ ground reinforcement	RR/ MM	Install steel elements in the ground to provide additional strength along a would-be failure surface to add stability to the slope.	These types of elements have been shown to add significant strength to a slope. May be applied to both shallow and deep failures.	Specialized equipment/contractors typically necessary, often relatively costly. More costly for application to mitigation of deep-seated failures.	H-VH
Vegetation	RR/ MM	Plants specifically intended to have exceptionally long root systems, native to the area, to help repair current slide areas and/ or other others area of concern (either before construction activity or soon after over bare soil).	Relatively easy to plant, may possibly be accomplished with groups of volunteers, roots for some plants may extend to five feet and greater.	May only be beneficial for relatively shallow slides, large area of planting potentially required. Helpful only for relatively shallow failures.	L-M
Groundwater Monitoring wells	M	Install additional groundwater monitoring wells to serve as a warning of high groundwater, and impending slope instability.	Monitoring wells offer reliable groundwater depths/ elevations. Groundwater has an important effect on slope stability (i.e. solid correlation to slope stability).	Although only moderately costly to install, they may foul up/fail over time. Some maintenance may be required. If remote measurements are taken, up-front costs (CAPEX) may be high. Helpful primarily for deep-seated failure mitigation.	M-H
Inclinometers	M	Install additional inclinometers in various area either believed to be prone to shallow or deep-seated failures and/or areas of special concern near structures.	May help warn of an impending failure well before the failure occurs, allows for real-time information about slope displacement.	Relatively costly to install and obtain measurements. If remote measurements are taken, upfront cost may be high. Often only used for deep-seated failures.	M-H
Visual inspection	M	Regular visual inspection along trail area, slope face, and crest noting evidence of tension cracks in the ground.	Relatively simple and cost effective to carry out with some minimal training for those involved. Beneficial for shallow and deep-seated failures.	Logging observations and maintaining records requires some level of time and managing to be effective. Surface features may not be an indication of actual internal stability.	L

As indicated in the table above, there are numerous potential mitigation measures that could be explored to address the ongoing issue, with varying costs. Our team developed initial design alternatives based on our findings to address areas experiencing ongoing issues related to shoreline instability and erosion. It is important to note that the alternative developed for the study are schematic in nature and additional data collection and study (as previously discussed) is recommended to advance these initial design alternatives.

Two initial design alternatives were developed for this study, as shown in Figure 5.4 and Figure 5.5.

A description of each is provided in Table 5.2 below:

Table 5.2: Initial Schematic Design Alternatives

Design Alternative	Description
Option1	This design alternative incorporates a continuous stone revetment structure along the shoreline to protect the toe from ongoing erosion associated with coastal processes. Regrading/ revegetating of the lower portion of the bluff (from the trailway to the revetment) is proposed for areas experiencing ongoing shallow failures. Similar improvements are proposed near the recent trailway damage and coastal bluff collapse (i.e. stone revetment and regrading of the nearshore slope), as well as the addition of cobble beach material along the shoreline (near the termination points of the revetment fronting the recent collapse). The elevation of the reconstructed trailway is lowered to reduce fill associated with the proposed repairs. Drainage infrastructure is also proposed within two existing swale areas located on the mid-slope of the bluff.
Option 2	This concept incorporates similar improvements along the shoreline for the trailway reconstruction and drainage infrastructure. The main difference between the two options is that Option 2 proposes constructing a continuous cobble beach along the shoreline (as opposed to a shoreline revetment). The cobble beach would provide the added benefit of maintaining/ improving pedestrian shoreline access throughout this reach of shoreline.

A complete preliminary drawing set for each option is provided in Appendix B.

Additional slope stability infrastructural improvements (i.e. under drainage by mechanical and/ or gravity means, and soil nails/ ground reinforcement, discussed in Table 5.1) – which are less commonly applied for this particular type of slope stabilization challenge – were not proposed in either option because the slope stability modeling results for shore-based measures alone (as shown in Figure 5.2) increased the FOS to (1.357 and 1.278), which is within/ nearing the approximate recommended FOS for a stable slope (i.e. 1.3 to 1.5). Additional infrastructural improvements (in addition to the currently proposed shore-based measures) could be considered to further increase the FOS for specific location, as needed. However, additional study is required to determine specific location/ extent of said infrastructure.

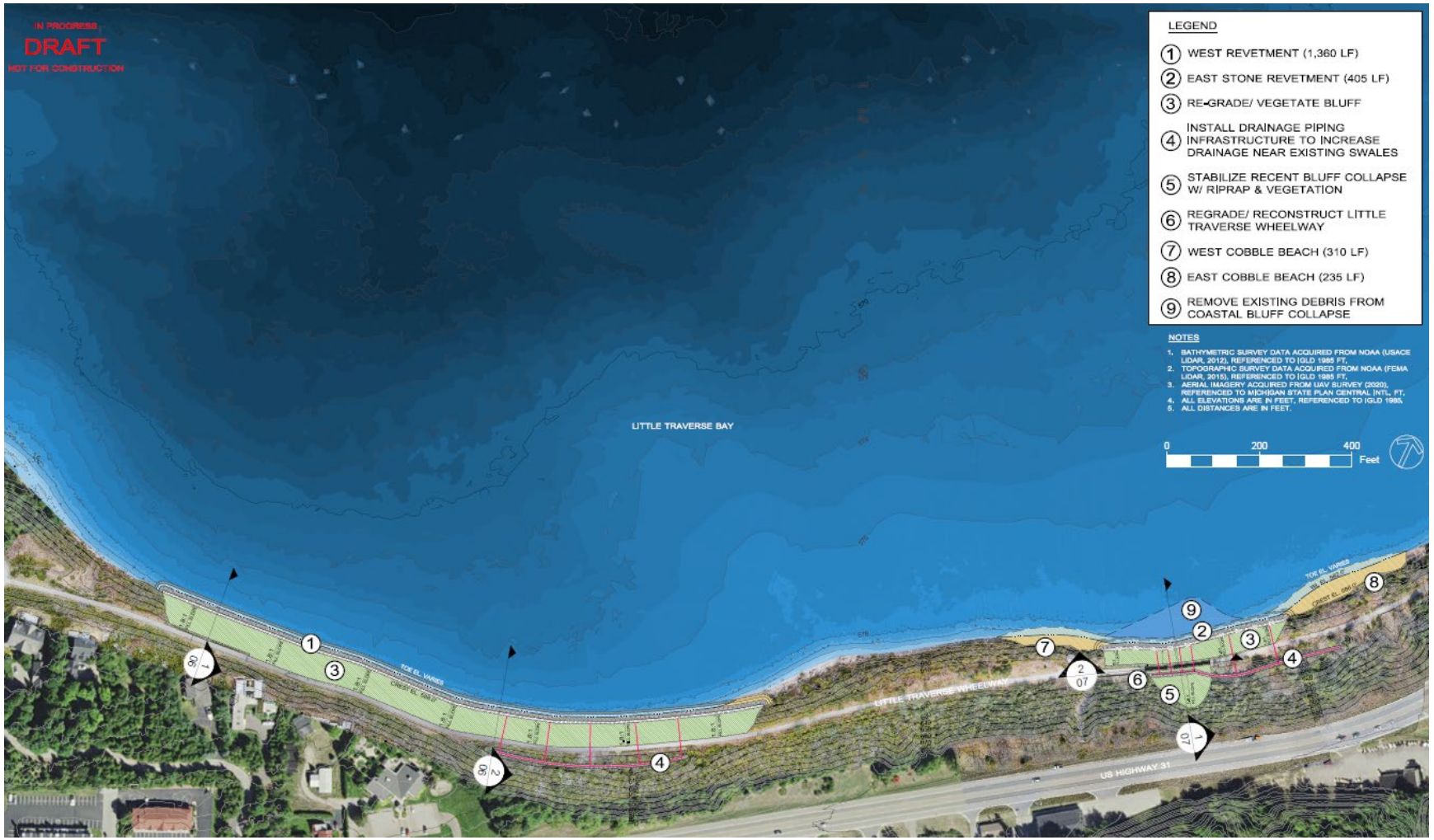

Figure 5.4: Initial Schematic Design (Option 1)

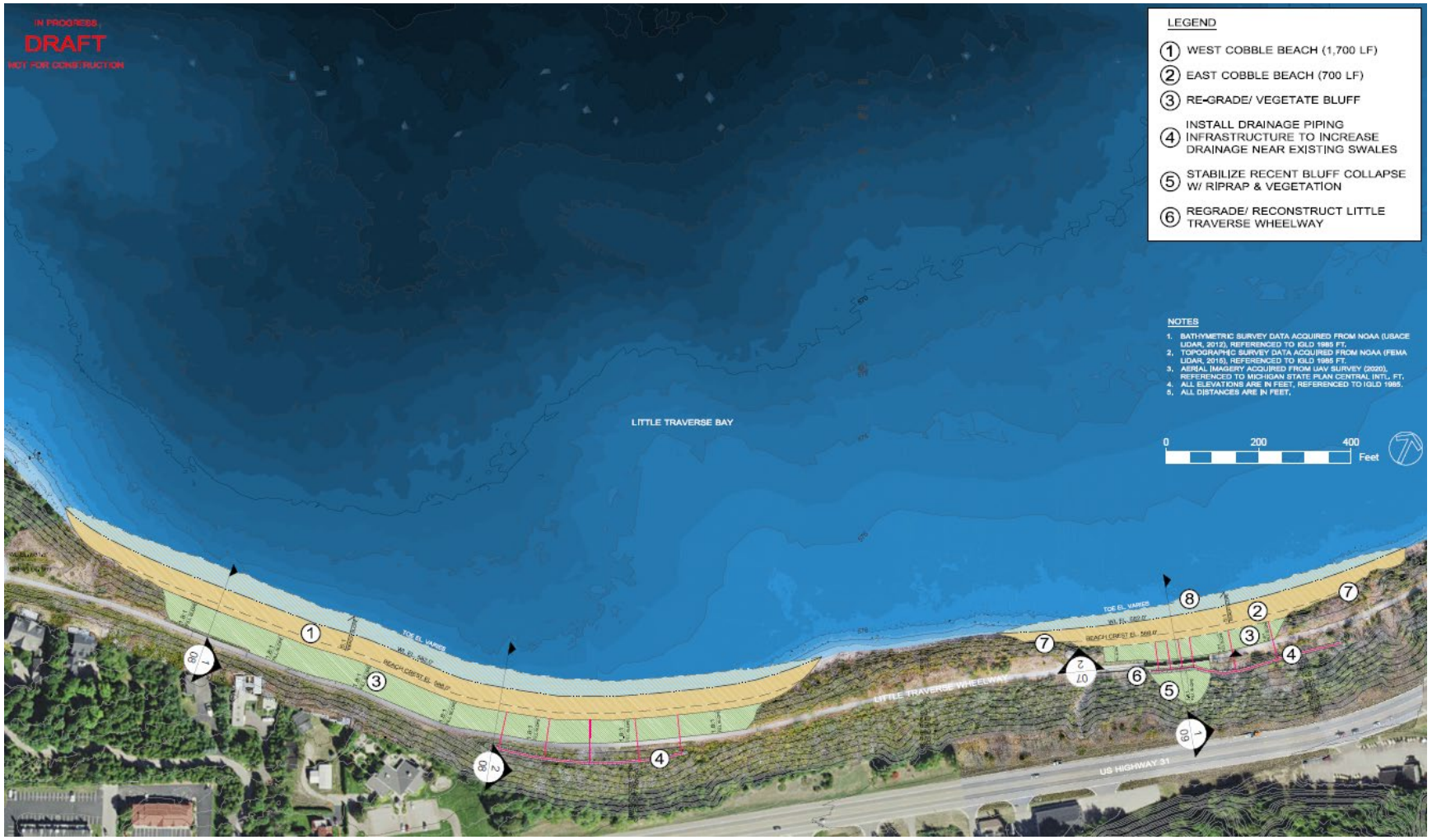

Figure 5.5: Initial Schematic Design (Option 2)

5.3 Opinion of Probable Construction Costs

An Engineer's Opinion of Probable Construction Cost (OPCC) was developed for each schematic design alternative (Options 1-2) to conduct a high-level order of magnitude, comparative feasibility assessment. The OPCC's are deemed Class 5 estimates, per the AACE International Cost Estimation Classification System based on the schematic nature of the design concepts, thus upper range (+30%) and lower range (-20%) variations have been provided for each OPCC. Itemized unit rates were developed based on coordination with local contractors and material suppliers, construction crew-based cost estimation software (MCASES MII), and Baird's in-house cost database. Construction material volumes were developed utilizing 3D CAD software (Autodesk Civil 3D).

OPCC summaries for Option 1 and Option 2 are provided in Table 5.3. Itemized OPCC's for each concept is provided in Appendix C.

Table 5.3: Initial Schematic Design Alternative OPCC

Site	OPCC	Lower range Estimate (-20%)	Upper range Estimate (+30%)
Option 1	$6.1M	$4.9M	$7.9M
Option 2	$7.8M	$6.2M	$10.1M

5.4 Permitting Process

The permitting process for the project will involve extensive communication with regulatory agencies and project stakeholders. This is necessary for the applicant to be fully compliant and for the regulatory agencies to obtain the information they need to make an informed decision. It is anticipated that the approach will involve the following steps:

1. Pre-Application Meeting – A meeting is needed with regulatory authorities for the purposes of introducing them to the project, confirming the type of permits needed, and early stage identification of potential issues.
2. Permit Application - To proceed with a shoreline revetment, a Joint Permit Application will be needed. This permit satisfies regulatory requirements from both the Michigan Department of Environment, Great Lakes and Energy (EGLE) and the USACE. Salient Points include:
    - The Michigan Natural Resources and Environmental Protection Act of 1994, Part 323 "Shorelands Protection and Management" is the applicable law pertaining to shoreline rehabilitation.
    - While this property is not located in a designated High Risk Erosion Area (per EGLE), the designations for said areas carry particularities that may need to be addressed in the permitting process. Per Part 323 Administrative Rules, R 281.22 High-risk erosion areas, (8), the permit application shall contain all of the following information:

      (a) A legal description of the property.

      (b) A description of the proposed permanent structure.

      (c) A sketch of the proposed site which shows the location of the proposed permanent structure in relation to the location of the property lines and prominent features.

      (d) The signature and address of the applicant.

Furthermore, per Part 323 Administrative Rules, R 281.22 High-risk erosion areas, (11), A special exception shall be granted, and a portion of the required setback distance waived, for the installation of an approved shore protection project if all of the following conditions are met:

(a) A local agency is contractually responsible for the perpetual care of the shore protection structure. The responsibility will be defined in a written agreement between the department and the local agency. The local agency shall agree to perform maintenance or repairs to maintain the integrity of the shore protection. The local agency shall submit to the department a financial plan for maintaining the structure.

(b) The shore protection structure is designed and constructed to meet or exceed a 50- year storm standard. The design and construction shall be certified by a professional engineer. If the structure is constructed in the waters of the Great Lakes or lies below the ordinary high watermark, a permit pursuant to the provisions of Act No. 247 of the Public Acts of 1955, as amended, being S322.701 et seq. of the Michigan Compiled Laws, shall be obtained for the shore protection structure.

(c) A favorable finding is made by the local agency, with input by the department, that a greater public good exists to support the use of a shore protection structure rather than a natural shoreline in terms of all of the following: (i) The preservation of fish and wildlife habitat. (ii) The value to the entire community of a natural shoreline as opposed to the value to the entire community of additional development that is made possible by the shore protection. (iii) The impact of the loss of sand movement along the shoreline. (iv) The impact on erosion of land in the immediate area of the shore protection structure. Before making the finding, the local agency shall hold a public hearing. Notice shall be sent to all riparians within 300 feet of the proposed shore protection structure and to the department.

(d) A favorable finding is made by the department that a greater public good exists to support the use of a shore protection structure rather than a natural shoreline in terms of all of the following: (i) The preservation of fish and wildlife habitat. (ii) Protection of the public trust. (iii) The impact of the loss of sand movement along the shoreline. (iv) The impact on the erosion of land in the immediate area of the shore protection structure.

(e) There is a minimum of 30 feet from the shore protection to any permanent structure. If the bluff or dune is unstable due to height, slope, wind erosion, or groundwater seepage, the department may require a setback of more than 30 feet or an engineered bluff or dune stabilization plan, or both. In areas of steep slopes, a greater setback may be necessary to provide access for maintenance equipment and a safe building site. If the parcel has existing permanent structures which are less than 30 feet from the proposed shore protection, there shall be sufficient access to permit the maintenance and repair of the shore protection.

(f) Shore protection is already a common feature of the shoreline lying within 1,000 feet of the proposed shore protection structure.

3. Permit Review - According to the EGLE, generally it will take from 30 to 90 days from the time the application is submitted until a decision is made. During this time, it may be required to respond to additional queries from the agencies, including an official response to public comments. These are usually requested in writing and could delay the permit determination decision.

5.5 Construction Access and Contractor/ Material Availability

Site access to construct the improvements presented in this study will be challenging due to the topography, shallow depths, and coastal conditions. In addition, contractors and stone material for shoreline work are in high demand due to high lake levels. These factors may contribute to inflation/ uncertainty of costs associated with future shoreline protection projects.

Appendix A

Historic Soil Borings

SUBSURFACE EXPLORATION LOG

Boring No.: 2
Sheet: 1 of 2

Project Name: Resort Bluff Trail
Client / Owner: Top of Michigan Trails Council
Site Location: Section 1 Emmet County
Boring Location: STA 118+00 Center Line of Trail

Job No.: 1030110
Architect/Engineer: Lucas C. Porath P.E.
Date of Drilling: 6/14/2005 0:00

Surface Elevation: 616.3 ft.

Unconfined Compression Strength (tons/sft) (X) | 1 | 2 | 3 | 4 | 5
Plastic Limit (%) | 10 | 20 | 30 | 40 | 50 — Water Content (%) — Liquid Limit (%)
Standard Penetration (N) (blows/foot) (O) | 10 | 20 | 30 | 40 | 50

Depth (feet)	Stand.Penetration Blows/ 6 inch	Recovery (%)	Sample Number	Sample Type	Description of Material	Remarks
					Dark brown medium SAND (SP) with gravel/cobble and rock - dry	
	2 2 2	75	1	SS	Light brown medium SAND (SP) trace gravel - dry - loose	
5	3 3 3	0	N/A	SS		
10	1 1 1	50	2	SS	Light brown medium-coarse SAND (SP) trace gravel - very loose	
15	2 2 2	0	N/A	SS	(SAND in tip)	
20	6 6 6	10	3	SS	Light brown medium SAND (SP) with gravel/cobble dry - medium dense	
25						

The stratification lines represent approximate boundry lines between soil types. The material descriptions and strata lines are based on split spoon sample intervals and cuttings from the auger flights.

WL	Rig/Foreman:	
WL	Logged by: Anthony Prantera	
WL	Approved by:	

SUBSURFACE EXPLORATION LOG

Boring No.: 3
Sheet: 1 of 2

Project Name: Resort Bluff Trail
Client / Owner: Top of Michigan Trails Council
Site Location: Section 1 Emmet County
Boring Location: Top of Bluff Offset from STA 118+00

Job No.: 1030110
Architect/Engineer: Lucas C. Porath P.E.
Date of Drilling: 6/9/2005 0:00

Surface Elevation: 676.3 ft.

Unconfined Compression Strength (tons/sft) (X)
I 1 I 2 I 3 I 4 I 5

Plastic Limit (%) Water Content (% Liguid Limit (%)
I 10 I 20 I 30 I 40 I 50

Standard Penetration (N) (blows/foot) (O)
I 10 I 20 I 30 I 40 I 50

Depth (feet)	Stand. Penetration Blows/ 6 inch	Recovery (%)	Sample Number	Sample Type	Description of Material	Remarks
					6" Topsoil	
					Light brown medium SAND (SP) with gravel/cobble - dry	
					Dense	
	15					
	25	100	1	SS		
	25					
5						
	10					
	20	100	2	SS	Rock in spoon tip	4" Penetration
	12					1" Penetration
	10					
	11	5	3	SS	Rock in spoon tip	
	12					
10						
	5				Light brown medium SAND (SP) - dry - medium dense	
	8	100	4	SS		
	8					
	15				Light brown medium SAND (SP) - dry - very dense	
	25	100	5	SS		N>50 N=54
15	29					
	10					
	15	70	6	SS		
20	30					
					Light brown medium-coarse SAND (SP)	
					with gravel - dry (Rocky drill) - dense	
	15				Light brown medium SAND (SP) trace gravel - very dense	
	30	100	7	SS		N>50 N=63
25	33					

The stratification lines represent approximate boundry lines between soil types. The material descriptions and strata lines are based on split spoon sample intervals and cuttings from the auger flights.

WL	Rig/Foreman:			
WL	Logged by:			
WL	Approved by:			

SUBSURFACE EXPLORATION LOG

Boring No.: 4
Sheet: 1 of 1

Project Name: Resort Bluff Trail
Client / Owner: Top of Michigan Trails Council
Site Location: Section 1 Emmet County
Boring Location: STA 115+00 Center Line of Trail

Job No.: 1030110
Architect/Engineer: Lucas C. Porath P.E.
Date of Drilling: 6/14/2005 0:00

Surface Elevation: 619 ft.

Unconfined Compression Strength (tons/sft) (X)
I 1 I 2 I 3 I 4 I 5
Plastic Limit (%) Water Content (%) Liguid Limit (%)
I 10 I 20 I 30 I 40 I 50
Standard Penetration (N) (blows/foot) (O)
I 10 I 20 I 30 I 40 I 50

Depth (feet)	Stand.Penetration Blows/ 6 inch	Recovery (%)	Sample Number	Sample Type	Description of Material	Remarks
					Brown medium SAND (SP) trace gravel - dry	
	4 2 2	90	1	SS	Light brown fine SAND (SP) - dry - loose	
5	2 2 4	100	2	SS		
	5 2 2	100	3	SS		
10	8 7 10	100	4	SS	Light brown fine SAND (SP) - dry - Medium dense	
					Very Rocky - large cobble	
15					No Sample - driving direct on rock	
20					No Sample - driving direct on rock	
					Rock Refusal @ 22 ft.	
25						

The stratification lines represent approximate boundry lines between soil types. The material descriptions and strata lines are based on split spoon sample intervals and cuttings from the auger flights.

WL	Rig/Foreman:	
WL	Logged by:	
WL	Approved by:	

SUBSURFACE EXPLORATION LOG

Boring No.: 6
Sheet: 1 of 3

Project Name: Resort Bluff Trail
Client / Owner: Top of Michigan Trails Council
Site Location: Section 1 Emmet County
Boring Location: STA 129+50 Center Line of Trail

Job No.: 1030110
Architect/Engineer: Lucas C. Porath P.E.
Date of Drilling: 6/13/2005 0:00

Surface Elevation: 614 ft.

Unconfined Compression Strength (tons/sft) (X)
I 1 I 2 I 3 I 4 I 5
Plastic Limit (%) Water Content (%) Liguid Limit (%)
I 10 I 20 I 30 I 40 I 50
Standard Penetration (N) (blows/foot) (O)
I 10 I 20 I 30 I 40 I 50

Depth (feet)	Stand.Penetration Blows/ 6 inch	Recovery (%)	Sample Number	Sample Type	Description of Material	Remarks
					Light brown fine SAND (SP) - dry	
	7 11 16	100	1 2	SS	4" Brown Clay (CH) - dry Light brown fine SAND (SP) - dry - Medium dense	x>4.5
5	7 13 16	100	3	SS		
	8 13 15	100	4	SS		
10	7 13 14	100	5	SS		
15	14 18 23	100	6	SS	Light brown fine SAND (SP) - dry - Dense	
20	12 14 15	100	7	SS	Light brown fine SAND (SP) - saturated - Medium Dense	
25						

The stratification lines represent approximate boundry lines between soil types. The material descriptions and strata lines are based on split spoon sample intervals and cuttings from the auger flights.

WL	Rig/Foreman:	
WL	Logged by:	
WL	Approved by:	

SUBSURFACE EXPLORATION LOG

Boring No.: 7
Sheet: 1 of 3

Project Name: Resort Bluff Trail
Client / Owner: Top of Michigan Trails Council
Site Location: Section 1 Emmet County
Boring Location: Top of Bluff Offset from STA 129+50

Job No.: 1030110
Architect/Engineer: Lucas C. Porath P.E.
Date of Drilling: 6/10/2005 0:00

Surface Elevation: 691.6 ft.

Unconfined Compression Strength (tons/sft) (X)
I 1 I 2 I 3 I 4 I 5
Plastic Limit (%) Water Content (%) Liguid Limit (%)
I 10 I 20 I 30 I 40 I 50
Standard Penetration (N) (blows/foot) (O)

Depth (feet)	Stand.Penetration Blows/ 6 inch	Recovery (%)	Sample Number	Sample Type	Description of Material	I 10 I 20 I 30 I 40 I 50	Remarks
					Brown fine-medium SAND (SP) - dry - loose		
	3 3 4	100	1	SS		o	
5	4 4 4	100	2	SS		o	
					Light brown meduim SAND (SP) trace gravel - dry - loose		
	6 6 7	100	3	SS	Light brown fine SAND (SP) - dry - medium dense	o	
10	7 8 11	0	N/A	SS		o	
15	7 13 14	100	4	SS		o	
20	10 14 17	100	5	SS	Light brown fine SAND (SP) - dry - Dense	o	
25	10						

The stratification lines represent approximate boundry lines between soil types. The material descriptions and strata lines are based on split spoon sample intervals and cuttings from the auger flights.

WL	Rig/Foreman:	
WL	Logged by:	
WL	Approved by:	

Appendix B

Schematic Design Drawings

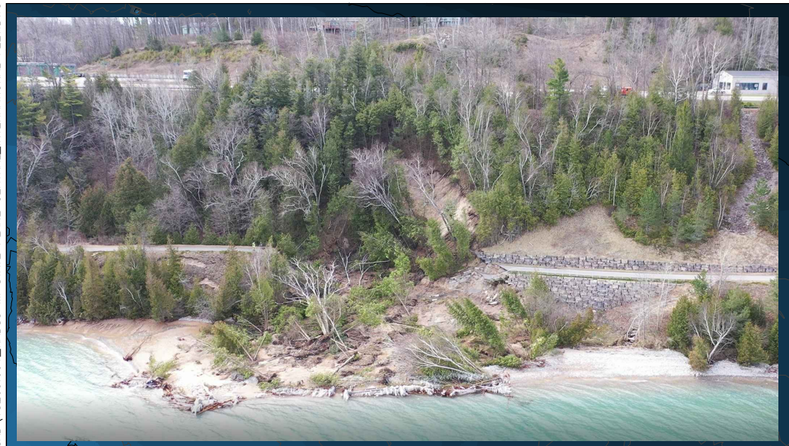

PHOTO 1
APRIL 13, 2020 COASTAL BLUFF COLLAPSE

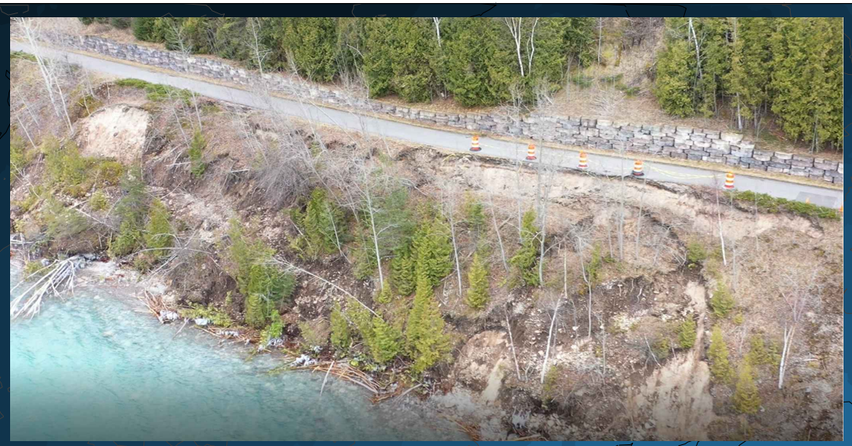

PHOTO 2
ONGOING BLUFF EROSION (SLOUGHING)

LEGEND

1. LITTLE TRAVERSE WHEELWAY
2. ONGOING BLUFF EROSION (SLOUGHING)
3. EXISTING BLUFF SWALE
4. SHORELINE OVERLOOK STRUCTURE
5. APRIL 13, 2020 COASTAL BLUFF COLLAPSE EXTENTS
6. EXISTING DRAINAGE INFRASTRUCTURE

NOTES

1. BATHYMETRIC SURVEY DATA ACQUIRED FROM NOAA (USACE LIDAR, 2012), REFERENCED TO IGLD 1985 FT.
2. TOPOGRAPHIC SURVEY DATA ACQUIRED FROM NOAA (FEMA LIDAR, 2015), REFERENCED TO IGLD 1985 FT.
3. AERIAL IMAGERY ACQUIRED FROM UAV SURVEY (2020), REFERENCED TO MICHIGAN STATE PLAN CENTRAL INTL. FT.
4. ALL ELEVATIONS ARE IN FEET, REFERENCED TO IGLD 1985.
5. ALL DISTANCES ARE IN FEET.

X PHOTO LOCATION MARKER

0 200 400 Feet

LITTLE TRAVERSE BAY

LITTLE TRAVERSE WHEELWAY

US HIGHWAY 31

EXISTING CONDITIONS

PETOSKEY SLOPE FAILURE STUDY

Project Number: 13269.601-SKT-01

Date: 2020-08-26

Baird.

C:\USERS\RAGNEW\DESKTOP\13269.601_FIELDWORK\07_CAD\13269.601_NAD83 MI STATE PLANE CENTRAL_INTERNATIONAL FEET.DWG

Date Plotted: 8/26/2020 3:41:50 PM

IN PROGRESS

DRAFT

NOT FOR CONSTRUCTION

LEGEND

1. WEST REVETMENT (1,360 LF)
2. EAST STONE REVETMENT (405 LF)
3. RE-GRADE/ VEGETATE BLUFF
4. INSTALL DRAINAGE PIPING INFRASTRUCTURE TO INCREASE DRAINAGE NEAR EXISTING SWALES
5. STABILIZE RECENT BLUFF COLLAPSE W/ RIPRAP & VEGETATION
6. REGRADE/ RECONSTRUCT LITTLE TRAVERSE WHEELWAY
7. WEST COBBLE BEACH (310 LF)
8. EAST COBBLE BEACH (235 LF)
9. REMOVE EXISTING DEBRIS FROM COASTAL BLUFF COLLAPSE

NOTES

1. BATHYMETRIC SURVEY DATA ACQUIRED FROM NOAA (USACE LiDAR, 2012), REFERENCED TO IGLD 1985 FT.
2. TOPOGRAPHIC SURVEY DATA ACQUIRED FROM NOAA (FEMA LiDAR, 2015), REFERENCED TO IGLD 1985 FT.
3. AERIAL IMAGERY ACQUIRED FROM UAV SURVEY (2020), REFERENCED TO MICHIGAN STATE PLAN CENTRAL INTL. FT.
4. ALL ELEVATIONS ARE IN FEET, REFERENCED TO IGLD 1985.
5. ALL DISTANCES ARE IN FEET.

0 200 400 Feet

LITTLE TRAVERSE BAY

LITTLE TRAVERSE WHEELWAY

US HIGHWAY 31

TOE EL. VARIES
CREST EL. 588.0

TOE EL. VARIES
WL EL. 582.0
CREST EL. 588.0

90 1

90 2

07 2

07 1

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Date Plotted: 8/26/2020 10:10:49 PM

PROPOSED PLAN - STONE REVETMENT (OPTION 1)

PETOSKEY SLOPE FAILURE STUDY

Project Number: 13269.601-SKT-02

Date: 2020-08-26

Baird.

IN PROGRESS

DRAFT

NOT FOR CONSTRUCTION

LEGEND

1. WEST COBBLE BEACH (1,700 LF)
2. EAST COBBLE BEACH (700 LF)
3. RE-GRADE/ VEGETATE BLUFF
4. INSTALL DRAINAGE PIPING INFRASTRUCTURE TO INCREASE DRAINAGE NEAR EXISTING SWALES
5. STABILIZE RECENT BLUFF COLLAPSE W/ RIPRAP & VEGETATION
6. REGRADE/ RECONSTRUCT LITTLE TRAVERSE WHEELWAY

NOTES

1. BATHYMETRIC SURVEY DATA ACQUIRED FROM NOAA (USACE LiDAR, 2012), REFERENCED TO IGLD 1985 FT.
2. TOPOGRAPHIC SURVEY DATA ACQUIRED FROM NOAA (FEMA LiDAR, 2015), REFERENCED TO IGLD 1985 FT.
3. AERIAL IMAGERY ACQUIRED FROM UAV SURVEY (2020), REFERENCED TO MICHIGAN STATE PLAN CENTRAL INTL. FT.
4. ALL ELEVATIONS ARE IN FEET, REFERENCED TO IGLD 1985.
5. ALL DISTANCES ARE IN FEET.

LITTLE TRAVERSE BAY

0 200 400 Feet

TOE EL. VARIES

WL EL. 582.0'

BEACH CREST EL. 588.0'

LITTLE TRAVERSE WHEELWAY

US HIGHWAY 31

PROPOSED PLAN - COBBLE BEACH (OPTION 2)

PETOSKEY SLOPE FAILURE STUDY

Project Number: 13269.601-SKT-03

Date: 2020-08-26

Baird.

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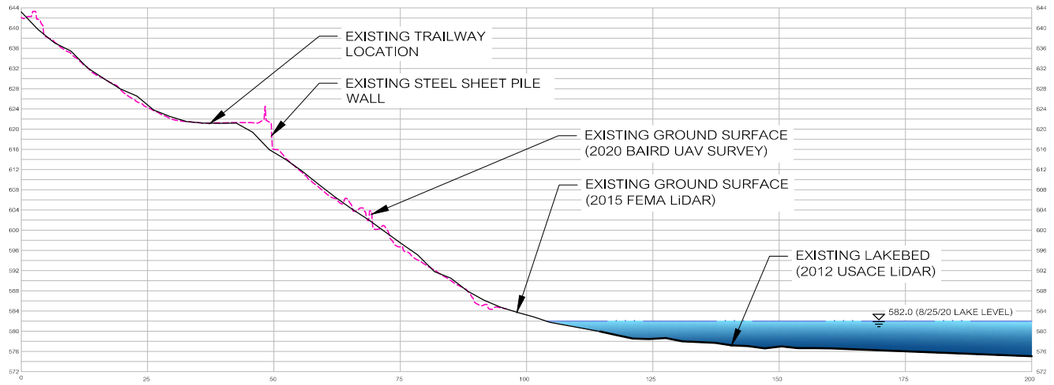
Date Plotted: 8/26/2020 10:09:37 PM

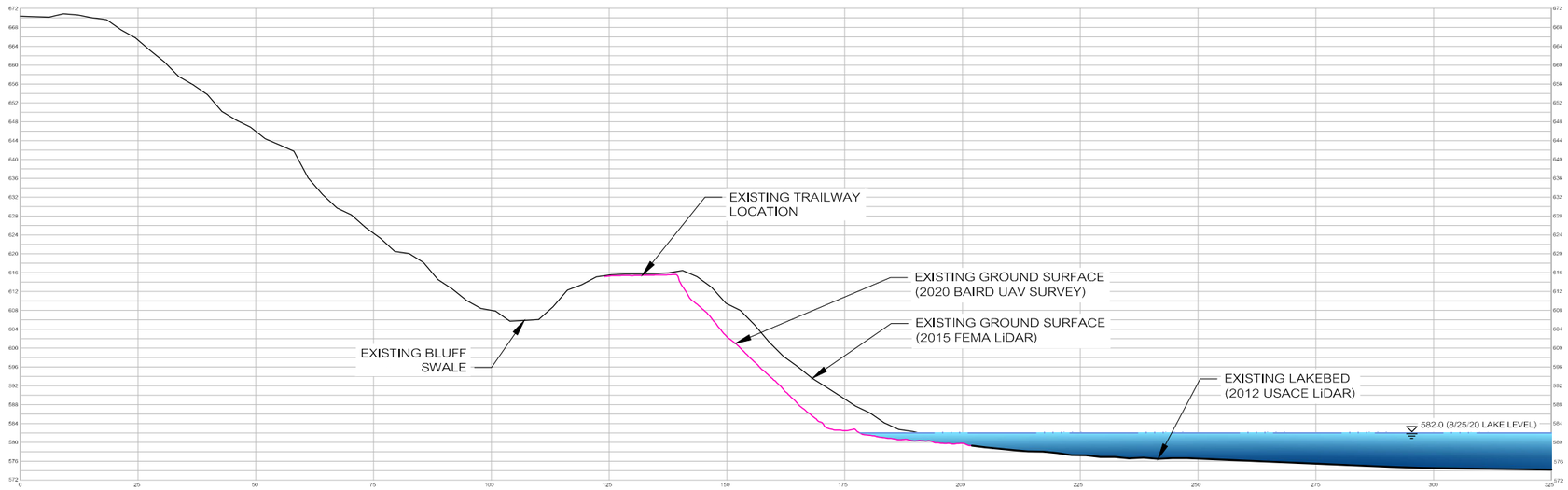
IN PROGRESS

DRAFT

NOT FOR CONSTRUCTION



1/04 PROFILE: SECTION THROUGH EXISTING STEEL SHEET PILE WALL



2/04 PROFILE: SECTION THROUGH EXISTING NEARSHORE BLUFF SLOUGH

NOTES:
1. ALL ELEVATIONS ARE REFERENCE TO FT. IGLD85
2. ALL DISTANCES ARE IN FEET.

EXISTING PROFILES

PETOSKEY SLOPE FAILURE STUDY

Project Number: 13269.601-SKT-04

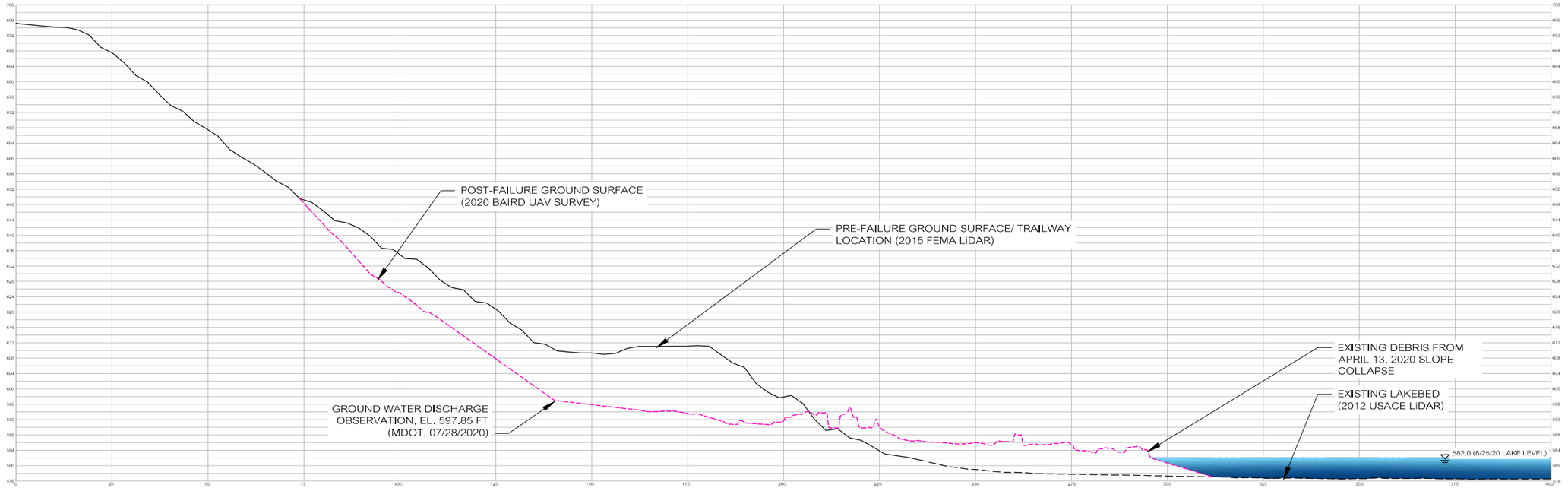
Date: 2020-08-26

Baird.

IN PROGRESS

DRAFT

NOT FOR CONSTRUCTION



1/05 PROFILE: EXISTING SLOPE FAILURE AREA

NOTES:
1. ALL ELEVATIONS ARE REFERENCE TO FT. IGLD85
2. ALL DISTANCES ARE IN FEET.

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Date Plotted: 8/26/2020 2:44:38 AM

EXISTING PROFILE - SLOPE FAILURE AREA

PETOSKEY SLOPE FAILURE STUDY

Project Number: 13269.601-SKT-05

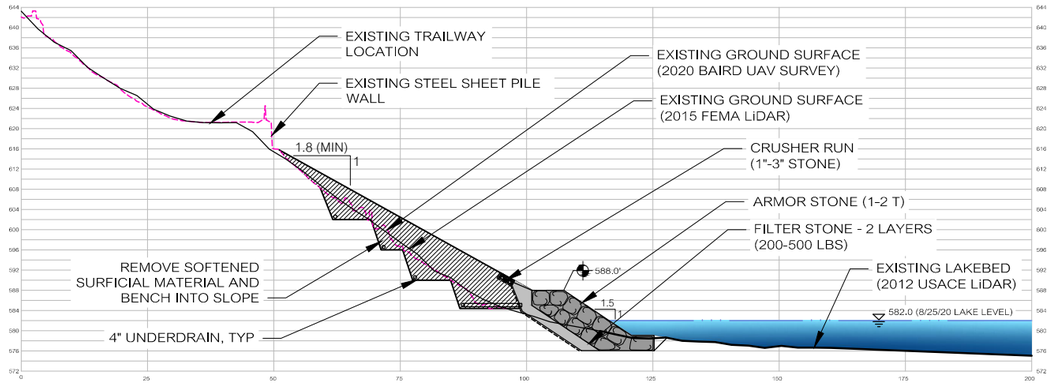
Date: 2020-08-26

Baird.

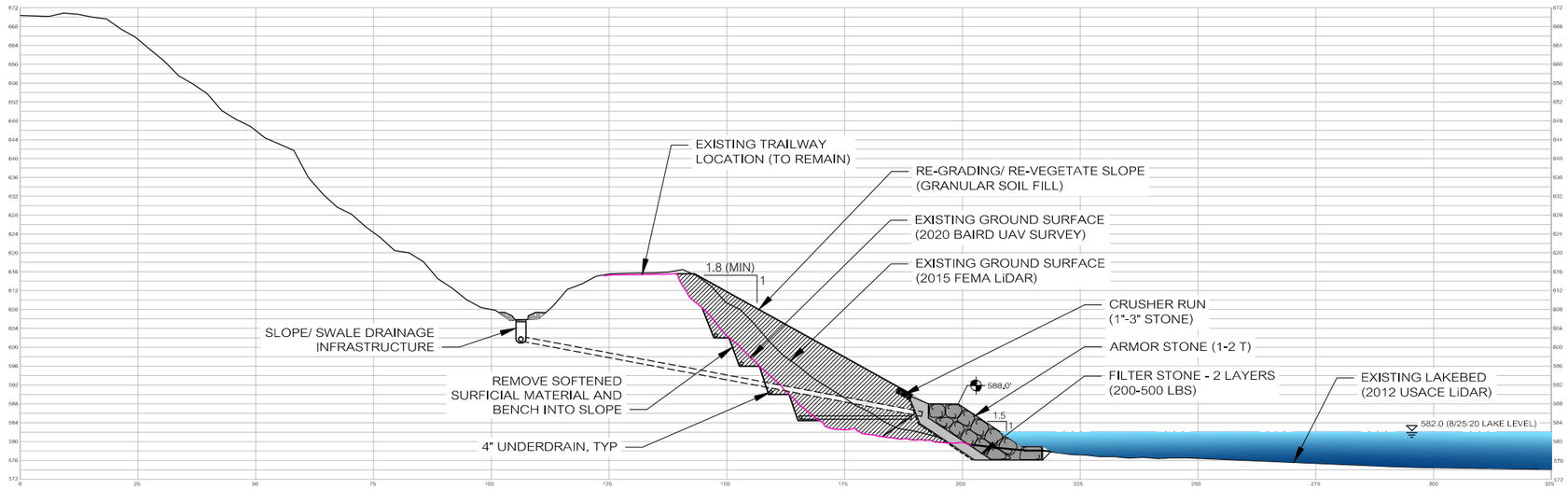
IN PROGRESS

DRAFT

NOT FOR CONSTRUCTION



1/06 PROFILE: SECTION THROUGH EXISTING STEEL SHEET PILE WALL



2/06 PROFILE: SECTION THROUGH EXISTING NEARSHORE BLUFF SLOUGH

NOTES:
1. ALL ELEVATIONS ARE REFERENCE TO FT. IGLD85
2. ALL DISTANCES ARE IN FEET.

