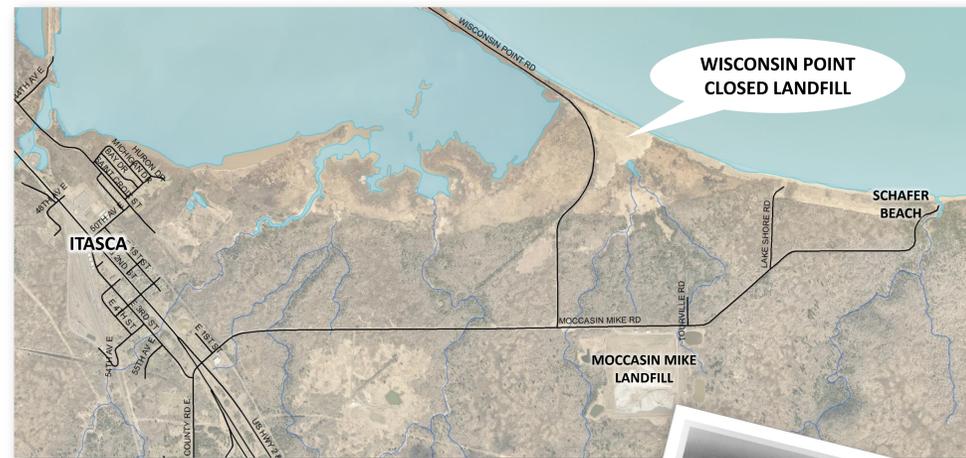


How does this benefit Wisconsin Point? <<

Improve Cap at Old Landfill

Material dredged from Howards Bay will be placed over the cap on the closed landfill on Wisconsin Point. This will improve the existing cap, which in turn protects the surrounding environment.



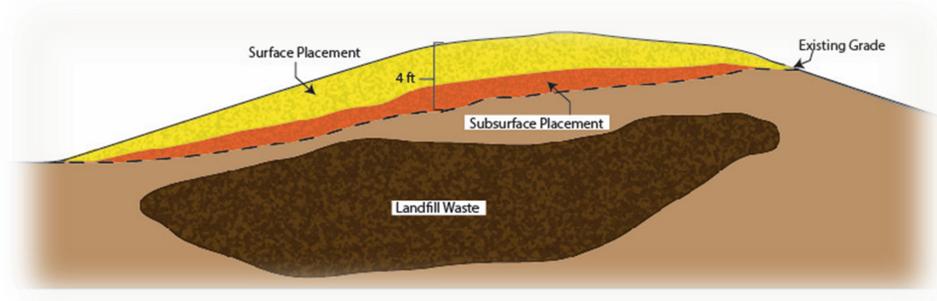
Benefits include:

- Eliminate thin spots and depressions caused by decades of waste settling
- Increased physical buffer between surface and waste
- Increased cap thickness means less chance of waste being exposed (which has occurred here before)
- Better slopes and drainage mean less water soaking into the landfill, reducing the chance of contaminants leaching out into surrounding waters.
- Improving the cap now will avoid costly rehabilitation in the future. Problem areas on the cap had to be repaired in 2012 which cost the City approx. \$60,000.
- Preserve space in solid waste landfills for garbage rather than dredge material



TOP PHOTO
Wisconsin Point landfill, 1976.
Great Lakes Coastal Oblique Viewer
<http://foodatlas.org/wcmap/obliqueviewer/>

