

## **EMERALD BAY MUNICIPAL UTILITY DISTRICT**

### **GUIDELINES FOR FIELD CONNECTIONS (TAPS) TO WASTEWATER COLLECTION SYSTEM**

All sewer service connections to the sewer collection system of the Emerald Bay MUD shall be made in accordance with the following methods of procedure.

All sewer service taps shall be made using a PVC tee or wye saddle and all PVC materials shall meet the requirements of ASTM specification D-3034-SDR 35 or Schedule 40. Recommend the use of Schedule 40. The excavation for the tap shall remain open until the tap has been inspected by representatives of the Emerald Bay MUD. In no case shall the tap for the sewer service connection be covered until such inspection has been made and authority to cover the tap has been given by the Emerald Bay MUD.

#### **A. PROCEDURE FOR MAKING SOLVENT WELD SEWER SADDLE CONNECTIONS TO PIPE.**

##### **MATERIALS:**

1. PVC tee or wye saddle
2. J-M PVC "Swr" Primer, or accepted equal, purple color and watery consistency
3. J-M PVC "Swr" Cement, or accepted equal, white color and heavy paste consistency
4. Saddle Clamps

##### **TOOLS:**

1. Keyhole Saber Saw or Shell Cutter.
2. Brace and bit (optional when using Saber Saws in sizes 8" and below).
3. Strap tensioning and crimper tools.
4. Brush or dauber for applying cleaner-primer.
5. Natural bristle brush 4" wide for applying solvent cement.
6. Round or half-round file or rasp.

#### **PROCEDURES FOR MAKING SOLVENT WELD SEWER SADDLE CONNECTIONS.**

1. Place saddle in position on pipe and mark guide for hole cut-in, using saddle as a template. Remove saddle from pipe.
2. Using hole guide mark, cut hole through pipe wall ½" outside the hole guide mark. For most saber saws with heavy-duty blades, the blade should be held horizontally across the pipe and pressed downward until it penetrates the pipe

wall. Then the blade can be brought to the vertical position and the hole cut completed.

3. Wipe clean and dry both the underside of the saddle and the mating surface of the pipe.
4. Apply primer to both mating surfaces. Check the PVC surfaces while still wet with primer to see that the surfaces have been etched. (When surface is scratched, some PVC material should come loose).
5. While the surfaces are still wet with primer, brush JM PVC "Swr" cement on mating surfaces of saddle and pipe.
6. Immediately position the saddle over the hole in the pipe and draw down with metal straps or other suitable means. The saddle must not be moved once it makes contact with the pipe. Under normal conditions (temp 70°F) the joint, when properly made, will reach 50% of its ultimate strength in 24 hours.
7. Backfill should be carefully selected and tamped around pipe and saddle to provide firm and continuous support for both.

#### **COLD WEATHER APPLICATION:**

The colder the weather, the greater the time required for the primer to etch the pipe and also for the joint to set up. P-70 primer and 717 cement have been used successfully at temperatures below zero; however, it is difficult to obtain good joints under these conditions and is not recommended. The pipe and saddle should be heated to 40°F or so by means of light bulbs, catalytic heaters, etc. (CAUTION - Keep primer and cement away from flame.)

During cold weather it may be necessary to apply two or more coats of primer. Check to see that both mating surfaces are etched and wet with primer before applying the cement.

#### **CAUTION:**

When assembling Solvent weld PVC sewer saddles onto pipe, toxic fumes are given off. In confined areas sufficient concentrations of these fumes can accumulate to cause nausea and/or dizziness. Because of this we recommend –

