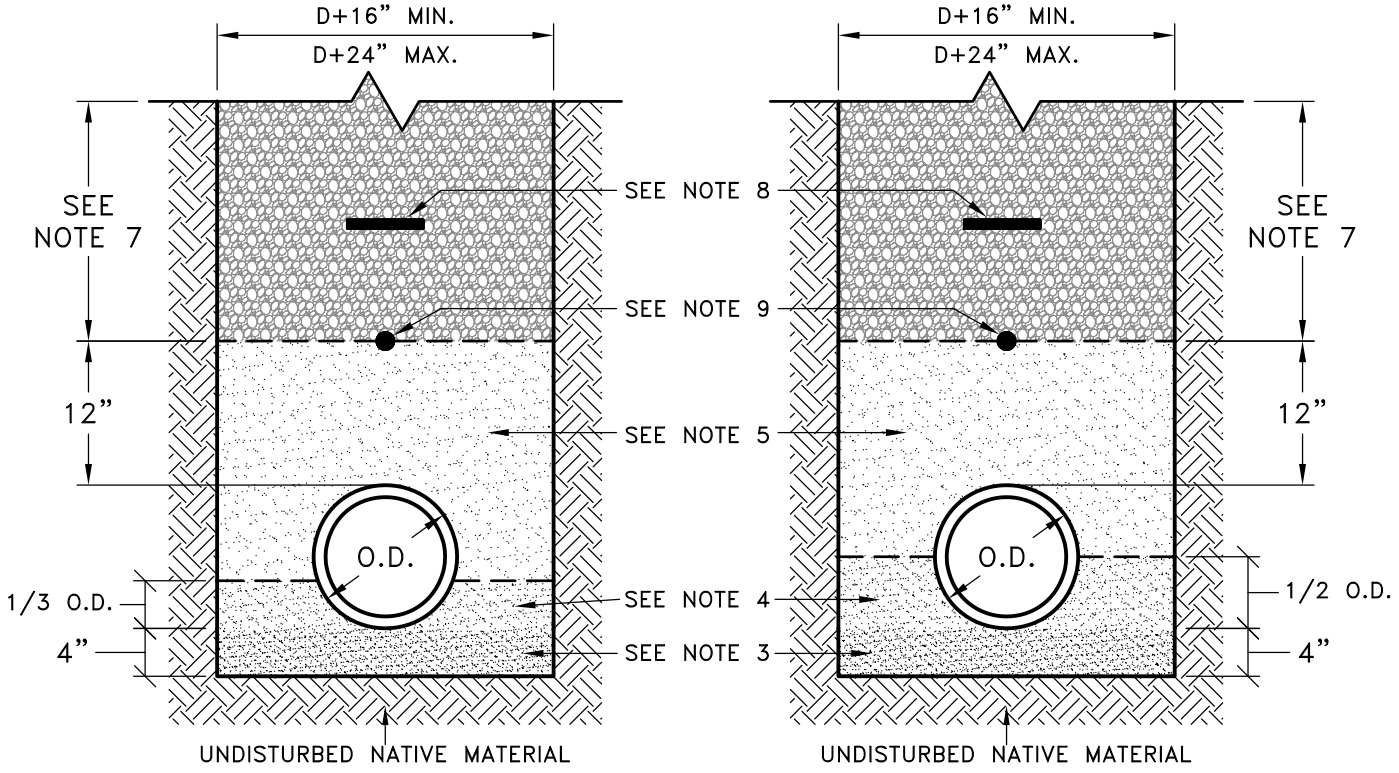
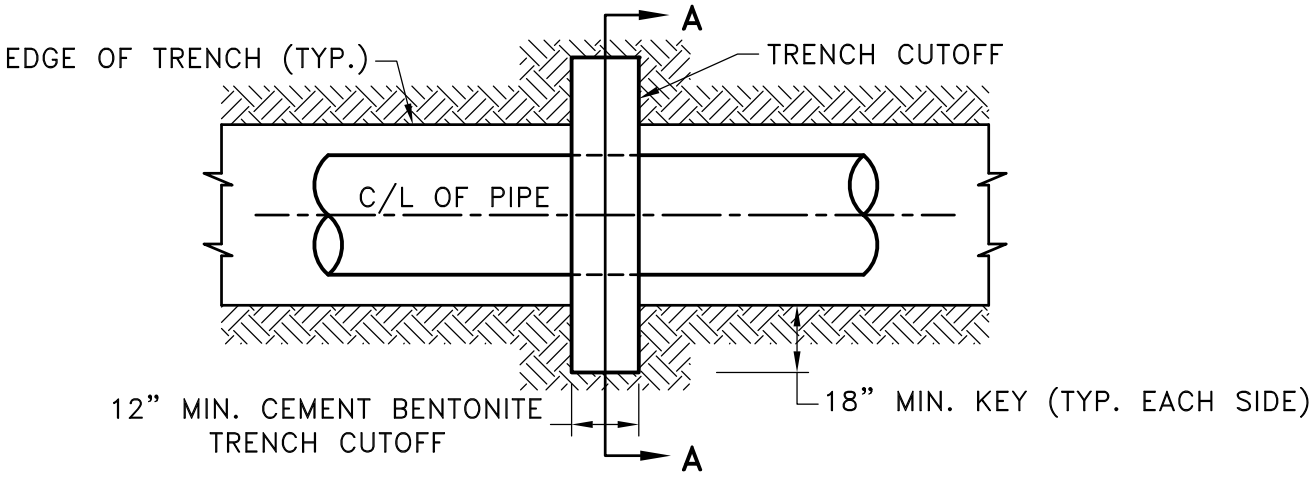


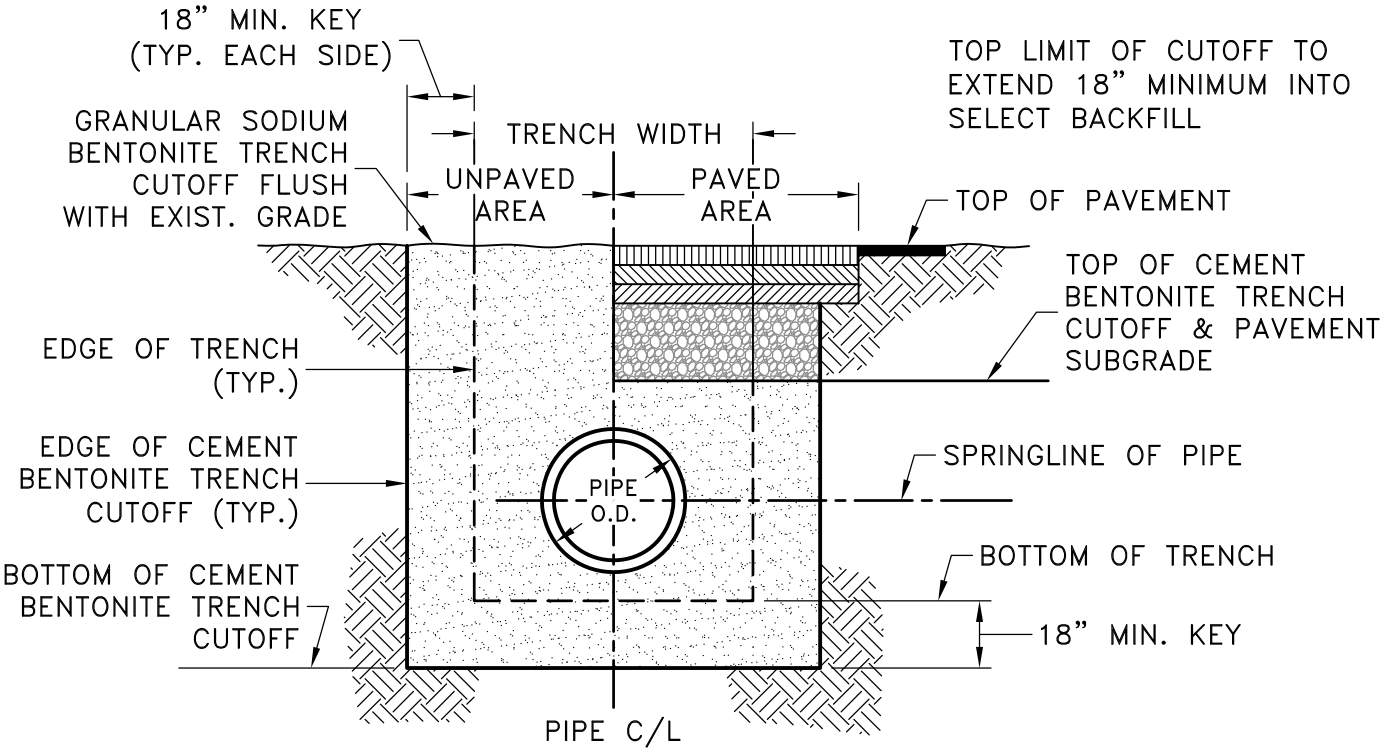
NOTES:

