

## **Help Us Save The Menominee River**

The health of the Menominee River and Lake Michigan are being threatened by a proposed polymetallic sulfide mine that would be located next to the river's Michigan shoreline. The Coalition to Save the Menominee River, Inc. (Coalition) is working to protect these important water resources and the surrounding area from the hazards this mine would create.

The Coalition is a registered 501(c)(3) Wisconsin corporation. Its 100% volunteer membership is working to educate everyone about the numerous environmental problems that polymetallic sulfide mines create. We are asking everyone to join the Coalition's efforts in persuading the State of Michigan (SOM) to not allow the development of this mine.

### **The Menominee River and Environs**

The Menominee River begins near Iron Mountain, Michigan and flows 114 miles in a southeasterly direction where it flows into Lake Michigan at the twin cities of Menominee, Michigan and Marinette, Wisconsin. The border between northeast Wisconsin and Michigan's Upper Peninsula is the centerline of this river.

When you travel to this area for some of its terrific smallmouth bass fishing, maybe even sturgeon fishing, or for many other reasons, you easily experience the special nature of this 4,000+ square mile watershed that has the Menominee River as its centerpiece. It offers extensive outdoor recreational opportunities, such as, angling, hunting, camping, hiking, bird watching, snowmobiling, golf, boating, kayaking, and more.

The river area's many recreational opportunities are the foundations for numerous businesses and services catering to tourists and residents. This includes numerous hotels/motels, restaurants, grocery stores, service stations, medical services, hardware stores, banking, public schools, a university campus, and other businesses and services. Vacation and permanent residential homes dot the river's Wisconsin and Michigan shorelines, as well as for many miles inland and surrounding the region's many lakes.

### **The Mine**

The problem the Menominee River is facing is from a proposed polymetallic sulfide mine that a Canadian mining company wants to build on its Michigan shoreline. This inexperienced junior mining company, Aquila Resources Inc., (Aquila), is based in Toronto, Ontario. <https://aquilaresources.com/> The proposed mine is identified as the "Back Forty Project" in mine permit applications and other public documents.

The Back Forty Project is located approximately 10 miles northwest of Stephenson, Michigan, in a densely forested recreational and residential area. The site is about 70 miles northeast of

Green Bay, Wisconsin, as the crow flies. This is about 44 river miles upstream from where it flows into Lake Michigan at the twin cities of Menominee, Michigan and Marinette, Wisconsin.

The proposed 1,087 +/- acre site (1.7 square miles) is comparable to the land area of Chicago's Loop or Racine, Wisconsin's recently announced Foxconn development.

The open pit mine is estimated to measure 2,000 feet by 2,500 feet and will be 750 feet deep, which is 114+ acres. This acreage is comparable to the land area of Northbrook Court, or Old Orchard Mall, or Oakbrook Center. These are regional shopping centers in metropolitan Chicago.

The western edge of the open pit portion of the mine site will be a scant 150 feet from the shoreline of the Menominee River.

Although Aquila has requested permits for only an open pit mine, the company's financial statements, feasibility report, and management statements says that they want to build an underground expansion in the future. If this underground expansion becomes a reality, then all of the calculations and projections for the mine's operations will be incorrect. This means that all of the environmental, safety, and impact measurements included in their permits will be wildly inaccurate and misleading, especially the size and capacity of the "Tailings Management Facility" (TMF).

### **The Risks of Polymetallic Sulfide Mines**

Polymetallic sulfide mines are inherently risky, especially those located near water sources. Remember this proposed mine will be only 150 feet from the river's edge. After the sulfide containing ore is excavated and exposed to air and water, sulfuric acid will be created. If not fully and carefully contained this sulfuric acid could easily move into the ground water, wetlands, site drainage, and into the Menominee River and subsequently downriver into Lake Michigan. There has **NEVER** been a metallic sulfide mine located near water resources that hasn't caused pollution problems.

