

INTERIM RESPONSE CONSTRUCTION SUMMARY REPORT FOR TRAIL CAPPING

ABANDONED MINING WASTES – TORCH LAKE NON-SUPERFUND SITE
CHTC TAMARACK SANDS AREA
HOUGHTON COUNTY, MICHIGAN
SITE ID# 31000098



JANUARY 2017

PREPARED FOR:
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDIATION & REDEVELOPMENT DIVISION
CALUMET FIELD OFFICE
CALUMET, MICHIGAN



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Site ID: 31000098
Houghton County, Michigan

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1.0 INTRODUCTION

The Mannik & Smith Group, Inc. (MSG) has prepared this *Interim Response Construction Summary Report for Trail Capping* (CSR) as part of the Abandoned Mining Wastes – Torch Lake non-Superfund Site (Project) http://www.michigan.gov/deq/0,4561,7-135-3311_4109_9846_76560---,00.html (Site ID: 31000098). This CSR summarizes the trail capping interim response (IR) completed at the Calumet & Hecla Tamarack City Operations Area (CHTC) Tamarack Sands Area. The IR entailed the capping of an area where residual asbestos containing building materials (ACBM) were present on and along an informal trail used by children and off-road vehicles. The Tamarack Sands Area is located in Tamarack City, Houghton County, Michigan. This CSR was prepared in accordance with the *Indefinite Scope Indefinite Delivery (ISID) Discretionary Proposal for FS and Remedial Action Activities* (24 February 2016) prepared by MSG in response to a request from the Michigan Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD), Calumet Field Office under MSG's 2015 Environmental Services ISID Contract Number 00538 with the State of Michigan.

1.1 Project Location

The Project area is located along the shoreline and in Torch Lake, Houghton County, Michigan. Due to the complex nature and very large area RRD subdivided the Project into study areas based on past use and known issues. Depicted on *Figure 1, Project Location Map* are the CHTC and Calumet and Hecla Lake Linden Operations Area (CHLL) areas and their respective former industrial operations.

The CHTC is around Calumet & Hecla's copper mining and processing operations near Tamarack City, Michigan. The CHTC consists of approximately 110 acres of land extending approximately 1.25 miles along the shoreline of Torch Lake, and incorporates over 187 different parcels with multiple property owners.

The CHTC Tamarack Sands Area is located in Tamarack City along the southeast side of Highway M-26 and Spruce Street, and generally characterized as an in-lake stamp sand deposit associated with the industrial operations in the Ahmeek Mill and Tamarack Processing Areas. Residential (single-family residences) and industrial (capped stamp sands) properties, and Torch Lake border the Tamarack Sands Area. The IR for trail capping focused on capping of ACBM residual on and along a section of an informal trail that is a former railroad grade right of way owned by the Michigan Department of Transportation (MDOT). *Figure 2, Tamarack Sands Area Features Map*, depicts the area encompassing the Tamarack Sands Area in addition to site features and the trail area capped.

1.2 Project Background

Copper mining was extensive in the Keweenaw and formed the backbone of the regional economy and society. Copper ore milling and smelting operations conducted from the mid-1860s to the 1960s, including the importation, reprocessing, and smelting of various scrap metals in the later years of operation. Consistent with past industrial practices, Torch Lake served as dumping grounds for virtually all mining industry related waste products produced, including tailings, slag, and various chemicals. At least 20 percent of the Torch Lake's volume is estimated to be filled with tailings and other waste products.

The environmental legacy resulting from over 100 years of mining and reclamation led to Torch Lake and its western shoreline to be designated as a Superfund site by the United States Environmental Protection Agency (EPA) <https://cumulis.epa.gov/supercpad/cursites/csitiinfo.cfm?id=0503034> and a Great Lakes Area of Concern by the U.S./Canada Great Lakes Water Quality Agreement <https://www.epa.gov/torch-lake-aoc>. The EPA undertook cleanup activities to address some of the byproducts of the mining industry while others were not addressed or left to recover through natural processes.

