

SECTION 6

Recommended Remedial Option

6.1 Summary

As described in earlier sections of this report, sufficient data exist to suggest the best general course of action. However, additional data will be required to determine the technical basis for the location, number of, and construction details for the various components of the selected option(s). Risk of proceeding with specific design details for the selected remedy prior to gathering additional data could include:

- Inappropriate placement of remedial measures leading to ineffective or incomplete operation
- Failure to address zones that have not yet been identified as requiring remedial measures

Section 6.2 provides the recommended best general course of action (option) for addressing the methane migrating from Landfill 26. Section 6.3 provides a list of additional data requirements that should be addressed prior to recommending specific design elements for the recommended best general course of action.

6.2 Recommended Course of Action

Based on available data and the current understanding of the site (pending receipt of the data from new soil gas probes and upgradient groundwater sampling), implementation of Option 3 (Passive Buffer Zone Venting Trench) is the recommended general course of action at the area near GMP-8 and GMP-9. This general course of action is also recommended at the area near GMP-12 and GMP-13 if the additional soil gas and groundwater sampling being conducted identifies this area as requiring treatment.

A conceptual diagram of the recommended general course of action is provided in Figure 5-3. This system can be adapted to provide active extraction if treatment is desired beyond that achieved by passive operation. This option provides for mitigation of methane gas in the buffer zone in the areas where installed, and monitors for the presence of methane at the property boundary. Consideration should also be given to Option 5. When implemented in conjunction with Option 5 (Utility Protection System) as described below, the combined remedy serves to prevent methane generated by the landfill from migrating beyond the buffer zone.

Implementation of Option 5 (Utility Protection System) is recommended for utility trenches within the landfill (including the groundwater treatment plant pipes passing near GMP-5) or the buffer zone of the landfill. This option serves to prevent methane from migrating into utility trenches in the buffer zone and landfill.

6.3 Additional Data Needs

Additional data should be gathered to better understand the factors that influence and control the generation, release, and migration of methane in soil and in groundwater at Landfill 26 prior to establishing specific design features regarding trench locations, the number of trenches required and the construction details for each trench. These factors include:

- The potential upgradient sources of dissolved methane at the southern end of the landfill with respect to remedial measures at GMP-13
- Groundwater elevation changes with respect to the geomembrane elevation where methane is observed migrating from the landfill
- The concentrations of methane at the boundary of the buffer zone and residential properties over time
- The presence of volatile organic compounds in soil gas and the relationship between methane and the volatile organic compounds

The following information will not directly affect the placement and design of the buffer zone trenches but could become important if the current technical understanding of the landfill changes significantly:

- The location and influence of channel sand deposits on the migration of soil gas methane at the edge of the landfill, as a function of groundwater elevation
- The seasonal variation in gas probe results (including probes that have been historically submerged in the past).