A second though no less serious risk is from the toxic chemicals, such as cyanide, that will be used to process and extract the desired minerals (gold, silver, copper, lead and zinc) from this ore. After the ore is processed and the minerals recovered, the highly reactive and toxic leftovers, known as "tailings" will be deposited in a TMF. The Back 40 Project proposes to use an "upstream" style dam around the entire 124-acre TMF site. This tailings dam is projected to be 138 feet high. This is more than twice the height of the area's tallest trees, so it can't be hidden, it'll be an enormous blemish in this beautiful scenic area. The TMF will store 4.9 million cubic meters of toxic material. This is equivalent to the capacity of 1,960 Olympic size swimming pools.

Dewatered tailings, being approximately 65% to 76% solid, will be pumped into the TMF. While in the TMF the solid materials are supposed to settle to the bottom with the water floating to

the top. The operating plan is for this water to be retrieved and used in ore processing or “cleaned up” and poured into the river in a non- toxic state.

Tailings materials do not totally dry out as moisture/water is constantly being added to them from new tailings deposits, weather conditions, ground water, etc. If the moisture/liquid isn’t managed properly it could seep through the dam walls into the local environs (known as Acid Mine Drainage or AMD) as well as eventually weaken the dam walls (liquefaction) and cause a complete or partial collapse of the dam. If this happens the highly toxic tailings materials will escape. With a designed capacity of 4.9 million cubic meters of material a collapse or even leakage will severely damage or destroy the Menominee River and Lake Michigan.

The reason Aquila and other mining companies choose “upstream” style tailings dams is because they are “cheap” to build, not because they are reliable. This TMF will be around for hundreds/thousands of years, decades after Aquilla ceases operations and Aquilla’s legal and financial responsibility ends. Who will be responsible for this TMF after Aquila goes away?

The proposed Back Forty “upstream” style of dam is the same design that failed in Brazil on January 25, 2019 at a Vale mining company site, also at Brazil’s Samarco dam failure in 2015, and at the 2014 Mount Polley dam failure in British Columbia. These upstream style dam failures caused death (nearly 300 from the January 2019 disaster) and extensive destruction to villages, rivers, forests, water sources, etc. In a broader, historical sense, upstream dams have a very poor track record. Recent events are not rare anomalies, but closer to the norm for upstream tailing dams constructed around the world. In the past 20 years there have been 46 tailings dam disasters that caused destruction and deaths. Video of Brazilian dam collapsing.

[https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=video&cd=2&ved=0ahUKEwj8zdezvPLmAhUTBsOKHYF\\_DBAQtwiILTAB&url=https%3A%2F%2Fwww.wsj.com%2Fvideo%2Fthe-moment-the-vale-sa-dam-burst%2FBF4F43B3-F146-4D2A-A64E-15EFB7DB3714.html&usg=AOvVaw133pM2ldJepgFKmyC0RHQa](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=video&cd=2&ved=0ahUKEwj8zdezvPLmAhUTBsOKHYF_DBAQtwiILTAB&url=https%3A%2F%2Fwww.wsj.com%2Fvideo%2Fthe-moment-the-vale-sa-dam-burst%2FBF4F43B3-F146-4D2A-A64E-15EFB7DB3714.html&usg=AOvVaw133pM2ldJepgFKmyC0RHQa)

As a result of the January 25, 2019 major tailings dam failure in Brumadinho, Brazil, Vale, the mining company that owns this dam has evacuated numerous residents that live and work downstream of several other “upstream” style tailings dams they own and manage. Brazil and other countries have officially banned this style of dam and are requiring that existing “upstream” style tailings dams be decommissioned or replaced with dams that are reliable. Vale’s liability for damages is estimated to be \$4.9 billion U.S. dollars or more.

Immediately after the tailings dam disaster in Brumadinho, Brazil on January 25, 2019 two things happened. First, the Church of England and the Swedish Public Pension funds started discussions on “tailings dam safety” with other major institutional investors. These discussions evolved into an investor entity called the “Investor Mining and Tailings Safety Initiative”. Members of the Initiative manage assets that are valued at more than \$13.5 Trillion USD. These funds want a comprehensive safe system to design, build, and manage tailings dams in

order to protect their investments. <https://www.churchofengland.org/investor-mining-tailings-safety-initiative>

At about the same time the International Council on Mining and Metals (ICMM), the Principles for Responsible Investment (PRI), and the United Nations Environment Programme (UNEP) developed a mine safety proposal program. It's known as the Global Tailings Review. <https://globaltailingsreview.org/> This extensive program has asked 727 publicly listed extractive companies an extensive list of questions about their tailings dams. Results are expected to be published in Spring 2020.