BOTTOM PHOTO
Wisconsin Point landfill, 2009.
<https://www.bing.com/maps>



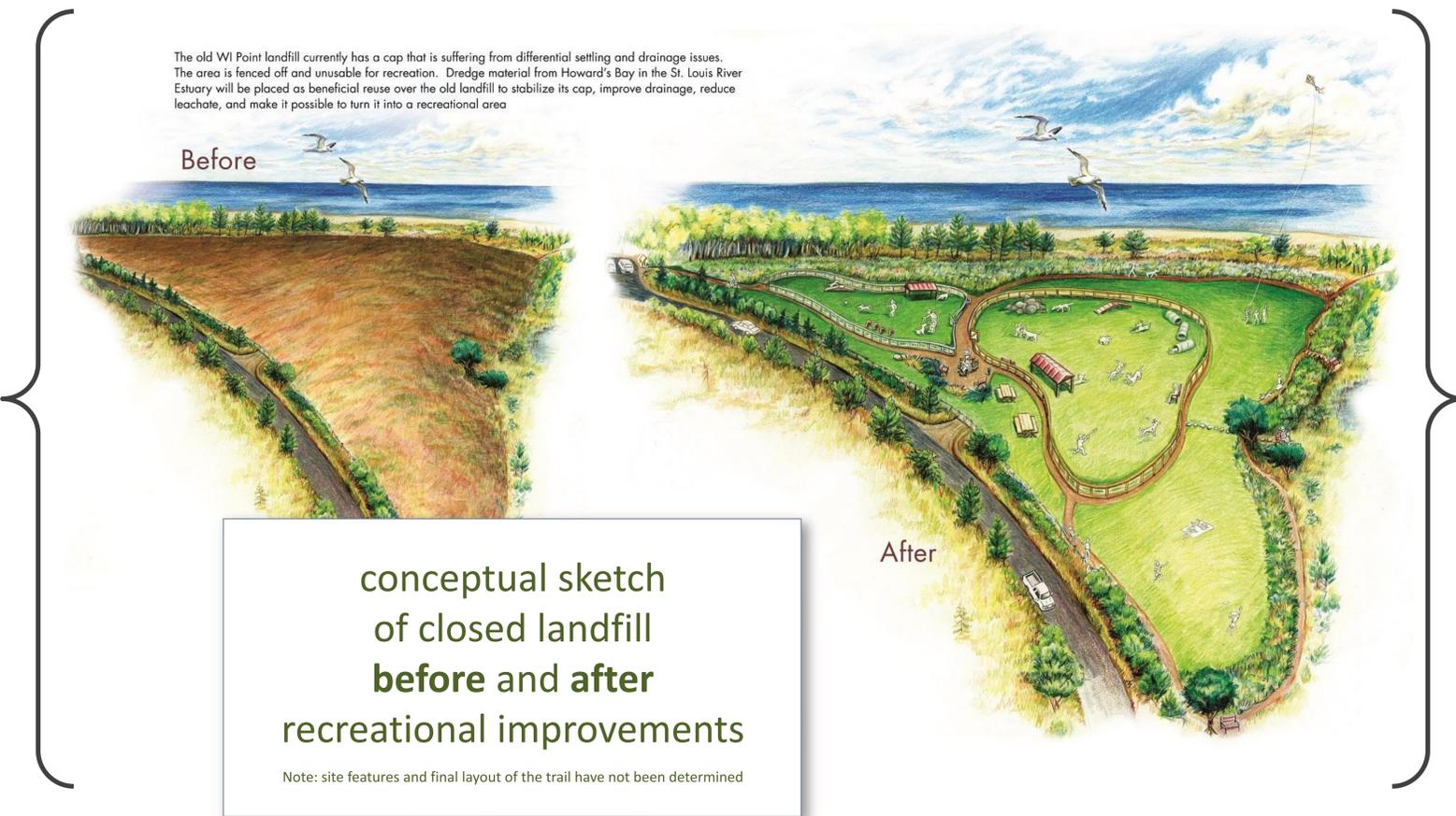
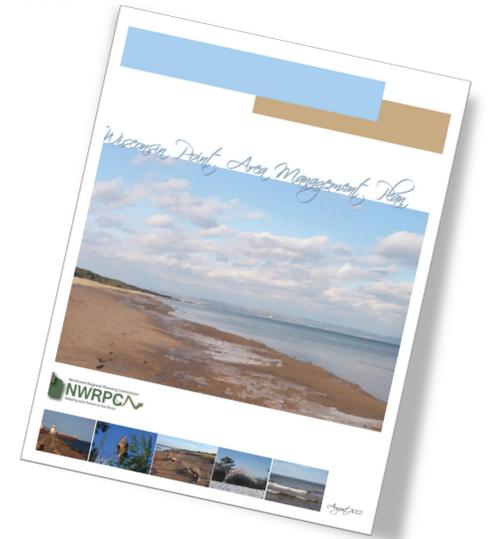
ABOVE
Cross-section of Wisconsin Point landfill showing existing surface contours (dotted line) and proposed contours (top line) after placement of the dredge material. The orange layer represents dredge material from Howards Bay. The yellow layer is a 2-foot surface layer made up of material dredged from the shipping channel in the harbor, along with clean topsoil at the surface. The yellow layer must meet stricter standards than the subsurface layer below.
Arcadis, 2016.

New Recreational Area

Upon completion of the dredge project, the closed landfill will be converted into a new recreational area as proposed in the Wisconsin Point Area Management Plan. It will feature native pollinator-friendly plants, mowed walking paths, and benches. The US EPA, Wisconsin DNR and Fraser Shipyard will fund these recreational improvements. Due to the buried waste and limitations related to the dredge material, some uses would be restricted.

Recreational development suggested in the Wisconsin Point Area Management Plan:

- ✓ Increased footpath access
- ✓ Development of unpaved paths or trails
- ✓ Development of pet-friendly activities such as a fenced, off-lead play area
- ✓ Improving public parking and access to the site
- ✓ Creation of an access linkage between parking lot 1 and the closed landfill site
- ✓ Development of signage relative to access and use limitations



conceptual sketch of closed landfill before and after recreational improvements

Note: site features and final layout of the trail have not been determined



How does this benefit Superior?