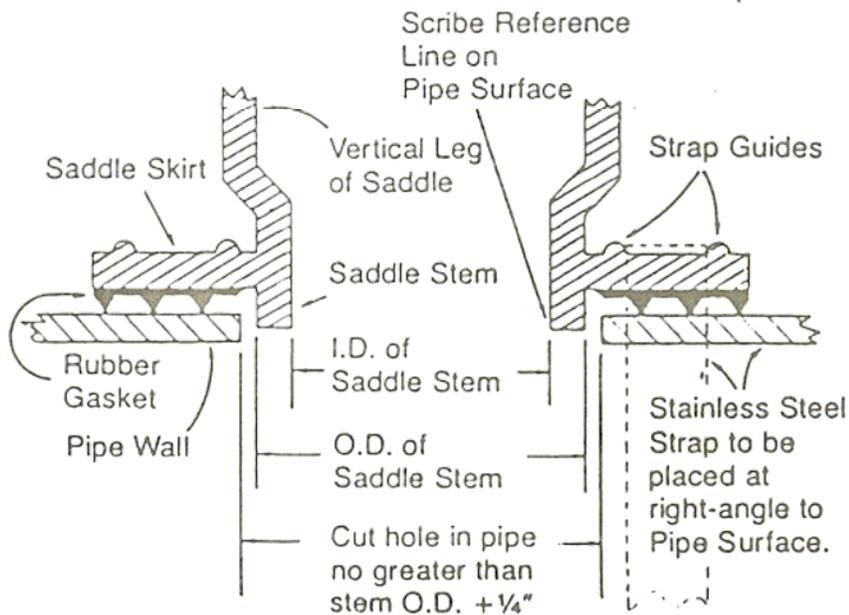
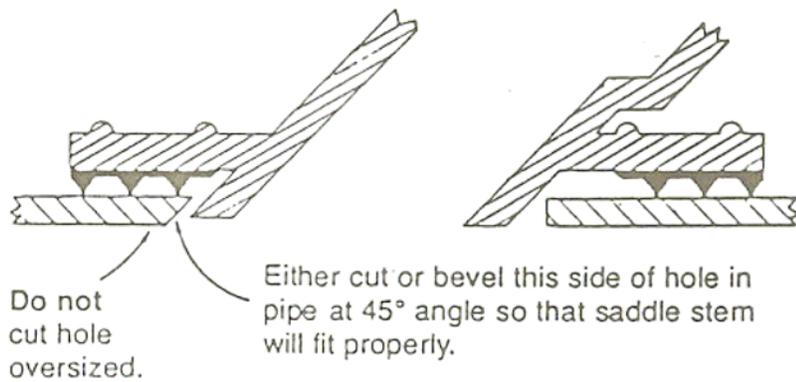
1. That saddles be installed in areas with good air circulation.
2. That in confined areas with poor natural air circulation a blower should be used.
3. If the above installation environmental conditions are not practical or possible, respirators should be used. Respirators approved by the National Institute for Occupational Safety & Health (NIOSH) as manufactured by MSA North America, Welsh Mfg., or equivalent, etc. for protection against organic vapors have been found to be satisfactory.

**B. PROCEDURE FOR MAKING GASKET SEWER CONNECTIONS TO PIPE**

Gasket sewer saddles and straps are designed to function properly with PSM PVC gravity sewer pipe SDR 35 with the following outside diameters:

Size (Inches)	OD-Inches
6	6.275
8	8.400
10	10.500
12	12.500
15	15.300

The sewer saddle is supplied with a gasket cemented onto the underside of the saddle. This is for the purpose of holding the gasket in place during assembly and is not required for a watertight seal.



