

Enbridge Line 6B MP 608 Pipeline Release

Marshall, Michigan

Supplement to Operations and Maintenance Work Plan

Referred to as

Winter Containment Plan

Enbridge Energy, LP

December 8, 2010

WINTER CONTAINMENT PLAN

Site monitoring will be completed during the winter months, utilizing Air Operations, Vessels (airboats) as well as land based observation. During the monitoring, crews will observe river characteristics such as freezing, movement of flowing ice, debris movement (organic material resulting from the fall season), visual checking for the presence of surface hydrocarbon (oil/sheen) as well as subsurface hydrocarbon migration (submerged oil) via poling, if required.

Based on historic weather conditions and including discussions with local representatives, freezing of the Kalamazoo to its entirety does not normally occur and there may be open areas throughout the winter that will allow the visual inspection of surface and subsurface waters. Based on these inspections, if surface hydrocarbons are present, winter containment will be implemented when possible (based on safety considerations as well as weather and river conditions, see below). This can be accomplished by means of leaving the existing boom in place or alternative methods such as ice slotting. It is noted that the use of containment booms in the winter months is not advisable if the river system freezes as the containment boom cannot withstand significant ice flows or ice shifting. The containment skirt on the boom in fast water also becomes ineffective once the ice depth exceeds 8-10 inches. As well if any water gets between the float and the outer cover the water can freeze, become brittle and split the boom. Surface collection using containment boom is very difficult in freezing conditions.

Considerations will be taken into account regarding the following:

- Safety of personnel working in and around ice and open water
- Ambient air temperatures (especially rapid increases and decreases)
- Water temperatures (to be taken during daily monitoring activities)
- Ice buildup (shoreline, main channel, oxbows)
- Surrounding areas (upstream Kalamazoo River, Battle Creek, other inflowing watercourses)
- Morrow Lake Dam (water fluctuations resulting from Dam influence)
- Upstream work activity
- In stream work activity (mainly vessel traffic)

Based on historical data and conversations with local representatives, it was identified that in the past 5 years there had been an average of approximately 5-7 inches of ice cover along the river edge extending towards the deeper and faster moving water with possible full surface coverage. It is also estimated that Morrow Lake will have approximately 12 inches of ice cover during the peak winter months. Taking the ice depth into consideration, river characteristics as well as knowledge of potential ice flows/ice jams, it is

the intention that up to 4 control points will remain in place during the winter season. This will be dependent on the above noted considerations and every effort will be made to maintain surface water containment.

As the ice starts to form along the river's edge and border ice is prevalent, all absorbent material will be removed from the site because once it is frozen it is no longer effective. Hard boom not directly associated with overbank work will also be removed from the river (islands, control points not listed below, near term containment where no work is being completed), due to the risk of losing integrity of containment. As the overbank work is completed the boom within these areas will be removed. Overbank work that may have surface water flow during warming trends, can be managed with hard boom in order to prevent movement into non-impacted areas or into the river, this will be installed as needed at select locations.

The main control points (outside of the overbank work) that are recommended to remain in place over the winter months are as follows:

- B5 – Confluence of Tallmadge Creek and the Kalamazoo River; one 6" flotation x 6' sediment boom within sediment trap; that spans the entire creek system and one 12" hard boom that spans the entire confluence from shoreline to shoreline. These areas at B5 can be accessed via A Drive North.
- C0.5 – Open chevron above Ceresco Dam; 18" boom. The south containment area can be accessed from the shoreline at the C0.5 boat launch and the north containment area via airboat.
- C6 – Shore to shore containment midpoint of the rivers length; 18" boom. This containment area can be accessed via Riverside Road.
- E4 – Morrow Lake/Delta; 18" containment boom. This containment area can be accessed from the area around the boat launch at E4 (River Oaks Park). X-TEX boom removal will be weather dependent (based on ice flow). The X-TEX boom will be removed once ice flow is anticipated to impact the integrity of the boom.

The selection of these sites is based on areas which are accessible from land or would have no safety issues for access via airboat, such as ice jams. All of these control points will be installed with "ice gates"; a means to release the downstream section of the containment boom while still maintaining mid and upstream containment. This activity will only be completed when it is necessary to relieve pressure on the boom where ice buildup has the potential to impact the boom. If the boom freezes into the ice and

becomes damaged, these sections can be removed by utilizing an air boat to create a pressure wave atop the boom, dislodging it from the ice. The damaged pieces can then be replaced. If the ice depth is too great; then alternative means of boom removal will be considered, such as cutting the ice surrounding the boom in order to dislodge.

