



**US Army Corps  
of Engineers**®  
Detroit District

# Lake Superior Maritime Visitor Center Cell Phone Tour

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## **Welcome Message**

Welcome to the US Army Corps of Engineers Canal Park and Lake Superior Maritime Visitor Center cell phone audio tour. Canal Park is the place to be to watch Great Lakes freighters and colorful ocean vessels from all over the world arrive and depart the Duluth-Superior Harbor. You can also view three different lighthouses and watch in awe the raising of the aerial lift bridge. This audio tour is one tool you can use to learn more about the great history of our area. We are very interested in hearing your feedback about this tour and we encourage you to leave us a message about your experience with the tour. You can do this by entering \*0 (star zero) at any time during the tour. This is a free program but please be aware that your normal plan minutes will apply. Thank you and enjoy your visit to Canal Park!

## **Stop 1 Tug Bayfield**

Tugs are workhorses in the harbor. Tugs assist in maneuvering large bulk freighters, pushing and pulling barges, and breaking ice. The tug BAYFIELD did much of its work here in Duluth-Superior Harbor for the US Army Corps of Engineers. Its main job was pushing crane barges with dredging equipment mounted on deck, deck barges loaded with rock, or scows filled with dredged material. The BAYFIELD also acted as a

ferry for the dredge workers, by shuttling them to shore and back to the barge when needed.

The tug BAYFIELD was built in 1953 by Roamer Boat Company in Holland, Michigan. She measures 45 feet in length and 13 feet in width. The BAYFIELD is powered by a 170 horsepower diesel engine. It is a small tug, actually called a tender. Larger tugs would be used to tow dredging equipment from port to port and then the tender takes over.

The BAYFIELD was retired from active service in 1995 and placed on permanent display here in Canal Park in 1999. Visitors are asked not to climb on the tug.

You might notice looking at the BAYFIELD that it is flying a US flag, an Army Corps of Engineers flag which is red with a white castle, and also a white flag with a green cross. This white flag is a safety flag and it serves as a reminder to all that safety comes first.

Inside the Visitor Center you will find several scale models of different vessels used by the US Army Corps of Engineers during dredging and harbor maintenance. You will also find the huge compound steam engine from the Corps of Engineers' tug ESSAYONS which used to work with the dipper dredge COL. D.D. GAILLARD all over the Great Lakes and

even in the St. Lawrence Seaway. The GAILLARD was retired in 1982.

## **Stop 2 Duluth Ship Canal**

It is sometimes hard to imagine when standing on the Duluth Ship Canal that vessels have not always traveled through this waterway. The Duluth Ship Canal was excavated in 1871 to allow Duluth to establish a harbor in the protected waters of the St. Louis River. The old port was at the corner of the lake not far from here at the terminus of the Lake Superior & Mississippi Railroad. The original canal was built by the City of Duluth and had a width of 250 feet and was 12 feet deep. The US Army Corps of Engineers took over maintenance of the harbor and canal in 1874.

Today's concrete piers resulted from a major rehabilitation project in the mid-1980's. The piers are 1,600 feet long, the canal is 300 feet wide, and at least 29 feet deep. Yearly surveys ensure that the depths of the shipping lanes in the canal and harbor are maintained at 29 feet.

From Duluth-Superior Harbor, vessels can make their way anywhere in the world by using the St. Lawrence Seaway to access the Atlantic Ocean. It will take them about eight days to travel 2,342 miles, and during which they will pass through 16 locks to make it to or from the Atlantic Ocean. Duluth-Superior Harbor is the most-inland sea port in the world, right in the heartland of America. This harbor is also the biggest and busiest on the Great Lakes, handling iron ore, coal, grain, limestone, cement, salt, and a host of other bulk and general cargoes.

## **Stop 3 Aerial Bridges**

When the Duluth Ship Canal was cut through Minnesota Point in 1871, it created an island and an access problem for anyone living on it. Eventually an Aerial Transfer Bridge was built in 1905 and operated by the City of Duluth.

The Aerial Transfer Bridge had a gondola car that carried automobiles, horses and wagons, and people across the ship canal for just a nickel.

The Aerial Transfer Bridge was in operation for nearly 25 years. As Duluth's population increased, it could not keep up with demands. Many new bridge designs were brought forward, and the Aerial Lift Bridge was selected. This design resulted in a new bridge which retained many of the structural features of the old bridge.

