Michigan Department of Environment, Great Lakes, and Energy

Wolverine CAG – House Street Property Work Plan – Final Remedy

The Wolverine Community Advisory Group (WCAG) represents concerned citizens that have been impacted by PFAS contamination from the Wolverine World Wide Tannery and their waste disposal sites in northern Kent County. The contaminated area covers approximately 25 square miles and PFAS compounds have been detected in 800+ residential wells and the Plainfield Township municipal water supply which serves over 40,000 people. We are responding to the House Street Property Work Plan – Final Remedy (FR) submitted by GZA on behalf of Wolverine World Wide (WWW), Inc. The Work Plan was submitted as a requirement of the Consent Decree on April 26, 2022 and revised on May 26, 2022. The WCAG's review of the FR and recommends the work plan be rejected due to significant issues related to air quality, fugitive dust, landscaping, and monitoring. Our concerns are summarized below. Since the FR document does not follow a logical numbering system, our comments reference the actual number in the combined PDF.

Air Quality

Our air quality concerns are related to the landfill gas calculations, PFAS air emissions from vented landfill gas, and the lack of a fugitive dust control plan. GZA states in section 4.4 (p 11) that the site contains "49,000 cubic yards (CY) of organic waste and soil with waste materials is estimated to be approximately 34,000 CY for a total estimated volume of 83,000 CY. Additionally, the site vegetation removed during construction will be placed under the caps as described in the FS." The air emission calculations for methane by GZA for a Major Source permit (Section 41. p 8) did not include the new organic waste stream they will generate by clear

cutting, grubbing, and grinding the site vegetation on 40 acres (Section 4.2.1.4 p 36). The average weight of timber from clear cutting is 87 tons/acre (1). We estimate that the House Street site contains at least 50 tons/acre due to less tree density plus additional material from grubbing (removing stumps, vegetation, and roots) that will result in more organic matter than just clear cutting. For the 40 acre site, we estimate that clear cutting and grubbing will generate 2,000 tons or 8,000 cu yds of methane producing vegetation waste. It should be noted that yard waste is banned from landfill disposal in Michigan. We request that the Air Quality conduct an independent review of the air emissions of existing and new waste added to see if the disposal site will require permitting as a Major Source.

GZA opined extensively about the ability of trees to accumulate PFAS by phytoremediation in their Phyto-Cap alternative for House St (February 19, 2021). Undoubtedly, the trees and vegetation along with the contaminated site soil attached to the stumps and roots will contain PFAS. Consequently, the new waste stream GZA omitted from the methane calculations will also contain PFAS. Since PFAS from the new wood and plant waste plus the existing site waste can be degraded and be volatilized in landfill gas emissions (2), we request that the Air Quality Division review the site for the potential of PFAS air emissions.

A Fugitive Dust Control Plan is mentioned in several sections and described as being implemented on haul roads (p 8), that on-site water truck will be available to minimize visible dust (p 35), and covers and water spray will be used to control dust during clearing, grubbing and waste material relocation during dry, windy weather conditions (p 36). The only monitoring mentioned was on p 133: “Dust suppression (watering) will be done at the excavation face, when moving overburden soils into the waste mound area, and when constructing the perimeter berms and/or earthwork layers of the mound cap to reduce sustained particulate levels to below 2

mg/m^3." There is no mention of fugitive dust monitoring along the property perimeter during site grubbing or during construction of the cell. Michigan has a screening value of 0.07 µg/m^3 for PFOS + PFOA which is based on the vapor phase. It is well documented that PFAS adsorbs to fine soil particles, including clays and organic matter. If PFAS is associated with dusts generated from excavating and grubbing contaminated soils, the PFAS threshold is 28,000x lower than the general particulate threshold GZA is using of 2 mg/m^3. Given the fact that the project schedule (p 16) estimates vegetation removal to start 30 days after receipt of permits, a 6 mo bid and award period will occur after permits, and the construction period will 30 months, 40 acres of soil will be exposed on the site to wind erosion for 1 – 2 years. This site needs perimeter and neighborhood particulate monitoring and a detailed plan to limit fugitive dust emissions for 40 acres of bare soil and the piles of grubbed wood waste. Since irrigation wells are not permitted due to PFAS contamination, GZA will need to either cover large areas of soil with Erosion Control Blankets or bring in irrigation water. This site requires a detailed Fugitive Dust Control Plan to minimize wind erosion on a large scale and a particulate monitoring program to document that the neighborhood is protected from air emissions above 0.07 µg/m3 of PFOS + PFOA. Fugitive dust emissions can be carried into homes and get trapped on furniture and carpets. Children have extensive hand to mouth activity and can be exposed to higher fugitive dust levels than adults. GZA felt in their Phyto Cap Plan (2/19/21; pgs 23 and 25) that 2 ft of soil was needed to cover most of the disposal area so there would be "no exposure to residual contamination will be present onsite." How will the neighborhood be protected when all the vegetation is removed, the roots and stumps pulled up and grubbed, and the area kept free of vegetation while waiting for construction? We also must remember that the EPA has recommended lowering the Chronic Reference Dose for PFOA to 1.5E-9 mg/kg/d to protect children from immunosuppression

(https://www.epa.gov/system/files/documents/2022-06/technical-factsheet-four-PFAS.pdf). We request that a detailed monitoring and dust control plan that includes continuous perimeter air monitoring at a threshold of 0.1 mg/m^3 be submitted to the Air Quality Division for review and approval. A plan to limit worker exposure to PFAS levels of > 0.07 $\mu g/m^3$ for PFOS + PFOA also needs to be developed and submitted to MIOSH for review.

