



## Memorandum

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July 2, 2020

TO: John Sager, WDNR

CC: Greg Prom and Jamie Mehle (SWL&P); Steve Laszewski, Bob Kick, Steve Garbaciak (Foth)

FR: Erin Hughes and Brian Hanks (Foth)

RE: Field Modifications to SWL&P PDI Sediment Scope

The purpose of the memorandum is to provide notification to the Wisconsin Department of Natural Resources (WDNR) of modifications to the sediment investigation scope that was proposed in the *Pre-Design Investigation (PDI) Work Plan* (Work Plan) dated February 2020 for the Superior Water Light and Power (SWL&P) Former Manufactured Gas Plant Site (Site). These modifications are proposed based upon the results of the bathymetry survey that was performed on June 8 and 9, 2020. The bathymetry results show that the anticipated depth of water within the southeastern portion of boat slip is less than 3 feet, which is insufficient to accommodate the draft of the sampling barge for the approach to sampling locations and for the collection of samples.

The attached Figure 1 shows draft bathymetry contours as well as the anticipated depths to water for the planned borings. Sample locations with water depths shallower than 3 feet are anticipated to be inaccessible from the barge and will be moved, eliminated, or collected via alternative means. The proposed modifications to the sediment PDI scope are as follows:

### **Sediment Geotechnical Borings**

- GT-1 will be approached from deep water to get as close to the proposed location as possible. Depending upon field conditions, the boring will be moved out from the head of the slip to an accessible location (it is anticipated that this location will not need to be moved more than 25 feet from target). The data collected from this new location will fulfill the data quality objectives.
- GT-2 will be abandoned and replaced with an upland location (UGT-4 on Figure 1) that is coincident with the on-shore projection of edge of the Waste Water

Treatment Plant (WWTP) armored berm in the back corner of the boat slip. Given the difference in drilling elevations, the boring will be advanced to 80 ft below ground surface (bgs) instead of the planned 70 ft below mudline (bml). The data collected from this new location will fulfill the data quality objectives.

- GT-3 will be removed from the scope of work since there is no location that it can be moved to and provide data that will fulfill the intended purpose.
- GT-4 will be move to a location that is behind the sand bar identified in the bathymetry and as far back (in a southwestern direction, towards the head of the slip) along the WWTP berm as the barge is able to safely maneuver and drill. It may end up close to or beyond C-8 moving towards the head of the slip with the intent to have this boring serve the purpose of both GT-4 and GT-3. Depending upon field observations, this boring may be advanced to 70 ft instead of the planned 50 ft.

### **Environmental Sediment Chemistry Borings**

To enable collection of environmental sediment cores in the southeastern corner of the boat slip, Coleman Engineering will mobilize a pontoon boat with a geoprobe hammer on it. This should allow us to sample the C-3 and C-2 locations that are inaccessible from the barge. The penetration depth may be limited by the sampling technique, so we may or may not be able to hit the Miller Creek Clay but will go as deep as we are able. Depending upon field conditions and the recovery observed between the drill rig on the barge and the pontoon boat, the other environmental sediment borings will be collected using the more efficient of the two mechanisms.

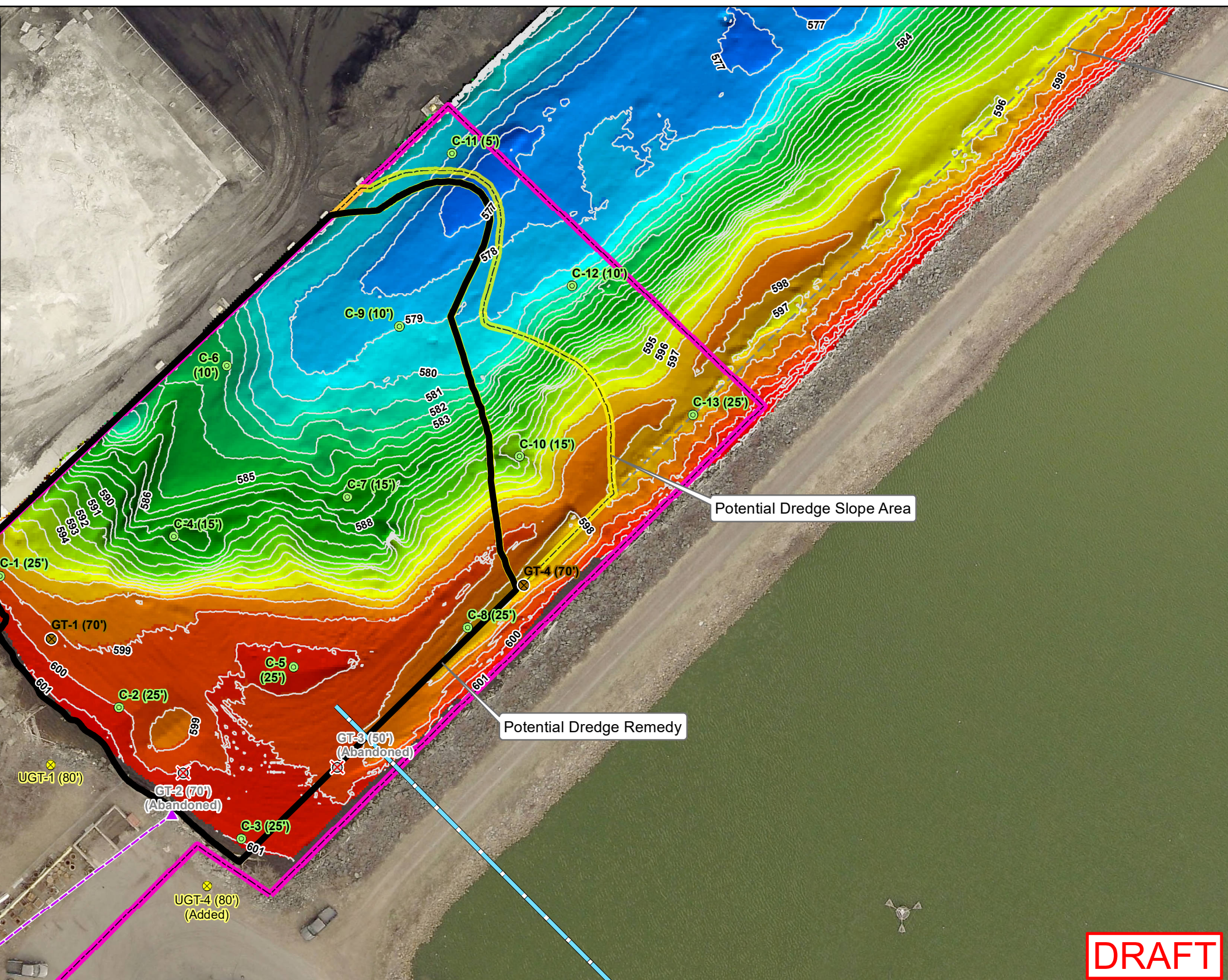
Assuming the barge is used;

