



December 9, 2015

Jill Thacher
Historic Preservation Coordinator
City of Ann Arbor
Larcom City Hall
301 E. Huron St.
Ann Arbor, MI 48104

Ms. Thacher,

I have reviewed the documents entitled *Baseline Environmental Assessment* (BEA) dated May 5, 2014 and the *Ann Arbor Historic District Commission Application for Notice to Proceed Under Sections 8:416(1)(a) and (d) of City Code* for The Glen project provided by you to determine if there exists 'a hazard to the safety of the public or the structure's occupants' at the property in question. In addition, I reviewed the Michigan Department of Environmental Quality (MDEQ) Part 213 Leaking Underground Storage Tank (LUST) database and the MDEQ Part 201 Inventory of Facilities. This letter documents my professional opinion regarding the site and my understanding of the nature and extent of the contaminants as described in the documents reviewed. A summary is provided and a more detailed evaluation below.

SUMMARY OF CONCLUSIONS

If the property is left vacant, the site does not pose a hazard to the safety of the public. The contaminants of concern (COCs) on the subject property in both the soil and the groundwater are largely at a significant depth. Shallow metal impacts in soil are primarily arsenic and selenium, which may be naturally occurring. Mercury is present in four locations in excess of the groundwater to surface water interface protection (GSIP) MDEQ Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-based Screening Levels dated December 30, 2013 (Part 201 Criteria). As has been demonstrated in the Phase II information attached to the BEA that was reviewed, this pathway for both soil and groundwater (GSIP/GSI), is not applicable to the subject property as described in the evaluation below. The document entitled *Phase II Subsurface Investigation* prepared for the Glen Ann Place Redevelopment Site by Clayton Group Services, Inc. July 13, 2005 indicates, '**Groundwater at the subject property will not pose an unacceptable exposure based on the future use of the subject property (i.e., the City of Ann Arbor will supply drinking water to the subject property and surrounding areas).**' This is located on page 15 of the Phase II (page 758 of the pdf provided). Appendix A of the same Phase II report is the Initial Assessment Report for 201 Glen Avenue, certified by the Qualified Consultant on October 16, 2002. This report is required by MDEQ after a release has been reported and includes an analysis regarding potential exposure pathways. Page 14 of the report (Page 787) of the pdf provided indicates '**Groundwater/Surface Water Interface is not applicable at the site, as the nearest surface water body (Huron River) is located over 1,000 feet north of the subject property.**'

If a structure were built on the site with no significant below grade construction (no basements, parking structures, etc.) the contaminants of concern (COCs) are still not likely to pose a hazard to human receptors based on the depth, although a pathway analysis documenting potential exposures would need to be completed for both groundwater and soil for the particular structure. Additionally, a structure with significant below grade components would also need a pathway analysis to determine if building occupants would be exposed to a hazard. **In either case, intrusion of vapor from the COCs would be the critical pathway for exposure to an occupant in the building. Depending on concentrations and depth, vapor barriers alone may be sufficient to mitigate the exposure or no mitigation may be required at all.** Interstate Technology & Regulatory Commission (ITRC) guidelines for vapor intrusion have been accepted by the state of Michigan. ITRC guidelines indicate that impacted groundwater or soil would need to be within 15 feet of an overlying structure to potentially pose a risk to occupants.

This is a conservative distance to account for concentrations of various COCs. The depth of the majority of the groundwater and soil COCs at this site are between 32 and 47 feet below ground surface (bgs).

EVALUATION

Five vacant parcels are in question; two former residential properties (213 and 215 Glen Avenue), a parking lot (217 Glen Avenue), a former towing facility and fueling station (201 Glen Avenue), and a former restaurant (1025-1031 East Ann Street). Previous uses for 1025-1031 East Ann Street also include a fueling station, drycleaner and commercial/retail businesses. There is a LUST at 201 Glen Avenue (the former towing facility) according to the Part 213 database. The Part 213 database indicates that gasoline release C-0144-02 was discovered on March 20, 2002. Information included in the BEA indicates that the impacts were discovered in 2001 at 201 Glen Avenue resulting in the removal of the USTs. The current Part 213 database lists the removal of five 2,000-gallon gasoline USTs and a 500 gallon used oil UST.

