Environmental Clearance Summary for Line 5 Mackinac Straits Hydrotest
Project Manager: Matt Fournier

Introduction

Enbridge Environment has completed environmental compliance reviews for the Line 5 (L5) hydrotest at the Straits of Mackinac, Michigan. This document provides environmental clearance and environmental review information for this project. This review and clearance is based on information provided by the Enbridge Project Manager (PM) and Leggette, Brashears & Graham, Inc. (LBG). LBG is providing environmental review and permitting support for the project under the direction of Shane Yokom, Enbridge Environment Department.

Project environmental compliance reviews are completed to identify potential environmental Best Management Practices (BMPs) and environmental permitting to be coordinated before the start of construction. The reviews do not cover non-environment related permits that may be requiremed for general construction (e.g., utility identification and building, mechanical, or electrical permits). Based on our understanding of project information provided by the PM and LBG, and requirements established in this e-mail, the L5 hydrotest is cleared to proceed (Table 1):

Table 1 – Project Environmental Review and Clearance History

Project Identification	Project Description	Start of Hydrotest	Environmental Clearance for Hydrotest
Enbridge Energy, Limited Partnership Line 5 (L5) Hydrotest • North Straits Station • Mackinaw Station • Line 5 -Dual Pipelines of the crossing	Hydrotest	May 8, 2017	May 5, 2017

1. **Environmental Reviews for Completed Hydrotest Preparation Activities**

- Environmental review and clearance for these activities were managed by Environment with support from LBG. This section presents a summary of the environmental review activities for project work that has been completed to support the L5 hydrotest.
    - Environmental reviews (ERs) and biological assessments were completed for the North Straits and Mackinaw Stations. The ER review and assessment reports discussed the presence of wetlands, surface waters, coastal management areas, floodplains, Threatened and Endangered (T&E) species, and historic/cultural resources for each station. Applicable figures were included in the reports. The completed ERs and biological assessment reports are summarized below:
        - October 18, 2016, LBG ER report for construction of temporary piping along L5 right-of-way (ROW) and West Central Avenue, Mackinaw City, Michigan, and temporary water storage near the Mackinaw Station. **(ER report attached).**

- October 19, 2016, LBG ER report for construction of temporary piping along the L5 ROW and temporary water storage near the North Straits Station **(ER report attached).**
- November 10, 2016, GEI Botanical and Wetland Assessment Report for the North Straits Station gravel driveway expansion **(assessment report attached).**
- April 14, 2017, LBG ER report for excavation of existing stopples at the North Straits and Mackinaw stations. **A copy of the ER report is attached with figures showing the stopple locations at each station.**

- It should be noted that ERs were also completed for other projects at the Mackinaw Station in 2016 where the results are applicable to this project. Copies of ER and environmental clearances for those projects are not included as attachments to this summary but can be provided upon request.
- It should also be noted that the stopples at the North Straits and Mackinaw stations will only be excavated if necessary.

2. Environmental Review and Permit Acquisition for Pending Hydrotest Activities

- Pending activities to implement the L5 hydrotest are scheduled to begin on May 8, 2017. The pending activities are summarized below:
  - Excavate to install two temperature probes near the North Straits Station. The **attached Google Earth image (Review Summary Figures)** shows the locations of the two probes, identified as NW Temp Probe and NE Temp probe.
  - Excavate to install two temperature probes near the Mackinaw Station. The **attached Google Earth image (Review Summary Figures)** shows the locations of the two probes, identified as SW Temp Probe and SE Temp probe.
  - Complete the L5 hydrotest. The attached **Google Earth image (Review Summary Figures)** shows the locations where roads will be closed during the test.
- Environmental review activities completed for the pending L5 hydrotest activities are summarized below:
  - A Soil Erosion Control (SEC) Permit was obtained from Emmet County for the temperature probe excavation work at the Mackinaw Station. **Copies of the Emmet County SEC permit application, permit, and payment receive are attached (Emmet SEC Permit).**
  - A Soil Erosion and Sediment Control (SESC) Permit is in process if being obtained from Mackinac County for the temperature probe excavation work at the North Straits Station. **Copies of the Mackinac SESC Permit application and county e-mail correspondence, dated April 28, 2017, confirming the permit will be approved is attached (Mackinaw SESC Permit).**
  - Various review activities were completed to evaluate potential impacts the project may have on Threatened and Endangered (T&E) species. The **following documents are included in the T&E Information attachment:**
    - North Straights Valve Site Project Dwarf Lake Iris and Houghton's Goldenrod 2011 Transplant and Monitoring Report, Enbridge, December 2011.
    - 2012 Annual Monitoring Report, Houghton's Goldenrod and Dwarf Lake Iris Relocation Project, Enbridge, December 2012.
    - 2013 Annual Monitoring Report, Houghton's Goldenrod and Dwarf Lake Iris Relocation Project, Enbridge, December 2013.
    - Figure 1: Wetland and Threatened and Endangered Species Data, North Straights Station