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Date Plotted: 8/26/2020 2:45:03 AM

PROPOSED PROFILES - STONE REVETMENT (OPTION 1)

PETOSKEY SLOPE FAILURE STUDY

Project Number: 13269.601-SKT-06

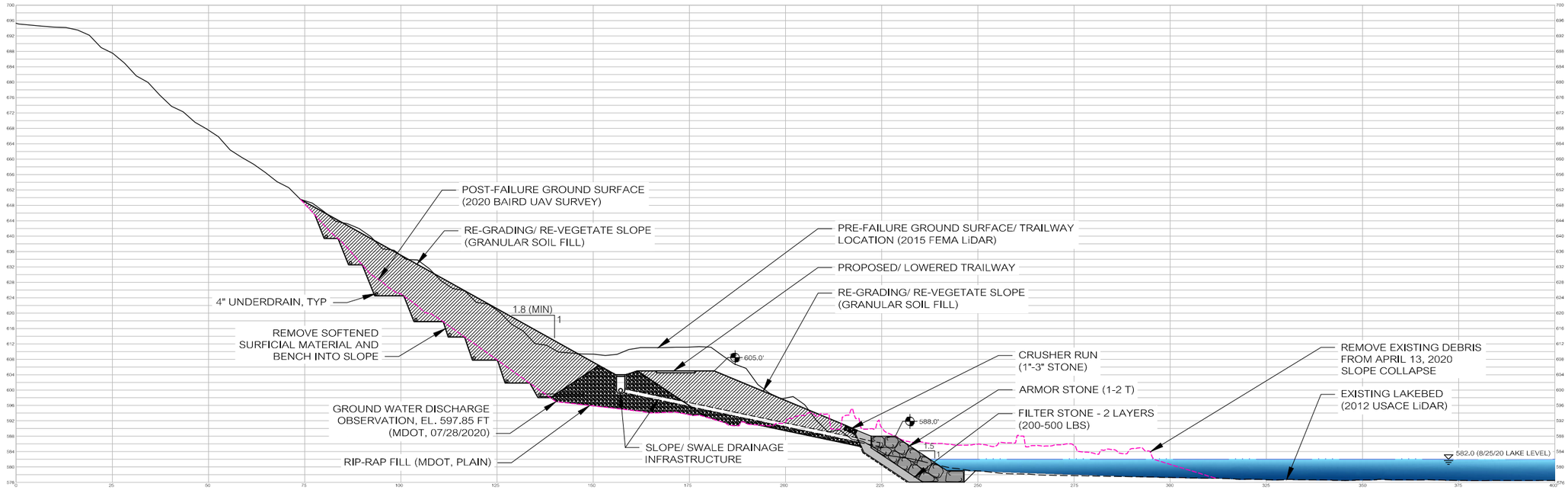
Date: 2020-08-26

Baird.

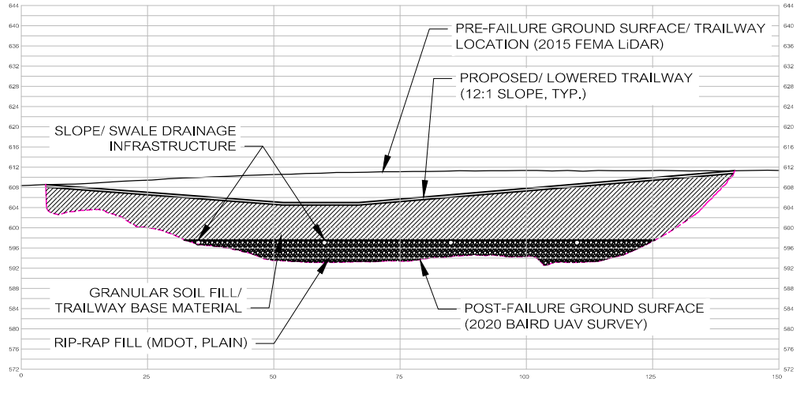
IN PROGRESS

DRAFT

NOT FOR CONSTRUCTION



1/07 PROFILE: PROPOSED SLOPE FAILURE AND TRAILWAY REHABILITATION



2/07 PROFILE: PROPOSED LOWERED TRAILWAY

NOTES:
1. ALL ELEVATIONS ARE REFERENCE TO FT. IGLD85
2. ALL DISTANCES ARE IN FEET.

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Date Plotted: 8/26/2020 2:50:54 AM

PROPOSED PROFILE - SLOPE FAILURE AREA (OPTION 1)

PETOSKEY SLOPE FAILURE STUDY

Project Number: 13269.601-SKT-07

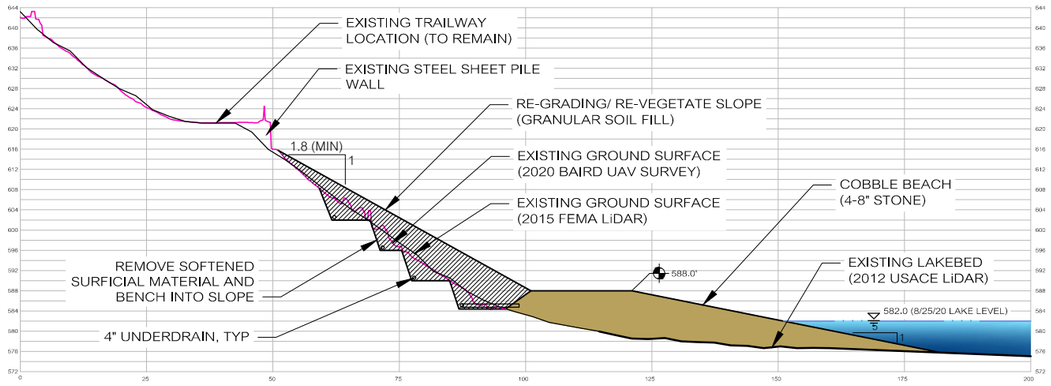
Date: 2020-08-26

Baird.

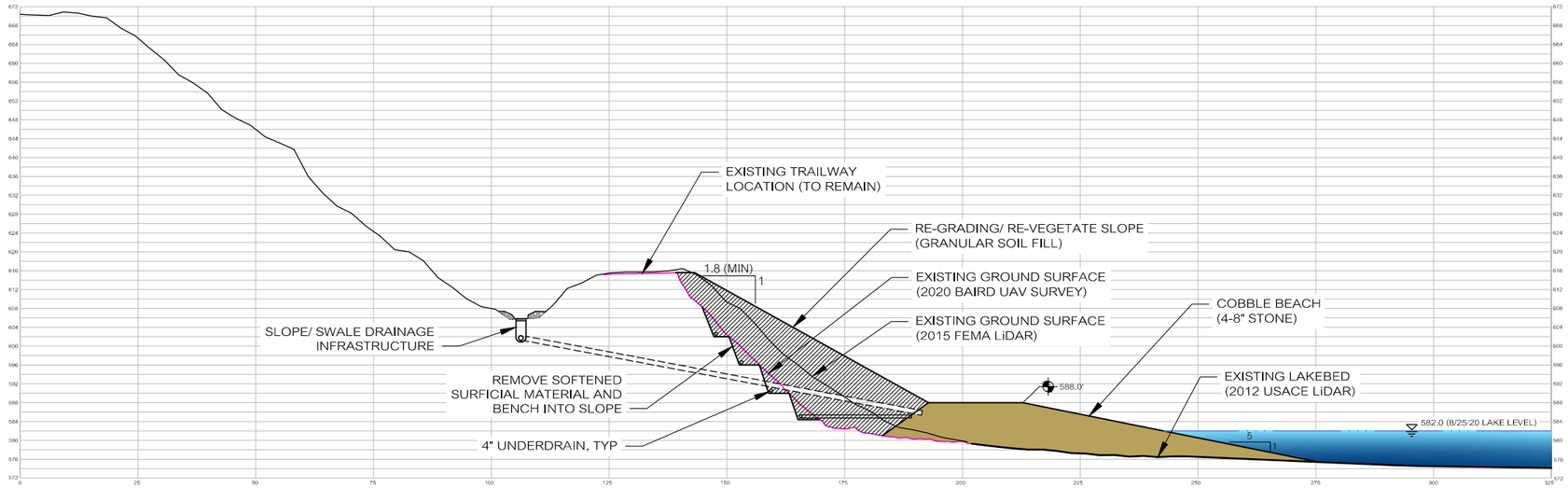
IN PROGRESS

DRAFT

NOT FOR CONSTRUCTION



1/08 PROFILE: SECTION THROUGH EXISTING STEEL SHEET PILE WALL



2/08 PROFILE: SECTION THROUGH EXISTING NEARSHORE BLUFF SLOUGH

NOTES:
1. ALL ELEVATIONS ARE REFERENCE TO FT. IGLD85
2. ALL DISTANCES ARE IN FEET.

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Date Plotted: 8/26/2020 2:52:03 AM

PROPOSED PROFILES - COBBLE BEACH (OPTION 2)

PETOSKEY SLOPE FAILURE STUDY

Project Number: 13269.601-SKT-08

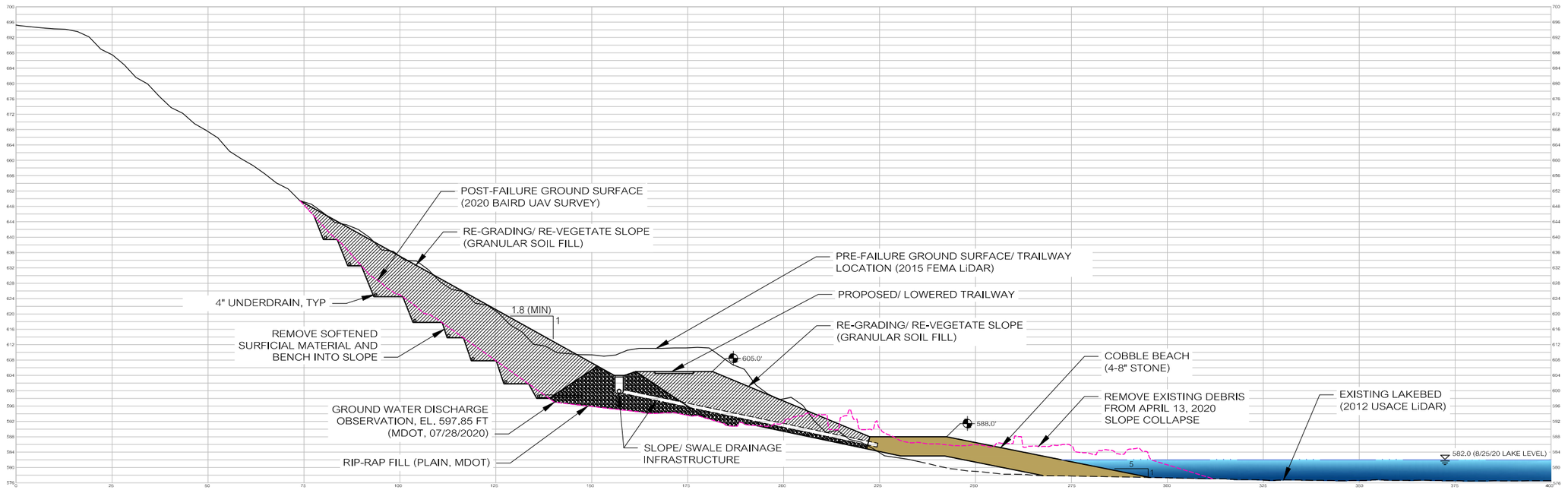
Date: 2020-08-26

Baird.

IN PROGRESS

DRAFT

NOT FOR CONSTRUCTION



1/09 PROFILE: PROPOSED SLOPE FAILURE AND TRAILWAY REHABILITATION

NOTES:
1. ALL ELEVATIONS ARE REFERENCE TO FT. IGLD85
2. ALL DISTANCES ARE IN FEET.

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Date Plotted: 8/26/2020 10:06:22 PM

PROPOSED PROFILE - SLOPE FAILURE AREA (OPTION 2)

PETOSKEY SLOPE FAILURE STUDY

Project Number: 13269.601-SKT-09

Date: 2020-08-26

Baird.

Appendix C

Engineer's Opinion of Probable Construction Costs

Petoskey Slope Stability

Baird. Innovation Engineered.

Opinion of Probable Construction Cost (OPCC)
Option 1 - Schematic Design

Project No 13269.601
Date: 08/26/2020
RevA

Item	Unit	Quantity	Unit Cost	Extension	Sub Total
Mobilization/Demobilization (Assumes Land-Based Construction)	**ALLOW**	**1**	**$400,000**	**$400,000**	**$400,000**
West Revetment					
A NEW ARMOR STONE (1-2T)	**TON**	**10,132**	**$125**	**$1,266,458**	
B FILTER STONE (200-500 LBS)	**TON**	**3,703**	**$100**	**$370,260**	
D EXCAVATION, REGRADING & DISPOSAL	**CY**	**5,556**	**$30**	**$166,667**	
E GEOTEXTILE	**SQ FT**	**57,120**	**$1.25**	**$71,400**	
F CRUSHER RUN	**CY**	**151**	**$20**	**$3,022**	
G GRANULAR SOIL FILL	**CY**	**15,400**	**$25**	**$385,000**	
H NEARSHORE SLOPE DRAINAGE INFRASTRUCTURE	**LS**	**1**	**$85,000**	**$85,000**	
I REPAVE TRAILWAY	**SQ YD**	**1,440**	**$35**	**$50,400**	
J LANDSCAPING/ NATIVE PLANTINGS (SEEDED)	**SQ YD**	**7,796**	**$10**	**$77,960**	
K SWALE DRAINAGE INFRASTRUCTURE	**LS**	**1**	**$120,000**	**$120,000**	**$2,596,166**
East Revetment & Landscape Improvements					
A NEW ARMOR STONE (1-2T)	**TON**	**3,017**	**$125**	**$377,144**	
B FILTER STONE (200-500 LBS)	**TON**	**1,103**	**$100**	**$110,261**	
C EXCAVATION, REGRADING & DISPOSAL	**CY**	**4,167**	**$30**	**$125,009**	
D GEOTEXTILE	**SQ FT**	**17,010**	**$1.25**	**$21,263**	
E CRUSHER RUN	**CY**	**70**	**$20**	**$1,403**	
F COBBLE BEACH STONE (4-8" STONE)	**TON**	**2,965**	**$70**	**$207,552**	
G GRANULAR SOIL FILL	**CY**	**8,055**	**$25**	**$201,374**	
H RIPRAP FILL	**TON**	**2,312**	**$75**	**$173,423**	
I NEARSHORE SLOPE DRAINAGE INFRASTRUCTURE	**LS**	**1**	**$25,000**	**$25,000**	
J REPAVE TRAILWAY	**SQ YD**	**415**	**$35**	**$14,525**	
K LANDSCAPING/ NATIVE PLANTINGS (SEEDED)	**SQ YD**	**2,398**	**$10**	**$23,977**	
L SWALE DRAINAGE INFRASTRUCTURE	**LS**	**1**	**$100,000**	**$100,000**	**$1,380,931**

Sub Total	**$4,377,097**
Overhead & Profit 15%	**$656,565**
Bond 1%	**$43,771**
Contingency 20%	**$1,015,487**
Total	**$6,092,919**

ITEMS NOT INCLUDED:

ADDITIONAL PERMITTING, FINAL DESIGN AND ENGINEERING.
TURBIDITY CURTAIN (PER REGULATORY AGENCY REQUIREMENTS)
ADDITIONAL BATHYMETRIC SURVEYS
ADDITIONAL SLOPE STABILITY INFRASTRUCTURE (I.E. SOIL NAILS)

Lower Range Estimate (-20%)	**$4,874,335**
Upper Range Estimate (+30%)	**$7,920,795**

Petoskey Slope Stability

Baird. Innovation Engineered.

Opinion of Probable Construction Cost (OPCC)
Option 2 - Schematic Design

Project No 13269.601
Date: 08/26/2020
RevA

Item	Unit	Quantity	Unit Cost	Extension	Sub Total
Mobilization/Demobilization (Assumes Land-Based Construction)	**ALLOW**	**1**	**$500,000**	**$500,000**	**$500,000**
West Cobble Beach					
A COBBLE BEACH STONE (4-8" STONE)	**TON**	**38,788**	**$70**	**$2,715,145**	
B EXCAVATION, REGRADING & DISPOSAL	**CY**	**5,556**	**$30**	**$166,667**	
C GRANULAR SOIL FILL	**CY**	**15,400**	**$25**	**$385,000**	
D NEARSHORE SLOPE DRAINAGE INFRASTRUCTURE	**LS**	**1**	**$85,000**	**$85,000**	
E REPAVE TRAILWAY	**SQ YD**	**1,440**	**$35**	**$50,400**	
F LANDSCAPING/ NATIVE PLANTINGS (SEEDED)	**SQ YD**	**7,796**	**$10**	**$77,960**	
G SWALE DRAINAGE INFRASTRUCTURE	**LS**	**1**	**$120,000**	**$120,000**	**$3,600,172**
Eastern Cobble Beach & Landscape Improvements					
A COBBLE BEACH STONE (4-8" STONE)	**TON**	**11,887**	**$70**	**$832,080**	
B EXCAVATION, REGRADING & DISPOSAL	**CY**	**4,167**	**$30**	**$125,009**	
C RIPRAP FILL	**TON**	**2,312**	**$75**	**$173,423**	
D GRANULAR SOIL FILL	**CY**	**8,055**	**$25**	**$201,374**	
E NEARSHORE SLOPE DRAINAGE INFRASTRUCTURE	**LS**	**1**	**$25,000**	**$25,000**	
F LANDSCAPING/ NATIVE PLANTINGS (SEEDED)	**SQ YD**	**2,571**	**$10**	**$25,706**	
G REPAVE TRAILWAY	**SQ YD**	**415**	**$35**	**$14,525**	
H SWALE DRAINAGE INFRASTRUCTURE	**LS**	**1**	**$100,000**	**$100,000**	**$1,497,117**
				Sub Total	**$5,597,288**
				Overhead & Profit 15%	**$839,593**
				Bond 1%	**$55,973**
				Contingency 20%	**$1,298,571**
				Total	**$7,791,426**

ITEMS NOT INCLUDED:

- ADDITIONAL PERMITTING, FINAL DESIGN AND ENGINEERING.
- TURBIDITY CURTAIN (PER REGULATORY AGENCY REQUIREMENTS)
- ADDITIONAL BATHYMETRIC SURVEYS
- ADDITIONAL SLOPE STABILITY INFRASTRUCTURE (I.E. SOIL NAILS)

Lower Range Estimate (-20%)	**$6,233,140**
Upper Range Estimate (+30%)	**$10,128,853**

City of Petoskey

Agenda Memo

BOARD: City Council

MEETING DATE: September 21, 2020 **PREPARED:** September 17, 2020

AGENDA SUBJECT: Consent Agenda Resolution

RECOMMENDATION: That the City Council approve this proposed resolution

---

The City Council will be asked to adopt a resolution that would approve the following consent agenda items:

(1) Draft minutes of the August 17, 2020 regular session and August 31, 2020 special session City Council meetings; and

(2) Acknowledge receipt of a report from the City Manager concerning all checks that have been issued since August 17, 2020 for contract and vendor claims at $12,741,029.47, intergovernmental claims at $6,088,460.40, and the August 20 and September 3 payrolls at $454,527.55 for a total of $19,284,017.42.

sb
Enclosures

City of Petoskey

Minutes

CITY COUNCIL

August 17, 2020

A regular meeting of the City of Petoskey City Council was held from virtual locations on Monday, August 17, 2020. This meeting was called to order at 7:00 P.M.; then, after a recitation of the Pledge of Allegiance to the Flag of the United States of America, a roll call then determined that the following were

Present: John Murphy, Mayor
Kate Marshall, City Councilmember
Suzanne Shumway, City Councilmember
Brian Wagner, City Councilmember
Lindsey Walker, City Councilmember

Absent: None

Also in attendance were City Manager Rob Straebel, Clerk-Treasurer Alan Terry and Executive Assistant Sarah Bek.

Consent Agenda - Resolution No. 19438

Following introduction of the consent agenda for this meeting of August 17, 2020, City Councilmember Shumway moved that, seconded by City Councilmember Marshall adoption of the following resolution:

> BE IT RESOLVED that the City Council does and hereby confirms that the draft minutes of the August 3, 2020 regular session City Council meeting be and are hereby approved; and
>
> BE IT RESOLVED that receipt by the City Council of a report concerning all checks that had been issued since August 3, 2020 for contract and vendor claims at $649,931.30, intergovernmental claims at $0, and the August 6 payroll at $228,594.63, for a total of $878,525.93 be and is hereby acknowledged.

Said resolution was adopted by the following vote:

AYES: Marshall, Shumway, Wagner, Walker, Murphy (5)
NAYS: None (0)

Hear Public Comment

Mayor Murphy asked for public comments and there were no public comments.

Hear City Manager Updates

The City Manager reported that the Petoskey Harbor Springs Area Community Foundation established a $50,000 utility and housing relief program through TrueNorth Community Services providing support for City and Emmet County residents in need; that the Planning Commission will review the draft 2021-2026 Capital Improvement Plan on August 20 and Council will review at the September 21 meeting; that staff is working on the 2021 budget; that the Arrowhead Shores slope failure study should be completed by the end of this week; that MDOT is laying hot patch asphalt over many storm water manholes along the highway from Beaubien Avenue to Winter Park Lane today; reviewed City Manager annual performance evaluation timeline and that evaluations will be discussed in closed session on September 21; reviewed project updates on Kalamazoo Avenue, Jackson Street and pickleball courts which will be open to the public by Labor Day; and that the Big Art Show hosted by Big Brothers and Big Sisters was held in Pennsylvania Park last Saturday and the event was approved by staff without consultation from the City Manager's Office; that the event was monitored by Public Safety and met all executive orders, but hosting the event was inconsistent with the cancellation of other downtown events and it sends a mixed message regarding the City's efforts to minimize the spread of COVID-19; and that it was an oversight by staff and will not happen again.

City Councilmembers commented that it was basically a slap in the face to downtown owners that the art show event happened which was contrary to other downtown events that were cancelled and that an apology should be given; heard comments concerning speed on US-31 near Bay Harbor and if signage could be installed to inform motorists that bikers are using the shoulder; that new sidewalks as part of the Kalamazoo Avenue reconstruction project is favorable and allows the community to be walkable; thanked the Petoskey Harbor Springs Area Community Foundation on grant that helped downtown businesses during pandemic; that users of the bike trail on highway as well as old trail is busy this season and working well; and inquired if August Primary election totals and absent voters by ward could be provided.

Approve Board Appointments – Resolution 19439-19440

Mayor Murphy reviewed that City Council consider the following appointments.

City Councilmember Walker moved that, seconded by City Councilmember Shumway adoption of the following resolution:

> BE IT RESOLVED that the City Council does and hereby approves the reappointment of Richard Neumann, 610 Grand Avenue, to the Planning Commission for a three-year term ending August 2023.

Said resolution was adopted by the following vote:

AYES: Marshall, Shumway, Wagner, Walker, Murphy (5)
NAYS: None (0)

City Councilmember Marshall moved that, seconded by City Councilmember Wagner adoption of the following resolution:

> BE IT RESOLVED that the City Council does and hereby approves the appointment of Carolyn Dettmer, 619 Michigan Street, to the Planning Commission to fill a vacated term ending August 2022.

Said resolution was adopted by the following vote:

AYES: Marshall, Shumway, Wagner, Walker, Murphy (5)
NAYS: None (0)

Approve Downtown Social District – Resolution No. 19441

The Downtown Director reviewed that over the last several years the Legislature has discussed approval of legislation that would allow alcoholic beverages to be consumed outside of licensed bars and restaurants; that this is a practice allowed in other states around the country with various restrictions; that due to COVID-19, legislators realized that help for the hospitality industry was needed and moved quickly to readdress the issue; that in July of this year, legislation was passed allowing local units of government to set up Social Districts that would include Commons Areas where alcoholic beverages could be consumed that were purchased from local bars and restaurants that had been permitted by the State to sell in that manner; that the DMB recommended that a Social District be established; reviewed management and operations plan and map of the district; and that the Commons Area includes sidewalks, not streets or parks between the hours of noon and 9:00 P.M.

City Councilmembers inquired on waste within the district and would like to see recycling bins strategically located throughout the social district; inquiries if this program is ongoing; heard concerns of those abusing program such as if people keep branded cup and refill privately; heard from those in favor of a trial period; discussed hours and inquired if the DMB unanimously voted to begin at noon; inquired if drinks could be taken into stores if owner approves; that this program will help sales of alcohol; and heard from those concerned that the district covers a large area, especially near residential areas and do not want the impression of Petoskey as a party town.

The Downtown Director responded that she would also like to see recycling bins throughout the district; that the program is ongoing and can be abolished by a public hearing; that Public Safety Director Breed has reviewed program and will work on enforcement; that City Council could approve on a trial basis; and that the DMB unanimously voted to begin hours at noon and that businesses will have to get approved by City Council.

Mayor Murphy asked for public comments and read aloud a letter from a constituent in favor of establishing a social district.

City Councilmember Walker moved that, seconded by City Councilmember Wagner adoption of the following resolution:

> WHEREAS, the Downtown Management Board (DMB) is committed to providing vibrant and relevant Downtown activities that add the energy and ambience required to help businesses succeed; and
>
> WHEREAS, the DMB has established a brand as a first class, premier downtown destination that is also highly valued and sought after by local residents, resorters, second home owners, retirees, tourists, and other visitors who are seeking a thriving yet relaxed shopping and dining experience; and
>
> WHEREAS, the DMB has long had interest in allowing visitors to consume alcohol in Downtown pubic rights of ways and has, supported enabling legislature to be passed; and
>
> WHEREAS, with the current circumstances surrounding social distancing orders as they relate to COVID-19 and Downtown businesses, particularly bars and restaurants, affected by customer quotas that negatively impact revenue streams; and
>
> WHEREAS, the State of Michigan recently adopted MCL 436.1551 that enables the creation of Social Districts that contain Commons Areas where designated licensed permittees may sell alcoholic products to be consumed:

NOW THEREFORE BE IT RESOLVED that a Social District be designated within the City limits that will include the established legal boundary of the City of Petoskey Central Business District (CBD) and will also extend to the north to include Rose Street, the block of Lewis Street between Bay Street Rose Street, and Quarry Park; and that within that District certain public rights-of-way will be designated as the Commons Area of the District where alcoholic beverages, purchased from specific, qualified, and permitted licensees doing business within the district may be consumed legally, and that as indicated on the enclosed map, the Commons Area will include the sidewalks on:

> Howard Street from the north side of Penney's Alley to the north side of Bay Street, Petoskey Street from the south side of Mitchell Street to Bay Street, Bay Street to the east side of Lewis Street, Lake Street between Division Street and US-31, Mitchell Street between Waukazoo Street and Emmet Street, Rose Street between Howard Street and Lewis Street, Lewis Street between Bay Street and Rose Street; as well as Quarry Park bounded by US-31 and Lewis Street, Pennsylvania Park and the Greenway Corridor between Mitchell Street and Bay Street, Shopper's Lane, Reid's Alley, and Penney's Alley; and

NOW THEREFORE BE IT FURTHER RESOLVED that local licensees, including Tap 30 and Pour (Northern Brewing, LLC, DBA as Tap 30 and Pour, 422 East Mitchell Street, Unit 5 & 6, Petoskey, MI 49770), Beards (Beards Brewery, LLC, 215 East Lake Street, Petoskey, MI 49770), Stafford's Perry Hotel (Stafford's Hospitality, DBA Stafford's Perry Hotel, Bay at Lewis Street, Petoskey, MI 49770), Duffy's Bar and Grille (Peto's Key, Inc., 317 East Lake Street, Petoskey, MI 49770), and City Park Grill and Palette Bistro (Wineguys Restaurant Group, 432 East Lake Street, Petoskey, MI 49770), are approved by the City of Petoskey to proceed with their application to the State of Michigan for Social District Permits which will allow them to sell alcoholic beverages that will be consumed in the Commons Area of the Social District; and

NOW THEREFORE BE IT ALSO FURTHER RESOLVED that this Resolution, the Plan for Operation and Maintenance of the Social District, and the map of the Social District that includes the boundaries of the Commons Area be submitted to the State to be kept on file going forward for the purpose of documenting the rights of future licensees in the City of Petoskey Social District to apply for Social District permits.

Said resolution was adopted by the following vote:

AYES: Marshall, Wagner, Walker, Murphy (4)
NAYS: Shumway (1)

Authorize Contract for City Hall Rooftop Solar System – Resolution No. 19442

The City Manager reviewed that the City budgeted $150,000 in the 2020 Budget for a rooftop solar system on City Hall; that $75,000 was included in the General Fund with another $75,000 earmarked in the Electric Fund; that City staff with the assistance of architect Ric Neumann and Ric Evans from Groundworks Center for Resilient Communities, developed a RFP and received five bids for the solar project ranging from $31,500 to $144,750 with higher bids including more photovoltaic panels on City Hall; each bid was rated by a review committee based on costs, warranty, completion date, kWh generated annually, aesthetics and public visibility; the review committee unanimously recommended Nova Consultants, Inc., Novi, based upon their $119,450 proposal; and reviewed that the City Hall solar project was included in the 2020 City of Petoskey Action Plan under Sustainability.

City Councilmembers inquired on the annual maintenance costs; if local contractors will be considered for labor installation; inquired on 82,000 kWh vs kWdc; and discussed snow events and how it would reduce production.

Nova Consultants representatives responded that they will seek local laborers that are skilled in solar projects, but otherwise Nova has a list of available contractors and that when panels are covered in snow there will be less production, but there will be a lot of power during summer months.

Mayor Murphy asked for public comments and heard from those in favor of the project and thanked staff and Council for approving and inquired if all bid sheets could be available for the public to review.

City Councilmember Marshall moved that, seconded by City Councilmember Walker authorization to contract with Nova Consultants, Inc., Novi, in the amount of $119,450 for a rooftop solar system on City Hall.

Said motion was adopted by the following vote:

AYES: Marshall, Shumway, Wagner, Walker, Murphy (5)
NAYS: None (0)

Authorize City Hall West Side Roof Replacement Contract – Resolution No. 19443

The City Manager reviewed that $150,000 was allocated in the 2020 Annual Budget for the solar demonstration project for City Hall; that the existing west side, second-story membrane roof was installed in 1988-1989 as part of the original renovation for City Hall and has been repaired over the years; that as part of the solar demonstration project review, the roof was reevaluated and the west side was determined to be vulnerable to damage once the solar panels are installed; that replacing the west roof before the installation of the solar panels will provide confidence that the panels will be secure and the roof will not have any issues; that the rubber membrane that is currently on the rest of the building was installed and warrantied by the same company; and that City staff received one bid from Great Lakes Systems, Inc., Jenison, for $32,769.

City Councilmembers inquired why there was only one bid received.

The Parks and Recreation Director responded that the project was publically advertised, three contractors were sent invitations and bid documents were available on the City's website and that the lone bidder has completed past work for the City and staff recommends contracting with bidder.

City Councilmember Walker moved that, seconded by City Councilmember Marshall authorization to contract with Great Lakes Systems, Inc., Jenison, in the amount of $32,769 for City Hall west side roof replacement.

Said motion was adopted by the following vote:

AYES: Marshall, Shumway, Wagner, Walker, Murphy (5)
NAYS: None (0)

Hear MERS Retirement Plan Update

The Director of Finance reviewed that the City provides retirement benefits through the Michigan Municipal Employees' Retirement System (MMERS), which has four separate divisions including General Nonunion, DPW Teamsters union, Public Safety union and Public Safety Lieutenants union; that in 2019 MERS announced two changes to the actuarial assumptions used in determining required contributions for defined benefit retirement programs, with the changes effecting contributions beginning in 2021; that the two changes are the assumed investment rate of return was reduced from 7.75% to 7.35% and the annual increase in wage inflation was reduced from 3.75% to 3.00%; that the impact of both of these changes are reflected in the 2019 Annual Actuarial Valuation Report; that largely due to these new assumptions, the City's funding ratio dropped from 82% in 2018 to 80% in 2019; that the report does not reflect any impact from COVID-19; and that staff has held off making an additional payment in 2020 until there is a better handle on the City's finances due to the pandemic and the direction of the stock market.

The Finance Director further reviewed that the City's retirement plan continues to be sufficiently funded as measured by current standards despite the setbacks due to MERS changes in assumptions; that based on the projected effects of the two new economic assumptions by MERS, a 2020 additional contribution of $1,000,000 would offset the increase in liability and contributions; and going forward in 2021, the City could continue towards our goal of achieving 90% funding level.

Name Municipal League Annual Meeting Representatives – Resolution No. 19444

The City Manager reported that at the request of the Michigan Municipal League, the City Council was being asked to adopt a proposed resolution that would confirm the City Council's appointment of an official voting representative and an alternate representative, one of whom would attend the annual business meeting of the Municipal League that would be conducted September 29, in conjunction with the League's 2020 Convention September 29-October 2, which will be conducted as an online virtual conference.

City Councilmember Marshall moved that, seconded by City Councilmember Shumway adoption of the following resolution:

> BE IT RESOLVED that the City of Petoskey City Council does and hereby selects Councilmember Lindsey Walker as the City's voting representative for the annual business meeting of the Michigan Municipal League that has been scheduled for Tuesday, September 29, 2020, which will be conducted as an online virtual meeting; and
>
> BE IT FURTHER RESOVLED that the City Council does and hereby selects Councilmember Brian Wagner as the City's alternate representative to serve in the absence of the voting representative at said annual meeting.

Said resolution was adopted by the following vote:

AYES: Marshall, Shumway, Wagner, Walker, Murphy (5)
NAYS: None (0)

Council Comments

Mayor Murphy asked for Council comments and Councilmember Wagner thanked all citizens and essential workers for continuing to do their part during the pandemic and busy summer season. Councilmember Marshall inquired when City Council meetings will be conducted in-person. Mayor Murphy reminded the community to continue to social distance and be safe.

Adjourn to Closed Session – Resolution No. 19445

City Council was being asked to adopt a resolution that would adjourn to closed session pursuant to Section 8(d) of the Michigan Open Meetings Act, to consider the purchase or lease of real property.

City Councilmember Shumway moved that, seconded by City Councilmember Walker adoption of the following resolution:

> WHEREAS, the City Manager has requested that the City Council adjourn to a closed session, pursuant to Section 8(d) of the Michigan Open Meetings Act, to consider the purchase or lease of real property, at the City Council's regular meeting of August 17, 2020:
>
> NOW, THEREFORE, BE IT RESOLVED that the City Council does and hereby authorizes to adjourn to a closed session, to consider purchase or lease of real property.

Said resolution was adopted by the following vote:

AYES: Marshall, Shumway, Wagner, Walker, Murphy (5)
NAYS: None (0)

Adjourned into closed session at 9:10 P.M. and reconvened into open session at 9:30 P.M.

There being no further business to come before the City Council, this August 17, 2020, meeting of the City Council adjourned at 9:31 P.M.

John Murphy, Mayor Alan Terry, Clerk-Treasurer

City of Petoskey Minutes

CITY COUNCIL

August 31, 2020

A special meeting of the City of Petoskey City Council was held from virtual locations on Monday, August 31, 2020. This meeting was called to order at 7:00 P.M.; then, after a recitation of the Pledge of Allegiance to the Flag of the United States of America, a roll call then determined that the following were

Present: John Murphy, Mayor
Kate Marshall, City Councilmember
Suzanne Shumway, City Councilmember
Brian Wagner, City Councilmember
Lindsey Walker, City Councilmember

Absent: None

Also in attendance were City Manager Rob Straebel, Clerk-Treasurer Alan Terry, Public Works Director Mike Robbins and Executive Assistant Sarah Bek.

Hear Public Comment
Mayor Murphy asked for public comments and there were no public comments.

Approve Purchase of Midwest Siding Building & Property - Resolution No. 19446
The City Manager reviewed that over a year of negotiations, City staff and Tom Gero, owner of Midwest Siding, have agreed to a selling price of $722,500 for the 15,000 square foot Midwest Siding building and 0.73 acre property on Sheridan Street next to the public works building. The City Manager further reviewed that the Midwest Siding land is needed to accommodate long-range public works and parks and recreation operation and building facility needs; that the overall plan would assist the City to substantially clean up both the Curtis and Public Works buildings through storing equipment indoors creating a more compatible usage and more aesthetically pleasing use along the Bear River Valley Recreation Area; that the land purchase would allow better access to the Sheridan Street Substation; that it would allow the City to move the salt storage barns to the north side of Sheridan Street and relocate the community gardens to the current salt shed location along the Bear River; reviewed other conceptual plans for the land; that monies for the land purchase would come from the Electric Fund which has a cash reserve balance of $8.1 million; that the negotiated purchase price was derived by averaging the two highest appraisals on the land of $665,000 and $780,000; that Mr. Gero would like to lease the property from the City through 2022 to continue to operate his business, slowly reducing his inventory; that the City would be responsible for paying the utilities on the building and maintain the property through snow plowing the parking lot and mowing the grass; that Mr. Gero would pay the property taxes; that in lieu of having Mr. Gero pay monthly rent, the City would store public works equipment in the building during this time period; and that the lease agreement will be signed by the City Manager once the City formally closes on the property.

City Councilmembers inquired if moving the salt sheds would be more secure from the Bear River; inquired if soil will change with relocating the community gardens; and if there will be additional costs for remediation and other costs involved in the project.

The City Manager responded that moving the salt storage barns to a new location will be much safer than the current location; that the City will be sure to remediate land and soil if necessary for new location of community gardens; and that $722,500 is the cost for the land purchase only and there will be additional costs for remediation and updates to the surrounding area.

The Director of Finance reviewed how the land purchase would be funded and other possible financing for the conceptual project.

Mayor Murphy asked for public comment and read aloud an email received with various comments concerning the conceptual plans and opposition to additional parklands. Mayor Murphy reviewed his position and supports the plan.

City Councilmember Wagner moved that, seconded by City Councilmember Walker adoption of the following resolution:

> WHEREAS, for several years, City staff along with various consultants, have studied the City's buildings and facilities needs, based upon various City operations; and
>
> WHEREAS, as a result of these on-going, long-range planning efforts, it has been determined that certain modifications to existing City-owned buildings and facilities, as well as possible development of new buildings and facilities would be necessary to satisfy such operational needs; and
>
> WHEREAS, conceptual plans call for consideration of modifying City-owned buildings and facilities and developing new buildings and facilities near and within the Bear River Valley Recreation Area, primarily to accommodate operational needs of the Departments of Public Works and Parks and Recreation; and
>
> WHEREAS, the City Manager now has reported to the City Council about the feasibility of the City's acquisition of the Midwest Siding building that is adjacent to the Public Works Facility on Sheridan Street and in close proximity to the Bear River Valley Recreation Area; and
>
> WHEREAS, the 0.73 acre Midwest Siding property, being surrounded on all sides by City-owned property, could be utilized to meet the City's various long-range operational needs, as well as enhance the adjacent Bear River Valley Recreation Area; and
>
> WHEREAS, the property purchase will further enhance the Bear River Recreational Area by allowing the City to relocate the current salt sheds from the south side of Sheridan Street to the north side; and
>
> WHEREAS, conceptual plans for the area envision more park and recreational amenities such as a kayak launch, public bathrooms, trail improvements and an improved community gardens:
>
> NOW, THEREFORE, BE IT RESOLVED that the City of Petoskey City Council does and hereby approves a Purchase Agreement of $722,500 for the Midwest Siding Building at 120 West Sheridan Street and directs the City Manager to sign a Lease Agreement with Mr. Tom Gero upon official closing on the property.

Said resolution was adopted by the following vote:

AYES: Marshall, Shumway, Wagner, Walker, Murphy (5)
NAYS: None (0)

There being no further business to come before the City Council, this August 31, 2020, meeting of the City Council adjourned at 7:25 P.M.

