

ENVIRONMENTAL ASSESSMENT WORKSHEET This

Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at: <http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm>.

The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. Project title: Slip 2 Capping and Shallowing

2. Proposer

Bryan Murdock on behalf of Pier B Holdings
AMI Consulting Engineers P A
91 Main Street
Superior, WI 54880
Phone 715-718-2193
Fax877-761-7058
bryan.murdock@amiengineers.com

3. RGU

Charles Froseth:
Land Use Supervisor:
411 West First Street
Duluth, MN 55802
Phone:218-730-5325
Fax:218-730-3559
cfroseth@DuluthMN.gov:

4. Reason for EAW Preparation: (check one)

Required:

EIS Scoping
 Mandatory EAW

Discretionary:

Citizen petition
RGU discretion
Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

Subpart 27, Wetlands and Public Waters. Item A, for projects that will change or diminish the course, current, or cross-section of one acre or more of any public water or public waters wetland except for those to be drained without a permit pursuant to Minnesota Statutes, chapter 103G, the local government unit shall be the RGU.

5. Project Location:

County: St. Louis County

City/Township: Duluth

PLS Location (1/4, 1/4, Section, Township, Range): NE 1/4, NW 1/4, S34, T50N, R14W

Watershed (81 major watershed scale): 2, Lake Superior - South

GPS Coordinates: center of slip, 46.777458, -92.103736

Tax Parcel Number: Bordering parcel IDs; 010-0200-01220; 010-0200-01190; 010-0200-01100; 010-0200-01040; 010-0200-01030; 010-0200-01020; 010-0200-00970; 010-0200-00820, 010-0200-00760; 010-0200-00715; 010-0200-00705

At a minimum attach each of the following to the EAW:

- County map showing the general location of the project; (See Exhibit 1)

- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and (See Exhibit 2)
- Site and Surrounding Features Map (Exhibit 3)
- Zoning Map (Exhibit 4)
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan. (See Exhibit 5 and 6)

6. Project Description:

- a. Provide the brief project summary to be published in the EQB Monitor, (approximately 50 words).

The proposed project involves capping legacy contaminants with clean dredged material and the subsequently shallowing of Slip 2 from its current average depth of 20 feet to a new depth range of 5 to 10 feet. This action will provide a protective cap of clean dredged material over contaminated sediments, while also providing stability to the remaining dock walls associated with Pier B and the City of Duluth Bayfront Park.

- b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.
- c. Project magnitude:

Slip 2 adjacent to Pier B is located in Duluth, Minnesota along the St. Louis Bay and is considered part of the Duluth Harbor. Prior sediment assessments within Slip 2 have identified contaminated sediments which require remediation or capping. Capping will isolate the contaminants and prevent future contact with aquatic organisms and will prevent migration into Lake Superior. Concurrently, stabilization of Pier B and Bayfront Park by shallowing Slip 2 will allow for prolonged use of these areas. The average depth throughout Slip 2 following this shallowing process will be 5-10 feet deep.

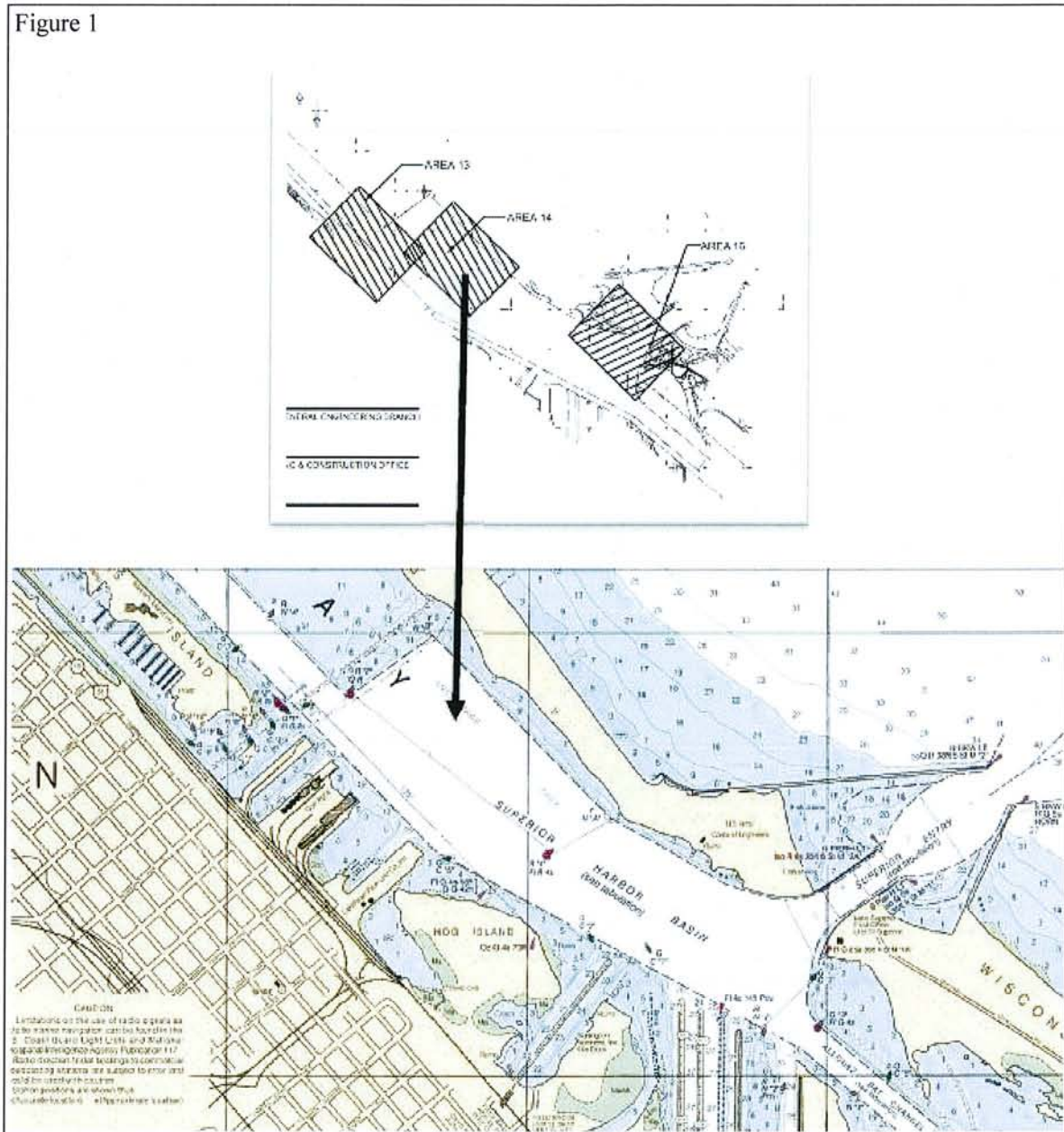
The Road Map to Delisting for the St. Louis River AOC identifies Slip 2 as a sediment assessment area and denotes the site as part of the Beneficial Use Impairment (BUI) #5, Restrictions on Dredging. Slip 2 is also designated as Project #5-5, where the remediation of sediments is needed. The Minnesota Pollution Control Agency (MPCA) recently coordinated additional assessment within Slip 2. In July of 2014, 18 sediment cores were collected, processed, and analyzed for select contaminants. The results of analysis will not be available until mid- to late September. The results of this assessment will act as a record of the conditions at the bottom of the slip prior to capping and shallowing. A Voluntary Remedial Action Plan (VRAP) that details the capping and shallowing process will soon be submitted to the MPCA. Prior to capping and shallowing, Pier B Holdings will be required to obtain the MPCA's written approval of the VRAP.