The DEQ Project is addressing some of the remaining concerns in Houghton County not addressed by the EPA. The Project concerns involve groundwater, surface water, sediments, and "upland" media. Known or suspected problems which are being evaluated include: an unidentified, significant in-lake and/or terrestrial

source of polychlorinated biphenyls (PCBs), uncharacterized waste deposits and >750 uncharacterized drums on the lake bottom, slag, landfills, industrial ruins, coal storage areas, underground storage tanks (USTs), residual process materials (RPM), asbestos containing materials (ACM), and any other waste materials identified during future investigations.

During 2014 and 2015 RRD conducted Site Investigation (SI) activities and confirmed the remaining concerns in the Project area involve groundwater, surface water, sediments, and "upland" media. Priority concerns which were evaluated and deemed to require IRs include: significant terrestrial source of PCBs; ACM; RPM; abandoned mining era containers; seeps; limited areas of soil in which there are Direct Contact Criteria (DCC) and Particulate Soil Inhalation Criteria (PSIC) exceedances; and, physical hazards.

In the case of the Tamarack Sands Area the identified risks pose potential threats to human and ecological receptors, including but not limited to human health risks in the event of inhalation of asbestos. ACBM was identified on and adjacent to a trail near a reported former aboveground steam pipe. The trail where ACBM was observed is located adjacent to a residential area, and the trail and surrounding area is routinely accessed by children for recreational activities such as bike riding, fort building; and others as an informal trail for walking and off-road vehicles.

Based on these conditions the Upper Peninsula RRD staff prepared an Emergency Procurement Action Form included in *Appendix A, Emergency Procurement Action Form*. Upon authorization, RRD staff completed an IR that capped the trail section where observed residual ACBM was to reduce potential exposure of the public to asbestos.

2.0 OBJECTIVE AND SCOPE OF WORK

The objective of the IR for trail capping was to reduce potential exposure of the public to asbestos along the trail in the Tamarack Sands Area. To meet this objective MDEQ developed a Trade Contractor (TC) scope of work and solicited bids in accordance with DEQ RRD Emergency Funding and Procurement Procedures.

3.0 INTERIM RESPONSE ACTIVITIES

The TC selected and retained by the State of Michigan was B&B Contracting, Calumet, Inc. (B&B) of Calumet, Michigan. Refer to *Appendix B, Purchase Order* to conduct the IR. B&B completed the work in accordance with the TC procurement package included in *Appendix C, Tamarack City Sands Area Trail Asbestos Project Scope of Work* during September 2015. Photographs of the IR operations are included in *Appendix D, Photographic Log*.

4.0 SUMMARY AND CONCLUSIONS

The following IR operations were completed on and adjacent to a trail in the Tamarack Sands Area:

- Capped approximately 9,080 square feet of trail surface, shoulder, and adjacent areas through placement of a geotextile separator fabric (demarcation layer), a 1-foot thick layer of gravel over the trail surface, 6-inches of top soil and straw mulch blankets on the trail shoulder and adjacent areas, and installation of soil erosion and sediment control best management practices.

The completed IR operations met the objective of reducing potential exposure of the public to asbestos through capping.

5.0 RECOMMENDATIONS

MSG has the following recommendation:

- Periodic monitoring and maintenance as required of the capped area to maintain the IR's effectiveness.

FIGURES



Image Source: MIS - Public Imagery



- Tamarack Sands Area Trail Capping Area
- C&H Lake Linden (CHLL) Operations Area
- C&H Tamarack City (CHTC) Operations Area
- Conceptual Site and Geographic Area Boundaries

0 2,250 Feet

N
↑

Prepared for:
Michigan Department of Environmental Quality

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www.MannikSmithGroup.com

Figure 1
Project Location Map
Houghton County,
Michigan

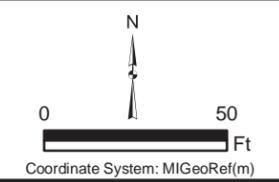
Image Source: ESRI World Imagery



Gravel Cap

Topsoil / Seed / Mulch Cap

Sample location with at least one exceedance



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Figure 2
Tamarack Sands Area Features Map
CHTC, Houghton County
Michigan

