Enbridge Line 6B MP 608 Pipeline Release

Marshall, Michigan

Supplement to Source Area Response Plan

and

Supplement to Response Plan for Downstream

Impacted Areas

Referred to as

Operations and Maintenance Work Plan

Enbridge Energy, LP

Revised: October 17, 2010

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Acronyms and Abbreviations

Company	Enbridge Energy, Limited Partnership
GPS	Global Positioning System
MDNRE	Michigan Department of Natural Resources and Environment
NA	Not Applicable
QC	Quality Control
SAR	Source Area Response Plan - A workplan describing interim response actions designed to protect navigable waters from the crude oil release.
SCAT	Shoreline Cleanup Assessment Technique also known as SCAT Assessment or SCAT Process – A systematic approach that uses standard terminology to collect data on impacted areas, support decision-making for cleanup; reference HAZMAT Report No. 2000-1; Office of Response and Restoration, Hazardous Materials Response Division, National Ocean Service, National Oceanic & Atmospheric Administration, Shoreline Assessment Manual – Third Edition, August 2000.
SCAT Team	A team of qualified individuals using SCAT, organized and reporting to the UC and comprised of representatives from USEPA, (as the FOSC), MDNRE (as the SOSC and state NRDA trustee), NOAA or USFWS (as federal NRDA trustees) and Company to assess impacted areas and recommend cleanup methods and priorities. At least one member should have sufficient expertise in wetland and aquatic ecology to evaluate the sensitivity of impacted areas.
SOP	Standard Operating Procedure

1.0 Introduction

This document is a supplement to the existing Source Area Response Plan (SAR) and Response Plan for Downstream Impacted Areas (RPDIA). The information in this supplement addresses items "j" (For submerged oil and oil-contained sediments, remediate all impacted areas in and along Talmadge Creek, the Kalamazoo River, and Morrow Lake by October 31, 2010) and "k" (Perform operation and maintenance activities as directed by the EPA until otherwise notified by the EPA. Such operations and maintenance activities may include, but are not limited to: boom deployment, sorbent deployment, vacuum recovery, silt curtain development, aqua barriers, coffer dam construction, excavation at all impacted areas (including shoreline) in and along Talmadge Creek, the Kalamazoo River, and Morrow Lake, and long-term sampling of existing and potential drinking water sources) in EPA's supplemental order for Enbridge Energy, LP, dated September 23, 2010. The primary focus of this supplement is to describe the ongoing Operation and Maintenance (O&M) activities that will be required at the Marshall site under the EPA Order. This supplement is commonly referred to as the O&M Plan.

2.0 Shoreline Operating & Maintenance Activities

The Shoreline Cleanup Assessment Technique (SCAT) process was a multi-step process that included an initial assessment of areas affected by the release and procedural clean-up recommendations based on the Cleanup Recommendation Methods that were developed by the Environmental Advisory Group. Several independent inspections followed the cleanup before SCAT teams re-assessed each segment to confirm that the clean up was completed in accordance with the initial recommendations.

During the SCAT re-assessment phase, teams identified areas that could not be fully remediated using the Cleanup Recommendation Methods such as areas of saturated soil. The location and extent of these remaining oiled areas was documented using the SCAT Re-assessment Operation and Maintenance (O&M) Form with the intent of cataloging those areas which may require additional remediation and/or monitoring following the completion of the SCAT process in ecologically sensitive locations.

The O&M Inspection Tracking table (Attachment A) was developed by combining the data from the SCAT Re-assessment O&M Form and the EPA Inspector comments from the final Oil Recovery Reports. This list of potential O&M areas was further refined by the O&M group inspectors (EPA and Enbridge) that inspected and assessed each potential O&M area. The O&M group inspectors developed the maintenance codes and applied them to each O&M area.

Enbridge used the maintenance codes and site specific data to develop the tentative monitoring protocol. The monitoring protocol is designated as tentative because it is likely that the O&M areas will change over time as operations and seasonal events change these areas. Therefore, this table will be a working document that is updated regularly to accurately reflect the conditions at each O&M area. Recommended changes to the table will be submitted to the U.S. EPA for review and approval prior to implementation.

Inspections of each O&M area will take place at intervals as designated by the tentative monitoring protocol. Enbridge inspectors will complete the inspections along designated portions of the river. The O&M Monitoring Inspection Tracking form will be used by the inspectors to track the progress of inspections and record the information gathered during each

inspection within their designated areas. The information from the inspectors will be compiled into one tracking spreadsheet and distributed to the U.S. EPA and MDNRE on a weekly basis and will include proposed changes to the approved plan. The possibility exists that additional areas will be added to the table over time. These include: areas discovered by field crews, areas called in by landowners that are investigated and verified, and areas that may transition from the submerged oil group. This last category may include locations along the river where residual oil remains after submerged oil remediation techniques have been exhausted.

During the Talmadge Creek restoration project, features such as underflow dams were installed to capture any residual oil and contain it prior to reaching the river. In addition, hay bales and/or other containment structures, as approved by the U.S. EPA, have been placed just upstream of these dams to contain any oily sediment that may be released during restoration activities. Since these features may remain for a period of time after that particular project comes to an end and the crews that have been maintaining these areas may no longer be available, these locations may also be added to the O&M Inspection Tracking table. The same O&M tracking and follow up process will be implemented on the Talmadge Creek area as well.

The O&M group inspectors developed the maintenance codes and applied them to each O&M area. Enbridge used the maintenance codes and site specific data to develop the tentative monitoring protocol. The monitoring protocol is designated as tentative because it is likely that the O&M areas will change over time as operations and seasonal events change these areas. Therefore, this table will be a working document that is updated regularly to accurately reflect the conditions at each O&M area. Inspections of each O&M area will take place at intervals as designated by the tentative monitoring protocol. Enbridge inspectors will complete the inspections, along with EPA oversight, on designated portions of the river. The O&M Inspection Form will be used by the inspectors to track the progress of inspections and record the information gathered during each inspection within their designated areas. The information from the inspectors will be compiled into one tracking spreadsheet and distributed to the U.S. EPA and the DNRE. If the inspectors deem that the O&M procedures need to be enacted at a particular location, a contractor crew will be dispatched to carry out the prescribed procedures. A follow-up inspection will be performed after the prescribed procedures have been completed.

3.0 Submerged Oil Recovery/Oil Contaminated Sediments

3.1 Ceresco Dam Dredging & Permanent Recovery of Submerged Oil and Oil-Contaminated Sediments at Priority Locations

O&M will be performed for the recovery and/or containment of known (including, but not limited to, previously identified low and medium priority submerged oil locations) and newly identified submerged oil and oil-contaminated sediments in accordance with the *Work Plan for Ceresco Dam Dredging and Permanent Recovery of Submerged Oil and Oil-Contaminated Sediments at Priority Locations*. This *Work Plan* is an attachment to the *Supplemental Modification of the Response Plan for Downstream Impact Area & The Source Area Response Plan Strategy and Tactics for Permanent Recovery of Submerged Oil & Oil-Contaminated Sediment* submitted September 26, 2010.