- In general, work at the North Straits Station has potential to impact various T&E species while work at the Mackinaw Station poses potential impacts to a historical resource (lighthouse).
- Mackinac County Coastal Zones Map
- Emmet County Coastal Zones Map

Environmental Permit and BMP Requirements

- A copy of this environmental clearance and attachments (i.e., environmental permit book) shall be provided to the Project Manager (PM). Copies of the permit book shall be provided to the project team for maintaining at both stations in a manner (i.e., three ring binder) where the documents are readily available for inspection during hydrotest activities.
    - An Emmet SEC Permit will be obtained on May 8, 2017. When received, a copy of the permit shall be added to the environmental permit book.
    - A Mackinaw County SESC permit will be obtained on May 8, 2017. When received, a copy of the permit shall be added to the environmental permit book.
        - Requirements of both county permits shall be reviewed with the project team and complied with during hydrotest activities.
- No other environmental permits are required for the hydrotest.
    - Air Compliance – This project has been reviewed for air compliance. Project activities, as planned, will meet the Michigan DEQ permit exemption requirements under Rule 290. A description of exemption qualification along with supporting calculations are provided as an attachment to this clearing email.
- The presence of surface waters, wetlands, floodplains, T&E species, and historic/cultural resources, and any associated mitigation requirements, are addressed in the environmental review documents referenced under Section 1 of this document.
    - Migratory and nesting bird surveys have been identified as a need for work at both stations. The surveys are scheduled to be conducted on May 8, 2017.
- Excavation Dewatering at the North Straits Station: The Enbridge PM has requested guidance on where excavation water can be discharged during excavation work at and near the North Straits station, where wetlands and several T&E plant species (Dwarf Lake Iris, Houghton's Goldenrod) are in close proximity. Several areas of Dwarf Lake Iris re-establishment (i.e., transplant) are also present near the station.
    - LBG has confirmed that the North Straits station does not have a National Pollutant Discharge Elimination System (NPDES) permit in-place that regulates construction dewatering or stormwater discharge activities.
    - Excavation dewatering fluids that are not impacted with crude oil, petroleum products, or other types of chemicals can be discharged to upland areas of Enbridge property without environmental permitting. Care shall be taken to avoid direct discharges to wetlands, if possible; however, discharges to wetlands can occur if no other viable options are available. The discharge can also be directed to stormwater retention areas of the stations.
    - **Figure 1 of the T&E Information attachment** shows areas of established Dwarf Lake Iris and Houghton's Goldenrod and areas of transplanted Dwarf Lake Iris. Environment does not authorize placement of dewatering structures in these areas.
    - All excavation dewatering fluids shall be discharged to a silt bag and flow dissipation structure (dewatering structure) in accordance with applicable Enbridge BMPs. A **typical Enbridge dewatering structure diagram is attached.**
- Excavation Dewatering for work at Mackinaw Station:

  - LBG has confirmed that the Mackinaw station does not have an NPDES permit in-place that regulates construction dewatering or stormwater discharge activities. Excavation dewatering fluids can be discharged to an upland area of Enbridge property following applicable Enbridge BMPs.
- There is potential to encounter crude oil impacts when excavating at Enbridge facilities. Enbridge does not allow discharges of impacted soil and dewatering fluids to the ground surface; therefore, the discharge of excavation dewatering fluids shall be routinely monitored for potential impacts. Contact Environment immediately and implement protocols in the **attached environmental procedures for historical contamination** is indications of impacts are observed. Indications of impacts can include presence of oil substances and textures, sheens, odors, discoloration, powdery substances or remnants of container (i.e., drums).
- Contact Environment if more than 1 acre of ground disturbance will occur at either station or if the area of ground disturbance is move or reconfigured. Ground disturbance includes areas impacted by excavating, stockpiling, grading, fill, excessive heavy equipment rutting, tree removal, vegetation removal to the ground surface, and any other activities that requires ground restoration (e.g., regrading, seeding).
- Unplanned work or scope of work changes may result in the need for additional environmental review. In such cases, the PM shall contact Environment as soon as possible to request additional environmental review and, if needed, permitting support.
- This environmental clearance is valid for the duration of the project. Contact Environment to coordinate another bird survey every two weeks during the project. When permits are received from Emmet and Mackinaw Counties, the permits shall be reviewed by the PM to understand the duration of coverage for each permit.
- The primary contacts from Environment for this project are listed below:

  - Environmental Project Manager:
    Shane Yokom O: 218.464.5632/M: 218.269.0369
    Shane.yokom@enbridge.com

  - Environmental Specialist:
    James Snider O: 517.851.6010/M: 218.269.0591
    James.snider@enbridge.com

  - Environmental Coordinator (EC):
    Tom Dahl, O: 218.340.7372
    Tom.dahl@lbgmn.com

Emmet County
Office of Planning, Zoning & Construction Resources
3434 Harbor Petoskey Road, Suite E
Harbor Springs, MI 49740
231-348-1735 (phone) 231-439-8933 (fax)
www.emmetcounty.org
pzcr@emmetcounty.org

03/31/2017

Enbridge Energy, Limited Partnership
26 E. Superior St., Ste. 309
Duluth, MN 55802

Dear Enbridge Energy:

Enclosed is Soil Erosion permit PSE 17-014 for pipeline maintenance. The enclosed permit and site plan must be posted in a visible place on the work site for the duration of the project or until the date of expiration. This permit will expire in one year from the date issued. If the earthwork is not completed within one year, it will be necessary for you to apply for a new permit.

Sincerely,

Nancy Salar
Ordinance Enforcement Officer
Emmet County

Emmet County

Planning, Zoning and Ordinance Enforcement

3434 Harbor Petoskey Rd., Suite E
Harbor Springs, MI 49740
PHONE: 231.348.1735
FAX 231.439.8933

Soil Erosion
PSE 17-014

Issued: 03/31/2017
Expires: 03/31/2018

Under the provision of Part 91, Soil Erosion & Sedimentation Control, Act 451 of the Public Acts of 1994, authority is hereby granted to the landowner for:Pipeline maintenance

Project Location	Owner:	On Site Responsible Parties:
6786 DAVID DR 15-03-10-427-008 **Township** WAWATAM **Town & Range** 39N 4W **Section:** 10	HARBURN TODD & SHIRLEY 581 PO BOX MACKINAW CITY MI 49701 **Ph.:**	ENBRIDGE ENERGY COMPAN 2629 ADDISON TX 75001 **Ph.:** ENBRIDGE ENERGY COMPAN **Ph.:**

Work Description: Pipeline maintenance

Stipulations:

Measures will be taken to insure that no offsite sedimentation occurs.
The permitted activity shall be completed in accordance with the approved plans and specifications, and the attached general and specific conditions.
All exposed and disturbed soils will be re-stabilized within 5 days of final grading.
Landowner shall notify this office, within one week after completing permitted activity, that the work has been completed.
Contact this office if there is any change to submitted site plan.
Area of disturbance not to exceed that shown on approved SESC site plan.
Silt fencing, if used, must be removed upon stabilization of the site.

Nancy Dale

County Enforcing Agent Signature

THIS PERMIT DOES NOT ELIMINATE THE NEED FOR OTHER FEDERAL, STATE, OR LOCAL PERMITS
POST THIS CARD SO IT IS VISIBLE FROM THE STREET

GENERAL CONDITIONS

In accordance with Rule 1709 promulgated under the authority of Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and in addition to the information on the attached plan(s) and special conditions, the following general conditions apply to the earth change authorized by this permit:

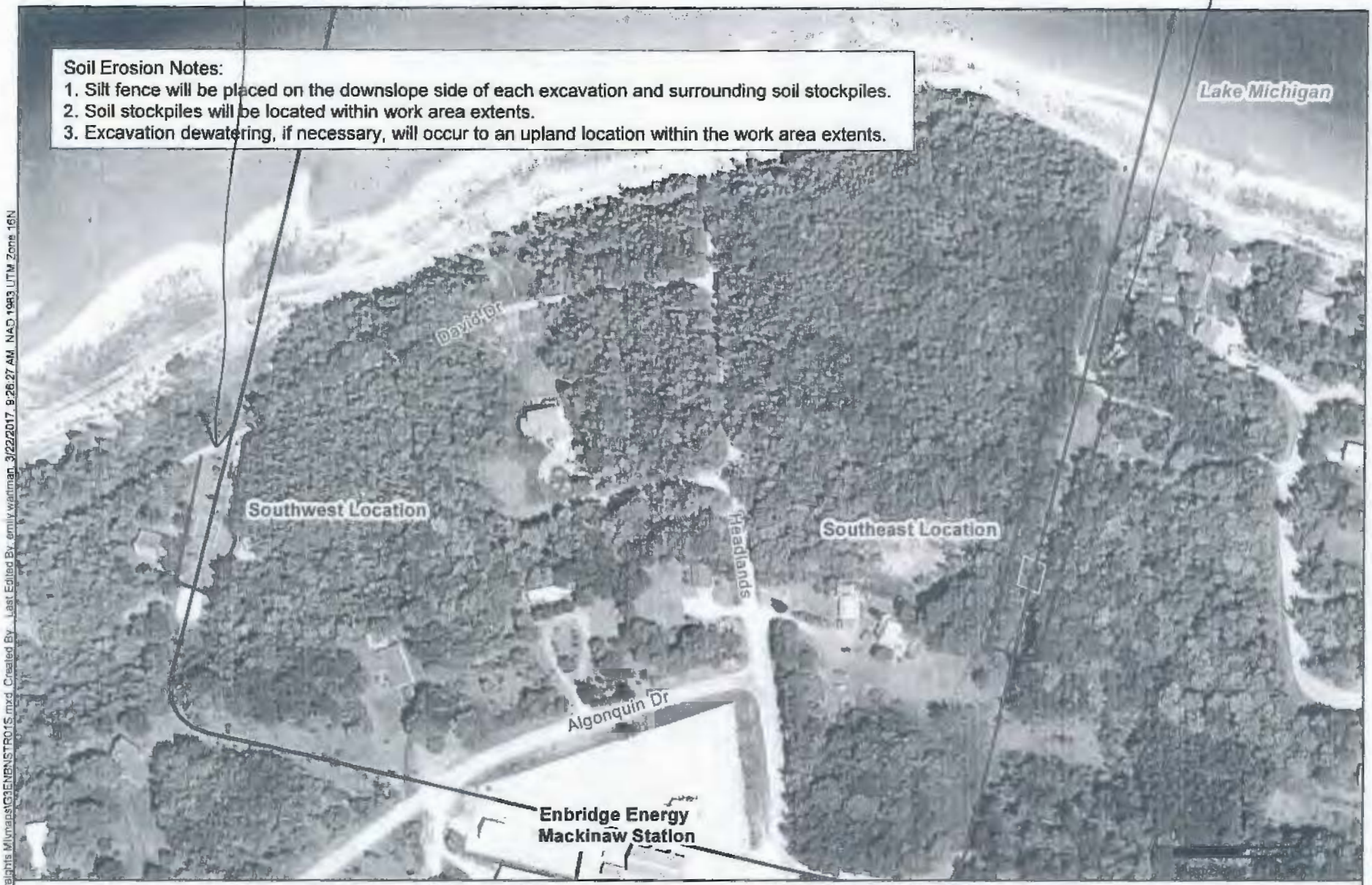
- Design, construct, and complete the earth change in a manner that limits the exposed area of disturbed land for the shortest period of time.
- Remove sediment caused by accelerated soil erosion from runoff water before it leaves the site of the earth change.
- Temporary or permanent control measures shall be designed and installed to convey water around, through, or from the earth change at a non-erosive velocity.
- Install temporary soil erosion and sedimentation control measures before or upon commencement of the earth change activity and maintain the measures on a daily basis. Remove temporary soil erosion and sedimentation control measures after permanent soil erosion measures are in place and the area is stabilized. ("Stabilized" means the establishment of vegetation or the proper placement, grading, or covering of soil to ensure its resistance to soil erosion, sliding, or other earth movement.)

Complete permanent soil erosion control measures for the earth change within five calendar days after final grading or upon completion of the final earth change. If it is not possible to permanently stabilize the earth change, then maintain temporary soil erosion and sedimentation control measures until permanent soil erosion control measures are in place and the area is stabilized

15-03-10-427-008

42-03-51-300-033

Soil Erosion Notes:
1. Silt fence will be placed on the downslope side of each excavation and surrounding soil stockpiles.
2. Soil stockpiles will be located within work area extents.
3. Excavation dewatering, if necessary, will occur to an upland location within the work area extents.