Beneficially re-used clean dredged material will be used to cap existing contaminants in-place. This project will help achieve important restoration goals for the St. Louis River Area of Concern (AOC). Beneficially re-used dredged material will also be used to structurally stabilize Pier B and Bayfront Park, and establish cleaner and more valuable shallow water habitat within Slip 2.

The clean dredged material will be provided by the Army Corps of Engineers (USACE) as part of maintenance dredging of navigation channels in the area near Superior Entry. Figure 1.0 below identifies the source area of the clean dredge materials (Area 14). The material to be dredged has been

analyzed by the USACE and it is expected to be 68-96% sand and meet the criteria for in-water placement. If the material is not utilized for beneficial re-use in Slip 2, USACE would likely have to place the material in, and consume much of the capacity of, the Erie Pier Dredged Material Handling Facility.

Figure 1



The clean dredged material will be used to construct the cap using specialized low impact procedures that have been developed to minimize disturbance to in-place contaminants. A submerged rock berm will also be constructed across Slip 2 to assure contaminated sediments remain contained in Slip 2. Two sheet pile boxes will be installed at the end of the slip. The area between the sheet pile boxes will be armored with rock or to prevent erosion and contain the clean dredge material used to cap and shallow the slip.

Throughout this capping and shallowing project, physical manipulation of the environment will occur only as a result of dredged material placement and shallowing within Slip 2; no waste is expected as

result of these actions. Existing equipment or industrial processes will not be modified, demolished, removed or remodeled from this proposed project. The duration of shallowing Slip 2 is expected to take approximately two months of active filling time. The Road Map document estimates the cost to remediate the sediments within Slip #2 at \$4,000,000. The capping and shallowing of the slip by a private developer in 2014 will not only achieve a goal of the BUI#5, it will be accomplished with the inclusion of private financing. Regulatory approvals will need to be obtained by October 15, 2014 in order to take advantage of the available dredge material. The capping and shallowing will begin in mid-October and be completed by early December 2014.

Total Project Acreage	2.2
Linear project length	Approx. 850 feet
Number and type of residential units	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	N/A
Structure height(s)	N/A

- d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of the project is to cap and isolate the contaminated sediments within Slip 2. Capping will prevent aquatic organisms and wildlife from coming into contact with the contaminated sediments and prevent the migration of these contaminated sediments into Lake Superior. The project is also needed to stabilize and preserve the aging piers for future maritime use and public recreation.

- e. Are future stages of this development, including development on any other property, planned or likely to happen? Yes No
If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

This EAW was triggered because more than an acre of public water would experience contour changes. Once capping and shallowing of Slip 2 is complete, no further contour changes will be made to Slip 2 as part of this project. The City of Duluth does intend on upgrading the storm sewer discharge feature that currently exists at the north end of the slip. A pedestrian bridge, supported by sheet pile boxes will be installed at the lakeside end of the slip, and a floating, seasonal marina will be installed during the summer months along the west side of the slip.

- f. Is this project a subsequent stage of an earlier project? Yes No
If yes, briefly describe the past development, timeline and any past environmental review.

7. **Cover types:** Estimate the acreage of the site with each of the following cover types before and after development:

	Before	After		Before	After
Wetlands	0	0	Lawn/landscaping	0	0
Deep water/streams	2.2	2.2	Impervious surface	0	0
Wooded/forest	0	0	Stormwater Pond	0	0
Brush/Grassland	0	0	Other (describe)	0	0
Cropland	0	0			
			TOTAL	2.2	2.2

- 8. Permits and approvals required:** List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Unit of Government	Type of Application	Status
MN / DNR	Public waters work permit	pending EAW & MPCA approval
MPCA	VIC program approval	pending EAW & VIC application
USACE	nationwide permit approval	14 May application

The capping and shallowing costs are TIF eligible. It is unclear if the costs associated with the capping and shallowing will become part of the TIF subsidy, as other projects in the TIF district may utilize the TIF funds. Other financing sources are not designated for funding the capping and shallowing of the slip.

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land use:

a. Describe:

- i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.*

Currently, the project site is used as a slip. Areas adjacent to Slip 2 are light maritime industry, and park and recreation. To the east of Slip 2 is Bayfront Park, used as an outdoor venue for public use. To the west, Pier B is currently in transitional use. Surrounding land use incorporates industry and maritime facilities. A paved off-road multi-use path, also known as the Lakewalk, runs north along Slip 2, adjacent to Bayfront Park. No prime or unique farmlands are found in the area. A map of current land use along the Duluth Harbor area can be found in Exhibit 4.

- ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.*

Future development within Slip 2 includes the placement of a 300-foot long floating marina. The floating docks will be removed during off-season. The north portion of Slip 2 will also include a new boat ramp, proposed at 12 feet wide with a removable floating dock. The square footage of the proposed marina area is well under the mandatory EAW trigger of 20,000 square feet. To the west of Slip 2, a hotel and convention center is planned for early 2016. Development plans also include a bridge with sheet pile wave breaks on the southern opening of Slip 2. A proposed trail will extend the Lakewalk along the western edge of Slip 2, to be built on the existing dock wall structure. Targeted use of the marina will include motorized and non-motorized watercraft (boats, kayaks and canoes).

- iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.*

Critical areas, agricultural preserves, and wild and scenic rivers are not located within or near

Slip 2. Per FEMA flood mapping, land surrounding Slip 2 does not fall within 100 or 500-year flood zones.

The proposed capping and shallowing in Slip 2 is in the floodplain, but will not adversely affect the floodplain. The proposed work is in the Minnesota Coastal Zone, but will not adversely affect the coastal zone resources, and is therefore consistent with the Minnesota Coastal Program.

The project is also in line with the goals of the City of Duluth Bayfront District Small Area Plan, which identifies projects in this area must:

- contribute to the quality of life for Duluth and the Region;
- improve public access to the downtown waterfront;
- provide opportunities for economic development, both employment and tax base; and
- result in an improvement in the environmental quality of the site and the St. Louis River Bay.

- b. *Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.*

The plans to shallow Slip 2 are compatible with nearby land uses, zoning and plans. The surrounding area is predominately maritime industry; maintaining this area as a slip complies with adjacent land uses.

- c. *Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.*

The proposed project will provide the users of the Bayfront area and Lakewalk with access to a marina and the water's edge which is compatible with surrounding land uses.

10. Geology, soils and topography/land forms:

- a. *Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.*

Numerous sediment investigations and geotechnical investigations have been performed in the area of the site. Susceptible geologic features do not underlie the project location along Slip 2. Project designs or mitigation measures to address susceptible geology are therefore not needed.