It is not recommended to leave the chevron in place at E5 over the winter months as wind may shift the ice sheet during warming trends, impacting the boom and either ripping the boom or discharging the anchor systems, releasing the boom into either the hydro plant intake or over flow area.

The chevron boom configuration located at E5 can be re-installed in the spring as the ice sheet on the lake is thawed and the safety concerns can be best managed.

Visual monitoring at open areas downstream of the Morrow Lake Dam will also be completed and in the event sheen is noted additional containment boom will be installed downstream, pending weather and site conditions.

The boom collection areas will be monitored for boom integrity and be maintained daily. Maintenance will consist of removing any accumulated debris from within the recovery points (refer to figure 3). Ice, if present, will be visually inspected and released to the downstream area if no impact is noted. Any accumulated product or sheen that is noted will be recovered and transported off site for processing. Pending ice formation, plywood with a Teflon lined foam insulation insert will be placed into the open hole. This insert will serve a dual purpose; the insulation insert will reduce direct contact with the ambient temperatures, reducing the ice formation within the collection area during the night. Second, the plywood is used to cover the open areas and with the aid of safety fence, prevent entry. If a hard freeze is prevalent and the insulation insert and plywood are not effective, alternative measures such as continued ice removal, may be used.

If the main control points cannot withstand the ice accumulation even with the ice gates open, then operations will remove the containment boom if safe to do so. Any residual sheen that may move with the ice flow will be managed at control point E4 as this is a large surface area that will provide the best opportunity to collect any residual sheen. In the event that all control points are removed due to ice flow, continued monitoring will be completed at Morrow Lake as well as additional downstream locations (downstream of Morrow Lake Dam).

Boom configuration will consist of the following:

- Ice gates on the downstream end of all control points.
- High tension anchor point on the upstream end of the control point.

- Lower tension anchor points at the downstream end of each control point. In the event that the Ice Gate cannot be opened before boom washout, the anchor points at the lower end of the control point will break, allowing the containment boom to swing to the opposite side of the river channel. This will allow the boom to remain attached at the upstream point, fold up along the adjacent shoreline and not be deposited to a downstream area.

All boom management, control point maintenance, boom adjustments, subsurface containment (gabions, sediment curtains, X-TEX curtains) will be weather dependent and may change on a day to day basis. Fluctuating weather conditions, ice movement and other considerations mentioned above will dictate the continued use of these control measures. There will be times throughout the winter months when no surface or subsurface containment will be in place. Routine monitoring will continue during these times and when conditions permit, containment will be reinstalled. The continued monitoring and maintenance of the control points will also include inspections for ice build up at the boom locations, potentially creating an upstream Ice Jam. If this occurs, the anchor lines on the downstream ends of the booms will be released to allow the ice to continue past the area.

As safety considerations and weather permit, every effort will be made to maintain surface and subsurface containment throughout the site. Actions may be required prior to providing notification to the regulatory agencies. Notification will be made at the earliest opportunity.

Illustration of an open chevron (Figure 1)