Both of these groups are focused on tailings dam safety. The investors want this in order to make decisions on whether or not to invest in the mining industry and to protect existing mining industry investments. The ICMM program is also focused on tailings dam safety. Their focus is on retaining and getting new investors for their members.

These actions won't prevent the development of the Back Forty mine, but all this information will help inform/educate EGLE staff members on tailings dam safety and help them make better and more informed decisions while processing Aquila's Dam Safety Permit application. The Global Tailings Review reports and lots of other associated materials are being forwarded to EGLE representatives by several members of the Coalition as soon as it's available.

On a local level the adverse effects of the Back Forty Project will be substantial and continuous. Mines operate 24 hours a day, 365 days a year. Full and part time residents will be affected by noise and air pollution from the blasting used to loosen the ore, equipment and heavy truck usage to load and move the ore to the on-site storage and processing plants. Once the desired minerals are extracted from the ore they will be trucked over local roads for final processing. These heavily laden trucks will cause excessive wear and tear on the local roads that are not designed for heavy commercial use.

Extracting the sought-after minerals (gold, silver, copper, lead, and zinc) from the excavated ore requires the ore to be crushed to a consistency of fine grain sand. This will create additional area problems, such as, damage to area buildings, vehicles, machinery, plants, animals, and surface water that will be constantly exposed to this gritty dust. Then there will likely be AMD from the storage of the ore while it waits to be processed and from the tailings being stored on site in perpetuity.

Another problem that hasn't been mentioned yet is the reduction in riverfront and river area property values and increased difficulty in selling these properties. Home and landowners are already suffering from decreased property values due to the proposed Back Forty mine.

Mine advocates say that this mine will provide economic benefits to the area communities. This is true, but it will only provide a short-term source of employment. Some jobs will be created but the trend in mining is to automate mine operations thereby reducing employment opportunities, so employment expectations are probably inflated. Self-driving loaders and

trucks routinely replace employees at mines. In addition, many of the skills needed to build and operate this mine are not common to this local population and will have to be imported from elsewhere. And, since Aquila is a Canadian company profits won't stay in the United States.

This Wisconsin River Alliance mining video illustrates what could happen if this mine is built. <https://vimeo.com/232569399>

## **Mine Permits**

"Aquila is not authorized to begin construction of the mine and will not be able to proceed until all permits have been approved by the Michigan Department of Environment, Great Lakes, and Energy (EGLE)." This statement is part of EGLE's December 12, 2019 press release on the Back Forty mine. [https://www.michigan.gov/egle/0,9429,7-135-3308\\_3323-514602--,00.html](https://www.michigan.gov/egle/0,9429,7-135-3308_3323-514602--,00.html)

The four permits issued to Aquila all have major conditions that need to be satisfied before any of the issued permits become "effective". For example, the Wetlands Permit has 28 pages of substantial conditions. So far, Aquila hasn't made any real efforts to satisfy these permit conditions. This was clearly evident from testimony at the Contested Hearing case.

In addition, Aquila just withdrew its "Dam Safety Permit Application" after being given several time extensions by EGLE to provide the necessary information. We don't know if Aquila either isn't able to produce the necessary information or they don't want to provide it for reasons only they know. Aquila's new Dam Safety Permit Application will restart the permit review process from the beginning. This will include new opportunities for a Public Review and Comment period.

For clarification purposes, after the 2018 election, Michigan's newly elected governor, Gretchen Whitmer, replaced the former Michigan Department of Environmental Quality (MDEQ) with the Department of Environment, Great Lakes, and Energy (EGLE) name and organization.

## **Litigation**

The Coalition has filed two lawsuits opposing this mine.