John Murphy, Mayor Alan Terry, Clerk-Treasurer

GL Period	Check Issue Date	Check Number	Payee	Invoice GL Account	Check Amount	
08/20	08/19/2020	89994	Gempler's	101-770-775.000	44.97-	V
08/20	08/19/2020	89994	Gempler's	101-770-775.000	81.46-	V
09/20	09/15/2020	90063	Automotive Vision	661-598-932.000	200.00-	V
09/20	09/15/2020	90063	Automotive Vision	661-598-932.000	220.00-	V
08/20	08/19/2020	90140	24/7 Sewer & Drain Cleaning	592-556-802.000	435.00	
08/20	08/19/2020	90140	24/7 Sewer & Drain Cleaning	592-554-802.000	385.00	
08/20	08/19/2020	90141	Aflac	701-000-230.180	728.62	
08/20	08/19/2020	90142	American Waste	101-773-931.000	.02-	
08/20	08/19/2020	90142	American Waste	101-773-931.000	9.50-	
08/20	08/19/2020	90142	American Waste	101-265-802.000	9.50-	
08/20	08/19/2020	90142	American Waste	101-770-802.000	9.50-	
08/20	08/19/2020	90142	American Waste	101-754-802.000	9.50-	
08/20	08/19/2020	90142	American Waste	101-773-931.000	47.50-	
08/20	08/19/2020	90142	American Waste	101-265-802.000	47.50-	
08/20	08/19/2020	90142	American Waste	101-770-802.000	47.50-	
08/20	08/19/2020	90142	American Waste	101-754-802.000	47.50-	
08/20	08/19/2020	90142	American Waste	582-593-930.000	170.00	
08/20	08/19/2020	90142	American Waste	592-551-806.000	325.00	
08/20	08/19/2020	90142	American Waste	101-770-802.000	376.20	
08/20	08/19/2020	90142	American Waste	101-756-802.000	153.90	
08/20	08/19/2020	90142	American Waste	101-789-802.000	171.00	
08/20	08/19/2020	90142	American Waste	101-754-802.000	393.30	
08/20	08/19/2020	90142	American Waste	101-268-802.000	239.40	
08/20	08/19/2020	90142	American Waste	101-265-802.000	376.20	
08/20	08/19/2020	90142	American Waste	101-773-931.000	190.00	
08/20	08/19/2020	90142	American Waste	101-265-802.000	190.00	
08/20	08/19/2020	90142	American Waste	101-770-802.000	190.00	
08/20	08/19/2020	90142	American Waste	101-754-802.000	190.00	
08/20	08/19/2020	90143	Apex Software	101-257-802.000	235.00	
08/20	08/19/2020	90144	AT & T MOBILITY	514-587-920.000	394.83	
08/20	08/19/2020	90145	AT&T	592-560-850.000	594.29	
08/20	08/19/2020	90146	AT&T Long Distance	592-560-850.000	70.31	
08/20	08/19/2020	90146	AT&T Long Distance	101-345-850.000	143.43	
08/20	08/19/2020	90147	BARTA, LEE	101-756-808.120	148.00	
08/20	08/19/2020	90148	Beckett & Raeder Inc.	101-770-802.000	6,380.00	
08/20	08/19/2020	90149	Benchmark Engineering Inc.	582-586-802.000	173.75	
08/20	08/19/2020	90149	Benchmark Engineering Inc.	204-481-802.000	1,407.50	
08/20	08/19/2020	90149	Benchmark Engineering Inc.	204-481-802.000	302.50	
08/20	08/19/2020	90149	Benchmark Engineering Inc.	204-481-802.000	177.50	
08/20	08/19/2020	90149	Benchmark Engineering Inc.	592-549-802.000	200.00	
08/20	08/19/2020	90149	Benchmark Engineering Inc.	592-560-802.000	200.00	
08/20	08/19/2020	90150	Blackman, Tina	101-756-808.140	1,622.88	
08/20	08/19/2020	90151	Char-Em United Way	701-000-230.800	75.00	
08/20	08/19/2020	90152	Cintas Corp #729	582-593-930.000	33.72	
08/20	08/19/2020	90152	Cintas Corp #729	204-481-767.000	59.27	
08/20	08/19/2020	90152	Cintas Corp #729	582-588-767.000	50.23	
08/20	08/19/2020	90152	Cintas Corp #729	592-560-767.000	30.51	
08/20	08/19/2020	90152	Cintas Corp #729	592-549-767.000	30.51	
08/20	08/19/2020	90152	Cintas Corp #729	101-268-802.000	15.54	
08/20	08/19/2020	90152	Cintas Corp #729	592-554-802.000	45.45	
08/20	08/19/2020	90152	Cintas Corp #729	582-593-930.000	9.07	
08/20	08/19/2020	90152	Cintas Corp #729	204-481-767.000	59.27	
08/20	08/19/2020	90152	Cintas Corp #729	582-588-767.000	50.23	
08/20	08/19/2020	90152	Cintas Corp #729	592-560-767.000	30.51	
08/20	08/19/2020	90152	Cintas Corp #729	592-549-767.000	30.51	
08/20	08/19/2020	90152	Cintas Corp #729	582-593-930.000	33.72	

GL Period	Check Issue Date	Check Number	Payee	Invoice GL Account	Check Amount
08/20	08/19/2020	90152	Cintas Corp #729	204-481-767.000	59.27
08/20	08/19/2020	90152	Cintas Corp #729	582-588-767.000	127.23
08/20	08/19/2020	90152	Cintas Corp #729	592-560-767.000	30.51
08/20	08/19/2020	90152	Cintas Corp #729	592-549-767.000	30.51
08/20	08/19/2020	90152	Cintas Corp #729	101-268-802.000	15.54
08/20	08/19/2020	90152	Cintas Corp #729	592-544-802.000	45.45
08/20	08/19/2020	90152	Cintas Corp #729	582-593-930.000	9.07
08/20	08/19/2020	90152	Cintas Corp #729	204-481-767.000	59.27
08/20	08/19/2020	90152	Cintas Corp #729	582-588-767.000	50.23
08/20	08/19/2020	90152	Cintas Corp #729	592-560-767.000	30.51
08/20	08/19/2020	90152	Cintas Corp #729	592-549-767.000	30.51
08/20	08/19/2020	90153	Clemens, Tom	101-756-808.120	120.00
08/20	08/19/2020	90154	Consumers Energy	592-538-920.000	9,720.96
08/20	08/19/2020	90154	Consumers Energy	592-558-920.000	473.49
08/20	08/19/2020	90154	Consumers Energy	592-558-920.000	170.10
08/20	08/19/2020	90154	Consumers Energy	592-558-920.000	50.45
08/20	08/19/2020	90154	Consumers Energy	592-558-920.000	95.36
08/20	08/19/2020	90154	Consumers Energy	592-558-920.000	89.48
08/20	08/19/2020	90154	Consumers Energy	592-558-920.000	90.69
08/20	08/19/2020	90154	Consumers Energy	592-558-920.000	93.09
08/20	08/19/2020	90154	Consumers Energy	592-558-920.000	42.72
08/20	08/19/2020	90154	Consumers Energy	202-475-920.000	92.55
08/20	08/19/2020	90154	Consumers Energy	592-558-920.000	379.14
08/20	08/19/2020	90155	ConvergeOne Inc.	101-773-802.000	1,394.75
08/20	08/19/2020	90155	ConvergeOne Inc.	101-789-802.000	1,394.75
08/20	08/19/2020	90156	Cook, Jerald P	101-756-808.120	185.00
08/20	08/19/2020	90157	Derrer Oil Co.	661-598-759.000	1,701.99
08/20	08/19/2020	90158	DuBois Chemicals Inc.	592-551-783.000	8,793.55
08/20	08/19/2020	90159	Dunn's Business Solutions	204-481-751.000	29.61
08/20	08/19/2020	90159	Dunn's Business Solutions	582-593-751.000	29.61
08/20	08/19/2020	90159	Dunn's Business Solutions	582-588-751.000	29.61
08/20	08/19/2020	90159	Dunn's Business Solutions	592-549-751.000	29.61
08/20	08/19/2020	90159	Dunn's Business Solutions	592-560-751.000	29.62
08/20	08/19/2020	90159	Dunn's Business Solutions	661-598-751.000	29.62
08/20	08/19/2020	90159	Dunn's Business Solutions	101-172-751.000	9.84
08/20	08/19/2020	90159	Dunn's Business Solutions	101-201-751.000	9.84
08/20	08/19/2020	90159	Dunn's Business Solutions	101-208-751.000	6.89
08/20	08/19/2020	90159	Dunn's Business Solutions	101-257-751.000	4.92
08/20	08/19/2020	90159	Dunn's Business Solutions	101-215-751.000	5.90
08/20	08/19/2020	90159	Dunn's Business Solutions	101-345-751.000	27.54
08/20	08/19/2020	90159	Dunn's Business Solutions	101-400-751.000	4.92
08/20	08/19/2020	90159	Dunn's Business Solutions	101-441-751.000	14.76
08/20	08/19/2020	90159	Dunn's Business Solutions	101-770-751.000	.98
08/20	08/19/2020	90159	Dunn's Business Solutions	101-773-775.000	.98
08/20	08/19/2020	90159	Dunn's Business Solutions	101-756-751.000	9.84
08/20	08/19/2020	90159	Dunn's Business Solutions	101-789-751.000	1.96
08/20	08/19/2020	90160	Emmet Co. Dept of Public Works	101-528-802.000	10,021.40
08/20	08/19/2020	90161	Emmet County Treasurer	703-040-222.220	304,167.62
08/20	08/19/2020	90161	Emmet County Treasurer	703-040-222.220	21,869.34
08/20	08/19/2020	90161	Emmet County Treasurer	703-040-228.220	430,211.17
08/20	08/19/2020	90162	Englebrecht, Robert	101-257-802.100	3,750.00
08/20	08/19/2020	90163	Etna Supply	592-010-111.000	855.00
08/20	08/19/2020	90163	Etna Supply	592-010-111.000	570.00
08/20	08/19/2020	90163	Etna Supply	592-010-111.000	5,400.00
08/20	08/19/2020	90163	Etna Supply	592-010-111.000	750.00
08/20	08/19/2020	90163	Etna Supply	582-010-111.000	7,925.00

GL Period	Check Issue Date	Check Number	Payee	Invoice GL Account	Check Amount
08/20	08/19/2020	90164	Eyes Only Media LLC	248-739-880.200	599.40
08/20	08/19/2020	90165	FMW CONSTRUCTION	592-558-802.000	3,410.53
08/20	08/19/2020	90166	Gibby's Garage	582-590-802.000	238.00
08/20	08/19/2020	90166	Gibby's Garage	582-593-930.000	102.00
08/20	08/19/2020	90166	Gibby's Garage	661-598-931.000	306.00
08/20	08/19/2020	90166	Gibby's Garage	661-598-932.000	68.00
08/20	08/19/2020	90166	Gibby's Garage	101-770-802.000	102.00
08/20	08/19/2020	90166	Gibby's Garage	582-593-930.000	102.00
08/20	08/19/2020	90166	Gibby's Garage	661-598-931.000	102.00
08/20	08/19/2020	90166	Gibby's Garage	661-598-932.000	748.00
08/20	08/19/2020	90166	Gibby's Garage	582-593-930.000	34.00
08/20	08/19/2020	90166	Gibby's Garage	661-598-931.000	204.00
08/20	08/19/2020	90166	Gibby's Garage	661-598-932.000	1,326.00
08/20	08/19/2020	90167	Grand Traverse Mobile Communications	661-020-142.000	99.00
08/20	08/19/2020	90167	Grand Traverse Mobile Communications	661-020-142.000	99.01
08/20	08/19/2020	90167	Grand Traverse Mobile Communications	661-020-142.000	40.91
08/20	08/19/2020	90167	Grand Traverse Mobile Communications	661-020-142.000	40.91
08/20	08/19/2020	90168	Grangood, Daniel Wilhelm	101-756-808.120	296.00
08/20	08/19/2020	90169	Great Lakes Energy	592-538-920.000	42.37
08/20	08/19/2020	90169	Great Lakes Energy	592-558-920.000	57.96
08/20	08/19/2020	90170	Hamlin, Wilce S	101-756-808.120	296.00
08/20	08/19/2020	90171	Hewitt, Dennis	101-756-808.120	74.00
08/20	08/19/2020	90172	HydroCorp	592-545-802.000	1,768.00
08/20	08/19/2020	90173	IR Electric Motor Service	592-554-802.000	252.00
08/20	08/19/2020	90174	K & J Septic Service LLC	592-556-802.000	175.00
08/20	08/19/2020	90174	K & J Septic Service LLC	592-555-802.000	250.00
08/20	08/19/2020	90175	LANDSCAPE FORMS INC.	101-770-985.000	1,273.43
08/20	08/19/2020	90176	Malec, Steve	101-756-808.120	120.00
08/20	08/19/2020	90177	Mead & Hunt	592-556-802.000	1,430.00
08/20	08/19/2020	90178	Michigan Government Finance	101-215-915.000	120.00
08/20	08/19/2020	90179	Michigan Pure Ice	101-789-775.000	55.00
08/20	08/19/2020	90179	Michigan Pure Ice	101-789-775.000	137.50
08/20	08/19/2020	90180	North Central Laboratories	592-553-775.000	501.68
08/20	08/19/2020	90180	North Central Laboratories	592-553-775.000	184.50
08/20	08/19/2020	90181	Northern A-1 Environmental Services	592-556-802.000	2,402.00
08/20	08/19/2020	90182	Norton, Billy	101-756-808.120	111.00
08/20	08/19/2020	90183	P.C. Lawn Care	582-593-930.000	375.00
08/20	08/19/2020	90184	Peninsula Fiber Network LLC	271-790-850.000	133.80
08/20	08/19/2020	90184	Peninsula Fiber Network LLC	101-228-850.000	446.00
08/20	08/19/2020	90185	Performance Painting	592-547-802.000	2,880.00
08/20	08/19/2020	90186	Plunkett Cooney	101-266-802.000	560.00
08/20	08/19/2020	90186	Plunkett Cooney	101-266-802.000	2,287.50
08/20	08/19/2020	90186	Plunkett Cooney	101-266-802.000	475.00
08/20	08/19/2020	90186	Plunkett Cooney	101-266-802.000	7,638.00
08/20	08/19/2020	90186	Plunkett Cooney	101-266-802.000	148.84
08/20	08/19/2020	90186	Plunkett Cooney	204-481-802.000	148.84
08/20	08/19/2020	90186	Plunkett Cooney	582-588-802.000	148.84
08/20	08/19/2020	90186	Plunkett Cooney	592-549-802.000	148.84
08/20	08/19/2020	90186	Plunkett Cooney	592-560-802.000	148.84
08/20	08/19/2020	90186	Plunkett Cooney	101-266-802.000	1,618.30
08/20	08/19/2020	90187	Quality First Aid & Safety Inc.	582-593-930.000	55.94
08/20	08/19/2020	90187	Quality First Aid & Safety Inc.	592-549-767.000	13.99
08/20	08/19/2020	90188	R.W. MERCER CO INC.	101-789-802.000	322.50
08/20	08/19/2020	90188	R.W. MERCER CO INC.	101-789-802.000	365.87
08/20	08/19/2020	90189	SiteOne Landscape Supply	101-770-775.000	16.64
08/20	08/19/2020	90189	SiteOne Landscape Supply	101-770-775.000	11.32

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08/20	08/19/2020	90190	Smith, Edward J	101-756-808.120	80.00
08/20	08/19/2020	90191	Spectrum Business	101-172-850.000	97.82
08/20	08/19/2020	90191	Spectrum Business	101-201-850.000	52.17
08/20	08/19/2020	90191	Spectrum Business	101-208-850.000	32.61
08/20	08/19/2020	90191	Spectrum Business	101-257-850.000	32.61
08/20	08/19/2020	90191	Spectrum Business	101-215-850.000	26.08
08/20	08/19/2020	90191	Spectrum Business	101-345-850.000	71.73
08/20	08/19/2020	90191	Spectrum Business	582-593-850.000	26.08
08/20	08/19/2020	90191	Spectrum Business	592-549-850.000	39.13
08/20	08/19/2020	90191	Spectrum Business	592-560-850.000	39.12
08/20	08/19/2020	90191	Spectrum Business	101-400-850.000	32.61
08/20	08/19/2020	90191	Spectrum Business	101-441-850.000	58.69
08/20	08/19/2020	90191	Spectrum Business	101-756-850.000	39.13
08/20	08/19/2020	90191	Spectrum Business	204-481-850.000	19.56
08/20	08/19/2020	90191	Spectrum Business	204-481-850.000	19.56
08/20	08/19/2020	90191	Spectrum Business	582-588-850.000	65.21
08/20	08/19/2020	90191	Spectrum Business	582-593-850.000	38.07
08/20	08/19/2020	90192	Trace Analytical Laboratories LLC	592-553-801.000	1,337.00
08/20	08/19/2020	90193	Tri Clor Inc.	592-554-802.000	2,942.50
08/20	08/19/2020	90194	Trophy Case, The	101-101-751.000	45.00
08/20	08/19/2020	90194	Trophy Case, The	101-345-775.000	16.00
08/20	08/19/2020	90195	True Pest Control	592-537-802.000	180.00
08/20	08/19/2020	90195	True Pest Control	592-558-802.000	1,360.00
08/20	08/19/2020	90195	True Pest Control	592-555-802.000	170.00
08/20	08/19/2020	90195	True Pest Control	592-554-802.000	85.00
08/20	08/19/2020	90196	Walters Sharpening Service Inc.	101-770-775.000	76.76
08/20	08/19/2020	90197	Wcisel, David	101-756-808.120	148.00
08/20	08/19/2020	90198	BLUE CROSS\BLUE SHIELD - MICH.	101-172-724.000	943.69
08/20	08/19/2020	90198	BLUE CROSS\BLUE SHIELD - MICH.	101-208-724.000	764.75
08/20	08/19/2020	90198	BLUE CROSS\BLUE SHIELD - MICH.	101-345-724.000	7,655.49
08/20	08/19/2020	90198	BLUE CROSS\BLUE SHIELD - MICH.	101-441-724.000	1,179.61
08/20	08/19/2020	90198	BLUE CROSS\BLUE SHIELD - MICH.	204-481-724.000	2,909.72
08/20	08/19/2020	90198	BLUE CROSS\BLUE SHIELD - MICH.	271-790-724.000	393.21
08/20	08/19/2020	90198	BLUE CROSS\BLUE SHIELD - MICH.	514-587-724.000	786.42
08/20	08/19/2020	90198	BLUE CROSS\BLUE SHIELD - MICH.	592-549-724.000	3,517.18
08/20	08/19/2020	90198	BLUE CROSS\BLUE SHIELD - MICH.	592-560-724.000	393.21
08/20	08/19/2020	90199	Dearborn Life Insurance Co	701-000-230.190	2,004.34
08/20	08/19/2020	90199	Dearborn Life Insurance Co	592-549-724.000	56.32
08/20	08/19/2020	90199	Dearborn Life Insurance Co	592-560-724.000	19.16
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-773-724.000	5.75
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-789-724.000	10.54
08/20	08/19/2020	90199	Dearborn Life Insurance Co	204-481-724.000	66.24
08/20	08/19/2020	90199	Dearborn Life Insurance Co	271-790-724.000	69.25
08/20	08/19/2020	90199	Dearborn Life Insurance Co	514-587-724.000	32.77
08/20	08/19/2020	90199	Dearborn Life Insurance Co	582-588-724.000	44.55
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-345-724.000	504.17
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-400-724.000	11.50
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-441-724.000	32.57
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-754-724.000	5.27
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-756-724.000	16.29
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-770-724.000	35.45
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-172-724.000	19.16
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-201-724.000	44.89
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-208-724.000	19.16
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-215-724.000	21.35
08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-265-724.000	4.79

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08/20	08/19/2020	90199	Dearborn Life Insurance Co	101-268-724.000	11.98
08/20	08/21/2020	90200	State of Michigan-Department of LARA	582-081-642.300	3,664.36
08/20	08/21/2020	90200	State of Michigan-Department of LARA	582-081-642.400	727.72
08/20	08/21/2020	90200	State of Michigan-Department of LARA	582-081-642.500	5.52
08/20	08/21/2020	90200	State of Michigan-Department of LARA	582-081-642.200	171.12
08/20	08/26/2020	90201	5H Irrigation & Maintenance	203-467-802.000	206.70
08/20	08/26/2020	90202	Airgas USA LLC	661-598-785.000	27.33
08/20	08/26/2020	90202	Airgas USA LLC	661-598-785.000	58.45
08/20	08/26/2020	90202	Airgas USA LLC	661-598-785.000	113.13
08/20	08/26/2020	90203	Alro Steel Corporation	202-475-775.000	235.00
08/20	08/26/2020	90203	Alro Steel Corporation	203-475-775.000	236.75
08/20	08/26/2020	90203	Alro Steel Corporation	101-770-775.000	128.00
08/20	08/26/2020	90204	Amazon Credit Plan	271-790-751.000	45.06
08/20	08/26/2020	90204	Amazon Credit Plan	271-790-751.000	45.89
08/20	08/26/2020	90204	Amazon Credit Plan	271-790-958.200	37.81
08/20	08/26/2020	90204	Amazon Credit Plan	271-790-958.000	12.27-
08/20	08/26/2020	90204	Amazon Credit Plan	101-228-802.000	1,169.77
08/20	08/26/2020	90204	Amazon Credit Plan	514-587-970.000	16.49
08/20	08/26/2020	90204	Amazon Credit Plan	101-201-751.000	16.49
08/20	08/26/2020	90204	Amazon Credit Plan	582-593-751.000	32.98
08/20	08/26/2020	90204	Amazon Credit Plan	592-549-751.000	33.93
08/20	08/26/2020	90205	American Waste	582-586-802.000	251.75
08/20	08/26/2020	90205	American Waste	582-593-775.000	251.75
08/20	08/26/2020	90205	American Waste	101-770-802.000	660.00
08/20	08/26/2020	90206	Apollo Fire Equipment	661-598-932.000	102.41
08/20	08/26/2020	90207	AT&T	592-538-850.000	316.55
08/20	08/26/2020	90208	Ballard's Plumbing & Heating	101-268-930.000	12,900.00
08/20	08/26/2020	90208	Ballard's Plumbing & Heating	592-537-802.000	100.00
08/20	08/26/2020	90209	Beckett & Raeder Inc.	101-770-970.000	270.00
08/20	08/26/2020	90209	Beckett & Raeder Inc.	247-751-802.000	1,300.00
08/20	08/26/2020	90209	Beckett & Raeder Inc.	101-770-970.000	1,980.00
08/20	08/26/2020	90209	Beckett & Raeder Inc.	247-751-802.000	520.00
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	2,002.97
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	7,361.66
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	2,598.74
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	1,007.96
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	5,744.88
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	3,184.09
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	6,538.79
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	2,829.14
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	8,568.37
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	4,486.56
08/20	08/26/2020	90210	Blarney Castle Oil Co.	101-789-772.000	10,376.95
08/20	08/26/2020	90211	Border States Industries Inc.	582-592-775.000	319.11
08/20	08/26/2020	90212	BOYNE DISTRICT LIBRARY	271-082-696.000	394.32
08/20	08/26/2020	90213	Carter's Imagewear & Awards	101-773-775.000	138.76
08/20	08/26/2020	90214	CCP Industries Inc.	661-598-767.000	58.00
08/20	08/26/2020	90214	CCP Industries Inc.	592-560-767.000	58.57
08/20	08/26/2020	90214	CCP Industries Inc.	204-481-767.000	115.00
08/20	08/26/2020	90215	CDW Government	101-345-802.100	433.16
08/20	08/26/2020	90216	Davey Resource Group Inc.	101-770-802.100	4,726.80
08/20	08/26/2020	90216	Davey Resource Group Inc.	204-470-802.000	10,873.20
08/20	08/26/2020	90217	David L Hoffman Landscaping & Nursery	582-020-360.000	2,161.00
08/20	08/26/2020	90218	Decka Digital LLC	101-773-775.000	191.00
08/20	08/26/2020	90219	Delta Dental	101-172-724.000	49.97
08/20	08/26/2020	90219	Delta Dental	101-201-724.000	100.97

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08/20	08/26/2020	90219	Delta Dental	101-208-724.000	40.77
08/20	08/26/2020	90219	Delta Dental	101-215-724.000	1.58
08/20	08/26/2020	90219	Delta Dental	101-265-724.000	23.81
08/20	08/26/2020	90219	Delta Dental	101-268-724.000	47.86
08/20	08/26/2020	90219	Delta Dental	592-549-724.000	239.98
08/20	08/26/2020	90219	Delta Dental	592-560-724.000	75.01
08/20	08/26/2020	90219	Delta Dental	701-000-230.110	1,554.46
08/20	08/26/2020	90219	Delta Dental	101-773-724.000	16.00
08/20	08/26/2020	90219	Delta Dental	101-789-724.000	32.03
08/20	08/26/2020	90219	Delta Dental	204-481-724.000	131.51
08/20	08/26/2020	90219	Delta Dental	271-790-724.000	222.79
08/20	08/26/2020	90219	Delta Dental	514-587-724.000	37.10
08/20	08/26/2020	90219	Delta Dental	582-588-724.000	175.92
08/20	08/26/2020	90219	Delta Dental	101-345-724.000	882.40
08/20	08/26/2020	90219	Delta Dental	101-400-724.000	31.86
08/20	08/26/2020	90219	Delta Dental	101-441-724.000	95.28
08/20	08/26/2020	90219	Delta Dental	101-754-724.000	24.88
08/20	08/26/2020	90219	Delta Dental	101-756-724.000	74.37
08/20	08/26/2020	90219	Delta Dental	101-770-724.000	122.90
08/20	08/26/2020	90220	Derrer Oil Co.	661-598-759.000	1,258.52
08/20	08/26/2020	90220	Derrer Oil Co.	661-598-759.000	1,412.60
08/20	08/26/2020	90221	DTE Energy	101-345-920.000	58.26
08/20	08/26/2020	90221	DTE Energy	592-538-920.000	42.98
08/20	08/26/2020	90221	DTE Energy	592-558-920.000	37.48
08/20	08/26/2020	90221	DTE Energy	101-345-920.100	63.75
08/20	08/26/2020	90221	DTE Energy	592-538-920.000	39.93
08/20	08/26/2020	90221	DTE Energy	101-265-924.000	44.21
08/20	08/26/2020	90221	DTE Energy	592-555-920.000	41.54
08/20	08/26/2020	90221	DTE Energy	101-770-924.000	41.76
08/20	08/26/2020	90221	DTE Energy	514-587-802.100	37.48
08/20	08/26/2020	90221	DTE Energy	592-538-920.000	37.48
08/20	08/26/2020	90221	DTE Energy	592-551-920.000	52.76
08/20	08/26/2020	90221	DTE Energy	592-551-920.000	784.88
08/20	08/26/2020	90221	DTE Energy	271-790-924.000	37.48
08/20	08/26/2020	90221	DTE Energy	582-593-924.000	38.09
08/20	08/26/2020	90221	DTE Energy	101-773-924.000	85.76
08/20	08/26/2020	90221	DTE Energy	101-265-924.000	51.53
08/20	08/26/2020	90221	DTE Energy	592-538-920.000	37.48
08/20	08/26/2020	90221	DTE Energy	271-790-924.000	41.76
08/20	08/26/2020	90221	DTE Energy	101-268-924.000	43.59
08/20	08/26/2020	90222	Ducastel, Barbara	271-790-802.000	180.00
08/20	08/26/2020	90223	Dunkel Excavating Services Inc.	204-470-802.000	2,000.00
08/20	08/26/2020	90223	Dunkel Excavating Services Inc.	101-770-802.000	767.50
08/20	08/26/2020	90223	Dunkel Excavating Services Inc.	101-773-802.000	767.50
08/20	08/26/2020	90224	Dunn's Business Solutions	101-172-751.000	14.64
08/20	08/26/2020	90224	Dunn's Business Solutions	101-201-751.000	14.64
08/20	08/26/2020	90224	Dunn's Business Solutions	101-208-751.000	10.25
08/20	08/26/2020	90224	Dunn's Business Solutions	101-257-751.000	7.32
08/20	08/26/2020	90224	Dunn's Business Solutions	101-215-751.000	8.78
08/20	08/26/2020	90224	Dunn's Business Solutions	101-345-751.000	40.99
08/20	08/26/2020	90224	Dunn's Business Solutions	101-400-751.000	7.32
08/20	08/26/2020	90224	Dunn's Business Solutions	101-441-751.000	21.96
08/20	08/26/2020	90224	Dunn's Business Solutions	101-770-751.000	1.46
08/20	08/26/2020	90224	Dunn's Business Solutions	101-773-775.000	1.46
08/20	08/26/2020	90224	Dunn's Business Solutions	101-756-751.000	14.64
08/20	08/26/2020	90224	Dunn's Business Solutions	101-789-751.000	2.94

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08/20	08/26/2020	90225	Emmet County Treasurer	703-040-222.220	424,254.50
08/20	08/26/2020	90225	Emmet County Treasurer	703-040-222.220	26,924.12
08/20	08/26/2020	90225	Emmet County Treasurer	703-040-228.220	529,884.09
08/20	08/26/2020	90226	Fastenal Company	202-475-775.000	13.05
08/20	08/26/2020	90226	Fastenal Company	203-475-775.000	13.05
08/20	08/26/2020	90227	Fletch's Inc.	661-598-932.000	551.78
08/20	08/26/2020	90228	Gordon Food Service	101-268-775.000	26.40-
08/20	08/26/2020	90228	Gordon Food Service	101-756-808.010	37.88
08/20	08/26/2020	90228	Gordon Food Service	592-549-775.000	99.96
08/20	08/26/2020	90228	Gordon Food Service	101-268-775.000	44.93
08/20	08/26/2020	90228	Gordon Food Service	101-268-775.000	10.76
08/20	08/26/2020	90228	Gordon Food Service	101-268-775.000	49.99
08/20	08/26/2020	90229	Grand Traverse Diesel Service	661-598-932.000	62.94
08/20	08/26/2020	90230	Great Lakes Energy	101-345-920.100	255.19
08/20	08/26/2020	90230	Great Lakes Energy	592-538-920.000	44.50
08/20	08/26/2020	90230	Great Lakes Energy	592-558-920.000	69.07
08/20	08/26/2020	90231	Great Lakes Pipe & Supply	101-268-775.000	24.38
08/20	08/26/2020	90231	Great Lakes Pipe & Supply	101-268-775.000	2.99
08/20	08/26/2020	90231	Great Lakes Pipe & Supply	101-770-775.000	12.24
08/20	08/26/2020	90231	Great Lakes Pipe & Supply	101-770-775.000	6.28
08/20	08/26/2020	90231	Great Lakes Pipe & Supply	592-551-775.000	31.74
08/20	08/26/2020	90231	Great Lakes Pipe & Supply	101-770-775.000	185.11
08/20	08/26/2020	90231	Great Lakes Pipe & Supply	592-551-775.000	2.95
08/20	08/26/2020	90232	GRP Engineering Inc.	582-588-802.000	5,522.50
08/20	08/26/2020	90232	GRP Engineering Inc.	582-588-802.000	5,607.50
08/20	08/26/2020	90232	GRP Engineering Inc.	582-588-802.000	1,336.00
08/20	08/26/2020	90233	Haley's Plumbing & Heating	101-265-802.000	940.81
08/20	08/26/2020	90234	Haviland Products Company	592-551-783.000	4,994.96
08/20	08/26/2020	90235	Himebauch, Kelly L	271-790-802.000	480.00
08/20	08/26/2020	90236	Hoffman Roto-Rooter	101-773-802.000	720.00
08/20	08/26/2020	90237	Integrity Business Solutions	204-481-751.000	29.45
08/20	08/26/2020	90237	Integrity Business Solutions	582-593-751.000	29.45
08/20	08/26/2020	90237	Integrity Business Solutions	582-588-751.000	29.45
08/20	08/26/2020	90237	Integrity Business Solutions	592-549-751.000	29.45
08/20	08/26/2020	90237	Integrity Business Solutions	592-560-751.000	29.45
08/20	08/26/2020	90237	Integrity Business Solutions	661-598-751.000	29.46
08/20	08/26/2020	90238	Jakeway, Patricia	271-790-802.000	360.00
08/20	08/26/2020	90238	Jakeway, Patricia	271-790-802.000	390.00
08/20	08/26/2020	90239	John E. Green Co.	271-790-930.000	401.28
08/20	08/26/2020	90239	John E. Green Co.	271-790-930.000	165.00
08/20	08/26/2020	90240	Johnstone Supply #234	101-268-775.000	115.67
08/20	08/26/2020	90241	Kring Chevrolet Cadillac, Dave	661-598-932.000	43.60
08/20	08/26/2020	90241	Kring Chevrolet Cadillac, Dave	661-598-932.000	431.48
08/20	08/26/2020	90241	Kring Chevrolet Cadillac, Dave	661-598-932.000	52.85
08/20	08/26/2020	90241	Kring Chevrolet Cadillac, Dave	661-598-932.000	52.85
08/20	08/26/2020	90242	KSS Enterprises	271-790-752.000	13.08
08/20	08/26/2020	90242	KSS Enterprises	101-756-808.010	131.04
08/20	08/26/2020	90242	KSS Enterprises	101-789-775.000	84.16
08/20	08/26/2020	90242	KSS Enterprises	101-789-775.000	22.62
08/20	08/26/2020	90243	LexisNexis Risk Data Management Inc.	101-208-802.000	150.00
08/20	08/26/2020	90244	Library Design Associates Inc.	271-790-752.000	670.00
08/20	08/26/2020	90244	Library Design Associates Inc.	271-790-752.000	417.00
08/20	08/26/2020	90245	Lowery Underground Service	582-020-360.000	7,691.00
08/20	08/26/2020	90245	Lowery Underground Service	582-598-802.000	2,767.25
08/20	08/26/2020	90245	Lowery Underground Service	582-020-360.000	12,378.00
08/20	08/26/2020	90245	Lowery Underground Service	582-598-802.000	6,674.50

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08/20	08/26/2020	90246	Metro Wire & Cable Corp.	582-010-111.000	1,290.00
08/20	08/26/2020	90247	Michigan Water Environment Assoc.	592-560-915.000	130.00
08/20	08/26/2020	90247	Michigan Water Environment Assoc.	592-560-915.000	130.00
08/20	08/26/2020	90248	Mountaintop Tree Company	204-470-802.000	90.00
08/20	08/26/2020	90249	North Country IT	271-790-802.000	386.00
08/20	08/26/2020	90250	Northern Michigan Review Inc.	101-215-802.000	269.45
08/20	08/26/2020	90250	Northern Michigan Review Inc.	101-345-802.000	303.76
08/20	08/26/2020	90250	Northern Michigan Review Inc.	101-400-802.000	59.44
08/20	08/26/2020	90250	Northern Michigan Review Inc.	101-400-802.000	59.44
08/20	08/26/2020	90251	OTEC Radio Comm. Equipment	661-020-142.000	162.00
08/20	08/26/2020	90252	Pendo	271-790-752.000	401.59
08/20	08/26/2020	90253	Petoskey Parts Plus	661-598-931.000	236.38
08/20	08/26/2020	90253	Petoskey Parts Plus	661-598-932.000	18.40
08/20	08/26/2020	90254	Petoskey Public Schools	703-040-236.220	873,899.26
08/20	08/26/2020	90254	Petoskey Public Schools	703-040-237.220	105,510.52
08/20	08/26/2020	90254	Petoskey Public Schools	703-040-237.220	74,655.17
08/20	08/26/2020	90254	Petoskey Public Schools	703-040-236.220	1,002,118.80
08/20	08/26/2020	90254	Petoskey Public Schools	703-040-237.220	129,898.59
08/20	08/26/2020	90254	Petoskey Public Schools	703-040-237.220	91,893.96
08/20	08/26/2020	90255	Power Line Supply	582-586-775.000	297.60
08/20	08/26/2020	90255	Power Line Supply	582-586-775.000	69.00
08/20	08/26/2020	90255	Power Line Supply	582-588-785.000	50.00
08/20	08/26/2020	90255	Power Line Supply	582-588-785.000	63.00
08/20	08/26/2020	90255	Power Line Supply	582-010-111.000	4,054.50
08/20	08/26/2020	90255	Power Line Supply	582-586-775.000	177.30
08/20	08/26/2020	90255	Power Line Supply	582-010-111.000	790.00
08/20	08/26/2020	90255	Power Line Supply	582-010-111.000	614.75
08/20	08/26/2020	90256	Range Telecommunications	101-756-850.000	50.00
08/20	08/26/2020	90256	Range Telecommunications	204-481-850.000	190.75
08/20	08/26/2020	90256	Range Telecommunications	582-593-850.000	190.75
08/20	08/26/2020	90256	Range Telecommunications	592-549-850.000	190.75
08/20	08/26/2020	90256	Range Telecommunications	592-560-850.000	190.75
08/20	08/26/2020	90257	RICHARD'S TIRE INC.	661-598-931.000	158.28
08/20	08/26/2020	90258	Rieth-Riley Construction Co	592-545-775.000	574.98
08/20	08/26/2020	90259	Royal Tire	661-598-932.000	30.00
08/20	08/26/2020	90260	Ryan Brothers Inc.	582-020-360.000	4,357.04
08/20	08/26/2020	90261	SAFELITE FULFILLMENT INC	661-598-932.000	369.97
08/20	08/26/2020	90262	Safety-Kleen Systems Inc.	661-598-759.000	188.00
08/20	08/26/2020	90263	SiteOne Landscape Supply	204-010-111.000	1,950.00
08/20	08/26/2020	90263	SiteOne Landscape Supply	101-756-778.000	461.56
08/20	08/26/2020	90263	SiteOne Landscape Supply	101-770-775.000	500.65
08/20	08/26/2020	90263	SiteOne Landscape Supply	101-754-775.000	44.10
08/20	08/26/2020	90263	SiteOne Landscape Supply	101-770-775.000	16.49
08/20	08/26/2020	90264	Solutions Electric Inc.	101-789-802.000	138.00
08/20	08/26/2020	90265	Spectrum Business	101-345-850.000	66.65
08/20	08/26/2020	90265	Spectrum Business	514-587-802.100	123.29
08/20	08/26/2020	90265	Spectrum Business	101-345-850.100	181.55
08/20	08/26/2020	90265	Spectrum Business	101-770-850.000	104.98
08/20	08/26/2020	90266	Staples Advantage	101-172-751.000	.69
08/20	08/26/2020	90266	Staples Advantage	101-201-751.000	.69
08/20	08/26/2020	90266	Staples Advantage	101-208-751.000	.48
08/20	08/26/2020	90266	Staples Advantage	101-257-751.000	.34
08/20	08/26/2020	90266	Staples Advantage	101-215-751.000	.41
08/20	08/26/2020	90266	Staples Advantage	101-345-751.000	1.92
08/20	08/26/2020	90266	Staples Advantage	592-560-751.000	2.81
08/20	08/26/2020	90266	Staples Advantage	582-588-751.000	109.90

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08/20	08/26/2020	90266	Staples Advantage	101-400-751.000	.34
08/20	08/26/2020	90266	Staples Advantage	101-441-751.000	1.03
08/20	08/26/2020	90266	Staples Advantage	101-770-751.000	.07
08/20	08/26/2020	90266	Staples Advantage	101-773-775.000	.07
08/20	08/26/2020	90266	Staples Advantage	101-756-751.000	.69
08/20	08/26/2020	90266	Staples Advantage	101-789-751.000	.12
08/20	08/26/2020	90266	Staples Advantage	582-588-751.000	74.10-
08/20	08/26/2020	90266	Staples Advantage	101-172-751.000	12.74
08/20	08/26/2020	90266	Staples Advantage	101-441-751.000	19.11
08/20	08/26/2020	90266	Staples Advantage	101-770-751.000	1.27
08/20	08/26/2020	90266	Staples Advantage	101-773-775.000	1.27
08/20	08/26/2020	90266	Staples Advantage	101-756-751.000	12.74
08/20	08/26/2020	90266	Staples Advantage	101-789-751.000	2.57
08/20	08/26/2020	90266	Staples Advantage	592-560-751.000	.36
08/20	08/26/2020	90266	Staples Advantage	101-201-751.000	12.74
08/20	08/26/2020	90266	Staples Advantage	101-208-751.000	8.92
08/20	08/26/2020	90266	Staples Advantage	101-257-751.000	6.37
08/20	08/26/2020	90266	Staples Advantage	101-215-751.000	7.64
08/20	08/26/2020	90266	Staples Advantage	101-345-751.000	35.67
08/20	08/26/2020	90266	Staples Advantage	101-400-751.000	6.37
08/20	08/26/2020	90266	Staples Advantage	101-172-751.000	1.43
08/20	08/26/2020	90266	Staples Advantage	101-441-751.000	2.15
08/20	08/26/2020	90266	Staples Advantage	101-770-751.000	.14
08/20	08/26/2020	90266	Staples Advantage	101-773-775.000	.14
08/20	08/26/2020	90266	Staples Advantage	101-756-751.000	1.43
08/20	08/26/2020	90266	Staples Advantage	101-789-751.000	.28
08/20	08/26/2020	90266	Staples Advantage	101-201-751.000	1.43
08/20	08/26/2020	90266	Staples Advantage	101-208-751.000	1.00
08/20	08/26/2020	90266	Staples Advantage	101-257-751.000	.72
08/20	08/26/2020	90266	Staples Advantage	101-215-751.000	.86
08/20	08/26/2020	90266	Staples Advantage	101-345-751.000	4.00
08/20	08/26/2020	90266	Staples Advantage	101-400-751.000	.72
08/20	08/26/2020	90267	Sweep Shop, The	271-790-752.000	114.80
08/20	08/26/2020	90268	Teledyne Instruments Inc.	592-551-775.000	248.00
08/20	08/26/2020	90269	Temperature Control Inc.	592-554-802.000	655.80
08/20	08/26/2020	90269	Temperature Control Inc.	592-554-802.000	490.50
08/20	08/26/2020	90270	Tetra Tech Inc	101-526-801.000	842.32
08/20	08/26/2020	90271	Thompson Park Avenue Properties LLC	514-587-802.100	778.47
08/20	08/26/2020	90272	Trace Analytical Laboratories LLC	592-553-802.000	357.00
08/20	08/26/2020	90272	Trace Analytical Laboratories LLC	592-553-802.000	321.00
08/20	08/26/2020	90273	Tri County Excavating	202-451-802.000	200,408.26
08/20	08/26/2020	90273	Tri County Excavating	592-020-342.000	73,191.81
08/20	08/26/2020	90273	Tri County Excavating	592-025-343.000	55,687.11
08/20	08/26/2020	90273	Tri County Excavating	204-444-802.000	34,491.41
08/20	08/26/2020	90273	Tri County Excavating	582-020-360.000	11,922.58
08/20	08/26/2020	90274	Truck & Trailer Specialties	661-020-142.000	661.71
08/20	08/26/2020	90274	Truck & Trailer Specialties	661-020-142.000	555.69
08/20	08/26/2020	90275	USA Blue Book	592-551-775.000	81.18
08/20	08/26/2020	90275	USA Blue Book	592-549-775.000	67.50
08/20	08/26/2020	90275	USA Blue Book	592-537-775.000	128.67
08/20	08/26/2020	90275	USA Blue Book	592-558-775.000	85.64
08/20	08/26/2020	90275	USA Blue Book	592-555-775.000	85.64
08/20	08/26/2020	90276	Valley City Linen	271-790-752.000	25.00
08/20	08/26/2020	90276	Valley City Linen	271-790-752.000	25.00
08/20	08/26/2020	90276	Valley City Linen	271-790-752.000	25.00
08/20	08/26/2020	90276	Valley City Linen	271-790-752.000	25.00

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08/20	08/26/2020	90276	Valley City Linen	271-790-752.000	25.00
08/20	08/26/2020	90277	Van's Business Machines	271-790-986.000	250.00
08/20	08/26/2020	90278	VSP	101-172-724.000	26.88
08/20	08/26/2020	90278	VSP	101-201-724.000	85.12
08/20	08/26/2020	90278	VSP	101-208-724.000	19.88
08/20	08/26/2020	90278	VSP	101-215-724.000	39.76
08/20	08/26/2020	90278	VSP	101-265-724.000	11.98
08/20	08/26/2020	90278	VSP	582-588-724.000	85.12
08/20	08/26/2020	90278	VSP	592-549-724.000	117.88
08/20	08/26/2020	90278	VSP	592-560-724.000	39.76
08/20	08/26/2020	90278	VSP	101-770-724.000	65.24
08/20	08/26/2020	90278	VSP	101-773-724.000	8.06
08/20	08/26/2020	90278	VSP	101-789-724.000	15.62
08/20	08/26/2020	90278	VSP	204-481-724.000	66.64
08/20	08/26/2020	90278	VSP	271-790-724.000	117.04
08/20	08/26/2020	90278	VSP	514-587-724.000	31.92
08/20	08/26/2020	90278	VSP	101-268-724.000	23.32
08/20	08/26/2020	90278	VSP	101-345-724.000	448.58
08/20	08/26/2020	90278	VSP	101-400-724.000	16.46
08/20	08/26/2020	90278	VSP	101-441-724.000	59.25
08/20	08/26/2020	90278	VSP	101-754-724.000	13.24
08/20	08/26/2020	90278	VSP	101-756-724.000	36.57
08/20	08/26/2020	90291	Emergency Medical Products	101-345-775.000	70.88
08/20	08/26/2020	90292	RESCO	582-010-111.000	25,827.08
08/20	08/26/2020	90293	Spartan Distributors Inc.	661-598-931.000	449.00
08/20	08/26/2020	90293	Spartan Distributors Inc.	661-598-931.000	313.65
08/20	08/26/2020	90293	Spartan Distributors Inc.	661-598-931.000	449.00-
08/20	08/27/2020	90294	Blarney Castle Oil Co.	101-789-772.000	9,747.82
08/20	08/27/2020	90294	Blarney Castle Oil Co.	101-789-772.000	3,897.69
08/20	08/27/2020	90294	Blarney Castle Oil Co.	101-789-772.000	2,166.62
08/20	08/27/2020	90294	Blarney Castle Oil Co.	101-789-772.000	4,185.95
08/20	08/27/2020	90294	Blarney Castle Oil Co.	101-789-772.000	3,860.65
08/20	08/27/2020	90295	Dell Marketing L.P.	101-228-775.000	4,586.08
08/20	08/27/2020	90296	JGB Enterprises Inc.	101-770-934.000	1,448.89
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	37.48
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	76.98
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	22.06
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	22.56
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	.51
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	83.96
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	42.30
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	106.30
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	158.97
08/20	08/27/2020	90297	W.W. Fairbairn & Sons	101-773-775.000	6.98
09/20	09/02/2020	90305	5H Irrigation & Maintenance	101-528-802.000	5,142.50
09/20	09/02/2020	90306	All-Phase Electric Supply	101-268-775.000	169.20
09/20	09/02/2020	90306	All-Phase Electric Supply	582-586-775.000	16.46
09/20	09/02/2020	90306	All-Phase Electric Supply	582-010-111.000	71.47
09/20	09/02/2020	90306	All-Phase Electric Supply	582-586-775.000	33.08
09/20	09/02/2020	90306	All-Phase Electric Supply	101-268-775.000	21.00
09/20	09/02/2020	90307	American Waste	101-773-802.000	38.02
09/20	09/02/2020	90307	American Waste	101-773-802.000	500.00
09/20	09/02/2020	90308	BILLER PRESS	514-587-775.000	528.16
09/20	09/02/2020	90309	Blarney Castle Oil Co.	101-789-772.000	7,136.05
09/20	09/02/2020	90309	Blarney Castle Oil Co.	101-789-772.000	7,877.59
09/20	09/02/2020	90309	Blarney Castle Oil Co.	101-789-772.000	1,663.92

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09/20	09/02/2020	90310	Blue Care Network	101-172-724.000	364.12
09/20	09/02/2020	90310	Blue Care Network	101-201-724.000	3,422.78
09/20	09/02/2020	90310	Blue Care Network	101-215-724.000	364.12
09/20	09/02/2020	90310	Blue Care Network	101-265-724.000	502.49
09/20	09/02/2020	90310	Blue Care Network	101-268-724.000	1,081.45
09/20	09/02/2020	90310	Blue Care Network	101-345-724.000	10,341.18
09/20	09/02/2020	90310	Blue Care Network	101-789-724.000	757.38
09/20	09/02/2020	90310	Blue Care Network	271-790-724.000	4,151.02
09/20	09/02/2020	90310	Blue Care Network	514-587-724.000	364.12
09/20	09/02/2020	90310	Blue Care Network	582-588-724.000	3,422.78
09/20	09/02/2020	90310	Blue Care Network	592-549-724.000	1,092.38
09/20	09/02/2020	90310	Blue Care Network	592-560-724.000	1,092.38
09/20	09/02/2020	90310	Blue Care Network	101-400-724.000	582.60
09/20	09/02/2020	90310	Blue Care Network	101-441-724.000	1,529.33
09/20	09/02/2020	90310	Blue Care Network	101-754-724.000	491.57
09/20	09/02/2020	90310	Blue Care Network	101-756-724.000	1,347.26
09/20	09/02/2020	90310	Blue Care Network	101-770-724.000	2,366.81
09/20	09/02/2020	90310	Blue Care Network	101-773-724.000	371.41
09/20	09/02/2020	90311	Carter's Imagewear & Awards	101-773-775.000	30.00
09/20	09/02/2020	90312	CCP Industries Inc.	661-598-785.000	131.91
09/20	09/02/2020	90313	Center Point Large Print	271-790-760.000	106.98
09/20	09/02/2020	90314	Char-Em United Way	701-000-230.800	75.00
09/20	09/02/2020	90315	Charlevoix-Emmet ISD	703-040-234.219	444.98
09/20	09/02/2020	90315	Charlevoix-Emmet ISD	703-040-233.020	31.46
09/20	09/02/2020	90315	Charlevoix-Emmet ISD	703-040-250.000	8,015.90
09/20	09/02/2020	90316	Cintas Corp #729	582-593-930.000	33.72
09/20	09/02/2020	90316	Cintas Corp #729	204-481-767.000	59.27
09/20	09/02/2020	90316	Cintas Corp #729	582-588-767.000	50.23
09/20	09/02/2020	90316	Cintas Corp #729	592-560-767.000	30.51
09/20	09/02/2020	90316	Cintas Corp #729	592-549-767.000	30.51
09/20	09/02/2020	90316	Cintas Corp #729	592-554-802.000	45.45
09/20	09/02/2020	90316	Cintas Corp #729	101-268-802.000	15.54
09/20	09/02/2020	90316	Cintas Corp #729	582-593-930.000	9.07
09/20	09/02/2020	90316	Cintas Corp #729	204-481-767.000	59.27
09/20	09/02/2020	90316	Cintas Corp #729	582-588-767.000	50.23
09/20	09/02/2020	90316	Cintas Corp #729	592-560-767.000	30.51
09/20	09/02/2020	90316	Cintas Corp #729	592-549-767.000	30.51
09/20	09/02/2020	90317	COMPASS MINERALS AMERICA	204-010-111.000	17,265.83
09/20	09/02/2020	90317	COMPASS MINERALS AMERICA	204-010-111.000	17,287.69
09/20	09/02/2020	90317	COMPASS MINERALS AMERICA	204-010-111.000	13,325.84
09/20	09/02/2020	90317	COMPASS MINERALS AMERICA	204-010-111.000	17,360.84
09/20	09/02/2020	90317	COMPASS MINERALS AMERICA	204-010-111.000	42,627.72
09/20	09/02/2020	90318	Corelogic Centralized Refunds	701-040-274.000	19,234.59
09/20	09/02/2020	90319	Dunn's Business Solutions	204-481-751.000	28.37
09/20	09/02/2020	90319	Dunn's Business Solutions	582-593-751.000	28.38
09/20	09/02/2020	90319	Dunn's Business Solutions	582-588-751.000	28.38
09/20	09/02/2020	90319	Dunn's Business Solutions	592-549-751.000	28.38
09/20	09/02/2020	90319	Dunn's Business Solutions	592-560-751.000	28.38
09/20	09/02/2020	90319	Dunn's Business Solutions	661-598-751.000	28.38
09/20	09/02/2020	90320	Emmet County Treasurer	703-040-222.219	58.84
09/20	09/02/2020	90320	Emmet County Treasurer	703-040-228.219	85.91
09/20	09/02/2020	90320	Emmet County Treasurer	703-040-233.020	4.17
09/20	09/02/2020	90320	Emmet County Treasurer	703-040-233.020	5.86
09/20	09/02/2020	90320	Emmet County Treasurer	703-040-250.000	13,559.19
09/20	09/02/2020	90321	Empiric Solutions Inc.	101-228-802.000	8,659.00
09/20	09/02/2020	90322	Englebrecht, Robert	101-257-802.100	3,750.00

