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July 31, 2017

Mr. Brad Lange
Village of Allouez
1900 Libel Street
Green Bay, WI 54302

Subject: Technical Assistance & Soil, Groundwater and Vapor Management Plan Approval
Allouez Village Properties # 1 and #2, 1649 South Webster Avenue, Allouez, WI
BRRTS #s 04-05-043795, 03-05-544663, 03-05-544645 and 02-05-117912

Dear Mr. Lange:

On July 11, 2017, the Wisconsin Department of Natural Resources (DNR) received a "Soil, Groundwater and Vapor Management Plan" (Management Plan) completed by AECOM for Allouez Village Hall properties #1 and #2, hereafter referred to as Property #1 and Property #2, located at 1649 South Webster Avenue, Allouez, Wisconsin. When referred together, they will be referred to as "the Property." The Management Plan is for the development of the Zambaldi Brewery and Taphouse on the Property.

Background

Property #1 had two petroleum releases: a diesel release (BRRTS #03-05-544645) associated with an underground storage tank (UST) and a waste oil release (BRRTS #02-05-117912) associated with above ground storage tanks (AST). The UST and AST cases on Property #1 were closed by the DNR on April 4, 2008 and August 28, 1997, respectively. An unlicensed historic landfill is also located on Property #1. Property #2 had one gasoline release associated with an UST (BRRTS #03-05-544663) and a gasoline spill (04-05-043795). The UST and spill cases on Property #2 were closed by the DNR on November 25, 2008 and June 15, 1989, respectively. Properties # 1 and #2 were granted certificates of completion under the DNR Voluntary Party Liability Exemption program on September 26, 2011. Currently, no structures are present on the Property.

Vapor Investigation

On June 1, 2017, AECOM conducted vapor sampling on Property #2, at the location of the proposed brewery building. Two vapor probes (VP-1 and VP-2), consisting of one-inch inside diameter PVC with a 10-foot screen, were installed to 12.5 feet below ground surface (bgs). Laboratory results for probe VP-1 identified vapor risk screening level (VRSL) exceedances for benzene; ethylbenzene; m,p-xylene; naphthalene; 1,2,4-trimethylbenzene; xylene,o- and xylene (total). No VRSL exceedances were reported for probe VP-2.

Proposed Soil Management

Soil on the Property will be divided into three waste streams: contaminated soil from the previous petroleum releases (Waste Stream 1); urban fill consisting of sand, topsoil bricks, ash, cinders and

glass from the unlicensed historic land fill (Waste Stream 2); and general spoils soil not suitable for construction or reuse but only containing trace amounts of cinders, ash, glass or bricks (Waste Stream 3). Contaminated soil excavated on the Property will be disposed of at Waste Management's Ridgeview Landfill in Whitelaw, Wisconsin. Site development will occur in a manner that limits off-site disposal of soil.

Seventy percent of the Property will be covered by the brewery building and parking lot. Areas not covered by the building or parking lot are proposed to be covered with a geotextile fabric overlain by six inches of topsoil and vegetation.

Proposed Groundwater Management

Due to depth, petroleum-contaminated groundwater is not expected to enter footing or utility excavations on the Property. Storm water, coming in contact with contaminated soil and ponding in excavations during construction, will be pumped into tanker trucks and disposed of at an approved facility.

Proposed Magagement of Underground Utilities

Underground utilities at locations entering the brewery structure or exiting the Property will have trench plugs. Trench plugs will consist of a mixture of 50 percent clay and 50 percent high –yield 200 mesh sodium bentonite clay or low flow lean mix concrete, be a minimum of three feet in length and extend from the floor of the trench to one foot below the design surface elevation. The plug will completely encase the utility pipes and extend from trench side wall to side wall.

Proposed Vapor Mitigation

A vapor barrier, comprised of a polyethylene geo-membrane sealed at the seams, will be installed below structural slabs and foundations to provide a continuous barrier between the subsoil and the brewery floor slab. In addition, a passive vent system will be constructed under the floor slab of the brewery. The passive system will be designed to convert to an active venting system, if necessary.

Proposed Storm Water Controls

On-site precipitation runoff will be collected in swales or directed to on-site catch basins connected to the Village of Allouez storm water system. The swales will be lined with an impermeable material.

The DNR approves the Management Plan with the following conditions:

- Post-construction documentation is to include the elevation of the building foundation and as-built conditions for the passive vapor system.
- At least two rounds of sub-slab vapor samples are needed to eliminate the need for an active vapor system.
    - The samples are to be collected after the building is complete.
    - One sample is to be collected during the winter season.
    - If sub-slab vapor concentrations exceed VRSLs, an active mitigation system will likely be needed and continuing obligations for maintaining the system would likely need to be placed on the Property.

- A vapor mitigation system maintenance plan, following template RR981 (passive or active), is to be submitted to the DNR to address potential vapor issues with regard to the brewery building.
- Landscaped areas are to be capped with six inches of clean fill on top of the filter fabric prior to placing the six inches of topsoil. Fill soil and topsoil are to be sampled prior to being brought on to the Property. Analytes to be sampled for include: volatile organic compounds VOC), Resource Recovery and Conservation Act (RCRA) metals, polycyclic aromatic hydrocarbons (PAH) and polychlorinated biphenyls (PCB). A soil sampling plan is to be submitted for DNR approval.
- A post-development maintenance plan, following template RR980, is requested to be submitted to the DNR to address the on-site soil performance standards.
- A request to develop at a historic fill site must be submitted to the DNR for the parking lot proposed for Village Hall Property #1.
- If changes to the proposed soil management plan include relocation of contaminated soil on the Property, a soil management plan approval request per Wis. Admin. Code § NR718 must be submitted.

If you have questions, you may contact me by phone at 920-662-5164 or e-mail at Robert.Klauk@wisconsin.gov.

Sincerely,

Robert H. Klauk
Hydrogeologist
Remediation & Redevelopment Program

cc: Andrew Mott – AECOM (electronic)