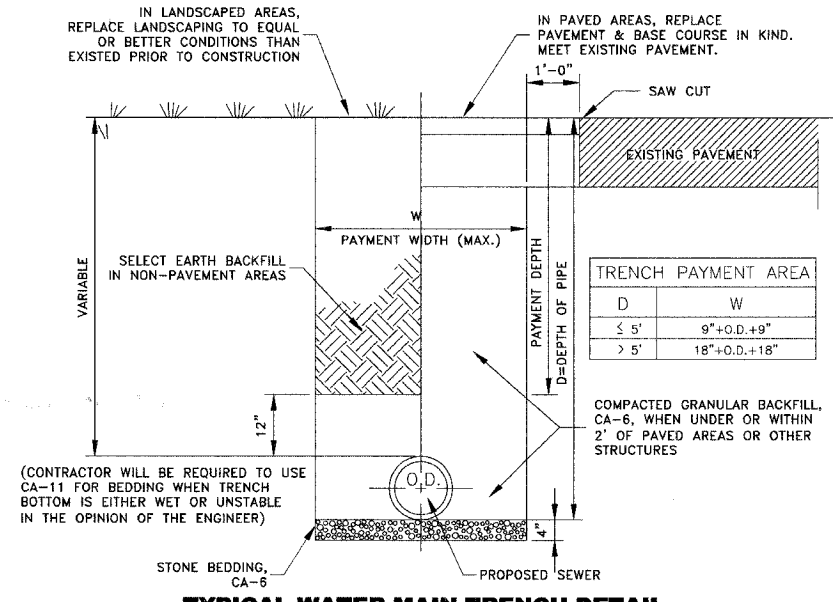
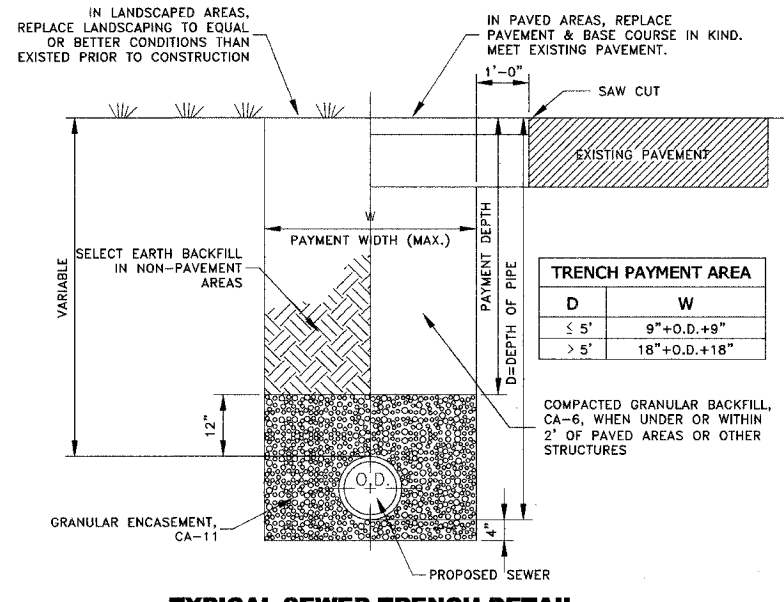


