

Appendix D: Calvin College Manhole Entry Procedure

Note: This is a generic procedure for entry into all types of manholes on campus. Refer to the Confined Space Analysis binder for details about specific spaces.

1. Equipment needed
 - a. Portable ladder (some manholes do have permanent ladders)
 - b. Air monitor (calibrated within 30 days)
 - c. *Appendix D: Alternate Entry Procedure Checklist*
 - d. PPE as deemed necessary by entrant depending on what is being done inside the space. Generally the following PPE is worn
 - i. Hard hat
 - ii. Boots
 - iii. Safety glasses
 - iv. Gloves
 - e. Barricades
 - f. Ventilator and duct hose
2. Check surrounding area for hazards
 - a. Vehicle exhaust
 - b. Weather conditions
 - c. Traffic
3. Check atmosphere
 - a. At the opening before the lid is removed
 - b. Remove lid
 - c. Set up barricade
 - d. Lower the monitor into the manhole and wait for 30 seconds every 4 ft.
 - e. Do not allow the air monitor (or pump tubing) to touch the bottom or become wet
 - f. Record the readings for O₂, H₂S, CO and Toxics
4. If no hazardous atmosphere is detected proceed using the Alternate Entry Procedure
5. If a hazardous atmosphere is detected
 - a. Set up forced air ventilation and direct it into the work space
 - b. After enough time has passed to allow 4 air exchanges inside the space, check the atmosphere again by lowering the air monitor or pump tubing.
 - c. Record the readings for O₂, H₂S, CO and Toxics
 - d. If no hazardous atmosphere is detected proceed using the Alternate Entry Procedure while maintaining continuous ventilation
6. Record air monitor readings for O₂, H₂S, CO and Toxics every 30 minutes throughout the entry
7. Complete *Appendix D: Alternate Entry Procedure Checklist* and turn it into the EHS officer.