The first is a Federal lawsuit that addresses two issues: (1) Did the U.S. Environmental Protection Agency (EPA) properly determine that the issued Wetlands Permit was within the authority delegated to the State of Michigan? (2) Was the EPA's decision to withdraw its lengthy list of objections to the Wetlands Permit arbitrary and capricious, an abuse of discretions, or otherwise not in accordance with applicable laws? This lawsuit was dismissed by the District Court in late 2019. In response, an "appeal" and simultaneously a "stay" was filed on this decision. The reason for filing the "stay" is that a very similar case was filed earlier by the Menominee Indian Tribe of Wisconsin (MITW). The MITW also received a dismissal ruling

on its lawsuit from the same judge. The MITW filed an appeal on this ruling with the Seventh Circuit Court. It was heard in September 2019. Decision expected before June 2020. Waiting for this decision is the rationale for asking for the stay.

The second lawsuit is a “Contested Case” filed in Michigan’s Department of Licensing and Regulatory Affairs. This case states that it is unlawful for the Michigan Department of Environment, Great Lakes, and Energy to rely on a very lengthy list of conditions that are part of the Wetlands Permit as a way to address all the shortcomings in this permit application. As stated earlier this Wetland Permit has 28 pages of substantial conditions that must be satisfied before the permit can become “effective”.

The Menominee Indian Tribe of Wisconsin filed the federal lawsuit mentioned above and a “Contested Case” against the Wetlands Permit.

The land area around the Menominee River has a very strong historical connection to the Menominee Indian Tribe of Wisconsin. This area is their birthplace and has many historical artifacts that need to be preserved. They include raised burial mounds, dance rings, raised garden sites, rice growing areas, and more. Evidence of the Menominee Indian influence in the area includes the name of the Menominee River, the County name of Menominee, the city name of Menominee and its sister city of Marinette, WI, which was named after a Menominee queen, and the township named Menominee. Laws in the State of Michigan are designed to protect these sites that need to be enforced. Some of these historical sites are on the mine site and in nearby locations.

The owner of the land on the north side of the proposed mine site has also filed a “Contested Case” lawsuit against the Wetland Permit.

The three Contested Cases (Coalition, MITW, Landowner) were combined and heard as one case.

Testimony for the combined “Contested Cases” took place over 20 days between June 2019 and October 2019. Attorney summaries have been submitted; final briefs are due by January 20, 2020. Decision expected before June 2020.

To help prevent this mine from being built the Coalition and other related groups have worked hard to educate the public on the risks of a polymetallic sulfide mine and to gain their support in opposing this mine. A substantial number of organizations and individuals have voiced and economically supported opposition to the mine. An example of this opposition is included in the Public Hearing/portion of this process for the Wetland Permit application. On this application EGLE received 3,400 comments, only 37 were in favor of the Back Forty mine the rest of them were opposed to it.

Michigan’s new governor (Gretchen Whitmer) appears to be environmentally friendly and is noted to be much more supportive, in principle, of a more transparent, thoughtful and scientific

approach to environmental issues, although many legislators still are opposed to protecting the environment versus creating jobs or generating tax dollars for the state.

The bottom line is while these efforts have awakened public opinion litigation appears to be the most potent way of stopping this project. Litigation costs are projected to be well into the \$100,000 plus range.

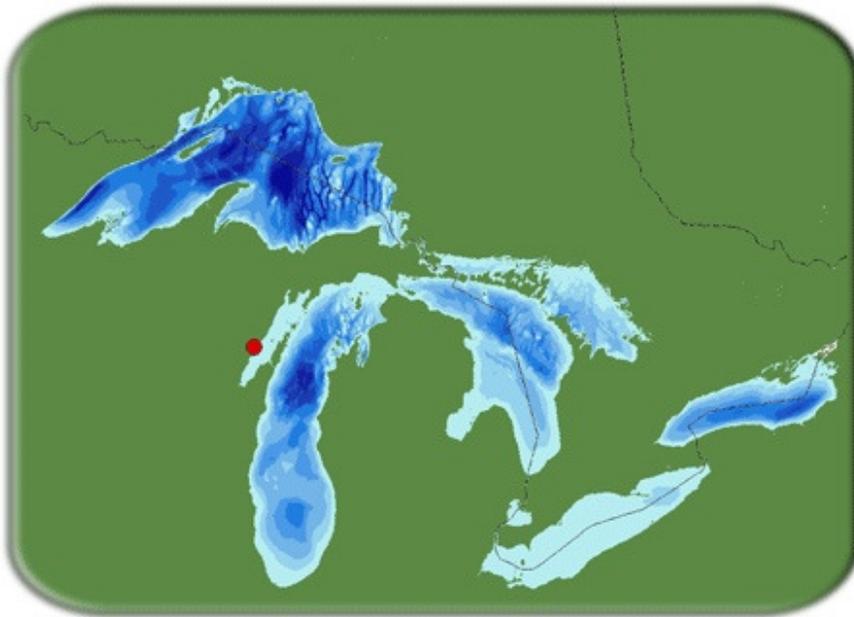
Contact Dick Dragiewicz at 847-924-9299 or [obiobiobi@ameritech.net](mailto:obiobiobi@ameritech.net) to learn more about this issue, get questions answered, make comments, etc. Dick is a Volunteer with The Coalition to Save the Menominee River, Inc.

