

# FORMER ZEPHYR OIL REFINERY

## GREAT LAKES LEGACY ACT

### WETLAND SEDIMENT CLEANUP AND HABITAT RESTORATION

#### MUSKEGON, MICHIGAN



Funded by the U.S. Environmental Protection Agency Great Lakes National Program Office  
and the Michigan Department of Environmental Quality

[www.epa.gov/muskegon-lake-aoc](http://www.epa.gov/muskegon-lake-aoc)

[www.greatlakesmud.org](http://www.greatlakesmud.org)

Contractor:



Engineer:



Subcontractors:



# Contractor Project Team



- Infrastructure
  - Haul Roads
  - Process Pads
  - Cofferdam
- Dewatering / Water Treatment
- Shoring
- Excavation
- Stabilization
- Transport & Disposal
- Backfill
- Work Plans
- Permitting
- Air Monitoring
- Soil / Sediment Sampling



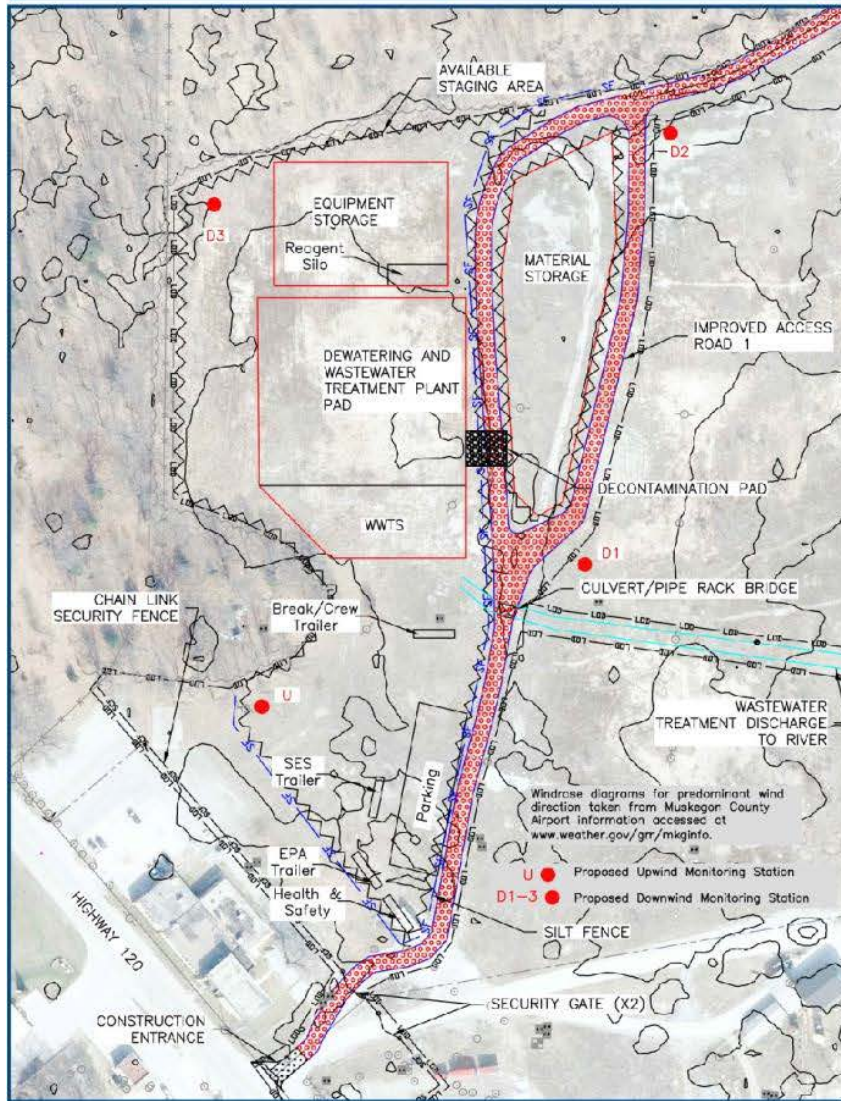
# 2017 Work Schedule

(July – November)

- **Preconstruction Submittals**
- **Local Permits**
- **Survey**
- **Air Monitoring**
- Haul Roads
- Process Pads
- Cofferdams