Cleanup Riverfront

Howards Bay is Wisconsin's **largest** contaminated site in the St. Louis River Area of Concern¹. Contamination mostly came from historic practices in the harbor, but also storm water runoff, deposition from rain, accidental spills and other sources.

Support Local Business

Fraser Shipyards is a local family-owned company that has been **in operation since 1890**. The navigation channel approaching Fraser cannot be adequately dredged due to contamination in the sediment, which limits operations at the shipyards. This project will remove contaminated sediment and restore the navigation channel to its full depth.

Support Local Workers

Fraser Shipyards has **150-350 employees** depending on the season. Improving access to the shipyards by removing contaminated sediment and dredging the navigation channel will let them continue to grow and expand their workforce.

New Recreational Area

When the project is completed, the closed landfill on **Wisconsin Point** will become a low-impact recreation area. The area will be designed with community input. Improvements will be funded by the EPA, Wisconsin DNR and Fraser Shipyards.

Improve Cap at Closed Landfill

Decades of settling at the old landfill have created shallow spots and depressions on the surface. Material from Howards Bay will create smooth slopes and a thicker cover. This will reduce liquid getting into the landfill, create a thicker barrier over the waste, and save the City future costs on **cap rehabilitation**.

Estimated cost to clean up Howards Bay: **\$18,000,000.**²

Use of the City's closed landfill saves the project approx. \$1.4 million.

A value of **over \$50,000**³ and helps accomplish goals outlined in the Wisc Point Mgmt Plan.

If needed in the future, comparable repairs to the landfill cap could cost Superior taxpayers **\$1,200,000.**⁴



¹Areas of Concern are jointly designated by the U.S. and Canada. Much like Superfund sites, they are places where human activities have caused significant environmental damage.

²Based on adjusted cost estimate from 65% Design Document Report by Arcadis (November 2016 draft), adjusted based on .

³Based on rough estimates for fencing, shelter, and gravel paths. A dog park in Ashland, WI cost \$12,000 in 2015, but this site was roughly 1 acre (compared to approximately 10 acres at Wisc Point) and did not include a shelter, benches or gravel trails as shown in the conceptual plan. Gravel trails at a Rice Lake dog park (comparable in size to Wisc Point) cost over \$5,000.

⁴Based on 2013 contractor estimate of \$14 per cubic yard to haul and place material from Moccasin Mike Landfill at Wisconsin Point closed landfill. We assume 80,000-90,000 cubic yards from Howards Bay. No material cost was included in estimate.



Road Repair When the Job is Done

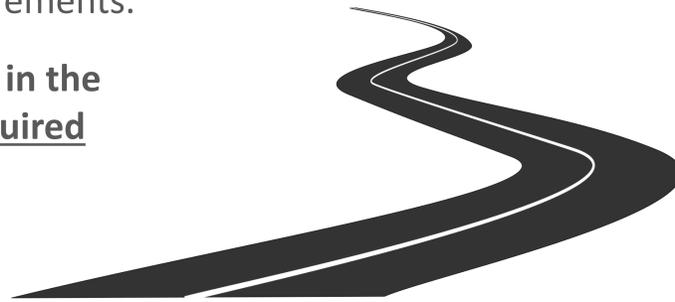


80,000-90,000 cubic yards of dredge material will be taken out of Howards Bay, or roughly 4,900 dump truck loads. Up to 90 loads will be hauled each day of operation.

How will this affect our roads? Will the roads be repaired?

Impacts to haul roads are likely. In order to ensure the City is fully compensated for damage, road conditions will be evaluated before and after the project. Standard DOT assessment methods will be used to document existing damage (cracks, ruts, potholes, etc.) including video, photographs, and measurements.

The Public Works Department will participate in the assessments, and their acceptance will be required before contractors receive final payment.



Wisconsin Point Road

STATUS: repaved in 2015, good condition

REPAIR: all damage will be repaired by contractor or third party upon completion of the project. Repairs must be accepted by the City prior to final payment.

Moccasin Mike Road

STATUS: very poor condition; frequent heavy truck traffic due to landfill. Repairing to pre-construction conditions would still leave an inadequate road.

REPAIR: The road will be repaved following project completion. Project partners will pay for necessary materials (up to \$75,000 value), and City crews will provide labor as an in-kind contribution.



Moccasin Mike Road is the only road leading to the City's landfill, and Wisconsin Point. This road sees intense use by heavy trucks hauling garbage Monday-Saturday. All this traffic has taken a toll, as shown in the photos. Moccasin Mike Road will be re-paved following project completion. Plans to fully reconstruct the road are tentatively set for 2025 after the landfill closes.