

# Murfreesboro Water and Sewer Department

300 NW Broad Street • P.O. Box 1477 • Murfreesboro, Tennessee 37133-1477 • phone: 615-890-0862 • fax: 615-896-4259

## SPECIFICATIONS FOR INDUSTRIAL MONITORING MANHOLE

The Murfreesboro Water Sewer Department must approve all monitoring manholes prior to construction. Shop drawings and a schedule of installation must be submitted to, and stamped approved by this office. Contact the Pretreatment Coordinator at 615-890-0862 for more information.

All monitoring manholes shall meet the following specifications:

1. Manhole shall have a minimum diameter of **five (5') feet**, be constructed of **fiberglass** with a smooth, gelcoat interior finish, and shall conform to ANSI/ASTM standard specifications.
2. Construction and installation of manhole shall exclude infiltration or inflow of surface runoff and/or groundwater. Top lip of manhole shall extend twelve (12') inches above concrete pad (see item #9) surface.
3. Manhole entryway shall be **full-diameter-access** type of fiberglass or aluminum. Entrance shall include a handle, lock, pneumatic (or other MWSD approved) lift assist, and mechanism to prevent accidental closure.
4. Manhole shall be equipped with an appropriately sized **Palmer-Bowlus** flume with integral staff gauge. Minimum straight length of pipe prior to flume = 25 x pipe diameter. Maximum pipe slope = 2.2% for 6", 2.0% for 8", 1.8% for 10", 1.6% for 12".
5. Manhole shall be equipped with a ladder permanently attached to interior wall. The ladder shall be a non-conducting, freestanding-type fabricated to OSHA standards.
6. The void area around flume shall be **grouted** as per manufacturer's instructions, and shall be flush with top of flume (after grouting). Floor shall have sufficient drainage slope and be covered with fiberglass grating with a removable section provided for flume access.
7. Installation shall include a concrete pad around manhole. Dimensions shall be ten feet by seven feet (10' x 7') and six inches thick (6") with a four by six feet (4' x 6') free area to allow placement of equipment. Pad shall include a three-quarter inch (¾") chamfer along edges and a one-quarter inch (¼") caulked expansion joint around manhole. Finished grade shall be two to three inches (2"-3") above bottom surface of pad to prevent washout.
8. Manhole shall be mounted on a smooth-troweled concrete pad level to one-eighth inch (1/8") and shall include manhole anchor bolts as per manufacturer's instructions.
9. All concrete pads shall be placed over a six inch (6") base of #57 crushed stone on undisturbed earth and reinforced with #4 rebar at 12 inches (12") on center each way.
10. Backfill around manhole shall be twelve inches (12") of #57 crushed stone.
11. A 20 amp, 120-volt duplex receptacle with ground fault circuit interrupter shall be mounted on concrete pad as approved by Murfreesboro code. Power shall be provided from a **dedicated** circuit.
12. A section of two inch (2") diameter **straight** conduit shall be installed between pad and manhole interior to allow intake tubing and sensor cable placement. Conduit shall extend 2" above pad surface. See drawing for detail.
13. Manhole shall be located at least twenty-five feet (25') downstream from the confluence of all facility wastestreams in an area of low flood or runoff potential. Location should consider any future facility expansions and possible vehicular traffic.
14. Placement and construction of manhole and concrete pad shall **prevent** inflow of water into sewer system and accumulation of mud, gravel or other runoff debris on pad.
15. Location of manhole shall allow for 24-hour vehicle access by City personnel.
16. At the **discretion** of the Department, the following additional equipment may be required: sampling and flow monitoring instrumentation, interior lighting, ventilation system, and/or dedicated telephone line.



# PROFILE VIEW

