NOTE: THE CUSHION PORTION OF CONCRETE ENCASEMENT SHALL BE POURED FIRST AND ALLOWED TO SET UP, BUT NOT ALLOWED TO DRY, BEFORE PLACEMENT OF THE SIDE AND TOP CONCRETE.

CONCRETE ENCASEMENT
CLASS "G" EMBEDMENT
D
N.T.S.
Bd

IMPROVED BACKFILL ASSOCIATED WITH PAVEMENT REPAIR

CONCRETE PAVEMENT REPAIR
FOR OPEN CUT TRENCHING

IMPROVED BACKFILL UNDER AREAS OF FUTURE PAVEMENT

CLASS "B" CONCRETE (2,000 PSI)
LEVEL OF FIRST POUR 4" MIN.

BACKFILL PER APPLICABLE DETAIL

NATIVE BACKFILL MECHANICALLY COMPACTED IN 6" LIFTS TO AT LEAST 97% STANDARD PROCTOR DENSITY. NATIVE MATERIAL MAY BE USED FOR ENTIRE TRENCH DEPTH.

EMBEDMENT AND BACKFILL FOR UTILITY CONDUITS, GAS MAINS AND WATER SERVICES < 4" N.T.S.

NOTE: THE CUSHION PORTION OF CONCRETE ENCASEMENT SHALL BE POURED FIRST AND ALLOWED TO SET UP, BUT NOT ALLOWED TO DRY, BEFORE PLACEMENT OF THE SIDE AND TOP CONCRETE.

CONCRETE ENCASEMENT
CLASS "C" EMBEDMENT
FOR RCP AND FRP PIPE
N.T.S.

EMBEDMENT AND BACKFILL FOR UTILITY CONDUITS, GAS MAINS AND WATER SERVICES > 4" N.T.S.

NOTE: THE CUSHION PORTION OF CONCRETE ENCASEMENT SHALL BE POURED FIRST AND ALLOWED TO SET UP, BUT NOT ALLOWED TO DRY, BEFORE PLACEMENT OF THE SIDE AND TOP CONCRETE.

CONCRETE ENCASEMENT
CLASS "B" EMBEDMENT
FOR PVC PIPE
N.T.S.

CONCRETE PAVEMENT REPAIR W/ASPHALT OVERLAY FOR OPEN CUT TRENCHING

CONCRETE PAVEMENT REPAIR FOR TEMPORARY PAVEMENT REPAIR

NOTE: THE CUSHION PORTION OF CONCRETE ENCASEMENT SHALL BE POURED FIRST AND ALLOWED TO SET UP, BUT NOT ALLOWED TO DRY, BEFORE PLACEMENT OF THE SIDE AND TOP CONCRETE.

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FOR RCP, RCP AND FRP PIPE
N.T.S.

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### Trench Shoring & Sheetinng - Minimum Requirements

#### Size and Spacing of Members

<table>
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<tr>
<th>Depth of Trench</th>
<th>Kind or Condition of Earth</th>
<th>Uprights</th>
<th>Stringers</th>
<th>Cross Braces 1</th>
<th>Maximum Spacing</th>
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<tbody>
<tr>
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<td>6 X 8</td>
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<td>4 X 6</td>
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**TABLE P-2**

Note: Trench jacks may be used in lieu of, or in combination with, cross braces.

**Shoring is not required in solid rock, hard shale, or hard slag.**

Where desirable, steel sheet piling and bracing of equal strength may be substituted for wood.

**Recommended Slope for Average Soils**

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<tr>
<th>Existing Ground Line</th>
<th>Approximate Angle of Repose</th>
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<tr>
<td>Solid Rock, Shale or Cemented Sand and Gravels (90°)</td>
<td>(63°26')</td>
</tr>
<tr>
<td>Compacted Angular Gravels</td>
<td>(45°)</td>
</tr>
<tr>
<td>Compacted Sharp Sand</td>
<td>(33°41')</td>
</tr>
<tr>
<td>Well Round Loose Sand</td>
<td>(26°34')</td>
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</table>

**APPROXIMATE ANGLE OF REPOSE FOR SLOPING OF SIDES OF EXCAVATIONS**

**TABLE P-1**

---

**TRENCH JACKS IN TRUE HORIZONTAL POSITION AND SPACED VERTICALLY**

**FIGURE 1**

**ONE EXAMPLE OF SEVERAL TYPES OF SHEETING**

**FIGURE 2**

**SPOIL**

**TRENCH SHIELD**

**FIGURE 3**

---

**TRENCH SHO铭ING & SHEETING - MINIMUM REQUIREMENTS**

**TABLE P-2**

---

**CITY OF IRVING**

**STANDARD DETAILS**

**TRENCH SHEETING, SHORING & SLOPING FOR TRENCHES OVER 5 FEET DEEP**

---

**CITY OF IRVING Capital Improvement Program**

**825 West Irving Boulevard**

**Irving, Texas 75060**

**972.721.2611**

**www.cityofirving.org**
6"Min.

STANDARD DETAILS

DOMESTIC TURBINE AND COMPOUND METER

COMBINATION FIRE LINE AND DOMESTIC WATER METER VAULT

NOTES:

1. A DOMESTIC TURBINE AND COMPOUND METER SHALL NOT SERVE MULTIPLE PROPERTIES.

2. DOMESTIC SERVICE LINES SHALL NOT CROSS PROPERTY LINES OR ENCROACH ONTO ADJACENT PROPERTY.

3. A DOUBLE CHECK DETECTOR ASSEMBLY VAULT WILL NOT BE ALLOWED TO BE INSTALLED IN A SIDEWALK OR PAVED AREA.

4. A COMBINATION FIRE LINE AND DOMESTIC WATER METER VAULT MUST REMAIN EASILY ACCESSIBLE FROM THE STREET AT ALL TIMES AND SHALL NOT HAVE FENCES OR OTHER OBSTRUCTIONS INSTALLED IN FRONT OF THEM.

