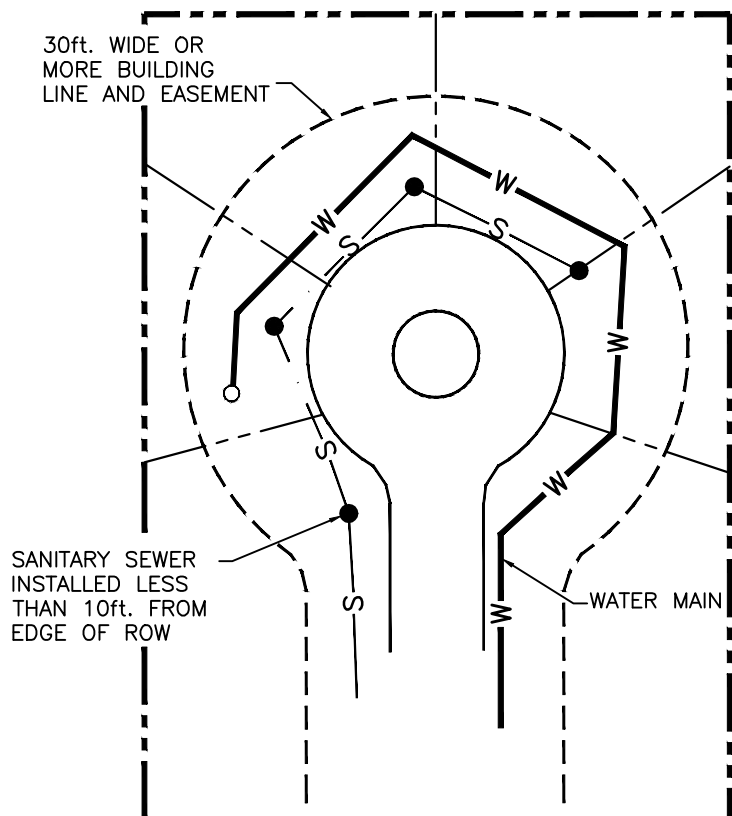


**LAYOUT "A" BUILDING SETBACK 25ft. OR LESS
CSR 20-8 (SPECIAL CONDITIONS)**



**LAYOUT "B" BUILDING SETBACK 30ft. OR MORE
CSR 20-8 (TEN FOOT SEPARATION)**

NOTES:

CUL-DE-SACS THAT ARE DESIGNED WITH THE SANITARY SEWER INSTALLED OR PROPOSED AROUND THE PERIMETER OF A CUL-DE-SAC IN AN EASEMENT MUST MEET THE DNR CODE OF STATE REGULATIONS (CSR) AS OUTLINED BELOW. DUE TO THE WIDTH OF SEWER TRENCHES AND THE RESULTING DISTURBED SOIL OCCUPYING THE ENTIRE EASEMENT.

REGULATIONS NORMALLY REQUIRES 10 FEET SEPARATION BETWEEN THE WATER MAIN AND THE BUILDING LINE WHERE A WATER MAIN IS INSTALLED OR PROPOSED AROUND THE PERIMETER OF A CUL-DE-SAC.

CUL-DE-SACS WITH 30 FOOT WIDE EASEMENT AND BUILDING LINE SHOULD NOT BE AN ISSUE AS LONG AS THE SEWER IS INSTALLED LESS THAN 10 FEET FROM THE EDGE OF RIGHT OF WAY.


HORIZONTAL SEPARATION - SEWER MAINS SHALL BE AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCES SHALL BE MEASURED EDGE-TO-EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN TEN FOOT (10') - SEPARATION. DEVIATION ON A CASE BY CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER. THIS DEVIATION MAY ALLOW INSTALLATION OF THE SEWER CLOSER TO THE WATER MAIN, PROVIDED THAT THE WATER MAIN IS IN A SEPARATE TRENCH OR AN UNDISTURBED EARTH SHELVE LOCATED ON ONE (1) SIDE OF THE SEWER AT AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST EIGHTEEN INCHES (18") ABOVE THE TOP OF THE SEWER. CONSTRUCTOR SHALL NOT PROCEED WITH DEVIATION WITHOUT AWC APPROVAL.

CROSSING - SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN INCHES (18") BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THE SEWER JOINT WILL BE EQUIVALENT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHEN A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

SPECIAL CONDITIONS. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED PREVIOUSLY. THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO THE WATER PIPE AND SHALL BE PRESSURE TESTED TO ASSURE WATER-TIGHTNESS PRIOR TO BACKFILLING.

AN AWC DESIGNATED INSPECTOR SHALL VERIFY AND DOCUMENT THE TYPE AND PRESSURE OF SEWER MATERIAL INSTALLED, SHALL VERIFY PRESSURE TESTING FOR WATER-TIGHTNESS, AND SHALL PROVIDE AS-BUILT DRAWINGS OF THE SEWER MAIN SHOWING THE LOCATION OF THE SEWER JOINTS AND MANHOLES. SEWER DOCUMENTATION AND AS-BUILT DRAWINGS FOR LAYOUT "A" SHALL BE SENT TO AWC NEW BUSINESS DEPARTMENT PRIOR TO WATER MAIN CONSTRUCTION.

RESTRAINED JOINT DUCTILE IRON PIPE MAY BE REQUIRED ON MAIN INSTALLATIONS AROUND CUL-DE-SAC OR EYEBROW AREAS AS REQUIRED BY ENGINEER.

	REVISIONS	MISSOURI AMERICAN WATER STANDARD CIVIL PROTECTION OF WATER SUPPLIES IN CUL-DE-SACS DETAILS		
		MISSOURI AMERICAN WATER ST. LOUIS, MO. 63141		
		MISSOURI AMERICAN WATER ENGINEERING 727 CRAIG ROAD ST. LOUIS, MO. 63141		
		DRAWN BY KKM PROJECT ENG'R APPROVED		
			USE DIMENSIONS ONLY SCALE N.T.S.	
		USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES		0201-0601-SD46