- b. *Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.*

Based upon information from geologic survey reports and previous soil explorations in the area, nearby geology generally consists of glacio-lacustrine soils overlying a thin mantle of glacial till and bedrock. The glacio-lacustrine soils (Glacial Lake Duluth) consist mainly of fat clay interbedded with thin layers of silt and fine sand from higher glacial stages of Lake Superior. More specifically, geology in the immediate vicinity of the site generally consists of alluvial deposits associated with the St. Louis River. These alluvial

deposits are composed of fine sand and silt. A geotechnical boring advanced to 81 feet below ground surface indicates soil stratigraphy starting at the bottom of the slip includes approximately 40 feet of fine to medium grained brown, medium to dense silty sand, followed by 15 feet of reddish brown fat clay to boring termination.

The clean dredged material will be provided by the Army Corps of Engineers (USACE) as part of maintenance dredging of navigation channels in the area near Superior Entry. The material to be dredged has been analyzed by the USACE and it is expected to be 68-96% sand and meet the criteria for in-water placement.

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.

11. Water resources:

a. *Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.*

i. *Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.*

Slip 2 is located within Duluth Harbor, and is classified as a public waters open channel. Slip 2 is not considered an area of outstanding resource or wildlife value. The Slip receives storm water from a City of Duluth submerged discharge located at the north end of the slip. The project area falls within the Saint Louis River AOC. Water quality impairments in this area of the AOC include: pesticides (DDT, Dieldrin, and Toxaphene), dioxins, fecal coliform, as well as mercury and PCBs in fish tissues, sediments and water column. Beneficial use impairments in the AOC include the following: restrictions on fish and wildlife consumption; excessive loadings of sediments and nutrients; degradation of fish and wildlife populations; beach closings; fish tumors or other deformities; degradation of aesthetics; degradation of benthos; restriction of dredging activities; and, loss of fish and wildlife habitat. Neighboring Lake Superior is labeled 16-1 in the DNR Public Waters Inventory.

ii. *Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.*

The project area pertains specifically to a surface water body and the physical changes made during capping and shallowing are not anticipated to affect groundwater.

b. *Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.*

i. *Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site*

No wastewater will be produced or treated at Slip 2.

- a) *If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.*

Not applicable.

- b) *If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.*

Not applicable.

- c) *If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.*

Not applicable.

- ii. *Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.*

Slip 2 currently receives stormwater from a City of Duluth discharge location at the north end of the slip. Storm water will continue to be discharged to the slip after capping and shallowing. The capping and shallowing project will create a physical separation of contaminated sediments from the discharging stormwater and improve the overall water quality of Lake Superior and Duluth Harbor.

- iii. *Water appropriation – Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.*

Not applicable for this project.

iv. *Surface Waters*

- a) *Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.*

Slip 2 is not a wetland, nor does it contain wetland features.

- b) *Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.*

Adverse effects associated with the proposed dredged material placement in Slip 2 will be minor, including, temporary turbid waters during dredged material placement activities; potential minor erosion after placement; elimination of existing, limited benthos (bottom dwelling invertebrates) in the immediate placement sites due to smothering; and, displacement of fish during placement activities. Condition of the benthos and fish habitat will be greatly improved by the project. No significant adverse secondary effects are expected, nor are any significant cumulative or long-term adverse environmental impacts expected to result from the dredged material placement at Slip 2.

12. Contamination/Hazardous Materials/Wastes:

- a. *Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.*

As mentioned previously, sediments present in Slip 2 have been identified as contaminated. Prior sediment assessments in the slip have identified that approximately 3 feet of soft mud and sediment overlay dense silty sands. Contaminants vary based on the location and vertical depth, however, polyaromatic hydrocarbons (PAHs), metals and other chemicals are present in the shallow sediments at the bottom of the slip.

- b. *Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.*

Solid wastes are not anticipated to be generated during the capping and shallowing project.

- c. *Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.*

The use or storage of hazardous material will be limited to the fuel and lubricants located on the barges that are placing the clean dredge materials. Fuel and lubricant storage on these vessels will be in compliance with state and federal regulations.

- d. *Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.*

Hazardous wastes will not be generated as part of this project.

13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

- a. *Describe fish and wildlife resources as well as habitats and vegetation on or near the site.*

Slip 2 is included in the Saint Louis River Area of Concern (AOC). Shallow areas of the Saint Louis Estuary are composed predominately of wetlands. Common vegetation found in these wetlands includes Canadian Waterweed, Water Celery and filamentous algae. These shallow wetland areas provide habitat for benthos, feeding grounds for foraging fish, and nesting habitat for waterfowl and other birds. Deeper areas of the Estuary, including the area encompassed by Slip 2, provide refuge for fish species including, but not limited to, walleye, muskellunge and lake sturgeon.

Current water depth in Slip 2 (averaging between 18-20 feet), does not support emergent or submerged aquatic vegetation. The projected depth of 5-10 feet after capping and shallowing will provide for some minor amounts of vegetation in the more shallow and less turbulent areas within the slip. Plankton and filamentous algae, which do not require substrate to take root and proliferate, can be found during periods of open water (when the surface water is not frozen) in Slip 2.

Use of Slip 2 by wildlife is largely limited to waterfowl seeking refuge from wind and waves in the greater Duluth Harbor area. Other birds likely to rely on the Estuary for foraging, breeding and refuge include Piping Plover, Common Tern, Great Blue Heron and Bald Eagle. It is not expected that these birds currently utilize the area encompassed by Slip 2, nor are these species likely to utilize Slip 2 after sediments have been capped and the slip shallowed.

- b. *Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-) and/or correspondence number (ERDB) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.*

To date, a request has been made to the MNDNR Natural Heritage Information System to inquire about the presence of endangered, threatened, or special concern species within close proximity to the project site. Once this report becomes available, it will provide additional comments in addition to those included

here. Otherwise, previous reports indicate the common tern, peregrine falcon and lake sturgeon have been documented within and near Duluth Harbor and the project site.

The common tern relies on isolated and sparsely vegetated islands for breeding and nesting. Dredge spoil areas, and gravelly beaches can also be used for nesting. These nesting environments need to have a sustained, nearby food source, isolation from predators, and stable water levels with little level fluctuation.

In urban environments, the peregrine falcon will use artificial structures, such as bridges and buildings, for nesting. These predators rely on open, non-forested areas for hunting.

Lake sturgeon are usually found in large, clear rivers and lakes with gravelly or rubble bottoms. They are benthic organisms, feeding along the bottom of rivers and shallow areas for small, benthic organisms. Lake sturgeon are commonly associated with deep water areas devoid of aquatic vegetation. When found in shallow areas, sturgeon are likely foraging for snails, crayfish, small fish, insect larvae, and other invertebrates. Sturgeon will also over-winter in deep-water areas. The capping of the legacy contaminants and the shallowing of the slip appear to be an overall environmental gain for wildlife that use the slip.

Additional habitat or species work has not been conducted within the project site at Slip 2.

