



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Southwest Region Office
PO Box 47775 • Olympia, WA 98504-7775 • 360-407-6300

September 25, 2024

Mike Coenen
NV5
9450 SW Commerce Circle, Suite 300
Wilsonville, OR 97070
mcoenen@geodesigninc.com

Re: **Request to Discontinue Methane Monitoring**

Site name: Turnbull Landfill
Site address: 12001 NE Fourth Plain Blvd, Vancouver, Clark County, WA 98682
Facility/Site ID: 51658363
Cleanup Site ID: 4677

Dear Mike Coenen:

The Washington State Department of Ecology (Ecology) received your email on September 5, 2024, notifying Ecology of NV5's previous request to discontinue methane monitoring at the above referenced Site. NV5 recommended discontinuing methane monitoring in the "Methane Monitoring Results" memorandum, dated April 3, 2023.

After review of the memorandum and other available Site documents, Ecology **approves** of discontinuing methane monitoring at the Site, based on the following:

- During the 2016 methane investigation, methane was detected between 0.0 and 1.7 percent by volume from five soil gas samples collected within the proposed building footprint for the Golden Corral with pressure readings ranging from -0.05 to 0.00 inches of water (GeoDesign, Inc. 2016). In six soil gas samples collected from the proposed parking lot area, methane was detected between 0.0 and 3.4 percent by volume with pressure readings ranging from -0.65 to 0.00 inches of water (GeoDesign, Inc. 2016).

According to ASTM E2993-23, if the shallow soil gas concentration of methane is less than 30 percent by volume and the change in pressure is less than 500 pascals (or ~2 inches of water), no further action is needed.

- During construction of the Golden Corral building between 2017 and 2018, measures were put in place to mitigate potential methane accumulation under the building. These measures included (GeoDesign, Inc. 2019):
 - Installation of a low-permeable membrane and sub-slab passive venting system underneath the building slab.
 - Installation of trench dams along utility corridors that extend off site and adjacent to building footings.
 - Conduit sealing to help prevent methane migration through electrical conduits.
 - Management of soil and solid waste encountered during redevelopment of the Site.
 - Installation of three sub-slab monitoring probes to evaluate sub-slab conditions following construction of the building.
- In March 2018, following construction of the Golden Corral building, methane verification screening was performed of interior spaces at ten locations including floor drains, pipe penetrations through the floor slab, cupboards, and electrical outlets. Methane was not detected at any of the locations screened (GeoDesign, Inc. 2019). In July of this same year, the vent risers and sub-slab monitoring probes were also screened. Methane was not detected in any of the vent risers or sub-slab probes (GeoDesign, Inc. 2019).
- Methane monitoring has been performed at the Golden Corral building on the Site regularly between 2019 and 2023. Quarterly monitoring began in 2019. Following the June 2020 sampling event, Ecology approved reducing the frequency of methane monitoring to semi-annually. After the September 2021 sampling event, Ecology approved annual monitoring. Methane detections in sub-slab probes have been non-detect between 2019 and 2022 (NV5 2023). In 2023, methane was detected at 0.2 percent by volume in all three probes, well below the lower explosive limit (LEL) of 5 percent by volume. Pressures have also remained low, ranging from -0.01 to 0.03 inches of water (NV5 2023). Methane has been detected in the vent risers at concentrations ranging from non-detect to 6.8 percent by volume (NV5 2023).

Detected concentrations in vent risers corresponding with low to non-detect results in sub-slab probes indicate that the methane mitigation measures are working, and methane is not accumulating under the building.

Although Ecology approves discontinuing methane monitoring at the Site, it is recommended that routine inspections be performed on an annual basis of visible/accessible portions of the passive vapor mitigation system, as well as the slab foundation of the building, to ensure no potential pathways for vapor intrusion, such as cracks in the foundation, develop and the venting system is functioning as intended.

If you have any questions, please contact me at (360) 409-6164 or danielle.gibson@ecy.wa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Danielle K. Gibson", with a long horizontal flourish extending to the right.

Danielle Gibson
Site Manager/UECA Coordinator
Toxics Cleanup Program
Southwest Region Office

cc by email: Bassel Ayoub, basselayoub@comcast.net
Ramsey Zawideh, ramsey@bajafreshlo.com
Connie Groven, PE, Ecology, connie.groven@ecy.wa.gov
Ecology Site File

References:

ASTM. 2023. Standard Guide for Evaluating Potential Hazard in Buildings as a Result of Methane in the Vadose Zone. E2993 – 23. November 29.

GeoDesign, Inc. 2016. Engineering Design Report, Proposed Development – Former Turnbull Landfill, Southeast of SR 500 and NE Fourth Plain Boulevard, Vancouver, Washington. December 19.

GeoDesign, Inc. 2019. Construction Completion Report, Proposed Development – Former Turnbull Landfill, Southeast of SR 500 and NE Fourth Plain Boulevard, Vancouver, Washington. July 3.

NV5. 2023. Methane Monitoring Results, Golden Corral, 11801 NE Fourth Plain Boulevard, Vancouver, Washington, Cleanup Site Identification No. 4677. April 3.