

**TRACER WIRE**

Conductive type pipe locator/tracer wire shall be installed to locate all sanitary sewer force main pipe regardless of pipe material. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the force mains and pulled with the pipe. Split-bolt connectors shall be used at splice locations. Electrical tape shall cover all splices so no bare wire is exposed. Test stations shall be installed adjacent to all air release vaults and force main warning signs. Any exceptions to the location of test stations shall be approved by the engineer. At each test station, the tracer wire shall be connected to a 1 lb. Zinc or magnesium anode. Anodes shall also be attached to the tracer wire at both the beginning and the end of the proposed sewer line. A typical layout of the tracer wire and test station is provided in the above figure.

**WIRE**

The tracer wire shall be Green No. 12 THHN annealed soft copper wire with thermal plastic insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the bottom of the test station for all wires. The insulation sheathing shall be removed such that 1" bare copper wire is exposed at all points of connection.

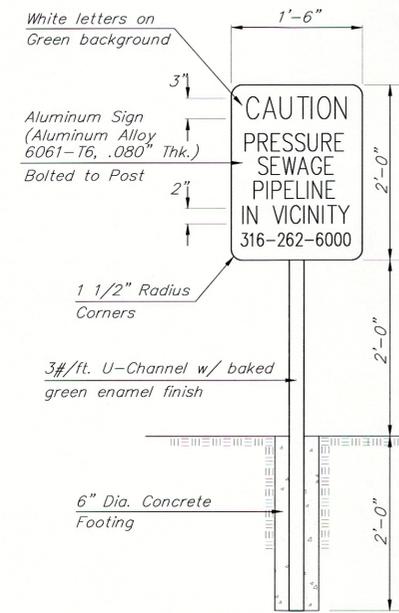
**TEST STATIONS**

The test station for the force main warning signs applications shall be a 1 inch galvanized "condulet" style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for air release vault applications shall be 2 inch flush style test station T2PS3B as manufactured by HANDLEY Industries or approved equal. The conduit style shall be attached to a 1 inch rigid galvanized conduit with a minimum length of 36" and plastic end bushing. The flush style shall have the word "Sewer" stamped or molded into the lid. All test stations shall be manufactured using molded green tops or sufficiently coated with green enamel paint. The tracer wire and the anode wire shall be installed to allow 10 inches of wire within the test station. In concrete environments such as sidewalks or in the downtown area the contractor shall use the flush style test station. The location of all test stations shall be approved by the engineer, recorded, and shown in the as-built drawings.

**ANODES**

The anodes shall be 1 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the sanitary sewer force main at each test station. The anodes shall be connected to Black No. 12 THHN annealed soft copper wire which shall be extended to the test station.

**SEWER TRACER WIRE DETAIL**  
COST IS SUBSIDIARY TO PIPE INSTALLATION



**FORCE MAIN WARNING SIGN DETAIL**

Note: Install Metal Warning Signs at Locations as Shown on the Plans. Exact Locations of Warning Signs shall be Approved by the Engineer.



<b>TRACER WIRE &amp; WARNING SIGN FOR SANITARY SEWER FORCE MAIN</b>		
CITY ENGINEER <b>GARY JANZEN, P.E.</b>		
PROJECT NUMBER	OCA NUMBER	DATE 12/2012
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