## PROCEDURE FOR MAKING GASKET SEWER SADDLE CONNECTION

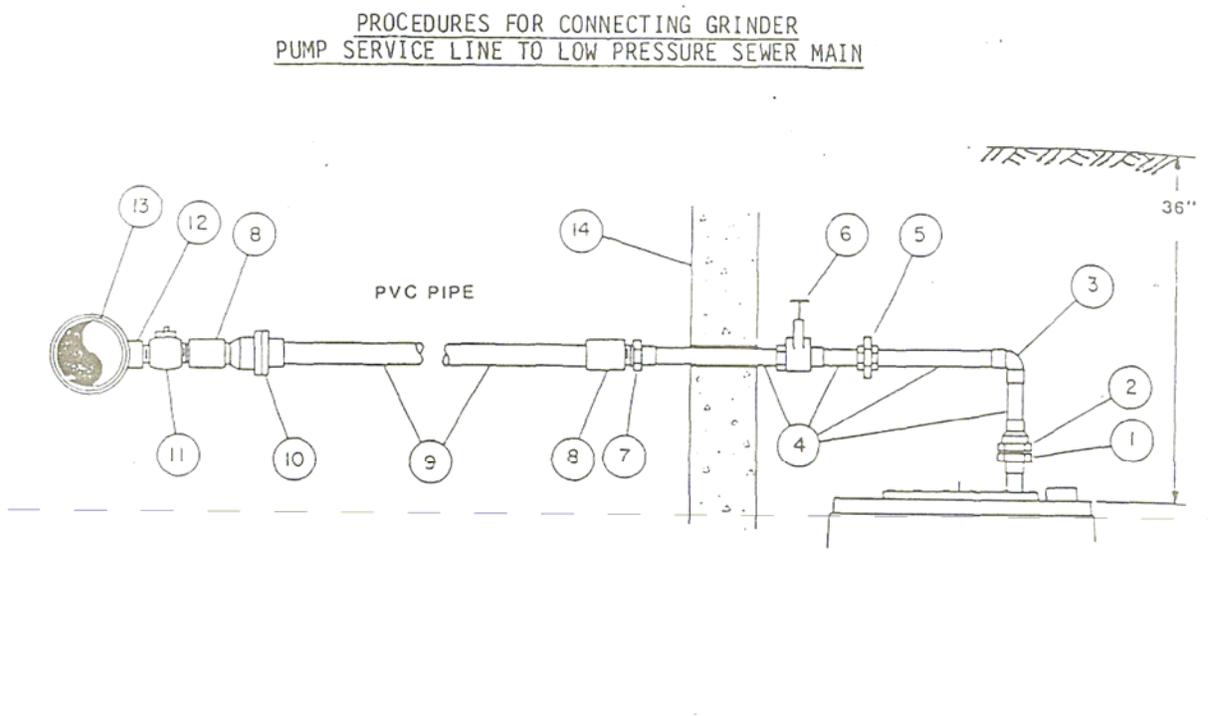
1. Place saddle in position on pipe. Use saddle as a template and mark guide for hole cut-in. Remove saddle from pipe.
2. Using hole guide mark, cut hole through pipe wall outside the hole guide mark by the thickness of the saddle stem. The diameter of the hole should not exceed the outside diameter of the saddle stem by more than 1/4". Use a hand keyhole or power saber saw to cut the hole. For most saber saws with heavy-duty blades, the blade should be held horizontally across the pipe and pressed downward until it penetrates the pipe wall. Then the blade can be brought to the vertical position and the hole cut completed. For wye saddles, cut or bevel the downstream end of the hole at a 45 degree angle to allow the saddle stem to fit.
3. Wipe clean and dry both the underside of the saddle and the mating surfaces of the pipe.
4. Position saddle over the hole. Place the two (2) stainless steel hose clamps around the pipe and through the slots at each end of the saddle skirt. Check to see that the saddle stem is recessed in the hole and that the straps are at right angles to the pipe surface.
5. Alternately tighten straps with a large screwdriver with a good grip until the maximum torque has been reached by hand. The minimum torque applied should be 5 ft.-lbs.
6. Backfill should be carefully selected and tamped around pipe and saddle to provide firm and continuous support for both.

NOTE: If saddles are not properly positioned, the rubber gasket may not be touching the pipe, possibly resulting in a leak.

ADDITIONAL COMMENTS ON CUT-INS: In summary, certain precautions should be taken when making a field cut-in connection. Every effort should be made to prevent the entrance of foreign matter into the pipe opening during assembly of the sewer saddle and before connection is completed to sewer stub pipe or the saddle inlet has been capped or plugged, should the stub pipe be connected later. Likewise, the sewer stub pipe should be capped or plugged at its terminating point where the house sewer line is to be installed later.