FILE: C:\temp\Projects\MDE00070\GIS\mxd\Planning\20170104-Tamarack Sands Area Asbestos Cap\F002_TamarackSandsArea_FeaturesMap_v20170104.mxd 1:42:17 PM 1/14/2017 KBrown

APPENDIX A

Emergency Procurement Action Form



EMERGENCY PROCUREMENT ACTION FORM

Site Name: Tamarack Trail Asbestos (within AMW CHTC Ops) County: Houghton

Index: PCA: Project #: 456990

RRD Staff Contact: Amy Keranen Date of Emergency: September 2015

Contacted by:

District Supervisor's Signature: Cliffon Clark 9/23/15

Site Description:

As part of the AMW CHTC Ops project, during a site walkover, asbestos was observed and confirmed via sampling at a former RR grade which is located immediately adjacent to a residential area where children use the grade as their main play area; riding bikes and building forts on it. Though bulk asbestos has been removed, residual is visible on surficial soils on the grade intermittently over an area ~ 150'X40'.

Cause of Emergency:

Presence of asbestos in residential area where kids play requiring interim response actions to minimize the exposure.

Specific Threats:

asbestos

Action Taken:

Contractor to address the asbestos between 9-25-15 and 9-30-15.

Additional Information:

Funding Source:

Authorized by:

Responsible Party:

Cost Recovery:

APPENDIX B

Purchase Order





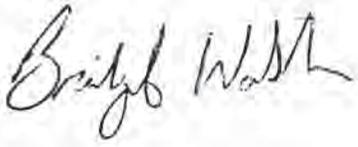
RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

TO: Patrick Mullen, Section Manager
Contract Services and Environmental Health and Safety Section
Design and Construction Division
Facilities Administration
Department of Technology, Management and Budget

FROM: Bridget Walsh, Licensed Environmental Engineer
Contracts and FOIA Unit
Remediation and Redevelopment Division
Department of Environmental Quality 

DATE: October 1, 2015

SUBJECT: Tamarack Trail Sands Area Trail Asbestos Project
Emergency Action Account Incident #15-19
Accounting Numbers: Index: 44251; PCA: 30744; Project No. 453556-00

The Department of Environmental Quality (DEQ), Remediation and Redevelopment Division (RRD), Calumet Field Office, were notified that asbestos was present in a residential neighborhood on an abandoned RR corridor where a public trail is used for walking, biking and playing in Houghton County.

Because of environmental contamination, and possible direct contact hazard to the public and the environment, staff of the DEQ, RRD, Calumet Office determined these conditions constituted an emergency and required immediate action.

Six bids were solicited to provide excavation and landscaping services to address emergency response necessary in the area of asbestos. Two bids did not have 40 hour Hazwoper training and two did not submit. The lowest bid of \$13,200.00 was received from B & B Contracting, Calumet, Inc.

Attached is a copy of the telephone quotation, and Emergency Procurement Action form.

We request that all invoices submitted by B & B Contracting, Calumet, Inc. for services performed at this site, be paid on an emergency basis for costs incurred on this project.

If you have questions, please contact me at 517-284-5107.

Attachments

cc: Amy Keranen, DEQ

APPENDIX C

Tamarack City Sands Area Trail Capping IR
Project Scope of Work



Tamarack City Sands Area Trail Asbestos Project

Scope of Work

The Michigan Department of Environmental Quality (MDEQ) identified the presence of asbestos containing materials (ACM) on a multiuse trail near Tamarack City, Michigan.