A tool box is described in the *Work Plan* that describes techniques for submerged oil recovery, which include dredging, vacuum recovery, and sediment agitation (e.g., pneumatic aeration, manual raking, and water flushing). As part of the O&M process, additional locations of submerged oil may be identified where it is appropriate to use these oil recovery techniques. New locations that are candidates for permanent recovery will be evaluated using the same qualitative assessment criteria utilized to establish the previously identified priority locations approved by EPA. Near-term containment will be installed prior to recovery activities as described in the *Work Plan.*

There are additional sites identified as having moderate to low priority for submerged oil. For these sites, Operations will need to conduct an assessment for the most feasible course of action; including containment, maintenance codes, inspection frequency, and priority code reassessment. This will require visits to each of the sites by the Operations Section. After the site visits are complete, the O&M Inspection Tracking spreadsheet will be updated to allow entry of the additional sites into the operations and maintenance program.

If a newly identified submerged oil site is not appropriate for permanent recovery as determined by the submerged oil task force, then it will be included in the O&M table for inspection and

follow-up. If submerged oil recovery techniques at a known site prove not to be effective, then these locations will also be added to the O&M table. All submerged oil priority sites will be inspected and signed off by the EPA before October 31, 2010 unless outstanding issues are identified. Any sites with outstanding issues will be transferred directly to the Operations and Maintenance Branch for additional recovery and to the O&M Tracking spreadsheet, following approval of the EPA. All priority sites that have been signed off by EPA and Enbridge will be inspected by the Operations and Maintenance branch to determine whether additional maintenance and monitoring is required.

Site-specific conditions including environmental assessment evaluations will be addressed prior to execution of recovery operations. The QC procedure described in the *Work Plan* will be used to evaluate effectiveness of the permanent recovery. Approval from the U.S. EPA and MDNRE will be accomplished in accordance with the *Work Plan*.

More information about the submerged oil recovery process can be found in the work plan titled "Work Plan for Permanent Recovery of Submerged Oil and Oil-Contaminated Sediments at Priority Locations and Ceresco Dam Dredging As an Attachment to the Supplemental Modification of the *Response Plan for Downstream Impact Area and the Source Area Response Plan* Strategy and Tactics for Permanent Recovery of Submerged Oil & Oil-Contaminated Sediment" which was submitted to the U.S. EPA on October 7, 2010.

3.2 Talmadge Creek

An in-situ stream sediment basin (a.k.a. a sand or sediment trap) will be installed in the lower reach of Talmadge creek to trap and allow removal of coarse and fine sediment material. Sediment enters the creek from both natural events and human disturbances. Each causes suspension of materials into the water column which then get transported downstream where they eventually settle out at locations of reduced flow. The purpose of the sediment trap is to create an area of reduced flow, by increasing the volume or area that the creek is passing through, so that sediment/soil particles can fall out of suspension and become "trapped" in the deeper portions of the trap. The existing flume will be reconstructed immediately downstream and between its current location and the 48" culvert at A Drive.

The initial construction and clean-out of the existing flumes, check dams, and sediment traps will be done with an excavator or vacuum truck. The following shall be completed prior to constructing the sediment trap:

1. Construction of a work pad (equipment mats and/or temporary fill on geo-textile fabric) west of the creek set back a minimum of 10 feet from the re-established coir log banks of the creek.

2. Clean out of the existing sediment load above the existing flume (designed to trap oil sheen and pass water downstream from the middle of the water column) immediately upstream of A Drive (~99+30R).

3. Clean out the existing sediment load above the small rock check dam (~101+00R) immediately upstream of the creeks confluence with the Kalamazoo River.

4. Install the new flume, between the existing flume and the 48" CMP under A Drive. If there is insufficient space, remove the old flume and then construct the new flume in the furthest downstream location (so as to maximize the length of the proposed upstream sediment trap).

5. Remove existing flume, if not already completed as part of 4 above.

6. Ensure the upstream end of the flume is deep enough to allow the culverts to draw water from the middle of the water column.

7. Continue excavation of the sediment trap working from the downstream ending up at the upstream end (denoted as approximately 80 feet of "Initial Construction") making sure of the following:

    a. There is no excavation of any soil/bottom substrates within 3 feet of the coir logs on either side of the creek. Excavate only the interior/central portions of the creek.

b. Depth of excavation may range from 0 to 5 feet, 3 to 5 feet in the center of the trap, and will vary depending upon the composition of the bottom substrates and stability of the side slopes.

c. It is recommended that the trap first be excavated to a maximum depth of between 0-3 feet to start to make sure there are no impacts to the 3 foot "no dredge areas" at the outer edges of the creek. If the side slopes of this 3 foot "buffer" are stable, the trap can be further deepened.

8. Place staff gauges (marked up lathe stakes) in the creek channel at 4 different locations within the creek channel.

9. If the approximately 80 foot long "Initial Construction" trap fills at a rate requiring maintenance work more than twice a day, then the trap can be expanded an additional 27 feet (denoted as "Additional Expansion") to provide greater storage capacity.

Upon construction completion, the depth of sediment collecting in the sediment traps shall be recorded at each of the gauges at least twice a day and continue for at least the first two days following construction. Depending on the rate of sediment accumulation, the frequency that the gauges are read may be increased or decreased.

The trap shall be cleaned when the trap fills to at least 50% of its capacity and can be cleaned out more frequently, before the 50% capacity is reached, if equipment is available and disturbance to bottom substrates is minimized. The method for subsequent cleanings, either by vacuum or backhoe, will be determined pending the results of testing of the trapped sediment. All spoils will be trucked to an approved upland disposal site; no spoils are to be placed in wetland or other portions of the creek.

A record shall also be kept of the number of times the trap is cleaned and the volume of material removed. Once the sediment trap is no longer needed, the trap may be either left to fill in naturally over time and/or filled to its prior grade with 1-3" fieldstone. Removal of the existing flume will not occur without the approval of the U.S. EPA.

3.3 MP 26.25

MP 26.25 received considerable man-hours of aeration, flushing, and raking work between September 21, 2010, and October 15, 2010. Cells 1 through 3 were signed off by Carl Pellegrino of USEPA and Scott Swiech of Enbridge on October 6, 2010. Flushing continued on Cells 4 through 9 by the O&M group and on October 15, 2010, Paul Peronard of USEPA, Joe Kackos of Enbridge, and Bryan Sederberg of O'Brien's revisited MP 26.25. Paul Peronard and Joe Kackos signed off on the site and the removal site MP 26.25 is now considered complete.

4.0 Containment and Recovery Plan

4.1 Site Description and Location

O&M areas extend from the release point near Talmadge Creek (MP 0) to Control Point E 5 (MP 39.75) near Morrow Lake and have the potential to include other possible areas downstream of Morrow Lake Dam related to the release which may be discovered later. This entire area is defined as the Site. The following containment and recovery strategies may be applied to surface waters within Talmadge Creek and the Kalamazoo River (MP 2.1 to MP 39.75).

