

# 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



- Restoration
- Plantings
- Maintenance



# **2017 Work Completed**

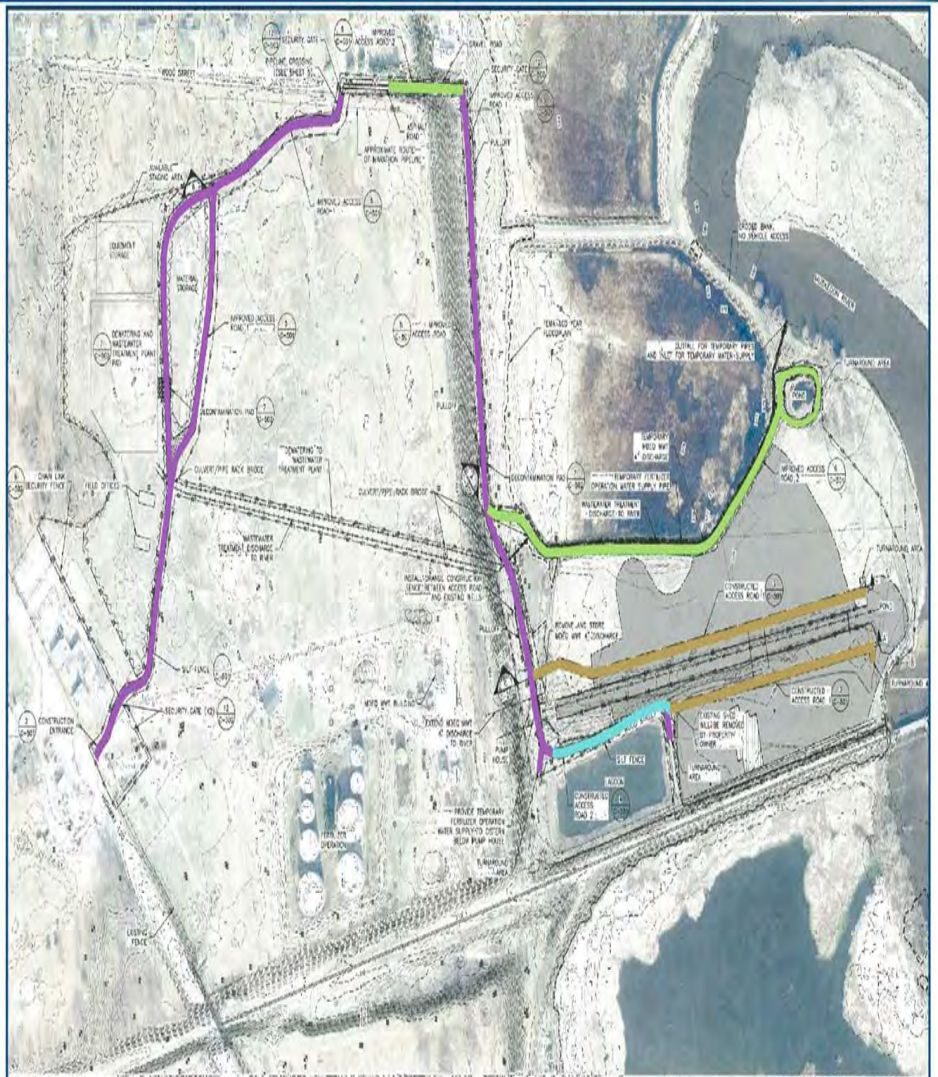
(July – November)