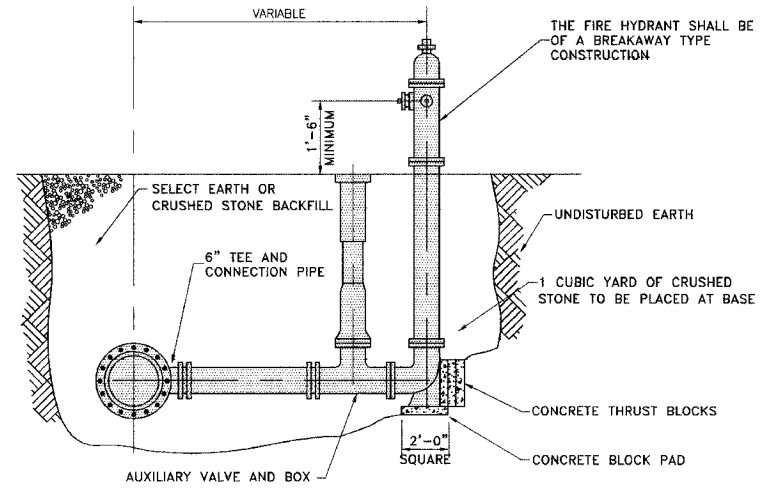
TYPICAL WATER SERVICE DETAIL



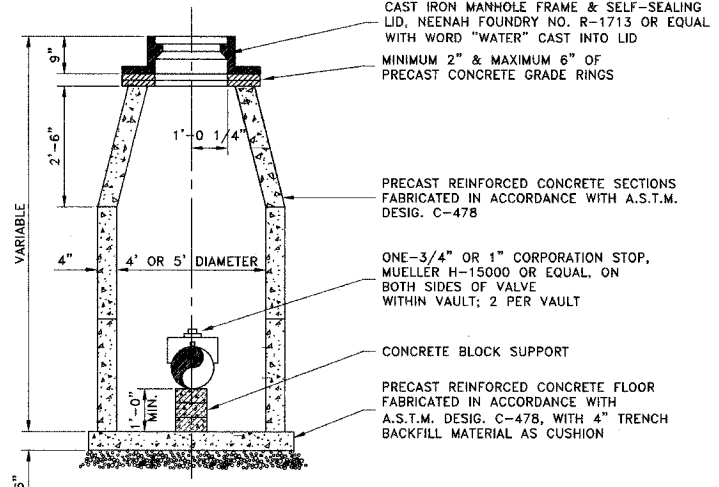
TYPICAL WATER MAIN TRENCH DETAIL



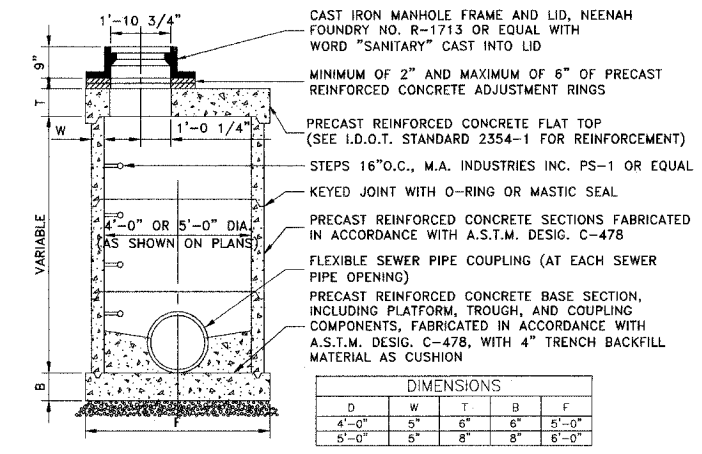
TYPICAL SEWER TRENCH DETAIL



FIRE HYDRANT DETAIL



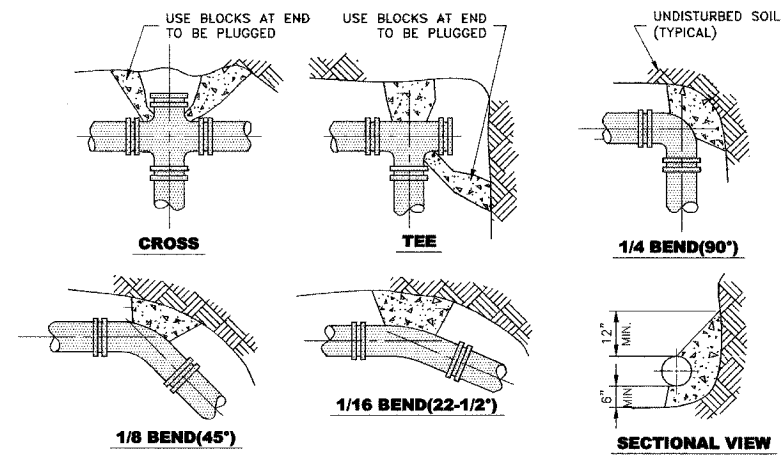
STANDARD VALVE VAULT DETAIL



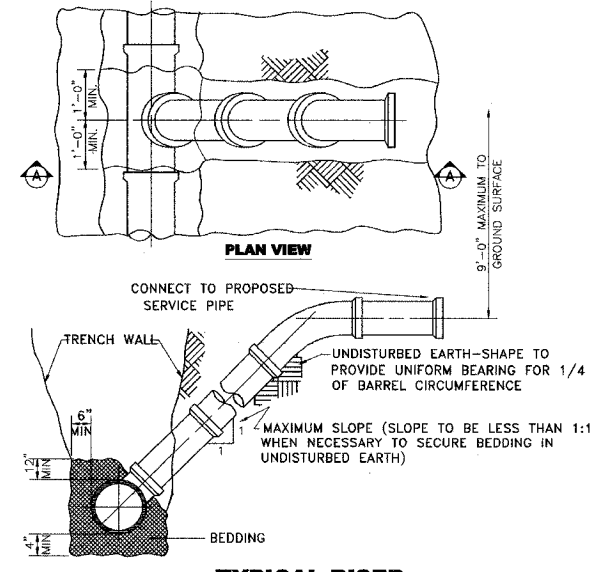
RESTRICTED DEPTH SANITARY MANHOLE

M.W.R.D.G.C. GENERAL NOTES

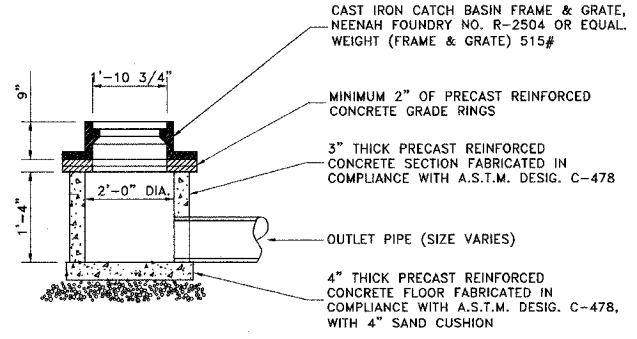
1. THE MWRD SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK AT (708) 588-4055.
2. ELEVATION DATUM IS U.S.G.S.
3. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.
4. ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE INTO THE STORM SEWER SYSTEM.
5. ALL PVC STORM, COMBINED, AND SANITARY SEWER PIPE JOINTS SHALL CONFORM TO ASTM D-3139. ALL PVC SEWER PIPE 12" IN DIAMETER OR LESS SHALL CONFORM TO ASTM D-2241 (WATER QUALITY PIPE). ALL PVC SEWER PIPE 15" OR GREATER SHALL CONFORM TO ASTM D-3034. ALL PVC SEWER PIPE SHALL BE SDR 26.
6. ALL SANITARY SEWER CONSTRUCTION, AND ALSO STORM SEWER CONSTRUCTION IN COMBINED SEWER AREAS, REQUIRES STONE BEDDING 1/4" TO 1" IN SIZE, WITH A MINIMUM THICKNESS EQUAL TO 1/4 THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN FOUR INCHES (4") NOR MORE THAN EIGHT INCHES (8"). MATERIAL SHALL BE CA-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC PIPE.
7. "BAND SEAL" OR SIMILAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPE OF DISSIMILAR MATERIALS.
8. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:
 - 1) CIRCULAR SAW-CUT OF SEWER MAIN BY MECHANICAL CORING MACHINE, AND PROPER INSTALLATION OF HUB-WYE SADDLE OR HUB-TEE SADDLE, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - 2) REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH. AFTER THE WYE OR TEE BRANCH IS INSERTED, CONCRETE SHALL BE PLACED OVER THE BROKEN AREA TO A MINIMUM THICKNESS OF 4" AND TO A DIMENSION OF 8" IN ALL DIRECTIONS.
 - 3) USING PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING. USE "BAND SEAL" OR SIMILAR COUPLINGS TO HOLD FIRMLY IN PLACE. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR THE INSTALLATION.
9. WHEREVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATER MAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATERMAIN SHALL BE 18 INCHES. FURTHERMORE, A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATERMANS SHALL BE MAINTAINED UNLESS: THE SEWER IS LAID IN A SEPARATE TRENCH, KEEPING A MINIMUM 18" VERTICAL SEPARATION; OR THE SEWER IS LAID IN THE SAME TRENCH WITH THE WATERMAIN LOCATED AT THE OPPOSITE SIDE ON BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION. IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED ABOVE CANNOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATERMAIN, THE SEWER SHALL BE CONSTRUCTED WATERMAIN STANDARDS.
10. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES, AND SHALL BE CAST IN PLACE OR PRE-CAST REINFORCED CONCRETE.
11. ALL ABANDONED SANITARY SEWERS SHALL BE PLUGGED AT BOTH ENDS WITH A MINIMUM OF TWO (2) FEET LONG CONCRETE/MORTAR PLUG.



THRUST BLOCK DETAIL



TYPICAL RISER FOR SERVICE LATERAL



INLET, TYPE "A"