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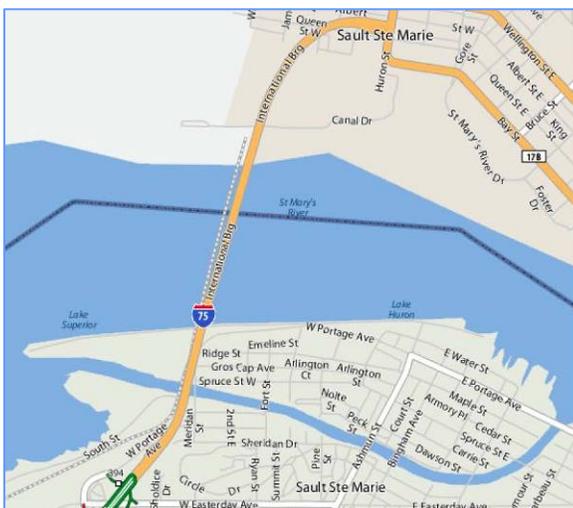
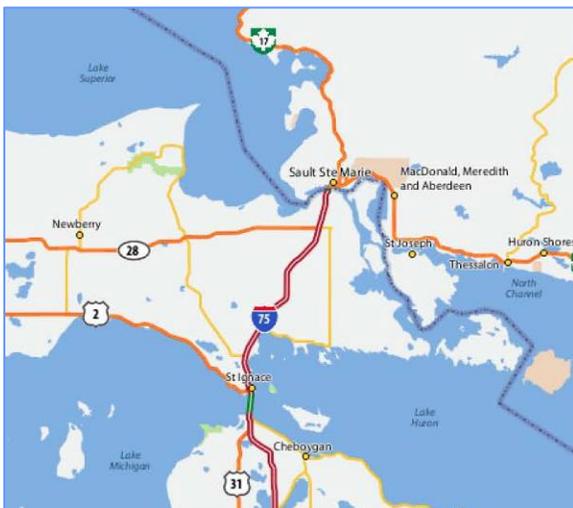
APPENDICES

- A. Historical Monuments Report
- B. Existing Site Features
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1. Introduction

The Soo Locks, which is situated between Lake Superior and Lake Huron and the remaining Great Lakes, forms the border region between the United States and Canada. It has been referred to as one of the great wonders of the world and serves the largest waterway traffic system on earth. The St. Marys River is the only water connection between Lake Superior and the lower Great Lakes. In the upper reach of the river, known as the St. Marys Rapids, the water falls about 21 feet from the level of Lake Superior to the level of the lower lakes. This natural barrier to navigation made necessary the construction of the locks project known as the St. Marys Falls Canal.



Located in northern Michigan, the Soo Locks Complex, built on Jacobsville Sandstone Bedrock, is famous for its cold winters and cool summers, which often provides a respite for travelers seeking cooler temperatures in the summer. Below are the average temperatures and precipitation, as provided by the National Oceanic and Atmospheric Administration.

	Avg. High	Avg. Low	Mean	Avg. Precip.	Record High	Record Low
Jan	21°F	5°F	13°F	2.64 in.	54°F (1932)	-36°F (1982)
Feb	25°F	7°F	16°F	1.60 in.	50°F (1921)	-37°F (1934)
Mar	34°F	16°F	25°F	2.41 in.	75°F (1946)	-27°F (1890)
Apr	48°F	29°F	38°F	2.57 in.	85°F (1990)	-13°F (1923)
May	63°F	39°F	51°F	2.50 in.	91°F (1919)	18°F (1966)
Jun	71°F	47°F	59°F	3.00 in.	93°F (1983)	26°F (1982)
Jul	76°F	52°F	64°F	3.14 in.	98°F (1921)	36°F (1992)
Aug	74°F	52°F	63°F	3.47 in.	98°F (1947)	29°F (1982)
Sep	65°F	45°F	55°F	3.71 in.	95°F (1976)	25°F (1993)
Oct	53°F	36°F	44°F	3.32 in.	82°F (1922)	15°F (1925)
Nov	39°F	26°F	32°F	3.40 in.	74°F (1938)	-12°F (1929)
Dec	27°F	13°F	20°F	2.91 in.	62°F (2001)	-31°F (1993)

Early pioneers arriving in the territory were forced to carry their canoes around the rapids. When settlement of the Northwest Territory brought increased trade and large boats, it became necessary to unload the boats, haul the cargoes around the rapids in wagons, and reload onto other boats.

Congress passed an act in 1852 granting 750,000 acres of public land to the State of Michigan as compensation to the company that would build a lock permitting waterborne commerce between Lake Superior and the other Great Lakes. The Fairbanks Scale Company, which had extensive mining interests in the Upper Peninsula, undertook this challenging construction project in 1853. Within the two year deadline set by the State of Michigan on May 31, 1855, the locks were designed, built and turned over to the state and designated as the State Lock.

Within a few years, commerce through the canal had grown to national importance, and the need for new locks became clear. The funds required exceeded the state's capabilities, and thus, in 1881 the locks were transferred to the United States government, and were placed under the jurisdiction of the U.S. Army Corps of Engineers (Corps). The Corps has operated the Locks; toll free, since that time.

Boat traffic through the Soo Locks exceeds 10,000 ships per year. This level of service is achieved despite shutdown of the locks during the winter, from January through March, when ice limits shipping on the Great Lakes. The winter months are used to inspect and maintain the locks.

The locks bypass the rapids of the St. Marys River where the water falls 21 feet from Lake Superior. Sault Ste. Marie gives its name to both the Canadian and U.S. cities at the site, in Ontario and Michigan, respectively.

The U.S. locks form part of a 1.6 mile canal formally named the St. Marys Falls Canal. They are owned and maintained by the Corps. At the time of this study four locks exist.

- **Davis Lock** was built in 1914. It is 1350 feet long, 80 feet wide and 23.1 feet deep. The Davis Lock is

used infrequently to lock light freighters, tour boats, and small crafts when traffic warrants.

- **Sabin Lock** was built in 1919. It is 1350 feet long, 80 feet wide and 23.1 feet deep. This lock has been placed in caretaker status and is no longer used.
- **MacArthur Lock** was built in 1943. It is 800 feet long, 80 feet wide and 29.5 feet deep. This is large enough to handle ocean going vessels that must first pass through the smaller locks in the Welland Canal.
- **Poe Lock** was re-built in 1968, after the Saint Lawrence Seaway had opened. It is 1200 feet long, 110 feet wide and 32 feet deep. It can take ships carrying 72,000 tons of cargo. The Poe is the only lock that can handle the large vessels used on the upper lakes. This lock was originally engineered by Orlando Poe.

Groundbreaking for a new lock was held on June 30, 2009. This lock is designed to replace the Davis and Sabin Locks., therefore discussion of this area of the complex has been omitted in this study.



Aerial view of the Soo Locks. View is to the east, with Canada on the left and the United States on the right.



The Corps maintains 162 acres of land on this site. The property contains four locks, a mooring basin, two railroad bridges, 75 buildings and 18 objects. As part of this land there are three parks, referred to in this Master Plan as the Upper Canal, Lower Canal, and Brady Park. It is within these parks that 600,000 visitors gather annually to view the large ships, learn about the history of the locks and its region, and recreate within the open park space. The Upper and Lower Canal Parks are located within a security fence and can only be accessed by entering through guarded gates. The Canal Parks are open from dawn to midnight. Brady Park is located outside the fenced area along the eastern most portion of the site. This park was inventoried, and identified within this Plan, but there is no intent to propose any new design/activity elements within this park.

The Upper Canal is the western most portion of the site that runs from the southern most lock to Portage Street. This park includes the Mariner's Library, the Visitors Center, and all three lock observation decks. The Mariner's Library, which used to serve as a communication and weather center for the sailors is run separately by a local historical society and is not maintained by the Corps. Entry into this facility is only via the entrance along Portage Street. The Visitors Center is open beginning on Mother's Day Weekend through mid-October, 7 days a week from 9am to 9pm. The average length of a visit at the Visitors Center is 1½ hours with the average length of a visit at the park being 2 hours.