1. RELATIVE COMPACTION OF TRENCH BACKFILL MATERIALS SHALL BE TESTED IN ACCORDANCE WITH ASTM D1557, D2922 & D3017.
2. PIPE BEDDING SHALL BE CLEAN NATURAL SAND PER CALTRANS STANDARD SPECIFICATIONS SECTION 19-3.02E.
3. TRENCH SHALL BE OVEREXCAVATED TO A MINIMUM OF 4" BELOW PIPE BELL OR COLLAR. PIPE BEDDING SHALL BE PLACED TO A MINIMUM DEPTH OF 4" BELOW OUTSIDE OF PIPE BELL OR COLLAR AND COMPACTED TO 90% RELATIVE COMPACTION MINIMUM.
4. HAND TAMP MOISTURE CONDITIONED PIPE BEDDING TO 90% RELATIVE COMPACTION FROM BOTTOM OF PIPE TO DEPTH SHOWN IN 6" MAXIMUM LIFTS.
5. COMPACT PIPE BEDDING TO A MINIMUM RELATIVE COMPACTION OF 90% IN MAXIMUM 6" LIFTS.
6. SEWER LINES SHALL HAVE TRENCH CUTOFF INSTALLED EVERY 100 FT. PER STANDARD DETAIL FIGURE 1B WHERE REQUIRED BY DISTRICT ENGINEER.
7. SELECT BACKFILL SHALL BE CLEAN NATIVE MATERIAL FREE OF ALL DEBRIS, LUMPS AND ROCKS GREATER THAN 2" IN GREATEST DIMENSION. COMPACT TO A MINIMUM RELATIVE COMPACTION OF 85% TO LAND SURFACE (MAXIMUM OF 12" LIFTS) IN UNIMPROVED AREAS. SEE CALAVERAS COUNTY PUBLIC WORKS DEPARTMENT FOR DETAILS TO SURFACE IN COUNTY RIGHT-OF-WAY.
8. PLACE GREEN METALLIC LOCATOR TAPE MARKED "BURIED SEWER LINE BELOW" AT 12" TO 24" BELOW FINISHED GRADE, AND A MINIMUM OF 18" ABOVE PIPE BELL OR COLLAR.
9. PLACE 10 GAUGE REINFORCED LOCATING WIRE MAXIMUM 24" BELOW FINISHED GRADE.
10. MINIMUM COVER SHALL BE 30" UNLESS OTHERWISE APPROVED BY DISTRICT.
11. ASPHALT CONCRETE CUTTING AND ASPHALT TRENCH PATCHING SHALL BE COORDINATED WITH, AND APPROVED BY, CALAVERAS COUNTY PUBLIC WORKS DEPARTMENT PRIOR TO CONSTRUCTION.
12. CONTRACTOR MUST OBTAIN ENCROACHMENT PERMIT FOR ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY FROM THE CALAVERAS COUNTY PUBLIC WORKS DEPARTMENT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26, 1946 CALIFORNIA	APPROVED BY:	TRENCH DETAIL	Date FEBRUARY 2017	FIGURE 1A
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	



PLAN VIEW – TRENCH CUTOFF



SECTION A–A TRENCH CUTOFF

NOTES:

1. THE TRENCH CUTOFF SHALL NOT BE PLACED WITHIN 5 FT. OF PIPE JOINT.
2. THE TRENCH CUTOFF SHALL BE PLACED AGAINST UNDISTURBED EARTH.
3. WHERE OVEREXCAVATION OF TRENCH IS NECESSARY, MINIMUM DIMENSION SHOWN SHALL BE FROM UNDISTURBED BOTTOM OF TRENCH TO BOTTOM OF TRENCH CUTOFF. PLACEMENT OF DRAIN ROCK OR STABILIZATION MATERIAL BELOW CUTOFF WILL NOT BE ALLOWED.
4. TRENCH CUTOFFS SHALL BE PLACED AT 100 FOOT INTERVALS OR AS DIRECTED BY THE DISTRICT ENGINEER.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26, 1946 CALIFORNIA	APPROVED BY:	TRENCH CUTOFF DETAIL	Date FEBRUARY 2017	FIGURE 1B
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\TRENCH_Fig1B.dwg
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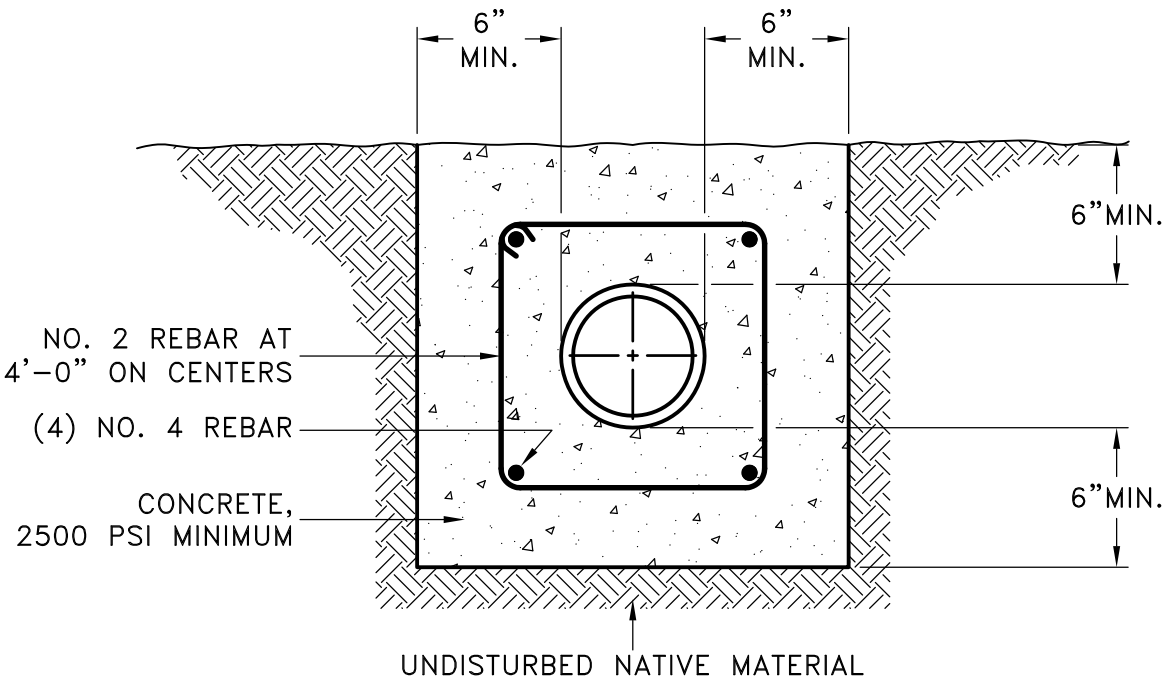


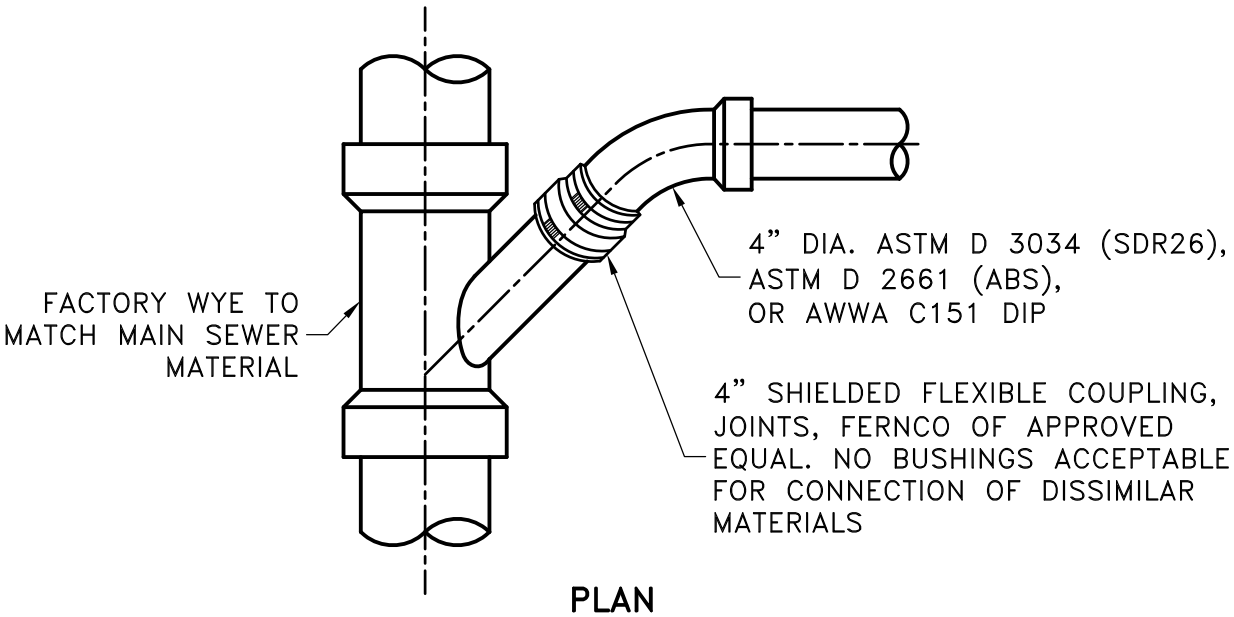
TYPICAL SECTION FOR MINIMUM COVERAGE

NOTES:

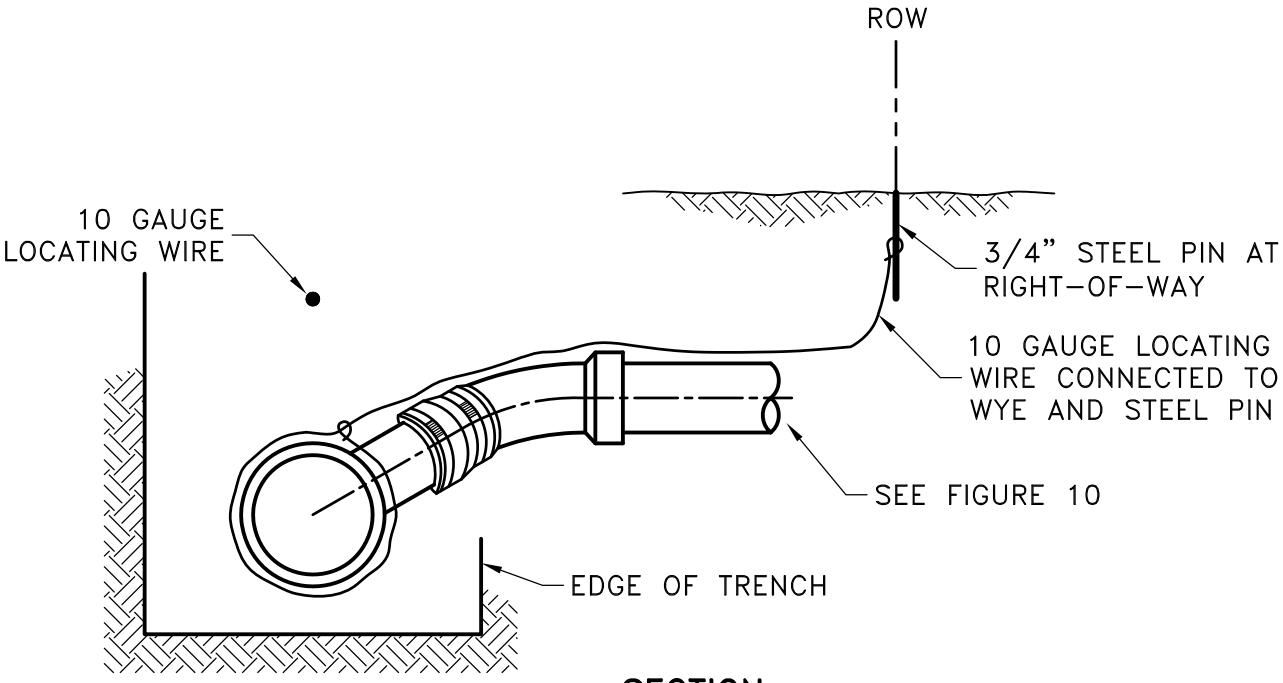
1. CONCRETE ENCASEMENT SHALL BE USED ON ALL PIPELINES THAT HAVE LESS THAN THE MINIMUM 30" COVER.
2. CONCRETE SHALL BE MINIMUM 2,500 PSI MEETING CALTRANS STANDARD SPECIFICATION 90.
3. CONCRETE ENCASEMENT IN COUNTY RIGHT–OF–WAY MUST BE APPROVED BY THE CALAVERAS COUNTY PUBLIC WORKS DEPARTMENT PRIOR TO CONSTRUCTION.
4. CONCRETE ENCASEMENT MUST BE APPROVED BY DISTRICT ENGINEER PRIOR TO CONSTRUCTION.