4.2 Goals and Objectives

- Monitor and assess the presence of mobile hydrocarbons on the surface waters within Talmadge Creek and the Kalamazoo River.
- Effectively and efficiently contain and remove surface hydrocarbons and oil-contaminated sediment from the surface waters within Talmadge Creek and the Kalamazoo River.
- Maintain the integrity and effectiveness of the installed containment and collection systems throughout the site.
- Demobilize and decontaminate containment equipment as it is removed from service.

4.3 Monitoring

Site monitoring from the release site to MP 39.75 will be completed utilizing Air Operations, watercraft, and land based observation. During the monitoring, crews will be observing river characteristics such as freezing, debris movement (organic material resulting from the fall season), checking for the presence of surface hydrocarbon (oil/sheen) as well as subsurface hydrocarbon migration (submerged oil). These inspections will also include visual inspection of the surface containment measures and will identify any deficiencies or issues with the systems.

- Air Operations: Weekly site over-flights including surface water inspections from an altitude of approximately 500’ above ground. The inspection team made up of Enbridge and EPA representatives will monitor for the presence of migrating surface hydrocarbons, organic debris as well as ice flow. Inspections will include identification of potential

source locations such as impacted shoreline or submerged oil sites. Photos of all control points will be taken as well as any observed hydrocarbons and ice flows. GPS coordinates will be taken and forwarded to the O&M and Contaminant and Recovery O&M Task Forces.

- Vessel Operations: Inspection of all control points will be completed per frequency requirements using river boats. These inspections will focus on the integrity of the containment systems as well as the presence of accumulated hydrocarbon/debris/ice within the containment systems.
- Land Operations: Shoreline crews will assess the effectiveness of the control points, mainly the collection and recovery points at each boom location as well as "ground truthing" of areas identified by Air and Vessel Operations.

Information gathered from the monitoring process will be relayed to the O&M and Contaminant and Recovery O&M Task Force. Continuous consultation with the O&M crews will be completed to ensure that a timely response to identified issues is completed.

4.4 Containment

Existing containment boom is presently being reconfigured and strengthened in order to provide effective containment during the fall/early winter months. These control points will need to withstand significant weather changes and debris accumulation. Reconfigured and strengthened containment boom will be monitored continuously during periods of river thaw when ice flow and high velocity river flows exist. If adverse conditions present themselves, (i.e., damaging ice flow or high velocity river flow during an ice melt) containment boom will be removed with notification provided to the U.S. EPA.

Control point refers to a location that can contain and collect surface hydrocarbons and debris and direct the collected material to a recovery point within the boom configuration. These sites span the entire width of the Kalamazoo River. Eighteen (18) control points currently exist. These control points consist of 18" or 12" containment boom with instream and shoreline anchors points. Marker buoys are attached to all instream anchors as well as the upstream lines on all shoreline anchor points. All control points contain a downstream collection and recovery

point, some are accessible by land based operations and some are accessible only by on water operations due to their remoteness. The deployment of booms on land to prevent oil migration overland due to precipitation events or ice melt will be evaluated and implemented as necessary and prudent.

Absorbent material such as absorbent boom, absorbent sweep, rope snare and pompoms will be used when required. Absorbent material would be installed to temporarily contain shoreline impacted areas until cleaning operations are complete. Containment booms will be lined with absorbent material when free oil/product is present. The use of absorbents on sheen is relatively ineffective; therefore, reliance on the containment boom (hard boom) will be the primary tool utilized. The proper installation of containment boom is the most effective way to collect and contain surface sheen/oil. Based on the monitoring, absorbents will be used when required.

Gabion Basket, Sediment Curtain and X-Tex Curtain monitoring and maintenance: This will be dependent on subsurface hydrocarbon accumulation and collection in these devices. Once hydrocarbon accumulation ceases, the units will be assessed and possibly removed. This could be as soon as early October or could span into late November. Removal of any containment devices will be performed only after approval from the U.S. EPA.

The Sediment and X-Tex curtains serve a dual containment purpose. These deployments contain surface boom as well as subsurface curtain. The surface boom will collect and contain surface product/sheen/debris and the curtain will collect and contain subsurface product and debris. All debris is directed (based on boom angle) to a downstream collection point where debris removal can be completed.

4.4.1 Current surface water control points: (as of October 15, 2010)

Eleven control points currently exist from the confluence of Talmadge creek and the Kalamazoo River to MP 39.75.

1. B 5 (Confluence of Talmadge and Kalamazoo, MP 2.1),
2. C 0.5 (MP 5.4),
3. MP 6,
4. C 5 (MP 14.8),
5. C 6 (MP 15.5),

6. D 3 (MP 19.4),
7. E 0.5 (MP 27),
8. E 1 (MP 29.4),
9. E 3 (MP 35.2),
10. E 4 (MP 37.75),
11. E 5 (MP 39.75).

4.4.2 Current O&M sites: (as of October 15, 2010)

1. C1 (MP 3.0),
2. C1 (MP 3.5 Island B),
3. C1 (MP 3.5 Island C),
4. C1 (MP 3.75 Island D),
5. C1 (MP 3.75 Island E),
6. C1 (MP 4.25 Island F),
7. C1 (MP 4.25 LDB),
8. C1 (MP 4.25 Island),
9. C2 (MP 5.0),
10. C2 (MP 5.25),
11. C2 ((MP 5.5-5.75),
12. C3 (MP 11.75),
13. C3 (MP 12.5),
14. C3 (MP 12.75),
15. C3 (MP 13.25),
16. C3 (MP 13.50),
17. C4 (MP 15 Island 1),
18. C4 (MP 15 Island 2),
19. C4 (MP 15 Diversion),
20. C4 (MP 15.25),
21. C4 (MP 15.50 RDB),
22. C4 (MP 15.50 Marsh),
23. C4 (MP 15.75 RDB),
24. C4 (MP 15.75 Culverts),
25. D3 (MP 17.75),
26. D3 (MP 18.0),
27. E4 (MP 36.75),
28. E4 (MP 37),
29. E4 (MP 37.75 LDB),
30. E4 (MP 37.75 RDB), and
31. E4 (MP 38).

4.4.3 Current Submerged oil sites: (as of October 15, 2010)

1. C1 (MP 5.75S),
2. C2 (MP 5.63),

3. C2 (MP 5.75N),
4. C3 (MP 12.5),
5. C4 (MP 15.25),
6. C4 (MP 15.5),
7. D5 (MP 21.5), and
8. E4 (MP 37-37.5).

4.4.4 Current subsurface sites: (as of October 15, 2010)

Five subsurface control points exist from the confluence of Talmadge creek and the Kalamazoo River to MP 39.75. These five points are: B 5 (MP 2.1), C4 Gabion Baskets (MP 12.5), D 1 Sediment Curtain (MP 17.75), D 1 Gabion Baskets (MP 18), E 4 X-Tex (MP 37.6 and MP 37.75)

4.4.5 O&M Control Point reduction plan (from October 16, 2010 to October 31, 2010)

Based on the above data, the proposed hard boom reduction plan is as follows.