The Lower Canal Park is the eastern most portion of the fenced-in park area and is separated from the Upper by a retaining wall and a 12' difference in elevation. The Lower Park also allows for ship viewing but only before they enter or after they exit the locks. Due to this, the Lower Canal Park tends to be used for open recreation and respite opportunities at its historical fountain. The Lower Canal Park also hosts weekly, public music nights throughout the summer.

2. Purpose of the Study

The Soo Locks was added to the National Register of Historic Places and designated as a National Historic Landmark on November 13, 1966.

The National Register of Historic Places is the United States government's official list of districts, sites, buildings, structures, and objects deemed worthy of preservation. Out of more than 80,000 places on the National Register, there are less than 2,500 National Historic Landmarks. The Soo Locks are included in this select group.

The site is of historical significance for its contribution to the industry and commerce of the United States by providing an efficient transportation route to and from the upper Great Lakes. The locks are considered a significant engineering feat with a tremendous amount of capital investment to design and operate them. Several buildings on the locks property possess architectural significance for their continuity and elegance in design.

The locks have been an important tourist and recreational site since the first locks were constructed in 1855.

Due to this rich history and the great sense of stewardship the Corps possesses, it became imperative to document the existing physical and cultural elements of the site and provide a guide for future development to ensure this historic place retains its historic features and relationships with the site. This Plan encompasses the entire 162 acre site and will allow visitors to choose from a variety of opportunities and experiences: passive and active recreation, historical interpretation, Lock viewing, and environmental education.

The goals and objectives for this Master Plan are listed in Section 4, and this Plan's goals and objectives are being implemented into three areas of focus:

1. Public viewing of the Locks;

2. Public use of the space when not viewing the locks; and,
3. Maintenance.



Postcard 1 of an unidentified whaleback freighter traversing the Poe Lock at Sault Ste. Marie in the early 1900s.

3. Facility Vision

Aside from the sense of place the Locks create for its 600,000 annual visitors, this site is a functioning lock system that must effectively work and run within schedules and budgets. The Corps facilities' department at the Locks is in need of a guide that may be referred to for maintenance and future development issues. As budgets decrease, and more materials and technologies afford themselves, it is critical that the staff has a guide to enable them to properly care for, maintain, develop and effectively change to meet the present constraints without bringing detriment to the environment, the historical intent and value of the site.

4. Goals and Objectives

The Master Plan seeks to maintain the historic character, preserve the natural beauty, and promote future sustainable development of the site. The final product (Master Plan) will be a guide for the Corps in protecting and managing the public and private open space at the Soo Locks Complex by providing a long-

range plan for the entire site outlined in six broad goals:

1. Maintain its natural beauty;
2. Maintain its historical value;
3. Enhance its historical value for educational purposes;
4. Enhance park circulation;
5. Promote visitor understanding and enjoyment; and,
6. Provide natural solutions to a dynamic environment.

5. Master Planning Process

The master planning process for this site will encompass several specific components as defined by the Corps staff wishes in the request for proposal. These components will address the following:

1. An overall Landscape Master Plan of the entire Soo Locks Complex.
2. Two overall Lighting Master Plans. One will address the lighting needs for the park areas while the second will focus on the lighting requirements for the piers/locks.
3. An evaluation and analysis of the structural integrity of the Observation Decks and the potential replacement or removal of the easterly and westerly structures.
4. A proposed temporary Band Stand to support music concerts and other activities during the summer months.
5. A reconstruction plan of both the east and west parking lots around the Maintenance and Support Building (MSB) facility along the east edge of the complex.

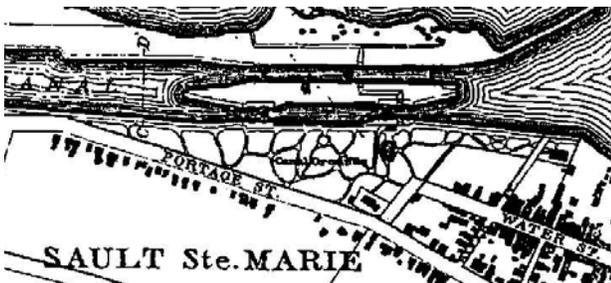
6. Potential Historical/Cultural Interpretation

The Canal Parks are considered to be a historic landscape based on several criteria as set forth by the

U.S. Department of Interior using the following interpretation:

1. Its association with the lock complex. The locks have become a tourist destination and the park has evolved to allow the public to view the activities of the locks in a safe, clean, and pleasurable atmosphere.
2. Its designed landscape prepared by the Corps according to the 1940's design principles and traditions.

The open space which now is defined as the Upper and Lower Canal Park has been associated with the locks since their original construction. The image below in Drawing 1 is a portion of a map from Sauer's *Illustrated Atlas of Sault Ste. Marie, Michigan and Ontario* from 1888 as shown in *Up bound Down bound The Story of the Soo Locks* by Bernie Arbic and Nancy Steinhaus. The Canal Grounds are indicated on the map with many curvilinear paths and a structure at the intersection of Portage Street and Osborn Boulevard. (Water Street extended).



Drawing 1.

In 1966 the National Park Service (NPS) reviewed the Soo Locks for historical significance and with the Corps, and the State Historic Preservation Office compiled a list of contributing structures, sites and objects to the NPS historical designation. The NPS has demed the following existing design elements as historically contributing:

- Water Fountain (Lower Park) erected in originally constructed in 1885 and rebuilt in 1945;
- Parking Lot Gates and Fences (Lower Park) erected in 1945;
- Pylon (Upper Park) erected in 1945;

- Site of First Observatory Monuments (Upper Park) erected in 1893; and,
- Japanese Shinto Torii erected in 1905 (Upper Park).

The Upper and Lower Canal Parks can trace their design roots back to the three distinct periods, the 1880's, 1920's and the 1940's, which coincides with the development of the Weitzel Lock, the Davis/Sabin Locks and the MacArthur Lock.

1880's Design Period

Interpretation of the Parks' design in the late 1880's is based on historical photographs, and historical landscape design styles of the late 1880's/early 1900's. No plans or sketches of the park were revealed through research of the Corps or State archives.

The mid to late 1800's was the second industrial revolution and economic boom within the United States. It was the Gilded Age of wealth and there was a tremendous growth in population. This growth and the lack of industrial regulation led to the consumption of open space and the deterioration of quality of life in urban places at an alarming rate convincing political and business leaders to set land aside for open, public spaces. This is the era of such great parks as Central and Prospect Parks that were designed in 1859, and 1863 respectively, and began a design trend of the natural, built environment in the United States. These parks were designed and built to look and feel as if they were pristine pieces of property with winding paths that encouraged strolling enhanced with formal site elements such as benches, bridges, and fountains.

The Canal Parks are consistent with this theme, containing similar design features including a grand stone staircase leading from the Upper to the Lower Park, winding paths, a fountain, and lighting for the park area.



Photograph 1 taken in 1885 of workers constructing the fountain in the Lower Canal Park provided by the Bayless Library.

Photograph 1 depicts workers at the construction of the fountain in the Lower Canal Park just below the grand staircase.

The size and space of the combined park was still being defined within this time period. The Lower Canal Park was half of its current size, and there was minimal development of ‘park like’ features within the designated park space beyond the formal staircase and fountain/pool. There was still a manufacturing presence in the eastern half of the Lower Canal Park, as it had not yet been set aside as park space, as seen in Photograph 2.



Photograph 2 taken in 1892 of the Weitzel Lock looking east. Photograph was taken by and provided by the US Army Corps of Engineers.

