

DOUBLE LINED DUCTILE
IRON BEND WRAPPED W/
TWO LAYERS OF 8 MIL
POLYETHYLENE (TYP.)
PER SECTION 2.12 OF
THE DESIGN MANUAL.

WATER MAIN

CONCRETE THRUST
BLOCK VOLUME PER
TABLE BELOW

1'-6" (TYP.)

PROFILE

TYPICAL VERTICAL RESTRAINT

2- REINFORCING BARS
(PER TABLE BELOW)
SHAPED TO FIT FITTING,
COAT WITH 20 MILS MIN. OF PITCHEM
TARGET COAT OR APPROVED EQUAL

COVER REBAR A MINIMUM
OF 3" WITH CONCRETE

WATER MAIN

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OF 3" WITH CONCRETE

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IRON BEND WRAPPED W/
TWO LAYERS OF 8 MIL
POLYETHYLENE (TYP.)
PER SECTION 2.12 OF
THE DESIGN MANUAL.

WATER MAIN

2'-0"
L1
(SEE TABLE BELOW)

1'-0"

PROFILE

TYPICAL VERTICAL THRUST BLOCK

LINED DUCTILE IRON BEND

L1 (SEE TABLE BELOW)

WATER MAIN

PLAN

TYPICAL THRUST BLOCK HORIZONTAL

2'-0"
WATER MAIN
L2 (SEE TABLE BELOW)
6" MIN.
18" MAX.

SECTION A

TYPICAL THRUST BLOCK HORIZONTAL

NOTES:

1. BEARING SURFACE OF ALL THRUST
BLOCKS TO BE POURED AGAINST
FIRM UNDISTURBED EARTH. (FULL BEARING STRENGTH)
2. ALL CONCRETE TO BE 3000 P.S.I.
3. SPECIAL DESIGN REQUIRED FOR PRESSURES EXCEEDING 200 PSI,
SOIL PRESSURES LESS THAN 2000 PSF, AND FOR FITTINGS LARGER THAN 12" DIAMETER.

THRUST BLOCK DIMENSIONS

| PIPE SZ. | 0' TO 11 1/4' | | | 11 1/4' TO 22 1/2' | | | 22 1/2' TO 45' | | | 45' TO 90' | | | DEAD ENDS & TEES | | | PIPE SZ. |
|----------|-----------------|------------------|----------------|--------------------|------------------|----------------|-----------------|------------------|----------------|-----------------|------------------|----------------|------------------|------------------|----------------|----------|
| | HORIZ. L1 L2 | VERT. VOL. CY | VERT. REBAR | HORIZ. L1 L2 | VERT. VOL. CY | VERT. REBAR | HORIZ. L1 L2 | VERT. VOL. CY | VERT. REBAR | HORIZ. L1 L2 | VERT. VOL. CY | VERT. REBAR | HORIZ. L1 L2 | VERT. VOL. CY | VERT. REBAR | |
| 6" | 1.0 x 1.0 | 0.4 | #6 | 1.0 x 1.5 | 0.8 | #6 | 1.5 x 2.0 | 1.5 | #6 | 2.0 x 3.0 | 2.7 | #6 | 2.0 x 2.0 | 1.9 | | 6" |
| 8" | 1.0 x 1.5 | 0.6 | #6 | 1.5 x 2.0 | 1.3 | #6 | 2.0 x 3.0 | 2.5 | #6 | 3.0 x 3.5 | 4.7 | #6 | 2.5 x 3.0 | 3.3 | | 8" |
| 10" | 1.0 x 2.0 | 1.1 | #6 | 2.0 x 2.0 | 2.1 | #6 | 3.0 x 3.0 | 4.1 | #6 | 4.0 x 4.0 | 7.6 | #8 | 3.0 x 4.0 | 5.4 | | 10" |
| 12" | 1.5 x 2.0 | 1.5 | #6 | 2.0 x 2.0 | 3.0 | #6 | 3.0 x 4.0 | 5.9 | #6 | 4.5 x 5.0 | 10.8 | #8 | 4.0 x 4.0 | 7.6 | | 12" |

TABLE BASED ON 200 PSI PRESSURE AND 2000 PSF ALLOWABLE SOIL BEARING PRESSURE.

| Revision | By | Approved | Date | CITY OF OCEANSIDE | | 9-2001 |
|----------|-----|----------|------|----------------------|--|------------------------------|
| 09/11/00 | kal | | | | | |
| 07/19/04 | AC | | | TYPICAL THRUST BLOCK | | CITY ENGINEER Date |
| 03/16/05 | AC | | | | | |
| 04/14/05 | DW | | | | | |
| 06/04/07 | AC | | 7/07 | | | STANDARD DRAWING NO. W-27 |