Surface water control points: Of the existing eleven surface water control points, there is only one Control Point not on the scheduled list of ten sites to be remain in place and monitored until October 31, 2010.

Control Point C 5 (MP 14.8) remains in place as there are currently upstream operations. These operations require that vessel traffic be present on the river. The vessel pillow or wake, regardless of speed, may allow residual hydrocarbon sheen to wash off the banks and into the river. Additionally, there is downstream work at the South Mill Pond area. A deflection boom was installed to direct water flow into this area in order to aid flushing operations. With this deflection boom in place, Enbridge and EPA agreed to leave the C 5 Control Point in place to prohibit additional sheen from entering this work area.

Once upstream operations are completed, this Control Point will be removed. Expected time of completion of upstream activities is October 20, 2010.

The remaining ten control points were selected based on river characteristics (current, width, depth, substrate, vegetative presence, shoreline access, and shoreline anchor points), their

proximity to upstream areas that require additional work (shoreline or submerged oil sites) as well as proximity to residential areas or public access points. The remaining ten control points are:

1. B5 (MP 2.1),
2. C 0.5 (MP 5.4),
3. MP 6,
4. C 6 (MP 15.5),
5. D 3 (MP 19.4),
6. E 0.5 (MP 27),
7. E 1 (MP 29.4),
8. E 3 (MP 35.2),
9. E 4 (MP 37.75), and
10. E 5 (MP 39.75).

Current O&M sites: As these sites receive clearance approval from the EPA, the Hard Boom will be removed. Sorbent boom will then be placed and monitored at sheen locations, if present.

Expected time of completion of upstream activities is October 31, 2010.

Current Submerged oil sites: As these sites receive clearance approval from the EPA, the Hard Boom will be removed. Sorbent boom will then be placed and monitored, if required, to contain any residual sheen. Expected time of completion of upstream activities is October 27, 2010.

Current subsurface sites: These sites are to remain in place until all up stream work has been completed.

November 1st to Freeze up:

Dependent on the completion of in stream clean up (shoreline, submerged oil, etc) and based on the condition of the river, presence of hydrocarbon product/sheen, the control points will be further reduced to a total number of 8 sites.

1. B5 (MP 2.1),
2. C 0.5 (MP 5.4),
3. C 6 (MP 15.5),

4. D3 (MP 19.4),
5. E 1 (MP 29.4),
6. E 3 (MP 35.2),
7. E 4 (MP 37.75),
8. E 5 (MP 39.75).

MP 6 is to remain in place for one week after dredging operations to ensure no residual sheen is present. At this point the Control Point will be removed.

These Control Points will then be monitored daily for sheen hydrocarbon; all sheen and debris will be removed as required. Additionally, the boom will be cleaned of sediment and algae to reduce the appearance of dirty boom.

These Control Points are either in close proximity to vehicle access or vessel boat launch areas. As such, the only resource requirements will be vehicles, vessels, debris nets, bags, sorbent and crews. All debris bags will be hauled to the approved facilities. As no direct contact with hydrocarbon is present, these sites will not require any additional resources.

Any boom adjustments, repairs or change out will be forwarded to Contaminant and Recovery O&M Task Force for completion.

As winter approaches, ice build-up will occur. This ice build-up will severely reduce the integrity of all containment methods and will ultimately be the deciding factor on the removal of the Control Points. Final Control Point removal will be weather dependent and will most likely occur in late November or early December 2010.

If there are no significant rain falls and all upstream work is completed, all subsurface sites are to be removed. If a Control Point is not within proximity (0.25 mile) to subsurface sites, a temporary control point will be installed downstream to collect any residual sheen that may come off the sediment boom or gabion baskets. Once the materials from the subsurface location have been removed, the temporary Control Point will also be removed.

The order of removal will be:

1. B5 (MP 2.1) sediment boom only; Hard Boom will remain,
2. C4 Gabion Baskets (MP 12.5),
3. D 1 Sediment Curtain (MP 17.75),
4. D 1 Gabion Baskets (MP 18),
5. E 4 X-Tex (MP 37.6 and MP 37.75).

4.5 Recovery

Recovery of accumulated debris/hydrocarbon within the containment boom at each control point will be completed by manual labor. Hand tools will be used to recover the debris and hydrocarbon mixture. All materials will be placed into debris bags and handled and disposed of appropriately. Absorbents will be used if required (based on presence of free product). If warranted (significant free product volumes), mechanical skimming equipment will be used for recovery.

As ice accumulates in the containment boom, an assessment will be made to determine if ice recovery will be required. Once the ice volume becomes unmanageable or reduces the integrity of the containment boom, the containment systems will be removed and replaced.

4.6 Maintenance

O&M crews will inspect each control point on a regular basis and complete debris/product/sheen removal as required. Any boom adjustments or repairs will be completed by the Tech Services Group. Regular monitoring will be completed at each control point to assess containment effectiveness, evaluate debris removal techniques as well as to monitor the debris/ice build up. During the cold seasons, ice build up will occur. These build ups severely reduce the integrity of all containment methods and will ultimately be the deciding factor on removal and/or replacement of the systems.

Gabion Basket monitoring and maintenance includes regular visual inspection, removal, cleaning, restocking and reinstallation of the Gabion panels.

Final containment boom, sediment curtain and X-Tex curtain removal will be weather dependent, most likely late November or early December, 2010. The referenced containment items will only be removed after approval from the U.S. EPA.

4.7 Winter Monitoring

Monitoring of the entire site will be carried out during the winter months, utilizing Air Operations, Vessels (airboats) as well as land based observation as appropriate. Crews will observe river characteristics such as freezing (ice dams), debris movement (organic material resulting from the Fall season), and check for the presence of surface hydrocarbon (oil/sheen) and subsurface hydrocarbon migration (submerged oil). Based on these inspections, if surface hydrocarbons are present, winter containment may be required. If conditions are safe, this can be accomplished by means of ice slotting. The use of containment booms in the winter months is not advisable as the containment boom cannot withstand significant ice flows or ice shifting. The containment skirt on the boom also becomes ineffective once the ice depth exceeds 8-10 inches. Enbridge will contact the County Drain Commissioner and other regulatory bodies to identify the locations for historical ice dams to aid in identifying areas that are susceptible to the formation of ice dams. Observation will be made per frequency requirements at these identified locations, as well as other potential ice dam areas, to document ice buildup.