The 1880’s park plan primarily focused on the Upper Canal Park. The Upper Canal Park space was delineated from the street with a white, picket fence, and that fence was used as a design element

throughout the space. There was no physical or visual barrier between the locks and the park. The Park possessed a trail system of both wood and concrete materials, and is one of the first applications of concrete walkways in designated park space in the State of Michigan. The large, straight walkway along the locks, which was lighted, the walkway from the entrance on Portage Street, and the winding paths transcending through the Park were visualized within this design era. The winding paths centralized to a formal, radial design that served as a designation locale within the park. Based on historical photographs, this circular space provided opportunities for reflection and display of horticultural design. See Photograph 3 and 4 depicting this design feature.



Photograph 3 taken in 1892 of the Weitzel Lock and the Upper Canal Park. Photograph was taken by and provided by the US Army Corps of Engineers.



Photograph 4 taken in 1892 looking towards the Weitzel Lock at the circular planting bed. Photograph was taken by and provided by the US Army Corps of Engineers.

This circular movement disappeared some time between the 1920's and 1940's. It had been located between the present Visitor's Center and the Portage Street entrance walkway.

The first structures in the park were built during this period, including the fountain, the grand stone staircase connecting the Upper and Lower Parks, and a cottage. The staircase can be viewed in the foreground of Photograph 2, and on the right hand side of Photograph 5.



Photograph 5 taken in 1885 in the Lower Canal Park of the fountain and staircase at the transition point between the Upper and Lower Canal Parks as provided by the Bayless Library.

This stone structure was present until the 1940's when the stairs and a new retaining wall were designed and constructed. While space was limited within the staircase structure it is possible, based on the

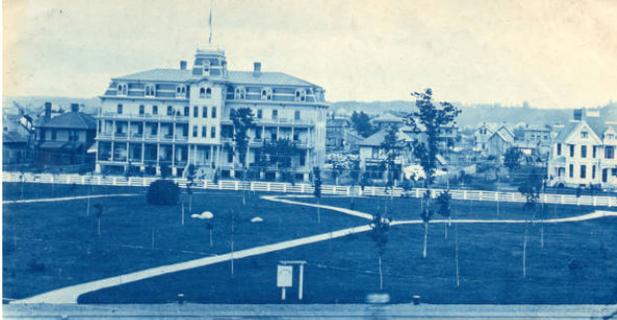
positioning of the stairs and the windows, that this structure was used for park administration and storage.



Photograph 6 taken in 1892 of the Weitzel Lock and the Upper Canal Park. Photograph was taken by and provided by the US Army Corps of Engineers.

The cottage like structure depicted in Photograph 6 was located within the Upper Canal Park overlooking the Weitzel Lock. Its gabled roof, upward design, and the use of different colors is suggestive of the Victorian Era (1825-1900), which was very popular in Northern Michigan including the Traverse City, Petoskey, and Old Mission Peninsula areas. Based on photograph 7 showing a Victorian style hotel in the background, it made its way to Sault Ste. Marie as well. The architecture of this period drew deeply from history, nature and geometry. It is surmised this building served as a switching room, weather station, shipping information, and a communication post for the sailors. It also could have provided the public with historical and technical information on the locks. Its demolition date is not known, but two new switching buildings were built in the early 1900's at this location, and the other end of the locks complex. These buildings still remain today, with the addition of small observation decks placed on their roofs. The sailor's communication post it is believed to have been replaced by the Merchant Marine's Library that served in that capacity until the 1970's.

The 1880's planting design was significant because it is apparent from Photograph 7 that there was very limited vegetation prior to this plan.



Photograph 7 taken in 1885 of the Upper Canal Park provided by the Bayless Library.

The quantity and placement of trees was intended to soften and create a more natural environment. The sheer number of trees makes it hard to visualize any purposeful design of open spaces for the warmth of the sun, sight lines to and from downtown. Because the main intent of the spaces has been to view ships, this park has been historically designed with deciduous trees with a high canopy. Evergreens blocked the view of the ships.

The park had a lighting plan along the main walkway adjacent to the lock that served as lighting for the ships. No lights were present within the interior of the park at this time.

In 1899 the current Merchant Marine's Museum, shown in Photograph 8 was built under the original name of the Weather Bureau Building that later became the Merchant Marine Library. This building provided communications to the ships regarding weather, schedules, print publications, correspondences to and from the sailors' family, and even funeral arrangements if required. Often sailors would be seen running off the ships to this building for necessary information about the lakes and families.



Photograph 8 taken of the Museum in 2009.

The final influential feature added in this time period was the placement of the Torii on the south east corner of the park. The Torii was a gift to the City of Sault Ste. Marie from its sister city in Japan.



Postcard 2 distributed in 1935 of the Torii park entrance provided by the Maritime Museum.

The placement of the Torii was critical to the evolution of the park. It was to be a grand entrance way to the park allowing passage underneath, as shown in Postcard 2. This distinct design transformed the park's circulation for the next 30 years. With the Torii came a new main entrance, a new boulevard entryway and two lanterns that adorned the boulevard walkway that traversed under the archway solidifying the southeast corner as the main entrance to the park. This boulevard can be seen in Postcard 3.



Postcard 3 distributed in 1935 of the Torii park entrance provided by the Maritime Museum.

This walkway was removed in the 1940's plan. The lanterns were removed prior to the 1940's and the Torii still stands today in its original location.

1910's-1920's Design Period

It has been referenced that the second major influencing period for the Parks has been the 1920's. However, based on research and construction trends of the property, this period most likely extended beyond just one decade. The Parks are dynamic and ever changing, but it was in this twenty year time period from 1910 to 1930 that the locks really started to take on the look and feel of a working, maritime job site with true purpose and excitement. The Davis Lock was built in 1914 and the Sabin Lock in 1919. The locks were increasing in numbers and size and so were the ships. All of this construction was creating greater interest from the public, and with the automobile allowing for extended leisure time, the park moved from a local destination to a regional destination.

Photograph 9, provided by the Maritime History Museum of the Great Lakes, is titled the "Greatest Canal Traffic in the World". This photograph was taken in 1912. Note the switching room buildings on the sidewalk, one in the foreground, and one in the far background. These buildings still exist today with the small observation decks built on their roofs. The platforms were erected in the late 1940's. This is also the first photograph where benches begin to appear. The middle bench depicted in this photograph is very

reminiscent of the green movable benches the park currently has.



Photograph 9 taken 1912 of the Weitzel Lock and the Upper Canal Park. Photograph provided by the Maritime Museum.

While the Upper Canal Park was beginning to create a sense of place and destination, the Lower Canal Park was still primarily being used as open space. As depicted below in a Photograph 10 from May 1921, the fountain that was built in the late 1880's still exists, but it is formalized a bit more with fencing. The trees are now larger and it is apparent from the stature that the trees are elms, which will play an important design role in the upcoming decades. It is also interesting to see the amount of snow in this May photograph.



Photograph 10 taken in 1921 of the fountain in the Lower Canal Park provided by the Bayless Library.

1940's Design Period

World War II had an enormous effect on design, construction, economy and people's way of life for an entire decade. The locks were essential to the homeland war effort by allowing passage of ships carrying ore and stone necessary for war time arsenal and construction. During the war, the locks were guarded by the US Army with rifles and anti-aircraft guns. It was because of this great vested interest in the locks as a vital military asset that the MacArthur Lock was designed and built to be located at the Weitzel lock location. As with many lock construction projects, the park once again received design and construction attention as well, but this time it was extensively planned out and included the Upper and Lower Parks.

This attention, in the form of a new park design had the greatest influence on the existing park design and functionality. The designated design period, which begun in the late 1930's and lasted well into the 1970's was Modernism/Functionalism, and this park along with other historical sites, such as Union Square in San Francisco, World's Fair, New York City, Palisades Parkway in New Jersey, and Mellon Square in Pittsburgh were in designed in the early years of this era design and share many design components such as:

- The use of concrete for site elements;
- The use of concrete for walking surface;
- Formal plaza park design as oppose to irregular, natural, rustic design;
- Form following function.

This time period provided three of the five site elements deemed by the National Park Service to be historically significant:

- Reconstruction of the Water Fountain (Lower Park) built in 1945;
- Parking Lot Gates and Fences (Lower Park) built in 1945;
- Pylon (Upper Park) built in 1945 (pictured below).