- c. *Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.*

Based on visual evaluation of orthoimagery of the project site, it does not appear the common tern or peregrine falcon will be impacted by the project. This habitat is currently not suitable for foraging, refuge or nesting of common tern, and it is not expected they are currently utilizing or inhabiting the project site. Thus, it is not expected the common tern will utilize Slip 2 during the capping and shallowing of Slip 2, nor after the project has been completed.

As the peregrine falcon is a bird of prey, it is possible a specimen may travel through the airspace above the project site. Due to the superior line-of-sight of these birds, it is not expected the machinery used during the capping and filling process will pose a hazard to these birds.

Due to the current depth of Slip 2, it is possible lake sturgeon are present and utilize Slip 2 and the surrounding aquatic area for foraging and refuge. Due to the contaminated sediments found in Slip 2, it is unlikely this area currently provides suitable production of food for the sturgeon. Once these sediments are capped and buried, benthic food production is projected to increase, likely bringing more sturgeon and other fish to the area than are currently present.

It is not expected the capping and filling Slip 2 sediments will contribute to the spread of invasive species. To protect against the spread of aquatic invasive species, BMPs will be followed to ensure all equipment transported on roads or through Slip 2 and the Duluth Harbor will be free of such species. Such BMPs will include draining all water from equipment, removing any visible aquatic remnants, drying of equipment prior to use, and inspection of equipment for invasive species prior to placement into any waters.

- d. *Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.*

A biologist will perform a visual survey of the above-surface site area prior to the capping and shallowing operations to ensure that avian and terrestrial wildlife are not utilizing the project area for foraging,

nesting and/or refuge.

14. Historic properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

A literature search has been conducted to identify cultural resources that would potentially be affected by the proposed project. The Minnesota State Historic Preservation Office's inventory records for History/Architecture and Archaeological Site Locations have been examined, as well as a variety of primary and secondary documents including "A National Register Evaluation of Underwater and Water's-edge Cultural Resources, Duluth Harbor, Minnesota" (Jeanne A. Ward and John P. McCarthy, IMA Consulting, 1996); "Duluth Harbor Survey, Final Report" (Debra Kelly, prepared for the City of Duluth; 1993); "Duluth-Superior Harbor Cultural Resources Study" (David A. Walker and Stephen P. Hall, Archeology Department, Minnesota Historical Society, prepared for the Department of the Army, Saint Paul District, Corps of Engineers, 1976); The Port of Duluth-Superior, Minn. and Wis. (Board of Engineers for Rivers and Harbors, U.S. War Department [Washington, D.C.: U.S. Government Printing Office, 1940]); and a series of insurance maps prepared by the Sanborn Map Company between 1908 and 1955.

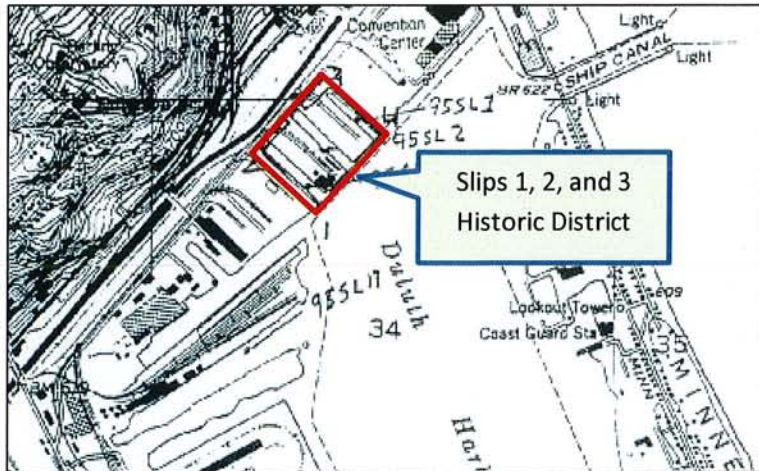
The only known cultural resource directly affected by the shallowing of Slip 2 is the "Slips One, Two, and Three Historic District," which the State Historic Preservation Office (SHPO) has determined eligible for the National Register (see boundary map). A draft National Register nomination explains that "Slips 1, 2, and 3 are the earliest of a number of slips built in Duluth. These properties, located in Duluth's inner harbor, consist of the slip and adjacent wharves that define each slip. . . . Each slip . . . represents a well-preserved example of Great Lakes maritime construction." (Jeanne A. Ward and John P. McCarthy, "Slips One, Two, and Three Historic District," draft National Register nomination, August 29, 1996) The nomination notes that the district is significant in the areas of transportation and commerce under Criteria A, C, and D, and identifies the period of significance as 1880–1940.

Slip 1 was completely filled in as part of the Bayfront Park development, leaving only a vestige of its mouth as an indication of its previous existence. This constituted an adverse effect. The SHPO has not reevaluated the National Register eligibility of the historic district after this damage to its integrity.

The draft National Register nomination indicates that Slip 2 "was constructed between 1886 and 1890" and contained three types of construction. The original pier walls were formed with ballast-filled timber crib cells. At a later date, much of the slip's southeast side was lined with Wakefield wood sheet piling. Later, concrete relieving platforms were installed.

The nomination does not mention any significant construction, pre-construction artifacts, or other potential archaeological sites within the slip itself. Sonar scans of the slip floor have not identified such resources. This information, as well as informal consultation with SHPO staff, indicates that it is unlikely that the slip contains significant archaeological resources. In addition, the shallowing would cap the bed below, leaving intact any undiscovered resources that might lie below the surface. As a result, there appears to be little possibility that the project will have adverse physical effects on the historic character of Slip 2. Another possible effect of the shallowing might be visual, but since the fill will be completely below the waterline and the slip will retain some depth, there will be no adverse visual effect. It does not appear that the project will have any other adverse effects on cultural resources. In fact, the shallowing will help to stabilize the two adjacent piers walls, which will be a beneficial result for those components of the Slips One, Two, and Three Historic District.

Illustration



15. Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

Visual effects resulting from the capping and shallow project are not anticipated since this work being performed is beneath the water level and will not create a visible change in conditions.

16. Air:

a. *Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.*

Aside from the short term operation of the equipment used to complete the capping and shallowing, stationary emission sources will not be present in the slip.

b. *Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.*

Equipment used to complete the capping and shallowing of the slip will only be powered during material placing operations and will not be allowed to idle when not in use. This equipment will be located on barges. We expect that up to five land based automobiles will be driven to the project site daily to assist with capping and shallowing operations. These land-based automobiles will not be left idling unless they are being actively used.

c. *Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.*

Dust and odors created by the project will be minimal. The clean dredge material will be wet/damp and dust emissions from handling this material are not expected. Particle and minor odors may be observable from the exhaust from the dredge crane and tug boat engine exhausts.

17. Noise:

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

Operation of construction equipment associated with the proposed action would result in periodic, temporary noise emissions in the Slip 2 vicinity. Equipment noise will have a minor and temporary effect on recreation in the Bayfront area. The noise generated from the capping and shallowing operations will be matched by the noise generated from the interstate highway and normal industrial shipping port noise emissions.