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09/20	09/02/2020	90323	Eyes Only Media LLC	248-739-880.200	299.70
09/20	09/02/2020	90324	Fastenal Company	202-475-775.000	52.36
09/20	09/02/2020	90324	Fastenal Company	203-475-775.000	52.37
09/20	09/02/2020	90325	Firman Irrigation & Landscape Lighting	101-773-802.000	4,300.00
09/20	09/02/2020	90326	Fletch's Inc.	661-598-932.000	178.93
09/20	09/02/2020	90326	Fletch's Inc.	661-598-932.000	240.87
09/20	09/02/2020	90327	Fraternal Order of Police	701-000-230.400	924.00
09/20	09/02/2020	90328	Gale/Cengage Learning	271-790-760.000	87.17
09/20	09/02/2020	90328	Gale/Cengage Learning	271-790-760.000	24.79
09/20	09/02/2020	90328	Gale/Cengage Learning	271-790-760.000	28.79
09/20	09/02/2020	90329	Gibby's Garage	582-593-930.000	68.00
09/20	09/02/2020	90329	Gibby's Garage	661-598-931.000	612.00
09/20	09/02/2020	90329	Gibby's Garage	661-598-932.000	306.00
09/20	09/02/2020	90329	Gibby's Garage	101-789-802.000	68.00
09/20	09/02/2020	90329	Gibby's Garage	101-345-802.000	68.00
09/20	09/02/2020	90329	Gibby's Garage	582-593-930.000	340.00
09/20	09/02/2020	90329	Gibby's Garage	661-598-931.000	102.00
09/20	09/02/2020	90329	Gibby's Garage	661-598-932.000	1,666.00
09/20	09/02/2020	90330	Great Lakes Pipe & Supply	101-770-775.000	145.56
09/20	09/02/2020	90331	GREENWOOD CEMETERY BOARD	703-040-238.219	73.44
09/20	09/02/2020	90331	GREENWOOD CEMETERY BOARD	703-040-233.020	5.19
09/20	09/02/2020	90331	GREENWOOD CEMETERY BOARD	703-040-250.000	1,322.93
09/20	09/02/2020	90332	Hill Mountain Signworks LLC	101-754-802.000	70.00
09/20	09/02/2020	90332	Hill Mountain Signworks LLC	101-770-970.000	1,275.00
09/20	09/02/2020	90333	Huntington National Bank	308-756-992.000	32,929.00
09/20	09/02/2020	90333	Huntington National Bank	365-756-992.000	7,221.00
09/20	09/02/2020	90333	Huntington National Bank	271-792-992.000	31,884.38
09/20	09/02/2020	90333	Huntington National Bank	271-792-991.000	210,000.00
09/20	09/02/2020	90334	Industrial Magnetics Inc.	203-469-775.000	460.43
09/20	09/02/2020	90334	Industrial Magnetics Inc.	202-469-775.000	460.43
09/20	09/02/2020	90334	Industrial Magnetics Inc.	592-556-775.000	460.44
09/20	09/02/2020	90335	Integrity Business Solutions	204-481-751.000	29.73
09/20	09/02/2020	90335	Integrity Business Solutions	582-593-751.000	29.73
09/20	09/02/2020	90335	Integrity Business Solutions	582-588-751.000	29.73
09/20	09/02/2020	90335	Integrity Business Solutions	592-549-751.000	29.73
09/20	09/02/2020	90335	Integrity Business Solutions	592-560-751.000	29.73
09/20	09/02/2020	90335	Integrity Business Solutions	661-598-751.000	29.74
09/20	09/02/2020	90336	International Assoc. of Chiefs of Police	101-345-915.000	525.00
09/20	09/02/2020	90337	IR Electric Motor Service	592-554-802.000	262.00
09/20	09/02/2020	90338	Jones & Jones Garage Door Service Inc.	582-593-930.000	325.00
09/20	09/02/2020	90339	LERETA	701-040-274.000	17,482.40
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	14.07
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-010-111.000	42.43
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-785.000	106.74
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-785.000	3.90
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	101-770-775.000	36.70
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	157.59
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-785.000	5.31
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-785.000	23.99
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	13.24
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-010-111.000	4.91
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-785.000	26.84
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-785.000	9.98
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	17.98
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	135.68
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	101-345-775.000	26.32

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09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	15.70
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	18.00-
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	5.01
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	59.94
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-932.000	15.61
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	101-770-775.000	29.93
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-931.000	7.62
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-931.000	115.52
09/20	09/02/2020	90340	Lynn Auto Parts Inc.	661-598-931.000	18.00-
09/20	09/02/2020	90341	Meyer Ace Hardware	271-790-752.000	5.39
09/20	09/02/2020	90341	Meyer Ace Hardware	582-593-775.000	18.99
09/20	09/02/2020	90341	Meyer Ace Hardware	101-770-775.000	28.76
09/20	09/02/2020	90341	Meyer Ace Hardware	592-546-775.000	27.86
09/20	09/02/2020	90341	Meyer Ace Hardware	101-770-775.000	22.82
09/20	09/02/2020	90341	Meyer Ace Hardware	101-268-775.000	4.14
09/20	09/02/2020	90341	Meyer Ace Hardware	271-790-752.000	4.13
09/20	09/02/2020	90341	Meyer Ace Hardware	101-268-775.000	11.31
09/20	09/02/2020	90341	Meyer Ace Hardware	514-587-775.000	31.47
09/20	09/02/2020	90341	Meyer Ace Hardware	101-789-775.000	38.67
09/20	09/02/2020	90341	Meyer Ace Hardware	101-268-775.000	8.99
09/20	09/02/2020	90341	Meyer Ace Hardware	101-756-985.000	13.49
09/20	09/02/2020	90341	Meyer Ace Hardware	101-268-775.000	20.69
09/20	09/02/2020	90341	Meyer Ace Hardware	101-756-775.000	21.58
09/20	09/02/2020	90341	Meyer Ace Hardware	271-790-752.000	68.36
09/20	09/02/2020	90341	Meyer Ace Hardware	101-773-931.000	1.58
09/20	09/02/2020	90341	Meyer Ace Hardware	101-268-775.000	16.18
09/20	09/02/2020	90341	Meyer Ace Hardware	592-542-775.000	43.17
09/20	09/02/2020	90341	Meyer Ace Hardware	101-773-931.000	62.76
09/20	09/02/2020	90341	Meyer Ace Hardware	592-558-775.000	8.99
09/20	09/02/2020	90341	Meyer Ace Hardware	592-542-775.000	25.18
09/20	09/02/2020	90341	Meyer Ace Hardware	101-268-775.000	13.49
09/20	09/02/2020	90341	Meyer Ace Hardware	271-790-751.000	5.38
09/20	09/02/2020	90341	Meyer Ace Hardware	101-268-775.000	16.19
09/20	09/02/2020	90341	Meyer Ace Hardware	101-789-775.000	14.38
09/20	09/02/2020	90341	Meyer Ace Hardware	101-345-751.000	5.39
09/20	09/02/2020	90341	Meyer Ace Hardware	101-770-775.000	28.94
09/20	09/02/2020	90341	Meyer Ace Hardware	514-587-802.100	34.19
09/20	09/02/2020	90341	Meyer Ace Hardware	271-790-751.000	36.66
09/20	09/02/2020	90341	Meyer Ace Hardware	101-268-775.000	14.39
09/20	09/02/2020	90341	Meyer Ace Hardware	101-770-775.000	8.79
09/20	09/02/2020	90342	Michigan Downtown Association	514-587-912.000	300.00
09/20	09/02/2020	90343	Michigan Pure Ice	101-789-775.000	55.00
09/20	09/02/2020	90344	Midwest Tape	271-790-761.000	148.96
09/20	09/02/2020	90344	Midwest Tape	271-790-761.000	39.99
09/20	09/02/2020	90345	Millard's Furniture & Appliance	101-789-985.000	2,600.00
09/20	09/02/2020	90346	Molon Asphalt Inc.	202-132-802.000	1,956.15
09/20	09/02/2020	90347	North Central Mich. College	703-040-250.000	4,422.86
09/20	09/02/2020	90348	Northern A-1 Environmental Services	592-556-802.000	2,873.10
09/20	09/02/2020	90348	Northern A-1 Environmental Services	592-559-802.000	1,340.00
09/20	09/02/2020	90348	Northern A-1 Environmental Services	202-469-802.000	2,500.00
09/20	09/02/2020	90348	Northern A-1 Environmental Services	592-556-802.000	2,357.50
09/20	09/02/2020	90349	NORTHERN BREWING LLC	248-739-955.000	5,000.00
09/20	09/02/2020	90350	Northern Electric 2 LLC	101-770-802.000	268.82
09/20	09/02/2020	90350	Northern Electric 2 LLC	101-789-802.000	300.00
09/20	09/02/2020	90351	On Duty Gear LLC	101-345-775.000	70.47
09/20	09/02/2020	90352	Petoskey Public Schools	703-040-250.000	6,586.07

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09/20	09/02/2020	90353	Print Shop, The	514-587-775.000	40.00
09/20	09/02/2020	90354	Proclean North	592-554-802.000	786.50
09/20	09/02/2020	90354	Proclean North	582-593-930.000	1,529.50
09/20	09/02/2020	90355	RESCO	582-010-111.000	1,173.85
09/20	09/02/2020	90356	Rieth-Riley Construction Co	592-545-775.000	280.50
09/20	09/02/2020	90357	Sanisweep Inc.	203-466-802.000	3,030.00
09/20	09/02/2020	90357	Sanisweep Inc.	202-466-802.000	3,030.00
09/20	09/02/2020	90358	SiteOne Landscape Supply	101-770-775.000	544.54
09/20	09/02/2020	90358	SiteOne Landscape Supply	101-770-775.000	105.70
09/20	09/02/2020	90358	SiteOne Landscape Supply	101-770-775.000	5.72
09/20	09/02/2020	90358	SiteOne Landscape Supply	101-770-775.000	34.00
09/20	09/02/2020	90358	SiteOne Landscape Supply	204-010-111.000	975.00
09/20	09/02/2020	90359	Solutions Electric Inc.	101-268-802.000	435.14
09/20	09/02/2020	90360	Soysolv Biosolvents	592-545-775.000	186.00
09/20	09/02/2020	90360	Soysolv Biosolvents	202-469-775.000	186.00
09/20	09/02/2020	90360	Soysolv Biosolvents	203-464-775.000	186.00
09/20	09/02/2020	90360	Soysolv Biosolvents	202-469-775.000	186.00
09/20	09/02/2020	90360	Soysolv Biosolvents	203-469-775.000	186.00
09/20	09/02/2020	90361	Spectrum Business	582-588-850.000	94.99
09/20	09/02/2020	90361	Spectrum Business	582-588-850.000	94.99
09/20	09/02/2020	90362	Standard Electric Company	582-586-775.000	2.08
09/20	09/02/2020	90363	Team Elmers	101-770-802.000	380.56-
09/20	09/02/2020	90363	Team Elmers	101-756-778.000	660.16-
09/20	09/02/2020	90363	Team Elmers	203-469-802.000	8,195.98
09/20	09/02/2020	90364	TEAMSTERS LOCAL #214	701-000-230.400	1,006.00
09/20	09/02/2020	90365	Trace Analytics LLC	101-345-802.000	80.10
09/20	09/02/2020	90366	Traffic & Safety Control Systems Inc.	514-587-775.000	259.00
09/20	09/02/2020	90367	Triton HydroTools	661-598-932.000	124.75
09/20	09/02/2020	90368	Van Kalker Construction Inc	101-754-802.100	4,420.00
09/20	09/02/2020	90369	Van's Business Machines	514-587-802.000	92.77
09/20	09/02/2020	90370	WATER ENVIRONMENT FEDERATION	592-560-915.000	217.00
09/20	09/02/2020	90371	Wildlife and Wetlands Solutions	101-770-802.000	4,950.00
09/20	09/02/2020	90372	Wineguys Restaurant Group	248-739-955.000	3,536.00
09/20	09/02/2020	90373	Hyde Services LLC	661-598-931.000	77.74
09/20	09/02/2020	90374	Michigan Water Environment Assoc.	592-560-915.000	150.00
09/20	09/02/2020	90375	North Central Mich. College	703-040-235.219	129.33
09/20	09/02/2020	90375	North Central Mich. College	703-040-235.219	116.19
09/20	09/02/2020	90375	North Central Mich. College	703-040-233.000	9.14
09/20	09/02/2020	90375	North Central Mich. College	703-040-233.000	8.22
09/20	09/02/2020	90376	Quality First Aid & Safety Inc.	204-481-767.000	21.50
09/20	09/02/2020	90376	Quality First Aid & Safety Inc.	661-598-767.000	10.74
09/20	09/02/2020	90376	Quality First Aid & Safety Inc.	592-560-767.000	10.74
09/20	09/02/2020	90377	Renkes, Tom	248-739-880.200	150.00
09/20	09/09/2020	90378	5H Irrigation & Maintenance	582-586-802.000	170.00
09/20	09/09/2020	90379	Alliance Entertainment	271-790-761.000	185.71
09/20	09/09/2020	90379	Alliance Entertainment	271-790-761.100	63.20
09/20	09/09/2020	90379	Alliance Entertainment	271-790-761.000	294.44
09/20	09/09/2020	90380	AT&T	101-172-850.000	702.07
09/20	09/09/2020	90380	AT&T	101-201-850.000	374.44
09/20	09/09/2020	90380	AT&T	101-208-850.000	234.02
09/20	09/09/2020	90380	AT&T	101-257-850.000	234.02
09/20	09/09/2020	90380	AT&T	101-215-850.000	187.22
09/20	09/09/2020	90380	AT&T	101-345-850.000	514.85
09/20	09/09/2020	90380	AT&T	582-593-850.000	187.22
09/20	09/09/2020	90380	AT&T	592-549-850.000	280.83
09/20	09/09/2020	90380	AT&T	592-560-850.000	280.84

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09/20	09/09/2020	90380	AT&T	101-400-850.000	234.02
09/20	09/09/2020	90380	AT&T	101-756-850.000	280.83
09/20	09/09/2020	90380	AT&T	101-441-850.000	421.24
09/20	09/09/2020	90380	AT&T	204-481-850.000	140.41
09/20	09/09/2020	90380	AT&T	204-481-850.000	140.41
09/20	09/09/2020	90380	AT&T	582-588-850.000	468.05
09/20	09/09/2020	90380	AT&T	271-790-850.000	106.58
09/20	09/09/2020	90380	AT&T	271-790-850.000	310.13
09/20	09/09/2020	90380	AT&T	582-593-850.000	126.98
09/20	09/09/2020	90381	Baird & Associates Ltd., W.F.	101-770-802.000	36,729.00
09/20	09/09/2020	90382	Benchmark Engineering Inc.	202-451-802.000	593.19
09/20	09/09/2020	90382	Benchmark Engineering Inc.	204-444-802.000	76.90
09/20	09/09/2020	90382	Benchmark Engineering Inc.	592-020-342.000	175.76
09/20	09/09/2020	90382	Benchmark Engineering Inc.	592-025-343.000	175.76
09/20	09/09/2020	90382	Benchmark Engineering Inc.	582-020-360.000	76.89
09/20	09/09/2020	90383	Blarney Castle Oil Co.	101-789-772.000	3,640.48
09/20	09/09/2020	90383	Blarney Castle Oil Co.	101-789-772.000	3,146.34
09/20	09/09/2020	90384	CDW Government	101-228-775.000	434.41
09/20	09/09/2020	90385	Central Michigan University	271-790-955.000	35.00
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	101-265-920.000	1,721.52
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	101-268-920.000	2,199.26
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	101-345-920.000	3,436.80
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	101-345-920.100	1,192.65
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	101-754-920.000	754.33
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	101-770-920.000	12,529.58
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	582-586-920.000	36.23
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	582-593-920.000	1,451.53
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	592-538-920.000	15,453.20
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	592-542-920.000	36.24
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	592-551-920.000	18,485.01
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	592-555-920.000	1,133.96
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	101-773-920.000	4,313.06
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	101-789-920.000	4,659.80
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	204-448-920.000	2,700.00
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	271-790-920.000	4,191.25
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	514-587-802.100	46.49
09/20	09/09/2020	90386	CITY TREAS. FOR UTILITY BILLS	514-587-920.000	431.30
09/20	09/09/2020	90387	COMPASS MINERALS AMERICA	204-010-111.000	29,905.57
09/20	09/09/2020	90387	COMPASS MINERALS AMERICA	204-010-111.000	16,796.66
09/20	09/09/2020	90387	COMPASS MINERALS AMERICA	204-010-111.000	12,557.35
09/20	09/09/2020	90388	Consumers Energy	582-584-802.000	2,812.50
09/20	09/09/2020	90389	Derrer Oil Co.	661-598-759.000	1,377.97
09/20	09/09/2020	90390	Ellison, Andrew G	271-790-958.000	200.00
09/20	09/09/2020	90391	Environmental Systems Research Institute	101-400-751.000	400.00
09/20	09/09/2020	90391	Environmental Systems Research Institute	582-593-802.000	600.00
09/20	09/09/2020	90391	Environmental Systems Research Institute	582-588-802.000	700.00
09/20	09/09/2020	90391	Environmental Systems Research Institute	592-549-802.000	700.00
09/20	09/09/2020	90391	Environmental Systems Research Institute	592-560-802.000	700.00
09/20	09/09/2020	90391	Environmental Systems Research Institute	204-481-802.000	700.00
09/20	09/09/2020	90392	Etna Supply	592-010-111.000	861.60
09/20	09/09/2020	90392	Etna Supply	592-010-111.000	500.00
09/20	09/09/2020	90392	Etna Supply	592-537-775.000	59.05
09/20	09/09/2020	90393	FMW CONSTRUCTION	592-558-802.000	1,784.22
09/20	09/09/2020	90393	FMW CONSTRUCTION	592-558-802.000	738.36
09/20	09/09/2020	90393	FMW CONSTRUCTION	592-544-802.000	35.00
09/20	09/09/2020	90394	Gourdie-Fraser Inc.	202-451-802.000	7,697.92

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09/20	09/09/2020	90394	Gourdie-Fraser Inc.	204-444-802.000	997.88
09/20	09/09/2020	90394	Gourdie-Fraser Inc.	592-020-342.000	2,280.86
09/20	09/09/2020	90394	Gourdie-Fraser Inc.	592-025-343.000	2,280.86
09/20	09/09/2020	90394	Gourdie-Fraser Inc.	582-020-360.000	997.88
09/20	09/09/2020	90395	Haley's Plumbing & Heating	592-547-802.000	240.00
09/20	09/09/2020	90396	Hansen, Carol Margaret	271-790-802.000	360.00
09/20	09/09/2020	90397	Haviland Products Company	592-540-783.000	5,144.85
09/20	09/09/2020	90398	Himebauch, Kelly L	271-790-802.000	450.00
09/20	09/09/2020	90399	Hubbell Roth & Clark Inc.	592-549-802.000	957.00
09/20	09/09/2020	90400	Kanopy Inc	271-790-762.000	2,000.00
09/20	09/09/2020	90401	KSS Enterprises	101-770-934.000	122.70
09/20	09/09/2020	90401	KSS Enterprises	101-789-775.000	24.40
09/20	09/09/2020	90402	Lowery Underground Service	582-020-360.000	10,954.83
09/20	09/09/2020	90402	Lowery Underground Service	582-598-802.000	8,166.67
09/20	09/09/2020	90402	Lowery Underground Service	582-586-802.000	1,342.00
09/20	09/09/2020	90402	Lowery Underground Service	582-020-360.000	2,030.00
09/20	09/09/2020	90402	Lowery Underground Service	582-598-802.000	2,030.00
09/20	09/09/2020	90403	MICHIGAN SECTION A.W.W.A.	592-549-915.000	355.00
09/20	09/09/2020	90404	Midwest Tape	271-790-761.000	34.99
09/20	09/09/2020	90404	Midwest Tape	271-790-761.000	39.99
09/20	09/09/2020	90405	Northern Copy Express Inc.	203-451-802.000	210.00
09/20	09/09/2020	90406	OCLC Inc.	271-790-802.000	18.75
09/20	09/09/2020	90407	P.C. Lawn Care	582-593-930.000	750.00
09/20	09/09/2020	90407	P.C. Lawn Care	582-586-802.000	35.00
09/20	09/09/2020	90407	P.C. Lawn Care	582-586-802.000	180.00
09/20	09/09/2020	90407	P.C. Lawn Care	582-586-802.000	190.00
09/20	09/09/2020	90408	PhoneGuide	271-790-905.000	283.00
09/20	09/09/2020	90409	Police and Firemen's Insurance	701-000-230.185	379.38
09/20	09/09/2020	90410	Power Line Supply	582-588-785.000	3,600.00
09/20	09/09/2020	90410	Power Line Supply	582-010-111.000	542.64
09/20	09/09/2020	90410	Power Line Supply	582-586-775.000	806.52
09/20	09/09/2020	90410	Power Line Supply	582-586-775.000	54.00
09/20	09/09/2020	90410	Power Line Supply	582-588-785.000	3,600.00-
09/20	09/09/2020	90410	Power Line Supply	582-010-111.000	1,104.92
09/20	09/09/2020	90410	Power Line Supply	582-586-775.000	269.70
09/20	09/09/2020	90410	Power Line Supply	582-010-111.000	248.00
09/20	09/09/2020	90411	Preston Feather	582-586-775.000	16.42
09/20	09/09/2020	90411	Preston Feather	101-770-775.000	41.76
09/20	09/09/2020	90411	Preston Feather	582-586-775.000	39.29
09/20	09/09/2020	90411	Preston Feather	582-586-775.000	3.93-
09/20	09/09/2020	90411	Preston Feather	582-586-775.000	1.64-
09/20	09/09/2020	90411	Preston Feather	101-770-775.000	4.18-
09/20	09/09/2020	90412	Print Shop, The	514-587-775.000	337.00
09/20	09/09/2020	90413	SiteOne Landscape Supply	101-770-985.000	27.00
09/20	09/09/2020	90414	Solutions Electric Inc.	271-790-930.000	828.00
09/20	09/09/2020	90415	State of Michigan-Department of LARA	582-081-642.300	3,681.84
09/20	09/09/2020	90415	State of Michigan-Department of LARA	582-081-642.400	728.64
09/20	09/09/2020	90415	State of Michigan-Department of LARA	582-081-642.500	5.52
09/20	09/09/2020	90415	State of Michigan-Department of LARA	582-081-642.200	171.12
09/20	09/09/2020	90416	Tetra Tech Inc	101-526-801.000	538.50
09/20	09/09/2020	90417	T-Mobile	271-790-850.000	358.26
09/20	09/09/2020	90418	Traffic & Safety Control Systems Inc.	514-587-802.000	81.00
09/20	09/09/2020	90419	Trophy Case, The	514-587-775.000	1,665.00
09/20	09/09/2020	90420	TWOGLASSGENTS	582-590-802.000	1,825.00
09/20	09/09/2020	90421	U.S. Postal Service	271-790-905.000	335.30
09/20	09/09/2020	90422	UPS Store, The	592-553-802.000	104.05

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09/20	09/09/2020	90422	UPS Store, The	592-545-802.000	12.31
09/20	09/09/2020	90423	USA Blue Book	592-551-775.000	246.94
09/20	09/09/2020	90424	Van's Business Machines	592-549-751.000	675.00
09/20	09/09/2020	90425	Walters Sharpening Service Inc.	661-598-931.000	76.50
09/20	09/09/2020	90426	Emmet County Treasurer	703-040-222.220	1,312,426.53
09/20	09/09/2020	90426	Emmet County Treasurer	703-040-222.220	84,289.20
09/20	09/09/2020	90426	Emmet County Treasurer	703-040-228.220	1,658,593.34
09/20	09/09/2020	90427	Petoskey Public Schools	703-040-236.220	2,957,120.16
09/20	09/09/2020	90427	Petoskey Public Schools	703-040-237.220	406,664.51
09/20	09/09/2020	90427	Petoskey Public Schools	703-040-237.220	288,366.13
09/20	09/09/2020	90428	Windemuller	592-537-802.000	501.07
09/20	09/14/2020	90429	AT&T	592-560-850.000	309.71
09/20	09/14/2020	90429	AT&T	592-558-920.000	591.70
09/20	09/14/2020	90429	AT&T	592-538-850.000	582.93
09/20	09/14/2020	90429	AT&T	592-538-850.000	582.93
09/20	09/16/2020	90451	Airgas USA LLC	661-598-785.000	27.33
09/20	09/16/2020	90451	Airgas USA LLC	661-598-785.000	58.45
09/20	09/16/2020	90452	All Scapes LLC	101-345-802.100	400.00
09/20	09/16/2020	90452	All Scapes LLC	202-470-802.000	2,830.00
09/20	09/16/2020	90452	All Scapes LLC	592-537-802.000	960.00
09/20	09/16/2020	90452	All Scapes LLC	592-554-802.000	580.00
09/20	09/16/2020	90452	All Scapes LLC	592-543-802.000	160.00
09/20	09/16/2020	90452	All Scapes LLC	592-558-802.000	1,140.00
09/20	09/16/2020	90453	Alro Steel Corporation	661-020-142.000	178.57
09/20	09/16/2020	90454	American Waste	582-593-930.000	170.00
09/20	09/16/2020	90454	American Waste	101-770-802.000	339.79
09/20	09/16/2020	90454	American Waste	101-756-802.000	139.01
09/20	09/16/2020	90454	American Waste	101-789-802.000	154.45
09/20	09/16/2020	90454	American Waste	101-754-802.000	355.24
09/20	09/16/2020	90454	American Waste	101-268-802.000	216.23
09/20	09/16/2020	90454	American Waste	101-265-802.000	339.79
09/20	09/16/2020	90454	American Waste	101-773-931.000	190.00
09/20	09/16/2020	90454	American Waste	101-265-802.000	190.00
09/20	09/16/2020	90454	American Waste	101-770-802.000	190.00
09/20	09/16/2020	90454	American Waste	101-754-802.000	190.00
09/20	09/16/2020	90455	Asplundh Tree Expert LLC	582-586-802.000	2,780.10
09/20	09/16/2020	90455	Asplundh Tree Expert LLC	582-586-802.000	6,178.00
09/20	09/16/2020	90456	AT & T MOBILITY	514-587-920.000	394.83
09/20	09/16/2020	90457	AT&T	592-560-850.000	585.01
09/20	09/16/2020	90457	AT&T	592-558-920.000	288.45
09/20	09/16/2020	90458	Automotive Vision	661-598-932.000	200.00
09/20	09/16/2020	90458	Automotive Vision	661-598-932.000	220.00
09/20	09/16/2020	90459	Ballard's Plumbing & Heating	271-790-930.000	138.32
09/20	09/16/2020	90460	Benchmark Engineering Inc.	204-481-802.000	118.00
09/20	09/16/2020	90461	Blarney Castle Oil Co.	101-789-772.000	6,842.22
09/20	09/16/2020	90461	Blarney Castle Oil Co.	101-789-772.000	3,002.21
09/20	09/16/2020	90462	Bradford Master Dry Cleaners	101-345-775.000	374.30
09/20	09/16/2020	90463	Char-Em United Way	701-000-230.800	75.00
09/20	09/16/2020	90464	Cintas Corp #729	582-593-930.000	33.72
09/20	09/16/2020	90464	Cintas Corp #729	204-481-767.000	59.27
09/20	09/16/2020	90464	Cintas Corp #729	582-588-767.000	50.23
09/20	09/16/2020	90464	Cintas Corp #729	592-560-767.000	30.51
09/20	09/16/2020	90464	Cintas Corp #729	592-549-767.000	30.51
09/20	09/16/2020	90464	Cintas Corp #729	101-268-802.000	15.54
09/20	09/16/2020	90464	Cintas Corp #729	592-554-802.000	45.45
09/20	09/16/2020	90464	Cintas Corp #729	582-593-930.000	9.07

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09/20	09/16/2020	90464	Cintas Corp #729	204-481-767.000	59.27
09/20	09/16/2020	90464	Cintas Corp #729	582-588-767.000	50.23
09/20	09/16/2020	90464	Cintas Corp #729	592-560-767.000	30.51
09/20	09/16/2020	90464	Cintas Corp #729	592-549-767.000	30.51
09/20	09/16/2020	90465	Consumers Energy	592-538-920.000	9,736.99
09/20	09/16/2020	90465	Consumers Energy	592-558-920.000	424.37
09/20	09/16/2020	90466	Cummins Bridgeway LLC	661-598-932.000	100.00
09/20	09/16/2020	90467	Cusack's Masonry Restoration Inc.	101-268-802.000	4,354.18
09/20	09/16/2020	90468	David L Hoffman Landscaping & Nursery	101-770-802.000	110.00
09/20	09/16/2020	90469	Dearborn Life Insurance Co	701-000-230.190	1,897.81
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-172-724.000	19.16
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-201-724.000	44.89
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-208-724.000	19.16
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-215-724.000	21.35
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-265-724.000	4.79
09/20	09/16/2020	90469	Dearborn Life Insurance Co	582-588-724.000	44.55
09/20	09/16/2020	90469	Dearborn Life Insurance Co	592-549-724.000	56.32
09/20	09/16/2020	90469	Dearborn Life Insurance Co	592-560-724.000	19.16
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-770-724.000	35.45
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-773-724.000	5.75
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-789-724.000	10.54
09/20	09/16/2020	90469	Dearborn Life Insurance Co	204-481-724.000	66.24
09/20	09/16/2020	90469	Dearborn Life Insurance Co	271-790-724.000	69.25
09/20	09/16/2020	90469	Dearborn Life Insurance Co	514-587-724.000	32.77
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-268-724.000	11.98
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-345-724.000	446.72
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-400-724.000	11.50
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-441-724.000	32.57
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-754-724.000	5.27
09/20	09/16/2020	90469	Dearborn Life Insurance Co	101-756-724.000	16.29
09/20	09/16/2020	90470	Derrer Oil Co.	661-598-759.000	1,182.77
09/20	09/16/2020	90470	Derrer Oil Co.	661-598-759.000	31.32
09/20	09/16/2020	90471	Dinon Law PLLC	101-266-802.000	245.00
09/20	09/16/2020	90472	Drost Landscape	204-470-802.000	335.00
09/20	09/16/2020	90473	Dunn's Business Solutions	101-172-751.000	9.84
09/20	09/16/2020	90473	Dunn's Business Solutions	101-201-751.000	9.84
09/20	09/16/2020	90473	Dunn's Business Solutions	101-208-751.000	6.89
09/20	09/16/2020	90473	Dunn's Business Solutions	101-257-751.000	4.92
09/20	09/16/2020	90473	Dunn's Business Solutions	101-215-751.000	5.90
09/20	09/16/2020	90473	Dunn's Business Solutions	101-789-751.000	1.96
09/20	09/16/2020	90473	Dunn's Business Solutions	101-345-751.000	27.54
09/20	09/16/2020	90473	Dunn's Business Solutions	101-400-751.000	4.92
09/20	09/16/2020	90473	Dunn's Business Solutions	101-441-751.000	14.76
09/20	09/16/2020	90473	Dunn's Business Solutions	101-770-751.000	.98
09/20	09/16/2020	90473	Dunn's Business Solutions	101-773-775.000	.98
09/20	09/16/2020	90473	Dunn's Business Solutions	101-756-751.000	9.84
09/20	09/16/2020	90474	Emmet Co. Dept of Public Works	101-529-802.000	7,112.07
09/20	09/16/2020	90475	Englebrecht, Robert	101-257-802.100	3,750.00
09/20	09/16/2020	90476	Ever-Green Lawn Care	582-586-802.000	350.00
09/20	09/16/2020	90477	Evergreen Resort	582-588-912.000	409.50
09/20	09/16/2020	90478	Fastenal Company	661-598-785.000	78.66
09/20	09/16/2020	90478	Fastenal Company	592-549-785.000	208.33
09/20	09/16/2020	90478	Fastenal Company	592-549-785.000	159.00
09/20	09/16/2020	90478	Fastenal Company	592-549-785.000	329.00
09/20	09/16/2020	90479	Fettig's Landscaping Inc.	101-770-802.000	917.35
09/20	09/16/2020	90479	Fettig's Landscaping Inc.	202-467-802.000	1,396.48

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09/20	09/16/2020	90480	Fletch's Inc.	661-598-932.000	121.84
09/20	09/16/2020	90481	Gibby's Garage	582-593-930.000	340.00
09/20	09/16/2020	90481	Gibby's Garage	661-598-931.000	340.00
09/20	09/16/2020	90481	Gibby's Garage	661-598-932.000	748.00
09/20	09/16/2020	90481	Gibby's Garage	101-345-802.000	102.00
09/20	09/16/2020	90481	Gibby's Garage	582-593-930.000	170.00
09/20	09/16/2020	90481	Gibby's Garage	661-598-932.000	748.00
09/20	09/16/2020	90481	Gibby's Garage	661-598-931.000	136.00
09/20	09/16/2020	90482	Gibson Excavating LLC	592-545-802.000	7,127.50
09/20	09/16/2020	90482	Gibson Excavating LLC	592-544-802.000	1,020.00
09/20	09/16/2020	90482	Gibson Excavating LLC	202-479-802.000	400.00
09/20	09/16/2020	90482	Gibson Excavating LLC	203-479-802.000	400.00
09/20	09/16/2020	90483	Gourdie-Fraser Inc.	202-451-802.000	11,787.60
09/20	09/16/2020	90483	Gourdie-Fraser Inc.	204-444-802.000	1,227.88
09/20	09/16/2020	90483	Gourdie-Fraser Inc.	592-020-342.000	6,139.37
09/20	09/16/2020	90483	Gourdie-Fraser Inc.	592-025-343.000	4,174.78
09/20	09/16/2020	90483	Gourdie-Fraser Inc.	582-020-360.000	1,227.87
09/20	09/16/2020	90484	Great Lakes Energy	592-538-920.000	43.96
09/20	09/16/2020	90484	Great Lakes Energy	592-558-920.000	56.86
09/20	09/16/2020	90484	Great Lakes Energy	101-345-920.100	238.14
09/20	09/16/2020	90484	Great Lakes Energy	592-538-920.000	48.75
09/20	09/16/2020	90484	Great Lakes Energy	592-558-920.000	66.37
09/20	09/16/2020	90485	Haley's Plumbing & Heating	592-537-802.000	275.25
09/20	09/16/2020	90485	Haley's Plumbing & Heating	592-554-802.000	151.51
09/20	09/16/2020	90486	Hansen, Carol Margaret	271-790-802.000	120.00
09/20	09/16/2020	90487	Hyde Services LLC	661-020-142.000	6,837.70
09/20	09/16/2020	90487	Hyde Services LLC	661-598-932.000	1,938.82
09/20	09/16/2020	90487	Hyde Services LLC	661-020-142.000	60.14
09/20	09/16/2020	90488	Ingram Library Services	271-790-760.000	1,756.15
09/20	09/16/2020	90488	Ingram Library Services	271-790-760.100	1,956.92
09/20	09/16/2020	90488	Ingram Library Services	271-790-760.200	87.40
09/20	09/16/2020	90488	Ingram Library Services	271-790-958.200	125.34
09/20	09/16/2020	90489	John E. Green Co.	271-790-930.000	255.00
09/20	09/16/2020	90490	K & J Septic Service LLC	101-770-802.000	140.00
09/20	09/16/2020	90490	K & J Septic Service LLC	101-770-802.000	340.00
09/20	09/16/2020	90491	Kent Adhesive Products Co.	271-790-751.000	72.94
09/20	09/16/2020	90492	KSS Enterprises	101-773-775.000	13.65
09/20	09/16/2020	90492	KSS Enterprises	101-789-775.000	13.65
09/20	09/16/2020	90492	KSS Enterprises	101-773-775.000	193.80
09/20	09/16/2020	90492	KSS Enterprises	101-789-775.000	193.80
09/20	09/16/2020	90492	KSS Enterprises	271-790-752.000	237.22
09/20	09/16/2020	90493	Lemieur, Bridgette	101-172-751.000	2.64
09/20	09/16/2020	90493	Lemieur, Bridgette	101-201-751.000	2.64
09/20	09/16/2020	90493	Lemieur, Bridgette	101-208-751.000	1.85
09/20	09/16/2020	90493	Lemieur, Bridgette	101-257-751.000	1.32
09/20	09/16/2020	90493	Lemieur, Bridgette	101-215-751.000	1.58
09/20	09/16/2020	90493	Lemieur, Bridgette	101-789-751.000	.53
09/20	09/16/2020	90493	Lemieur, Bridgette	101-345-751.000	6.87
09/20	09/16/2020	90493	Lemieur, Bridgette	101-400-751.000	1.32
09/20	09/16/2020	90493	Lemieur, Bridgette	101-441-751.000	3.96
09/20	09/16/2020	90493	Lemieur, Bridgette	101-770-751.000	.79
09/20	09/16/2020	90493	Lemieur, Bridgette	101-773-775.000	.26
09/20	09/16/2020	90493	Lemieur, Bridgette	101-756-751.000	2.64
09/20	09/16/2020	90494	MAGLOCLEN	101-345-915.000	400.00
09/20	09/16/2020	90495	Meyer Ace Hardware	101-770-775.000	8.79
09/20	09/16/2020	90495	Meyer Ace Hardware	101-770-775.000	10.06

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09/20	09/16/2020	90495	Meyer Ace Hardware	101-345-775.000	8.09
09/20	09/16/2020	90495	Meyer Ace Hardware	101-770-775.000	26.58
09/20	09/16/2020	90495	Meyer Ace Hardware	101-773-775.000	5.38
09/20	09/16/2020	90495	Meyer Ace Hardware	101-770-775.000	12.22
09/20	09/16/2020	90495	Meyer Ace Hardware	514-587-802.100	9.69
09/20	09/16/2020	90495	Meyer Ace Hardware	101-770-775.000	32.34
09/20	09/16/2020	90495	Meyer Ace Hardware	101-789-775.000	21.79
09/20	09/16/2020	90495	Meyer Ace Hardware	101-770-775.000	229.49
09/20	09/16/2020	90495	Meyer Ace Hardware	101-773-931.000	421.65
09/20	09/16/2020	90495	Meyer Ace Hardware	101-770-775.000	45.47
09/20	09/16/2020	90496	Millard's Furniture & Appliance	101-789-985.000	2,600.00
09/20	09/16/2020	90497	Otis Elevator Co.	271-790-802.000	1,950.00
09/20	09/16/2020	90498	Petoskey Regional Chamber	271-790-915.000	340.00
09/20	09/16/2020	90499	Plunkett Cooney	101-266-802.000	402.50
09/20	09/16/2020	90499	Plunkett Cooney	101-266-802.000	2,825.00
09/20	09/16/2020	90499	Plunkett Cooney	101-257-802.000	3,672.50
09/20	09/16/2020	90499	Plunkett Cooney	101-266-802.000	6,513.00
09/20	09/16/2020	90499	Plunkett Cooney	101-266-802.000	405.92
09/20	09/16/2020	90499	Plunkett Cooney	204-481-802.000	405.92
09/20	09/16/2020	90499	Plunkett Cooney	582-588-802.000	405.92
09/20	09/16/2020	90499	Plunkett Cooney	592-549-802.000	405.92
09/20	09/16/2020	90499	Plunkett Cooney	592-560-802.000	405.92
09/20	09/16/2020	90499	Plunkett Cooney	101-266-802.000	4,413.60
09/20	09/16/2020	90500	Print Shop, The	582-592-775.000	70.00
09/20	09/16/2020	90501	Proclean North	592-554-802.000	726.00
09/20	09/16/2020	90501	Proclean North	582-593-930.000	1,330.00
09/20	09/16/2020	90502	Quality First Aid & Safety Inc.	582-593-930.000	31.97
09/20	09/16/2020	90503	Range Telecommunications	101-756-850.000	50.00
09/20	09/16/2020	90503	Range Telecommunications	204-481-850.000	50.00
09/20	09/16/2020	90503	Range Telecommunications	582-593-850.000	100.00
09/20	09/16/2020	90503	Range Telecommunications	592-549-850.000	70.70
09/20	09/16/2020	90503	Range Telecommunications	592-560-850.000	70.71
09/20	09/16/2020	90504	Ryan Brothers Inc.	204-444-802.000	700.00
09/20	09/16/2020	90504	Ryan Brothers Inc.	202-469-802.000	1,157.51
09/20	09/16/2020	90504	Ryan Brothers Inc.	592-545-802.000	800.00
09/20	09/16/2020	90504	Ryan Brothers Inc.	582-020-360.000	3,721.67
09/20	09/16/2020	90504	Ryan Brothers Inc.	592-545-802.000	656.00
09/20	09/16/2020	90505	Safety-Kleen Systems Inc.	661-598-785.000	309.70
09/20	09/16/2020	90505	Safety-Kleen Systems Inc.	101-773-775.000	117.00
09/20	09/16/2020	90505	Safety-Kleen Systems Inc.	592-544-802.000	706.00
09/20	09/16/2020	90506	SiteOne Landscape Supply	101-770-775.000	24.97
09/20	09/16/2020	90507	Solutions Electric Inc.	271-790-930.000	284.72
09/20	09/16/2020	90508	Spartan Distributors Inc.	661-598-931.000	344.85
09/20	09/16/2020	90508	Spartan Distributors Inc.	661-598-931.000	145.54
09/20	09/16/2020	90509	Spectrum Business	592-560-850.000	37.80
09/20	09/16/2020	90509	Spectrum Business	582-593-850.000	37.80
09/20	09/16/2020	90509	Spectrum Business	101-172-850.000	33.75
09/20	09/16/2020	90509	Spectrum Business	101-201-850.000	18.00
09/20	09/16/2020	90509	Spectrum Business	101-208-850.000	11.25
09/20	09/16/2020	90509	Spectrum Business	101-257-850.000	11.25
09/20	09/16/2020	90509	Spectrum Business	101-215-850.000	9.00
09/20	09/16/2020	90509	Spectrum Business	101-345-850.000	24.75
09/20	09/16/2020	90509	Spectrum Business	582-593-850.000	9.00
09/20	09/16/2020	90509	Spectrum Business	592-549-850.000	13.50
09/20	09/16/2020	90509	Spectrum Business	592-560-850.000	13.48
09/20	09/16/2020	90509	Spectrum Business	101-400-850.000	11.25

GL Period	Check Issue Date	Check Number	Payee	Invoice GL Account	Check Amount
09/20	09/16/2020	90509	Spectrum Business	101-441-850.000	20.25
09/20	09/16/2020	90509	Spectrum Business	101-756-850.000	13.50
09/20	09/16/2020	90509	Spectrum Business	204-481-850.000	6.75
09/20	09/16/2020	90509	Spectrum Business	204-481-850.000	6.75
09/20	09/16/2020	90509	Spectrum Business	582-588-850.000	22.50
09/20	09/16/2020	90510	Standard Electric Company	582-010-111.000	37.59
09/20	09/16/2020	90511	Sunny Communications Inc.	101-345-782.000	85.00
09/20	09/16/2020	90512	Sweep Shop, The	271-790-985.000	997.60
09/20	09/16/2020	90513	UpNorth Fire & Safety LLC	101-268-802.000	133.50
09/20	09/16/2020	90513	UpNorth Fire & Safety LLC	101-268-802.000	75.00
09/20	09/16/2020	90513	UpNorth Fire & Safety LLC	101-789-802.000	95.00
09/20	09/16/2020	90513	UpNorth Fire & Safety LLC	101-770-802.000	45.00
09/20	09/16/2020	90513	UpNorth Fire & Safety LLC	101-770-802.000	55.00
09/20	09/16/2020	90513	UpNorth Fire & Safety LLC	101-773-802.000	10.00
09/20	09/16/2020	90513	UpNorth Fire & Safety LLC	101-265-802.000	5.00
09/20	09/16/2020	90514	Van's Business Machines	271-790-931.000	65.00
09/20	09/16/2020	90515	Verizon Wireless	101-345-850.000	48.08
09/20	09/16/2020	90515	Verizon Wireless	204-481-850.000	6.52
09/20	09/16/2020	90515	Verizon Wireless	592-549-850.000	1.09
09/20	09/16/2020	90515	Verizon Wireless	101-345-850.000	36.01
09/20	09/16/2020	90515	Verizon Wireless	101-770-850.000	36.01
09/20	09/16/2020	90515	Verizon Wireless	101-773-850.000	53.48
09/20	09/16/2020	90515	Verizon Wireless	101-789-850.000	52.72
09/20	09/16/2020	90515	Verizon Wireless	101-770-850.000	72.02
09/20	09/16/2020	90515	Verizon Wireless	101-345-850.000	72.02
09/20	09/16/2020	90515	Verizon Wireless	101-345-850.000	79.98
09/20	09/16/2020	90515	Verizon Wireless	592-538-850.000	80.04
09/20	09/16/2020	90515	Verizon Wireless	592-538-920.000	280.07
09/20	09/16/2020	90516	W.W. Fairbairn & Sons	101-773-775.000	5.29
09/20	09/16/2020	90516	W.W. Fairbairn & Sons	101-789-775.000	43.15
09/20	09/16/2020	90516	W.W. Fairbairn & Sons	101-773-775.000	43.15
09/20	09/16/2020	90516	W.W. Fairbairn & Sons	101-789-775.000	43.15-
09/20	09/16/2020	90516	W.W. Fairbairn & Sons	101-773-775.000	14.45
08/20	08/19/2020	999066	ACH-CHILD SUPPORT	701-000-230.160	160.23
08/20	08/19/2020	999067	ACH-EFTPS	701-000-230.200	14,314.05
08/20	08/19/2020	999067	ACH-EFTPS	701-000-230.100	24,674.89
08/20	08/19/2020	999067	ACH-EFTPS	701-000-230.200	14,314.05
08/20	08/19/2020	999067	ACH-EFTPS	701-000-230.200	3,347.67
08/20	08/19/2020	999067	ACH-EFTPS	701-000-230.200	3,347.67
08/20	08/19/2020	999068	ACH-ICMA 457	701-000-230.700	2,232.63
08/20	08/19/2020	999068	ACH-ICMA 457	701-000-230.700	5,170.00
08/20	08/19/2020	999069	ICMA 401	701-000-230.700	641.21
08/20	08/19/2020	999070	ICMA-ROTH	701-000-230.900	595.00
08/20	08/19/2020	999071	Mers DC 45	001-000-001.001	313.46
08/20	08/19/2020	999071	Mers DC 45	001-000-001.001	299.03
08/20	08/19/2020	999071	Mers DC 45	701-000-230.120	783.59
08/20	08/19/2020	999071	Mers DC 45	701-000-230.120	747.55
09/20	09/02/2020	999072	ACH-CHILD SUPPORT	701-000-230.160	160.23
09/20	09/02/2020	999073	ACH-EFTPS	701-000-230.200	12,928.35
09/20	09/02/2020	999073	ACH-EFTPS	701-000-230.100	21,390.69
09/20	09/02/2020	999073	ACH-EFTPS	701-000-230.200	12,928.35
09/20	09/02/2020	999073	ACH-EFTPS	701-000-230.200	3,023.55
09/20	09/02/2020	999073	ACH-EFTPS	701-000-230.200	3,023.55
09/20	09/02/2020	999074	ACH-ICMA 457	701-000-230.700	1,989.62
09/20	09/02/2020	999074	ACH-ICMA 457	701-000-230.700	5,070.00
09/20	09/02/2020	999075	ICMA 401	701-000-230.700	641.21

