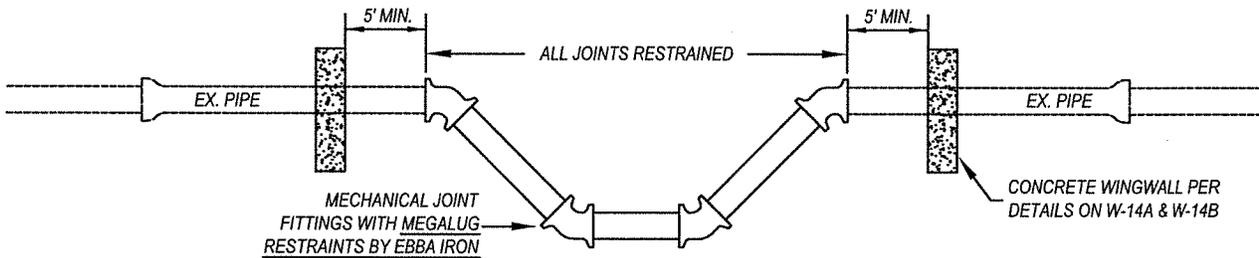
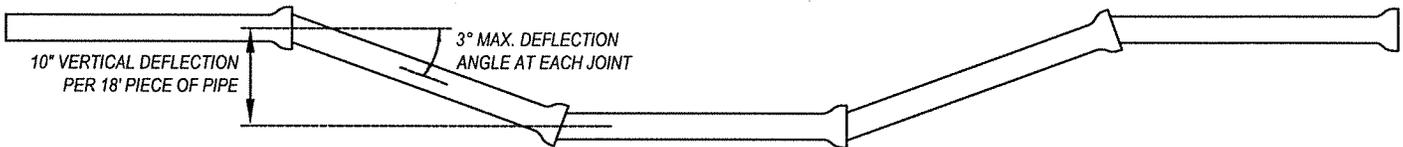


RESTRAINED JOINTS - NEW INSTALLATION



RESTRAINED JOINTS - EXISTING PIPE



ROPED PIPE (JOINT DEFLECTION)

NOTES

1. ALL JOINTS WITHIN MINIMUM RESTRAINED LENGTH "L" SHALL BE RESTRAINED. FULL LENGTH PIPE SECTIONS SHALL BE USED. WHEN LENGTH "L" OCCURS WITHIN THE MID SECTION OF A PIPE, THE NEXT JOINT OUT SHALL BE RESTRAINED. SEE W-14B FOR "L" LENGTH SPECIFICATIONS AND ADDITIONAL RESTRAINED JOINT DETAILS.
2. RESTRAINED JOINTS REQUIRE INSPECTION BY THE CITY OF NAPA. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING INSPECTION IN ADVANCE AND LEAVING JOINTS EXPOSED FOR THE CITY INSPECTOR.
3. MINIMUM RESTRAINED LENGTH SHALL BE CLEARLY SHOWN ON THE PROFILE OF ALL WATERLINE PLANS.
4. VERTICAL OFFSETS SHALL BE AVOIDED WHENEVER POSSIBLE BY DEFLECTING JOINTS (ROPING) TO ACHIEVE OFFSET.
5. MINIMUM RESTRAINED LENGTH SHALL BE RE-CALCULATED TO ACCOUNT FOR OTHER FITTINGS (VALVES, TEES, BENDS) WITHIN LENGTH "L", OR IF WATER MAIN DEPTHS ARE SHALLOWER THAN STANDARD INSTALLATION DEPTH (SEE W-13A).
6. RESTRAINED LENGTHS FOR PIPE SIZES LARGER THAN 12" SHALL BE DETERMINED BY THE ENGINEER AND APPROVED BY THE CITY.
7. ALTERNATE MATERIALS MUST BE APPROVED BY THE CITY OF NAPA WATER DIVISION PRIOR TO USE.
8. WATER MAINS SHALL BE ROPED OVER UTILITY CONFLICTS WHENEVER 2-FEET OF COVER AND 1-FOOT SEPARATION BETWEEN UTILITIES CAN BE MAINTAINED.

CITY OF NAPA

PUBLIC WORKS - WATER DIVISION

WATER MAIN OFFSETS

DATE REVISED DECEMBER 2015

CHECKED

APPROVED

SCALE

NONE

W - 15

DWG NO.