Photograph 11 taken of the entry in 2009.

Important elements included in the detailing of the park were the benches, concrete pillars and fencing, the lock display models, and lamp posts. Photographs 11 and Postcards 4 and 5 show a few of these elements.



Postcard 4 from the 1950's depicting a typical concrete bench found within both Upper and Lower Canal Park



Postcard 5 from the 1950's depicting a lamp post and the concrete wall detail used throughout the park.

Other significant design changes include:

1. a fence along the walkway parallel to the locks to create a barrier between the public and the locks;
5. removal of the fountain designed in the 1880's and construction of a new fountain in a new location and circulation pattern in the Lower Park, as depicted in Photograph 14;

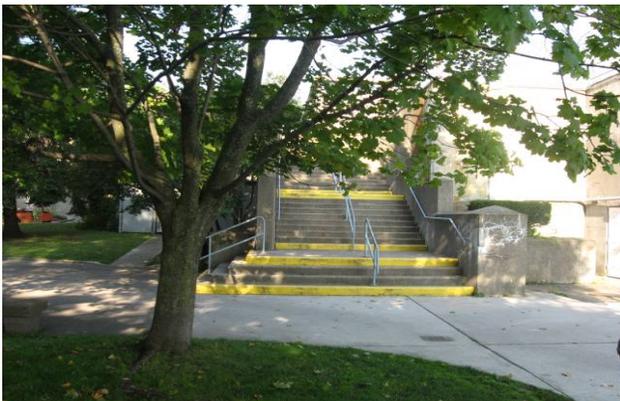


Photograph 12 taken by the Corps in 1946 immediately following the restoration construction of the parks.



Photograph 14 taken by the Corps in 1946 immediately following the restoration construction of the parks.

Photograph 13 taken of the staircase in 2009.

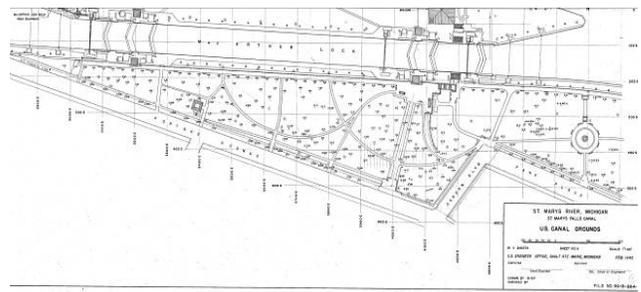


2. a wider sidewalk to facilitate large groups along the fence to allow circulation and ship viewing, as depicted in Photograph 12;
3. lighting in the interior park spaces;
4. retaining wall separating the Upper and Lower Parks that included a public washroom facility and a new stairway a shown in Photograph 13;

6. Sugar Maples were most likely used because of their hardiness and availability.

Drawing 2 is a depiction of the planting and circulation plan of the 1940's. The planting plan strives to combine existing trees with new proposed trees to create sight lines, sense of place and comfort.

The '40's is the first time the Lower Canal Park is being extensively designed with the intention of being integrated with the design of the Upper Canal Park.



Drawing 2 showing the 1945 planting plan provided by the Corps.

Over the life of the Park, trees, monuments, walkways and nautical items have been added to the park with little regard to their historical value or function as a people space, or maintenance. It is the intent of this Plan to create a sense of place for the Upper and Lower Canal Parks that maintain its rich history and story telling capabilities, while still able to be maintained in an efficient and cost effective manner.

Within the report, a Monument Historical Testimony has been developed that discusses the history and historical contribution each monument has to the site. Design considerations were made based on that report prepared by a certified Landscape Architect Historian.

1960's-Present Design Period

The park was transformed in the 1960's with the construction of the Visitors Center and the Visitors Overlook Platform. The Visitors Center was located inside the park near Portage Street at the apex of a broad curving path near the center of the Upper Canal Park. The Visitors Overlook Platform is located above the lock platform with two (2) built on existing gate houses and the other is a self supporting structure directly across from the Visitors Center. Access to the platforms is available from stairs within the park.

The plans detailing these improvements show a new light pole to replace existing lamp posts. These lights as depicted in Photograph 15 were very futuristic in style for the time, and drastically changed the sense of place the previous lights created.



Photograph 15 taken of a light pole in 2009.

The drawings from the restoration specifications also include a list of existing plants as follows:

- | | |
|--------------------|------------------|
| American Elm | Norway Maple |
| Beech | Poplar |
| Black Ash | Red Maple |
| Balm of Gilead | Red Oak |
| Black Locust | Red Pine |
| Black Oak | Silver Maple |
| Black Spruce | Scotch Pine |
| Basswood | Thorn Apple Bush |
| Cherry | Willow |
| Cranberry Bush | White Ash |
| Flowering Crab | Tamarack |
| Ironwood | White Birch |
| Honeysuckle | White Oak |
| Japanese Cherry | White Pine |
| Little Leaf Linden | White Spruce |
| Lilac Bush | Walnut |
| Mountain Ash | Willow Birch |
| Sugar Maple | |

Several monuments are listed on the drawings from 1962 that label them as existing at that time. The existing monuments include the ship's kedge anchor, drill core of Potsdam sandstone, limestone survey monument, the first stone set from the Weitzel lock, the Independence propeller, observatory monuments, Japanese Torii, steel king capstan, and the large ship anchor.

Changes or additions to the park since the 1960's have been limited to several monuments and interpretive kiosks. One major exception to this is the upgraded security fencing and cabled security system added to the perimeter after the 9-11 disaster. The improved security system has limited the access to the park to two (2) locations along Portage Street (a third access is opened for special events at the curve of Water Street). This has created walkways within the park which dead end into the fence along the street perimeter in several locations.

1940's-Historical Design Period and Basis for this Master Plan

A "period of significance" is defined by the U.S. Department of Interior as "the span of time in which a property attained the importance or association for which it meets the National Register criteria."

The Department of the Interior uses seven qualities to determine integrity and include location, setting, feeling, association, design, workmanship, and materials. There is no question that the park is a contributing element in terms of its location, setting, feeling, and association with the locks. The experience of watching a large ship passing through the locks from such a close position is awe inspiring. The park has allowed the public to experience this emotion since the development of the locks themselves. The determination for the period of significance in the late 1940's is the qualities of design, workmanship, and materials. The design is simple but elegant and utilitarian. The broad curving paths provide views to the lock from a variety of angles and flow easily through the Upper Canal Park. The straight-line, geometric layout emphasizes the pool and fountain in the Lower Canal Park, the main feature in this portion of the park. The detailing of the concrete pylon and walls is unique and the use of these features throughout the park provides an overall unifying element. The plantings are also simple and provide a space that allows the views to the lock to remain uninterrupted. With the high canopy and the consistent lawn groundcover, a visitor can see all the way across the park to the activities in the lock. The workmanship of the 1940's restoration is of a high quality which attests to the excellent condition of these elements today, which can also be attributed to the exceptional level of maintenance performed by the grounds crew. The materials used were simple, with concrete the predominant building material.

While the park has been significant to the locks for a long period of time, the restoration of the 1940's has transformed the open space to provide the visitor with an interpretive experience that is sure to be impactful and long lasting.

7. Site Facilities

The Soo Locks Complex houses many wonderful and historically significant facilities that are integral to the operation and usefulness of the site. Data collected for many of the buildings have been attached as Building Profile Sheets as Appendix C of this report.

8. Proposed Site Design Elements

Three design categories have been selected for discussion and recommendations:

- Plant material
- Pedestrian and vehicular circulation
- Site furnishings

This Master Plan uses the 1940's plan as a guide when making recommendations. It is this period that was deemed of primary historical significance for the locks and parks. It is crucial to understand the theories of design in order to provide thoughtful recommendation when designing or studying an existing landscape. In general there are four guiding principals of design to consider:

1. Scale;
2. Functionality;
3. Simplicity;
4. Unity.

Scale- The 1940's plan for Canal Parks kept usability in mind, extracting the engineering detail of the locks and using the landscape details of the Parks such as the rectilinear concrete benches, rectilinear entry paving patterns, rectilinear hedge plantings, and combining these features with the curvilinear secondary walkways to define a random pattern of tree placement, and monument placement, to create a tranquil space with plenty of useful space.