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





## Site Layout – Access Roads



Improved Access Road 1

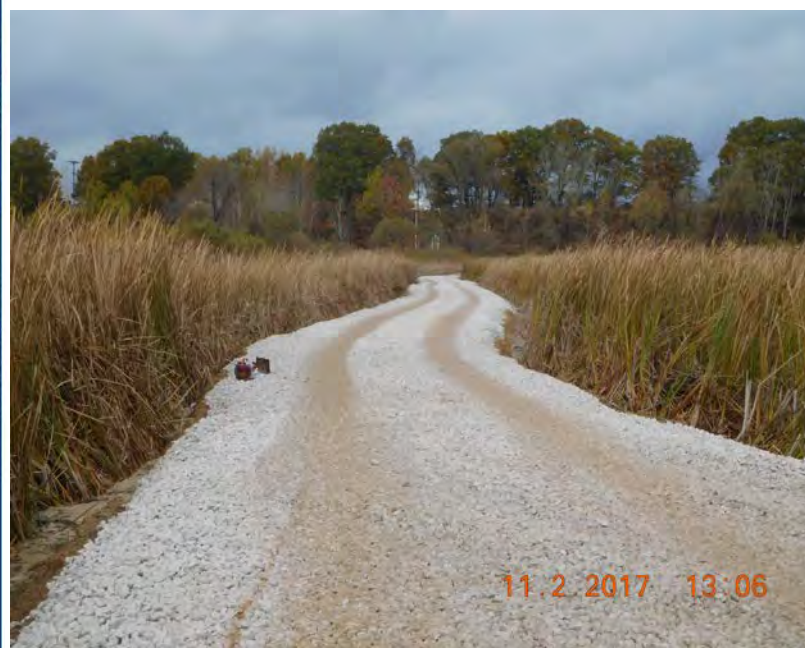
Constructed Access Road 1

Improved Access Road 2

Constructed Access Road 2

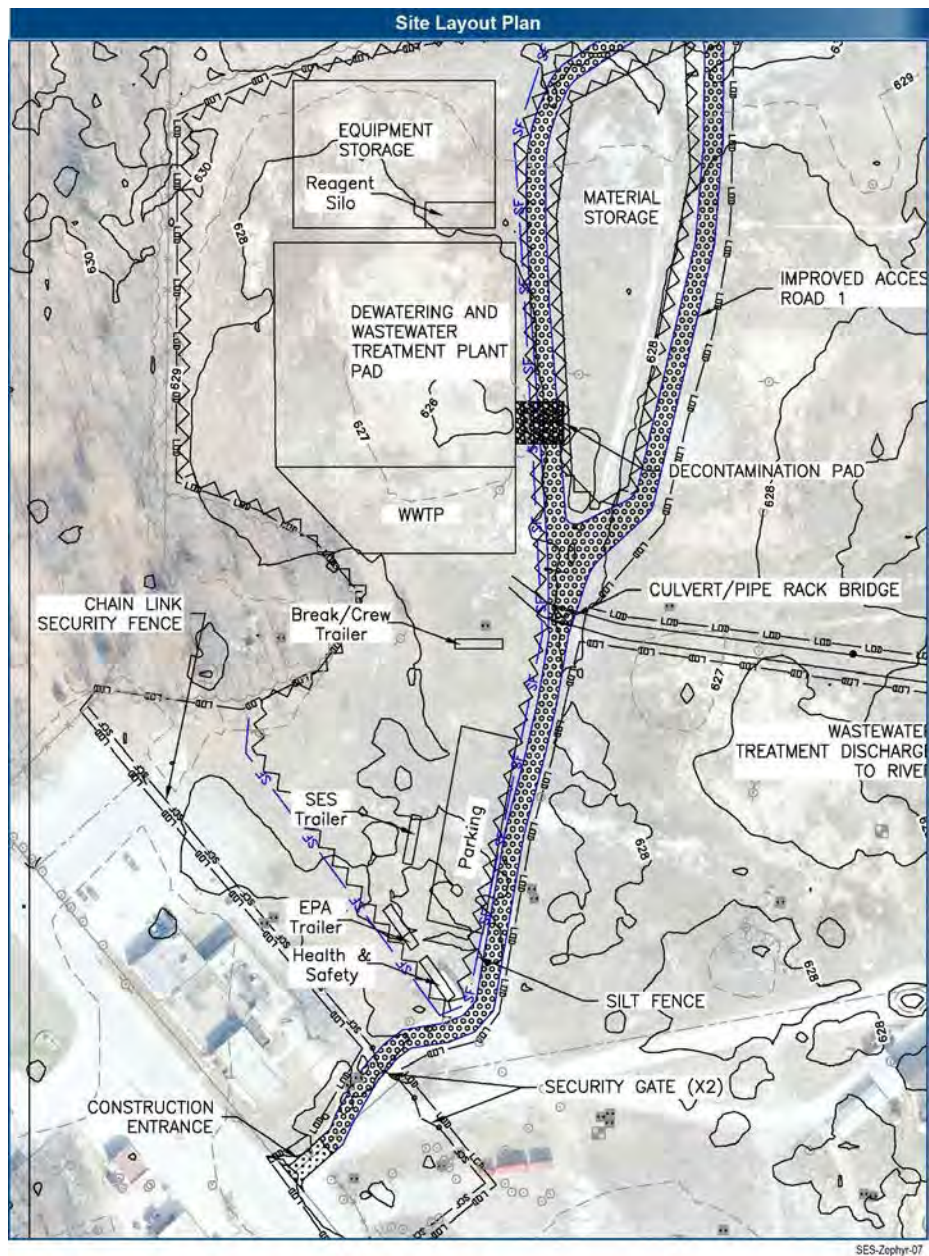


10-25-2017 14:58



11.2.2017 13:06







# Cofferdam Install

## Steel Sheet Pile Segment



## Earthen Berm Segment



# 2018 Work Schedule

(March – October)