# Air Monitoring Locations



# 2017 Work Schedule

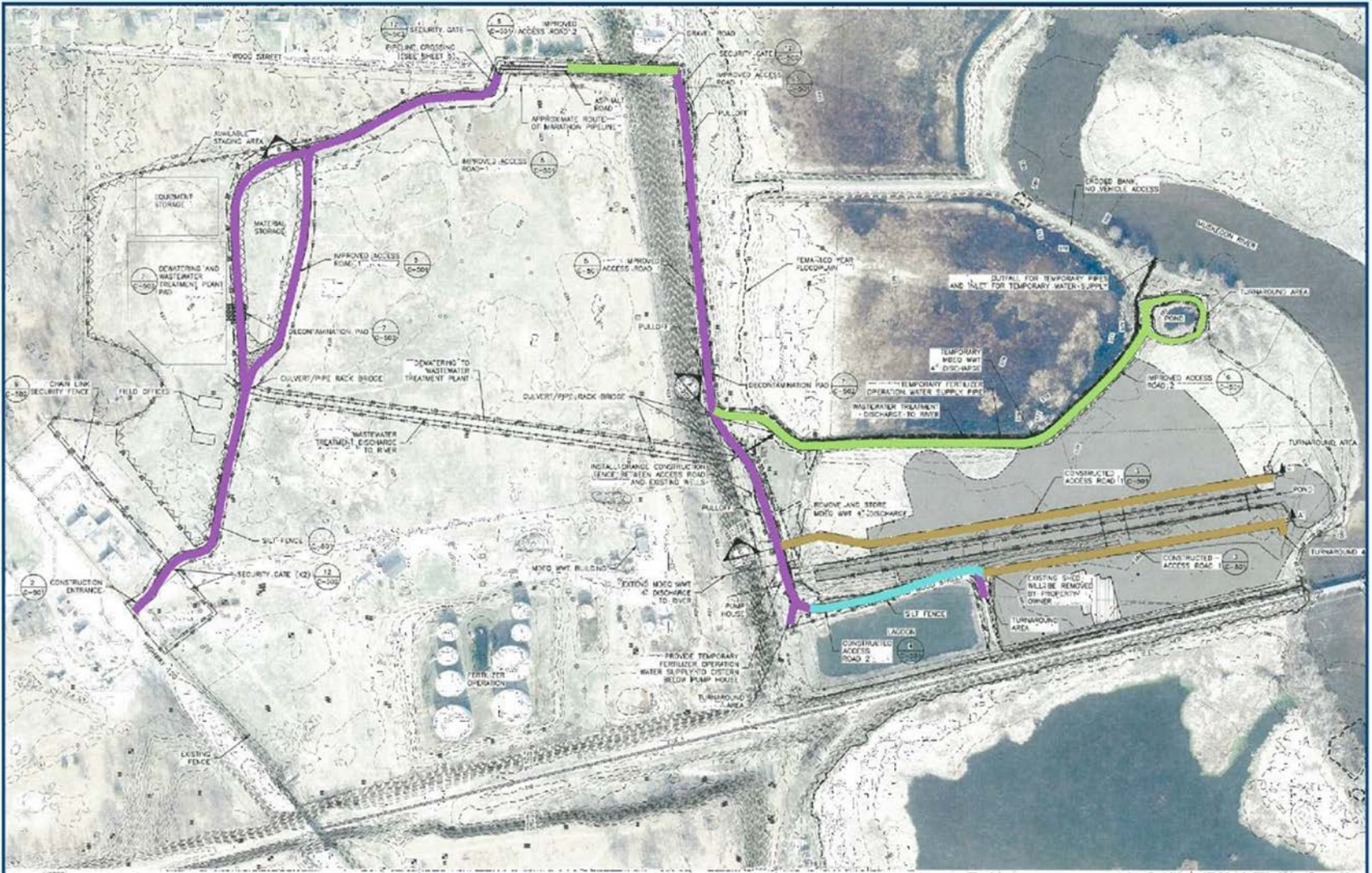
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- Local Permits
- Survey
- Air Monitoring
- **Haul Roads**
- Process Pads
- Cofferdams