GL Period	Check Issue Date	Check Number	Payee	Invoice GL Account	Check Amount
09/20	09/02/2020	999076	ICMA-ROTH	701-000-230.900	595.00
09/20	09/16/2020	999077	ACH-CHILD SUPPORT	701-000-230.160	160.23
09/20	09/16/2020	999078	ACH-EFTPS	701-000-230.200	12,993.68
09/20	09/16/2020	999078	ACH-EFTPS	701-000-230.100	21,791.46
09/20	09/16/2020	999078	ACH-EFTPS	701-000-230.200	12,993.68
09/20	09/16/2020	999078	ACH-EFTPS	701-000-230.200	3,038.87
09/20	09/16/2020	999078	ACH-EFTPS	701-000-230.200	3,038.87
09/20	09/16/2020	999079	ACH-ICMA 457	701-000-230.700	2,286.36
09/20	09/16/2020	999079	ACH-ICMA 457	701-000-230.700	5,070.00
09/20	09/16/2020	999080	ICMA 401	701-000-230.700	641.21
09/20	09/16/2020	999081	ICMA-ROTH	701-000-230.900	595.00
09/20	09/16/2020	999082	Mers DC 45	001-000-001.001	305.35
09/20	09/16/2020	999082	Mers DC 45	001-000-001.001	296.59
09/20	09/16/2020	999082	Mers DC 45	701-000-230.120	763.32
09/20	09/16/2020	999082	Mers DC 45	701-000-230.120	741.46
Grand Totals:					12,704,350.78

Report Criteria:
Check.Check issue date = 08/13/2020-09/16/2020

Check Number	Check Issue Date	Name	GL Account	Amount
90134	08/19/2020	Arthur Francis Life Estate	582081642300	16.48
90135	08/19/2020	Grubaugh, Valerie	101087654000	50.00
90136	08/19/2020	Lakeview Tattoo	582040285000	123.63
90137	08/19/2020	Sandamudi, Shyam S	701040274000	10.00
90138	08/19/2020	Swabash, Linda	101087654000	50.00
90139	08/19/2020	Tuck, Patrick	101087654000	50.00
90279	08/26/2020	Aiken, Natalie	582081642300	62.97
90280	08/26/2020	Buck's Body Shop	582081642300	145.94
90281	08/26/2020	Ducastel, Johnathon	582081642300	93.98
90282	08/26/2020	Kirkby, Margaret	582081642300	276.56
90283	08/26/2020	Krease, James	582081642300	10.50
90284	08/26/2020	Malone, James	582081642300	119.02
90285	08/26/2020	Moore, Tiffany	582081642300	2.70
90286	08/26/2020	Nagel, Terri	582081642300	11.25
90287	08/26/2020	North Beach Properties	582081642300	5.33
90288	08/26/2020	RJH Family Trust	582081642300	279.25
90289	08/26/2020	Sulak, Ashley	592040285000	1.62
90289	08/26/2020	Sulak, Ashley	582040285000	75.00
90290	08/26/2020	Thurman, John	582081642300	179.08
90298	09/02/2020	Cornwell, Garett	701040274000	12.00
90299	09/02/2020	Howard Property Partners	701040274000	25,138.06
90300	09/02/2020	Mackinaw Rental Co	701040274000	3,091.11
90301	09/02/2020	Oelke, John	701040274000	191.25
90302	09/02/2020	Wells Fargo Home Mortgage	701040274000	4,617.94
90303	09/02/2020	Winters Kelsey & Zachary Harbison	582040285000	52.90
90304	09/02/2020	Wyhowski, Julie	101087653000	483.75
90430	09/16/2020	Caretti, Kristin	101087654000	50.00
90431	09/16/2020	Catinella, Sheena	101087653000	26.00
90432	09/16/2020	Dey, Megan	101087654000	50.00
90433	09/16/2020	Frauenknecht, Jessica	101087654000	100.00
90434	09/16/2020	Gregory, Julie	101087654000	50.00
90435	09/16/2020	Gustafson, Dale	582040285000	67.96
90436	09/16/2020	Hansen, William & Kaitlyn	582081642300	349.54
90437	09/16/2020	Hopkins, Julie	101087654000	50.00
90438	09/16/2020	Iaquinto, Cole	101087654000	50.00
90439	09/16/2020	Kelly, Anne	101087654000	50.00
90440	09/16/2020	Leslie, Hugh	101087654000	50.00
90441	09/16/2020	Nathe, Julie	101087654000	50.00
90442	09/16/2020	NMSMC	101087654000	50.00
90443	09/16/2020	Pattullo, Colleen	101087654000	50.00
90444	09/16/2020	Pyjar, Peggy	101087654000	50.00
90445	09/16/2020	Schafer, Charles	582081642300	213.50
90446	09/16/2020	Schrage, Sherry	582040285000	59.62
90447	09/16/2020	Thurston, Larry	101087654000	50.00
90448	09/16/2020	Walters, Stephen	101087654000	50.00
90449	09/07/2020	McNeil, Brittany	582081642300	24.75
90450	09/09/2020	Davis, Mike	101090644040	37.00
Grand Totals:				36,678.69

City of Petoskey

Agenda Memo

BOARD: City Council

MEETING DATE: September 21, 2020 **PREPARED:** September 17, 2020

AGENDA SUBJECT: Appointment Recommendations

RECOMMENDATION: That the City Council consider these appointments

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The City Council will be asked to consider the following appointments:

- COMPENSATION COMMISSION:
    - Anne Chaffee, 523 College View Drive, for a one-year term ending September 2021;
    - Anne Srigley, 510 Harvey Street, for a two-year term ending September 2022;
    - John Holec, 425 Myrtle Street, for a three-year term ending September 2023;
    - Gordon Bourland, 121 West Lake Street, for a four-year term ending September 2024; and
    - Deborah Cadieux, 721 Grove Street, for a five-year term ending September 2025; and
- PLANNING COMMISSION – Reappointment of Eric Yetter, 840 Lindell Avenue, for a three-year term ending August 2023.

sb
Enclosures

City of Petoskey

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CITY OF PETOSKEY
CITY MANAGER

GB

Application to Serve on a Board or Commission

Please print. Answer each question accurately and completely. If you require any accommodation to complete the application process, please notify a City staff member.

■ Name	CHAFFEE (Last)	ANNE (First)	E (Initial)	■ Date	08/25/20
■ Residence Address	523 (Number)	COLLEGE Ave (Street)	PETOSKEY (City)	MI (State)	49770 (Zip)
■ Home Phone	231	347	0838		
■ Email Address	Aechaffee@sbcglobal.net			■ Work Phone	— — —

Please answer the following questions using the space provided.

1. What Board or Commission interests you and why are you applying? I was asked to consider the Compensation Commission.

2. How do you believe your appointment would benefit the City? I research and read before making a decision; listen and consider diverse points of view.

3. Describe any involvement in the community on a Board or Commission or in another volunteer capacity. None

4. How many continuous years have you lived in Petoskey? Almost 18 years

5. Any other helpful information relevant to your application. I have no vested interest (personal or family interests) in any decisions reached by this commission. My sole interest is that it is the civic duty of each of us in the community to be actively involved in good governance.

While it is not required, a resume is helpful in the recruitment process for City Boards and Commissions.

☒ YES ☐ NO Are you a City of Petoskey registered voter?

☐ YES ☒ NO Do you or immediate family members currently serve on a City Board or Commission? If yes, which Board or Commission? _____

☐ YES ☒ NO Are you applying to the Downtown Management Board? If yes, do you have an interest in property located in the downtown district or are you a resident of the downtown district? Please explain.

The applicant acknowledges that the City may be required from time to time to release records in its possession. The applicant hereby gives permission to the City to release any records or materials received by the City from the applicant as it may be requested to do so as permitted by the Freedom of Information Act, MCL 15.231 et seq.

Applicant Signature: Anne E Chaffee Date: 08/25/20

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CITY MANAGER

43

Application to Serve on a Board or Commission

Please print. Answer each question accurately and completely. If you require any accommodation to complete the application process, please notify a City staff member.

■ Name	SRIGLEY (Last)	ANNE (First)		■ Date	8	17	2020
Residence ■ Address	510 (Number)	HARVEY (Street)	PETOSKEY (City)	MI (State)	49770 (Zip)	Home ■ Phone	231 347 7365
Email ■ Address	abksjsa@gmail.com			Work ■ Phone			

Please answer the following questions using the space provided.

1. What Board or Commission interests you and why are you applying? I'm applying for a position on the compensation Commission because I feel an adjustment in compensation is sorely needed.
2. How do you believe your appointment would benefit the City? I'm willing to research the subject thoroughly, & make thoughtful decisions.
3. Describe any involvement in the community on a Board or Commission or in another volunteer capacity. _____
4. How many continuous years have you lived in Petoskey? 44 years
5. Any other helpful information relevant to your application. _____

While it is not required, a resume is helpful in the recruitment process for City Boards and Commissions.

[X] YES [ ] NO Are you a City of Petoskey registered voter?

[ ] YES [X] NO Do you or immediate family members currently serve on a City Board or Commission? If yes, which Board or Commission? _____

[ ] YES [X] NO Are you applying to the Downtown Management Board? If yes, do you have an interest in property located in the downtown district or are you a resident of the downtown district? Please explain.

The applicant acknowledges that the City may be required from time to time to release records in its possession. The applicant hereby gives permission to the City to release any records or materials received by the City from the applicant as it may be requested to do so as permitted by the Freedom of Information Act, MCL 15.231 et seq.

Applicant Signature: Anne Srigley Date: 8/17/2020

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CITY MANAGER
93

Application to Serve on a Board or Commission

Please print. Answer each question accurately and completely. If you require any accommodation to complete the application process, please notify a City staff member.

■ Name	Holec (Last)	John (First)	(Initial)	■ Date	08	13	2020	
■ Residence Address	425 (Number)	Myrtle Street (Street)	Petoskey (City)	MI (State)	49770 (Zip)	■ Home Phone	231	347	4199
■ Email Address	only1papa4u@yahoo.com					■ Work Phone			

Please answer the following questions using the space provided.

1. What Board or Commission interests you and why are you applying? "Compensation" commitee, being formed

2. How do you believe your appointment would benefit the City? I have no positive or negative, pre conceived, thoughts about the amount to be paid to our elected officials, a neutral voice. Mr. Reg Smith has already spokedn up in the PNR and I'm sure there will others on both sides

3. Describe any involvement in the community on a Board or Commission or in another volunteer capacity. Little Tarverse Civic Theater

4. How many continuous years have you lived in Petoskey? 42 years

5. Any other helpful information relevant to your application.

While it is not required, a resume is helpful in the recruitment process for City Boards and Commissions.

- [x] YES [ ] NO Are you a City of Petoskey registered voter?
- [ ] YES [x] NO Do you or immediate family members currently serve on a City Board or Commission? If yes, which Board or Commission?
- [ ] YES [x] NO Are you applying to the Downtown Management Board? If yes, do you have an interest in property located in the downtown district or are you a resident of the downtown district? Please explain.

The applicant acknowledges that the City may be required from time to time to release records in its possession. The applicant hereby gives permission to the City to release any records or materials received by the City from the applicant as it may be requested to do so as permitted by the Freedom of Information Act, MCL 15.231 et seq.

Applicant Signature: _____ Date: 8/13/2020

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CITY MANAGER

Application to Serve on a Board or Commission

Please print. Answer each question accurately and completely. If you require any accommodation to complete the application process, please notify a City staff member.

■ Name	BOURLAND (Last)	GORDON (First)	E (Initial)	■ Date	7 28 20
■ Residence Address	121 (Number)	W. LAKE ST (Street)	PETOSKEY (City)	MI (State) 49770 (Zip)	■ Home Phone: 231 439 0263
■ Email Address	gbourland@charter.net			■ ~~Work~~ Cell Phone	231 203 3101

Please answer the following questions using the space provided.

1. What Board or Commission interests you and why are you applying? COMPENSATION

2. How do you believe your appointment would benefit the City? I HAVE HAD EXPERIENCE ON CITY COUNCIL IN UTICA, MI AND HAVE DEALT WITH COMPENSATION ISSUES.

3. Describe any involvement in the community on a Board or Commission or in another volunteer capacity. SEVERAL YEARS ON THE PETOSKEY PLANNING COMMISSION
I VOLUNTEER AT BROTHER DAN'S FOOD PANTRY

4. How many continuous years have you lived in Petoskey? 19

5. Any other helpful information relevant to your application.

While it is not required, a resume is helpful in the recruitment process for City Boards and Commissions.

☒ YES ☐ NO Are you a City of Petoskey registered voter?

☐ YES ☒ NO Do you or immediate family members currently serve on a City Board or Commission? If yes, which Board or Commission?

☐ YES ☒ NO Are you applying to the Downtown Management Board? If yes, do you have an interest in property located in the downtown district or are you a resident of the downtown district? Please explain.

The applicant acknowledges that the City may be required from time to time to release records in its possession. The applicant hereby gives permission to the City to release any records or materials received by the City from the applicant as it may be requested to do so as permitted by the Freedom of Information Act, MCL 15.231 et seq.

Applicant Signature: [signature] Date: 7-28-20

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CITY MANAGER

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Application to Serve on a Board or Commission

Please print. Answer each question accurately and completely. If you require any accommodation to complete the application process, please notify a City staff member.

■ Name: CADIEUX (Last) | DEBORAH (First) | A (Initial)

■ Date: 6 25 20

■ Residence Address: 721 (Number) | Grove (Street) | Petoskey (City) | MI (State) | 49770 (Zip)

■ Home Phone: 231 881 5501

■ Email Address: deborahcadieux@gmail.com

■ Work Phone:

Please answer the following questions using the space provided.

1. What Board or Commission interests you and why are you applying? CITY CHARTER COMMITTEE
I want to become more active in my community

2. How do you believe your appointment would benefit the City? I love living in such a beautiful and progressive town and want to give of my time and energy

3. Describe any involvement in the community on a Board or Commission or in another volunteer capacity. I have never been involved with a Board or Commission, but am a member of the PAGC and volunteer at the Petoskey History Museum

4. How many continuous years have you lived in Petoskey? 15

5. Any other helpful information relevant to your application.

While it is not required, a resume is helpful in the recruitment process for City Boards and Commissions.

☒ YES ☐ NO Are you a City of Petoskey registered voter?

☐ YES ☒ NO Do you or immediate family members currently serve on a City Board or Commission? If yes, which Board or Commission?

☐ YES ☐ NO Are you applying to the Downtown Management Board? If yes, do you have an interest in property located in the downtown district or are you a resident of the downtown district? Please explain.

The applicant acknowledges that the City may be required from time to time to release records in its possession. The applicant hereby gives permission to the City to release any records or materials received by the City from the applicant as it may be requested to do so as permitted by the Freedom of Information Act, MCL 15.231 et seq.

Applicant Signature: Deborah A Cadieux Date: 6-25-20

City of Petoskey

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Application to Serve on a Board or Commission

Please print. Answer each question accurately and completely. If you require any accommodation to complete the application process, please notify a City staff member.

■ Name: Yetter (Last) | Eric (First) | (Initial) ■ Date: 08 / 24 / 20

■ Residence Address: 840 (Number) | Lindell (Street) | Petoskey (City) | MI (State) | 49770 (Zip) ■ Home Phone: 231 409 8798

■ Email Address: eric@harborsir.com ■ Work Phone:

Please answer the following questions using the space provided.

1. What Board or Commission interests you and why are you applying? Planning Commission
2. How do you believe your appointment would benefit the City? I have been on the board for 8 years
3. Describe any involvement in the community on a Board or Commission or in another volunteer capacity.
4. How many continuous years have you lived in Petoskey? 20
5. Any other helpful information relevant to your application.

While it is not required, a resume is helpful in the recruitment process for City Boards and Commissions.

- [x] YES [ ] NO Are you a City of Petoskey registered voter?
- [x] YES [ ] NO Do you or immediate family members currently serve on a City Board or Commission? If yes, which Board or Commission? Planning Commission
- [ ] YES [x] NO Are you applying to the Downtown Management Board? If yes, do you have an interest in property located in the downtown district or are you a resident of the downtown district? Please explain.

The applicant acknowledges that the City may be required from time to time to release records in its possession. The applicant hereby gives permission to the City to release any records or materials received by the City from the applicant as it may be requested to do so as permitted by the Freedom of Information Act, MCL 15.231 et seq.

Applicant Signature: [signature] Date: 8/24/20

City of Petoskey

Agenda Memo

BOARD: City Council

MEETING DATE: September 21, 2020 **PREPARED:** September 17, 2020

AGENDA SUBJECT: First Discussion of the 2021-2026 Capital Improvement Plan

RECOMMENDATION: That the City Council discuss

Summary This is the first discussion of the proposed six-year Capital Improvement Plan for 2021-2026. The Planning Commission has reviewed the draft Capital Improvement Plan (CIP) on August 20, 2020 and unanimously recommended approval by City Council. The draft CIP was posted on the City's website on August 27, 2020 with four comments received. See enclosed comments.

Please bring your copy of the 2021-2026 Capital Improvement Plan to the meeting.

Overview The CIP represents a long-term financial plan and helps to establish priorities for the City's investment in capital infrastructure. The CIP, along with the Annual Budget which appropriates funding for projects identified in the CIP, help set priorities and future direction for the City.

The 2021-2026 CIP totals $51.8 million in expenditures, with capital spending in 2021 proposed at $4.5 million, of which $921,500 (20.4%) is anticipated to come from grants or other outside sources of revenue.

2021 Planned Projects Highlights

The 2021 plan contains funding for a variety of infrastructure improvements including street improvements, utility upgrades and trail and park enhancements. Specifically, highlights of capital improvement projects for 2021 include:

Streets and Drainage

In 2021, Greenwood Road from Sheridan Street to Charlevoix Avenue will be fully reconstructed with new pavement and curb lines. The project will also include a new sidewalk on the west side of the street enhancing both bicyclist and pedestrian safety. Grant funding from the Little Traverse Bay Band of Odawa Indians in the amount of $350,000 will offset overall project costs to the City.

The City will match $81,500 in MDOT grant funding for street repaving and curb restoration on portions of Hill Street, West Jefferson Street and Connable Avenue. Total project costs for these three streets is estimated at $163,000. Lastly, $200,000 has been earmarked for miscellaneous pavement preservation, paving and repair work for Outlook Street, portions of Harvey Street, and Washington Street from Buckley to Franklin Streets.

Water and Wastewater System

The Greenwood Road infrastructure project will include replacing all underground utilities including a 55+ year-old cast iron main that is a critical loop in the City's water distribution system. Costs for both water and sewer main replacement are estimated at $650,000. There is also another $250,000 budgeted for water and sewer main line replacement associated with repaving projects and maintenance work to be completed on the City's sewer lift stations.

Sidewalks
Sidewalk and crosswalk construction will coincide with the Greenwood Road street reconstruction project and other areas of the City identified by the Non-Motorized Facility Plan. $150,000 has been budgeted for sidewalk projects in 2021.

Electric System
Each year the City makes substantial investments into the municipal electric distribution system enhancing reliability through system upgrades and the undergrounding of overhead electric lines. In 2021, the City will continue its strong investments in the electric distribution system by earmarking almost $1.1 million for system-wide upgrades.

Specifically, $150,000 has been earmarked for the Petoskey Substation Capacitor Banks to compensate for increased in flows on distribution circuits. The City also anticipates further studies to be done for a potential solar array project at the Howard Road Landfill. To date, the City has worked with Harvest Solar in mapping out potential sites at the landfill that could generate upwards of 2 megawatts of electricity. Once sizing and output is formally determined, a constructability and interconnect analysis can be performed to establish feasibility and overall costs.

The City will continue its aggressive undergrounding of electric lines focusing on portions of Waukazoo, Rush, Beech and Pearl Streets. To date, the City has been very successful in undergrounding an estimated 70% of electrical lines creating a very reliable and safe electric distribution system. Monies have also been budgeted for backup generators at critical facilities, for Greenwood Road lighting and potential relocation of a transformer at the Saville Lot.

Motorpool
Motorpool purchases planned for 2021 include the following:

- Two patrol vehicles and a staff vehicle;
- Replacement of a ¾ ton pick-up truck with plow;
- Replacement of a one-ton dump truck;
- Replacement of a flusher truck for Streets;
- Replacement of a Toro Workman Rescue Cart;
- Bobcat Toolcat with snow blower, forks, and rotating broom;
- 70-Foot ladder truck refurbishment.

Downtown Area
Parking structure engineering for the Saville Lot has been earmarked for 2021. The project is contingent upon execution of a Brownfield Plan associated with a proposed hotel at Bay and Howard Streets. With so many economic unknowns associated with the current COVID-19 pandemic, this project may be postponed until a later date.

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Combining the newly installed stair tower with completing a US-31 Highway Realignment Project, Sunset Park enhancements will be undertaken improving park access as well as viewing areas over Little Traverse Bay. Tax Increment Financing dollars will be used for this project. Engineered drawings for a redesign of Arlington Park and the Lewis Street area will be completed in 2021 complementing both the highway realignment project and improvements to Sunset Park.

The City Marina's fuel system will undergo major improvements by replacing tanks and piping and increasing storage for diesel fuel. The 25+ year-old system is in need of replacement and DNR Waterways grant funding will be pursued.

Approximately 1/3 of a mile of the Little Traverse Wheelway will be resurfaced in 2021 using potential grant funding. The popular Little Traverse Wheelway has suffered substantial damage over the last year as a result of unprecedented high water levels leading to shoreline erosion. Currently, engineering studies are being undertaken both within the City of Petoskey and at an approximately one-mile stretch in Resort Township that experienced a major slope failure. Additionally, coastline improvements at Solanus Beach including an accessible boardwalk to the water, shoreline erosion mitigation, and new bathroom facilities are also scheduled for 2021.

Lastly, the City has earmarked $10,000 to develop engineered drawings for future bathrooms at River Road Sports Complex.

2022 Planned Project Highlights

- Reconstruction of East Lake Street from Kalamazoo to Division Street including installation of new water, sewer and storm water lines, conversion of overhead electric lines to underground, and new sidewalks and ADA ramps.

- A multi-year project to upgrade public works and parks and recreation facilities will commence in 2022 with the construction of a cold storage building on the Curtis Avenue property and creation of an access drive along the former Jarman Spur to connect the parks and public works facilities.

- City Hall renovations including waterproofing foundation walls and upgrades to HVAC systems.

- Widening with addition of site amenities on the Park Avenue sidewalk in Pennsylvania Park from Bay Street to Mitchell Street.

- Shoreline stabilization improvements with construction of public access walkway at Solanus Beach.

- Construction of a cover over the Winter Sports Park hockey rink to extend ice rink season.

2023-2026 Planned Project Highlights

The years 2023-2026 may have projects adjusted based on funding availability and demands. Some projects planned for the final four years of the CIP include:

- Improvements to the Lime Kiln Well including new chlorine feed system, new submersible pumps and renovations to control and monitoring systems (2023);

- Winter Sports Park roof repairs and interior renovations (2023);

- Replacement of the Department of Public Works Building (2023);

- Howard Street reconstruction and utility upgrades from Jennings Avenue to State Street (2024);

- Two-block Downtown Greenway Corridor extension between Emmet Street and Washington Street (2024);

- Construction of salt sheds and material storage building on north side of Sheridan Street (2024);

- Community gardens and yard waste disposal area relocated to south side of Sheridan Street (2024);

- Downtown streetscape improvements enhancing pedestrian safety and incorporating green infrastructure (2025);

- Improvements to Lockwood Park according to Park and Recreation Master Plan (2026).

Action No action is needed at this point. To further solicit public comment, staff recommends potential approval of the CIP by resolution occur at the October 5, 2020 City Council meeting. The draft CIP will continue to be posted on the City's website with an email address to send comments. All comments will be forwarded to City Council in the October 5, 2020 packet.

rs
Enclosures

Sarah Bek

From: jennifer riffer <riffer333@hotmail.com>
Sent: Thursday, August 27, 2020 2:33 PM
To: CityManager
Subject: Petoskey improvements

We seriously need to fix the wheel way section to east park. Some of these other ideas are not nearly as important. No one wants to be redirected up on the highway! The bike path is for everyone, families use it alot. We don't need more holes dug for parking, or fancy stuff at sunset park. PLEASE fix the bike path 1st!!!!!
Sent from my iPad

Sarah Bek

From: Jeff Grantham <jeff@granthambuildremodel.com>
Sent: Sunday, August 30, 2020 9:00 AM
To: CityManager
Subject: Recreation dependence and parklands

I saw the conceptual plan for Sheridan Public Works building and parkland development it make me think of this article. Please read it and share with staff, commissioners and council persons. It's great the city staff and council wants to consolidate city DPW operations but I caution on the continued land preserved for parks for several reasons:

1. It takes away from land that could be used to address housing shortages. A recent example includes the addition of the Peoples' Park and its impact on the Redevelopment Ready designation already in place for that property which would have including adding housing options in the city. I also think a chunk of Curtis Park divided into lots along two of its street borders could be sold at a premium to build move-up homes which will free up other homes for entry-level buyers, a win-win since the large, under-used park will still remain very accessible to the rest of the community from its other two bordering streets.
2. The capital improvement of yet another park space when we have miles and miles of waterfront trails is wasteful when the city's streets and infrastructure are in need of repair and maintenance. E. Mitchell will need a complete resurfacing in five years as its poor design and mix of pavement materials was bound to age prematurely. This is neither sustainable nor resilient. I can readily name several other streets worthy of improvement prioritized over additional parkland development.
3. The concept Sheridan plan shows a restroom facility on the current salt barn location. I have a question: why was there a restroom facility built at the one end of the Riverbend Trail North end by E. Mitchell bridge) and not the other (by DPW building) when it was all built yet both ends of the Bayfront Park have them? The Taj Mahal bathroom at the end of Bayfront Drive is another example of over-spending; to get utilities to that remote location required city expenditures not budgeted for or included in the contract to build the building, likely costing an additional $100,000 out of sight of the council and public because it was in DPW expense not Capital Improvement. I realize that area is TIFF but the point remains the same, spend more wisely; the bathroom location in the concept plan is in yet another remote location with no utility services on that side of the street. If the city built the restroom on same side of the street (say attached to the DPW building in the area of the parking lot to the south trail head), it would cost one-quarter what it would cost to build a stand-alone building where it's proposed. Another great example of this type of wastefulness it the Eppler Road County EMS Building. The county already owned land at the fairgrounds, only a few hundred yards from where they ultimately built. The fairgrounds has easy access in multiple directions, is served by water, sewer and natural gas and has good drainage. The new facility required multiple land acquisitions and easements to get utilities to the site. It continues to need site improvements since it was built in a low land of a rural farm area and its upkeep is a drain on county resources. The most suitable spot for the EMS station was at the Eppler Road entrance to the fairgrounds.
4. From a use standpoint, I fault the design of the former salt barn to have a paved lot, river overlook, bathroom combined with, get this, compost drop-off. How is that combination attractive to residents and visitors? It also is disingenuous to think yet another acre of park space will better serve residents and attract visitors. Those "visitors" may well be township residents driving in to park to walk, ride or otherwise use city park resources at city resident expense and the "city residents" already enjoy the greatest amount of parkland per capita in the state, or close to it.

I'll stop there since any further statements would be duplicative. I'm asking you to ask questions about place-making, consider long-term maintenance costs, consider impacts on housing shortages and overall outlays by the city at a time when it is admittedly short on revenues and heavy on under-utilized existing parklands.

Thank you for your service and I look forward to working with you to continue to provide a balance between "needs of residents" and "desire for utopia."

JEFF GRANTHAM
GRANTHAM BUILDING AND REMODELING, LLC
PETOSKEY, MICHIGAN
(231)838-8777
2013 MICHIGAN "REMODELER OF THE YEAR"
2015 N. MICHIGAN "BUILDER OF THE YEAR"
"EXPERIENCE. RESULTS."

From: Jeff Grantham <jtg231@live.com>
Sent: Sunday, August 30, 2020 3:28 AM
To: Jeff Grantham <jeff@granthambuildremodel.com>
Subject: Recreation dependance

https://www.outsideonline.com/2416295/outdoor-recreation-tourism-economy-covid

Sarah Bek

From: Robert Straebel
Sent: Monday, September 14, 2020 11:36 AM
To: Derek
Cc: Sarah Bek; Mike Robbins
Subject: FW: Public comment

Derek,

Public Works Director Mike Robbins is in charge of the City's Motor Pool so I asked him to address your questions. See replies below and feel free to reach out if more information is needed.

Your comments will be shared with City Council as part of the CIP presentation on September 21.

Thanks,

Rob

From: Derek <d.r.shiels@gmail.com>
Sent: Sunday, September 13, 2020 9:41 PM
To: Robert Straebel <rstraebel@petoskey.us>
Subject: Public comment

Dear Manager Straebel,

Thank you for receiving, considering, and sharing with Council, the following public comments regarding the CIP.

The need for replacing two patrol vehicles in one year caught my eye. I would want council to be satisfied that the city is maximizing use of existing vehicles while balancing the need for having reliable vehicles. Are vehicles replaced based on age or after reaching a certain mileage?
Whether its age or mileage really depends on the vehicle and its use. Patrol vehicles are typically based on mileage, once they approach the 100,000 mile mark we start to see maintenance expenses increase due to larger fixes such as transmissions, major engine components etc. Public Works vehicles tend to be more based on age due to the low miles they are actually driven to and from the job site. Larger Public Works vehicles and equipment are tracked not only by age but hours of use.

Are higher mileage vehicles being switched to low mileage duties, and vice versa, to extend life?
Yes, we do track and monitor Public Safety vehicles, patrol units are assigned based on time of year, age and miles acquired. In regards to Public Works vehicles, it is not uncommon for vehicles to be reassigned to a different division based on age and use. A good example would be a Publics Works pickup that is used year around is reassigned to Parks & Rec, which is now used seasonally extending the life of the vehicle.

I recommend the city start planning for purchasing electric vehicles when updating the motorpool (there are even hybrid electric police vehicles coming on the market). Maybe this does not need to be spelled out in the CIP, but should new charging stations for City fleet vehicles be considered in future budget projections?
We are watching markets closely in regards to electric vehicles and feel options are forthcoming. The 2021 CIP does include replacing Motor Pool vehicle #29 that is a 2010 Ford Escape Hybrid. This vehicle is used as a

"pool" or "travel car" by the city and depending on availability may be replaced with an electric vehicle. In regards to fleet charging stations, we can most certainly include in future budget projections and include such needs in future building improvements such as the proposed new Public works facility.

Thank you,

Derek Shiels
1221 Hazelton St.

Seek "not blind opposition to progress, but opposition to blind progress" - John Muir

GB

September 14, 2020

REQUEST FOR REVISION TO 2021-2026 CAPITAL IMPROVEMENT PLAN

TO: Members of City Council
c/o City Manager

We reside at 602 E. Lake, the corner of E. Lake and Williams. For many years now, we have awaited the electric underground installation and other work needed on E. Lake.

We have enclosed a ziplock bag of the electric wiring insulation that continues to fall off the old overhead wiring – this insulation is most likely asbestos. The bag contains just what has fallen off so far this year onto our lawn; at least this much falls off onto our lawn *every* year.

In the second ziplock bag are six copies of 4 photos marked A, B, C, and D:

- In photo A you can see a piece of hanging wiring insulation (again, likely asbestos) which fell off after this photo was taken.
- In photo B you can see one of two ancient poles (rough-hewn logs probably circa 1900) that are close to our house; more old poles continue up the street.
- In photo C you can see just one example of the existing unsightly jumble of overhead electric wiring, the uppermost having already lost its insulation.
- In photo D you can see the crumbling curb at our house, and neighbors around us suffer the same. Jim sprained his ankle this past Spring cutting the lawn when he unwittingly stepped into the hole. These curb/street holes eventually get filled by the City each year, but the repairs do not last and each Spring the holes reappear.

Looking back to the CIP for 2015-2019, the work on Kalamazoo which was done this year (2020) was originally slated to be done in 2017, with the work on E. Lake slated for 2018. This timetable was revised in the 2016-2021 CIP which pushed the Kalamazoo work to 2020, and pushed the E. Lake work to 2021. **But now in the 2021-2026 CIP the E. Lake work is being pushed back again from 2021 to 2022.** Instead of our street being done in 2021, now Waukazoo/Rush/Beech/Pearl are going to be done in 2021 instead of E. Lake.

Why is Waukazoo/Rush/Beech/Pearl being given priority over E. Lake??!!?? We have a seriously unsafe situation here on E. Lake with likely-asbestos insulation continually falling on our lawn, old wiring that has lost its insulation, poles that are probably over 100 years old, and crumbling curbs/streets creating a hazard.

Further, the state of affairs on E. Lake is not only unsafe, it is also unsightly. Our economy relies heavily on tourism, and many tourists walk up E. Lake from downtown. What a negative impression they must get about the City, as they attempt to avoid stepping into holes along the curbs, and witness dangling wiring and old poles that look like they might fall over any day. We don't know why Kalamazoo was ever given priority over E. Lake in the first place, however we accepted that. But now we are going to be pushed back again another year, with Waukazoo/Rush/Beech/Pearl replacing us for 2021? Not acceptable.

We have invested a lot of time, energy, and money renovating our historic home. Our hope was that the City would support infrastructure improvements and beautification of our downtown neighborhood. Instead, other neighborhoods get supported before ours. From the standpoint of safety and tourism, there is no justification for it. We are discouraged and disappointed.

We are asking that the 2021-2026 CIP be revised to put the work for E. Lake back on the schedule for 2021 and that (at long last) the work actually be done in 2021.

Sincerely,

Alison L. Paton

James D. McIntyre

Enclosures: (2) ziplock bags, one with insulation, other with five sets of four photos

2021-2026
CAPITAL IMPROVEMENT PLAN

DRAFT

Capital Improvement Plan
2021 through 2026 Overview

Mayor Murphy, Members of the Petoskey City Council, and Citizens of Petoskey:

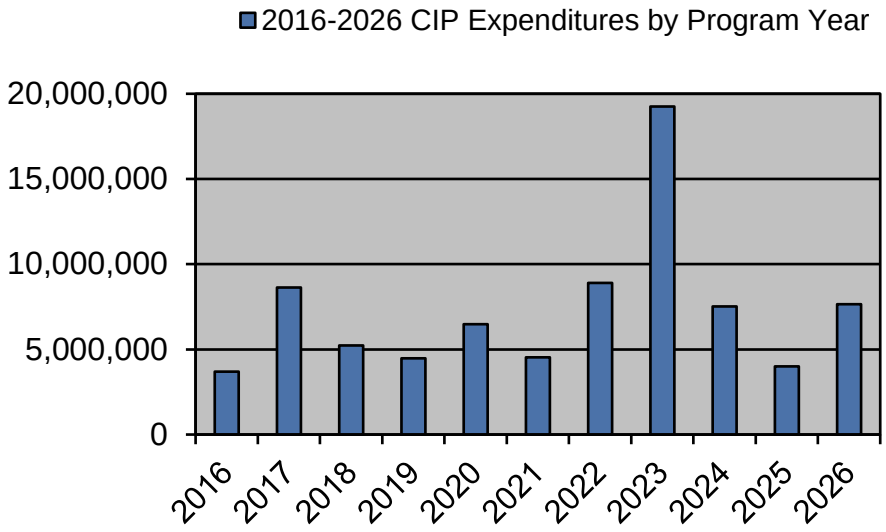
I am pleased to submit to you the 2021-2026 Capital Improvement Plan (CIP) for the City of Petoskey. Pursuant to the Planning Enabling Act, we have again developed a six-year capital plan that serves as an instrument to identify needs and financing sources for public infrastructure improvements. It also informs city residents how the City plans to address capital needs over the next six years.

This document gives significant direction to the City on funding priorities. However, only those programs scheduled during the first year are financed and adopted as part of the Annual Budget. Programs slated for construction in subsequent years may be adjusted or eliminated to reflect priority changes or funding constraints. In addition, projects beyond the six-year horizon are identified, some have funding sources while others lack an identified funding mechanism. Most of these needs exist today, or have already been deferred in recent years.

The CIP is a flexible plan that can be altered as conditions and regulations change. We will review all projects every year to evaluate any changes in scope, and to update all of our financing opportunities whether it be with tax revenues, bonds, grants or other outside funding sources.

The 2021-2026 CIP totals $51.8 million in expenditures. Within the CIP, proposed projects in 2021 total $4.5M of which $921,500 (20.4%) is projected to come from grants or other outside sources.

The following chart compares the capital spending in previous years with the proposed 2021-2026 CIP and highlights the anticipated increases in capital spending in 2022 due to a street and utility reconstruction project on Lake Street ($1.96M), first of three phases for the Public Works/Parks and Recreation Building Improvements (Curtis Building and Service Drive-$3.4M), construction of a cover over the Winter Sports Park's ice rink ($300,000) and Solanus Beach Improvements ($500,000).



Additionally, capital improvements in 2023 are scheduled to increase as a result of constructing a new Department of Public Works Building on Sheridan Street ($11.5M).

Consistent with the last two years, the six-year CIP was expanded upon to address critical infrastructure needs further into the future. These projects are listed under "Long-Term Projects/Capital Items Lacking Funding" and include a backlog of on-going maintenance issues such as marina upgrades to respond to fluctuating water levels in Lake Michigan, Little Traverse Wheelway resurfacing ($2M for eight miles), Bayfront Park Shoreline Stabilization ($7M), and Arrowhead Shores trail remediation efforts with potential relocation of the trail adjacent to US-31. Also, City staff has included a placeholder for replacement of lead and copper water pipes in the community according to recently promulgated Environment, Great Lakes and Energy (EGLE) lead pipe regulations. A cost estimate of the lead pipe replacement program has yet to be calculated. Other costly capital improvement projects scheduled for the long-term include new water wells, new aeration blowers at the wastewater treatment plant and a water main replacement from Sheridan Street to the US-131 water tower. The long-term capital projects list shall serve as a strong reminder to City officials of the need to address critical future infrastructure needs each and every year to maintain and enhance the highest quality municipal services.

Preparation of the CIP each year is a result of considerable efforts from staff in all departments of the City. I am especially grateful for the work of Department Heads, as well as Supervisors in each division who worked diligently to prioritize infrastructure needs within the context of limited budgets. My sincere thanks for their hard work and dedication.

Respectfully Submitted,

Rob Straebel
City Manager

CIP Overview
The Capital Improvement Plan is a six-year schedule of proposed major capital projects, cost estimates and financing methods. The requirement for capital budgeting is found in Act 33 of the Michigan Public Acts of 2008 being the Michigan Planning Enabling Act.

The Capital Improvement Plan (CIP) establishes the City's blueprint for investment in its capital infrastructure. This document is used as a tool to help ensure that the City's long and short-term capital investments are made in the context of careful consideration of the City's needs as well as the resources available to fund all projects.

The financial guidelines used in the preparation of the CIP will provide assurance that the City can meet, in a full and timely manner, both our debt service obligations and all other obligations competing for available resources. It is our objective to complete as many needed capital improvement projects as financially possible while maintaining flexibility and the ability to adapt to changes as they occur.

Capital Improvement Plan vs. Annual Operating Budget
The Capital Improvement Plan and Annual Operating Budget are two critical documents prepared each year. The relationship between these two documents is summarized by the following points:

Capital Improvement Plan
- Represents a long-term financial plan, including funding sources.
- Establishes priorities and serves as a planning document or blueprint for the City's investment in capital infrastructure.
- Provides a breakdown of major project costs and their phasing.
- Does not appropriate money.
- As indicated by the above points, the Annual Operating Budget is the document which authorizes the actual funding for the major and non-major capital projects.

Annual Operating Budget
- Appropriates money to implement the first year of the Six-Year Capital Improvements Plan.
- Appropriates money to implement current year's phase of a major, multi-year project.
- Appropriates money for operating expenditures and expenditures of a continuing nature.

Capital Improvement Plan Guidelines & Benefits
There are several key guidelines the Administration utilized in determining the City's fiscal capacity to complete capital projects over the next six years. These are summarized as follows:

- The Capital Improvement Plan will be reviewed and updated annually.

- The City has determined that paying cash for projects where financially possible (pay-as-you-go financing) reduces long term costs and maintains financial flexibility for the future. In utilizing pay-as-you-go financing, revenue projections and estimated fund balances will be reviewed and evaluated to assure that sufficient reserves are maintained.

- It is not economically feasible to issue debt for some projects, nor do all projects have a projected lifespan long enough to warrant the issuance of debt.

- Under current economic conditions, the ability to complete many projects will depend on identifying and obtaining outside sources of funding.

- Our philosophy for projecting property tax revenues is to be conservative. Between 2009 and 2012 property tax revenues decreased 20%. Fortunately, in the last three years the City has experienced increases in taxable value of 2.8% in 2018, 3.4% in 2019 and 2.9% in 2020. For 2021, with many unknowns regarding the current COVID-19 pandemic, the City is being very conservative in our property tax revenue forecasts anticipating no increases in taxable value in 2021.
- Changes in personal property tax laws are negatively impacting revenues, although this has been lessened by voter approval of the State ballot proposal on the August 2014 Primary Election ballot providing some reimbursement of the loss in personal property tax revenue.
- The availability of adequate financial reserves or balances that can be used to address unforeseen contingencies or take advantage of sudden opportunities is a critical element in evaluating financial strength.
- Since a significant portion of outstanding debt and future capital improvements are related to the water and sewer utility, user fees associated with these utilities are evaluated in parallel with the CIP.
- As a matter of general policy, the City will do the following in order to be able to fund additional projects needed to serve the citizens of Petoskey:
    - Pursue, when feasible, federal, state and local assistance in the form of grants, low-interest loans, cost-sharing, etc.
    - Look increasingly at ways to obtain revenue through user fees as a means to fund capital projects or as a way to free-up other dollars so they may become available to fund capital projects.

There are many benefits of an effective and ongoing Capital Improvement Plan, including:

- Coordination of the community's physical planning with its fiscal planning capabilities;
- Ensuring that public improvements are undertaken in the most desirable order of priority;
- Assisting in stabilization of tax and utility rates and other charges over a period of years;
- Producing savings in total project costs by promoting a "pay as you go" policy of capital financing thereby reducing interest expense and financing costs;
- Providing adequate time for planning and engineering of proposed projects;
- Ensuring the maximum benefit of the monies expended for public improvements; and
- Scheduling municipal construction activities to be better coordinated with those of other public agencies within the community.

As a regional service center, the City of Petoskey streets, utilities (water, sewer, stormwater, electric), public facilities and parkland service much more than the City's 5,600 residents, therefore, the capital needs are many and will certainly surpass available resources. Capital improvement planning and budgeting encourages the early identification of those needs and resources and thus improves the scheduling, financing, and coordination of individual and related projects to reflect the goals and objectives established in the City's Master Plan and other planning documents.

Funding Sources

The City of Petoskey primarily uses the General Fund, Enterprise funds or Special Revenue funds for capital project funding. Examples of Enterprise funds in this CIP are Parking, Water, Sewer and Electric Funds. Special Revenue funds are supported by resources dedicated to a specific use, but not supported entirely by their own fee structures.

An example is the Right-of-Way Improvement Fund, which receives revenues through annual property-tax levies to offset costs of maintenance operations and public improvements within street rights-of-way. Capital outlays for buildings and grounds, including parkland, come primarily from the General Fund or Tax Increment Finance Fund. Outside sources of funding have also significantly contributed to capital projects and this is reflected in the current capital plan as well. Projects that identify outside funding sources have a more uncertain time-frame, but staff has attempted to be realistic with projections based on the need for a match in local funding.