DOUBLE CHECK DETECTOR ASSEMBLY (LEAK DETECTOR)

NOTES:

1. A DOUBLE CHECK DETECTOR ASSEMBLY VAULT MUST REMAIN EASILY ACCESSIBLE FROM THE STREET AT ALL TIMES AND SHALL NOT HAVE FENCES OR OTHER OBSTRUCTIONS INSTALLED IN FRONT OF THEM.

2. FIRE LINES SHALL NOT CROSS PROPERTY LINES OR ENCROACH ON ADJACENT PROPERTY.

3. A DOUBLE CHECK DETECTOR ASSEMBLY VAULT WILL NOT BE ALLOWED TO BE INSTALLED IN A SIDEWALK OR PAVED AREA.

4. A COMBINATION FIRE LINE AND DOMESTIC WATER METER VAULT MUST REMAIN EASILY ACCESSIBLE FROM THE STREET AT ALL TIMES AND SHALL NOT HAVE FENCES OR OTHER OBSTRUCTIONS INSTALLED IN FRONT OF THEM.

COMBINATION FIRE LINE AND DOMESTIC WATER METER VAULT

NOTES:

1. ALL JOINTS TO BE WATERPROOF WITH RAMINECK ADHESIVE OR PER APPROVED EQUAL SPECIFICATIONS FOR A H-10 LOADING REQUIREMENT.

2. TEST SPOOL PIECE OR PVC w/ FLG COUPLING ADAPTORS

INCLUDE:

- FLANGED SPOOL PIECE OR PVC
- MJ OR FLG
- R.O.W.
- GROUT
- CONC.

**STRAINER** PRIOR TO FLG OF METER.

SUMP

CRUSHED STONE w/ No. 4 BARS @ 8" O.C.E.W.

SUMP 12"x12"x1" CRUSHED STONE w/ No. 4 BARS @ 8" O.C.E.W.

CONCRETE

CONCRETE GROUT P. V.C. H 20 LOAD DESIGN)

BILCO J-3AL H 20 FOR VAULTS REQUIRING (USE BILCO J-3AL H20 FOR VAULTS REQUIRING

MECHANICAL LOADING.

FLANGE BOLT REMOVAL.

1. ALL JOINTS TO BE WATERPROOF WITH RAMINECK ADHESIVE OR PER APPROVED EQUAL SPECIFICATIONS FOR A H-10 LOADING REQUIREMENT.

2. TEST SPOOL NOT REQUIRED WITH METERS WITH BUILT IN TEST PORTS.

3. FLANGE YOKE

4. CITY OF IRVING

Irving, Texas 75060

5'. (Min.) PRIOR TO FLG OF METER.

6" (Min.) PRIOR TO FLG OF METER.

F (Min.) PRIOR TO FLG OF METER.

GATE VALVE

NRS

MJ OR FLG

BENDS AS REQUIRED PRIOR TO FLG OF METER.

10 DIAMETERS (MIN.) OF STRAIGHT SECTION PIPE PRIOR TO FLG OF METER.

TEN DIAMETERS (MIN.) OF STRAIGHT SECTION PIPE PRIOR TO FLG OF METER.

5' (Min.) PRIOR TO FLG OF METER.

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MECHANICAL LOADING.

FLANGE BOLT REMOVAL.
### GENERAL NOTES FOR ALL THRUST BLOCKS:

1. CONCRETE FOR BLOCKS SHALL BE CLASS "B".
2. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 60 PSI FOR DUCTILE IRON, P.V.C., AND 30 PSI FOR CONCRETE PIPE.
3. VOLUMES OF THRUST BLOCKS ARE NOT VOLUMES OF CONCRETE TO BE Furnished. THE CONCRETE VOLUME OF THE GROSS VOLUME OF THE TRUCK BLOCK SHOWN ON THE PLAN.
4. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.
5. POLY CONCRETE FOR BLOCKS AGAINST UNDERSTABLE EARTH.
6. OVERSIZED VALVES (V) USED PER FIELD CONDITIONS WHERE AN.
7. THE WEIGHTS SHOWN ARE BASED ON 150 PSI FOR DUCTILE IRON, 100 PSI FOR CONCRETE PIPE, AND 75 PSI FOR CEMENT BLOCKS.
8. USE POLYURETHANE wrap on all external concrete and block; tee, or plug to prevent the concrete from sticking to it.
9. CONCRETE SHALL NOT EXTEND BEYOND BENDS.

### TABLES OF HORIZONTAL 30° & 45° BENDS DIMENSIONS & QUANTITIES

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