To reduce exposure to trail users the MDEQ will cap a portion of the trail. Capping will consist of the placement of a geotextile separator fabric (demarcation layer) over the entire area, a 1-foot thick layer of gravel over the trail surface, and a 6-inch (in) layer of topsoil over the trail shoulder and adjacent areas. Following placement of topsoil the Contractor shall place seed and straw mulch blankets. Material edges shall be tapered to match surround grades. Apply soil erosion and sedimentation control (SESC) best management practices (but a SESC permit is not required). Work and materials shall comply with the referenced Michigan Department of Transportation (MDOT) specifications from the 2012 Standard Specifications for Construction. The work is to be performed by 25 September 2015. **Figure 1** depicts the location and approximate limits of the work.

The following tasks will be required of the Contractor to complete the work:

<u>Work Item</u>	<u>Contractor Quote</u>
1. Place 8 ounce per square yard non-woven geotextile separator fabric over entire area following Section 308 of the MDOT specifications.	\$ _____
2. Place and compact 1-foot thick layer of gravel over trail surface meeting MDOT 23A requirements in Section 902 of the MDOT specifications.	\$ _____
3. Place 6-inch thick layer of topsoil meeting Section 917 of the MDOT specifications over trail shoulder and adjacent area	\$ _____
4. Place MDOT seed mixture TDS and straw mulch blankets anchored with wood stakes over all topsoil areas per MDOT specification Sections 816 and 917. Stake straw bales in-place along drainage ditch bank. Guarantee vegetative cover for 1 year*.	\$ _____
TOTAL	\$ _____

* = Seeded areas will be accepted when a full uniform stand of grass has become established and maintained for one year. A satisfactory stand of grass is defined as no bare spots larger than one square foot and not more than 10 percent of the area with bare spots larger than 3-inches by 3-inches. 80% of the line item amount will be paid upon completion of seeding with the balance upon acceptance after the following growing season.

Image Source: ESRI World Imagery



**Proposed Capped Area
Total: 9,080 sqft**

CHTC-ASBBLK09A 06/29/15

Parameter	Result	Units	Criteria
ASBESTOS-CHRYSTILE	60	%	[1%]

**Gravel Area
1,520 sqft**

Drainage Ditch

**Stake Straw Bales in a Tight
Line Along Drainage Ditch**

**Topsoil, Seed
Mulch Area
7,560 sqft**

CHTC-ASBBLK09B 06/29/15

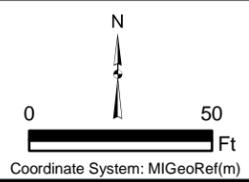
Parameter	Result	Units	Criteria
ASBESTOS-CHRYSTILE	70	%	[1%]

CHTC-ASBBLK09C 06/29/15

Parameter	Result	Units	Criteria
ASBESTOS-CHRYSTILE	70	%	[1%]

- Gravel Cap
- Topsoil / Seed / Mulch Cap

- Sample location with at least one exceedance



DEQ
Prepared for:
**Michigan Department of
Environmental Quality**

Prepared By:
**WESTON
SOLUTIONS of
MICHIGAN, INC**
P.O. Box 577
Houghton, MI 49931

Figure 1
AREA TO BE CAPPED AS PART OF INTERIM RESPONSE
Tamarack Sands Area Trail Asbestos
Tamarack City, Houghton County, Michigan
Revised: September 16, 2015

FILE: T:\GIS Projects\MDEQ\2017\001_001_Torch_Lake.mxd\Working Drafts\Internal Planning\20150826\Fig01_TamarackSandsAsbestos_Capped_Area_v20150916.mxd 3:35:39 PM 9/16/2015 BROWINK

APPENDIX D

Photographic Log





Photo 1: Asbestos containing building material (ACBM) on and along trail prior to capping. Photo taken on 6/29/15.



Photo 2: Placement of geotextile separator fabric (demarcation layer) over area. Photo taken on 9/25/15.



Photo 3: Placement of 6-inch layer of top soil over the trail shoulder and adjacent areas. Photo taken on 9/25/15.



Photo 4: Placement of seed, straw mulch blankets, and SESC BMPs installation. Photo taken on 9/27/15.



Photo 5: Placement of 1-foot thick layer of gravel over the trail surface. Photo taken on 9/27/2015.



Photo 6: Completed trail capping. Photo taken on 9/27/15.