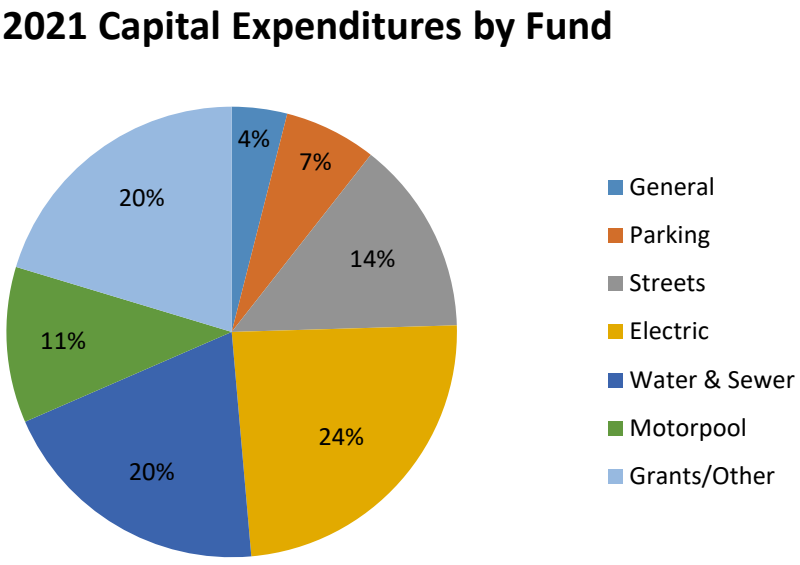
Capital Improvement Plan and Structure

A capital expenditure is defined as an item that has a significant value and a useful life greater than three years. Expenditures for building construction and renovation, land purchases and improvements, and major equipment are generally capital expenditures in contrast to operating costs such as salaries, supplies and services that are budgeted annually in the various department operating budgets.

Significant value is defined for purposes of the Plan as any infrastructure project that costs $25,000 or more and any equipment, materials or vehicles that cost $10,000 or more. Minor capital purchases such as office furniture, computers, etc. are not included in this document.

Projects that correspond with City priorities and have a potential funding source available, are included in the Plan. The Capital Improvement Plan is then presented to both the Planning Commission and City Council. The CIP is designed to be amended on an annual basis, as projects scheduled in later years are identified on a needs basis, and may not have an available funding source. Projects can be added or subtracted as the needs and resources of the community change.

The 2021-2026 CIP provides information on eight project categories including: Streets and Drainage, Water and Wastewater Systems, Sidewalks, Electric System, Motor Pool, Downtown Area, Buildings and Grounds, and Parks and Special Facilities Improvements.



2021 Scheduled Capital Improvement Projects

Streets and Drainage

In 2021, Greenwood Road from Sheridan Street to Charlevoix Avenue will be fully reconstructed with new pavement and curb lines. The project will also include a new sidewalk on the west side of the street enhancing both bicyclist and pedestrian safety. Grant funding from the Little Traverse Bay Band of Odawa Indians in the amount of $350,000 will offset overall project costs to the City.

The City will match $81,500 in MDOT grant funding for street repaving and curb restoration on portions of Hill Street, West Jefferson Street and Connable Avenue. Total project costs for these three streets is estimated at $163,000. Lastly, $200,000 has been earmarked for miscellaneous pavement preservation, paving and repair work for Outlook Street, portions of Harvey Street, and Washington Street from Buckley to Franklin Streets.

Water and Wastewater System

The Greenwood Road infrastructure project will include replacing all underground utilities including a 55+ year-old cast iron main that is a critical loop in the City's water distribution system. Costs for both water and sewer main replacement are estimated at $650,000. There is also another $250,000 budgeted for water and sewer main line replacement associated with repaving projects and maintenance work to be completed on the City's sewer lift stations.

Sidewalks

Sidewalk and crosswalk construction will coincide with the Greenwood Road street reconstruction project and other areas of the City identified by the Non-Motorized Facility Plan. $150,000 has been budgeted for sidewalk projects in 2020.

Electric System

Each year the City makes substantial investments into the municipal electric distribution system enhancing reliability through system upgrades and the undergrounding of overhead electric lines. In 2020, the City will continue its strong investments in the electric distribution system by earmarking almost $1.1 million for system-wide upgrades.

Specifically, $150,000 has been earmarked for the Petoskey Substation Capacitor Banks to compensate for increased in flows on distribution circuits. The City also anticipates further studies to be done for a potential solar array project at the Howard Road Landfill. To date, the City has worked with Harvest Solar in mapping out potential sites at the landfill that could generate upwards of 2 megawatts of electricity. Once sizing and output is formally determined, a constructability and interconnect analysis can be performed to establish feasibility and overall costs.

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Lastly, the City has earmarked $10,000 to develop engineered drawings for future bathrooms at River Road Sports Complex.

City of Petoskey
Capital Improvement Plan
For the Years 2021 through 2026

Expenditure Summary

	2021	2022	2023	2024	2025	2026
General	180,000	390,000	722,000	450,000	605,000	528,000
Parking	300,000	65,000	65,000	470,000	200,000	0
Streets	631,500	1,000,000	425,000	1,100,000	500,000	1,000,000
Electric	1,091,000	1,022,000	1,426,000	948,000	928,000	1,004,000
Water & Sewer	900,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Motorpool	507,000	577,000	619,000	458,000	667,000	417,000
Grants/Other	921,500	4,845,000	14,995,000	3,092,000	100,000	3,700,000
Total	**4,531,000**	**8,899,000**	**19,252,000**	**7,518,000**	**4,000,000**	**7,649,000**
					6-year Total	**51,849,000**

Revenue Summary

Fund	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
General	$ 183,971	$ 6,279	$ 125,718	$ 146,060	$ 279,340	$ 297,594
Parking	75,000	75,000	75,000	75,000	75,000	75,000
Streets	742,680	822,770	845,916	769,743	794,268	819,513
Electric	1,100,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Water & Sewer	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Motorpool	500,000	400,000	400,000	400,000	400,000	400,000
Grants/Other	921,500	4,845,000	14,995,000	3,092,000	100,000	3,700,000
Total	**$ 4,523,151**	**$ 8,399,049**	**$ 18,691,634**	**$ 6,732,802**	**$ 3,898,609**	**$ 7,542,107**
					Six Year Total	**$ 49,787,352**

Revenue Assumptions
General Fund and Streets based on General and ROW spreadsheet showing available balance.
Parking Fund based on assumption of $75,000 in net income annually after meter rate increase.
Electric Fund based on assumption of $1,250,000 in net income and depreciation totaling in excess of this amount.
Water & Sewer is allocated $1,000,000 in total for both systems based on 2018 rate study.

from cash reserves. Adjust succeeding years for purchases that exceed allocated amount.
Grants/Other is applicable grants covering a specific proposed project in the given year and projects that would require bonding.

City of Petoskey
Capital Improvement Plan
Revenue and Expense Estimates
General Fund

	Actual 2018	Actual 2019	Budget 2020	Estimated 2021	2022	2023	2024	2025	2026
Revenues:									
Operating:									
General operating property tax revenue	$ 3,345,813	$ 3,379,545	$ 3,449,500	$ 3,449,500	$ 3,449,500	$ 3,535,738	$ 3,624,131	$ 3,714,734	$ 3,807,603
Solid waste property tax revenue	215,776	222,152	226,000	230,520	235,130	241,009	247,034	253,210	259,540
Public Safety Equipment	373,305	383,191	387,700	-	-	-	-	-	-
Other sources**	4,545,389	4,984,342	4,874,500	4,923,245	4,972,477	5,022,202	5,072,424	5,123,148	5,174,380
Bond Proceeds/Grants-nonrecurring	14,685	291,770	513,500	-	-	-	-	-	-
Marina reserve capital outlay purchase	-	-	-	100,000	-	-	-	-	-
	8,494,968	9,261,000	9,451,200	8,703,265	8,657,108	8,798,948	8,943,589	9,091,092	9,241,523
Less: bond proceeds/grants/contribution	14,685	291,770	513,500	-	-	-	-	-	-
Revenues as adjusted	$ 8,480,283	$ 8,969,230	$ 8,937,700	$ 8,703,265	$ 8,657,108	$ 8,798,948	$ 8,943,589	$ 9,091,092	$ 9,241,523
Expenditures:				*	*	*	*	*	*
Original amount - less debt payments	$ 7,648,509	$ 8,415,032	$ 8,893,800	$ 8,302,294	$ 8,426,828	$ 8,553,231	$ 8,681,529	$ 8,811,752	$ 8,943,929
Debt payments- marina/public safety (actual)	566,428	504,900	1,095,000	217,000	224,000	220,000	216,000	100,000	100,000
Less:									
Cash reserves funding capital outlay	n/a	n/a	-	-	-	(100,000)	(100,000)	(100,000)	(100,000)
Public Safety Equip purchase	n/a	n/a	-	-	-	-	-	-	-
Capital Outlay	n/a	n/a	(714,200)	-	-	-	-	-	-
Expenditures as adjusted	8,214,937	8,919,932	9,274,600	8,519,294	8,650,828	8,673,231	8,797,529	8,811,752	8,943,929
Revenues as adjusted	8,480,283	8,969,230	8,937,700	8,703,265	8,657,108	8,798,948	8,943,589	9,091,092	9,241,523
Revenue available for projects & outlays	$ 265,346	$ 49,298	$ (336,900)	$ 183,971	$ 6,279	$ 125,718	$ 146,060	$ 279,340	$ 297,594

Tax revenue and other sources is estimated based on 2020 levels increased as follows; 2021 (0.0%), 2022 (0.0%), 2023 (2.5%), 2024 (2.5%), 2025 (2.5%), 2026 (2.5%)
* Budget expenditure amounts for 2021 thru 2026 are based on adjusted expenditures increased at 1.5% annually above the previous year's amount.

Included $100,000 per year available from General Fund Balance in years 2023 through 2026.

City of Petoskey
Capital Improvement Plan
Revenue and Expense Estimates
Street Funds

2020 Budget	Major Street	Local Street	General Street	Total	
Revenues:					
Operating	$ 701,600	$ 244,000	$ 7,600	$ 953,200	
Contributions & grants	200,000	200,000	1,455,000	1,855,000	
	901,600	444,000	1,462,600	2,808,200	
Less: Contributions/grants	200,000	200,000	1,455,000	1,855,000	
Revenues net of R.O.W. contributions	$ 701,600	$ 244,000	$ 7,600	$ 953,200	
Expenditures:					
Total	$ 1,552,100	$ 515,700	$ 1,591,400	$ 3,659,200	
Less:					
Construction*	950,000	160,000	620,000	1,730,000	
Expenditures net of construction	602,100	355,700	971,400	1,929,200	
Revenues net of R.O.W. contributions	701,600	244,000	7,600	953,200	****
Operating revenue funded by R.O.W.	$ (99,500)	$ 111,700	$ 963,800	$ 976,000	

	Actual 2018	Actual 2019	Budget 2020	Estimated 2021	2022	2023	2024	2025	2026
Right of Way Fund:									
Property tax revenue ***	$ 1,727,725	$ 1,757,227	$ 1,738,200	$ 1,738,200	$ 1,738,200	$ 1,781,655	$ 1,826,196	$ 1,871,851	$ 1,918,648
Contribution towards operating expenses**	571,148	690,096	976,000	995,520	1,015,430	1,035,739	1,056,454	1,077,583	1,099,135
Revenue available - ROW Fund	1,156,577	1,067,131	762,200	742,680	722,770	745,916	769,743	794,268	819,513
Street Funds:									
Cash Reserves available - Capital Outlay	-	-	800,000	-	100,000	100,000	-	-	-
Revenue available-Capital Outlay	$ 1,156,577	$ 1,067,131	$ 1,562,200	$ 742,680	$ 822,770	$ 845,916	$ 769,743	$ 794,268	$ 819,513

There is approximately $600,000 in 2020 ROW cash reserves that could be put towards future projects, see above.

* Construction includes street, sidewalk, forestry and engineering costs (est. $400,000 annually).
** Total operating revenue contribution increased 2% each year from 2020 amount.
*** Tax revenue and other sources is estimated based on 2020 levels increased as follows; 2021 (0.0%), 2022 (0.0%), 2023 (2.5%), 2024 (2.5%), 2025 (2.5%), 2026 (2.5%)
**** Contributions to the General Street Fund include an annual contribution from the Electric Fund in the amount of $250,000.

City of Petoskey
Capital Improvement Plan
Revenue and Expense Estimates
Tax Increment Finance Authority

	Actual 2018	Actual 2019	Budget * 2020	Estimated 2021	2022	2023	2024	2025	2026
Revenues:									
Captured tax revenue	$ 370,018	$ 407,969	$ 400,000	$ 400,000	$ 400,000	$ 410,000	$ 420,250	$ 430,756	$ 441,525
Interest income	7,692	10,716	5,000	4,000	4,000	4,000	4,000	4,000	4,000
	377,710	418,685	405,000	404,000	404,000	414,000	424,250	434,756	445,525
Less:	-	-	-	-	-	-	-	-	-
Total revenue	$ 377,710	$ 418,685	$ 405,000	$ 404,000	$ 404,000	$ 414,000	$ 424,250	$ 434,756	$ 445,525
Expenditures:									
Contracted services	$ 2,292	$ 452,652	$ 167,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000
Lease payment to Debt Service Fund	260,000	231,400	225,000	235,000	265,000	255,000	250,000	225,000	220,000
Total expenditures	262,292	684,052	392,000	245,000	275,000	265,000	260,000	235,000	230,000
Total revenues	377,710	418,685	405,000	404,000	404,000	414,000	424,250	434,756	445,525
Rev. available- Capital Improvement	$ 115,418	$ (265,367)	$ 13,000	$ 159,000	$ 129,000	$ 149,000	$ 164,250	$ 199,756	$ 215,525

Tax revenue and other sources is estimated based on 2020 levels increased as follows; 2021 (0.0%), 2022 (0.0%), 2023 (2.5%), 2024 (2.5%), 2025 (2.5%), 2026 (2.5%)

City of Petoskey
Capital Improvement Plan
Project Funding Source
2021

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
STREETS AND DRAINAGE										
Miscellaneous Pavement Preservation, Paving and Repair	The purpose of this project is to replace or rehabilitate existing pavement and curb lines. Streets under consideration pending available funding include Outlook Street and portions of Harvey Street, Washington Street from Buckley to Franklin.	Right-of-Way			200,000					200,000
Miscellaneous Pavement Preservation, Paving and Repair (Pending funding through MDOT Transportation Economic Development Fund Category B Program)	The purpose of this project is to replace or rehabilitate existing pavement and curb lines. Streets to include portions of Hill Street, West Jefferson Street and Connable Avenue.	Right-of-Way			81,500				81,500	163,000
Greenwood Road Reconstruction - Sheridan Street to Charlevoix Avenue	This project will replace pavement and curb lines on Greenwood Road in conjunction with water main replacement. There has been indication that the Tribe could contribute Bureau of Indian Affairs funding.	Right-of-Way			200,000				350,000 LTBBOI	550,000
WATER AND WASTEWATER SYSTEM										
Miscellaneous Water Main Spot Repairs and Upgrades	Water main work will take place in conjunction with street resurfacing projects along with lead and copper service investigations and replacement.	Right-of-Way					100,000			100,000
Miscellaneous Sanitary Sewer Main and Lift Station Spot Repairs and Upgrades	Sanitary sewer main work will take place in conjunction with street resurfacing projects. Lift station rehabilitation will also occur.	Right-of-Way					150,000			150,000
Water - Greenwood Road - Sheridan to Charlevoix Avenue	Utility upgrade to include water main replacement along Greenwood Road.	Operating Revenue					500,000			500,000
Sanitary - Greenwood Road - Sheridan to Charlevoix Avenue	Utility upgrade to include sanitary main rehabilitation along Greenwood Road.	Operating Revenue					150,000			150,000
SIDEWALKS										
Miscellaneous Sidewalk Construction and Replacement	Sidewalk construction will take place in conjunction with Greenwood Road reconstruction as well as areas identified in the Non-Motorized Facilities Plan as a top priority.	Right-of-Way			150,000					150,000
ELECTRIC SYSTEM										
Petoskey Substation Capacitor Banks	Installation of two (2) 1200kVAR pad mount capacitor banks at Petoskey Substation to compensate for increased VAR flow on the 12.5kV distribution circuits.	Operating Revenue				150,000				150,000
Solar Array Project City Landfill	City staff is currently engaged with Harvest Solar and MPPA evaluating usable area of the City's landfill on Howard Road for a solar array project. Once sizing and energy output is determined, a constructability and interconnect analysis can be performed to establish feasibility and costs.	Operating Revenue				TBD				TBD
Residential Conversion Project - Portions of Waukazoo, Rush, Beech and Pearl Streets	Conversion of the existing overhead distribution circuit to underground within residential corridors. Removes very old overhead system, converts to more reliable underground and prepares for conversion to 7.2kV.	Operating Revenue				473,000				473,000

City of Petoskey
Capital Improvement Plan
Project Funding Source
2021

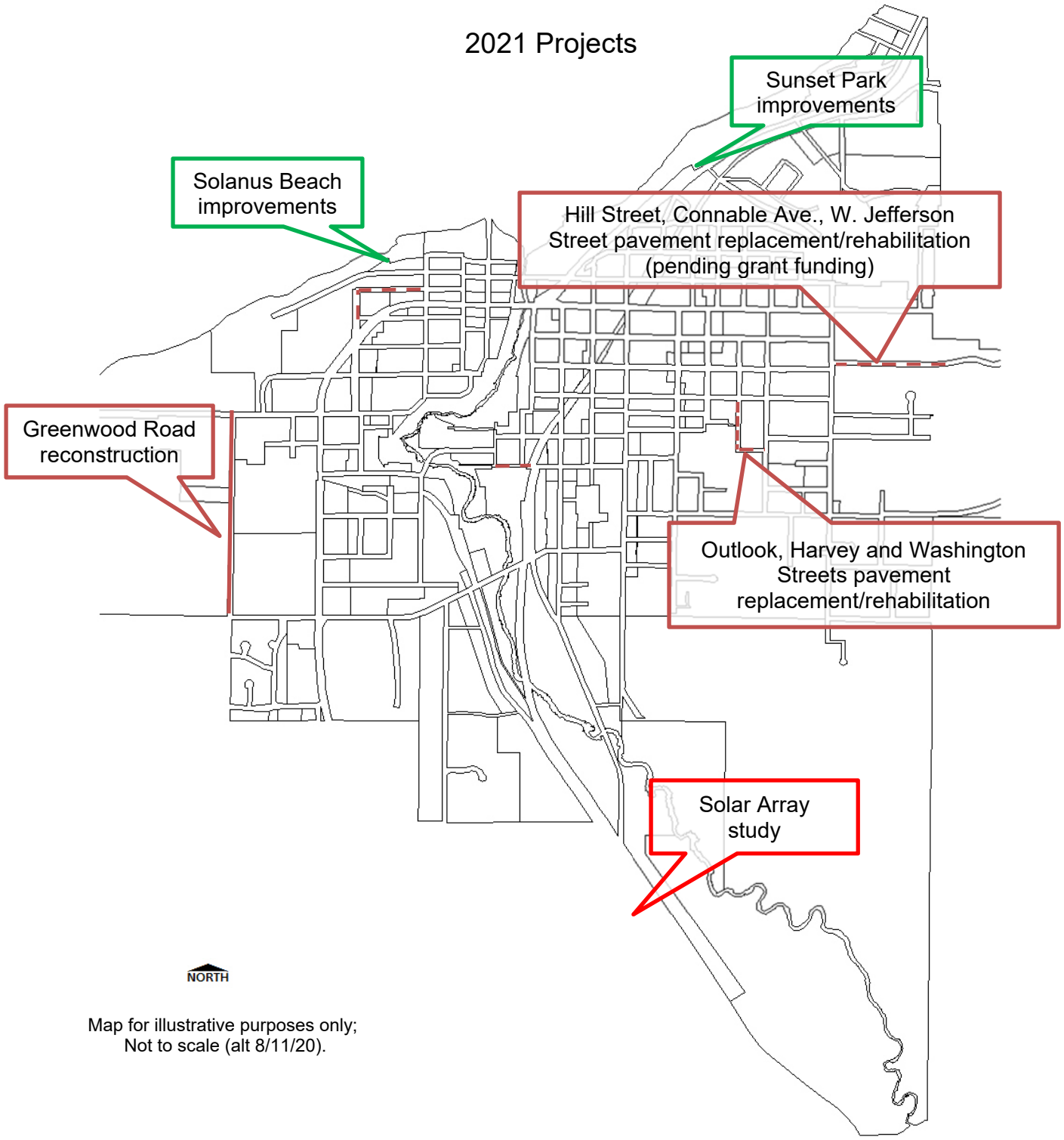
PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
Mitchell Road Substation Breaker Voltage Conversion	Conversion of the breaker trip and close coil voltage from AC to DC at Mitchell Road Substation to improve reliability.	Operating Revenue				40,000				40,000
Saville Lot Equipment Relocation	Relocation of pad mount switchgear and adjacent transformers from the Saville Lot to open space for parking structure construction.	Operating Revenue				178,000				178,000
Greenwood Road Street Lighting	Installation of street lighting along Greenwood Road from Sheridan Street to Charlevoix Avenue in conjunction with road reconstruction project.	Operating Revenue				100,000				100,000
Utility System Generation	Installation of backup generators at critical facilities including lift stations and domestic water production sites (wells).	Operating Revenue				150,000				150,000
MOTOR POOL										
Patrol Vehicle - Replacement	To replace patrol vehicle #442 (2014) with 2021 unit. Convert and/or replace equipment from old unit to 2021 unit. Painting and lettering required.	Operating Revenue						40,000		40,000
Patrol Vehicle - Replacement	Replace patrol vehicle #443 (2013) with 2021 model. Convert and/or replace equipment from old unit to 2021 unit. Painting and lettering required.	Operating Revenue						40,000		40,000
Staff Vehicle - Replacement	Replace Motor Pool Vehicle Unit #29 (2010).	Operating Revenue						35,000		35,000
Pickup Truck 3/4 Ton with Plow 4x4 - Replacement	Replace Streets Unit #60 (2007).	Operating Revenue						37,000		37,000
1 Ton Dump Truck - Streets - Replacement	Replace Streets Unit #63 (2004).	Operating Revenue						57,000		57,000
Flusher Truck - Streets - Replacement	To replace truck #97 (2000).	Operating Revenue						93,000		93,000
Toro Workman Rescue Cart - Public Safety - Replacement	Replace Rescue Utility Cart Unit #441 (2006).	Operating Revenue						30,000		30,000
Bobcat Toolcat with Attachments, Snow Blower, Forks, Rotating Broom & Box - Replacement	Replace Utility Vehicle Unit #124 (2006).	Operating Revenue						75,000		75,000
70 Foot Ladder Truck Refurbish	Refurbish the ladder truck #4503 (2002) to meet NFPA guidelines. Work to be performed and certified by the manufacturer, will extend the life of the unit an additional 10 years.	Operating Revenue						100,000		100,000

City of Petoskey
Capital Improvement Plan
Project Funding Source
2021

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
DOWNTOWN AREA										
Parking Deck Engineering	Engineering of a parking deck on the Saville Lot.	Parking		300,000						300,000
PARKS AND SPECIAL FACILITIES										
Sunset Park Improvements - Phase One	Following stair tower replacement and MDOT project, park enhancements will be made.	Operating Revenue							100,000 TIFA	100,000
Arlington Park Design Engineering	Following US-31 realignment, redesign of Arlington Park and Lewis Street area.	Operating Revenue	10,000							10,000
Marina Fuel System Replacement	Tanks and piping will be 25 years old and in need of replacement or reconditioning and to increase diesel storage capacity.	Operating Revenue	100,000						100,000 State Grant	200,000
Little Traverse Wheelway Resurfacing	Resurfacing 1/3 of a mile of the LTW. Asphalt trail is deteriorating after many years.	Operating Revenue	60,000						40,000 Grant	100,000
Solanus Beach Improvements	As identified in the 2018-2022 Parks and Recreation Master Plan, improvements to the beach area that could include an accessible boardwalk to the water, shoreline improvements and restroom/pavilion.	TIFA Grants							250,000 TIFA/Grants	250,000
River Road Sports Complex Design Engineering	Engineering of restrooms at River Road Sports Complex.	Operating Revenue	10,000							10,000
Grand Totals			$180,000	$300,000	$631,500	$1,091,000	$900,000	$507,000	$921,500	$4,531,000

City of Petoskey
2021-2026 Capital Improvement Plan

2021 Projects



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City of Petoskey
Capital Improvement Plan
Project Funding Source
2022

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
STREETS AND DRAINAGE										
East Lake Street - Kalamazoo to Division	Reconstruction of East Lake Street including sidewalks and ADA ramps.	Right-of-Way			700,000					700,000
Miscellaneous Pavement Preservation, Paving and Repair	The purpose of this project is to replace or rehabilitate existing pavement and curb lines. Portions of Bridge, State, and Petoskey Streets are included in 2022 Small Urban Grant.	Right-of-Way			100,000				375,000	475,000
CBD - East Mitchell Street and Petoskey Street	To replace the concrete intersection that was removed previously and not replaced.	Right-of-Way							150,000	150,000
WATER AND WASTEWATER SYSTEM										
Water - East Lake - Kalamazoo to Division	Replacement of water mains and components in conjunction with street reconstruction.	Operating Revenue					500,000			500,000
Sanitary - East Lake - Kalamazoo to Division	Replacement of sanitary mains and components in conjunction with street reconstruction.	Operating Revenue					250,000			250,000
Miscellaneous Water Main Spot Repairs and Upgrades	Water main work will take place in conjunction with street resurfacing projects along with lead and copper service investigations and replacement.	Operating Revenue					125,000			125,000
Miscellaneous Sanitary Sewer Main Spot Repairs and Upgrades	Sanitary sewer main work will take place in conjunction with street resurfacing projects.	Operating Revenue					125,000			125,000
SIDEWALKS										
Miscellaneous Sidewalk Construction and Replacement	Sidewalk additions and replacements will take place in conjunction with East Lake Street reconstruction and other priorities established in the Non-Motorized Facilities Plan.	Right-of-Way			200,000					200,000
ELECTRIC SYSTEM										
Substation Recloser Replacement	Replacement of the circuit reclosers in Petoskey Substation that were installed in 2005.	Operating Revenue				120,000				120,000
East Lake Underground Conversion	Installation of new three-phase underground on East Lake Street from Division Street to Kalamazoo Avenue. Provides redundant circuit into the CBD area, converts East Lake Street to underground, and moves the circuit to the new 7.2/12.5kV system.	Operating Revenue				515,000				515,000
Bear River Valley Underground - PET1	Conversion of the overhead PET1 distribution circuit from Petoskey Substation through the Bear River Valley to Ione Street equipment area. Improves reliability to critical loads including the hospital, City Hall and CBD area. Utilizes conduit system installed as part of the Bear River Corridor project.	Operating Revenue				219,000				219,000
Mitchell Road Substation Fiber Connection	Installation of fiber optic cable from DPW to Mitchell Road Substation.	Operating Revenue				50,000				50,000
Electric System GIS Database	Preparation of back-end database for Electric System GIS. Includes transfer of existing electric computer model and record drawings into database.	Operating Revenue				50,000				50,000

City of Petoskey
Capital Improvement Plan
Project Funding Source
2022

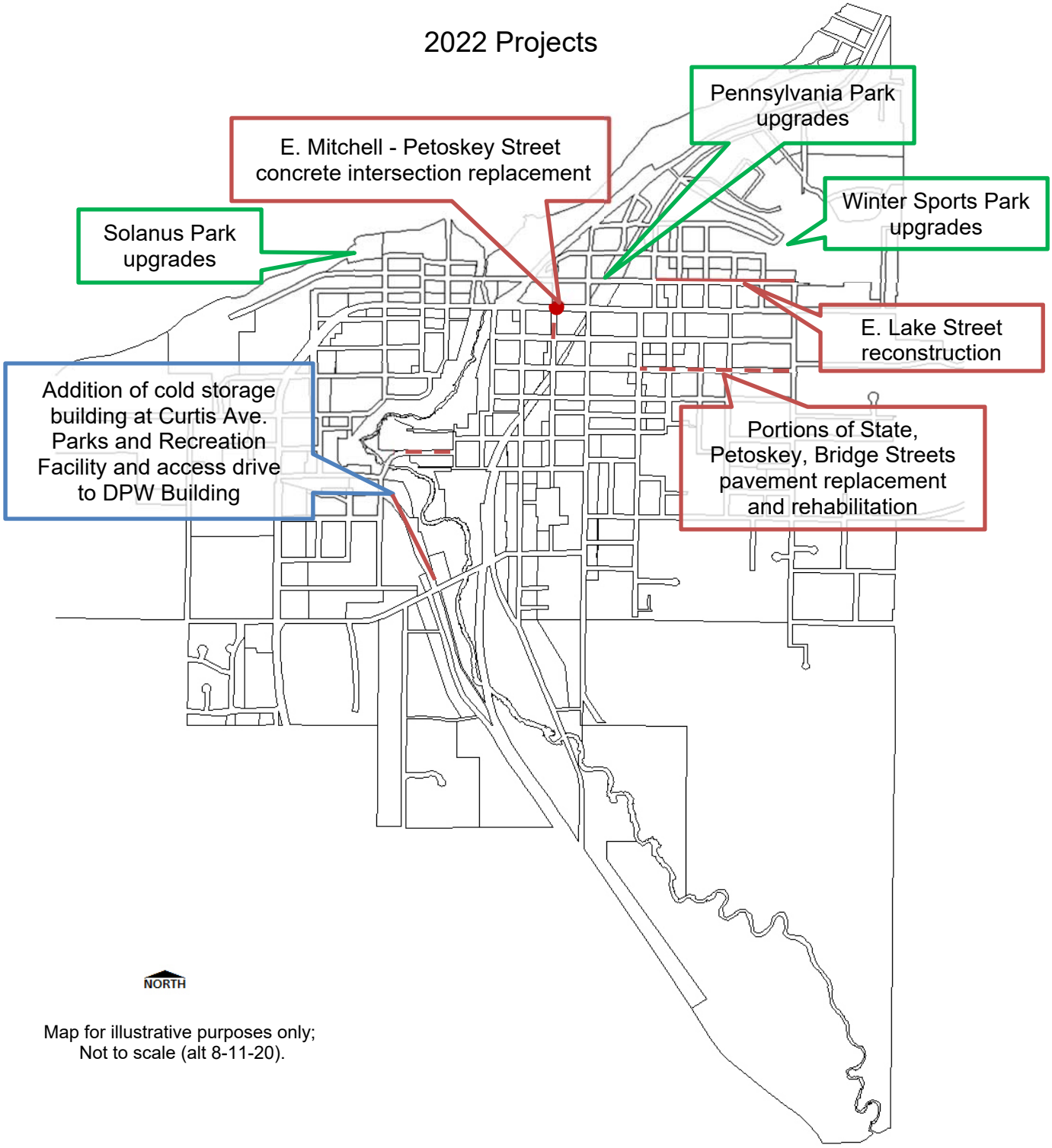
PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
MOTOR POOL										
Patrol Vehicle - Replacement	Replace 4x4 patrol vehicle #445 (2017) with 2022 model. Painting and lettering required.	Operating Revenue						52,000		52,000
Pickup Truck - Water - Replacement	Replace Water Unit #34 (2012).	Operating Revenue						30,000		30,000
Pickup with Plow - Wastewater - Replacement	Replace WWTP Unit #38 (2012).	Operating Revenue						40,000		40,000
Bucket Truck - Electric - Replacement	Replace Unit #83 (2001).	Operating Revenue						225,000		225,000
Batwing Mower - Replacement	Replace Unit #148 (2012).	Operating Revenue						50,000		50,000
Crane Truck - Water - Replacement	To replace truck #33 (2009).	Operating Revenue						75,000		75,000
Staff Vehicle - Replacement	To replace Motor Pool vehicle #25 (2012).	Operating Revenue						30,000		30,000
Bobcat Toolcat with Attachments, Snow Blower, Forks, Rotating Broom & Box - Replacement	Replace Utility Vehicle Unit #112 (2006).	Operating Revenue						75,000		75,000
DOWNTOWN AREA										
Parking Lot Paving	Paving existing lot and pay station installation.	Parking		65,000						65,000
BUILDINGS AND GROUNDS										
City Hall Renovations	City Hall was renovated in 1990 and will continue to have repairs and modifications needed for continued efficient operations. Work will include foundation wall waterproofing repairs and HVAC system.	Operating Revenue	250,000							250,000
Curtis Avenue Department of Parks and Recreation Facility Improvements	Improvements to include cold storage facility for DPW and Parks and Recreation and service drive improvements to connect facility to DPW facility.	Operating Revenue							3,400,000	3,400,000
PARKS AND SPECIAL FACILITIES										
Festival Place Shelter Roof	Replace shingle roofing with metal roofing similar to Bear River pavilion.	Operating Revenue	20,000							20,000
Pennsylvania Park Upgrades	As part of the Downtown Greenway Corridor site amenities from Bay Street to East Mitchell Street, Park Avenue sidewalk widening and landscaping improvements will be constructed in accordance with design and engineering plans completed in 2018.	Operating Revenue	100,000			68,000			100,000	268,000

City of Petoskey
Capital Improvement Plan
Project Funding Source
2022

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
Riverbend Skate Park Equipment	The original skate park equipment was purchased in 2002, with additional purchases in 2008 and 2012. This project would replace the 2002 equipment, including the original wood ramps and would add new skate elements to the facility.	Operating Revenue	20,000						20,000 State Grant	40,000
Winter Sports Park Hockey Rink Improvements	Construction of a cover over the hockey rink to extend usability.	Operating Revenue							300,000 Local Grant	300,000
Bayfront Park West - Solanus Beach	Construction of public access and restrooms based on 2020 feasibility study results. May include shoreline stabilization improvements.	TIFA							500,000 TIFA and Grants	500,000
Grand Totals			$390,000	$65,000	$1,000,000	$1,022,000	$1,000,000	$577,000	$4,845,000	$8,899,000

City of Petoskey
2021-2026 Capital Improvement Plan

2022 Projects



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City of Petoskey
Capital Improvement Plan
Project Funding Source
2023

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
STREETS AND DRAINAGE										
Miscellaneous Pavement Preservation, Paving and Repair	This project is to replace or rehabilitate existing pavement and curb lines. Streets to be considered fall under the category of fair to poor based on PASER ratings.	Right-of-Way			200,000					200,000
WATER AND WASTEWATER SYSTEM										
Water - Miscellaneous Water Main Spot Repairs and Upgrades	Water main work will take place in conjunction with street resurfacing projects along with lead and copper service investigations and replacement.	Operating Revenue					350,000			350,000
Sanitary - Miscellaneous Sewer Main Spot Repairs and Upgrades	Sewer main work will take place in conjunction with street resurfacing.	Operating Revenue					150,000			150,000
Lime Kiln Well and Control Building Improvements	The Lime Kiln Well was developed 35 years ago. Improvements would include conversion from a t-vertical turbine pump system to a submersible pump system, updated chlorine feed systems and renovations to control and monitoring systems.	Operating Revenue					500,000			500,000
SIDEWALKS										
Miscellaneous Sidewalk Construction and Replacement	Sidewalk additions and replacement will occur in conjunction with street projects and in priority locations established in the Non-Motorized Facilities Plan.	Right-of-Way			150,000					150,000
ELECTRIC SYSTEM										
Petoskey Sub 46kV, PET6 & PET8 Underground	Conversion of the 46kV transmission line and circuits PET6 & PET8 to underground from Petoskey Substation to the south side of the salt shed. Improves reliability of the transmission service into the substation, prepares for voltage conversion of circuit PET8, and creates required space for expansion of the DPW Building.	Operating Revenue				522,000				522,000
Residential Conversion Project - Maple and Porter	Conversion of the existing overhead distribution circuit to underground within residential corridors. Removes very old overhead system, converts to more reliable underground and prepares for conversion to 7.2/12.5kV.	Operating Revenue				320,000				320,000
Residential Conversion Project - Morgan/Priebe/Hillcrest	Conversion of the existing overhead distribution circuit to underground within residential corridors. Removes very old overhead system, converts to more reliable underground and prepares for conversion to 7.2kV.	Operating Revenue				365,000				365,000
River Valley Underground - PET5 - McLaren/Burns	Conversion of the overhead express 7.2/12.5kV McLaren/Burns feeder to underground from Petoskey Substation through the Bear River Valley to Ione Street. Adds reliability to this express feeder serving one of the highest critical loads on the system.	Operating Revenue				219,000				219,000

City of Petoskey
Capital Improvement Plan
Project Funding Source
2023

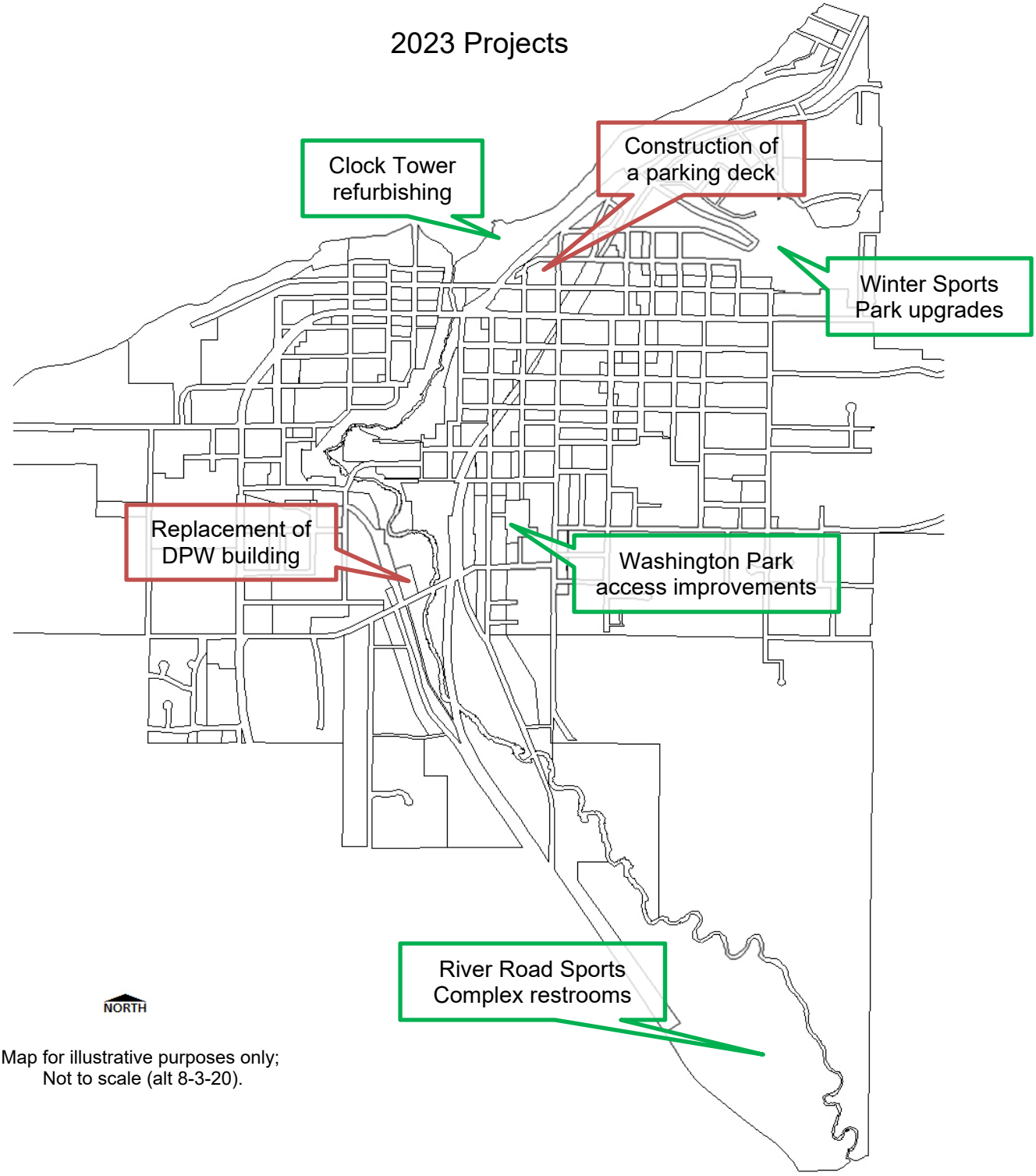
PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
MOTOR POOL										
Patrol Vehicle - Replacement	Replace 4x4 patrol vehicle #446 (2018) with 2023 model. Painting and lettering required.	Operating Revenue						52,000		52,000
Pickup Truck - CBD Water Truck - Replacement	Replace Unit #52 (2008).	Operating Revenue						30,000		30,000
Pickup Truck - Parks and Rec - Replacement	Replace Unit #53 (2010).	Operating Revenue						25,000		25,000
Pickup Truck - Streets - Replacement	Replace Unit #65 (2010).	Operating Revenue						25,000		25,000
Heavy Duty Plow Truck/Underbody - Streets - Replacement	Replace Unit #93 (2006).	Operating Revenue						180,000		180,000
Front End Loader - Streets - Replacement	Replace Unit #107 (2003).	Operating Revenue						200,000		200,000
Toro Workman Utility Cart - Parks and Rec - Replacement	Replace Unit #174 (2008).	Operating Revenue						15,000		15,000
Toro Workman Rescue Cart - Public Safety - Replacement	Replace Rescue Utility Cart Unit #541 (2008).	Operating Revenue						27,000		27,000
Batwing Groundmaster - Replacement	Replace Unit #188 (2009).	Operating Revenue						65,000		65,000
DOWNTOWN AREA										
Parking Lot Paving	Paving existing lot and pay station installation.	Parking		65,000						65,000
Construction of a Parking Deck	Construction of a deck on the Saville Lot.	TIF Bonds							3,000,000	3,000,000
BUILDINGS AND GROUNDS										
Bayfront Park Clock Tower	Refurbish tower lights and clock mechanisms.	TIFA	75,000							75,000
East Lake Street Fire Station	Paint apparatus room and radiant heat tube replacement.	Operating Revenue	42,000							42,000
Replacement of DPW Building	Existing building is 60+ years old, does not meet operational needs and is inefficient. New building to incorporate green infrastructure and rooftop solar panels.	Revenue Bonds							11,500,000	11,500,000
PARKS AND SPECIAL FACILITIES										
Washington Park Access Engineering and Construction	Washington Park currently has limited access from Petoskey Street off of Washington Street and from Petoskey Street off of Sheridan Street, with limited parking taking place primarily on the streets. Project proposes to create a turn-a-round style parking lot off of Petoskey Street on the south end of the park and provide improved access to Washington Street on the north side of the park, and create a new pedestrian access off of Emmet Street into the park area and extend sidewalks to key areas within the park.	Operating Revenue	75,000		75,000				75,000 State Grant	225,000
Pennsylvania Park Upgrades	A plaza adjacent to East Mitchell Street, where the annual tree-lighting occurs, will be created to improve the area for community gatherings.	Operating Revenue	95,000							95,000

City of Petoskey
Capital Improvement Plan
Project Funding Source
2023

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
Winter Sports Park Building Roof	The existing Winter Sports Park building will be 31 years old in 2021. Replacement of roof will be the first phase of improvements, with siding and deck repairs in 2022.	Operating Revenue	30,000							30,000
Winter Sports Park Building Interior Renovations	The Winter Sports Park Building in 2021 will be 31 years old and interior renovations are anticipated and will include painting, concession and restroom sink and counter replacements, and replacement of the skate proof flooring on main level and door replacement at air lock entryway. These repairs are necessary and in particular the skate proof flooring. Failure of the flooring will jeopardize main level floor and underlying decking and joists.	Operating Revenues	70,000						20,000 Local Grant	90,000
Winter Sports Park Building Siding and Decking	The existing Winter Sports Park building will be 31 years old in 2021 and exterior siding and decking will be needed to maintain structure.	Operating Revenue	60,000							60,000
River Road Sports Complex	Construction of restrooms at River Road Sports Complex.	Operating Revenue	100,000						250,000 State Grant	350,000
Little Traverse Wheelway Resurfacing	Replace 1-mile segment of LTW.	Operating Revenue	130,000						130,000 State Grant	260,000
Lockwood Park Upgrades	Upgrade the basketball court.	Operating Revenue	25,000							25,000
Marina Parking Lot Resurfacing	In 2020, the parking lot will be 30 years of age and will be in need of resurfacing. The lot has been used to house marina spoils prior to disposal which accelerated the decline of the top coat. In 2010, the lot was patched to accommodate the marina expansion utilities. Grant and restricted marina funds will be used to finance the lot resurfacing.	Marina Reserve	20,000						20,000 State Grant	40,000
Grand Totals			$722,000	$65,000	$425,000	$1,426,000	$1,000,000	$619,000	$14,995,000	$19,252,000

City of Petoskey
2021-2026 Capital Improvement Plan

2023 Projects



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City of Petoskey
Capital Improvement Plan
Project Funding Source
2024