# Site Layout – Access Roads



Improved Access Road 1

Improved Access Road 2



Constructed Access Road 1

Constructed Access Road 2

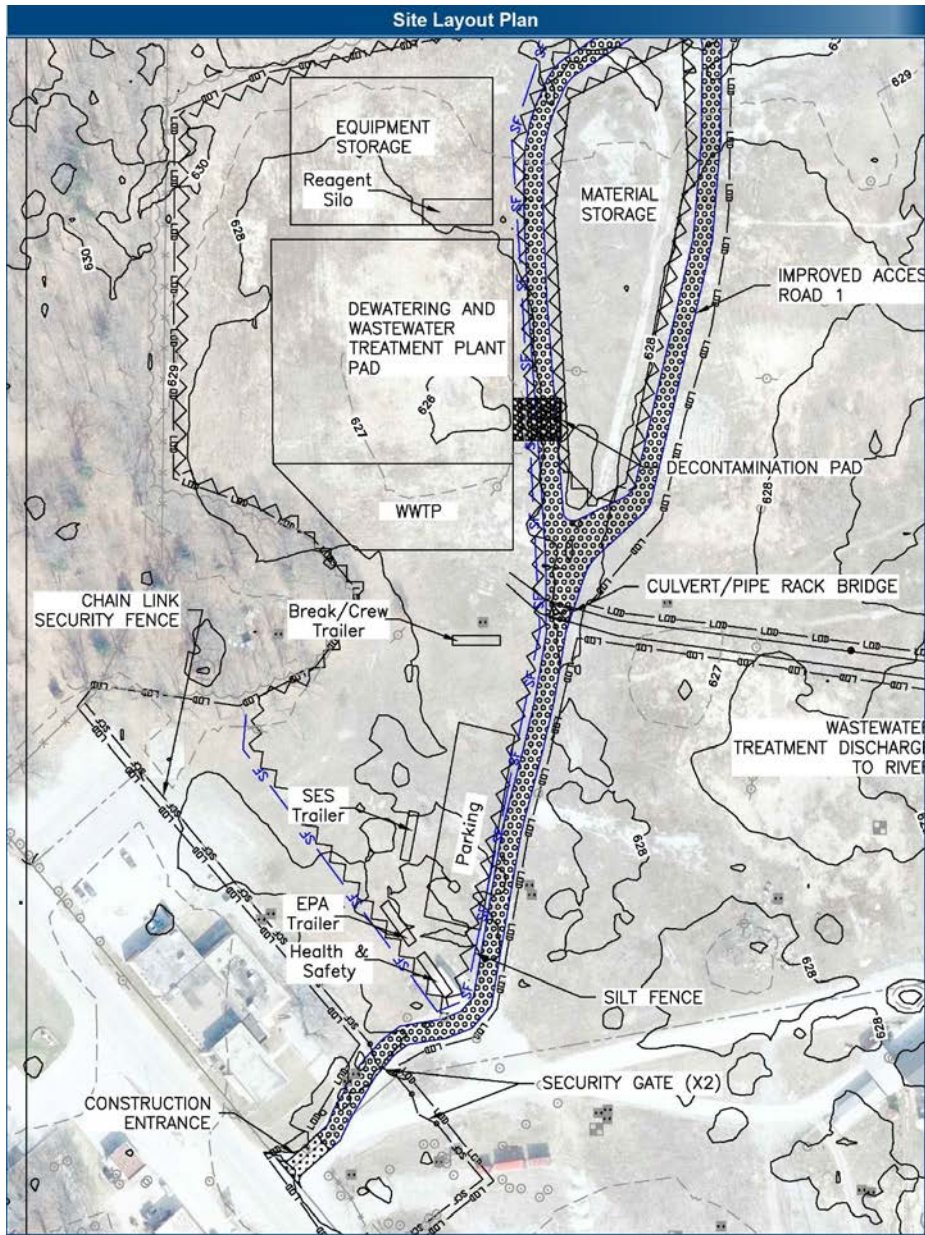
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# 2017 Work Schedule

(July – November)

- Preconstruction Submittals
- Local Permits
- Survey
- Air Monitoring
- Haul Roads
- Process Pads
- **Cofferdams**



# Cofferdam Install



# Winter Break





# 2018 Work Schedule

(March – October)

- Install Temporary WWTS
- Dewater & Water Treatment
- Install Ditch Shoring
- Excavate Sediments
- Stabilize Sediment
- Load & Transport Sediment
- Backfill
- Restoration



# Water Treatment



# Steel Sheeting System





# Sediment Excavation



# Solidification / Stabilization



# Load and Transport Sediment





# Backfill



# Restoration



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SEPTEMBER 7, 2017