Functionality- This plan has functionality foremost in mind. Allow for views to and from the ships.

Simplicity- While this park is beautiful, it is not an elaborate, highly adorned garden design style, and it should not be. This was created by the Corps as a simple design which captures that spirit while focusing on the practical usage of all the available space design.

Unity- This plan took the most extravagant site feature, which is the very large shipping vessels and blended it with a simple outdoor space creating unity to the space complementing each other. The landscape design allows you to view and appreciate the

engineering behind the locks and the ships that use them in a setting with an appreciation of nature, and everyday living.

Planting Plan Design Intent Statement

Background

The plant material located within the Upper Canal and Lower Canal Parks is a major focus of this Master Plan. The significant historical period of design that this Master Plan is attempting to emulate is the planting plan from the 1940's. Working through the Site Analysis portion of this project (See Existing Site Inventory Drawing within the tab labeled as "Proposed Landscape Plan") it is apparent that the trees and shrubs have become a major contributing factor in the loss of design intent for the park, have outlived their intent, and are in the beginning stages of becoming a major maintenance issue. It needs to be understood that the vegetation in the form of shrubs and trees are design elements that affect the Park's creation of a sense of place, how it is used, and cost. The Planting Plan addresses three categories:

1. Existing Plant Diversity;
2. Condition/Health and Vigor; and,
3. Use as a Site Design Component.

EXISTING PLANT DIVERSITY

The existing plant inventory is depicted within Appendix D. Presently a majority of the trees within both the Canal Parks are Sugar Maples, *Acer saccharum*. There are 112 Sugar Maples within these Parks, making up 55% of the species diversity. The next most plentiful species is the Colorado Blue Spruce, *Picea pungens*, which makes up 12%. The lack in diversity could cause concern for the Park's future design intent and future costs of maintenance and replacement. Many of these Sugar Maples were planted intentionally to create an archway along the main sidewalk running parallel to the ships. This archway is to remain and be supported with the planting of new Sugar Maples (the majority of these Sugar Maples are 50 years old). Plant diversity shall be addressed elsewhere on the property. (Why is no evergreens complicating?) Complicating the diversity issue is that in the 1940's there were no

evergreens planted, and this holds true historically for the Parks based on pictures as early as the 1880's. The recommendation of this Planting Plan will be to reduce the number of Sugar Maples within the interior portion of the Park. The following is a list of recommended tree species. These species offer the large canopy, seasonal interest and were common planting in the 1940's.

1. *Quercus alba*, White Oak (already on site and estimated to be the same age as the Sugar Maples);
2. *Acer nigrum*, Black Maple (already on site);
3. *Acer rubrum*, Red Maple (already on site);
4. *Betula papyrifera*, Paper Birch (already on site);
5. *Sorbus Americana*, American Mountain Ash;
6. *Ulmus parvifolia* 'Allee', Lacebark Elm and,
7. *Zelkova serrata* 'Green Vase', Zelkova.

In Appendix D, "Tree Identification", is a worksheet titled "Tree Inventory and Action Recommendation" that reviews and identifies every tree in the Parks with recommend course of action. Every tree was surveyed and assigned a reference number. The worksheet reference number corresponds to the numbering on the drawings.

CONDITION/HEALTH AND VIGOR

Trees, as a site element, offer more challenges and rewards than any other element. They must be maintained and cared for throughout the years to ensure their health is maintained at a level that meets the intended design purpose and budget, because it takes time, energy and money to care for these over a long extended time. Please refer to the Appendix D, "Tree Identification", for the entire Tree Inventory. The Master Plan is recommending that all dead or dying trees, or others in poor condition be removed from the site.

The majority of tree health issues that have arisen are due to over crowding, lack of a regular pruning program and no mowing mulch rings. It is recommended that each tree have a mowing ring of shredded hardwood mulch of 3" depth, extending in a 3' diameter from the trunk to keep the mowers from girdling the tree trunks. Much of this girdling has

occurred many years ago when the mowers cut grass adjacent to the trees. At the time the mowers damaged the outer bark, there was little affect on the tree, but over time the outer bark becomes inner bark and once damaged it can no longer transport water and nutrients from the roots to the leaves. Those trees will never recover, and thus they should be removed. Cessation of the damaging mowing practice will protect newly planted and existing trees.

All the shrubs that are flanking the retaining wall that separates the Upper from the Lower Park need to be removed. These shrubs and small ornamental trees are no longer healthy enough to maintain their design intent. See proposed planting plan for recommended plantings.

USE AS A SITE DESIGN COMPONENT

Background

The use of trees as a design component within the Parks dates back to the late 1800's. Trees were planted in high quantities to establish a park atmosphere, create interest, and soften its open space edge of the locks. Deciduous trees were used over evergreens to meet these objectives because they served to soften space, create shade, and establish a park sense of place while their open high canopies allowed views to and from the ships.

Based on photographs and historical research of trees commonly planted within these design eras, Maples and Elms were planted the most. They were easy to obtain, affordable, long lived, and easily transplanted. The Sugar Maple and the American Elm served very well in the capacity of high canopies and graceful branching structure.

The 1940's plan appears to be struggling with the knowledge of the Dutch Elm Disease and the need to replace these trees while still trying to maintain the planting plan's design integrity. Within the 1940's plan the American Elms located near the locks were removed and replaced with Sugar Maples, however, the Elms found further back in the park were kept.

Over the years, many trees have been added to this site with no obvious design objective. As seen in

Photograph 16 and 17, one key element to the Park's design (the fountain in this example) was purposefully left open for viewing and now over time and with over planting, it has become closed.



Photograph 16 taken by the Corps in 1946 immediately following the restoration construction of the parks.



Photograph 17 taken of the fountain in the Lower Canal Park looking west in June of 2009.

This Master Plan intends to re-open sight lines using the 1940's plan as a guide. It is proposed to reduce the number of trees in the interior portion of the park to provide more open space for impromptu activities and increase the number of trees along the sight lines to the two major components of the park, the walkways to and adjacent to the locks and the fountain. The planting plan can be viewed in Appendix E.

Beyond the Sugar Maples being used along the lock walkway previously discussed, three other significant design issues concerning vegetation from the 1940's that have an impact on this Master Plan; they include (1) the use of the Elm or like tree species, (2) a small deciduous shrub highlighting the Park's boundary and entrance walkway, and (3) the fountain's foundation plantings.

- The American Elm, which once adorned this park in great numbers does offer some disease-resistant varieties, however they have not been in production long enough to be proven for recommendation within this plan. However, the *Ulmus parvifolia* 'Allee', Lacebark Elm (yellow leaves in the autumn) and the *Zelkova serrata* 'Green Vase', Zelkova bright red leaves in the autumn) are disease resistant and offer the majestic high canopy, vase-like structure, and archway canopy that the original American Elm offered. This plan recommends these trees be introduced into the park in areas where great efforts were made to save the American Elm:
 1. Along the fence line (high branches resolve security issues);
 2. Creation of sight lines within the Lower Canal Park;
 3. Creation of sight lines in the Upper Canal Park at the Museum;
 4. Archways along the walks in the Upper Canal Park.



Photograph 18 of an American Elm.



Photograph 19 of a Zelkova tree

- The 1940's plan introduced a small, deciduous shrub massing that creates a hedge pattern defining the main walkway and the fence line along the street side of the Parks. This practice was extremely popular in the 1940's through the 1960's to delineate and create boundaries without putting up a fence. The hedge along the main walkway channeled foot traffic to stay on the walk and proceed to the ship viewing area. The shrubs along the fence served as a visual barrier for the fence and added property definition.

The 1940's plan employed the use of a privet hedge that was very popular at the time, but this plan proposes shrubs that are more aesthetically pleasing and require less maintenance. Shrub selection will include commonly used shrubs from this time period.