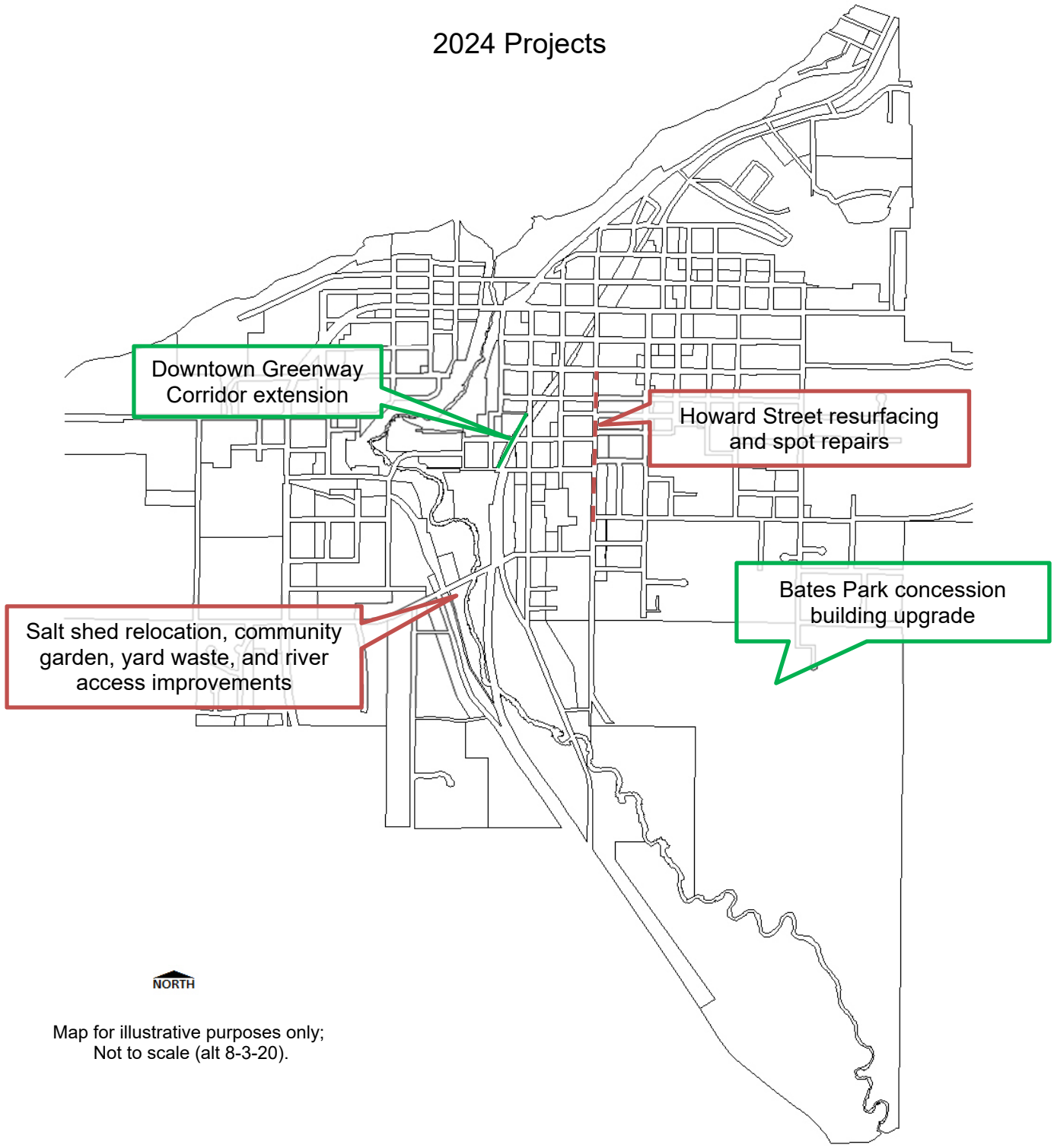
PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
STREETS AND DRAINAGE										
Howard Street from State Street to Jennings Avenue	This project would be dependent upon funding availability through MDOT's Small Urban Program. Primary scope of work would be to remove and replace deteriorating pavement along with spot repairs to curbs, sidewalks and storm sewers.	Right-of-Way			400,000				375,000 State Grant	775,000
WATER AND WASTEWATER SYSTEM										
Water - Howard Street and Miscellaneous Water Main Spot Repairs and Upgrades	Water main work will take place in conjunction with street resurfacing.	Operating Revenue					550,000			550,000
Sanitary - Howard Street and Miscellaneous Sewer Main Spot Repairs and Upgrades	Sewer main work will take place in conjunction with street resurfacing.	Operating Revenue					450,000			450,000
SIDEWALKS										
Miscellaneous Sidewalk Construction and Replacement	Sidewalk additions and replacement will occur in conjunction with street projects and in priority locations established in the Non-Motorized Facilities Plan.	Right-of-Way			200,000					200,000
ELECTRIC SYSTEM										
Residential Conversion Project - Portions of Howard, Rush, Fulton, and Pearl Streets	Conversion of the existing overhead distribution circuit to underground within residential corridors. Removes very old overhead system, converts to more reliable underground and prepares for conversion to 7.2/12.5kV.	Operating Revenue				655,000				655,000
Cemetery Road Underground	Conversion of the existing 7.2/12.5kV overhead open-wire distribution circuit to underground along a portion of Cemetery Road starting at the City limits. Converts this section of mainline circuit serving large load customers to a more reliable underground system.	Operating Revenue				293,000				293,000
MOTOR POOL										
Public Safety Marine Apparatus - Replacement	Replace Unit #526 (2007).	Operating Revenue						35,000		35,000
Patrol Vehicle - Replacement	Replace vehicle #447 (2019) with 2024 model. Convert and/or replace equipment from old unit; painting and lettering required.	Operating Revenue						52,000		52,000
Staff Vehicle - Public Works - Replacement	Replace Unit #26 (2015).	Operating Revenue						35,000		35,000
Staff Vehicle - Finance- Replacement	Replace Unit #21 (2015).	Operating Revenue						35,000		35,000
One-ton Dump Truck - Streets Division - Replacement	Replace Unit #62 (2008).	Operating Revenue						41,000		41,000
35,000 GVW Plow Salt/Sand Spreader Replacement	Replace Unit #96 (2007) along with salt and sand unit and plow.	Operating Revenue						200,000		200,000

City of Petoskey
Capital Improvement Plan
Project Funding Source
2024

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
DPW Garage Fork Lift - Replacement	Replace Unit #114 (1991).	Operating Revenue						30,000		30,000
Outfront Mower - Parks and Rec - Replacement	Replace Parks and Rec Unit #180 (2013).	Operating Revenue						30,000		30,000
DOWNTOWN AREA										
Parking Lot Paving	Paving existing lot and pay station installation.	Parking		70,000						70,000
Engineering of a Parking Deck	Engineering of a parking deck on the City-County Lots.	Parking		400,000						400,000
BUILDINGS AND GROUNDS										
Public Safety West	The building was constructed in 2011 and it is anticipated the overhead doors will need replacement.	Operating Revenue	75,000							75,000
Public Safety West	The building was constructed in 2011 and it is anticipated the garage floor will need to be resealed.	Operating Revenue	15,000							15,000
Salt Sheds and Materials Storage Area	Existing salt sheds are 30+ years old and must be upgraded. Sheds and material storage bins would potentially be relocated to the north side of Sheridan Street as part of the DPW campus upgrades.	Operating Revenue			500,000				1,210,000	1,710,000
Community Gardens Park and Yard Waste Drop Off Area	Community gardens would be relocated to the south side of Sheridan Street in proximity of current yard waste drop off and salt shed area. Site to be upgraded to enhance Bear River Valley/Iron Bell Trail and launch area with restrooms, as well as improved yard waste drop off and community gardens.	Operating Revenue							1,307,000 State Grant TIFA Bonds	1,307,000
PARKS AND SPECIAL FACILITIES										
Bates Park Concession Building	Concession will be 25 years old in 2024 and in need of roofing and siding.	Operating Revenue	60,000							60,000
Downtown Greenway Corridor Extension	Construction of the corridor between Emmet Street and Washington Street following rail corridor property purchase in 2023.	Operating Revenue	150,000						50,000	200,000
Washington Park Improvements	Construction of improvements identified through a master plan process, including park amenities to follow 2023 access improvements.	Operating Revenue	150,000						150,000	300,000
Grand Totals			$450,000	$470,000	$1,100,000	$948,000	$1,000,000	$458,000	$3,092,000	$7,518,000

City of Petoskey
2021-2026 Capital Improvement Plan

2024 Projects



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City of Petoskey
Capital Improvement Plan
Project Funding Source
2025

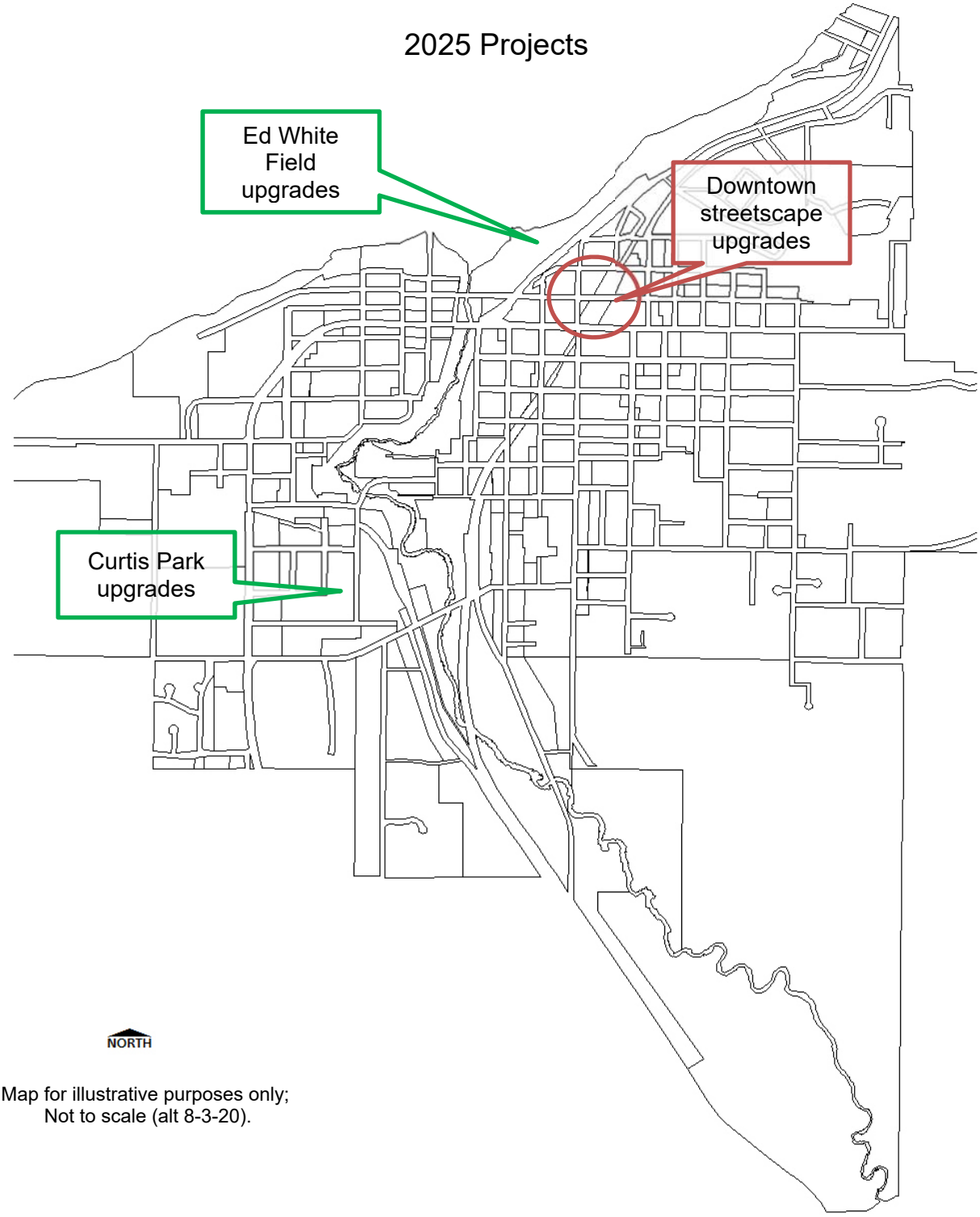
PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
STREETS AND DRAINAGE										
Miscellaneous Pavement Preservation, Paving and Repair	This project is to replace or rehabilitate existing pavement and curb lines. Streets to be considered fall under the category of fair to poor based on PASER ratings.	Right-of-Way			350,000					350,000
WATER AND WASTEWATER SYSTEM										
Water - Miscellaneous Water Main Spot Repairs and Upgrades	Water main work will take place in conjunction with street resurfacing projects along with lead and copper service investigations and replacement.	Operating Revenue					500,000			500,000
Sanitary - Miscellaneous Sewer Main Spot Repairs and Upgrades	Sewer main work will take place in conjunction with street resurfacing.	Operating Revenue					500,000			500,000
SIDEWALKS										
Miscellaneous Sidewalk Construction and Replacement	Sidewalk additions and replacement will occur in conjunction with street projects and in priority locations established in the Non-Motorized Facilities Plan.	Right-of-Way			150,000					150,000
ELECTRIC SYSTEM										
Atkins-Northmen Drive Underground Tie	Install new underground tie along McDougal Extension from Atkins Road to Northmen Drive. Provides backup circuit to school campus. Conduit installed in conjunction with 2015 road construction.	Operating Revenue				149,000				149,000
Residential Conversion Project (Morgan/Priebe/Hillcrest)	Conversion of the existing overhead distribution circuit to underground within residential corridors. Removes very old overhead system, converts to more reliable underground and prepares for conversion to 7.2kV.	Operating Revenue				404,000				404,000
46kV Metering Structure Replacement	Replacement of the 50+ year old 46kV metering structure at the River Road connection to the 46kV transmission system. Replaces aged wood pole structure at this critical system connection point.	Operating Revenue				250,000				250,000
CBD Alley Conversion to Underground	Conversion of the remaining CBD alley to underground (300 Block East Mitchell and Michigan).	Operating Revenue				125,000				125,000
MOTOR POOL										
Patrol Vehicle - Replacement	To replace patrol vehicle #444 (2020) with 2025 unit. Painting and lettering required.	Operating Revenue						52,000		52,000
1 Ton Dump Truck - Parks and Rec - Replacement	Replace Parks and Rec Unit #61 (2012).	Operating Revenue						40,000		40,000

City of Petoskey
Capital Improvement Plan
Project Funding Source
2025

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
1 Ton Dump Truck - Streets - Replacement	Replace Streets Unit #66 (2011).	Operating Revenue						50,000		50,000
Pickup Truck with Plow - Replacement	Replace Streets Division Unit #70 (2015).	Operating Revenue						40,000		40,000
Heavy Duty Plow Truck/Underbody - Streets - Replacement	Replace Unit #98 (2012).	Operating Revenue						210,000		210,000
Heavy Duty Hydraulic Sewer Cleaner	Replace Unit #99 (2005).	Operating Revenue						240,000		240,000
Outfront Mower - Parks and Recreation - Replacement	Replace Parks and Recreation Unit #115 (2015).	Operating Revenue						35,000		35,000
DOWNTOWN AREA										
Parking Lot Paving	Paving existing lot and pay station installation.	Operating Revenue		75,000						75,000
Replacement of Road Trolley	Replacement of 1999 road trolley. In 2025 the road trolley will be 26 years old and in need of replacement.	Operating Revenue		125,000						125,000
Downtown Streetscape	The streetscape will be 28 years old and should continue to be pedestrian oriented while incorporating green infrastructure and new technologies.	Operating Revenue							TBD	TBD
BUILDINGS AND GROUNDS										
City Hall	Replacement of HVAC units (1989) and other efficiency improvements identified in the energy audit.	Operating Revenue	325,000							325,000
PARKS AND SPECIAL FACILITIES										
Marina Restroom/Shower	Improvements to the Marina restrooms and showers include interior renovations to counter tops, partitions and painting. Shower renovations will include tiling and faucets.	Operating Revenue	25,000							25,000
Ed White Field	The facility was constructed in 1989 and will be in need of floor upgrades in scorers room, siding, bleachers and lighting upgrades.	Operating Revenue	155,000							155,000
Curtis Park Improvements	Implementation of the Master Plan developed in 2021.	Operating Revenue	100,000						100,000	200,000
Grand Totals			$605,000	$200,000	$500,000	$928,000	$1,000,000	$667,000	$100,000	$4,000,000

City of Petoskey
2021-2026 Capital Improvement Plan

2025 Projects



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City of Petoskey
Capital Improvement Plan
Project Funding Source
2026

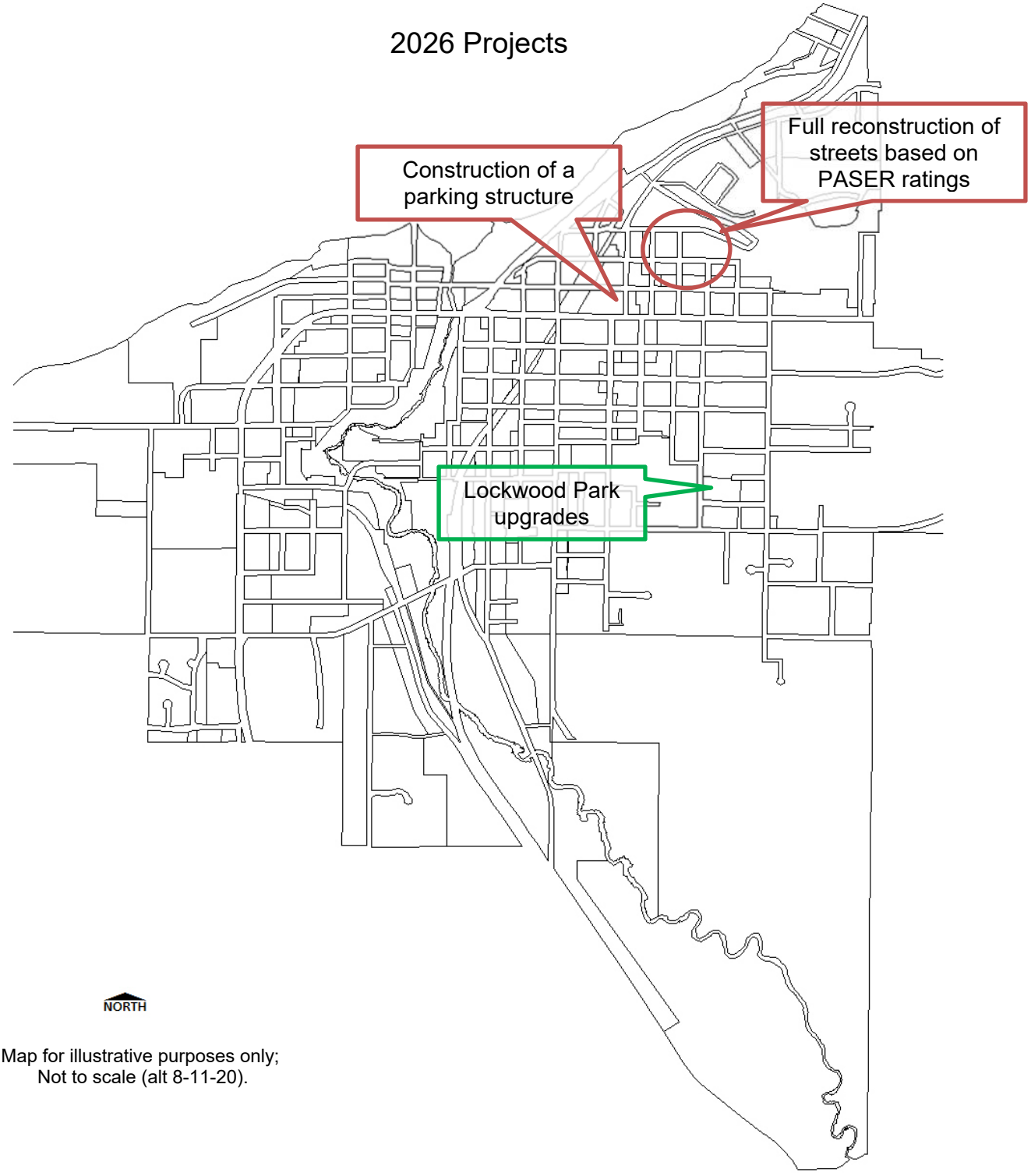
PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
STREETS AND DRAINAGE										
Full reconstruction of streets identified through PASER ratings and utility conditions	These streets are not candidates for pavement preservation. Possible candidates include Bay, Rose, Clinton and Ottawa.	Right-of-Way			800,000					800,000
WATER AND WASTEWATER SYSTEM										
Water - Reconstruction and Miscellaneous Water Main Spot Repairs and Upgrades	Water main work in conjunction with identified street reconstruction.	Operating Revenue					500,000			500,000
Sanitary - Reconstruction and Miscellaneous Sanitary Main Spot Repairs and Upgrades	Sewer main work in conjunction with identified street reconstruction.	Operating Revenue					500,000			500,000
SIDEWALKS										
Miscellaneous Sidewalk Construction	Sidewalk additions and replacement will occur in conjunction with street projects and in priority locations established in the Non-Motorized Facilities Plan.	Right-of-Way			200,000					200,000
ELECTRIC SYSTEM										
Residential Conversion Project - (Bay & Rose; portions of Williams and Clinton Streets	Conversion of the existing overhead distribution circuit to underground within residential corridors. Removes very old overhead system, converts to more reliable underground and prepares for conversion to 7.2kV.	Operating Revenue				604,000				604,000
Lafayette/Traverse Woods Cable Replacement	Replacement of the 30+ year old underground cable and equipment at Lafayette and Traverse Woods Apartments.	Operating Revenue				400,000				400,000
MOTOR POOL										
Staff Vehicle - Parks and Recreation - Replacement	Replace Unit #28 (2017).	Operating Revenue						33,000		33,000
Staff Vehicle - Public Safety - Replacement	Replace Public Safety Unit #450.	Operating Revenue						35,000		35,000
Pick-up Truck 1/2 Ton 4x4 - Replacement	Replace Parks and Recreation Unit #74 (2014).	Operating Revenue						35,000		35,000
Pick-up Truck 1/2 Ton 4x4 - Replacement	Replace Parks and Recreation Unit #75 (2014).	Operating Revenue						35,000		35,000
Pick-up Truck 1/2 Ton 4x4 - Replacement	Replace Electric Division Unit #85 (2015).	Operating Revenue						35,000		35,000

City of Petoskey
Capital Improvement Plan
Project Funding Source
2026

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
Portable Light Towers (2) - Replacement	Replace Public Works Units #102 and #104.	Operating Revenue						50,000		50,000
Asphalt Recycler and Hot Patch Trailer-Falcon - Replacement	Replace Street Department Unit #103 (2015).	Operating Revenue						29,000		29,000
Toro Workman Utility Cart - Parks and Rec - Replacement	Replace Utility Cart #116 - Marina (2013).	Operating Revenue						16,000		16,000
Bobcat Toolcat with Attachments, Snow Blower, Forks, Rotating Broom, and Box-Replacement	Replace Utility Vehicle Unit #126 (2017).	Operating Revenue						85,000		85,000
Heavy-Duty Forklift- Replacement	Replace Public Works Garage Unit #128 (2006).	Operating Revenue						28,000		28,000
Toro Walk Behind Mower	Replace Parks and Rec Unit #182 (2001).	Operating Revenue						6,000		6,000
Zamboni Ice Groomer - Replacement	Replace Winter Sports Park Ice Rink Unit #173 (1988).	Operating Revenue						30,000		30,000
DOWNTOWN AREA										
Construction of a Parking Deck	Construction of a Deck on the City-County Lots.	Parking							3,500,000	3,500,000
BUILDINGS AND GROUNDS										
East Lake Street Fire Station Renovations	The building was remodeled into the Fire Station in 1989 and will require numerous upgrades including replacement of windows, kitchen remodel, replacement of tube heating system, training room cabinet remodel, interior apparatus area painting, HVAC rooftop unit, furnaces (2), carpet replacement, window replacement and interior lighting upgrades.	Operating Revenue	243,000							243,000
Public Safety Garage - City Hall	Replace radiant tube heaters.	Operating Revenue	18,000							18,000
PARKS AND SPECIAL FACILITIES										
Lockwood Park	Construction of improvements identified through master plan process.	Operating Revenue	200,000						200,000	400,000
Bayfront Park Resource Center	The facility was constructed in 1984 and will be in need of front door replacement, windows, carpeting, concession stand renovations and landscaping.	Operating Revenue	67,000							67,000
Grand Totals			$528,000	$0	$1,000,000	$1,004,000	$1,000,000	$417,000	$3,700,000	$7,649,000

City of Petoskey
2021-2026 Capital Improvement Plan

2026 Projects



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City of Petoskey
Capital Improvement Plan
Long Term Projects/Capital Items Lacking Funding

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
STREETS AND DRAINAGE										
Miscellaneous Pavement Preservation, Paving and Repair	The purpose of this project is to replace or rehabilitate existing pavement and curb lines. Streets to be considered fall under the category of fair to poor based on PASER ratings.	Right-of-Way			TBD					TBD
Storm Sewer System Upgrades	Projects identified in the 2018 Stormwater Asset Management Plan.	Right-of-Way			TBD					TBD
Full reconstruction of streets identified through PASER ratings and utility conditions	Streets that are not candidates for pavement preservation and will require significant funding for reconstruction. Possible candidates include Buckley, Willis, Ingalls, Jackson.	Right-of-Way			TBD					TBD
WATER AND WASTEWATER SYSTEM										
New Aeration Blowers/Secondary Process Improvements	New aeration blowers for optimum efficiency as well as biological nutrient removal will be needed as future upgrades for the WWTP are anticipated. These improvements would have energy and/or chemical savings associated.	Operating Revenue					800,000			800,000
Lead Service Line Replacements	New lead and copper rules dictate that any portion of a water service line that may have been in contact with lead is considered a lead service line and would need to be removed and replaced within the dwelling it serves. Rule requirements include a system wide inventory by year 2025 to determine the number of service replacements. Once determined, replacements must occur at a rate of 5% per year over a 20 year period. Service line replacements are estimated at $7,000 per service.	Operating Revenue					TBD			TBD
Ingalls Central to Westshore Gravity Bypass	This project would help automatically transfer water between two pressure districts and provide for additional system redundancy and reliability.	Operating Revenue					50,000			50,000
Development of Wells 8 & 9	Two water wells were originally partially developed by a private developer as part of a capacity agreement near the intersection of Anderson and Intertown Road in the early 2000s. Since other wells were being developed as part of other agreements these two were never equipped. As consumption increases or as the other older wells produce less over time, these two will likely be needed in the future.	Operating Revenue					3,800,000			3,800,000

City of Petoskey
Capital Improvement Plan
Long Term Projects/Capital Items Lacking Funding

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
Submersible Pump Changeouts for Lift Stations	The wastewater lift stations originally installed as part of the Bay Harbor Development are nearly 25 years in age, periodic replacement will be phased in over multiple years.	Operating Revenue					250,000			250,000
Watermain Replacement - Upper District Sheridan to US-131 Tower	This is an ongoing replacement of vintage 1960s transmission water main that has been incrementally replaced through various street and infrastructure projects.	Operating Revenue					1,410,000			1,410,000
SIDEWALKS										
Sidewalk Construction and Maintenance	The City has prioritized construction of sidewalks and now has 44.3 miles to maintain.	Right-of-Way			TBD					TBD
ELECTRIC SYSTEM										
Resort Pike Tie - PET2 to PET4	Installation of #336.4 Hendrix south from Sterzik Road to the CE 138kV line, then 500kCM 15kV CU underground extending north to the existing #336.4 ACSR dead-end pole.	Operating Revenue				215,000				215,000
AMI System	Installation of a system-wide AMI (Advanced Metering Infrastructure) system. Provides for time-of-use energy sales, automatic meter reading, remote disconnects/reconnects, and outage detection.	Operating Revenue				946,500				946,500
Mitchell Road Overhead Reconductor	Reconductor overhead three-phase line on Mitchell Road from Division Road to Hill Street. Complete in conjunction with 500kCM underground cable to Kalamazoo Avenue and East Lake Street, plus overhead reconductor on Lake Street to Division Street for new/redundant 7.2/12.5kV source into CBD.	Operating Revenue				65,000				65,000
East Mitchell Street Underground Cable	Installation of 500kCM 15kV underground cable from riser pole near Lincoln Place to Kalamazoo Avenue and Lake Street.	Operating Revenue				210,000				210,000
Utility System Generators	Providing fixed generation at key utility facilities. (e.g. well houses, lift stations)	Operating Revenue				375,000				375,000
West Sheridan Street Underground Upgrade	Replace direct buried cable and rusted equipment with new cable in conduit and equipment in more protected areas. Add switchgear with fused taps to improve sectionalizing and circuit reliability.	Operating Revenue				336,000				336,000
Petoskey Substation Driveway Paving	Grading, drainage improvements and paving of the Petoskey Substation driveway.	Operating Revenue				55,000				55,000
Solar Array Installation	Installation of solar array on City properties including landfill.	Operating Revenue				TBD				TBD
Rooftop Solar Installation	Installation of solar panels on Lake Street Fire Station and other facilities.	Operating Revenue				300,000				300,000
MOTOR POOL										
Sutphen Fire Truck with Mini Tower	Replacement of Vehicle #503 (2002).	Operating Revenue						750,000		750,000
DOWNTOWN AREA										
Parking Lot and Structure Improvements	On-going maintenance of lots, meters and possible structure will be needed.	Operating Revenue		TBD						TBD

City of Petoskey
Capital Improvement Plan
Long Term Projects/Capital Items Lacking Funding

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
BUILDING AND GROUNDS										
Public Safety West	Built in 2011, building maintenance will require replacement windows, boiler upgrade, HVAC replacement and carpeting.	Operating Revenue	82,000							82,000
History Museum	Museum was built in 1971 and soffit will need replacement.	Operating Revenue	10,000						TBD	10,000
PARKS AND SPECIAL FACILITIES										
Little Traverse Wheelway - Resort Bluffs Potential Relocation	Potential relocation of the Little Traverse Wheelway from Magnus Park to East Park due to	Operating Revenue							TBD	
Bayfront Park Shoreline Stabilization	Due to on-going high water levels and resulting damage, improvements to stabilize shoreline.	Operating Revenue	7,000,000						TBD	7,000,000
Bayfront Park Marina	Upgrades to dock system to respond to fluctuating water levels.	Operating Revenue							TBD	
Bayfront Park Irrigation Extension	Install automated sprinkler system from Arboretum restroom to parking area east of Ed White Field. This area is currently partially irrigated with a manual plug-in system which provides inadequate coverage – requires manpower and must run during high use times when employees are available, which interferes with the general public.	Operating Revenue	32,000							32,000
Bayfront Park Paddlesport Improvements	Construction of paddlesport storage area and barrier-free launch.	Operating Revenue							TBD	
Lake Street Dam Improvements	Implementation of the chosen alternative from engineering study.	Operating Revenue							TBD	TBD
Little Traverse Wheelway	LTW restoration ($48 per linear foot x 5,280 (1 mile) x 8 miles).	Operating Revenue	2,027,520							2,027,520
Downtown Greenway Corridor - Washington Street to River Bend Park	Extension of the Downtown Greenway Corridor to connect to River Bend Park.	Operating Revenue							TBD	TBD
Bear River Valley	Extending whitewater improvements to south of Bridge Street, boardwalk replacements and improvements and trail repairs.	TIFA							455,000	455,000
Magnus Park Campground Improvements	Campground and day use improvements per the Park Master Plan.	TIFA							TBD	TBD
Tennis Court Complex	The complex will be due for upper court repainting (completed every 7 years), lower court repainting (completed every 7 years), concession and restroom upgrades and lower court replacement.	Operating Revenue	150,000						150,000 PPS 50% Share	300,000
Bates Baseball Complex	Bates Baseball Complex was constructed in 1998 and will be in need of improvements to fencing, bleachers, dugout restoration, lighting, concession stand renovation and asphalt path renovation.	Operating Revenue	150,000						150,000	300,000

City of Petoskey
Capital Improvement Plan
Long Term Projects/Capital Items Lacking Funding

PROJECT CATEGORY		Funding Source	General	Parking	Streets	Electric	Water & Sewer	Motorpool	Grants/Other	Total
River Road Sports Complex	The complex will require softball field fence replacement, restroom renovations and parking lot redesign.	Operating Revenue	130,000						100,000	230,000
Dog Park	Dog park was identified as a top community project based on public feedback per the current Parks and Recreation Masterplan.	Operating Revenue	100,000						200,000	300,000
Miscellaneous	Miscellaneous replacements including park benches and picnic tables as identified.	Operating Revenue	75,000							75,000
Grand Totals			$9,756,520	TBD	TBD	$2,502,500	$6,310,000	$750,000	$ 1,055,000	$20,374,020

City of Petoskey

Agenda Memo

BOARD: City Council

MEETING DATE: September 21, 2020 **PREPARED:** September 17, 2020

AGENDA SUBJECT: Consideration to Approve an MDOT Application to Purchase Two Parcels of Railroad Right-of-Way

RECOMMENDATION: That the City Council motion to approve the enclosed application to purchase railroad right-of-way

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Background Over the last year, City staff has been working with representatives from the MDOT Rail Division regarding purchase of the former Pennsylvania Railroad property from Emmet Street to Washington Street for continuation of the Greenway Corridor. MDOT is currently stating that there continues to be freight demand for rail service north of Sheridan Street and south of Washington Street; therefore, this rail segment is not for sale at this time.

MDOT completed an appraisal of the land that includes a 7,559 square foot tract of land (Parcel A) and a 12,844 square foot tract of land (Parcel B) with a combined fair market value of $28,500. Both parcels amount to 659 lineal feet from Emmet Street to Washington Street. See enclosed photos of the two parcels as well as the certified surveys and legal descriptions. Also enclosed is the MDOT application and a letter from MDOT dated August 31, 2020.

Fair market value of the land was determined by using data from six different comparable real estate sales in Harbor Springs, Petoskey and Charlevoix. As calculated by the appraiser, the reconciled average value of the six parcels amounts to $3.50 per square foot. Because of the unique irregularities of shape and size of Parcel A and B, the appraiser applied a 60% reduction of the average value of the rail corridor to establish costs per square foot of $1.40. The combined square footage of the two parcels is 20,403.

$1.40 per sf x 20,403= $28,564 rounded to $28,500

See pages 36-40 of the appraisal for more information on how the valuation was computed using the sales comparison approach.

The property has been vetted by the City's landscape architects from Beckett and Raeder who have determined the purchase would be ideal for continuation of the Greenway Corridor. The legal descriptions have also been reviewed and approved by surveyors working for the City. The City Attorney has also fully reviewed the documents and from a legal perspective is comfortable with approval of the Land Purchase Agreement.

There are various references to expand non-motorized trails in both the 2014 Master Plan and 2018 Parks and Recreation Master Plan that include the following:

- Design principles shall include a "quality pedestrian environment".
- Promote the development of a transportation network that provides facilities for residents of all ages and abilities.
- Recreation amenities including footpaths will be enhanced as the community grows.

- Pursue additional easements to continue the Greenway Corridor to Washington Street.

See enclosed master plan provisions.

Past purchases of Pennsylvania Railroad property by the City have not had any substantial environmental contamination associated with the railroad land. Nevertheless, City staff is currently having a Phase I Environmental Assessment through Mackinac Environmental Technology, Inc. completed. The assessment should be finalized in the next week. According to the application, if environmental remediation is needed, either MDOT or the City may terminate the purchase agreement. The environmental assessment must be completed within 90 days of filing the land purchase application. Costs for the Phase I Environmental Assessment are $2,100.

Action Motion to approve the Application to Purchase and Agreement of Sale for MDOT railroad right-of-way between Emmet Street and Washington Street for a fair market value of $28,500.

rs
Enclosures

Railroad right-of-way southwest of Emmet Street (Parcel A)

Railroad right-of-way south of Fulton Street and north of Washington Street (Parcel B)

CERTIFIED SURVEY

PART OF THE NE1/4 OF THE SE1/4 OF SECTION 6, TOWNSHIP 34 NORTH, RANGE 5 WEST, CITY OF PETOSKEY, EMMET COUNTY, MICHIGAN.

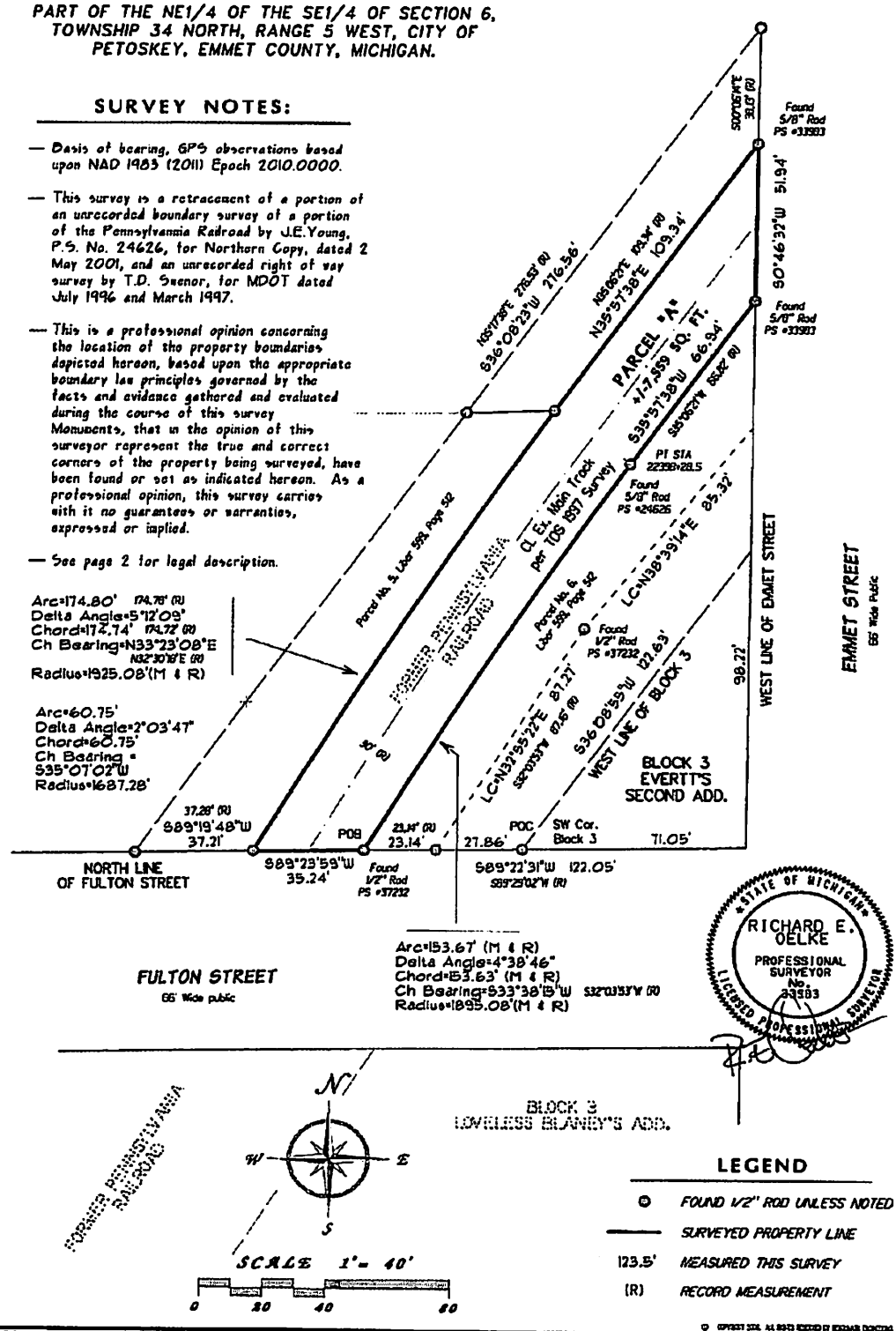
SURVEY NOTES:

— Basis of bearing, GPS observations based upon NAD 1983 (2011) Epoch 2010.0000.

— This survey is a retracement of a portion of an unrecorded boundary survey of a portion of the Pennsylvania Railroad by J.E.Young, P.S. No. 24626, for Northern Copy, dated 2 May 2001, and an unrecorded right of way survey by T.D. Suenor, for MDOT dated July 1996 and March 1997.

— This is a professional opinion concerning the location of the property boundaries depicted hereon, based upon the appropriate boundary law principles governed by the facts and evidence gathered and evaluated during the course of this survey. Monuments, that in the opinion of this surveyor represent the true and correct corners of the property being surveyed, have been found or set as indicated hereon. As a professional opinion, this survey carries with it no guarantees or warranties, expressed or implied.

— See page 2 for legal description.



LEGEND

⊙	FOUND 1/2" ROD UNLESS NOTED
———	SURVEYED PROPERTY LINE
123.5'	MEASURED THIS SURVEY
(R)	RECORD MEASUREMENT

Client: CITY OF PETOSKEY
Project Mgr: R.E. OELKE
Drawn By: REO
Field By: EVANS • WILSON
File: R19088PA132parA.CXD
Job #: 19-088
Date: 29 MAY 2020
Sheet #: 1 of 2

CERTIFIED SURVEY

I Richard E. Oelke, P.S. No. 33983, being a Licensed Professional Surveyor, hereby certify to the Client of Job. No. 19-088, that I have surveyed and mapped the parcel(s) hereon described and that the relative positional precision of each corner is within the limits accepted by the practice of professional surveying and that all the requirements of P.A. 132 of 1970, as amended, having been complied with and is prepared only for the exclusive use of the client.

BENCHMARK ENGINEERING, INC.
SURVEYORS • CIVIL ENGINEERS
437 EAST LAKE STREET
PETOSKEY, MICHIGAN 49770
PHONE (231) 536-0311
e-mail: benchmark1017@gmail.com

Certificate of Survey

LEGAL DESCRIPTION
(Parcel "A")

Part of the Former Pennsylvania Railroad in the Northeast 1/4 of the Southeast 1/4 of Section 6, Township 34 North, Range 5 West, City of Petoskey, Emmet County, Michigan, which is more particularly described as follows:

Commencing on the Easterly right-of-way of the Former Pennsylvania Railroad at the Southwest corner of Block 3, William M. Everett's Second Addition to the City of Petoskey, as recorded in Liber 1 of Plats, on page 14, Emmet County Records, in the Northeast 1/4 of the Southeast 1/4 of Section 6, Township 34 North, Range 5 West, City of Petoskey, Emmet County, Michigan; thence along the North line of Fulton Street S89°22'31"W 51.00 feet to the **Place of Beginning**; thence continue along said North line of Fulton Street S89°23'59"W 35.24 feet; thence 174.80 feet along the arc of a circular curve to the right, radius 1925.08 feet, delta 5°12'09", long chord N33°23'08"E 174.74 feet; thence N35°57'38"E 109.33 feet to the West line of Emmet Street; thence along said West line of Emmet Street S0°46'32"W 51.94 feet; thence S35°57'38"W 66.94 feet; thence 153.67 feet along the arc of a circular cure to the left, radius 1895.08 feet, delta 4°38'46", long chord S33°38'15"W 153.63 feet to the **Place of Beginning**.

Richard E. Oelke
P.S. 33983
Benchmark Engineering, Inc.
607 E. Lake St.
Harbor Springs, MI 49740

Client: City of Petoskey
Job No.: 19-088
Date: 29 May 2020
Rev.:

CERTIFIED SURVEY

PART OF THE NE1/4 OF THE SE1/4 OF SECTION 6, TOWNSHIP 34 NORTH, RANGE 5 WEST, CITY OF PETOSKEY, EMMET COUNTY, MICHIGAN.

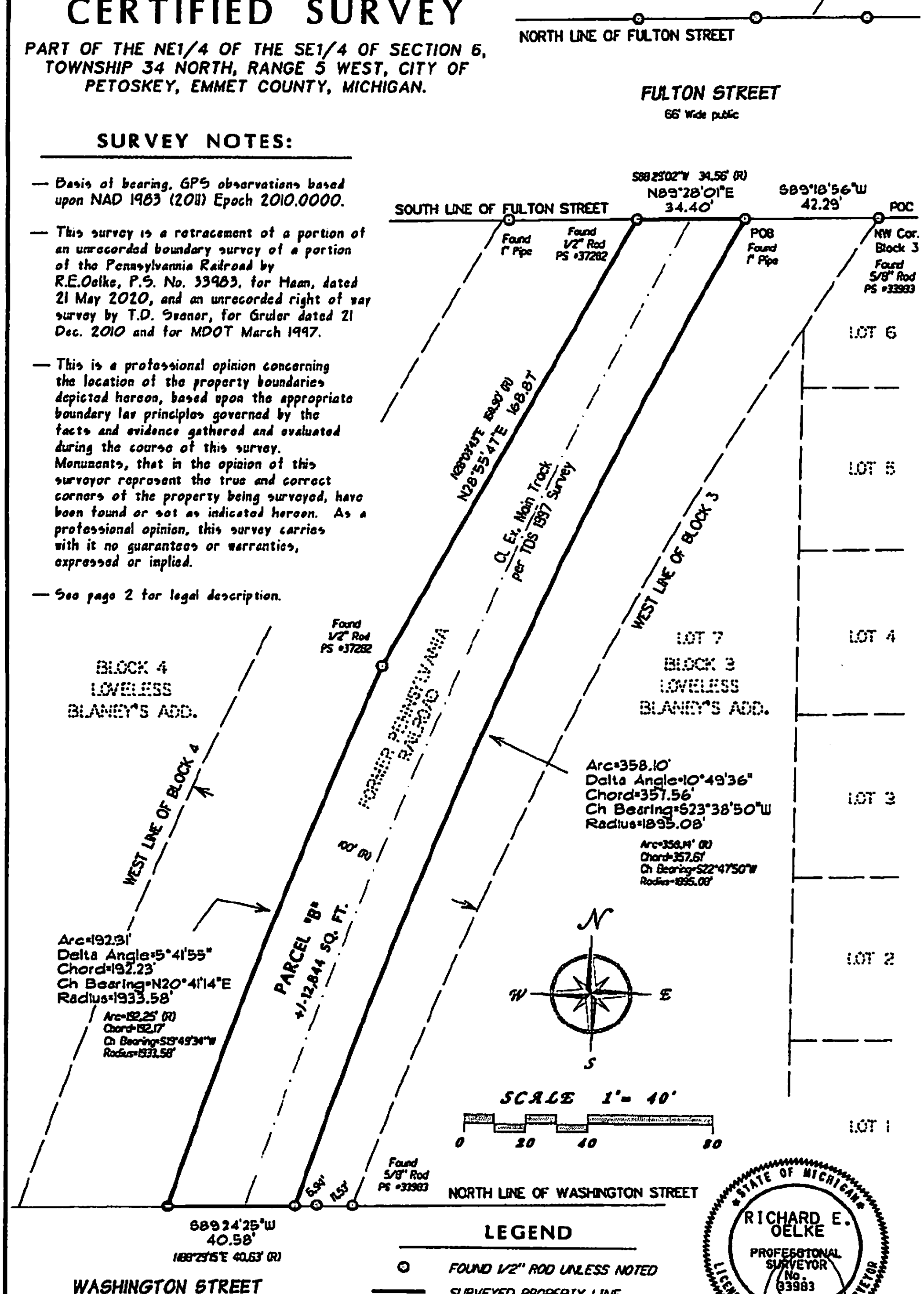
SURVEY NOTES:

— Basis of bearing, GPS observations based upon NAD 1983 (2011) Epoch 2010.0000.