18. Transportation

a. *Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.*

The shallowing and capping project will not generate notable changes in land-based traffic. Approximately five automobiles and/or dredge related support vehicles will drive to the site during the active dredge placement activities. Boat and barge traffic will be the most visually notable traffic changes during project operations. The daytime movement of barges of dredge material from the source location to Slip 2 is a normal part of the dredging operations and will not adversely affect recreational or commercial boat traffic.

b. *Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: <http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance.*

Traffic congestion will not result as part of this project due to the limited numbers of vehicles involved in capping and shallowing operations.

c. *Identify measures that will be taken to minimize or mitigate project related transportation effects.*

Adverse traffic related effects are not anticipated. Formal minimization or mitigation measures will not be necessary.

19. Cumulative potential effects: *(Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)*

a. *Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.*

b. *Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and*

timeframes identified above.

- c. *Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.*

Cumulative effects from the capping and shallowing of Slip 2 include the remediation of legacy contaminants, the beneficial use of clean dredge material, the stabilization of the remaining pier walls, and the preservation of the slip for long term maritime use. Other cumulative impacts are minor, including fuel use and air emissions from equipment operations during the placement of clean dredge materials. This project is a great example of how public and private partnerships can create environmental, cultural and economic gains.

- 20. Other potential environmental effects:** *If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.*

None

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

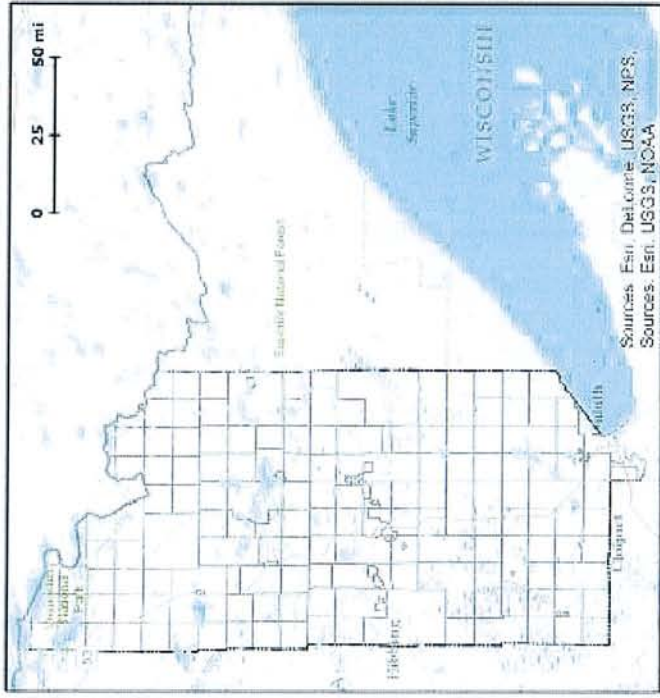
- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature _____
Title _____

[Handwritten Signature]
LAND USE SUPERVISOR

Date 8-25-14

St. Louis County, Minnesota



National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCOM, GEBCO, ANNA, Infranet LP Corp.

