STANDARD LENGTH OF CARRIER PIPE

RISER (TYP.)

FOR 8" WIDE BAND:
(6 STUDS, 12 WASHERS AND NUTS)

FOR 12" WIDE BAND:
(8 STUDS, 16 WASHERS AND NUTS)

CARRIER PIPE

RUNNER (TYP.)

STEEL SPACER BODY

CASING PIPE

45'

45'

45'

45'

45'

30'

15'

15'

RISER (TYP.)

CASING SPACERS

CARRIER PIPE

Cadmium plated studs, nut, and washers (TYP.)

RUNNER (TYP.)

18" MAX.

JOINT

CARRIER PIPE

PIECE PIPE

CASING PIPE

RUBBER SEAL

CALPICO MODEL "C" OR APPROVED EQUAL WITH STAINLESS STEEL STRAPS.

SEAL ENDS OF CASING WITH RUBBER SEAL. CALPICO MODEL "C" OR APPROVED EQUAL WITH STAINLESS STEEL STRAPS.

FOR NOTES, SEE DWG. NO. 60A.
(CONT'D FROM DWG. 60)

STEEL CASING SCHEDULE

<table>
<thead>
<tr>
<th>PIPE SIZE &amp; TYPE</th>
<th>CASING</th>
<th>THICK</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot; VITRIFIED CLAY</td>
<td>14&quot; I.D.</td>
<td>$\frac{3}{16}$</td>
</tr>
<tr>
<td>8&quot; VITRIFIED CLAY</td>
<td>16&quot; I.D.</td>
<td>$\frac{1}{4}$</td>
</tr>
<tr>
<td>10&quot; VITRIFIED CLAY</td>
<td>20&quot; I.D.</td>
<td>$\frac{1}{4}$</td>
</tr>
<tr>
<td>12&quot; VITRIFIED CLAY</td>
<td>22&quot; I.D.</td>
<td>$\frac{1}{4}$</td>
</tr>
</tbody>
</table>

NOTES:

1. CASING SHALL BE INSTALLED BY THE JACKING AND BORING METHOD.
2. CASING JOINTS SHALL BE WELDED IN ACCORDANCE WITH AWWA STANDARD C-206 EXCEPT THAT HYDROSTATIC TESTING WILL NOT BE REQUIRED.
3. CASING SPACERS SHALL BE PROVIDED AS PER DETAIL (SEE DRAWING NO. 60).
4. ENDS OF BORE HOLE SHALL BE SEALED TO PREVENT ENTRANCE OF FILL MATERIAL, AS REQUIRED.
5. JOINT SHALL BE INSTALLED AT END OF CASING PIPE. SEE DETAIL (SEE DRAWING NO. 60).
6. CASING OF LARGER SIZE THAN SHOWN IN THE ABOVE CHART OR CASING FORPIPES LARGER THAN 12" OR OF DIFFERENT TYPE THAN SHOWN SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.
CAST-IN-PLACE STORM DRAIN

NEW CAST-IN-PLACE CONCRETE PIPE

#4 BARS AT 18" O.C.

#5 BARS

FLOWLINE OF NEW CAST-IN-PLACE CONCRETE PIPE.

#4 BARS

#5 BARS

12" MIN. & 24" MAX. BOTH SIDES

NEW SECTION OF DUCTILE IRON PIPE.

SECTION A-A

1" MINIMUM CLEARANCE BETWEEN DUCTILE IRON PIPE AND STEEL REINFORCEMENT.

CAST-IN-PLACE STORM DRAIN

EXISTING PIPE

NEW PIPE

EXISTING TRENCH

CONCRETE ENCASEMENT

DETAILS OF PROTECTION FOR NEW SEWERS

PROTECTION OF STORM DRAINS AND SANITARY SEWER LINES

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

REV. NO. | REV. DATE | REV. BY
------- | --------- | -------
2       | 6/1/2000  | HLE/RH

DIGITIZED | 1/1/92

Dwg. By | Rc | Scale | Ck. By
------- | --- | ------ | ------
NONE

SUPERVISED | Dwg. Dated | Drawing No.
------------- | ----------- | -------
10/7/93 | 61