4.8 Spring Deployment

Spring monitoring will be carried out over the entire site by air, vessel as well as land operations. This monitoring will include a detailed inspection of the surface waters and shoreline areas within the site and will be completed throughout the spring breakup and melting period. Based on these inspections, additional surface and subsurface containment may be required. If surface containment is required, the following 7 sites have been identified as potential deployment locations:

B5 (confluence of Talmadge and Kalamazoo, MP 2.1), C 0.5 (MP 5.4), C 6 (MP 15.5), D 3 (MP 19.4), E 3 (MP 35.2), E 4 (MP 37.75), E 5 (MP 39.75).

Subsurface containment may also be installed based on the monitoring and assessment activities. The locations of these sites would be based on the observations made by the monitoring team as well as the locations of any identified subsurface concerns.

4.9 Erosion Control and Minimization

A natural approach to minimizing and controlling erosion on the banks of the Kalamazoo River will be employed for bank stabilization to prevent excessive and/or unnatural sedimentation to the river. In general shear stresses along most of the banks of the Kalamazoo River are very low with erosion and degrading of river banks being relatively minimal. In these areas minimal or no additional stabilization measures are recommended. Minimal measures may include seeding of the banks with an appropriate native seed mix based on erosion resistance qualities. Wheat or other similar erosion resistant, rapid growing plant may also be used as a temporary measure.

In the relatively few areas having high shear stresses along the banks additional control measures may be recommended. Such areas may include outside river bends, downstream of obstructions in the river (e.g. bridge abutments) or high boat traffic areas. In these areas installation of a custom native seed mix and a 100% biodegradable coconut fiber erosion control blanket, consisting of North American Green (NAG) C-125BN or equivalent is recommended. These materials will be installed from the river bank into all disturbed areas.

This same method will be implemented across the wetland restoration areas to stabilize the exposed soil while native perennial vegetation becomes established. Native seed will be installed and promptly covered with coconut fiber erosion control blankets or fabrics. The native seed mix will be developed based on species already present in adjacent un-impacted areas. Wheat or other similar erosion resistant, rapid growing plant may also be used as a temporary measure until the native plants have been reestablished. Erosion of soils from these restoration areas into adjacent communities is not anticipated, but will be controlled by the blankets, if required, and/or with other methods approved by the DNRE or other regulatory body with jurisdiction.

4.10 Mat Road Removal

The installation of mat roads may be necessary to access areas requiring response efforts. After completion of required response actions, the mat roads will be removed. The mat roads will be removed in a logical fashion working outward from the response area to the road access location. Mats will be loaded directly onto trucks that will adequately contain any residual soil or liquids during transport. Enbridge will coordinate with the EPA and MDNRE regarding the schedule for mat removal activities.

During the mat removal process, an environmental representative will be on site to observe the mat removal process and identify potential areas of visible oil or oil impacted soil which may be discovered beneath the mats. If discovered, the representative will direct the excavation of oil contaminated soil and will collect a sample once visual observation of the excavation indicates that no oil remains. Soil samples will be collected from the floor of the excavated areas in general accordance with the MDNRE guidance document entitled Sampling Strategies and Statistics Training Materials (S^3TM). To make the sample grid process simplified in the field, for excavations less than 60 lineal feet, one soil sample will be collected from each 25-feet of linear excavation and submitted for laboratory analysis. Excavations longer than 60 lineal feet may follow this 25-foot sampling frequency (which exceeds S^3TM requirements) or will have a sampling frequency calculated to follow the S^3TM guidance document. Samples will be analyzed for total petroleum hydrocarbons (TPH) parameters including Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and Oil Range Organics (ORO). Soil samples will also be analyzed for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PNAs), and select metals including barium, iron, nickel, vanadium, and molybdenum.

Once the soil sample has been collected from the excavation, the area will be immediately backfilled with a similar soil type and restored as per the methods described in Section 4.9. The limits of the excavation, field observations, and the location of the soil sample will be documented for future reference. The results of the soil sample analysis will be tabulated and used to direct possible future investigation and interim response activities pursuant to Michigan regulations.

Contaminated mats will be segregated and transported to the contaminated material staging area at a to-be-determined location based upon the areas under remedial actions where they will be chipped for subsequent disposal at a landfill. Uncontaminated mats will be transported to a staging area as indicated above. Uncontaminated mats that are not needed for potential future use may be demobilized.

4.11 Observations and Action Tracking

The goals and objectives of this O&M plan as well as response activities will be documented. An operation and maintenance tracking process has been developed to identify and prioritize areas requiring ongoing O&M which include area inspections and assessments, development of area-specific scopes of work, and verification of tasks completion which will include an Enbridge and EPA approval mechanism. This process will be tracked each work day and will provide documented feedback regarding assessment of areas and the timely implementation of appropriate response activities. Subsequent required follow up activities will be noted, implemented, and documented using the process.

The tracking process will begin with the comprehensive list of O&M areas identified on the O&M Monitoring Inspection Tracking form (referenced in Section 2.0 and included in Attachment A) which provides location (section, segment, and GPS coordinates), a unique identification number, a description of the area, standardized maintenance code(s), recommended inspection frequency, priority, comments and suggestions, and the date of last inspection. Crews will be mobilized to the area (based on the recommended inspection frequency) and record their observations and develop a proposed action/work plan for the area. This information will be documented on the Operations and Maintenance Daily Inspection Form. From this form, an area-specific work plan is developed and assigned to a work crew (and documented on the Operations and Maintenance Work Plan form) to implement. Once the work plan has been implemented, a follow up inspection is completed to document the work and make observations regarding possible additional required activities. Each O&M area will have a unique O&M record sheet (Unique ID Operation & Maintenance Record to Sign Off form) to document each successive response activity until such time that the problem has been adequately addressed and the area is removed from the O&M process. This form will have an Enbridge recommendation

and U.S. EPA concurrence signature documenting that the response metric has been attained. A sample O&M tracking form is included as Attachment A. An example of the O&M site closeout document is included as Attachment B.

The observations of reoccurring sheen and the corresponding location and arrangement of booms where sheen is observed will be tracked and documented using the O&M tracking process previously described. Upon completion of any upstream cleanup activities and when observations indicate that sheen is no longer present, the O&M record sheet will be used to document and verify that the sheen does not appear during the required 14 day period. Following successful completion of the 14 day period, the EPA will be notified and the form used to document approval of metric attainment and containment boom removal.

5.0 Excavated Soils

If an area is not responding to the specified O&M techniques (e.g., the continued presence of pooled oil, stressed vegetation, continuing sheen), excavation will be evaluated. At locations where site excavation is determined to be the best alternative for remediation, excavation work plans will be developed by Enbridge on a case by case basis and submitted for approved to the EPA and MDNRE (and other agencies as required) prior to starting work. An external contractor will be identified to perform the actual excavation work, under the direction of Enbridge. All excavation work, site restoration and waste disposal will follow the procedures referenced in the approved work plan.