Following a Phase I, Bureau Veritas completed a Phase II in 2014 that included advancing eight soil borings to a maximum depth of 50 feet bgs. Only three of these eight soil borings encountered groundwater. Review of the figures included in the BEA, indicates that both soil and groundwater impacts exist at the site. The majority of the shallow soil impacts that are in excess of the MDEQ *Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-based Screening Levels* dated December 30, 2013 (Part 201 Criteria) are arsenic and selenium, which may be naturally occurring. There are four mercury concentrations in excess of the groundwater to surface water interface protection (GSIP) Part 201 criteria at shallow depths, which is not an applicable pathway. According to the Initial Assessment Report included in the documents provided (page 14 of the report; page 787 of the pdf), the GSI and GSIP pathways have been eliminated due to the distance of the subject property from the nearest surface water body. The nearest surface water body identified as the Huron River, which ‘...is located over 1,000 feet north of the subject property’ and therefore will not be impacted by the subject property COCs.

With the exception of soil boring BV-4 and BV-2 at a depth of 23 to 25 feet, the highest concentrations where COCs are above Part 201 criteria, range in depths from 32 to 42 feet. These COCs are primarily volatile organic compounds (VOCs) and indicative of a gasoline release. Soil boring BV-4 has concentrations in excess of Part 201 criteria from 9 to 12 feet bgs with COCs that are primarily semi-volatile organic compounds (SVOCs) and metals, indicative of waste oil. Concentrations of SVOCs exceed DW and GSI protection criteria and many are not likely to volatilize or are below volatilization criteria. The depth of the concentration of soil SVOCs prohibits the likelihood of volatilization and there are no buildings on the site to create a complete pathway for vapor intrusion.

Groundwater concentrations of constituents of concern (COCs) primarily include gasoline parameters and metals between depths ranging from 35 to 47 feet. Although concentrations exceed drinking water (DW) criteria and groundwater to surface water interface (GSI) Part 201 criteria, the concentrations do not exceed residential groundwater volatilization to indoor air criteria. Additionally there are no buildings on the site to create a complete pathway for vapor intrusion. Vacant, the groundwater at the site poses no hazard to human receptors. If a building were in place at the site, it is highly unlikely groundwater would pose a hazard to human receptors but a pathway analysis would need to be completed. The property is located within the City of Ann Arbor where the site is serviced by municipal water supply and drinking water wells are prohibited; therefore the drinking water pathway is not applicable as is also noted in the BEA documents provided on page 15 of the Phase II (page 758 of the pdf): **‘Groundwater at the subject property will not pose an unacceptable exposure based on the future use of the subject property (i.e., the City of Ann Arbor will supply drinking water to the subject property and surrounding areas).** Additionally, both GSI and GSIP are not applicable pathways due to the distance from the Huron River as described in the Initial Assessment Report referenced above.

A LUST at 201 Glen Avenue remains open under Part 213 and the subject property is a facility, indicating there is contamination above residential Part 201 criteria. However the depth of the concentrations at the site do not pose a hazard to human receptors as a vacant property. If a building were on the site, the COCs are still not likely to pose a

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hazard to human receptors based on the depth, although a pathway analysis would need to be completed for both groundwater and soil. Because the subject property is a facility, the owner of the property is required to complete a Due Care Plan in accordance with Part 20107a (Section 7a) of MDEQ Part 201 of the Natural Resources and Environmental Protection Act (NREPA), 1994 Public Act 451, as amended. Review of the Part 201 Inventory of Facilities did not list a Due Care Plan on record with the MDEQ and one was not provided for review.

Sincerely,

A handwritten signature in black ink, appearing to read "Patti McCall", written in a cursive style.

Patti McCall, C.P.G.
Senior Geologist