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\TRENCH_Fig1C.dwg
PLOT DATE: Jan 31, 2017 - 12:08pm

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	TRENCH ENCASEMENT DETAIL	Date FEBRUARY 2017	FIGURE 1C
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	



PLAN



SECTION

NOTE:

1. SEE FIGURE 10 FOR LOWER LATERAL REQUIREMENTS

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	STANDARD WYE BRANCH	Date FEBRUARY 2017	FIGURE 2
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\SS-WYE_Fig2.dwg
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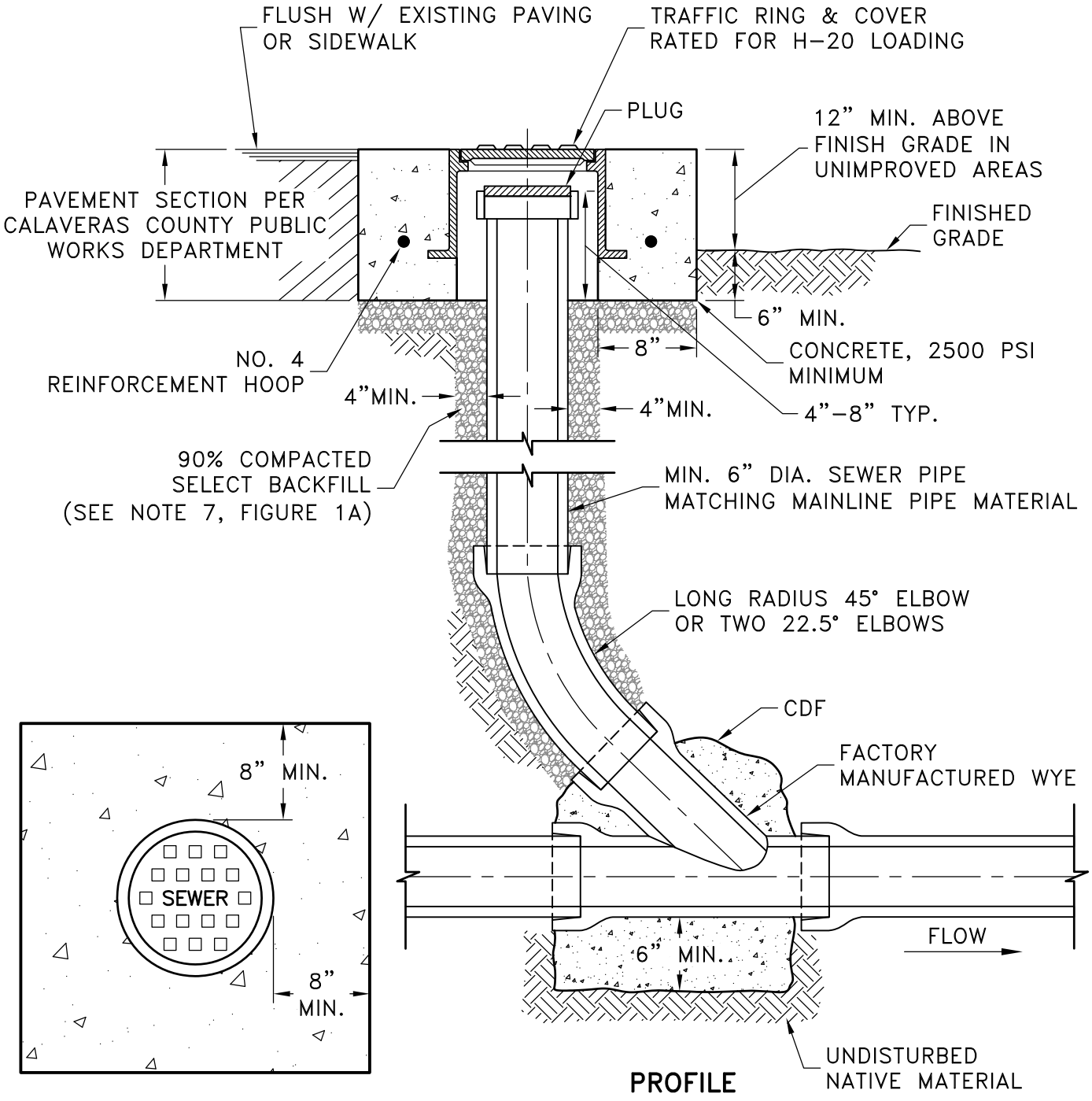
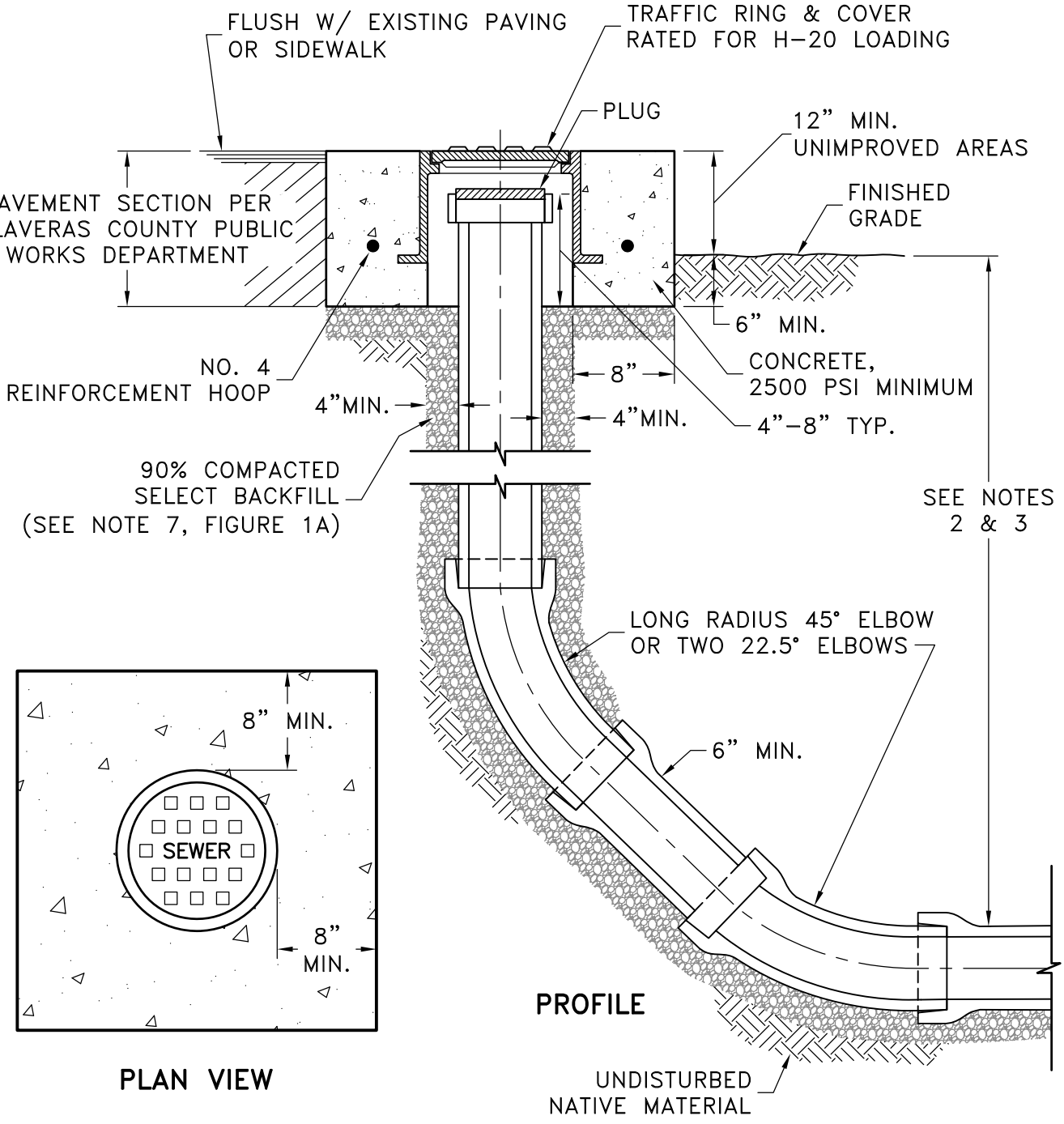


FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\CO-BTWEN-MH_Fig3.dwg
PLOT DATE: Jan 31, 2017 - 11:16am