REV. No. | REV. DATE | REV. BY
------- | --------- | -------
2       | 6/1/2000  | HLE/RH

DIGITIZED | 1/1/92

Dwg. By | Rc | Scale | Ck. By
------- | --- | ------ | ------
NONE

SUPERVISED | Dwg. Dated | Drawing No.
------------- | ----------- | -------
10/7/93 | 61

REV. No. | REV. DATE | REV. BY
------- | --------- | -------
2       | 6/1/2000  | HLE/RH

DIGITIZED | 1/1/92

Dwg. By | Rc | Scale | Ck. By
------- | --- | ------ | ------
NONE

SUPERVISED | Dwg. Dated | Drawing No.
------------- | ----------- | -------
10/7/93 | 61

REV. No. | REV. DATE | REV. BY
------- | --------- | -------
2       | 6/1/2000  | HLE/RH

DIGITIZED | 1/1/92

Dwg. By | Rc | Scale | Ck. By
------- | --- | ------ | ------
NONE

SUPERVISED | Dwg. Dated | Drawing No.
------------- | ----------- | -------
10/7/93 | 61
DETAILS OF PROTECTION FOR EXISTING SEWERS

NOTES:

1. CONCRETE FOR ENCASEMENT SHALL BE CLASS "B" CONCRETE Poured AGAINST THE UNDISTURBED EARTH.
2. THE CONCRETE ENCASEMENT SHALL EXTEND ACROSS THE FULL WIDTH OF THE TRENCH PLUS AN ADDITIONAL 12" INTO UNDISTURBED EARTH ON EACH SIDE OF THE TRENCH.
4. CAST-IN-PLACE STORM DRAINS
   (A) WHEN THE CLEARANCE BETWEEN THE BOTTOM OF THE STORM DRAIN AND THE TOP OF THE SANITARY SEWER IS LESS THAN 6", THE SANITARY SEWER SHALL BE ENCASED MONOLITHICALLY WITH THE BASE OF THE DRAIN. IN ADDITION IT SHALL BE CONSTRUCTED OR REPLACED WITH DUCTILE IRON PIPE.
   (B) WHEN THE BOTTOM SLAB OF THE CAST-IN-PLACE STORM DRAIN INTERSECTS SEWERS UNDER 15" IN DIAMETER, CONSTRUCT PER TYPICAL ENCASEMENT AS SHOWN ABOVE.
CASE NO. 1

NEW INSTALLATION

CONCRETE BLOCK FOR PROTECTION OF NEW PIPE.

EXISTING SANITARY SEWER.

SEE NOTE NO. 3

RECONNECT

ABANDON EXISTING, HOUSE LATERAL.

CASE NO. 2

SELECT BACKFILL TO TOP OF RELOCATED PIPE.

ABANDON EXISTING HOUSE LATERAL

NEW INSTALLATION

EXISTING SANITARY SEWER

CASE NO. 3

CLEANOUT

EXISTING SANITARY SEWER

SEWER TO HAVE 4" MIN. CONCRETE COVER.

CASE NO. 4

ABANDON HOUSE LATERAL. PLUG END WITH CONCRETE. EXISTING SEWER TO REMAIN.

NEW INSTALLATION

ABANDON EXISTING HOUSE LATERAL

RECONNECT

45° MAX

NOTES:
1. THE 6" SADDLE SHALL BE USED WHERE NECESSARY AND SHALL BE CONNECTED TO THE PIPE CONSTITUTING THE EXISTING "WYE" OR "TEE" OR TO THE NEXT LOWER PIPE LENGTH.
2. WYE MAY BE LAID "FLAT" UPON SPECIAL APPROVAL OF THE CITY ENGINEER. CASE NO. 3 SHALL BE USED ONLY WHEN CASE NO. 1 HAS LESS THAN THEN REQUIRED SLOPE.
3. IF 4" OR MORE CLEARANCE, NO CONCRETE IS NECESSARY. IF CONCRETE IS REQUIRED, TAKE IT DOWN TO UNDISTURBED EARTH.
CASE 1
(SEE DWG. NO. 64)
CURB, GUTTER, SIDEWALK WITH PARKWAY STRIP.

4" PIPE TO SEWER MAIN

PROPERTY LINE
FACE OF CURB
4" RISER (SEE DWG. NO. 64).