5.1 Excavated Soil Management

Soil cells were constructed in Area A and Staging Area 4 of the Marshall spill response site to manage excavated soils from downstream locations. The cells in Area A are currently being used to manage debris collected from the field as well as soils. The soil cells will remain active as long as there is a flow of waste material into the cells. Use of all, but one of these cells, will cease when the last of the waste material has been managed and shipped offsite for disposal. One cell will remain as a centralized waste staging and management area until such time the EPA management of this project is complete. When cells are no longer required, a Soil Staging Area Closure Plan will be developed, and submitted to the U.S. EPA for review and approval, to document the planned decommissioning of these facilities. Soil Cells 2, 4, and 5 are expected to remain in use through 2011. All other soil cells will be discontinued by November 15, 2010.

6.0 Sampling of Current and Potential Drinking Water Sources

Plans and procedures for the sampling of existing and potential drinking water sources are addressed in the Sampling and Analysis Plan prepared by on August 2, 2010, amended as the *Drinking Water Well Supplement to the Sampling and Analysis Plan*, submitted on September 27, 2010.

7.0 Waste Management

All wastes generated during the O&M phase will be managed in accordance with the *Waste Treatment, Transportation and Disposal Plan* submitted on August 2, 2010 and revised on August 8, 2010.

8.0 Citizen Call Response Process

Calls from concerned citizens and/or area landowners will be managed according to the Landowner/Citizen Overbank Oil Call Response Process. This process provides a detailed structured approach for managing these calls. A flow diagram for the process is included in Attachment C.

9.0 Long-Term Support Areas for the Line 6B Spill Response

Ariel photographs of long-term operational areas are provided in this section. These areas include the Incident Command Post, decontamination stations, soil storage areas, material staging, and river access points.

9.1 Incident Command Post

The Incident Command Post will remain at 1601 Pratt Street, Marshall, MI 49068.

9.2 Decontamination Stations

9.2.1 Frac Tank City will remain as long term decontamination station.

9.2.2 C0.5 will continue to be used as a decontamination station. Based on further O&M assessment, C0.5 may be decommissioned in 2010 or 2011.

9.3 Soil Storage Areas

Division A will be maintained for oily mat storage. Soil Storage Cells 2, 4, 5 will remain in use.

9.4 Material Staging

1601 Pratt – will be used for consumable storage (inside) and some equipment in parking area

9.4.1 Frac Tank City

Frac Tank City will be used for material storage as space permits.

9.4.2 C3.2

C3.2 will be used as a seasonal material staging area depending on the level of river activity.

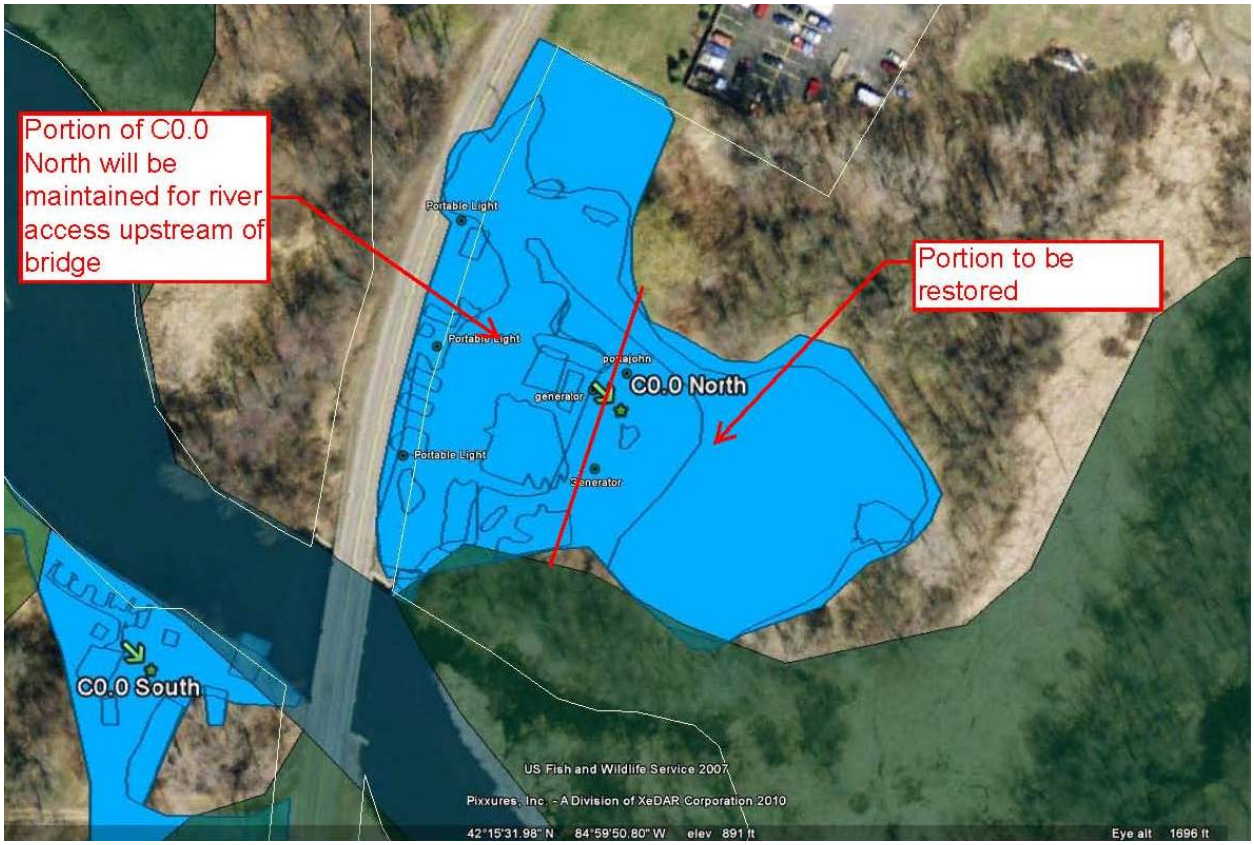
9.5 River Access

9.5.1 B5

B5 is the confluence of creek and river which will be accessed from south shore as necessary.

9.5.2 C0 North

A portion of C0 North will be maintained for river access upstream of bridge.