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	CLEANOUT BETWEEN MANHOLES	Date FEBRUARY 2017	FIGURE 3
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	



NOTES:

1. ALL PIPE FITTINGS SHALL BE THE SAME SIZE AND MATERIAL AS THE HORIZONTAL PIPE TO WHICH THEY CONNECT. JOINT SHALL BE AS SPECIFIED FOR THE TYPE OF PIPE USED.
2. MINIMUM COVER OF 30 INCHES FROM TOP OF PIPE TO FINISH GRADE IN NON-TRAVEL AREAS.
3. MINIMUM COVER OF 30 INCHES FROM TOP OF PIPE TO SUB GRADE IN ROADS AND STREETS.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	CLEANOUT AT END OF LINE	Date FEBRUARY 2017	FIGURE 4
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\CO-END-LINE_Fig4.dwg
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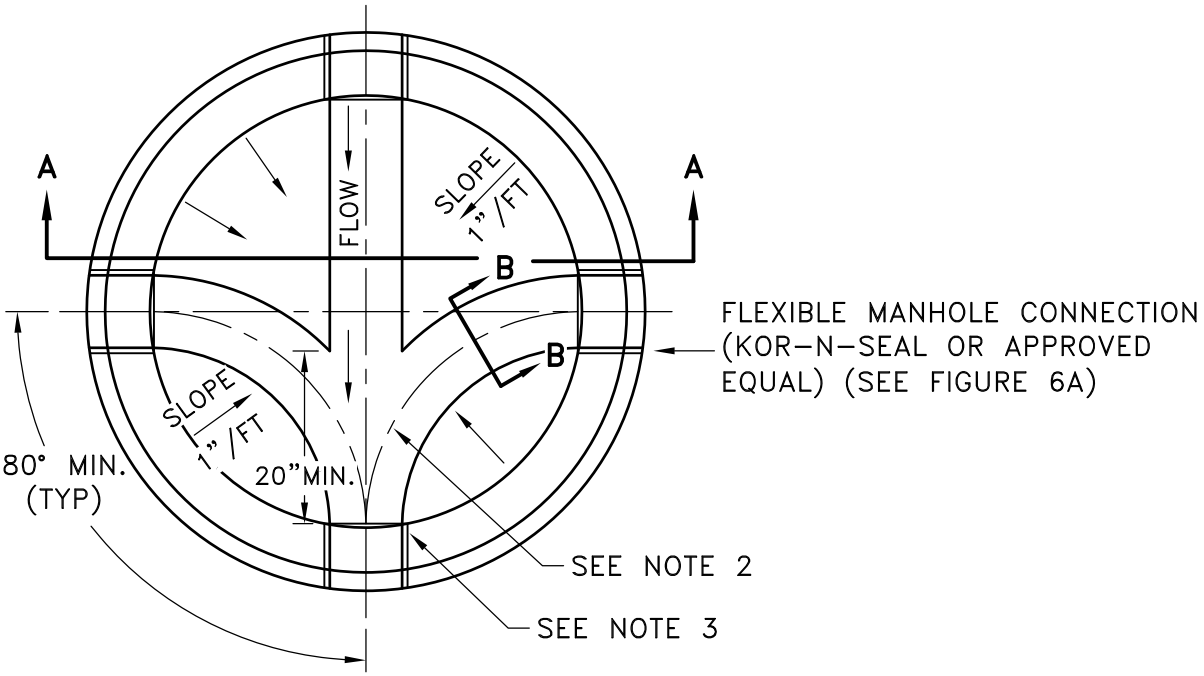
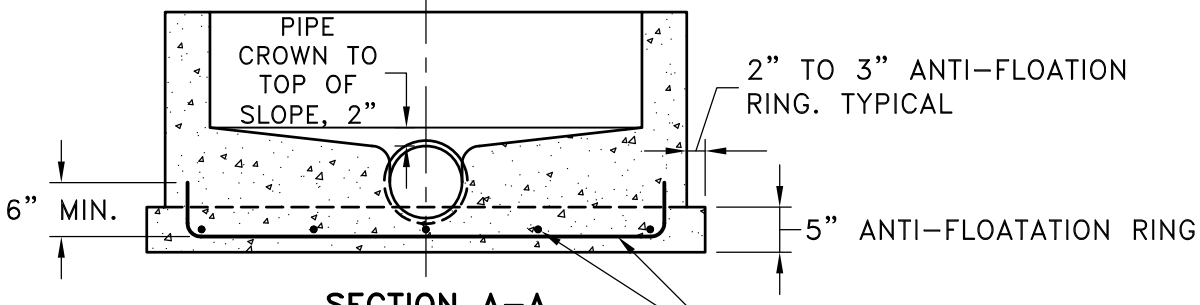
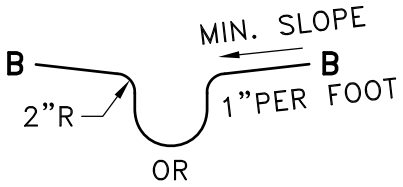
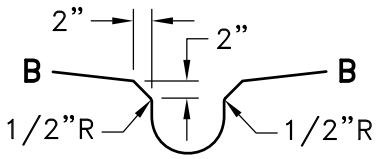




SECTION A-A





SECTION B-B

NOTES:

1. MINIMUM REINFORCEMENT SHOWN. REINFORCEMENT SHALL BE DESIGNED BY PROFESSIONAL CIVIL ENGINEER.
2. RADIUS OF THE FLOW CHANNEL ARC SHALL BE MAXIMUM 24".
3. IF NO SIDE SEWER CONSTRUCT CONTINUOUS CHANNEL.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	PRECAST MANHOLE BASE	Date FEBRUARY 2017	FIGURE 5A
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\MH-BASE_Fig5A-B.dwg
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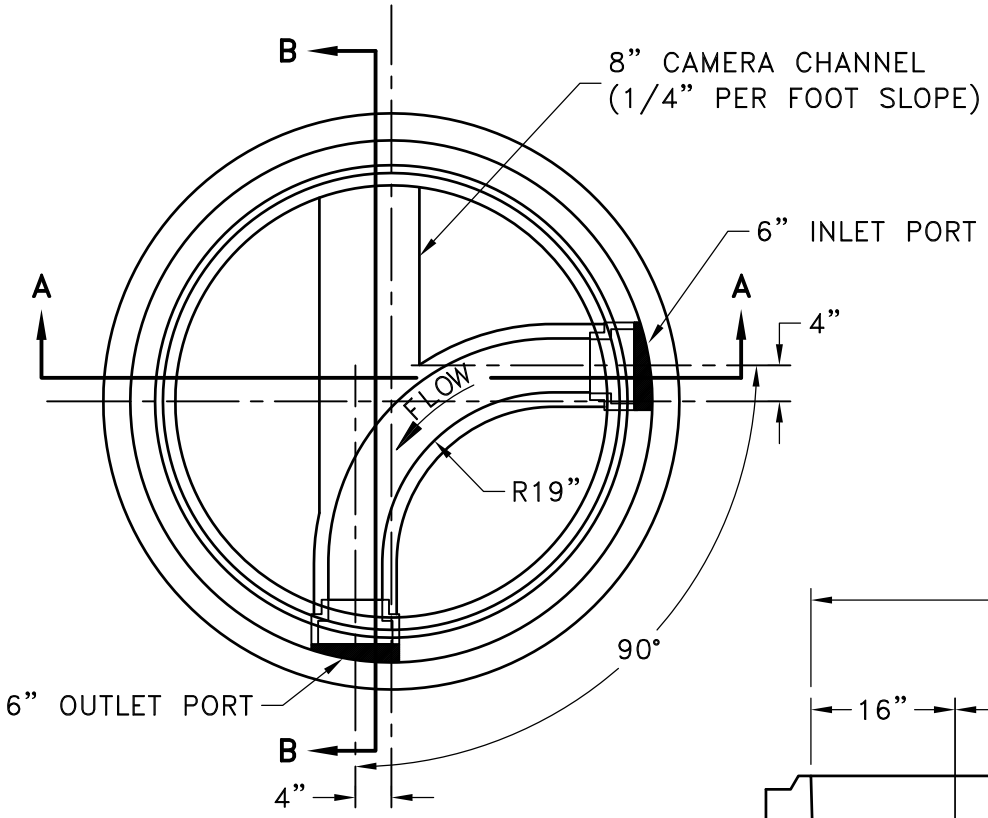
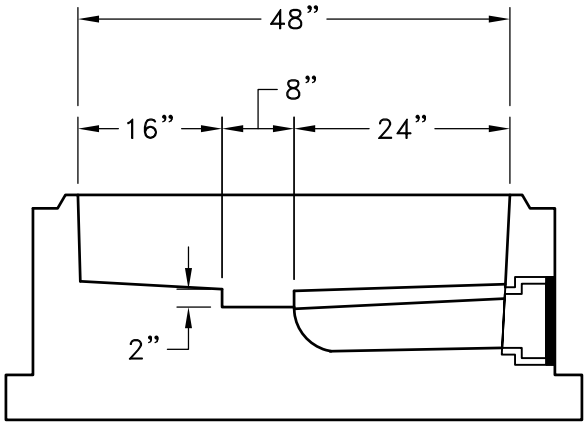
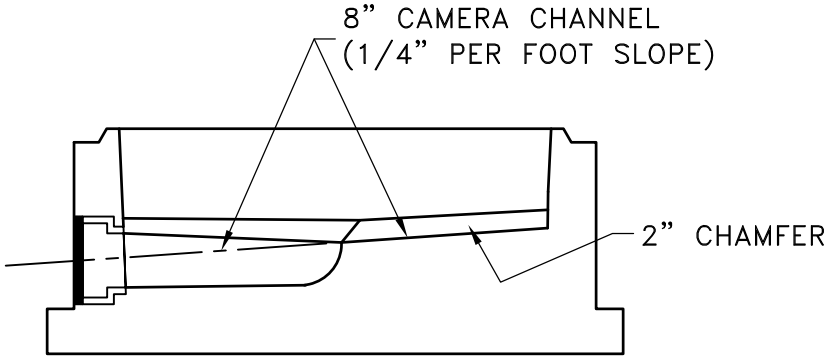