Legend

- County Boundary
- Township & City Boundaries



Exhibit 1: County Map

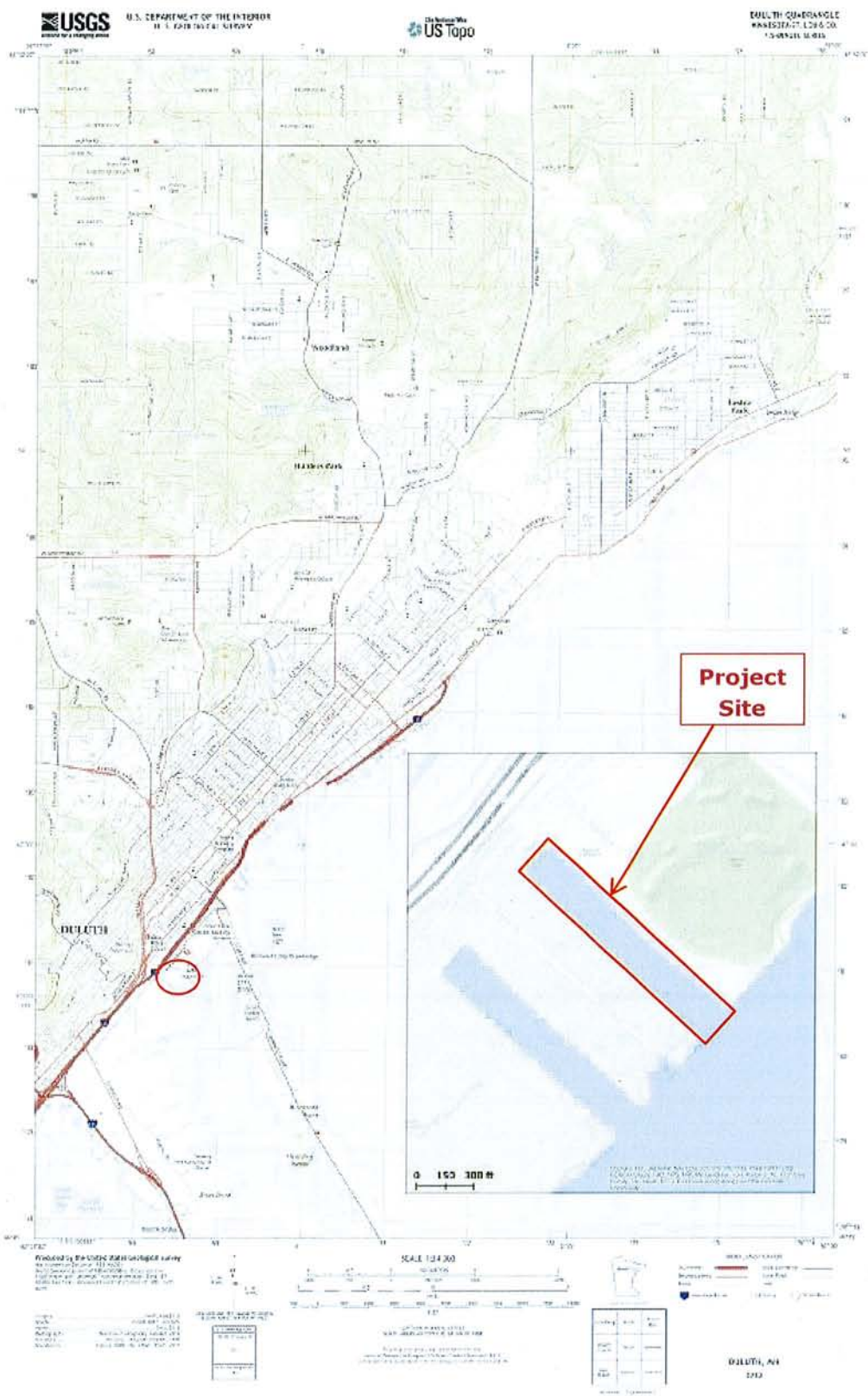


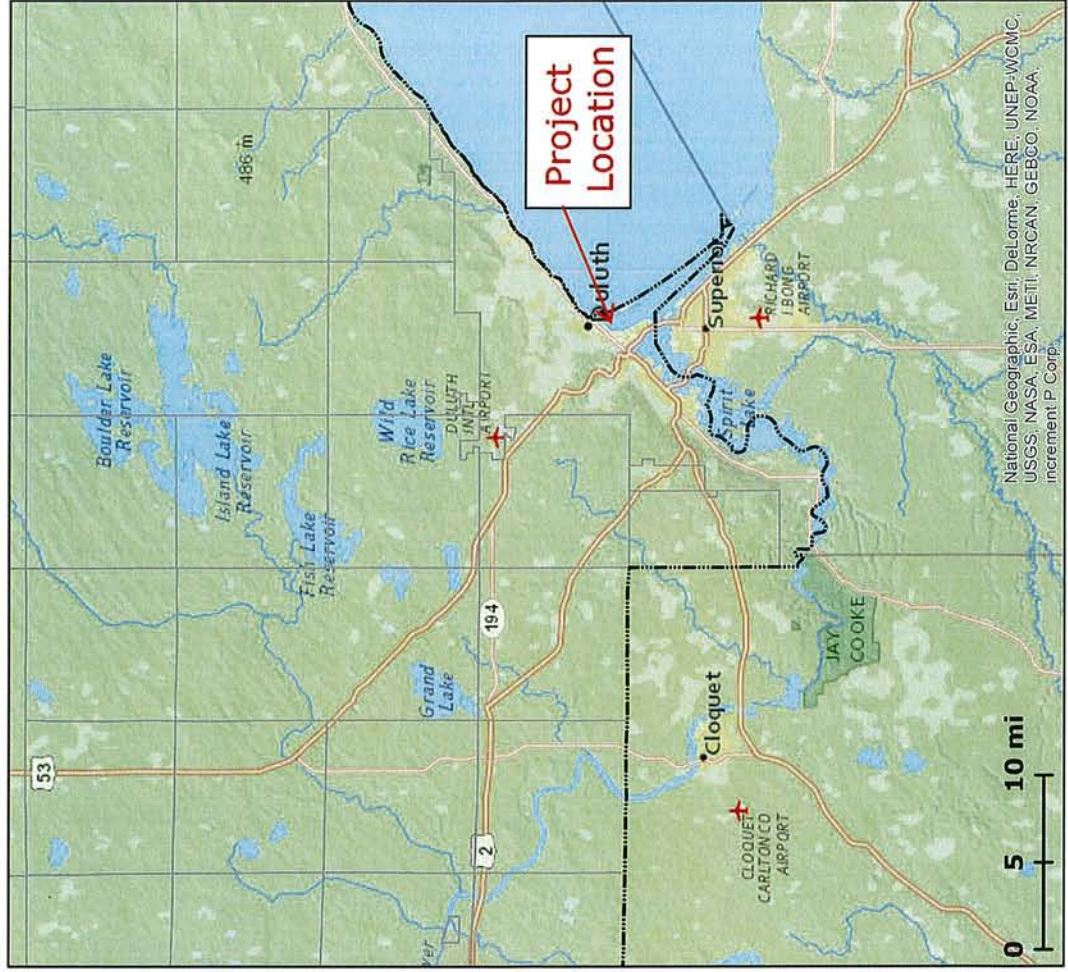
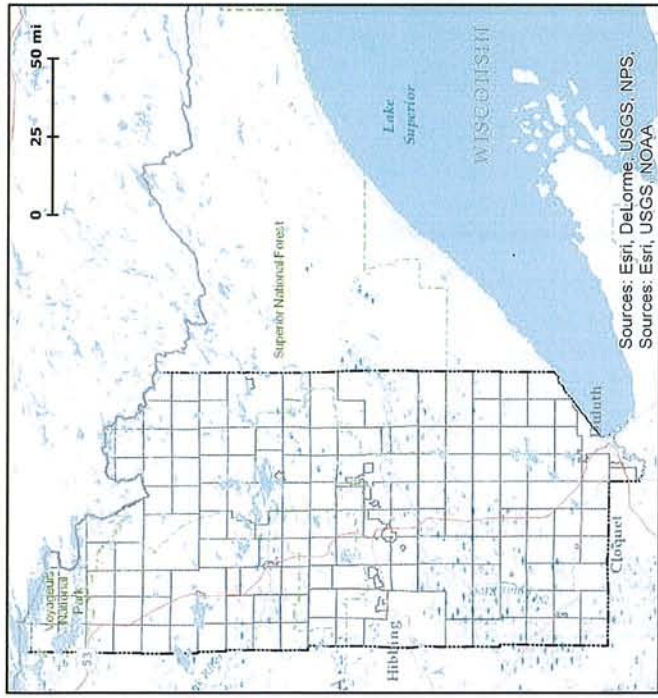
Exhibit 2: USGS Topo