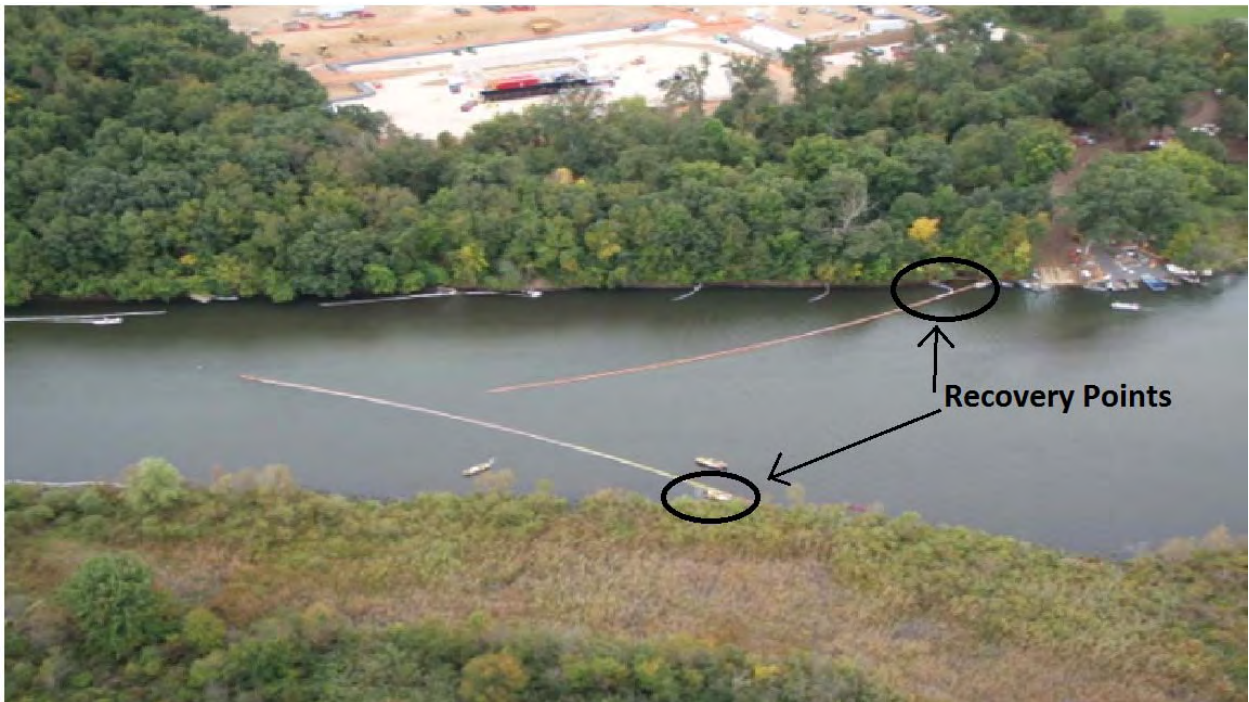
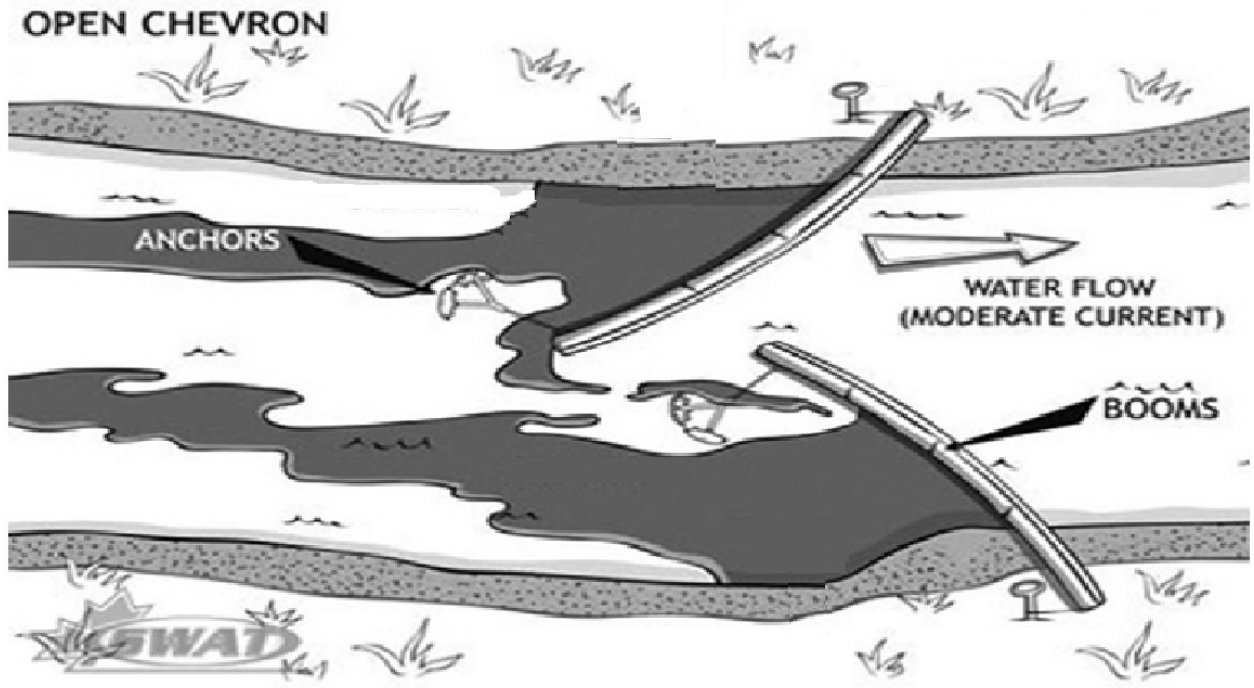
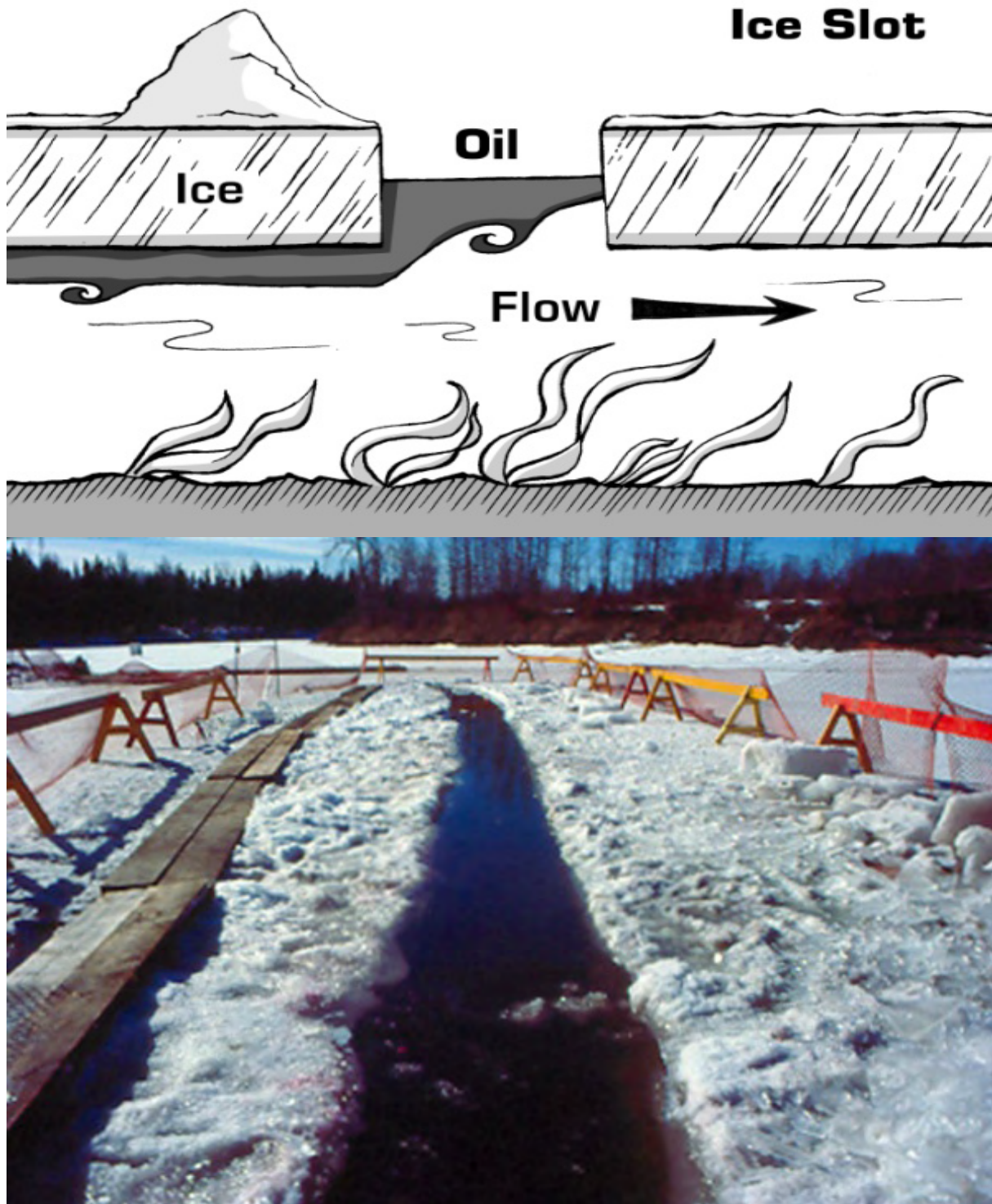
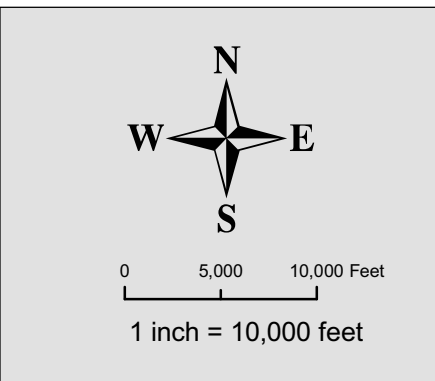
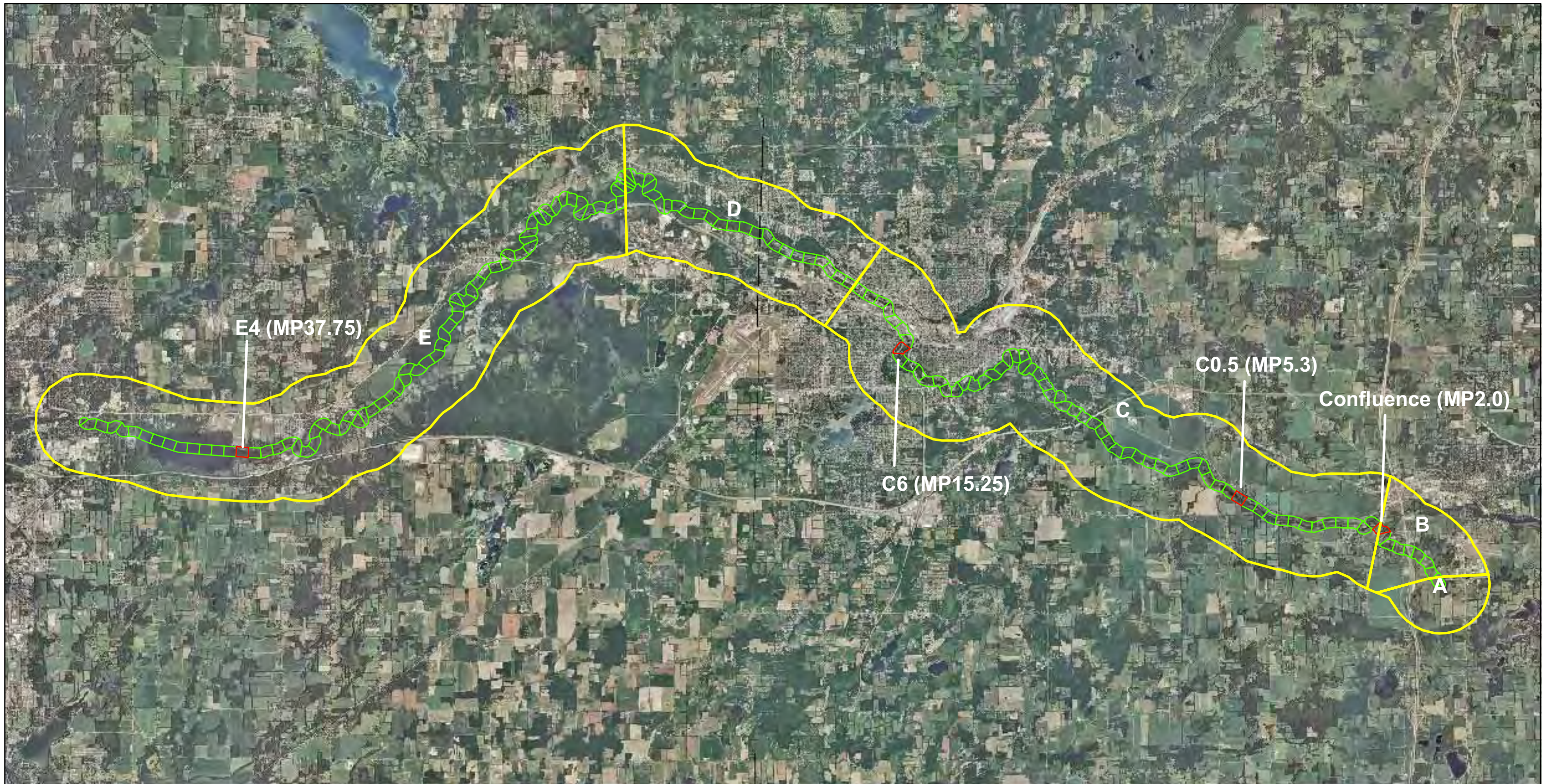


Illustration of an ice slot (Figure 2)





Legend

- Control Point Location
- Division
- Quarter Mile Section

Coordinate System: Michigan State Plane South
 Horizontal Datum: NAD83
 Vertical Datum: NAVD88
 Units: International Feet

FIGURE 1
 Winter Control Points
 ENBRIDGE LINE 6B RESPONSE
 KALAMAZOO AND CALHOUN COUNTIES
 MICHIGAN
 Dec 8, 2010

TETRA TECH EC, INC.