SECTION A–A



SECTION B–B

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	PRECAST MANHOLE BASE	Date FEBRUARY 2017	FIGURE 5B
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\MH-BASE_Fig5A-B.dwg
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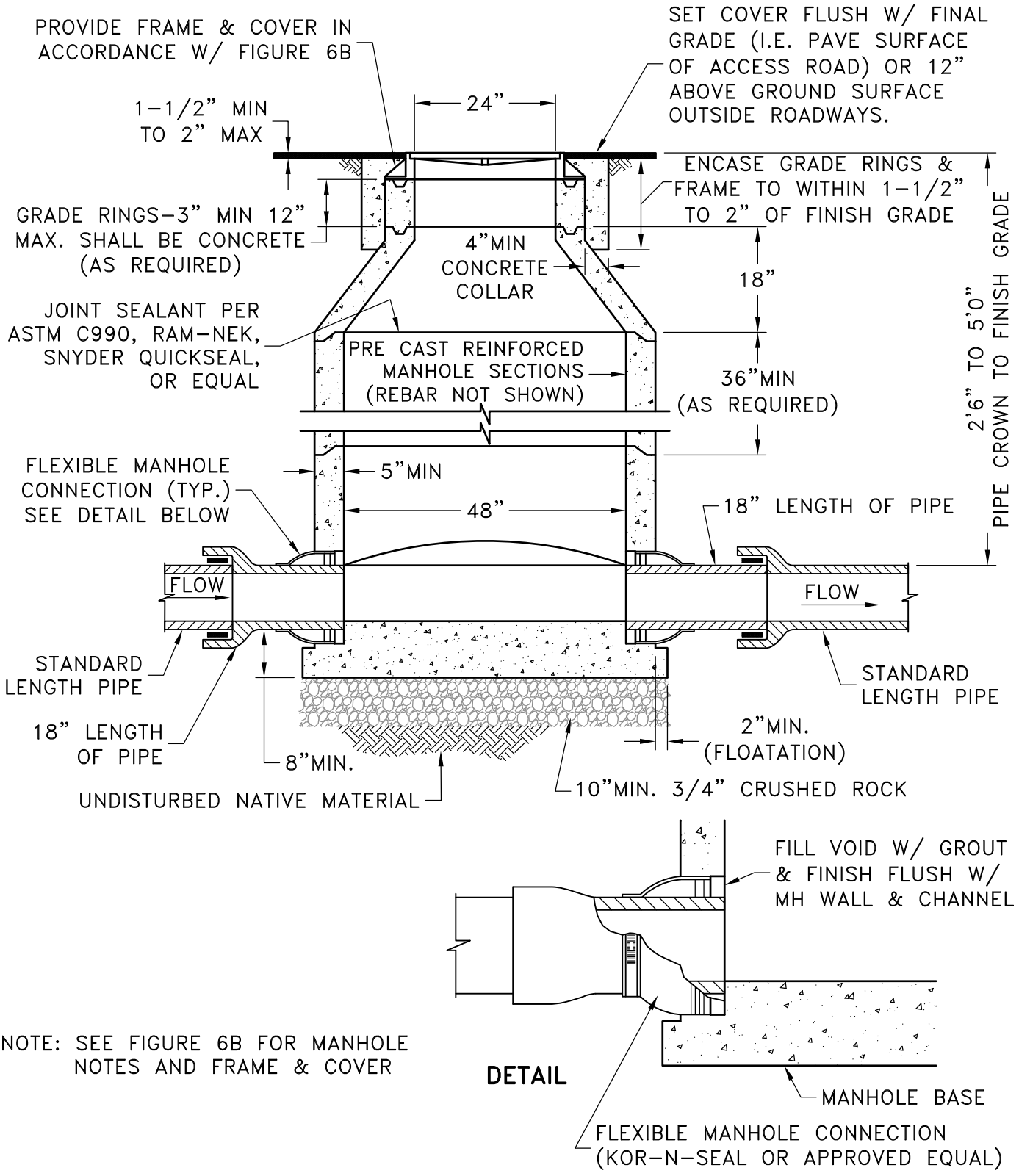

NOTE: SEE FIGURE 6B FOR MANHOLE NOTES AND FRAME & COVER

DETAIL

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26, 1946 CALIFORNIA	APPROVED BY:	CONCENTRIC TYPE CONE MANHOLES	Date FEBRUARY 2017	FIGURE 6A
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\CONCENTRIC-MH_Fig6A-B.dwg
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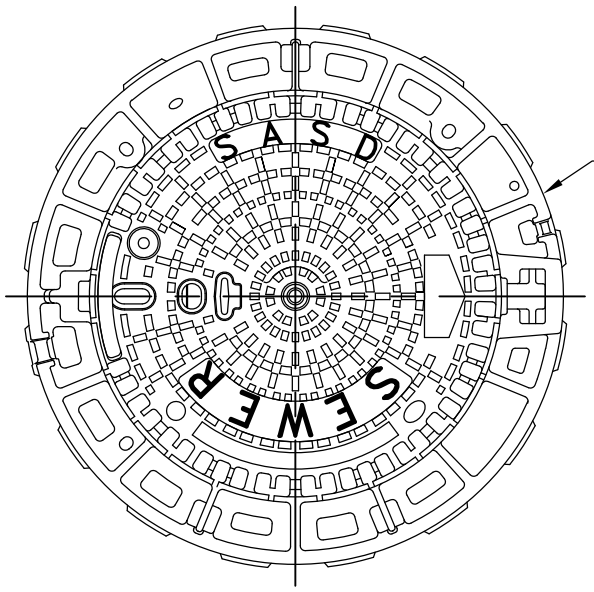

PAMREX 600 24–INCH
FRAME AND COVER
OR APPROVED EQUAL

NOTES:

1. CLASS A ASTM C478 CONCRETE SHALL BE USED FOR MANHOLE BASES.
2. PIPE SHALL STOP AT INSIDE FACE OF MANHOLE.
3. PIPE SHALL BE PLACED WITH THE BELLS UPSTREAM.
4. JOINTS FOR THE BARREL SECTION SHALL BE TONGUE AND GROOVE OR LAP JOINT, ALL LIFTING HOLES SHALL BE SEALED WITH NON METALLIC NON–SHRINK GROUT.
5. ALL MANHOLE BASES SHALL BE PRECAST BASES AND SHALL BE PLACED ON 10" MIN. OF 3/4" CRUSHED ROCK PLACED OVER UNDISTURBED MATERIAL. CONNECTION OF THE PIPE TO THE MANHOLE SHALL USE A FLEXIBLE MANHOLE CONNECTION. ALL MANHOLE BASES TO INCLUDE AN ANTI–FLOATATION RING PER FIGURE 5A.
6. ANY LATERAL ENTERING A MANHOLE SHALL BE INSTALLED WITH THE INVERT ELEVATION OF THE SERVICE PIPE MATCHING THE CROWN ELEVATION OF THE EXIT SEWER EXCEPT WHEN AN INTERNAL DROP CONNECTION IS USED. FOR MANHOLES AT THE END OF A CUL–DE–SAC OR END OF LINE WITH NO EXTENSION THE INVERT OF ANY LOWER LATERAL SHALL BE A MINIMUM OF ONE INCH ABOVE THE INVERT OF THE EXIT PIPE WITH AN INDIVIDUAL SMOOTH TRANSITION CHANNEL.
7. CONCENTRIC CONES ARE NOT ALLOWED FOR MANHOLES OVER 5' DEEP.
8. FOR ASPHALTIC CONCRETE OVERLAYS ONLY, MAXIMUM THROAT DEPTH IS 18".
9. CUL–DE–SAC MANHOLES OR END OF LINE MANHOLES WITH A DEPTH OF 5'–0" OR LESS SHALL USE 18" CONES. FLAT TOP MANHOLES SHALL NOT BE INSTALLED IN CUL–DE–SAC OR END OF LINE.
10. ALL SEWER MANHOLE AND APPURTENANCES SHALL HAVE 24 HOUR ALL WEATHER ACCESS. (I.E. PAVED SURFACE OR ACCESS ROAD).
11. SEE FIGURE 5A FOR BASE DETAIL.
12. AN ANTI–THEFT LOCKING KEY SHALL BE INSTALLED. THE BOLT SHALL BE STAINLESS STEEL WITH A PENTAGON HEAD DESIGN MEASURING 7/8" POINT TO FLAT.
13. THE FRAME AND COVER SHALL BE PAMREX 600 24 INCH AS MANUFACTURED BY TITUS INDUSTRIAL GROUP 877–582–9899 WWW.NEVERLEEK.COM OR APPROVED EQUAL.
14. PRECAST CONCRETE MANHOLE UNITS SHALL CONFORM TO ASTM C–478.
15. ALL MANHOLE UNITS SHALL HAVE POLYVINYL CHLORIDE LINER T–LOCK OR EQUIVALENT.
16. ALL LIFTING HOLES SHALL BE PLUGGED WITH GROUT AFTER INSTALLATION.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	CONCENTRIC TYPE CONE MANHOLES	Date FEBRUARY 2017	FIGURE 6B
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\CONCENTRIC–MH_Fig6A–B.dwg
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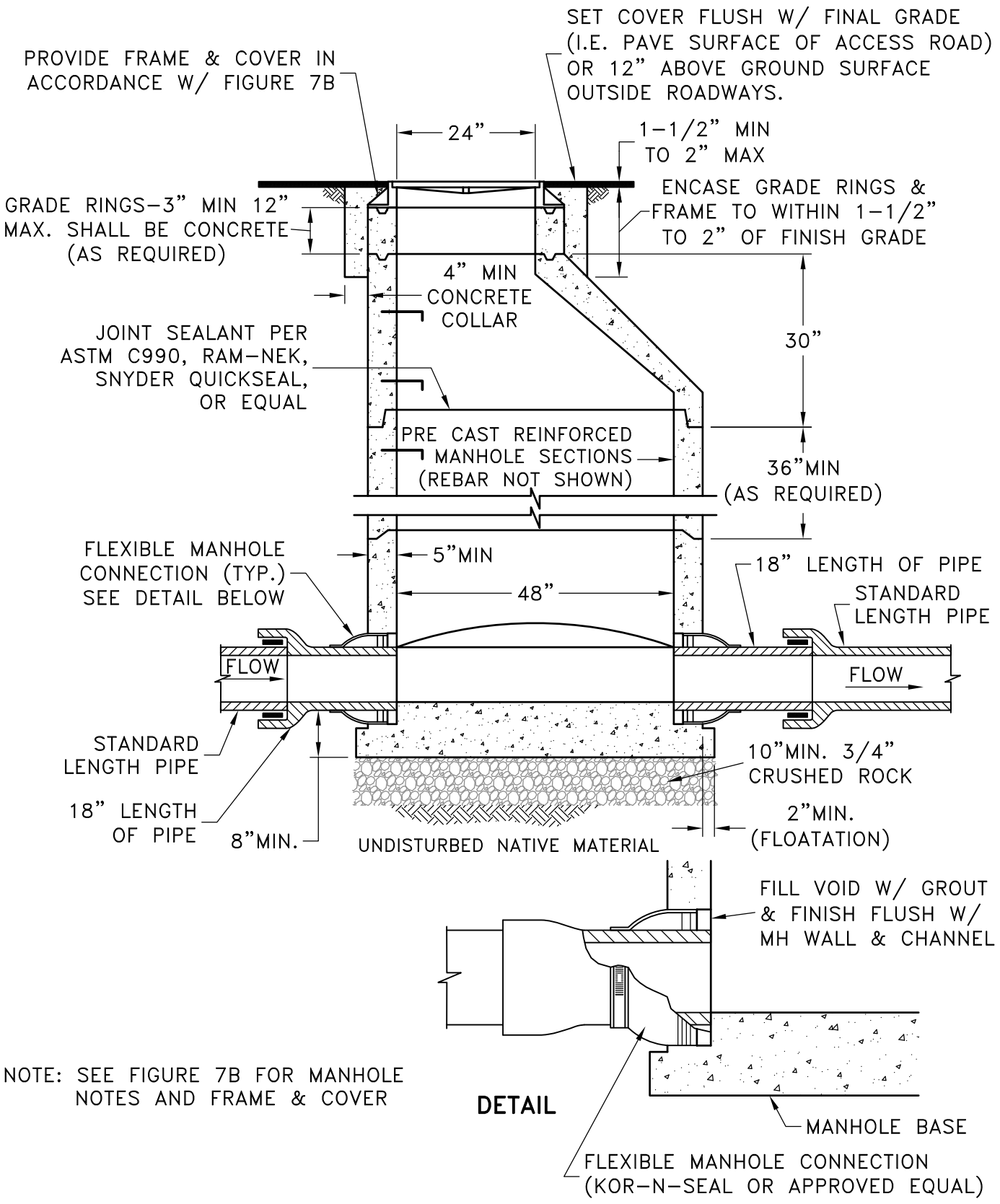


