

SUPPORTING WATER PIPES ENCOUNTERED DURING EXCAVATION
OPERATIONS

CONTRACTORS ENCOUNTERING PASADENA WATER DIVISION PIPES IN THE CITY OR COUNTY TERRITORY SHALL BE GOVERNED BY THE FOLLOWING INSTRUCTIONS.

I. GENERAL

ALL WATER PIPES ENCOUNTERED DURING CONSTRUCTION SHALL BE SUPPORTED EITHER BY REDWOOD BEAMS AND POSTS OR BY BACKFILL WHICH MUST BE PLACED AND COMPACTED IN SUCH A MANNER THAT THE WATER PIPES WILL BE ADEQUATELY SUPPORTED BEFORE BEING SUBJECTED TO SUPERIMPOSED LOADS DURING BACKFILL AND COMPACTION OPERATIONS. NO SPECIAL PIPE SUPPORTS WILL BE REQUIRED IF THE UNSUPPORTED LENGTH OF PIPE IS 1.1 m (3'-9") OR LESS EXCEPT WHERE PIPE JOINTS OR FITTINGS FALL WITHIN THE TRENCH EXCAVATION.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEMPORARILY SUPPORT DURING CONSTRUCTION BY USE OF BEAMS, CABLES, OR WIRES ALL CAST IRON WATER PIPE 50 mm (2") OR LARGER AND ALL STEEL WATER PIPE 100 mm (4") AND LARGER UNTIL SUCH TIME AS THE SUPPORT, AS PROVIDED HEREINAFTER, HAS BEEN ACCOMPLISHED.


II. REDWOOD SUPPORTS

THE PIPE SUPPORTS SHALL BE MADE OF SELECT GRADE OF REDWOOD FOR COMMERCIAL BEAMS AND POSTS.

CAST IRON WATER PIPES 50 mm (2") IN DIAMETER OR LESS SHALL BE SUPPORTED FOR THE FULL WIDTH OF THE TRENCH BY 50 mm x 100 mm (2" x 4") REDWOOD BEAMS SUPPORTED BY A MINIMUM OF THREE 50 mm x 100 mm (2" x 4") REDWOOD POSTS.

WATER PIPES OVER 50 mm (2") IN DIAMETER SHALL BE SUPPORTED FOR THE FULL WIDTH OF THE TRENCH ON BEAMS NOT LESS THAN 150 mm (6") DEEP AND HAVING A WIDTH OF 1/3 THE NOMINAL DIAMETER OF THE PIPE TO BE SUPPORTED BUT NOT LESS THAN 100 mm (4"). THE WATER PIPE BEAMS SHALL BE SUPPORTED ON THREE 100 mm x 100 mm (4" x 4") REDWOOD POSTS. THE TWO OUTSIDE POSTS ARE TO BEAR ON THE BOTTOM OF THE TRENCH AND SHALL BE WEDGED IN PLACE TO TAKE A SLIGHT STRAIN AND SHALL BE SECURED IN PLACE. THE CENTER POST SHALL BEAR DIRECTLY ON TOP OF THE STORM DRAIN PIPE.

CITY OF PASADENA - PUBLIC WORKS & TRANSPORTATION DEPARTMENT

DRAWN BY: DAVID PHAN	SUPPORTING WATER PIPES ENCOUNTERED DURING EXCAVATION OPERATIONS	REVISION: 2	UNITS: DUAL
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SUBMITTED BY: W&P		APPROVED BY:  CITY ENGINEER	9/24/01 DATE

III. SUPPORT OF PIPES PARALLELING TRENCH

WHERE TRENCH EXCAVATIONS REMOVE VERTICAL OR LATERAL SUPPORT OF WATER PIPES PARALLELING THE TRENCH EXCAVATIONS OR WHERE SAID SUPPORT IS ENDANGERED, THE WATER PIPE SHALL BE SUPPORTED BY REDWOOD BEAMS SIZED IN ACCORDANCE WITH SECTION II ABOVE. POSTS SHALL BEAR DIAGONALLY AGAINST STORM DRAIN OR OTHER PIPE AND SHALL BE WEDGED AND SECURED IN PLACE TO PROVIDE SOLID SUPPORT, OR VERTICAL POSTS WITH HORIZONTAL CROSS TRENCH BRACING SHALL BE USED TO PROVIDE NECESSARY SUPPORT. THE BEAMS ON WHICH THE PIPE RESTS SHALL SUPPORT AT LEAST TWO-THIRDS OF THE LENGTH OF THE PIPE. POSTS SUPPORTING BEAMS SHALL BE INSTALLED 1.2 m (4') ON CENTERS (MAXIMUM). ALLOWABLE OVERHANG BETWEEN POSTS AND END OF BEAMS SHALL BE 0.45 m (1'-6"). PIPE JOINTS SHALL BE LEFT CLEAR FOR AT LEAST A DISTANCE OF 0.45 m (1'-6") ON EACH SIDE OF THE JOINT TO ALLOW FOR JOINT REPAIRS. ALL PIPE SUPPORTS SHALL BE SUBJECT TO APPROVAL OF THE GENERAL MANAGER OF THE WATER AND POWER DEPARTMENT OR HIS AUTHORIZED ASSISTANTS. IN THE EVENT SETTLEMENT OCCURS, THE CITY WILL RECAULK JOINTS AS NECESSARY TO RELIEVE STRAINS IMPOSED ON THE PIPELINE AND SAID COSTS WILL BE CHARGED TO THE CONTRACTOR.

IV. BACKFILL SUPPORT FOR WATER PIPES

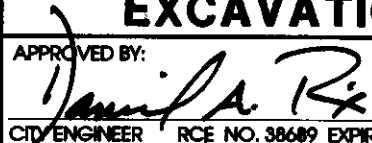
IN LIEU OF REDWOOD PIPE SUPPORTS THE CONTRACTOR MAY BACKFILL THE TRENCH SO THAT THE TOP HALF OF THE PIPE IS EXPOSED. HE SHALL THEN CONSOLIDATE THE FILL AND SHALL CONSTRUCT A COMPACTED FILL UNDER AND AROUND THE PIPE TO THE SPRING LINE BEFORE COMPLETING THE TRENCH BACKFILL.

AT NO TIME SHALL THE CONTRACTOR DUMP BACKFILL MATERIALS DIRECTLY ON UNSUPPORTED PIPES OR CAUSE THEM TO CARRY SUPERIMPOSED LOADS BEFORE THEY ARE ADEQUATELY SUPPORTED.

THE CITY OF PASADENA WATER AND POWER DEPARTMENT ASSUMES NO RESPONSIBILITY FOR DAMAGE TO ITS PIPE SYSTEM BY THE ACTS OF THE CONTRACTOR WHILE FOLLOWING THE ABOVE INSTRUCTIONS FOR SUPPORTING WATER PIPE.



SHAN KWAN, BUSINESS UNIT DIRECTOR,
WATER AND POWER DEPARTMENT

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