- C-1, C-5, and C-8 will be approached from deep water to get as close to the proposed location as possible. Depending upon field conditions, the boring may be moved out from shallow water to an accessible location.
- Locations C-4, C-6, C-7, C-9, C-10, C-11, C-12, and C-13 have anticipated water depths ranging from 5 to 25 ft. and are not anticipated to pose a challenge.

Foth and SWL&P believe that this modified sampling approach will meet the objectives of the Work Plan. If further in-field modifications are necessary to this scope or the upland scope, Foth and SWLP will consult with WDNR to discuss proposed changes or alternate approaches.



Location ID	Proposed Sample Locations				Maximum Anticipated Core Depth (feet bml)
	Northing	Easting	Anticipated Mudline Elevation	Anticipated Water Depth (feet)	
<b>Chemistry Sediment Samples</b>					
C-1	308322.2	154358.5	599	3	25
C-2	308264.7	154413.1	600.1	1.9	25
C-3	308207.5	154469.3	601	1	25
C-4	308341.7	154435.7	591.8	10.2	15
C-5	308284.6	154490.7	600	2	25
C-6	308418.6	154457.6	583.2	18.8	10
C-7	308361.2	154512.8	586.4	15.6	15
C-8	308304.2	154568.0	598	4	25
C-9	308438.0	154534.3	579	23	10
C-10	308381.2	154589.4	593.5	8.5	15
C-11	308515.8	154556.0	578.9	23.1	5
C-12	308458.0	154611.1	580.4	21.6	10
C-13	308401.7	154666.5	597.6	4.4	25
<b>Geotechnical Sediment Samples</b>					
GT-1	308294.5	154382.2	599.5	2.5	70
GT-2 (Abandoned)	308236.2	154442.6	600.2	1.8	70
GT-3 (Abandoned)	308240.3	154511.3	599.6	2.4	50
GT-4	308323.7	154592.6	597.2	4.8	70
<b>Upland Sediment Samples</b>					
UGT-1	308238.8	154383.3	N/A	N/A	80
UGT-4 (Added)	308186.3	154454.4	N/A	N/A	80



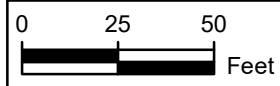
This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only.

**DRAFT**

- NOTES:**
- 2016 - 3" resolution air photo from Douglas County.
  - Horizontal coordinate system: NAD 1983 Douglas County, units in feet.
  - Each Environmental Sediment Cores will be advanced approximately 2-feet into the Miller Creek Clay. Maximum anticipated core depths are labeled.
  - Bathymetric survey supplied by J.F. Brennan Co., Inc. Survey completed June 8 and 9, 2020. Vertical Datum is IGLD 1985.

- LEGEND**
- Proposed Pre-Design Investigation Sample Location
    - Proposed Environmental Sediment Cores (Maximum Boring Depth, feet)<sup>3</sup>
    - Proposed Geotechnical Sediment Cores
    - Abandoned Geotechnical Sediment Cores
    - CSTP#2 Outfall
    - Proposed Upland Geotechnical Borings
  - 1 Foot Elevation Contours
  - Potential Dredge Slope Area
  - Potential Dredge Remedy
  - Railroad
  - Toe of WWTP Berm
  - Approximate Site Boundary

- UTILITIES**
- Outfall
  - Storm Sewer
  - Sanitary Sewer



SUPERIOR WATER, LIGHT & POWER

**FIGURE 1**

SEDIMENT INVESTIGATION LOCATIONS  
PRE-DESIGN INVESTIGATION WORK PLAN  
SUPERIOR, WISCONSIN

Date: JULY 2020      Revision Date:

Drawn By: DAT      Checked By: ECH1      Project: 18S024