NOTE: SEE FIGURE 7B FOR MANHOLE NOTES AND FRAME & COVER

DETAIL

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\ECCENTRIC-MH_Fig7A-B.dwg
PLOT DATE: Jan 31, 2017 - 12:11pm

APPROVED BY:

SAN ANDREAS SANITARY DISTRICT
675 GOLD OAK ROAD
SAN ANDREAS, CA 95249

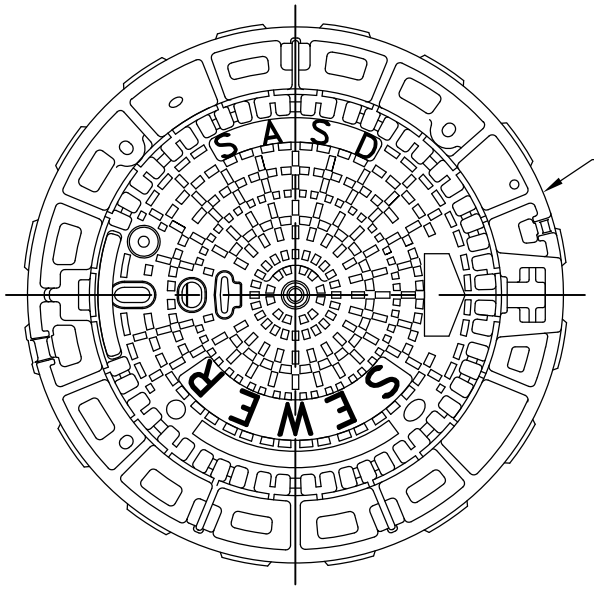
ECCENTRIC TYPE CONE MANHOLES

SAN ANDREAS SANITARY DISTRICT

Date: FEBRUARY 2017

Scale: N.T.S.

FIGURE 7A



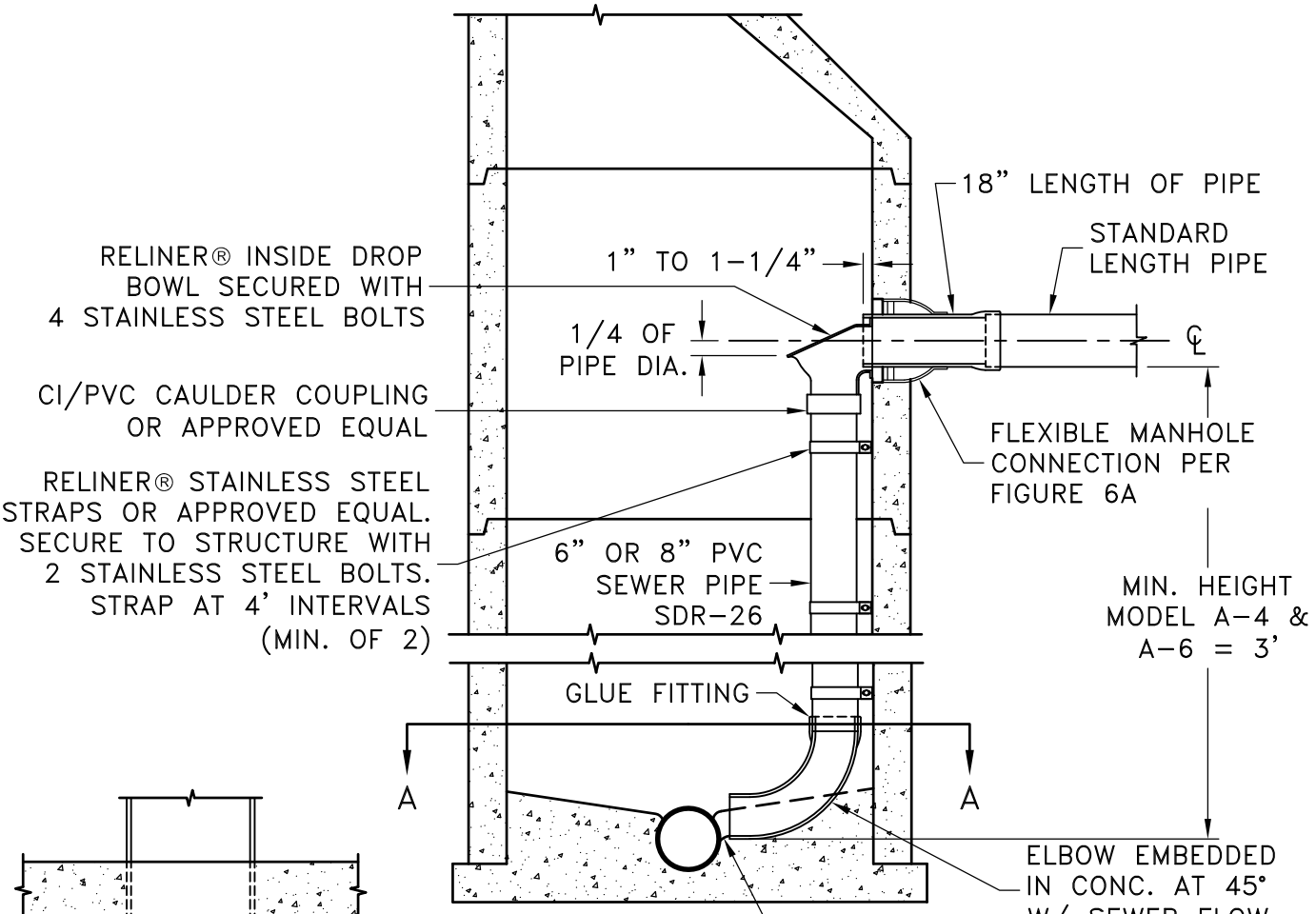
PAMREX 600 24–INCH
FRAME AND COVER
OR APPROVED EQUAL

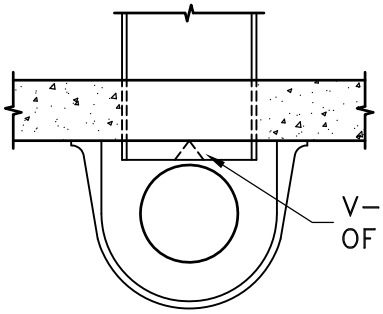
NOTES:

1. CLASS A ASTM C478 CONCRETE SHALL BE USED FOR MANHOLE BASES.
2. PIPE SHALL STOP AT INSIDE FACE OF MANHOLE.
3. PIPE SHALL BE PLACED WITH THE BELLS UPSTREAM.
4. JOINTS FOR THE BARREL SECTION SHALL BE TONGUE AND GROOVE OR LAP JOINT, ALL LIFTING HOLES SHALL BE SEALED WITH NON METALLIC NON–SHRINK GROUT.
5. ALL MANHOLE BASES SHALL BE PRECAST BASES AND SHALL BE PLACED ON 10" MIN. OF 3/4" CRUSHED ROCK PLACED OVER UNDISTURBED MATERIAL. CONNECTION OF THE PIPE TO THE MANHOLE SHALL USE A FLEXIBLE MANHOLE CONNECTION. ALL MANHOLE BASES TO INCLUDE AN ANTI–FLOATATION RING PER FIGURE 5A.
6. ANY LATERAL ENTERING A MANHOLE SHALL BE INSTALLED WITH THE INVERT ELEVATION OF THE SERVICE PIPE MATCHING THE CROWN ELEVATION OF THE EXIT SEWER EXCEPT WHEN AN INTERNAL DROP CONNECTION IS USED. FOR MANHOLES AT THE END OF A CUL–DE–SAC OR END OF LINE WITH NO EXTENSION THE INVERT OF ANY LOWER LATERAL SHALL BE A MINIMUM OF ONE INCH ABOVE THE INVERT OF THE EXIT PIPE WITH AN INDIVIDUAL SMOOTH TRANSITION CHANNEL.
7. ECCENTRIC CONES TO BE USED FOR MANHOLES OVER 5' DEEP.
8. FOR ASPHALTIC CONCRETE OVERLAYS ONLY, MAXIMUM THROAT DEPTH IS 18".
9. CUL–DE–SAC MANHOLES OR END OF LINE MANHOLES WITH A DEPTH OF 5'–0" OR LESS SHALL USE 18" CONES. FLAT TOP MANHOLES SHALL NOT BE INSTALLED IN CUL–DE–SAC OR END OF LINE.
10. ALL SEWER MANHOLE AND APPURTENANCES SHALL HAVE 24 HOUR ALL WEATHER ACCESS. (I.E. PAVED SURFACE OR ACCESS ROAD).
11. SEE FIGURE 5A FOR BASE DETAIL.
12. AN ANTI–THEFT LOCKING KEY SHALL BE INSTALLED. THE BOLT SHALL BE STAINLESS STEEL WITH A PENTAGON HEAD DESIGN MEASURING 7/8" POINT TO FLAT.
13. THE FRAME AND COVER SHALL BE PAMREX 600 24 INCH AS MANUFACTURED BY TITUS INDUSTRIAL GROUP 877–582–9899 WWW.NEVERLEEK.COM OR APPROVED EQUAL.
14. PRECAST CONCRETE MANHOLE UNITS SHALL CONFORM TO ASTM C–478.
15. ALL MANHOLE UNITS SHALL HAVE POLYVINYL CHLORIDE LINER T–LOCK OR EQUIVALENT.
16. ALL LIFTING HOLES SHALL BE PLUGGED WITH GROUT AFTER INSTALLATION.

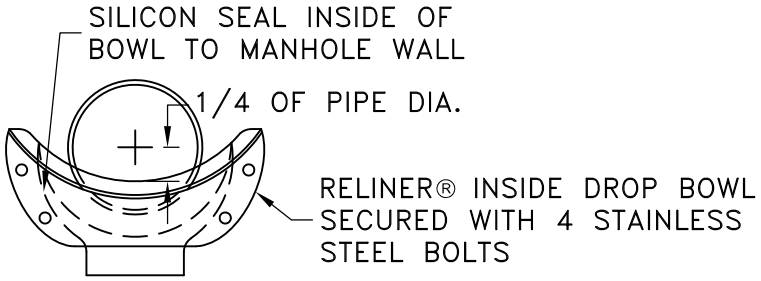
SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	ECCENTRIC TYPE CONE MANHOLES	Date FEBRUARY 2017	FIGURE 7B
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\ECCENTRIC–MH_Fig7A–B.dwg
PLOT DATE: Jan 31, 2017 - 11:38am

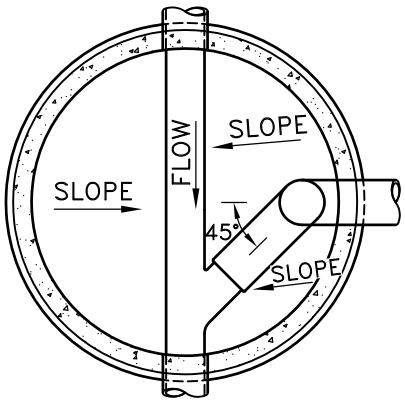




DROP BOWL MOUNTING POSITION TOP VIEW



DROP BOWL MOUNTING POSITION FRONT VIEW



SECTION A-A PLAN

NOTE: SEE FIGURE 8B FOR ADDITIONAL NOTES

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26, 1946 CALIFORNIA	APPROVED BY:	INSIDE DROP MANHOLE	Date FEBRUARY 2017	FIGURE 8A
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\MH-INSIDE DROP_Fig8A-B.dwg
PLOT DATE: Jan 31, 2017 - 11:44am

NOTES:

1. HOLE IN MANHOLE BARREL SHALL BE BY CORE DRILLING TO SUIT FLEXIBLE MANHOLE CONNECTION. CORE DRILLING MUST INSURE MANHOLE INTEGRITY. SEAL INSIDE WITH NON-SHRINK GROUT.

2. ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP BOWL AS PRODUCED BY:
   RELINER-DURAN, INC.
   53 MT. ARCHER RD.
   LYME, CT 06371
   (860) 434-0277 FAX: (860) 434-3195
   OR APPROVED EQUAL.

3. FOR RESIDENTIAL SERVICE, 4" PIPE AND 4" BOWL SHALL BE USED.

4. DROP BOWL MODEL "A-4" SHALL BE USED FOR ALL LINES UP THROUGH FULL 6" INLETS. DROP BOWL MODEL "A-6" SHALL BE USED FOR ALL 8" INLETS.

5. SECURE DROP PIPE TO MANHOLE WALL WITH RELINER-DURAN, INC STAINLESS STEEL ADJUSTABLE CLAMPING BRACKETS OR APPROVED EQUAL.

6. ATTACH THE DROP BOWL & EACH CLAMPING BRACKET TO THE MANHOLE WALL WITH STAINLESS STEEL 3/8" x 3-3/4" RAMSET/RED HEAD BOLTS. PRE-ROTO DRILL AND SET BOLTS IN PLACE WITH EPOXY PASTE. EPOXY SHALL MEET THE FOLLOWING REQUIREMENTS:

   A. EPOXY PASTE SHALL BE A TWO COMPONENT, 100% SOLID SYSTEM. EPOXY SHALL BE SIKADUR 31 HI-MOD GEL BY SIKA CORPORATION (PHONE 592/941-0231) OR EQUAL.

   B. THE EPOXY PASTE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI IN 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM D695 AT 73 DEGREES.

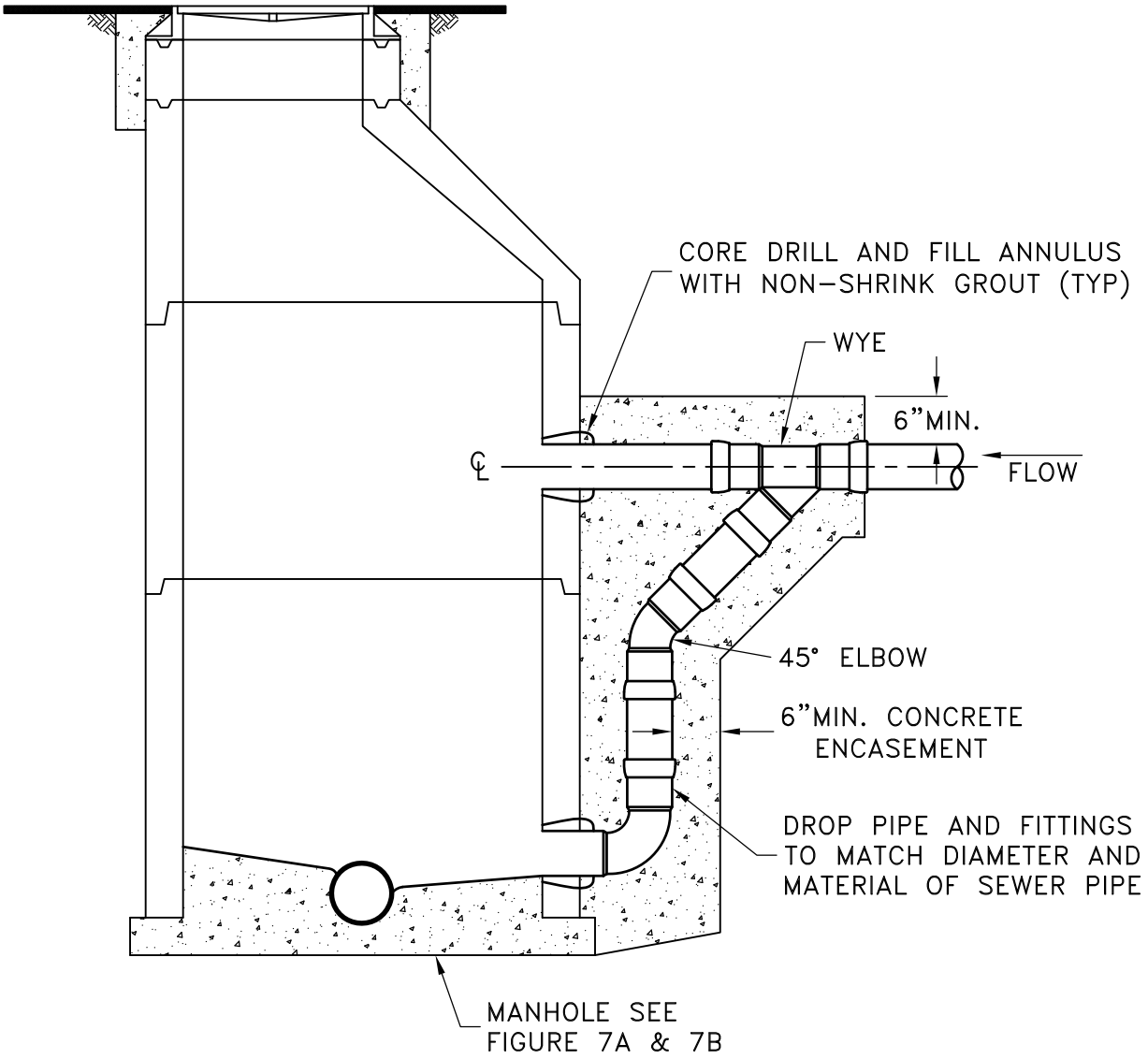
   C. THE EPOXY PASTE SHALL DEVELOP A MINIMUM TENSILE STRENGTH OF 3,000 PSI IN 14 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM D638.