1. *Viburnum opulus*, 'Nanum', Dwarf Cranberry Bush;



Photograph 20 of *Viburnum opulus*

2. *Salix purpurea*, ‘Nana’ Dwarf Artic;



Photograph 21 of *Salix purpurea*

3. *Ribes alpinum*, Alpine Currant (similar in size and stature as the *Viburnum* pictured above);
4. *Euonymus fortunei*, ‘Berryhill’, Euonymus.



Photograph 22 of *Euonymus fortunei*

- The existing plantings surrounding the fountain are proposed to be removed. The spruces have overgrown their space and their needles are clogging the fountain’s plumbing causing a increased expense of maintenance for repairs. These spruce trees should not be replaced. The shrubs surrounding the fountain are a species of *Spirea* and are also planned for removal. While providing some definition of space is proper, this plant is not intended as a hedge and more appropriate plants may be used such as:

1. *Juniperus*, spp. of ground cover;



Photograph 23

2. *Euonymus*, spp. of ground cover;



Photograph 24

3. *Rosa*, spp. of ground cover.



Photograph 25

The original design called for annuals to be planted within these beds.

The plantings of *Spirea* shrubs that flank the walkway extending south from the locks towards the fountain should be removed. They dilute the sight lines, add maintenance, and were not intended for that location. This area will be left open to promote improved sight lines through the lower park area.

Pier Plantings

Over history the piers have had numerous types of plantings on them including formal trees, shrubs and open grassy areas for recreation. The public is no longer allowed access to the piers and it is desired to have a low maintenance groundcover that allows high visibility and a certain degree of ‘thickness’ to avoid weeds taking root.

The piers shall be seeded with a native grass seed mixtures. The grass shall be a low lying grass that requires no watering and no mowing.



Circulation Design Intent Statement

Background

Much of the intended circulation in both Upper and Lower Canal Parks has changed. After the events of September 11, 2001, security fences were installed around the parks' perimeter leaving only two primary public entrances, each with guard stations. Previous to this, the site allowed for various entries with designated sight lines to the three primary points of interest:

1. The lock viewing area;
2. The fountain; and
3. The Visitors Center.

While the existing walks are sometimes confusing as to their purpose, they are historical in nature and represent a historical time in the Park's existence, and shall remain in place to fully represent the plan of the 1940's. It is the hope and intent of the Corps of Engineers, Soo Area Office, to reopen some of these entrances as soon as the new security fencing along the perimeter of the lock areas is in place. The placement of the new security fencing, recently approved by SHPO and NPS, will allow the circulation within the park to resemble the historical pattern of the past and be completely open for free flow circulation.

CONNECTIVITY TO THE VISITORS CENTER

The current Visitor's Center was not a part of the 1940's plan, and the area around this structure needs to be redesigned to allow for more circulation, educational and ship viewing opportunities. The walkway layout around the Visitors Center is intended to create an educational atmosphere that ties into the Visitors Center, and allows that educational component to continue outward into the Park. The walkway has been enlarged to accommodate foot traffic and triangulation created by the relocated monuments. This design captures the arcs found throughout the park and allows for flowing foot traffic. The arc pattern opens up to one large walkway that makes a connection to the linear walkway along the lock and the observation tower.

Site Furnishings Design Intent Statement

This portion of the Master Plan investigates the Park's furnishings and their use or misuse within the complex.

TORII

Background

The existing historical Torii is in disrepair and its future needs to be properly planned for. Structurally it has become a safety concern for people to walk under, and its current location has been questioned because it no longer serves as a gateway into the park as it once was intended.

Previously discussed options were the demolition of the structure or returning it to the City of Sault Ste. Marie (the city owns the structure) for relocation, by the city, to another site. However, due to historical significance at the current location, it was decided it will remain while requesting that the City performs the needed repairs on the structure.

Recommendation

The Master Plan proposes the Torii be repaired in accordance with the Department of Interior standards, and a redesign of its surrounding landscape. Repair options were still being evaluated as of the date of this report. The City will make the ultimate decision whether to repair and keep on site or whether to remove and relocate. It is proposed to remove the existing vegetation that borders the monument and provide a design of stone and vegetation that symbolizes the lines and the views of the former gateway.

OBELISK

Background

The existing historical obelisk that is located within Brady Park and is now situated within a fenced off area that has been designated a Native American Burial Ground. The Corps, the National Park Service and the State Historical Preservation Office have agreed that the obelisk be removed from the burial ground.

Recommendation

Removal and subsequent relocation will allow the public to enjoy the obelisk as it was intended by its original placement. Because of this, they have also agreed that it is necessary to keep the obelisk as near as possible to its original location. Therefore, a site at or near the foot of Brady Street, just east of the burial ground fence, along the southern border of Brady Park has been selected as the new location area. The exact location will be finalized after structural and geotechnical information is collected and reviewed.

MODELS

Background

The existing models of the locks found at the end of the main entry walk are in disrepair. The model material is curling and fading, and with the construction of the new lock, these models will be inaccurate, and could lead to confusion. Several options were considered including keeping the models and the bases at the Visitor Center, and leaving them in their current location with restoration, but the ultimately it was decided because the configuration of the Locks will be so different in the near future that these models will soon become confusing and less education to the public.

Recommendation

The Master Plan proposes to remove the existing models and their containment boxes (Concrete Bases) from the site and proposes that when the construction of the new lock is complete, a new model is created using updated materials and lighting to properly depict the new lock configuration.

FOUNTAIN

Background

The existing fountain was designed and built as part of the 1940's plan. The fountain underwent design changes in 1967. These design changes include:

1. The removal of the top tier of the three tier design.
2. Renovation to install underwater lighting as depicted in Photograph 26.
3. Installation of a fence surrounding the fountain.

4. Painting the interior of the fountain blue.

Recommendation

The recommended course of action for the fountain is to remove the fence, patch the concrete, and repair the plumbing, lighting and electrical components.

SITE LIGHTING

Based on historical accounts, 1940's photographs and catalogs obtained from the Soo Area Office staff, the current lights within the park are not of the 1940 era. Previous plans of the Parks show the existing lights were manufactured and installed in the 1970's. It is proposed that these lights be removed and replaced.



Photograph 26 taken by the COE in 1967 during the fountain's renovation depicting the installation lights.

LIGHTING – PARK AREAS

Background

The fixture, from the 1940's photographs noted earlier in the narrative in the historical design description, appears to be an acorn style, mounted on a 12'-0" post. Our site investigations revealed the light poles on the Locks Complex were an exposed aggregate, square, tapered concrete tan in color. These poles and fixtures were replaced in the 1960's with a round metal post with a wide reflector on top and a straight round pole of equal length.

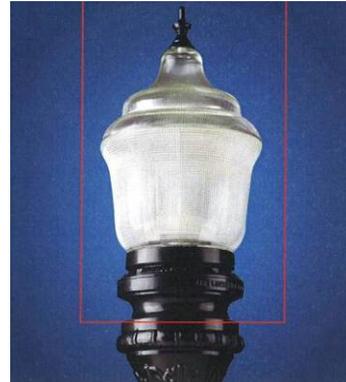
The existing locations of the fixtures do not provide adequate illumination along the walkways to meet the current standards listed in Illuminating Engineering Society of North America (IESNA) RP-33-99 “*Lighting for Exterior Environments*” and RDG-5-1994 “*Recommended Lighting for walkways and Class I Bikeways*”. In RP-33-99 Table 4 defines Area Classification as Commercial, Intermediate and Residential, we believe that the Soo Locks Park most closely matches the Intermediate definition. The recommended illumination level for this classification in Table 6 is 0.5 footcandle average with a 10:1 maximum to minimum ratio at grade level. In DG-5 Table A-1 illumination level for a Park Residential is listed at 0.5 footcandles.