C. PROCEDURES FOR MAKING SERVICE CONNECTIONS TO MANHOLES

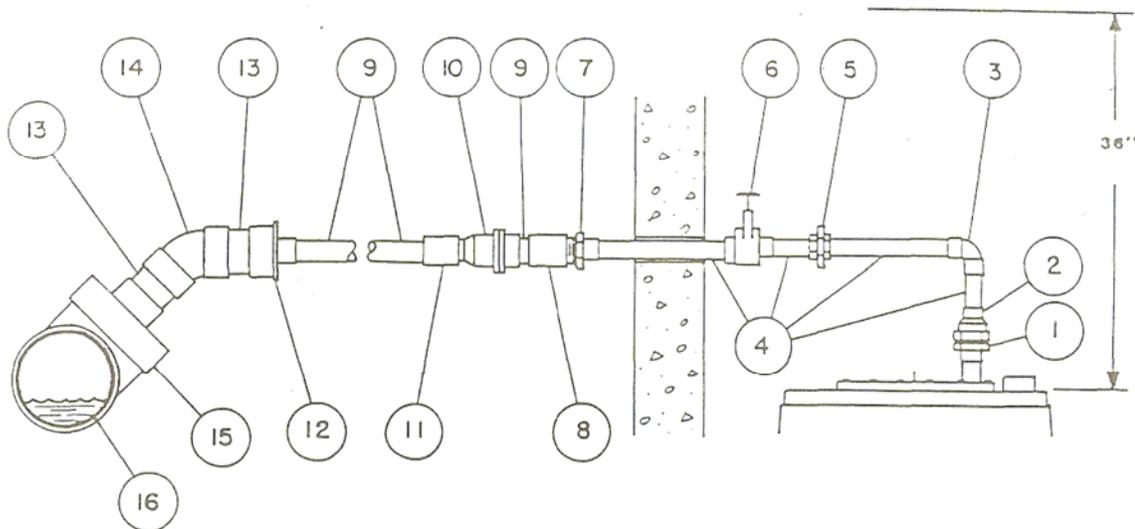
1. The sewer service pipe shall be located not less than one foot above the invert of the highest sewer main in the manhole,
2. A hole not more than two (2) inches larger in diameter than the diameter of the sewer service line shall be drilled or chiseled through the wall of the manhole (Example: for a 4 inch service line the maximum hole through the manhole wall shall be 6 inches in diameter.)
3. The sewer service line shall be inserted through the hole drilled or chiseled through the manhole wall, and shall extend not more than three (3) inches inside the manhole.
4. The sewer service line shall be centered in the hole through the manhole wall, and the annular space between the sewer service line shall be completely filled with non-shrinking grout. (Portland cement or masonry cement are not acceptable)
5. The sewer service line shall be securely supported in place until the non-shrinking grout has taken its set (not less than two hours).



RECOMMENDED DISCHARGE PIPING  
TO A LOW PRESSURE SEWER MAIN

1. GRINDER PUMP DISCHARGE –1-1/4" MPT
2. ADAPTER – 1-1/4" FPT X 1-1/4" Sweated, Copper.
3. ELBOW 90 degrees – 1-1/4" Sweat X Sweat Copper (NIBCO 607 or equivalent.)
4. PIPE – 1-1/4" Type K. Copper,
5. DISCONNECT JOINT – 1-1/4" Union or Compression Type Coupling.
6. VALVE –1-1/4" Fully Ported (gate, ball valve, etc.)
7. ADAPTER – 1-1/4" MPT X Sweat, Copper (NIBCO 604 or equivalent).
8. ADAPTER 1-1/4" FPT X 1-1/4" Socket, PVC.
9. PIPE –1-1/4" PVC (I60 PSI minimum).
10. CHECK VALVE – 1-1/4" Fully Ported Swing Type.
11. CORPORATION STOP – 1-1/4" M PT X M PT, Brass.
12. TEE or TAPPING SADDLE – 1-1/4" FPT X As Required for connection into low pressure main.
13. LOW PRESSURE MAIN
14. FOUNDATION WALL

PROCEDURES FOR CONNECTING GRINDER  
PUMP SERVICE LINE TO GRAVITY SEWER MAIN



**RECOMMENDED DISCHARGE PIPING  
TO A GRAVITY SEWER MAIN**

1. GRINDER PUMP DISCHARGE –1-1/4" MPT
2. ADAPTER –1-1/4" FPT X Sweat, Copper (NTBCO 603 or equivalent)
3. ELBOW, 90 degrees – 1-1/4" Sweat X Sweat, Copper (NIBCO 607 or equivalent)
4. PIPE – 1-1/4" Type K Copper.
5. DISCONNECT JOINT – 1-1/4" Union or Compression Type Coupling
6. VALVE - Fully Ported (gate, ball valve. etc.)
7. ADAPTER – 1-1/4" MPT X Sweat, Copper (NIBCO 604 or equivalent).
8. ADAPTER – 1-1/4" FPT X Socket. PVC (GSR 435-012 or equivalent).
9. PIPE – 1-1/4" PVC (160 psi minimum)
10. CHECK VALVE – 1-1/4" Fully Ported Swing Type
11. COUPLING – 1-1/4" Socket X Socket, PVC (GSR 437-336 or equivalent)
12. ADAPTER – 1-1/4" – 3" Socket X Socket, PVC (GSR 437-336 or equivalent)
13. PIPE - 3" PVC
14. ELBOW – 45 degree - 3" Socket X Socket, PVC (GSR 2503 or equivalent)
15. TEE or TAPPING SADDLE - As required to adapt to 3" PVC
16. GRAVITY SEWER MAIN