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

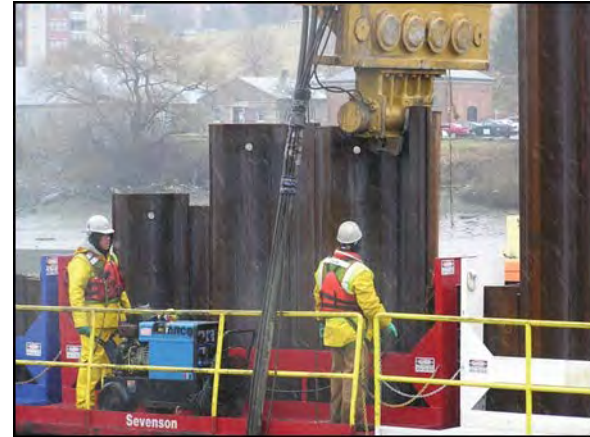


# Water Treatment



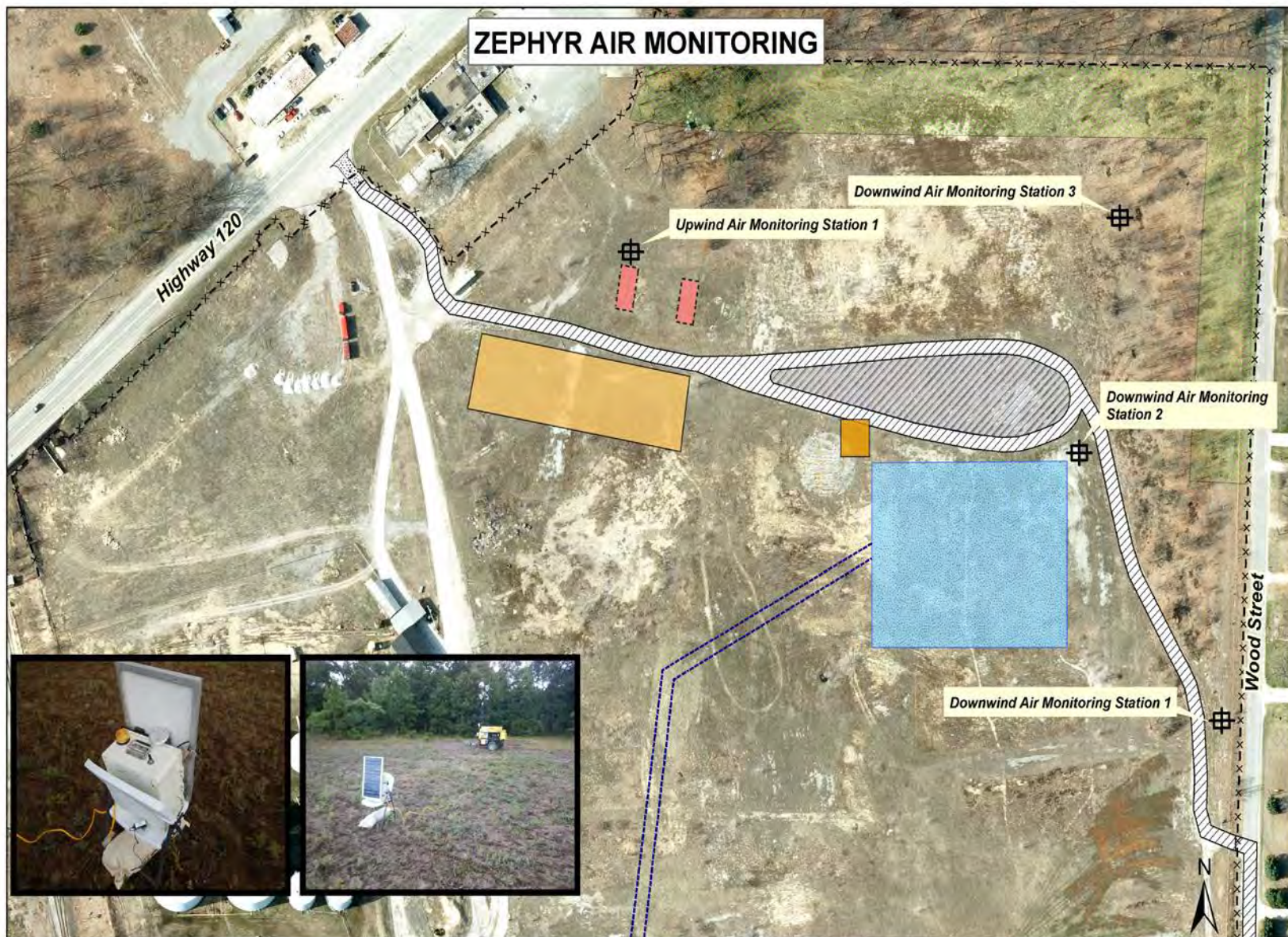


# Steel Sheet Pile System





# ZEPHYR AIR MONITORING





# Sediment Excavation



# Solidification / Stabilization





# Load and Transport Sediment



# ZEPHYR LANDFILL DISPOSAL TRUCK ROUTES

**Zephyr Oil Refinery Site**

**Muskegon County Wastewater Management Facility**

**Muskegon County Landfill**

**Ottawa County Farms Landfill**

**Autumn Hills Landfill**





# Backfill



# Restoration





# **ZEPHYR PROJECT HOTLINE**

**(231) 221-0299**

**March 15, 2018**