Slip 2 Site and Surrounding Features, Duluth Harbor



Exhibit 3: Site Plan

St. Louis County, Minnesota



Legend

- County Boundary
- Township & City Boundaries

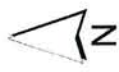


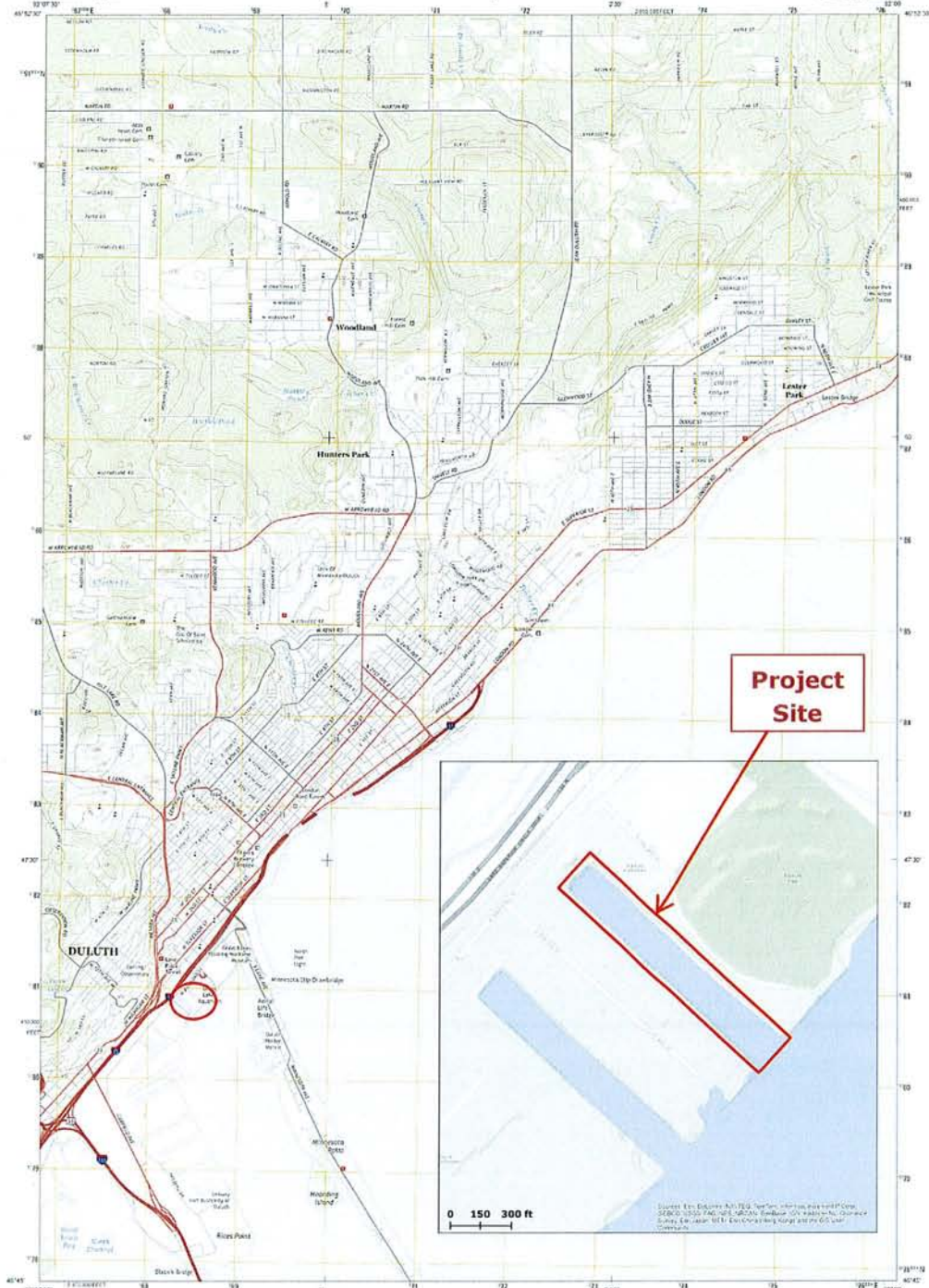
Exhibit 1: County Map



U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY



DULUTH QUADRANGLE
MINNESOTA-ST. LOUIS CO.
7.5-MINUTE SERIES



Project Site



0 150 300 ft

Produced by the United States Geological Survey
 Maps & Media Center of 1025 N.W. 10th Street, Fort Collins, Colorado 80501
 1:50,000 scale, 7.5-minute series, Minnesota, St. Louis County, Duluth
 1:50,000 scale, 7.5-minute series, Minnesota, St. Louis County, Duluth

SCALE 1:24,000
 METRIC AMERICAN SYSTEM, DATUM OF 1983

CONTRIBUTED BY: U.S. GEOLOGICAL SURVEY
 NATIONAL CENTER FOR INTRODUCTION OF DATA
 This map was published in accordance with the National Map Accuracy Standards, Edition of 1965.
 A reference to the scale and date of publication is on the inside cover.

Symbol	Feature
(Red line)	Boundary
(Red line)	Secondary
(Red line)	Primary
(Blue line)	Water
(Green area)	Forest
(Blue area)	Water
(Red area)	Urban
(Green area)	Park
(Blue area)	Water

DULUTH, MN
2013

Exhibit 2: USGS Topo

Slip 2 Site and Surrounding Features, Duluth Harbor



Project
Location

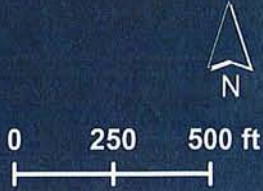
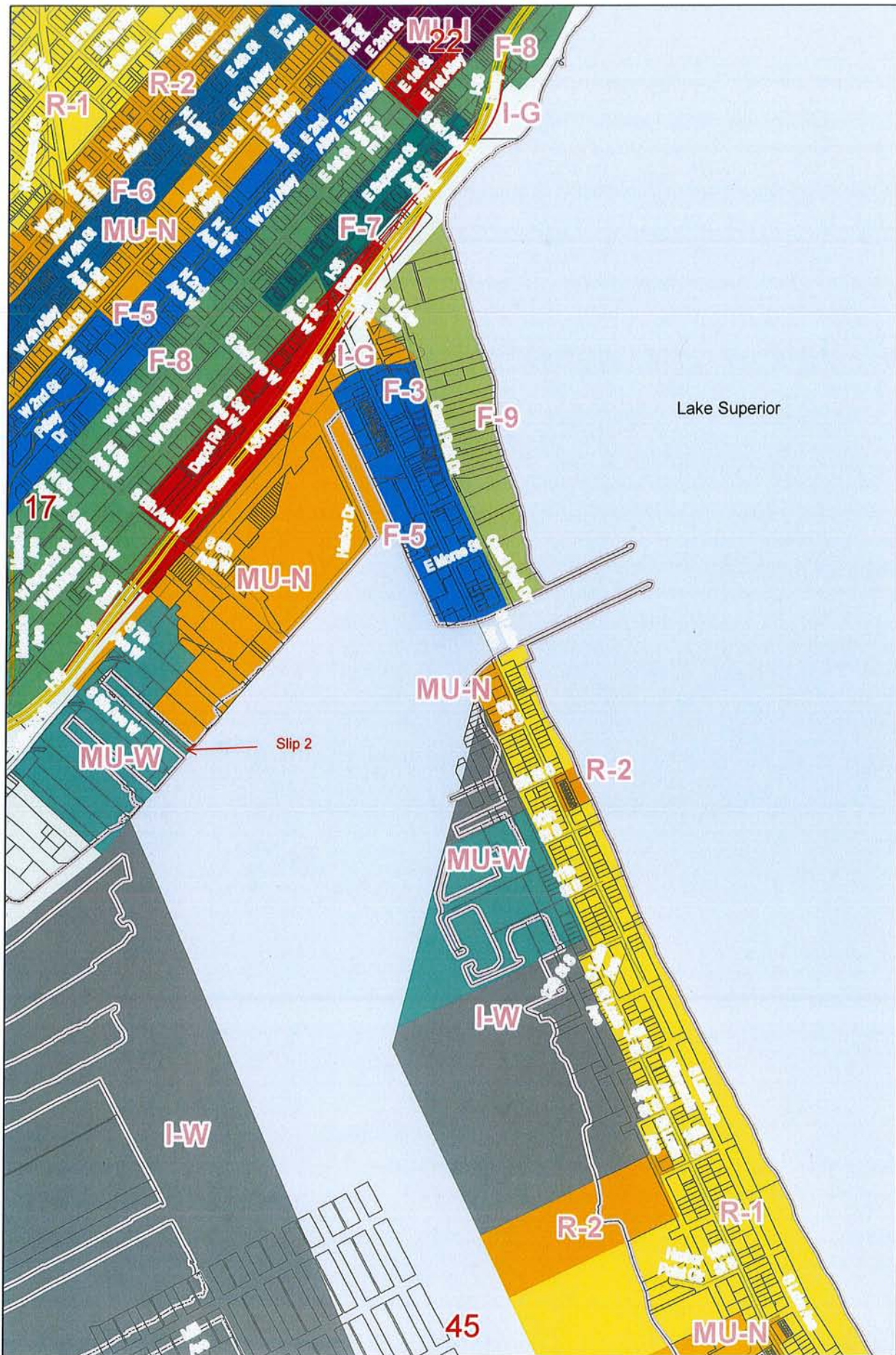
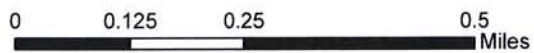