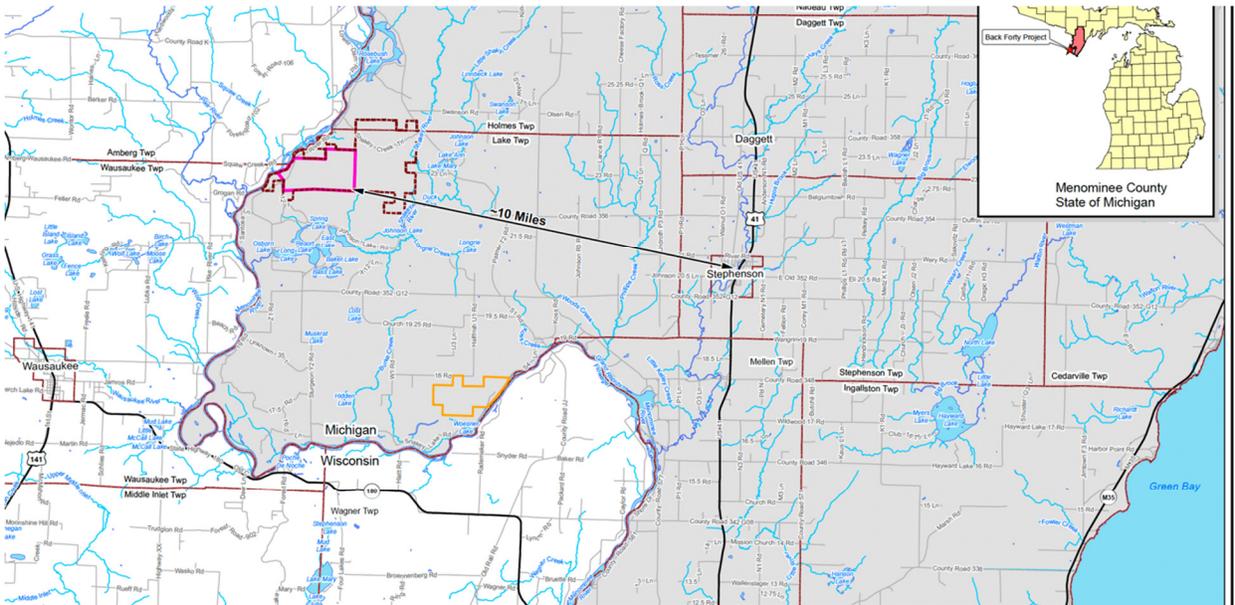
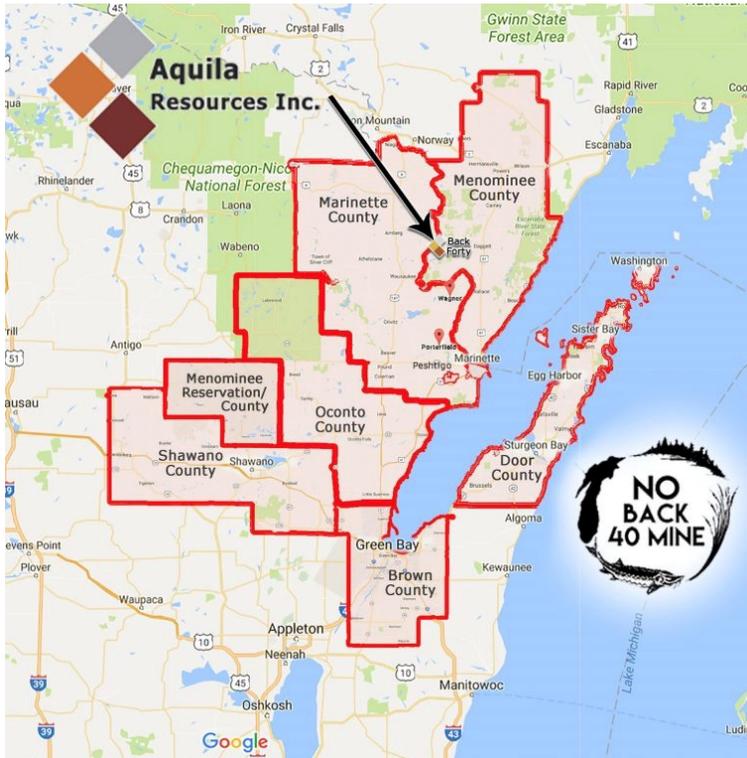
The Coalition to Save the Menominee River, Inc., contact information is:

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The Coalition to Save the Menominee River, Inc., would appreciate receiving your financial donation. Website lists several ways to make your donation.

## Location





**NOTES:**  
 Road and boundary information downloaded from Michigan Center of Geographic Information (<http://www.mcgi.state.mi.us/mcigi/>).  
 Hydrographic features generated from Michigan Geographic Framework and the Wisconsin DNR HK Hydro datasets.  
 Horizontal datum based on NAD 83.  
 Horizontal coordinates based on UTM Zone 16N.

- LEGEND**
- Major Road
  - Minor Road
  - Streams
  - Lakes/Rivers
  - Minor Civil Division Boundary
  - Proposed Wetland Preservation Parcel
  - Mineral Property Boundary
  - Project Boundary



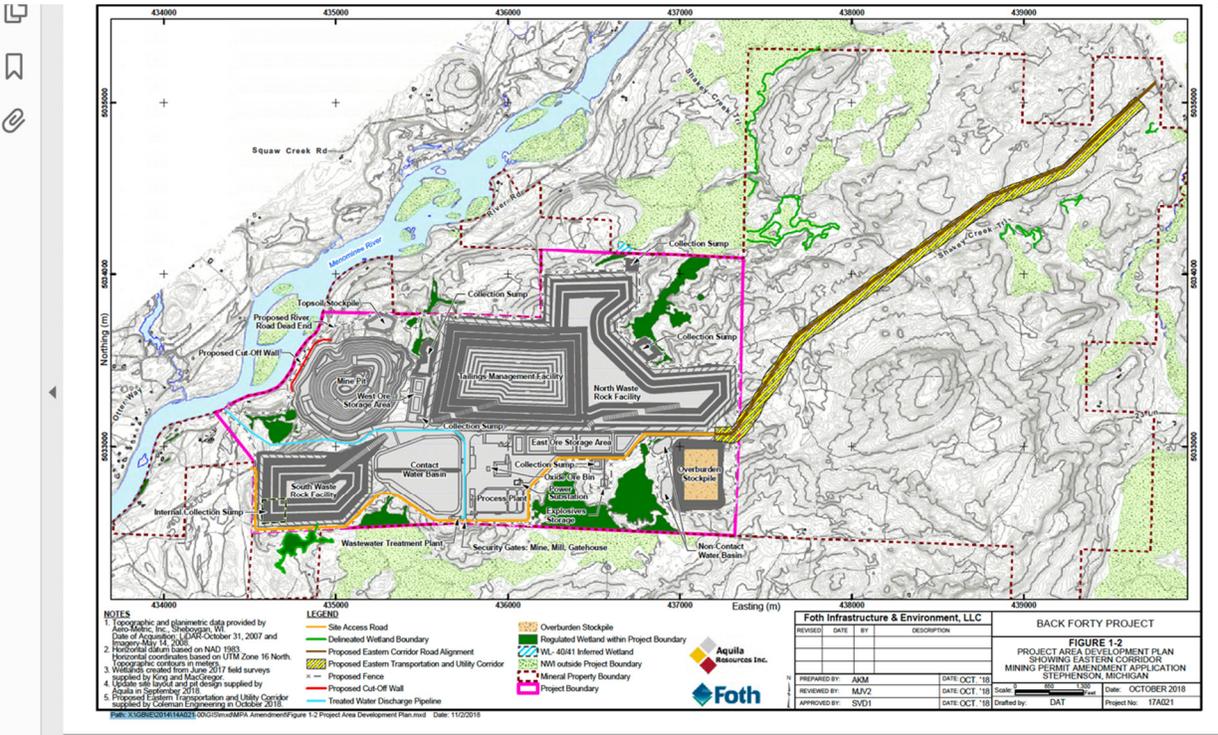
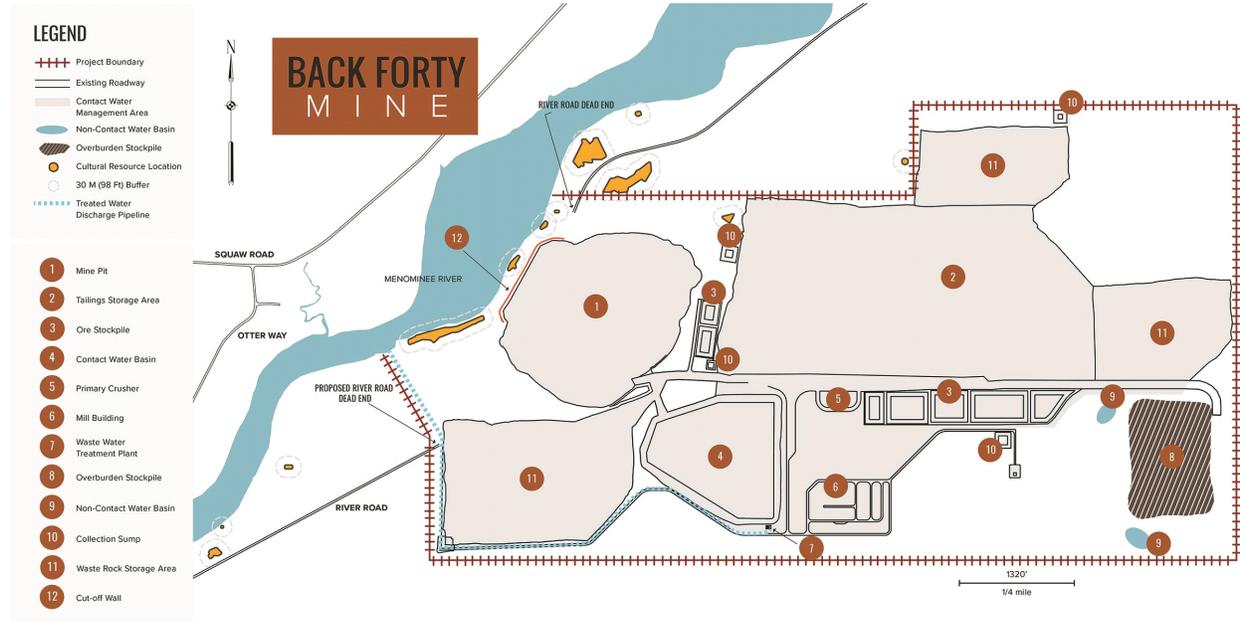
Foth Infrastructure & Environment, LLC			
REVIEWED	DATE	BY	DESCRIPTION

PREPARED BY: AKM	DATE: NOV '18
REVIEWED BY: MJV2	DATE: NOV '18
APPROVED BY: SVD1	DATE: NOV '18

BACK FORTY PROJECT	
<b>FIGURE 1</b>	
PROJECT AREA LOCATION MAP	
DAM SAFETY PERMIT APPLICATION	
STEPHENSON, MICHIGAN	
Scale: 1" = 1000' Feet	Date: NOVEMBER 2018
Drafted by: DAT	Project No: 17AD21

# Site Plan



This is what we are working to protect