Recommendation

The pole selected for all three Options is square tapered concrete with 1” chamfered corners and is available in direct bury or base plate mounting. The pole can be manufactured in any height, but typically in increments of 2’-6”. The pole is comprised of an exposed aggregate stone with tinted concrete and we have selected the “Desert Sand” with an etched finish and sealed with a clear acrylic finish. A 12-ft high pole with base plate mounting has been selected for the park area. Details for the poles are included in Appendix F.

The existing fixtures, poles, bases, and underground wire and conduit will be removed. New fixtures and poles would be installed along each walkway, alternating sides of the walkways. New underground wire and conduit would also be installed.

An LED lamp fixture with a clear glass globe and etched external refractor for light distribution has been selected for use in the park. Other lamp options explored were high pressure sodium lamp and metal halide lamp, but based on the LED’s energy conservation, newer technology, lower maintenance and better color rendering LED became the most appealing solution.



To obtain the recommended illumination levels the fixtures/poles will need to be located 70’ apart. This will provide 0.9 footcandle average and 11.3:1 maximum to minimum ratio at grade with the fixture on a 12’-0” high pole.

LIGHTING – LOCKS/PIERS – MSB PARKING LOT AREA

Background

As shown in Photograph 27, the historical lighting appears to be a single fixture, acorn style, pendant hung from a shepherd’s hook mounted to a 25-ft square tapered pole. This was also the fixture historically located in the west and east MSB parking lots.



Photograph 27 taken by the Corps in 1946 immediately following the restoration construction of the parks.

Currently the poles in the Pier Area and the MSB parking lot are exposed aggregate, square tapered concrete, tan in color. The fixtures attached to the poles have been updated with an arm mounted

architectural rectangular fixture with four (4) metal halide lamps.

The current illumination level averages 3 footcandles at ground level, as provided by the COE at the initiation of the project investigation phase.

Recommendation

The current poles, fixtures, wire and conduit are to remain. New poles, fixtures, wire and conduit will be added for area with inadequate lighting or locations where existing lights are removed to construct new features. New base mounted removable poles will be installed at select locations along the pier that require removal of lights for routine lock maintenance. All new fixtures are to match the existing 400 watt metal halide lamps used throughout the pier area. New fixtures are to match those being considered for placement at the new lock.

One alternative considered included replication of the shepherd's hook bracket replacing the existing fixtures, but was dismissed based on the desire to match the look of the lighting throughout the lock/pier area and MSB parking area.

FOUNTAIN SPEAKERS

Background

There are four (4) existing speakers surrounding the fountain that are pole mounted 12'-0" high and directed towards the fountain. Installation date is unknown and these metal poles are not depicted in the photos from the 1940s. It is believed the speakers were intended to pipe music through the speakers to enhance the user's experience at the fountain.

Recommendation

Due to historical and maintenance considerations, the Master Plan proposes to remove the speakers from the fountain area.

OTHER SITE AMENITIES

Benches

The 15 existing concrete benches, placed on concrete pads, were installed in the 1940's.



Photograph 28 taken in 2009 of the fountain. The speaker is the existing box like structure on the right hand side of the photo situated between the spruces.



Photograph 29 taken by the Corps in 1946 immediately following the restoration construction of the parks.

Photograph 29 depicts the Lower Canal Park looking west along the main walkway in July of 1946 immediately following the Park's major renovation and the then newly installed concrete benches. These benches were primarily placed along the main walkway adjacent to the lock and at the fountain. They are still widely used today, and are in very good condition. They afford the user the opportunity to look in either direction, and they have become an integral part of the park. However, these benches are cold, low in numbers, and lack comfort because of the absence of a back rest.

Recommendation

With further viewing of this photograph it becomes apparent that the movable, green benches are placed throughout and used in conjunction with the concrete benches, similar to today as depicted below in Photograph 30. These benches are movable, have a back rest, and are more numerous throughout the park (approximately 20). This Plan proposes to keep the benches, but to move some of the green benches to the interior of the park to promote seating within that portion of the park. While moving these benches will take effort during mowing, the movement can be random, and require little effort for a wonderful amenity that completes the entire site. Should the benches need replacing similar models are readily available through many bench manufacturers with the ability to provide custom made benches if required.



Photograph 30 taken of the movable green benches found throughout the parks in June of 2009.

Waste Receptacles

The waste receptacles on site are very industrial as seen in Photograph 31. They are a brown Rubbermaid Product that is moveable and does little to enhance the experience. This Plan proposes four alternative trash receptacles that fit into the character of the park and its history.



Photograph 31 taken of the fountain in the Lower Canal Park looking north in June of 2009.

Recommendation

This Plan recommends the waste receptacle depicted in Photograph 32. This model is easy to maintain, durable and economically feasibility, and captures both the stone and green element found throughout the park with its benches and lighting.



Photograph 32 of the proposed waste receptacle..

Two other options were considered including a basket mounted to a pole as commonly seen in the 1940's and a metal receptacle that had a pattern common to the 1940's. These were eliminated as options due to their economical and maintenance feasibility.



Park Monuments Design Intent Statement

This portion of the Master Plan investigates using the park monuments as design features. The inventory and the historical context are discussed within the Potential Historical/Cultural Interpretation portion of the Plan. All historically contributing pieces will remain within the park and will be repaired if needed.

The current design deficiency that arises from the monuments relates to their quantity, quality and placement. Many of the monuments lose the opportunity to tell a story due to their fragmented disbursement throughout the site. The Plan recommends bringing several of the monuments together to create an enhanced impact, and create a place for learning and triangulation. The monuments that are recommended to stay remain in place work very well in their current location, and define a space, a walk, or begin to create an experience. The following list recommends alternatives for the removal or replacement of the monuments:



- A.** Propeller from the Tug Marquette: RETAIN IN PLACE, new interpretive sign to be added;
- B.** Limestone Survey Monument: RETAIN IN PLACE, new interpretive sign to be added;
- C.** Drill Core of Post Dam Sandstone: RETAIN IN PLACE, new interpretive sign to be added;
- D.** Ship's Kedge Anchor: RETAIN IN PLACE;
- E.** Concrete Columns along the fence at the locks: RETAIN IN PLACE;
- F.** Small Anchor: REMOVE FROM SITE;
- G.** Small Anchor: REMOVE FROM SITE;
- H.** Time Capsule: RELOCATE IF NECESSARY TO ALLOW FOR SIDEWALK EXPANSION AT THE VISITORS CENTER;
- I.** International Shipmasters' Association Commemorative Marker: RETAIN IN PLACE;
- J.** Weitzel Lock Stone: RETAIN IN PLACE, new interpretive sign to be added;
- K.** Independence Propeller: RETAIN IN PLACE, existing sign to be replaced with new interpretive sign;
- L.** Army Corps Monument Pylon: RETAIN IN PLACE;
- M.** MacArthur and Poe Locks Model: REMOVE;
- N.** Davis and Sabin Locks Model: REMOVE;
- O. & P.** Observatory Monuments at Main Entrance: RETAIN IN PLACE;
- Q.** Japanese Shinto Torii: REPAIR/RETAIN IN PLACE, existing sign to be replaced with new interpretive sign;
- R.** Box Kiosk: REMOVE FROM SITE;
- S.** Relief Sculpture: RETAIN IN PLACE;
- T.** Governor Chases S. Osborn Memorial and Iron Ore Boulder: RETAIN IN PLACE, new interpretive sign to be added;
- U.** Fountain: RETAIN IN PLACE, REPAIR AND REMOVE FENCE;
- V.** Steel King Capstan: RETAIN IN PLACE;
- W.** Large Anchor at eastern most point of the walkway in Lower Canal Park;
- X.** Concrete Columns: RETAIN IN PLACE;
- Y.** Obelisk: RELOCATE as noted in the Proposed Landscape Plan drawing, but final exact location will be finalized based on a structural engineer's review;
- Z.** Native American Burial Ground: RETAIN IN PLACE;
- AA.** Fort Brady Michigan Historic Site Monument: RETAIN IN PLACE;
- BB.** Fort Brady Box Kiosk: REMOVE and REPLACE with USACE Interpretive Sign containing information from existing sign and Box Kiosk;
- CC.** Fort Brady Interpretive Sign: REMOVE and REPLACE with USACE Interpretive Sign containing information from existing sign and Box Kiosk;
- DD.** Fort Chevalier Box Kiosk: RETAIN IN PLACE but replace with a USACE Interpretive Sign;
- EE.** Michigan Legal Milestone: RETAIN IN PLACE;
- FF.** Fort Chevalier DeRepetigny Boulder: RETAIN IN PLACE;
- GG.** Fort Brady Wall and Box Kiosk: REMOVE or REDEFINE AROUND THE SITE TO DEFINE BOUNDARY OF FORT, existing sign and box kiosk to be replaced with new interpretive sign;
- HH.** Small Anchor in Brady Park: RETAIN IN PLACE;
- II.** Boulder in Brady Park: RETAIN IN PLACE;