SIDEWALK
18" 24"

SIDEWALK
4" PIPE TO SEWER MAIN

CASE 2
(SEE DWG. NO. 64)
CURB, GUTTER, SIDEWALK WITH NO PARKWAY STRIP.

SEE CASE 1 OR CASE 2 FOR CLEANOUT LOCATION

DEPRESSED "S" AT BACK OF WALK OR TOP OF CURB

DWG. NO. 46, NOTE NO. 6.

SEE DWG. NO. 64

4" PIPE TO SEWER MAIN

2% MIN.

"WYE" OR "TEE" CONNECTION
1' MIN. (S=0.02)
45' MAX. (S=1.00)

NOTES:
1. WHEN MODIFIED CURB, GUTTER, AND SIDEWALK, MEANDERING SIDEWALKS, OR ANY OTHER SPECIAL CASES ARE ENCOUNTERED, CLEANOUTS AND OTHER UTILITY LOCATIONS SHALL BE DETERMINED BY THE ENGINEER AT TIME SUBDIVISION PLANS ARE SUBMITTED FOR APPROVAL AND FINAL APPROVAL SHALL BE BY THE CITY ENGINEER.
NOTES:

1. ALL FACILITIES TO BE INSTALLED BY SUBDIVIDER, EXCEPT CLEANOUT, BOX AND COVER WHICH SHALL BE INSTALLED BY PLUMBER. ALL FACILITIES ABOVE POINT "B" TO BE MAINTAINED BY PROPERTY OWNER IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE.

2. ALL FACILITIES BELOW POINT "B" TO BE MAINTAINED BY THE CITY THROUGH PROPERTY OWNER'S CLEANOUT "C".

3. WHEN CLEANOUT FALLS IN DRIVEWAY, INSTALL "CHRISTY" #F-8C OR "BROOKS" #1-SP (OR EQUAL CONCRETE BOX AND COVER) CAST IRON TRAFFIC COVER. "BROOKS" #3-RT MAY ALSO BE USED.
**NOTES:**

1. DIMENSIONS SHOWN ARE FOR MINIMUM SIZE (750 GALLON) TRAP.
2. EACH UNIT SHALL BE DESIGNED BY A REGISTERED CIVIL ENGINEER AND APPROVED BY THE CITY ENGINEER. STREET INSTALLATIONS SHALL BE DESIGNED FOR HS20 44 LOADING.
3. ALL KITCHEN FIXTURES SHALL BE PLUMED TO FLOW THRU TRAP.
4. CONCRETE SHALL BE A MINIMUM OF 3000 PSI AT 28 DAYS.
5. COVERS SHALL BE STEEL AND SHALL BE GAS TIGHT.
6. ALL WASTE SHALL ENTER TRAP THROUGH THE INLET PIPE ONLY.
7. NO WASTE FROM RESTROOMS SHALL FLOW THROUGH TRAP.
8. EFFLUENT PIPE SHALL EXIT TANK 6" FROM BOTTOM.

**Typical Grease Trap**

(750 TO 1199 GALLON)
NOTES:
1. EACH UNIT SHALL BE DESIGNED BY A REGISTERED CIVIL ENGINEER AND APPROVED BY THE CITY ENGINEER.
2. COVERS SHALL BE STEEL AND GAS TIGHT. PROVIDE AMPLE ACCESS FOR MAINTENANCE.
3. REINFORCEMENT SHALL BE ADEQUATE FOR TRAFFIC CONDITIONS WHERE TRAP IS LOCATED.
4. ALL KITCHEN FIXTURES TO BE PLUMBED TO FLOW THROUGH TRAP.
5. CONCRETE SHALL BE 3000 PSI MINIMUM AT 28 DAYS.
6. ALL WASTE SHALL ENTER TRAP THROUGH INLET PIPE ONLY.
7. RESTROOM WASTE SHALL NOT FLOW THROUGH TRAP.
8. MATCH THE SIZE OF THE INLET PIPE, OR 4" MINIMUM DIAMETER (MAY INSTALL TWO STEEL BAFFLES INSTEAD OF 4" PIPE AND WALL IN SAME CONFIGURATION—SEE DWG. 65).
NOTES:

1. DIMENSIONS SHOWN ARE FOR MINIMUM SIZE (750 GALLON) TRAP.
2. EACH UNIT SHALL BE DESIGNED BY A REGISTERED CIVIL ENGINEER AND APPROVED BY THE CITY ENGINEER. STREET INSTALLATIONS SHALL BE DESIGNED FOR HS20 44 LOADING.
3. CONCRETE SHALL BE A MINIMUM OF 3,000 PSI AT 28 DAYS.
4. ALL WASTE SHALL ENTER TRAP THROUGH INLET PIPE ONLY.
5. COVERS SHALL BE STEEL AND SHALL BE GAS TIGHT.
6. 4" MINIMUM PIPE WITH 90° ELBOW INSTALL AS SHOWN, OR MATCH INLET PIPE SIZE.

TYPICAL SAND & OIL TRAP

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS
TEMPORARY MAINTENANCE HOLE
S.S. PUMPING STATION

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

REV NO. 5  6/1/2003 HL/EA
REVISED 1/1/92
DIGITIZED 6/1/2003
DRAWING NO. 67

42" DOUBLE COVER M.H. FRAME AND COVER PINKERTON
A635 OR APPROVED EQUAL.

2' MAX.
42" PIPE SPACER

WATERPROOF JUNCTION BOX
SEE DETAIL "B"
SEE DETAIL "A"

ECCENTRIC CONE
CUT DOWN TO
42" DIA. AT TOP

48" DIA.

GALVANIZED CHAIN
OR CABLE.

1'-6" MAX.
FLEXIBLE JOINT

3/4" EXTRA HEAVY OR
DOUBLE EXTRA HEAVY
PIPE GUIDES (2 REQ'D).

DUCTILE IRON PIPE
SIZE TO PUMP
DISCHARGE (3" MIN.).

2" PVC SCH. 80
PIPE. BOTTOM OF
PIPE 12" BELOW
PUMP SHUT OFF.

MORTAR

SUBMERSIBLE PUMP WITH
SLIDE AWAY COUPLING.
#5 BARS AT 12"
O.C. BOTH WAYS.
DETAIL "A"

NOTES:

1. PANEL SHALL HAVE EXTERNAL RESET, EXTERNAL LOCKABLE "ON" OR "OFF", AND KEY TYPE H-0-A IN WEATHERPROOF PANEL.
2. PUMPING STATION TO BE USED FOR TEMPORARY INSTALLATIONS ONLY WHEN APPROVED BY THE CITY ENGINEER.
3. PUMP DATA:
   36 220 VOLS HIGH HEAD SEWAGE PUMP WITH "SLIDE AWAY COUPLING" OR EQUAL.
4. CUT THE ENDS OF THE 4"X4"X 1/4" ANGLE BRACING TO FIT THE CURVATURE OF THE M.H., VERIFY IN FIELD.
5. INTERIOR OF M.H. TO BE COATED IN ACCORDANCE WITH SECTION 71-1.09 OF STANDARD SPECIFICATIONS.
6. SCREW CAP WITH 2 1/2" STANDARD FIRE HYDRANT CONNECTION.

DETAIL "B"

1 1/4 POLYETHYLENE TUBING
(TO CONTROL PANEL, SEE NOTE NO. 1).

1" CONDUIT SLOPE TO DRAIN.

USE 2" ELEC. CONDUIT TO PULL CONDUCTOR TO PANEL. NO CONNECTION IN SUMP.

SEE VALVE BOX DETAIL.

SEE NOTE NO. 6

5'-0" LENGTH OF CAST IRON PIPE.

TRANSITION COUPLING

MOTOR CABLE

DUCTILE IRON

FLANGED COUPLING ADAPTER

MATCH LINE

MATCH LINE

REDUCER

PRESSURE LINE.

IRON DUCTILE

PIECE SPACER AS SUPPLIED BY PUMP MANUFACTURER, BOLT TO ANGLE BRACING.

4"X4"X 1/4" PLATE WITH (2) 1/2" DIA. HOLES.
WELD TO ENDS OF 4"X4"X 1/4" ANGLE BRACING. SEE NOTE NO. 4.

2" SCH. 80 PVC PIPE.

1 1/4 PIPE CAP.

1/4" TAPER PIPE THREAD.

SOLVENT WELD AIR TIGHT.