Exhibit 3: Site Plan



Base Zoning Map: 18
 Revised Date: June 24, 2013

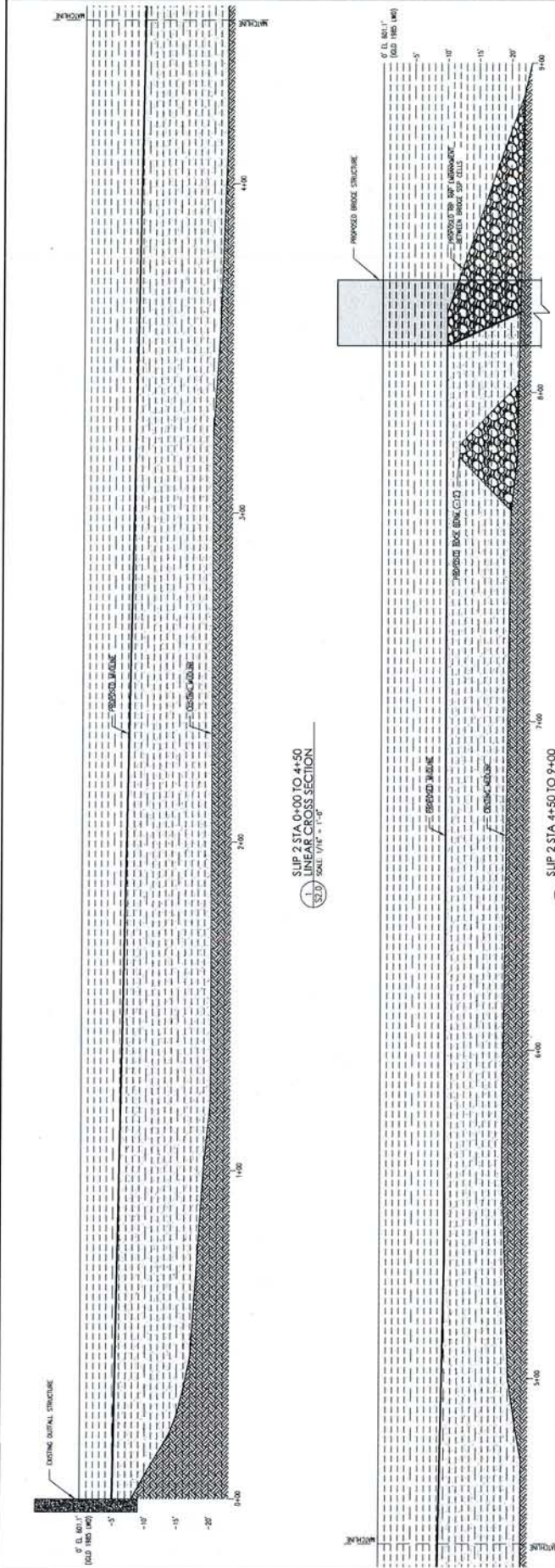
Exhibit 4



NO.	DATE	DESCRIPTION

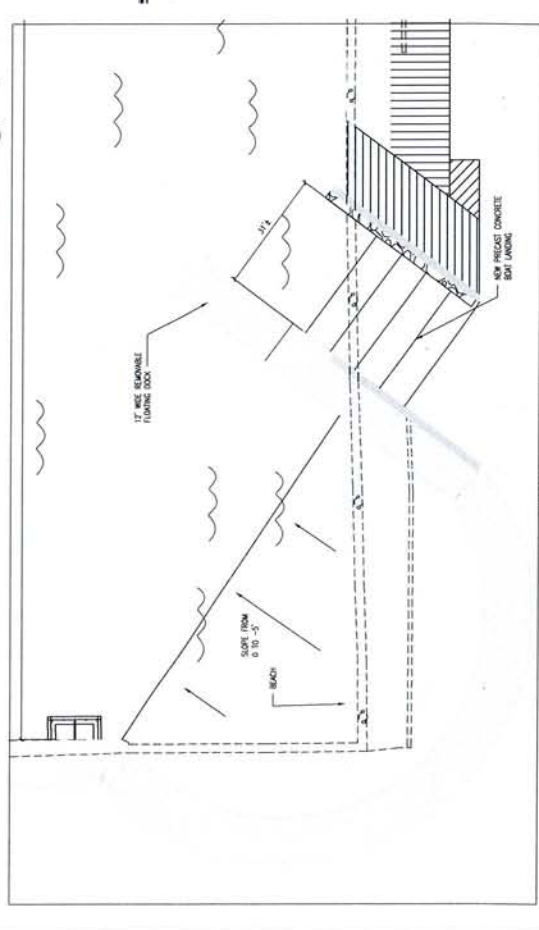
DOCK REHABILITATION
 DULUTH, MINNESOTA
 CROSS SECTIONS & DETAILS

S2.0
 SHEET

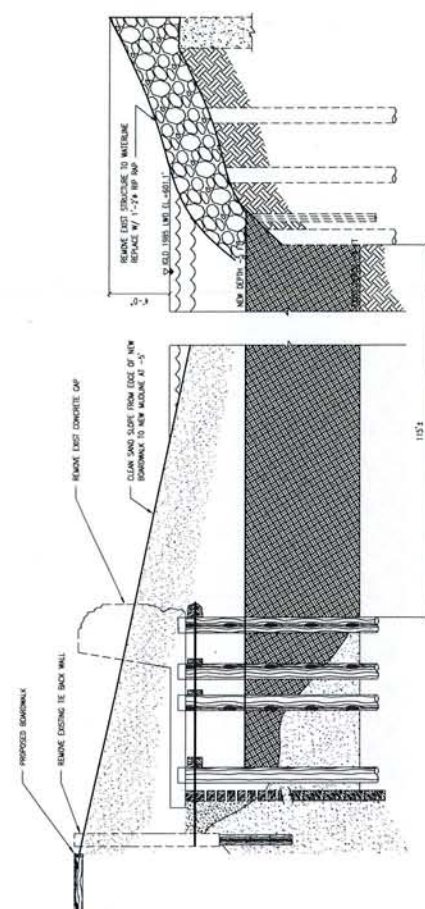


1. SUP 2 STA 0+00 TO 4+50
 1.1 LINEAR CROSS SECTION
 SCALE: 1/4" = 1'-0"

2. SUP 2 STA 4+50 TO 9+00
 2.1 LINEAR CROSS SECTION
 SCALE: 1/4" = 1'-0"



1. SUP 2 BEACH & LANDING DETAIL
 SCALE: 1/4" = 1'-0"



4. SUP 2-BEACH
 4.1 CROSS SECTION
 SCALE: 1/4" = 1'-0"

Exhibit 6