Drawing 3

Drawing 3 proposes a new circulation pattern around the Visitors Center including monument placement. As discussed within the proposed circulation portion of this document, there is more open space for visitors to move about and better flow of foot traffic around the Visitors Center to the observation decks while creating space for viewing of the monuments. When placed together, the monuments have a greater impact and begin to tell a story as the user walks from the entrance to the locks. The beds will be redesigned to incorporate more suitable shrubs and perennials.

9. Site Infrastructure

The Soo Locks Complex includes numerous historic buildings across the site. Appendix B, “Existing Site Information”, incorporates plans provided by the USACE highlighting the location of historical buildings and includes some historical data of each building. The report incorporates the following:

1. SOO Locks Facility Building Plan.
2. Visitors Guide to Park Area.
3. East, Middle and West Sections of the Park Restoration Project in 1945.
4. Building Profile Sheets, under a separate tab.
5. Observation Decks.
6. East and West Parking Lot Areas of the MSB Facility

Design recommendations follow for the lock observation decks, the east/west parking lot areas of the MSB Facility, and Band Stand Platform to be used for music concerts and other activities during the summer.

OBSERVATION DECKS

Background

The original construction date for the Center Observation Deck (Viewing Platform) was not able to be confirmed, but it is believed that it was constructed in 1946 or shortly thereafter. In 1965 additions were constructed on both sides of the existing center platform. The intent of the center observation deck was to allow the public to view the operation of the locks and the construction progress of the rebuilding of the Poe Lock in 1968.

The smaller observation decks to the east and west were built in 1946. The east and west observation decks were installed on top of existing structures (MacArthur Lock Guard House and MacArthur Southwest Operating Shelter). The Soo Area Office (SAO) staff reports the two observation decks have been a maintenance problem since their installation and have caused damage to the historic structures they were built atop.

In addition, inspection of the steel metal decks and the concrete surface above has shown considerable deterioration and damage. SAO staff has concerns about the safety of visitors who use the platforms.

Recommendation

It is the intent of this report to eliminate both east and west platforms while reconstructing the center platform in its current location. The new platform will be designed to allow for ADA accessibility to the lower level of the platform.



MSB FACILITY – EAST & WEST PARKING LOTS

Existing Conditions - East MSB Parking Lot (Loading & Storage Area)

Background

Larger delivery trucks have difficulty maneuvering to unload cargo at the east MSB parking lot. This has been compounded with the need to use a large portion of this lot for temporary storage. The pavement surface is in poor condition due to traffic, age and poor drainage. Access to the loading/unloading area at the pier is limited and it is difficult to maneuver into position. The entrance to the loading area is constrained by the configuration of the gate and traffic island previously placed to channel traffic.

GOALS FOR IMPROVEMENTS

Improve access to the loading area at the pier for larger trucks, and flatten grade to pier. Improve the traffic flow and increase the maneuvering area for cranes, or other unloading equipment, in the paved area. Maintain the storage capacity available on paved surface. Upgrade the paved surface condition. Look at potential improvements to unloading at the warehouse door in relation to elevation of floor to parking lot (this will be difficult to reconcile with flattening grades to the pier as desired without the use of a removable ramp).

REPAIR AND REPLACEMENT RECOMMENDATION

Proposed Option

1. Expand the entrance gate width and reconfigure to improve access to the loading area.
2. Remove the island in the entrance from Brady Park to improve access to the site.
3. Expand parking lot limits beyond existing fence on east side to allow larger trucks to pull in and out without backing up.
4. Installation of an additional gate as an exit for larger trucks.

5. Does not necessarily improve access to the pier loading area for the largest trucks (full size semis with trailers) accessing the site.
6. Delivery trucks will have reduced visibility while navigating around the storage area, possibly causing unsafe conditions.

Existing Conditions - West MSB Parking Lot (Employee Parking Area)

Although the number of parking spaces currently available is acceptable, concerns regarding traffic flow and the deteriorating condition of the parking lot are conditions warranting upgrades. Much of the parking lot surface is in a deteriorated condition with several areas of ponding water. Movement of vehicles in and out of the parking lot is less than desirable due to limited maneuverability. Current number of parking spaces is about 64 in the main and auxiliary parking lots.

GOALS FOR IMPROVEMENTS

Improve traffic flow with some increase in the available number of parking spaces. Correct drainage deficiencies that have contributed to the deteriorated condition of the pavement and potentially address storm water runoff quality issues. Make parking lot compliant with ADA requirements regarding the quantity and placement of handicap spaces.

REPAIR AND REPLACEMENT RECOMMENDATION

Proposed Option

1. Re-grade parking lot to improve drainage, remove curb and gutter in auxiliary parking lot to allow for sheet drainage.
2. Realign the parking areas to allow for two way traffic and 90 degree parking.
3. Removal of leaning tree in northern portion of main parking lot.
4. Maintain curvature in auxiliary parking lot to retain its historic look.
5. Relocate drainage structures to improve handling of storm water runoff.

BAND STAND PLATFORM

The Soo Area Office hosts musical events within the Lower Canal Park during the summer and currently uses a makeshift plywood platform and extension cables to set up a band stand and the necessary electrical connections for the band equipment.

It is the intent of this Master Plan to define an option and location for the installation of a band stand platform. The proposed option is to provide porous concrete pavers in a 10' x 20' area that may be used as a stable/permanent platform for the band stand while allowing the area to blend with surrounding grassy areas and without impacting the feel and character of the area. As depicted below, these porous pavers will allow for the growth of natural grasses while providing a stable and level surface to be used as a band stand.



BAND STAND PLATFORM POWER

Background

Currently, there is a temporary band stand platform that serves for the staging of outdoor concerts in the summer, which are very popular. The location of this temporary band stand platform is to the east of the curved wall in the Lower Canal Park. Power is provided through an extension cord from under the stairs below the easterly observation deck and connects to an extension cord hanging in the adjacent evergreen tree. Design options are to consider methods of providing power to the bandstand area in lieu of the current setup.

Recommendation

New underground conduits will be routed from under the stairs with two receptacles placed near the curved concrete wall, removing the need for extension cord hanging from the evergreen tree. Conduits will be underground and the receptacles will be rated for 20amps each.

10. Cost Evaluation

Preliminary anticipated construction costs associated with each option have been analyzed for this report and can be viewed in Appendix G, "Conceptual Cost".

11. Environmental and Energy Design Considerations

The intent of the design presented in the Master Plan is to incorporate options that are environmentally sensitive, energy efficient and operationally less complicated to maintain. Examples of the design incorporating environmentally sensitive and energy efficient design are listed below.

- Enhancing the biodiversity of the planting plan for the park area; thereby making the park vegetation more robust and less susceptible to disease.
- Emphasis placed on reusing existing features for the overall master plan design elements.
- The planned improvements do not increase the hardscape compared to existing conditions; thereby, not increasing storm water runoff.
- Design of the MSB parking lots addresses storm water runoff quality prior to discharge to the St. Marys River.
- Replacement of light fixtures anticipates the use of high efficient LED lamps throughout the park and pier areas, replacing less energy efficient incandescent lamps currently used.