9.5.3 C0.5

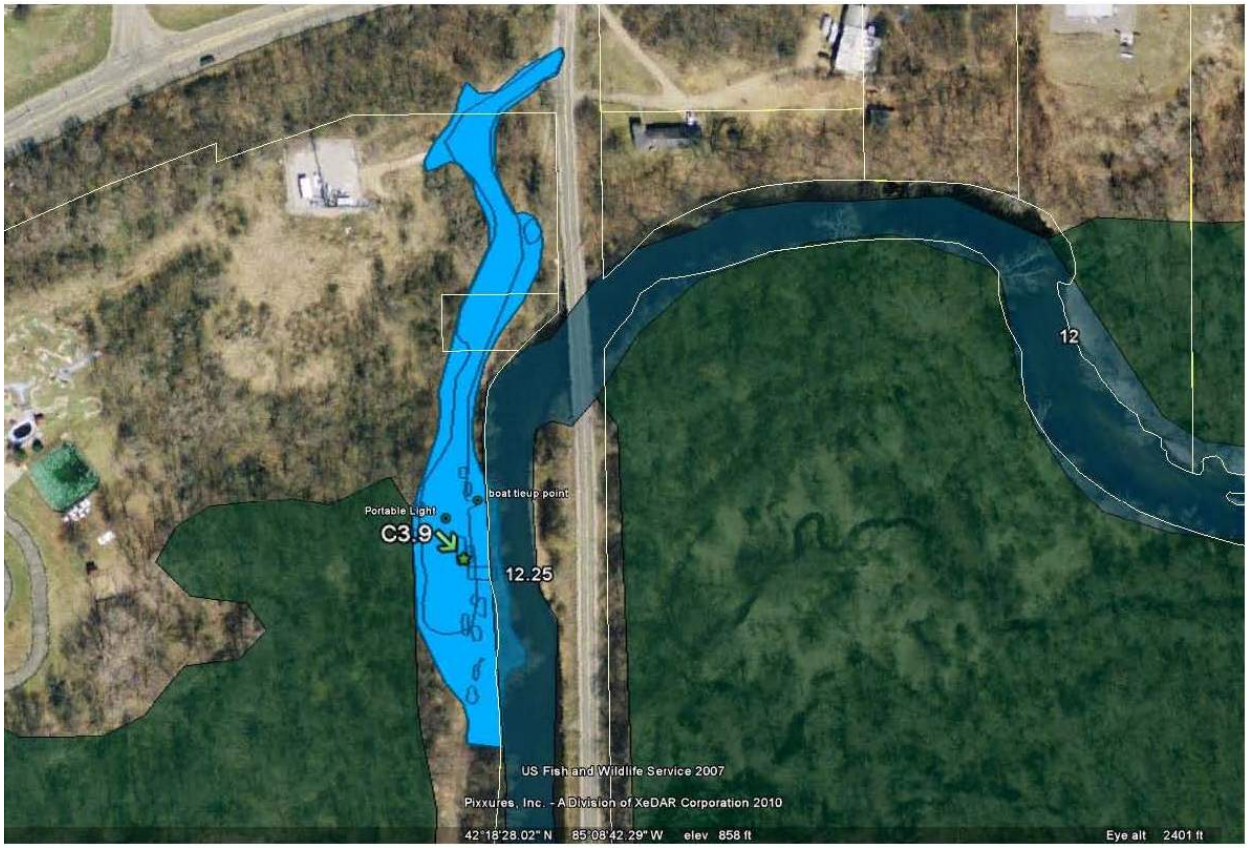
C0.5 will remain in operation for boom maintenance and O&M activities.

9.5.4 C3.2

C3.2 is an Enbridge owned property and will remain open for O&M activities.

9.5.5 C3.7 and 3.9

C3.7 is Enbridge owned property and may be reactivated if necessary for O&M activities. C3.9 will remain open for O&M activities.

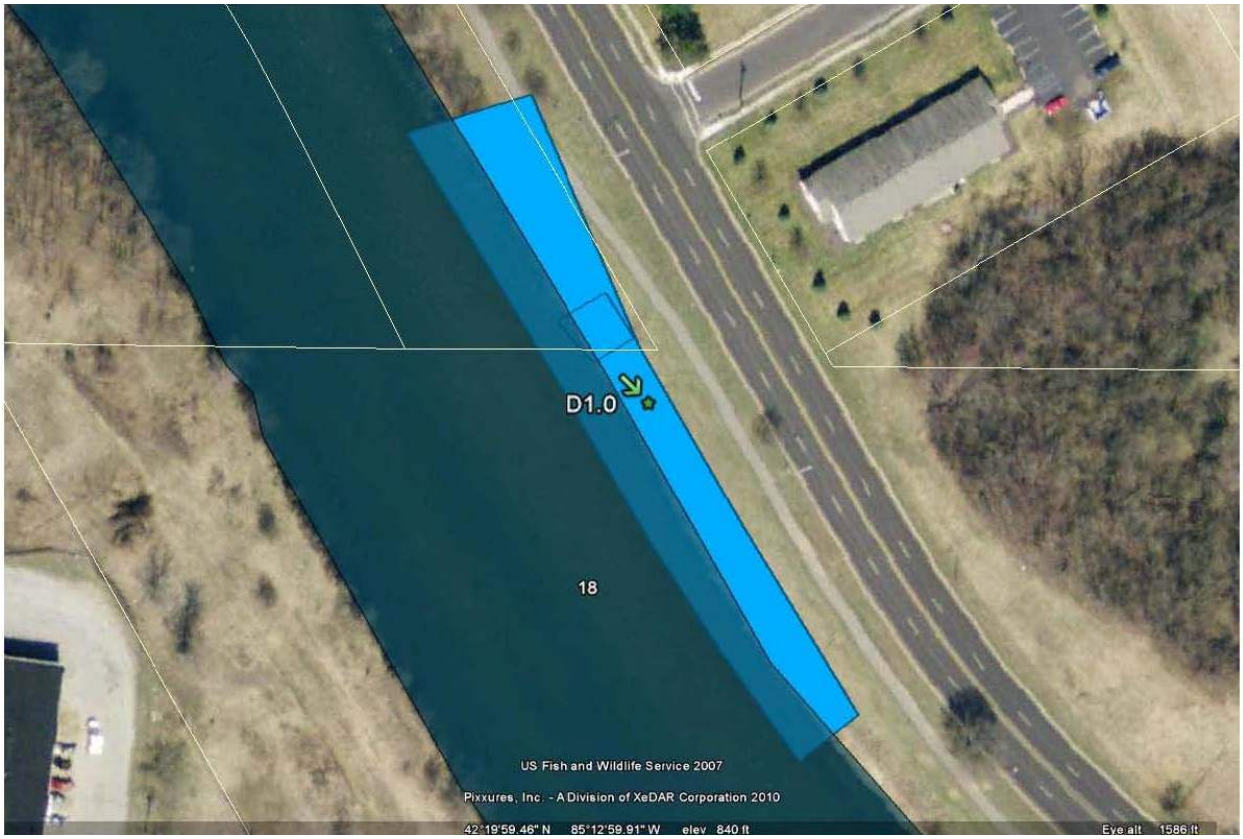


9.5.6 C5

C5 will remain open for boom maintenance and O&M activities.

9.5.7 D1

D1 will remain open for gabion basket maintenance.