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Enbridge Line 5 Pipeline
Excavation Extent
Work Area Extent

Service Layer Credits: Aerial Imagery from ArcGIS.

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Groundwater and
Environmental Engineering Services
302 W. Superior St. Suite 70
Duluth, Minnesota 55802
(218) 336-2283

ENBRIDGE ENERGY, LIMITED PARTNERSHIP
MACKINAW STATION
EMMET COUNTY, MICHIGAN

SITE LAYOUT

FILE:	G3ENBNSTR01S.MXD	DATE:	3/22/2017	FIGURE:	2

LMAS DISTRICT HEALTH DEPARTMENT

Environmental Health ▪ Personal & Family Health ▪ Emergency Preparedness

www.lmasdhd.org

Luce County
& Administrative Office
14150 Hamilton Lake Road
Newberry, MI 49868
Ph: (906) 293-5107
Fax: (906) 293-5453

Mackinac County
749 Hombach Street
St. Ignace, MI 49781
Ph: (906) 643-1100
Fax: (906) 643-0239

Alger County
E9526 Prospect Street
Munising, MI 49862
Ph: (906) 387-2297
Fax: (906) 387-2224

Schoolcraft County
300 Walnut Street, Room 155
Manistique, MI 49854
Ph: (906) 341-6951
Fax: (906) 341-5230

Soil Erosion and Sedimentation Control Permit

Permit Number	
SESC17-022	
Date Issued	**Expiration Date**
04/27/17	12/31/17

Name of Permittee: ENBRIDGE ENERGY
Address: 26 E SUPERIOR ST, SUITE 309
Telephone Number: 218-464-5625

Location of Project:

Address: BOULEVARD DRIVE
Property #: T 40 N R 4 W Sec. 24
Township: Moran

Permitted Earth Change Activity: [Residential/Commercial/Pit]

COMMERCIAL

Excavation/fill 800 (approx. sq. ft.) necessary for the construction of a Excavations

Lake/Stream Near Site: 350 **' to** Lake Michigan

Contact on-site: MATTHEW PERAMAKI

Telephone Number: 906-202-0947

1 **Permit Must Be Posted Onsite**

SPECIAL PERMIT CONDITIONS

1. As identified in the enclosed site plan all SESC measures will be properly installed upon start of work between construction site and lake/stream to prevent sedimentation of waterway. Site visits may reveal the need for additional temporary or permanent erosion control measures.

2. Controls to remain until final grading and site restoration.

3. Heavy hay mulch cover to be used on all raw soils upon restoration.

4. The permitted activity shall be completed in accordance with the approved plans and specifications, and the attached general and specific conditions.

5. The permit does not waive the necessity for obtaining all other required federal, state, or local permits.

6. Permittee shall notify the permitting agency within one week after completing the permitted activity or one week prior to the permit expiration date, whichever comes first.

2 **Permit Must Be Posted Onsite**

Issuance of this permit does not waive the need to obtain other local, state, or federal permits. Of particular importance are state MDEQ permits that cover work in or adjacent to lakes/streams [Part 301], wetlands [Part 303], and floodplains [Part 31].

GENERAL CONDITIONS

In accordance with Rule 1709 promulgated under the authority of Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and in addition to the information on the attached plan(s) and special conditions, the following general conditions apply to the earth change authorized by this permit:

- Design, construct, and complete the earth change in a manner that limits the exposed area of disturbed land for the shortest period of time.
- Remove sediment caused by accelerated soil erosion from runoff water before it leaves the site of the earth change.
- Temporary or permanent control measures shall be designed and installed to convey water around, through, or from the earth change at a non-erosive velocity.
- Install temporary soil erosion and sedimentation control measures before or upon commencement of the earth change activity and maintain the measures on a daily basis. Remove temporary soil erosion and sedimentation control measures after permanent soil erosion measures are in place and the area is stabilized. "Stabilized" means the establishment of vegetation or the proper placement, grading, or covering of soil to ensure its resistance to soil erosion, sliding, or other earth movement.)
- Complete permanent soil erosion control measures for the earth change within five calendar days after final grading or upon completion of the final earth change. If it is not possible to permanently stabilize the earth change, then maintain temporary soil erosion and sedimentation control measures until permanent soil erosion control measures are in place and the area is stabilized.

Issued by: Elizabeth Suggitt
Sanitarian-Soil Erosion Permits
Mackinac County
LMASDHD

cc: **Local Building Official**

Attach site plan & specifications to posted permit

3 **Permit Must Be Posted Onsite**