— This survey is a retracement of a portion of an unrecorded boundary survey of a portion of the Pennsylvania Railroad by R.E.Oelke, P.S. No. 33983, for Haan, dated 21 May 2020, and an unrecorded right of way survey by T.D. Svenor, for Gruler dated 21 Dec. 2010 and for MDOT March 1997.

— This is a professional opinion concerning the location of the property boundaries depicted hereon, based upon the appropriate boundary law principles governed by the facts and evidence gathered and evaluated during the course of this survey. Monuments, that in the opinion of this surveyor represent the true and correct corners of the property being surveyed, have been found or set as indicated hereon. As a professional opinion, this survey carries with it no guarantees or warranties, expressed or implied.

— See page 2 for legal description.



LEGEND

○	FOUND 1/2" ROD UNLESS NOTED
———	SURVEYED PROPERTY LINE
123.5'	MEASURED THIS SURVEY
(R)	RECORD MEASUREMENT

Client:	CITY OF PETOSKEY
Project Mgr:	R.E. OELKE
Drawn By:	REO
Field By:	EVANS • WILSON
File:	R19088PA132parB.GXD
Job #:	19-088
Date:	29 MAY 2020
Sheet #:	1 of 2

CERTIFIED SURVEY

I Richard E. Oelke, P.S. No. 33983, being a Licensed Professional Surveyor, hereby certify to the Client of Job. No. 19-088, that I have surveyed and mapped the parcel(s) hereon described and that the relative positional precision of each corner is within the limits accepted by the practice of professional surveying and that all the requirements of P.A. 132 of 1970, as amended, having been complied with and is prepared only for the exclusive use of the client.

BENCHMARK ENGINEERING, INC.
SURVEYORS • CIVIL ENGINEERS

Certificate of Survey

LEGAL DESCRIPTION
(Parcel "B")

Part of the Former Pennsylvania Railroad in the Northeast 1/4 of the Southeast 1/4 of Section 6, Township 34 North, Range 5 West, City of Petoskey, Emmet County, Michigan, which is more particularly described as follows:

Commencing on the Easterly right-of-way of the Former Pennsylvania Railroad at the Northwest corner of Block 3, Loveless Blaney's Addition to the City of Petoskey, as recorded in Liber 1 of Plats, on page 13, Emmet County Records, in the Northeast 1/4 of the Southeast 1/4 of Section 6, Township 34 North, Range 5 West, City of Petoskey, Emmet County, Michigan; thence along the South line of Fulton Street S89°18'56"W 42.29 feet to the **Place of Beginning**; thence 358.10 feet along the arc of a circular curve to the left, radius 1895.08 feet, delta 10°49'36", long chord S23°38'50"W 357.56 feet to the North line of Washington Street; thence along said North line of Washington Street S89°24'25"W 40.58 feet; thence 192.31 feet along the arc of a circular curve to the right, radius1933.58 feet, delta 5°41'55", long chord N20°41'14"E 192.23 feet; thence N28°55'47"E 168.87 feet to said South line of Fulton Street; thence along said South line of Fulton Street N89°28'01"E 34.40 feet to the **Place of Beginning**.

Richard E. Oelke
P.S. 33983
Benchmark Engineering, Inc.
607 E. Lake St.
Harbor Springs, MI 49740

Client: City of Petoskey
Job No.: 19-088
Date: 29 May 2020
Rev.:

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

PAUL C. AJEGBA
DIRECTOR

August 31, 2020

Rob Straebel, City Manager
City of Petoskey
101 East Lake Street
Petoskey, Michigan 49770

Excess Railroad Property
RR-071-F, Control Section 240606P1, Parcel 5B and 2A
Emmet County, Michigan

Dear Rob:

Your request to purchase excess railroad property from the Michigan Department of Transportation (MDOT) has been reviewed and can proceed through the application process.

Enclosed is an Application to Purchase and Agreement of Sale. The fair market value of the property is $28,500. Payment may be in the form of a personal, business, or certified check made out to the State of Michigan. Please submit full payment along with the enclosed Application to Purchase and Agreement of Sale to me at the following address:

Michigan Department of Transportation
Development Services Division
P.O. Box 30050
Lansing, Michigan 48909
Attn: Jenny Bullen

Please contact me at (517) 335-4370 if you have any questions.

Sincerely,

Jenny Bullen
Property Management Unit
Michigan Department of Transportation

Enclosures

APPLICATION TO PURCHASE AND AGREEMENT OF SALE
CASH SALE

DISTRIBUTION: APPLICATION, FINANCE, REAL ESTATE.

MICHIGAN DEPARTMENT OF TRANSPORTATION AND STATE OF MICHIGAN POLICIES PROHIBIT DISCRIMINATION AGAINST PERSONS BECAUSE OF RACE, COLOR, NATIONAL ORIGIN, SEX, AGE, MARITAL OR FAMILIAL STATUS, OR DISABILITY IN THE SALE OR RENTAL OF PROPERTY.

TRACT NO.	SALE PRICE	BID DEPOSIT	BALANCE
RR-071-F	$28,500.00	$0.00	$28,500.00

CONTROL SECTION	PARCEL	JOB
240606P1	5B and 2A	209497IN

The undersigned (Purchaser) offers and agrees to purchase the subject land now owned by the Michigan Department of Transportation (MDOT) and identified above, subject to all encumbrance, building and use restrictions, ordinances, and easements of record together with all improvements and appurtenances, if any, now in or on the premises and to pay the balance indicated above with the following conditions:

1. Sale may be subject to final approved by the State Transportation Commission and/or State Administrative Board. Failure of Purchaser to complete payment and close this transaction within 45 days after notification of State Transportation Commission and/or State Administrative Board approval will result in MDOT terminating the agreement and retaining the property. Purchaser will forfeit up to $7,500 as liquidated damages if this property was sold at public auction or $250 as liquidated damages if this property was sold by direct sale.

2. The bid deposit will be held by MDOT and under no circumstances will MDOT be liable for interest on the bid deposit.

3. This Application along with bid deposit must be submitted, and made payable to the State of Michigan – Michigan Department of Transportation. Payments may be in the form of Cash, Personal Check, Certified Check or Money Order. Payments should be delivered to MDOT.

4. A quitclaim deed conveying all interest of MDOT will be executed and delivered to the Purchaser upon receipt of payment in full. No title policy will be provided by MDOT and no closing costs will be paid by MDOT.

5. Purchaser will not assign, sell or transfer for collateral or for any other purpose, any of its rights or obligations under this agreement without prior written approval of MDOT.

6. The time periods set forth here may be extended at the sole discretion of MDOT.

7. The legal description for the subject land is attached.

8. Direct ingress and egress may be limited between the highway and the subject land as described in the legal description.

9. Title will be conveyed as follows:

☐ Single Man	☐ Joint Tenants	☑ Governmental Unit
☐ Married Man	☐ Tenants in Common	☐ Registered co-partnership
☐ Single Woman	☐ Michigan Corporation	☐ Assumed Name (dba)
☐ Married Woman	☐ Out-of-State Corporation	☐ Other _____
☐ Husband & Wife	☐ Limited Liability Company (LLC)	

LEGAL NAME		
City of Petoskey		
ADDRESS		
101 East Lake Street		
CITY	STATE	ZIP
Petoskey	MI	49770
PHONE	EMAIL	
(231) 347-2500	rstraebel@petoskey.us	

10. MDOT reserves the right to invade air space above subject land, including structures, by noise, vibrations, fumes or dust arising from construction, maintenance, repair, removal or use of the adjacent highway or street. Purchaser agrees not to assert any claim arising out of the right reserved by MDOT.

11. MDOT reserves the right to allow any existing public utility facility to go on to the subject land for the purpose of maintenance of said facility, be it on, over, or under the ground.

12. All water run-off and drainage from the abutting highway right-of-way will be allowed a free and uninterrupted flow over subject land. Purchaser will have no claim against MDOT for such water deposited on or flowing upon the land. Purchaser will not change the physical condition of subject land to impede the free flow of water run-off and drainage from the abutting highway right-of-way.

ENVIRONMENTAL DISCLOSER:

13. MDOT has (choose one):
    ☑ No information, reports, or testing regarding environmental condition of subject property in reference to hazardous substances.
    ☐ Information and/or testing results on environmental conditions of subject property in reference to hazardous substances.
    MDOT recommends Purchaser review Part 201 Section 324.2012 of Public Act 451, 1994 for the Purchaser's liability, and liability exceptions.

14. **Purchaser may perform environmental testing in accordance with the procedures described in paragraph 15 of this Application.** MDOT will **not** pay for any testing or any analysis performed by the Purchaser on the subject property. Testing is defined as any type of environmental assessment including, but not limited to, records review, site inspection, soil boring analysis, groundwater analysis or soil analysis.

15. **If Purchaser desires to perform environmental testing, then Purchaser shall give MDOT written notification within 10 business days after the execution of this Application to perform environmental testing.** Purchaser must obtain a Right-of-Entry from MDOT in accordance with the procedures and in the manner provided by MDOT for obtaining such Right-of-Entry. If Purchaser fails to provide proper notice of his or her intent to perform environmental testing within the time prescribed herein, Purchaser's right to perform environmental testing shall be waived. In any event, Purchaser shall complete environmental testing within 90 calendar days from the date this Application has been executed by the Purchaser. If property notice of Purchaser's intent to perform environmental testing has not been received by MDOT and/or environmental testing has not been completed within 90 days from the date of this Application, then, in the event Purchaser wishes to terminate this Agreement, Purchaser will forfeit up to $7,500 as liquidated damages if this property was sold at public auction or $250 as liquidated damages if this property was sold by direct sale and MDOT will be under no obligation to refund such deposit.

    Environmental Testing Performed with Property Notice
    If test results document the presence of hazardous substances which will require remediation under applicable federal or state laws, either MDOT or the Purchaser may terminate this agreement and will be released from any further requirements of this agreement. In this event, notwithstanding any other provisions of this agreement to the contrary, all of the Purchaser's bid deposit will be returned by MDOT. MDOT will not be responsible for any interest on the bid deposit.

    Applicant agreement to make test results available at no cost to MDOT at the conclusion of 90 calendar days. Applicant agrees to be solely liable for any damages or injuries which may occur to any person, personalty or real property as a result of the testing or audit.

    Waiver of Environmental Testing
    If written notice of intent to perform environmental testing has not been received within 10 business days after execution of this Application to Purchase and Agreement of Sale, then said environmental testing will be considered as waived by applicant and the bid deposit will not be refunded.

16. Unless otherwise permitted by law, and only in strict compliance with all state and federal environmental laws, Purchaser will not cause, permit, or suffer any "Hazardous Substance" to be brought upon, treated, kept, stored, disposed of, discharged, released, produced, manufactured, generated, refined or used on, about or beneath the subject property or any portion of it until title to this land is transferred to Purchaser.

17. Purchaser agrees to indemnify and save harmless the State of Michigan, the Michigan State Transportation Commission, the Michigan Department of Transportation and all officers, agents and employees thereof from any and all claim for injuries to, or death of, any and all persons, for loss of or damage to property, environmental damage, degradation, response and cleanup costs, and attorney fees or other related costs, arising out of, under, or by reason of this Agreement, except claims resulting from the sole negligence or willful acts or omissions of said indemnitee, its agents or employees.

18. Please check if applicable:

☐ 10-Year Reverter

This deed conveying title is subject to a reversionary interest whereby the purchaser agrees that the premises will be used for public purposes and appurtenances for a continuous period of ten (10) years from the date the deed is delivered and accepted. If at any time within said ten (10) year period the purchaser and/or assigns and successors shall cease to so continuously use the premises, said premises shall automatically revert to the seller and/or its assigns and successors in fee simple absolute. If the premises during the aforementioned ten (10) year period is continually used by the purchaser and/or its assigns and successors for public purposes, then after the expiration of said ten (10) year period the purchaser and/or assigns and successors will hold the premises in fee simple absolute free of any possibility of reverter heretofore held by seller and/or its assigns and successors.

Release of the ten (10) year reversionary interest must be approved by the Michigan Department of Transportation Director. Compensation for release is based on the difference between the original sale price and the current market value of the property (less the value of improvements made by the purchaser) prorated over the ten (10) reversionary term. The current market value will be determined by an appraisal. Purchaser is responsible for bearing the appraisal cost.

☐ Permanent Reverter

The deed conveying title is subject to a reversionary interest whereby the purchaser agrees that the property will be used for transportation purposes. If at any time the property is not used for transportation purposes, property ownership will revert to the Michigan Department of Transportation.

☐ DNR Mineral Reservation Language

The deed conveying title is subject to saving and excepting out and always reserving unto the said State of Michigan, all mineral, coal, oil and gas, lying and being on, within or under the said lands whereby conveyed, except sand, gravel, clay or other nonmetallic minerals with full and free liberty and power to the said State of Michigan, its duly authorized officers, representatives and assigns, and its or their lessees, agents and workmen, and all other persons by its or their authority or permission, whether already given or hereafter to be given at any time and from time to time, to enter upon said lands and take all usual, necessary, or convenient means for exploring, mining, working, piping, getting, laying up, storing, dressing, make merchantable, and taking away the said mineral, coal, oil and gas, except sand, gravel, clay or other nonmetallic minerals. Further, excepting and reserving to the State of Michigan, all aboriginal antiquities including mounds, earth-works, forts, burial and village sites, mines or other relics and also reserving the right to explore and excavate for the same, by and through its duly authorized agents and employees, pursuant to the provisions of Part 761, Aboriginal Records and Antiquities, of the Natural Resource and Environmental Protection Act, Act 451 of the Public Acts of 1994, as amended

☐ Title VI

The grantee for himself, his heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree, as a covenant running with the land, that in the event facilities are constructed, maintained, or otherwise operated on the said property described in this deed for a purpose for which a Department of Transportation program or activity is extended or for another purpose involving the provision of similar services or benefits, the grantee, shall maintain and operate such facilities and services in compliance with all other requirements imposed pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally assisted programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

That in the event of breach of any of the above non-discrimination covenants, the Michigan Department of Transportation shall have the right to re-enter said lands and facilities thereon, and the above described lands and facilities shall thereupon revert to and vest in and become the absolute property of the Michigan Department of Transportation and its assigns.

Special Provisions

N/A

SIGNATURE		DATE 09/21/20
AGENT FOR CORPORATION Rob Straebel, Petoskey City Manager		
ADDRESS 101 East Lake Street		PHONE (231) 347-2500
CITY Petoskey	STATE MI	ZIP 49770

varies considerably and must be market derived according to location, type of project and economic conditions. This is in addition to the hard and soft costs of the project.

Once these items are identified, a land value is extracted from the market and applied to the overall value for the final value conclusion supported through the Cost Less Depreciation Approach. Subject property is vacant land. Therefore, this approach is not used within this assignment.

Income Capitalization Approach to Value

The Income Approach is an appraisal technique in which anticipated net income is capitalized over a period of time, which derives an estimation of market value of that property. This approach is typically used for income producing properties such as retail centers, office buildings and multi-unit residential income producing properties such as apartment complexes. However, Gross Rent Multipliers are typically used in valuing income-producing residences when market data is available, and an active rental market exists. Since subject property is vacant land, typically not purchased for income, this approach is found not applicable within this assignment. The Sales Approach reflects greater accuracy illustrating market participants involving vacant land.

Sales Comparison Approach to Value

The sales approach to value relies on direct comparison with sales of property considered similar to subject parcel. Unit rates of comparison, such as dollars per square foot or per acre can be utilized with qualitative or quantitative adjustments for differences applied to the comparable sales in support of a value conclusion. The market value technique will be applied to the property isolating amenities and adjustments of the property.

In comparing sales to subject property, adjustments are applied to the comparable sales. If an item is considered superior to subject, a discount is applied to the comparable sale reflecting the market value of that particular item. When the comparable is considered inferior or less desirable to subject, a plus adjustment is applied to compensate for the market value attributed to that specific feature.

This approach to value relies on arm's length transactions and competing listings. Competing listings typically identify the upper limit in any market. The reliability of this technique is dependent upon the degree of comparability of each property in relation to subject property, the time of sale and verification of the sales data.

Research was conducted concerning sales of land considered similar to the adjacent property emphasizing various uses. The following grid illustrates these sales with a narrative discussion pertaining to each. A market value will be applied to the adjacent land. From this valuation, the square foot unit rate will be extracted and applied to the land area involving the defined strip of land. The unit rate will reflect the assembled value. The strip of land on its own may yield a limited market and market value due to the limitations associated with the size and shape yet is appealing to corridor use as its been for many years. We will consider the strip as assembled which will identify the minimum value yet does not recognize any premium or enhancement value to the assembled lot. Reference to corridor value will also be given.

SUMMARY OF MARKET DATA Vacant Land							
Comp#	Location Zoning	Sale Date	Sale Price	Net Land Area SF	Price/SF	Notes	Eff. Price/SF
1	8555 Moeller DR. Harbor Springs, MI Industrial	4/26/2017	$155,000	130,680 SF	$1.19	Corner Industrial	Higher
2	260 E Third St. Harbor Springs, MI CBD	8/19/2016	$62,500	39,204 SF	$1.59	Inferior Shape	Higher
3	1700 Standish Petoskey, MI Industrial	4/6/2017 LISTING	$50,000 $85,000	23,958 SF	$2.30 $3.55	Corner Exposure only Inferior Shape	Higher
4	1108 Bridge ST (across from Dairy Grill) Charlevoix, MI CM Comm'l Mixed Use	3/14/2018 LISTING	$93,000 $110,000	15,840 SF	$5.87 $6.94	Corner	Lower
5	208 Newman Charlevoix, MI R-2 Resi Medium Density	6/2/2017	$30,000	9,583 SF	$3.13	Resi	Higher
6	4140 US-31 Hwy Petoskey, MI Office Service RT PUD - 2	LISTING	$150,000	32,670 SF	$4.59	Bay Harbor District	Lower

SALES

Low $1.19/SF High $5.87/SF

Median $2.30/SF Average $2.82/SF

LISTINGS

Low $3.55/SF High $6.94/SF

Median $4.59/SF Average $5.03/SF

Reconciled Value $3.50/SF

We view the data on a price per square foot. Because of the site sizes and diversity of zonings, the unit rate per square foot may become skewed. Nevertheless, the subject property has multiple uses available under the zoning overlay. For this reason, we have gathered land sales representing residential, office, commercial and industrial sites. However, the downtown fringe location and commercial possibility is emphasized for the subject property and the highest and best use. This leads to values greater than residential or industrial land and more toward the mixed use/commercial land. Analyzing the sales grid considering the location and potential of the subject property is discussed below involving the individual land sales.

Sale #1 is a corner parcel fronting the main road leading to Harbor Springs. It is located at the corner entrance to an industrial park. The site was purchased in 2017 for $1.19/SF yet remains vacant. It is currently marketed for development. The location and zoning lead to this representing the lowest unit rate represented in the data grid. A higher unit rate is applicable to the subject property for upward adjustments warranted for date of sale, location and zoning.

Sale #2 is located in downtown Harbor Springs. Although a significantly higher unit rate would be expected, this land area is highly irregular, "U" shaped and wraps around a building under different ownership. The property provides two curb cuts from Third Street that lead to several parking spaces. The shape is very limiting for use or development. The property was purchased by the theatre for additional parking and only provides approximately 4 spaces. The remaining land area is ingress and egress paved area. Upward adjustments are recognized for date of sale and inferior shape with limited use. A higher unit rate is applicable to the subject property.

Sale #3 is located southeast of the subject outside the subject community of Petoskey. This triangular shaped parcel was purchased for development yet remains vacant due to higher than expected construction costs that would be incurred by the owner. Development was redirected and the property has been relisted for sale. The site maintains frontage and access from Standish and visibility from Clarion Ave. Access is not possible from Clarion Ave. due to the railroad paralleling between the parcel and the road. The property is located outside of town, is irregular in shape yet adjacent to a rail corridor. The date of sale, inferior shape and location warrant upward adjustments resulting in a higher unit rate applicable to the subject property.

Sale #4 is located in the community of Charlevoix, west of Petoskey. The parcel is superior with corner amenity and location. The property was purchased in 2018 and no time adjustment is warranted. The site was purchased for the development of a restaurant. However, the owner instead purchased an improved property in town for a restaurant.

The property remains vacant and has been relisted at a higher unit rate. A lower unit rate is applicable to the subject property.

Sale #5 is also located in Charlevoix yet represents a residential site purchased by the adjacent property owner. The property remains vacant and appears to be purchased for additional yard area. The owner now has three contiguous lots. The older sale date, inferior zoning and residential location indicates a higher unit rate applicable to the subject property.

Comparable #6 represents a listing along the main road between Charlevoix and Petoskey. The site is located near the entrance to Bay Harbor, a highly recognized resort village. The property is offered for office development. Recognized as a listing in a superior location, a lower unit rate is applicable to the subject property.

An additional transaction involved a portion of rail right-of-way east of comparable #1. We viewed this recent transaction on a per lineal foot basis and unit rate per mile. The property was purchased with cash and grant funds to connect portions of the Northwestern State Trail. The transaction illustrates corridor purchases for recreational use. Many have involved the "Rails to Trails" program. This sale represents approximately $43 per lineal foot. Additional sales corridor sales are known by this appraiser and are held in the workfile. Referencing the location of the subject and its previous corridor use and intended future use as a corridor for recreation we will also consider the corridor rate per lineal foot.

Location	Sale Date	Sale Price	Land Area	Price/LF Price/Mile
Blumke to Milton Rd./US 31 Northwestern State Trail Littlefield Twp. Emmett County	5/3/2019	$76,140 $36,160 **$113,000** $99,000 Grant Funds	100' by 2,608.3 LF 0.494 Miles	$43.32/LF $228,745/Mile

The sales data represents an unadjusted range from $1.19 to $5.87 per square foot, excluding listings. The sales represent a median of $2.30 per square foot and a simple average of $2.82 per square foot. The sales are older and a time adjustment may be applicable based on the relisting of the properties and competing listings. However, the properties previously purchased remain vacant. The listings indicate a range from $3.55 to $6.94 and an average of $5.03 and median of $4.59. Listings typically represent the upper values within the market. A lower unit rate is applicable to the subject property. Turning to the sales, a unit rate below #4 and above #1, #2, #3 and #5 is recognized. Sale #1 & #2 are significantly inferior to the subject property for reasons previously identified. Sale #3 is comparable with the adjacent rail yet inferior in location. A higher unit rate is

warranted for the subject property. Considering the diverse zoning applicable to the subject property and the location a unit rate below #4 and above the remaining sales is supported or $3.50 per square foot. Additional support is provided by the competing listings.

At this point we must focus directly on the subject property characteristics and analyze the added value associated with the assemblage. The property provides frontage on three streets and has two sections 284 +/- lineal feet and 375 lineal feet. Assemblage with the adjacent properties will enhance both properties. Assemblage with the recreational corridor to the north will enhance this community attribute. However, viewing the size and shape we emphasize sale #1 & #2. Sale #2 is very limiting in use and was purchased for assemblage. Additional support is provided by the competing listings. The limitations are associated with the size and shape. Comparison of sale #1 and sale #2 to the reconciled value of $3.50 per square foot supports a reduction of approximately 55% to 66%. A reduction of 60% or a unit rate of $1.40 per square foot is identified for the subject property. This may appear aggressive yet consideration is given to both items of the limited size and shape and the added value of assembling the parcels with the acquisition of this parcel provides support for the conclusion. Therefore, the unit rate applicable to the subject property is $1.40 per square foot.

For these reasons the following calculations apply:

Parcel "A" 7,559 SF @ $1.40/SF = $10,583
Parcel "B" 12,844 SF @ $1.40/SF = $17,982
$28,565 -- $28,500.00 rounded

Further support is provided by viewing the continued use as a corridor. The portion of recreational trail recently purchased just north of the subject property indicates a unit rate of approximately $43. Estimating the centerline of the two properties it is calculated that parcel "A" & "B" provide 659+/- lineal feet (Excluding the road right-of way for Fulton Street). As an additional valuation the following is presented:

659 Lineal Feet @ $43/Lineal Foot = $28,337 -- $28,500 rounded

Correlation and Conclusion of Value

We have researched market data applicable to the subject property considering assemblage and the existing corridor historical and possible future use. The various uses within the proposed zoning classification are also given consideration as well as the location and road frontages for accessibility. Based on a reduction of the full fee value "at the fence" or as assembled yields a rate 60% less than the market rate of $3.50 per square foot or $1.40 per square foot. Further analysis considering the corridor aspect and lineal feet a unit rate of $43 per lineal foot is recognized. Each of the valuations support a final value conclusion of $28,500.

$28,500.00

Twenty Eight Thousand Five Hundred Dollars

The outcome of the charrette was a set of 13 community design principles and redevelopment concepts for three specific sites within the City that incorporate the community input. The design principles are as follows:

1. The waterfront will be enhanced as the community's most important asset.
2. Development policies and practices will protect views of the lake.
3. Downtown – the historic, cultural and economic center of the community – will continue to be preserved and enhanced.
4. Future development will contribute to the unique sense of place, reflecting the culture and history of the community.
5. Future development will take cues from the best aspects of downtown with respect to mix of uses, quality pedestrian environment and scale of buildings.
6. New development and redevelopment will include high-quality pedestrian environments.
7. Redevelopment and infill development will be sensitive to their context relative to scale, character, and placement.
8. Streets and roads – especially at the gateways – will have high quality, context-appropriate design treatments.
9. A range of housing choices – both type and price – will be provided in the community.
10. Existing neighborhoods will be stabilized, revitalized and strengthened.
11. Recreation amenities – including parks, footpaths, sidewalks and bikeways – will be enhanced as the community grows and develops.
12. The City will continue to foster meaningful public and other stakeholder involvement in the planning for the future.
13. The City will create and institutionalize a new comprehensive plan and supporting regulations.

These principles and other charrette results will be incorporated into the various elements of this plan.

In 2010, the City undertook a National Citizen Survey™ to gauge resident opinions about community quality of life, service delivery, civic participation and any other local issues. The characteristics receiving the most favorable ratings were air quality, opportunities to volunteer and the cleanliness of Petoskey, while the least positive rating was for employment opportunities. The results of the survey are incorporated into the goals, objectives and strategies of this plan. The Benchmark Report of the survey is included as Exhibit B.

Population Trends & Forecasts

The relied-upon source of information for population data, including demographics, housing, and economic status is the U.S. Census Bureau. The Census Bureau has changed the means of obtaining the demographic, housing, social, and economic information from the Census long form to a sampling model known as the American Community Survey (ACS). Both sources are used in this document, however, readers must be aware that one source is an actual count (Decennial Census) and the other is

Overall Community Goals and Objectives
Utilizing the basic community statistics and community input as a building block, the following goals and objectives have been established to provide direction to the comprehensive plan process. More specific goals, objectives and strategies will be developed for individual elements.

1. Guide development and redevelopment in a manner that will maintain high quality living and working environments for current and future residents;

2. Maintain the distinct character of the Petoskey Area through the preservation of open space, historic architecture and small town scale;

3. Encourage new business development that provides well-paying jobs, shopping and entertainment opportunities for residents and visitors of the Petoskey Area;

4. Promote the development of a transportation network that provides facilities for residents of all ages and abilities;

5. Encourage continued rehabilitation and revitalization of existing commercial areas and neighborhoods;

6. Preserve, protect and enhance open space corridors and environmentally-sensitive lands;

7. Explore opportunities for shared-services and consolidated facilities with adjoining townships;

8. Ensure housing choices for different age groups and income levels;

9. Provide high quality and cost-effective services to City residents, customers and visitors; and

10. Balance land use decisions for the best overall community outcome.

DOWNTOWN GREENWAY

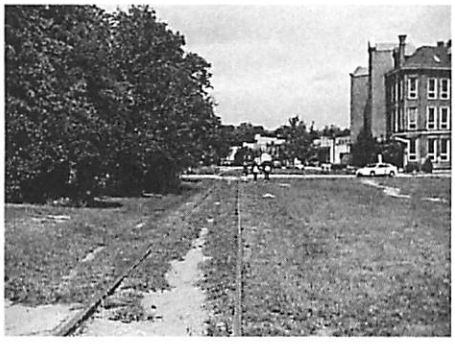
Future Park Vision:

A long-planned connection of Arlington and Pennsylvania Parks along the Penn Central Railroad Company rail right-of-way. The City acquired from the State of Michigan the right-of-way from Rosedale Avenue to Emmet Street in 2011, and the first phase of the 1.5 mile Downtown Greenway Corridor between MacDonald Drive and Bay Street was completed in 2014. The greenway includes a non-motorized trail with site amenities, but due to the cost of upgrades to the tracks, there is no longer a trail trolley planned. The tracks will remain to highlight the community history as a rail town, and could be upgraded if passenger rail returns. In 2016, a one-block stretch of widened sidewalk was constructed between Bay Street and East Lake Street.

Rationale:

Economic Development/Non-motorized Facilities/ADA Accessibility

It is believed that this park enhances the walkability and bike-ability of the community by linking residential neighborhoods and outlying commercial areas to the downtown and by creating a second non-motorized link between the downtown and the waterfront.



Planned Park Improvements:

In 2018, the non-motorized trail will be constructed between East Mitchell Street and Emmet Street with assistance of a Michigan Natural Resources Trust Fund grant and will incorporate a green infrastructure pilot project. Additional easements to continue the corridor to Washington Street will also be sought.

Further details of the improvements in Arlington and Pennsylvania Parks along the Downtown Greenway are provided in those park summaries.

Estimated Costs:

Phase II – E. Mitchell to Emmet	$506,400
Phase III – Park Avenue	$160,000

City of Petoskey

Agenda Memo

BOARD: City Council

MEETING DATE: September 21, 2020 **DATE PREPARED**: September 14, 2020

AGENDA SUBJECT: Mayor and Councilmembers Term of Office

RECOMMENDATION: That City Council review and approve ballot language through enclosed resolution

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Summary City Council at their June 23, 2020 meeting adopted a resolution to have the Office of City Attorney prepare ballot language that would revise City Charter provisions establishing a two year term of office for Mayor and a three year term of office for Councilmembers.

Background The Office of City Attorney has prepared the enclosed ballot language for City Council review and approval. The language will also have to be approved by the State's Office of Attorney General and Office of the Governor. Approved ballot language could be placed on the November 2021 General Election ballot, unless City Council elects to hold a special election or one is called by another entity. If approved by voters, the new terms of office would start with terms beginning in 2023, resulting from the November 2022 election. A chart is included depicting City Council terms of office for the various positions.

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Mayor	X	X		X		X		X		X	
1st Ward	X		X			X			X		
2nd Ward		X			X			X			X
3rd Ward	X		X			X			X		
4th Ward		X			X			X			X

Mayor – begins first 2 year term in 2023 following the 2022 election
First and Third Wards - begin first 3 year term in 2024 following the 2023 election
Second and Fourth Wards - begin first 3 year term in 2023 following the 2022 election

Action City Council review and possible action on proposed ballot language.

at
Enclosures

City of Petoskey

Resolution

RESOLUTION #_____

BE IT RESOLVED, by the City Council of the City of Petoskey, Michigan as follows:

1. The said City Council by vote of _____of its members-elect, pursuant to the authority granted by Act 279 of the Public Acts of 1909, as amended, proposes that section 4.2 of the Charter of the City of Petoskey shall be amended to read as follows:

   Section 4.2. Terms of Office.

   The mayor shall be elected for a term of one (1) year. For the mayoral term of office beginning in 2023, and for each term of office thereafter, the mayor shall be elected for a term of two (2) years. The councilmembers shall be elected for a term of two (2) years and the terms shall be arranged so that two (2) wards elect a councilmember each year. For councilmember terms beginning in 2023, and for each term of office thereafter, councilmembers shall be elected for a term of three (3) years. Terms shall begin on January 1 of the year following the election.

Provisions of existing section 4.2 of the Charter of the City of Petoskey to be altered by such proposal, if adopted, reads as follows:

Section 4.2. Terms of Office.

The mayor shall be elected for a term of one (1) year. The councilmembers shall be elected for a term of two (2) years and the terms shall be arranged so that two (2) wards elect a councilmember each year. Terms shall begin on January 1 of the year following the election.

2. The City Clerk shall forthwith transmit a copy of the proposed amendment to the Governor of the State of Michigan for his/her approval, and transmit a copy of the foregoing statement of purpose of such proposed amendment to the Attorney General of the State of Michigan for his/her approval, as required by law.

3. The proposed charter amendment shall be, and the same is hereby ordered to be, submitted to the qualified electors of this City at a general election to be held in the City of Petoskey, the 2nd day of November, 2021, and the City Clerk is hereby directed to give notice of the election and notice of registration therefore in the manner prescribed by law and to do all things and to provide all supplies necessary to submit such charter amendment to the vote of the electors as required by law.

4. The proposed amendment shall be submitted to the electors in the following form, to wit:

PROPOSED AMENDMENT TO SECTION 4.2 OF THE CHARTER OF THE CITY OF PETOSKEY

Shall Section 4.2 of the Charter be amended to change the terms of the mayor from one year to two years and councilmembers from two to three years, beginning with the terms of office starting January 1, 2023?

Yes ( ) No ( )

5. The proposed amendment shall be published in full together with the existing charter provisions altered thereby in accordance with the laws of the State of Michigan and the Charter of the City of Petoskey.

6. The canvass and determination of the votes of said question shall be made in accordance with the laws of the State of Michigan and the Charter of the City of Petoskey.

Certified to be a true and accurate copy of a Resolution duly enacted by the City Council of Petoskey at its meeting held on the _____day of _____, 2020.

_____
Alan Terry, Clerk-Treasurer
City of Petoskey

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City of Petoskey

Agenda Memo

BOARD: City Council

MEETING DATE: September 21, 2020 **PREPARED:** September 15, 2020

AGENDA SUBJECT: Approval of Social District Application Permit

RECOMMENDATION: That City Council approve The Back Lot to Apply for a Social District Application Permit

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Background At its August 17, 2020 meeting, Council approved a resolution that would establish a Social District in Downtown Petoskey according to a specified map and maintenance and operation plan. As a part of that resolution, five local licensees were approved to apply to the State of Michigan for a Social District Permit that would allow them to sell alcohol that could be consumed in the Commons Area of the Social District. Moving forward, any local licensee that was not included in the resolution needs to be approved individually by Council before they apply to the State for their permit.

Action David Miekle, 425 Michigan Street, LLC DBA The Back Lot, is now seeking approval to apply for a Social District Permit so that he may move ahead and fill out his application for approval to serve alcohol that may be taken into and consumed in the approved Commons Area. A local unit of government form from the State of Michigan is enclosed. It is the request of staff that this recommendation be granted.

bg
Enclosure

Michigan Department of Licensing and Regulatory Affairs
Liquor Control Commission (MLCC)
Toll-Free: 866-813-0011 - www.michigan.gov/lcc

Social District Permit Information

Local Governmental Approval Required Before You Apply

The city, township, or village where your business is located must have first designated a Social District before you may apply. Your licensed business must be contiguous to the commons area inside the Social District to qualify. Check with your local governmental unit to see if you qualify.

Your licensed business must also be approved individually by the city, township, or village before you apply for a Social District Permit. A local governmental unit approval form is attached to this application.

The governing body of a local governmental unit may designate a Social District within its jurisdiction that contains a commons area in which the patrons of qualified licensees may consume alcoholic liquor (beer, wine, mixed spirit drink, spirits, or mixed drinks/ cocktails) in the commons area.

At least two (2) qualified licensees must have their licensed premises contiguous to a commons area for the area to qualify to be part of a social district.

The local governmental unit must define and clearly mark the commons area with signs. The local governmental unit must establish a management plan, including the hours of operation, for the commons area. These plans must be submitted to the Commission.

A qualified licensee may apply the to Commission for a Social District Permit using the attached application. The licensee must first obtain approval from the governing body of the local governmental unit before applying for the permit.

A licensee that has been issued a Social District Permit may sell alcoholic liquor for on-premises consumption on its licensed premises only, but then customers may remove the alcoholic liquor from the premises to be consumed in the commons area. A licensee must not sell alcoholic liquor in the commons area.

The commons area is not considered part of any licensee's licensed premises. Nevertheless, a licensee that has been issued a Social District Permit must make every effort to ensure that it does not sell alcoholic liquor to a minor or intoxicated person.

Any alcoholic liquor sold to customers for consumption in the commons area by a licensee with a Social District Permit must comply with all of the following:

- The serving container must prominently display the licensee's trade name or logo or some other mark that is unique to the licensee that sold the alcohol.
- The serving container must prominently display a logo or some other mark that is unique to the commons area.
- The serving container is not made of glass.
- The serving container does not have a liquid capacity over 16 ounces.

A customer that purchases alcoholic liquor to be consumed in a commons area must not transport that alcoholic liquor onto the licensed premises of another licensee contiguous to the commons area from which the customer did not purchase the alcoholic liquor. A licensee shall not allow alcoholic liquor purchased from another licensee to be brought onto its licensed premises.

A customer that purchases alcoholic liquor to be consumed in a commons area must not transport that alcoholic liquor outside of the commons area.

Qualified licensees for Social District Permits are:

- A retailer licensee that is licensed to sell alcoholic liquor for consumption on the premises, such as a Class C, Tavern, A-Hotel, B-Hotel, Club, G-1, or G-2. A Special License issued to a nonprofit organization is not a qualified licensee.
- A manufacturer with an On-Premises Tasting Room Permit.
- A manufacturer with an Off-Premises Tasting Room License or a Joint Off-Premises Tasting Room License. For Joint Off-Premises Tasting Room Licenses, all licensees that have licenses at that same location must be approved for and issued a Social District Permit.

Michigan Department of Licensing and Regulatory Affairs
Liquor Control Commission (MLCC)
Toll-Free: 866-813-0011 - www.michigan.gov/lcc

Business ID: _____

Request ID: _____

(For MLCC Use Only)

Social District Permit Application

Part 1 - Licensee Information

Individuals, please state your legal name. Corporations or Limited Liability Companies, please state your name as it appears on your Articles of Incorporation / Organization.

Licensee name:		
Address:		
City:	State:	Zip Code:
Contact Name:	Phone:	Email:

Part 2 - Required Documents & Fees

☐ Local Governmental Unit Approval
Approval from the local governmental unit (city council, township board, village council) is required to be submitted with this application (See page 2 for approval form)

☐ $70.00 Inspection Fee *(MLCC Fee Code 4036)*

☐ $250.00 Social District Permit Fee *(MLCC Fee Code 4081)*

TOTAL DUE:

Leave Blank - MLCC Use Only

Make checks payable to **State of Michigan**

Part 3 - Signature of Licensee

Under administrative rule R 436.1003, the licensee shall comply with all state and local building, plumbing, zoning, sanitation, and health laws, rules, and ordinances as determined by the state and local law enforcements officials who have jurisdiction over the licensee. Approval of this application by the Michigan Liquor Control Commission does not waive any of these requirements. The licensee must obtain all other required state and local licenses, permits, and approvals for this business before using this permit for the sale of alcoholic liquor on the licensed premises.

I certify that the information contained in this form is true and accurate to the best of my knowledge and belief. I agree to comply with all requirements of the Michigan Liquor Control Code and Administrative Rules. I also understand that providing **false** or **fraudulent** information is a violation of the Liquor Control Code pursuant to MCL 436.2003.

The person signing this form has demonstrated that they have authorization to do so and have attached appropriate documentation as proof.

Print Name of Licensee & Title	Signature of Licensee	Date

Please return this completed form and fees to:
Michigan Liquor Control Commission
Mailing address: P.O. Box 30005, Lansing, MI 48909
Hand deliveries: Constitution Hall - 525 W. Allegan Street, Lansing, MI 48933
Overnight deliveries: 2407 N. Grand River Avenue, Lansing, MI 48906
Fax with Credit Card Authorization to: 517-284-8557

Michigan Department of Licensing and Regulatory Affairs
Liquor Control Commission (MLCC)
Toll Free: 866-813-0011 • www.michigan.gov/lcc

Business ID: _____

Request ID: _____
(For MLCC use only)

Local Governmental Unit Approval For Social District Permit

Instructions for Governing Body of Local Governmental Unit:
A qualified licensee that wishes to apply for a Social District Permit must first obtain approval from the governing body of the local governmental unit where the licensee is located and for which the local governmental unit has designated a social district with a commons area that is clearly marked and shared by and contiguous to the licensed premises of at least two (2) qualified licensees, pursuant to MCL 436.1551. Complete this resolution or provide a resolution, along with certification from the clerk or adopted minutes from the meeting at which this request was considered.

At a _____ meeting of the _____ council/board
(regular or special) *(name of city, township, or village)*

called to order by _____ on _____ at _____
(date) (time)

the following resolution was offered:

Moved by _____ and supported by _____

that the application from _____
(name of licensee - if a corporation or limited liability company, please state the company name)

for a **Social District Permit** is _____ by this body for consideration for approval by the
(recommended/not recommended)
Michigan Liquor Control Commission.

If not recommended, state the reason: _____

Vote

Yeas: _____

Nays: _____

Absent: _____

I hereby certify that the foregoing is true and is a complete copy of the resolution offered and adopted by the _____
(name of city, township, or village)
council/board at a _____ meeting held on _____
(regular or special) *(date)*

I further certify that the licensed premises of the aforementioned licensee are contiguous to the commons area designated by the council/board as part of a social district pursuant to MCL 436.1551.

Print Name of Clerk	Signature of Clerk	Date

Under Article IV, Section 40, of the Constitution of Michigan (1963), the Commission shall exercise complete control of the alcoholic beverage traffic within this state, including the retail sales thereof, subject to statutory limitations. Further, the Commission shall have the sole right, power, and duty to control the alcoholic beverage traffic and traffic in other alcoholic liquor within this state, including the licensure of businesses and individuals.

LARA
LICENSING AND REGULATORY AFFAIRS

Michigan Department of Licensing and Regulatory Affairs
Finance and Administrative Services
Revenue Services

LARA Revenue Services **is not** a part of the Michigan Liquor Control Commission (see note below).

Credit Card Authorization Form

* * FAX COMPLETED FORM TO SECURE FAX LINE: 517-284-8557 * *

* * DO NOT EMAIL OR MAIL THIS FORM * *

Requests with credit card payments that are not faxed to the above secure fax line will be destroyed along with the credit card authorization in order to ensure the security of applicants' personal credit card numbers.

*** *IF YOU ARE NOT SUBMITTING AN APPLICATION FORM WITH THIS CREDIT CARD AUTHORIZATION, YOU MUST PROVIDE AN ITEMIZATION OF THE FEES FOR WHICH YOU ARE SUBMITTING PAYMENT OR YOUR PAYMENT WILL NOT BE PROCESSED* ***

Name: _____

Address: _____

City: _____

State: _____

Zip Code: _____

Phone: _____

Applicant/Licensee Name: _____

Request or Business ID #: _____

Payment is for: _____

Transaction Amount: _____

Card Number: _____

Check One:

○ MasterCard ○ Visa ○ Discover

Security Code/CVV Code: _____

Expiration Date: _____

_____
Signature

IF YOU ARE NOT SUBMITTING AN APPLICATION FORM WITH THIS CREDIT CARD AUTHORIZATION, YOU MUST PROVIDE AN ITEMIZATION OF THE FEES FOR WHICH YOU ARE SUBMITTING PAYMENT OR YOUR PAYMENT WILL NOT BE PROCESSED.

Credit Card Payment Itemization:

Fee Type	Fee Amount	*MLCC Fee Code*
☐ Inspection Fee:	_____	*4036*
☐ Social District Permit Fee:	_____	*4081*

LARA Revenue Services **is not** a part of the Michigan Liquor Control Commission (MLCC). Receipt of payment and application forms by LARA Revenue Services does not constitute receipt of an application by the MLCC. **Applications submitted through LARA Revenue Services may take up to two (2) additional business days to be received by the MLCC after receipt by LARA Revenue Services.**

For requests that require a timely receipt of an application by the MLCC to be processed, such as Special Licenses and temporary requests, please ensure that your application will be received in adequate time to be processed by the MLCC after the payment is received and processed by LARA Revenue Services.