During construction, actually remodeling of the transfer bridge, the head span was raised to accommodate the vertical lift span when in the up position to still provide 135 feet of clearance. When the lift span is down, there is only 15 feet of clearance. New, taller towers were built inside the old towers. The 900 ton vertical lift span and concrete counterweights are connected by steel cables which have their own counterweights in the form of large chains. A bridge operator's control house was built in the center of the lift span above the deck.

Today, Duluth's Aerial Lift Bridge lifts about 4,500 times per year. There are 6 bridge operators that keep the bridge ready 24 hours a day during the shipping season which runs from March 25<sup>th</sup> to January 15<sup>th</sup>.

Artifacts from the old Aerial Bridges are on display in the Visitor Center's lower level. A

free fact sheet on Duluth's Aerial Bridges is available at the Information Desk or as a PDF download at [www.LSMMA.com](http://www.LSMMA.com).

## **Stop 4 Lighthouses**

Lighthouses have served as sentinels on the Great Lakes as well as the oceans for centuries. In the early days of navigation, lighthouses served as important beacons during darkness and storms, and as daymarks to pinpoint your location. Here in Canal Park you can view three of the five local lighthouses.

The Inner Range Light, located across the Duluth Ship Canal near the Aerial Lift Bridge, was built in 1901. The Inner Range Light has a modern acrylic lens. Its original Fifth Order Fresnel lens is on display inside the Lake Superior Maritime Visitor Center's lower level gallery.

The Duluth Outer Range Light stands at the end of the south pier across the ship canal and also houses the fog signal. Originally established in 1874, it was reconstructed in 1901 as a brick structure along with the new ship canal piers. The current optic is a fixed green Fourth Order Fresnel lens.

The North Pier Light was established in 1910 to mark the end of the north pier and width of the canal entry. It has a Fifth Order Fresnel lens and flashes red two seconds on, then two seconds off, only during darkness.

There are two other lighthouses in the area. The Superior Entry Lighthouse, built in 1912 at the end of the outer breakwater on Wisconsin Point in Superior, and the Minnesota Point Lighthouse, which was built in 1858 to serve the Superior or natural entry to the harbor. Its dwelling was dismantled

long ago. About two-thirds of the old conical brick tower remains. A concrete US Light House Depot building still stands just a short distance away. Both are accessible by hiking trail at the end of the road on Minnesota Point. Watch out for poison ivy with its pretty and shiny "leaves of three."

Also, be sure to join us for Twin Ports Lighthouse Days around August 7<sup>th</sup> each year for special programs and activities.

## **Stop 5 Anchor Display**

To survive on the Great Lakes, equipment needs to be strong and built to last. Just by looking at the array of large artifacts displayed along the lake shore in front of the Lake Superior Maritime Visitor Center, you know that each of them was built to survive what Lake Superior and the other Great Lakes had to offer. When you touch one of the artifacts, you can almost feel the blood, sweat, and tears these sailors invested each day to bring cargos to and from Duluth-Superior Harbor.

These five artifacts are examples of equipment used on vessels from wooden schooners to steel freighters. The wooden stock anchor was commonly used on vessels up to the 1890s. This anchor was replaced by the Trotman Folding Stock anchor. The Trotman anchor was used on vessels from the 1870s to 1910s, when it was replaced by the Modern Ship Anchor, or Navy-style stockless anchor. This anchor style is used on all modern vessels.

The last anchor in this group is the McDougall Patent Anchor. This triangular anchor was designed by Captain Alexander McDougall for the whaleback vessels he also designed. This particular anchor was

recovered from the wreck of the THOMAS WILSON, which sunk in collision off the Duluth Ship Canal in 1902. The WILSON's other anchor is the folding stock anchor also displayed here. There is an exhibit on this shipwreck in the Visitor Center.

Another artifact found here is the capstan which is used on ships to handle the anchor chain or heavy tackle. The capstan was operated manually by inserting long poles in the openings around the rim and sailors pushing hard to rotate the main body which had line or rope wrapped around it. Modern capstans are similar although operated by electrical or hydraulic power. This capstan was recovered from the sunken schooner SAMUEL P. ELY, lost at Two Harbors, Minnesota in 1896.