MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: C. Heidi Grether, Director

FROM: Kathleen Shirey, Acting Assistant Division Director
Remediation and Redevelopment Division

DATE: March 1, 2017

SUBJECT: Monthly Status Update for the former Zephyr Refinery
1220 Holton Road Muskegon, Michigan; Site ID No. 61000063

The bid documents for the wetland remediation and restoration project have been approved by the United States Environmental Protection Agency (US EPA) and the solicitation process is beginning. Full-scale upland remedial options and costs have been reviewed by the Michigan Department of Environmental Quality (MDEQ) and a full scale design proposal will be requested.

The wetlands project is being funded through cost share agreements with our federal partners using Great Lakes Restorative Initiative funds and State of Michigan funding sources. The State funding source for the MDEQ's cost share of the sediment removal project is the Strategic Water Quality Initiative Fund. The upland remediation portion of the project will be funded with a $6 million State of Michigan legislative appropriation along with other state and potential federal dollars. The project objective is to reduce petroleum contamination and stimulate redevelopment of the impacted properties. The following details describe project progress made in February 2017.

MDEQ Upland Remediation

Soil and Groundwater Remediation
The evaluation of the Self-sustaining Treatment for Active Remediation (STAR) indicated that the technology was effective. However the costs for full scale implementation would exceed budgetary constraints. The MDEQ has evaluated other proven remedial alternatives including air sparge/soil vapor extraction (AS/SVE), excavation and disposal, and in-situ chemical injection. Based upon the comparison of costs for implementation of each alternative, excavation was the most expensive remedial alternative, and AS/SVE costs were comparable to the STAR technology. In-situ chemical injection, which has been pilot tested at the site and has shown favorable results, was the lowest cost alternative.

Based on this assessment, the MDEQ has begun work on the design of in-situ chemical injection remedy.

Groundwater Treatment
Modifications to the groundwater treatment system have been completed and tested. An application for a National Pollutant Discharge Elimination System discharge permit to operate the modified system has been submitted and the permit has been issued. The modified system will be placed in operation in March 2017. The modifications will improve overall system operation and eliminate the dependence on subsurface infrastructure for treatment water discharge that has inhibited redevelopment plans in the past.

MDEQ/US EPA Great Lakes Legacy Act Wetland Remediation
The US EPA has scheduled a pre-bid meeting and site walkover with their contractors for March 9, 2017, and anticipates awarding the contract for the remediation and restoration work in May or June.

The MDEQ and US EPA are also working together with local leaders and groups to keep the community informed of progress and activities at the site. A public meeting, to discuss the fire suppression ditch sediment removal project in more detail, will be scheduled once the US EPA solicits bids and selects a contractor (Spring/Summer 2017). Additional project information is available at the following link: http://www.greatlakesmud.org/muskegon-lakes-zephyr-site.html.

Current System Operating Status
The recovery of non-aqueous phase liquid (NAPL) or petroleum product that remains undissolved in the groundwater continues to be collected on a weekly schedule to remove as much contamination as possible. These recovery efforts have resulted in the removal of 24,650 gallons of NAPL since February 2012. Approximately 400 gallons of NAPL were recovered this month. After the modified groundwater treatment system recovers the NAPL, the need for these manual recovery efforts will be reduced.

Operation and maintenance activities continue weekly, sampling is being conducted per appropriate permit requirements, and system components are being changed and replaced as needed to ensure operation of the system.

Anticipated Milestones Schedule

MDEQ UPLAND REMEDIATION ACTIVITIES	
In-Situ Chemical Injection Full Scale Design	March 2017-June 2017
Removal of Lead Contaminated Soil Piles	December 2016 – July 2017
MDEQ/US EPA WETLAND REMEDIATION ACTIVITIES	
US EPA finalizes bid specifications	Completed February 2017
Advertise project bid specifications, receive and review bids, and recommend project award	March-May 2017
Award bid to contractor and finalize contract	April-May 2017
Contractor mobilizes to the site and prepares for wetland remediation	June –July 2017
Wetland remediation	August-October 2017
Wetland restoration	November-December 2017