Landscaping

The FR was revised to include a rendering of the site and views from the south and west. The FR still lacks a Landscape Plan that discusses what types of trees and spacing will be used, how the landscaping will be maintained, and if replacement trees will be added needed. We request a formal Landscape Plan be submitted for the review by the WCAG and the House Street Neighborhood that includes more than renderings and provides details on setbacks, layout, and maintenance. We understand there is a difference of opinion concerning whether this House St is regulated as a new site because of the generation of a new PFAS waste stream from grubbing or if it is classified as an old site and does not need a higher level of buffering and setbacks. Regardless of this difference, the WCAG and House Street neighborhood would like to see a landscaping plan that provides adequate buffering so that the site does not serve as a highly visible and constant reminder of a toxic waste dump in the community.

Monitoring

The Monitoring Plan included in the FR is inadequate. GZA states on page 36 that "There will be a short-term increase in runoff and infiltration during construction when vegetation is removed." Based on the GZA timeline presented on page 16, the House Street Site will be stripped of protective vegetation and will have increased infiltration and PFAS waste leaching for a period of at least 1 - 2 years while grubbing is started and construction is completed. GZA

proposes on page 351 that baseline PFAS groundwater sampling be completed within six months of construction completion and one follow-up groundwater sampling event one year following the baseline event be conducted. We find this strategy flawed and baseline PFAS monitoring should start prior to vegetation removal as there will be a significant increase in infiltration and leaching of PFAS from the site upon vegetation removal. The GZA monitoring plan may show a decrease in PFAS concentrations between the annual events due to the change in infiltration from vegetation removal and capping. The effectiveness of the cap must be compared to pre-construction conditions.

The proposed monitoring plan (p 356) has no wells to the north and west of the site and only one well in the concentrated area of the plume. We recommend that three new wells be added

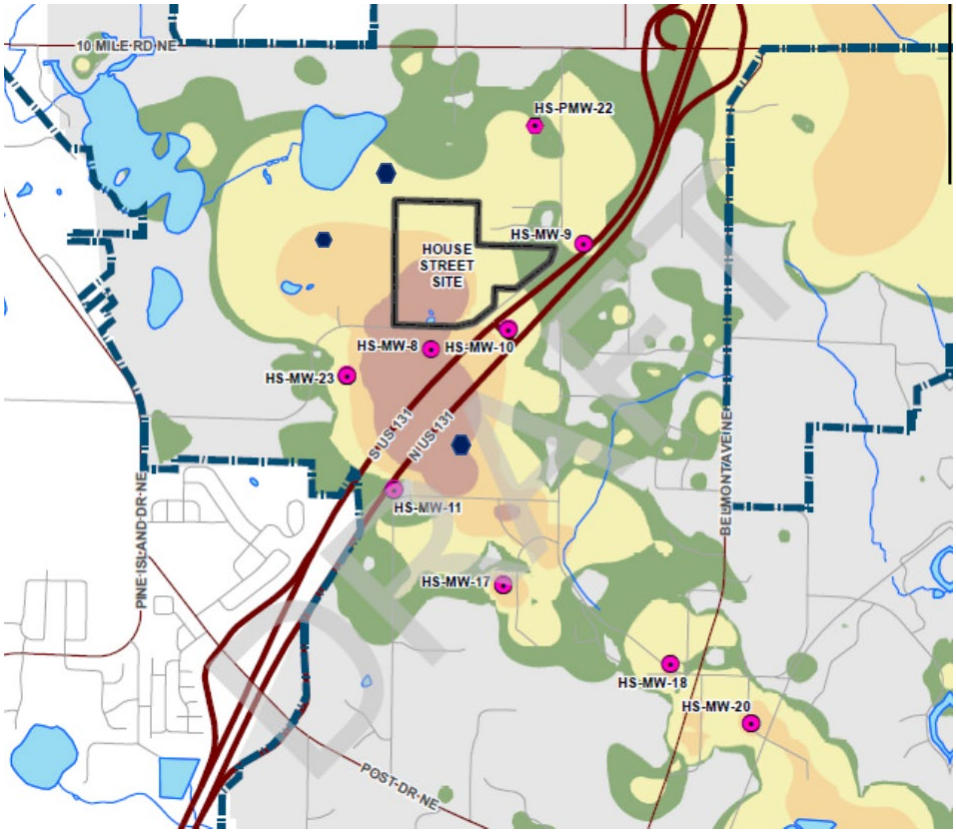

Figure 1. Proposed additional monitoring wells (black)

and that the PFAS monitoring frequency be increased to 2X/yr starting the year before vegetation removal (Figure 1). We also recommend that the stormwater be analyzed for PFAS since the landfill gas will be vented towards the cap surface. Methane gas venting will increase over time, requiring long-term monitoring.

Conclusion

The Wolverine Community Advisory Group appreciates the opportunity to comment on the House Street FR. We recommend that the House Street Work Plan Final Remedy be rejected as incomplete and that the air quality, fugitive dust control, landscaping, and monitoring issues we raised in this comment letter be addressed in the final plan. It is critical that the PFAS contamination at the House Street Site be managed in a manner that greatly reduces the ability of PFAS to migrate into the groundwater and continue to feed the groundwater plume that is continuing to expand, impacting surface water. The proposed cap will achieve this goal; however, it must be constructed in a manner that does not impact the health and welfare of the community and site workers.

Sincerely,

Richard R. Rediske, Ph.D.

Leadership Team

Wolverine Community Advisory Group

References

1. (https://www.forest2market.com/blog/how-many-tons-of-wood-are-on-an-acre-of-land)

2. PFASs) in landfills. Environmental Pollution, 235, 74-84. and Stoiber, T., Evans, S., & Naidenko, O. V. (2020). Disposal of products and materials containing per-and polyfluoroalkyl substances (PFAS): A cyclical problem. Chemosphere, 260, 127659.)