9.5.8 D2

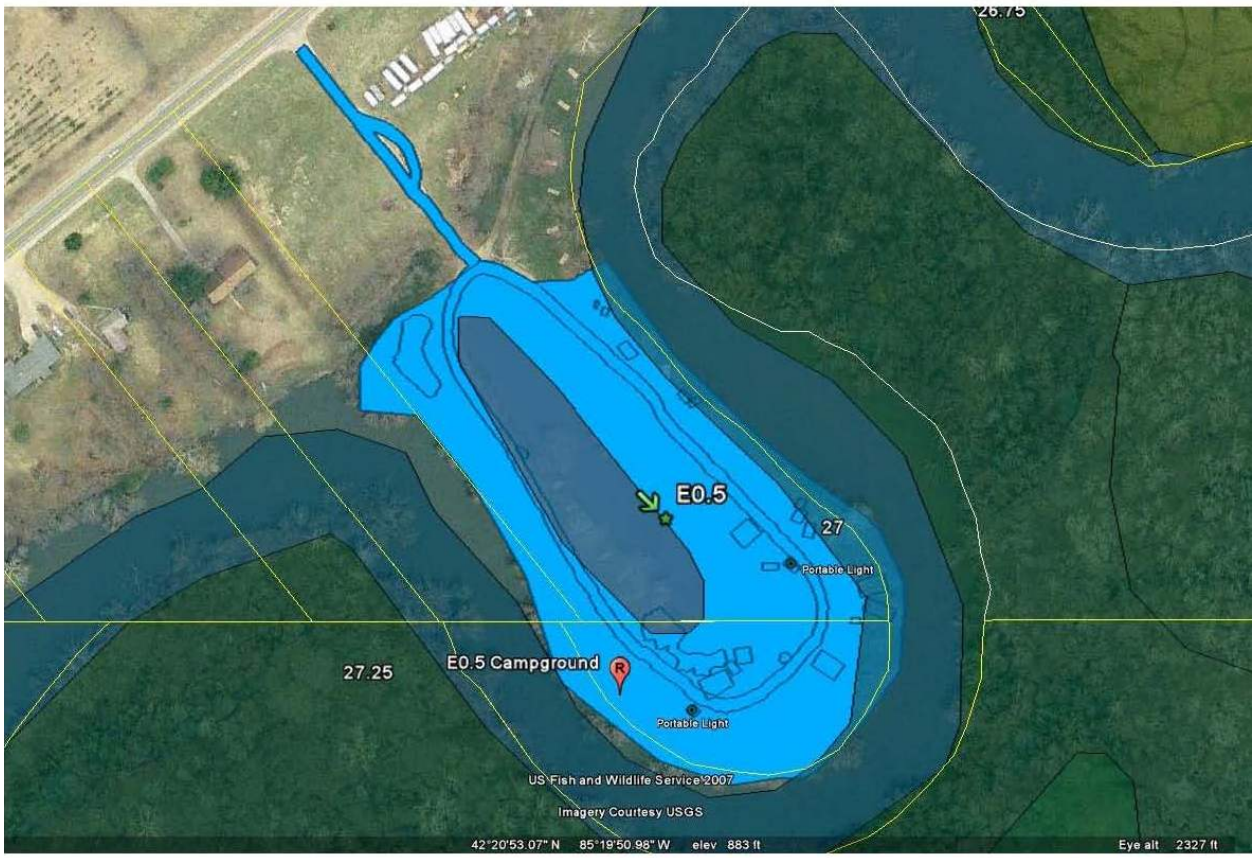
D2 will remain open for boat launch (day use only); no equipment is staged at site.

9.5.9 D3

D3 will remain open for gabion basket maintenance.

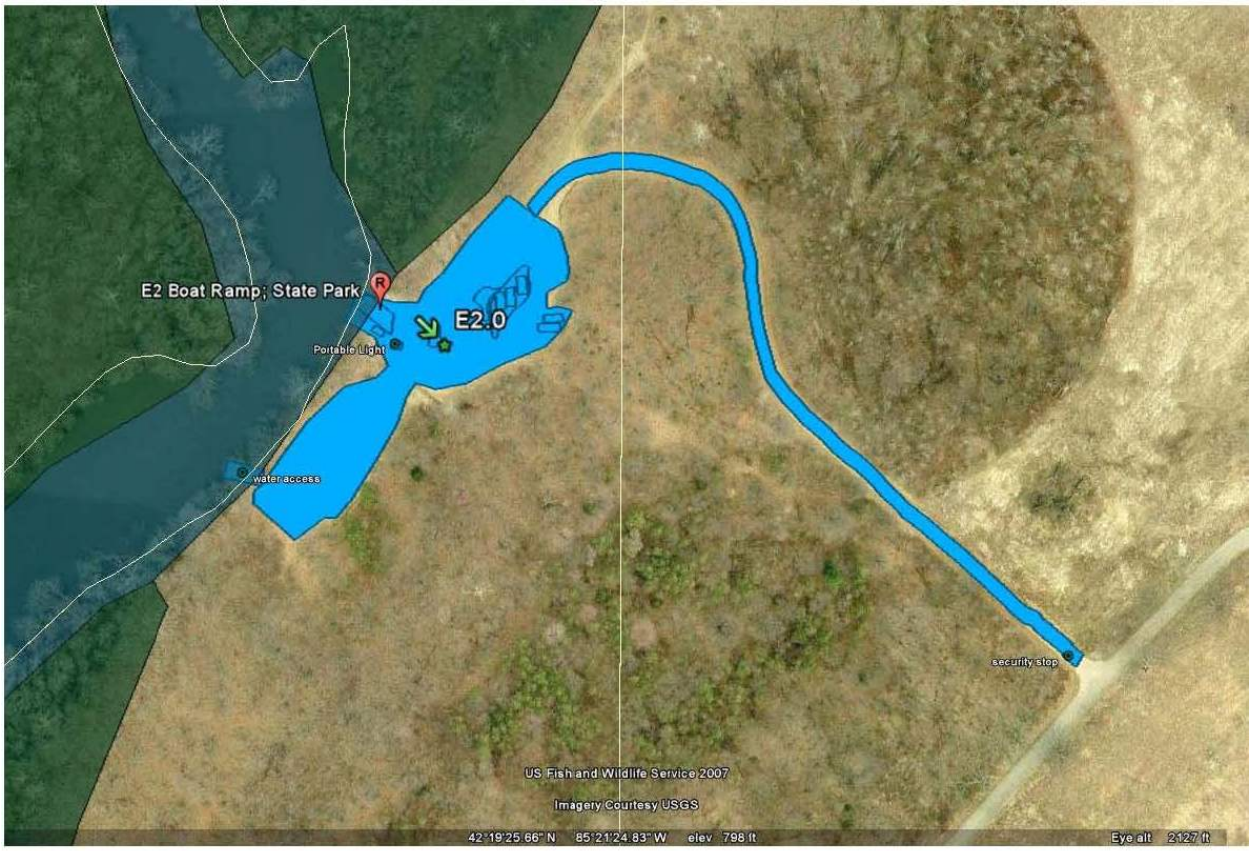
9.5.10 E0.5

E0.5 will remain open for river access until new site on Enbridge owned property is established.



9.5.11 E2

E2 will remain open for boat launch (day use only); no equipment staged at site.



9.5.12 E3

E3 may be reactivated, if necessary, for boom maintenance and O&M activities.

9.5.13 E4

E4 will remain open for boom maintenance and O&M activities.

9.5.14 E5

E5 will remain open for boom maintenance.