   D. THE EPOXY PASTE SHALL DEVELOP A MINIMUM BOND STRENGHT OF 2,000 PSI IN 2 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C882 (HARDENED CONCRETE TO HARDENED CONCRETE)

   E. MANUFACTURER'S INSTURCTIONS SHALL BE PRINTED ON EACH CONTAINER IN WHICH THE MATERIALS ARE PACKAGED.

7. MAXIMUM 1 DROP CONNECTION PER MANHOLE.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	INSIDE DROP MANHOLE	Date FEBRUARY 2017	FIGURE 8B
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

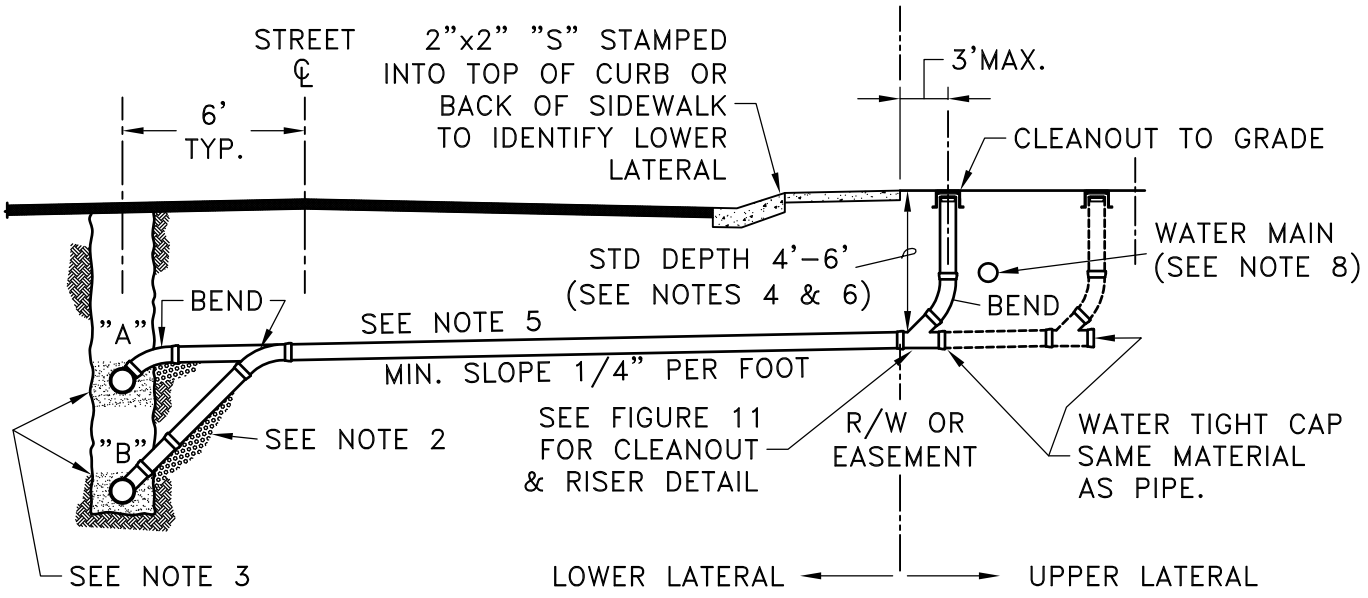


NOTE:

1. OUTSIDE DROP MANHOLE TO BE USED FOR SEWER PIPES 10" OR LARGER.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	OUTSIDE DROP MANHOLE	Date FEBRUARY 2017	FIGURE 9
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

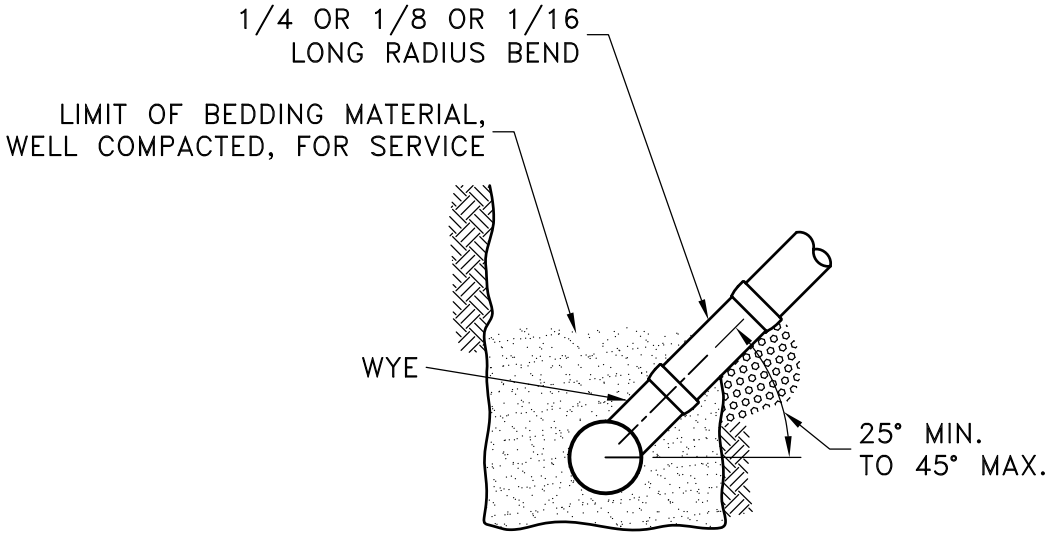
FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\MH-OUTSIDE DROP_Fig9.dwg
PLOT DATE: Jan 31, 2017 - 11:45am



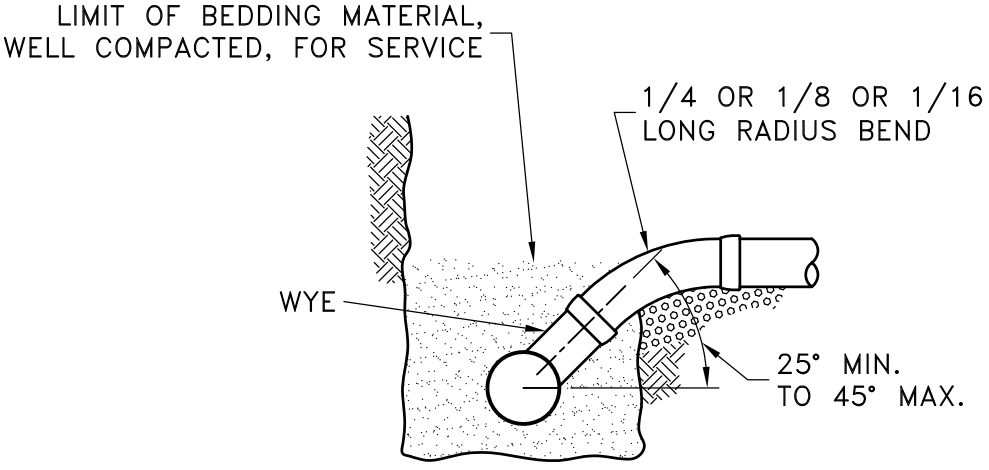
NOTES:

1. ALL RESIDENTIAL LOWER LATERALS SHALL BE 4" INSIDE DIAMETER UNLESS OTHERWISE NOTED. ALL COMMERCIAL SERVICE LINES SHALL BE 6" PVC MIN. SDR 35 UNLESS OTHERWISE APPROVED BY DISTRICT ENGINEER.
2. LOWER LATERALS SHALL HAVE PIPE BEDDING AND SELECT BACKFILL MATERIAL FROM OD/8 OR 4" MINIMUM BELOW TO 12" ABOVE THE PIPE BELL PER FIGURE 1.
3. CONTRACTOR SHALL USE THE MOST APPROPRIATE TYPE CONNECTION (A OR B) FOR THE PARTICULAR SITUATION. SEE FIGURE 10B FOR TYPE A & TYPE B DETAILS.
4. THE STANDARD LOWER LATERAL HAS 4' TO 6' OF COVER AT THE EDGE OF RIGHT-OF-WAY OR EASEMENT. THE STANDARD COVER MAY NEED TO BE DEEPER SHOULD OTHER UTILITIES BE LOCATED IN ADJACENT AREAS. SEE NOTE 8 BELOW.
5. WHEN THE SEWER MAIN DEPTH IS SUCH THAT MINIMUM COVER AT PROPERTY LINE CANNOT BE MET, THE MINIMUM SLOPE OF 1/4" PER FOOT SHALL GOVERN THE COVER.
6. MINIMUM SPECIFIED COVER AT THE EDGE OF RIGHT-OF-WAY OR EASEMENT SHALL BE MEASURED FROM EXISTING GROUND SURFACE OR EDGE OF ADJACENT ROADWAY, WHICHEVER IS LOWER.
7. A SPECIFIC ELEVATION AT THE EDGE OF RIGHT-OF-WAY OR EASEMENT, WHEN SHOWN ON THE PLANS OR DESIGNATED BY THE ENGINEER, SHALL GOVERN.
8. A MINIMUM VERTICAL SEPARATION OF 1 FOOT BETWEEN WATER LINE AND SEWER LINES MUST BE MAINTAINED.
9. CLEANOUT AND RISER MEETING REQUIREMENTS OF FIGURE 11 SHALL BE INSTALLED AT ALL CHANGES IN GRADE OR ALIGNMENT EXCEEDING $22\frac{1}{2}°$.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	LOWER LATERAL	Date FEBRUARY 2017	FIGURE 10A
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	



TYPE B



TYPE A

CONNECTION DETAILS

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	LOWER LATERAL	Date FEBRUARY 2017	FIGURE 10B
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\STD-LOWER LATERAL_Fig10A-B.dwg
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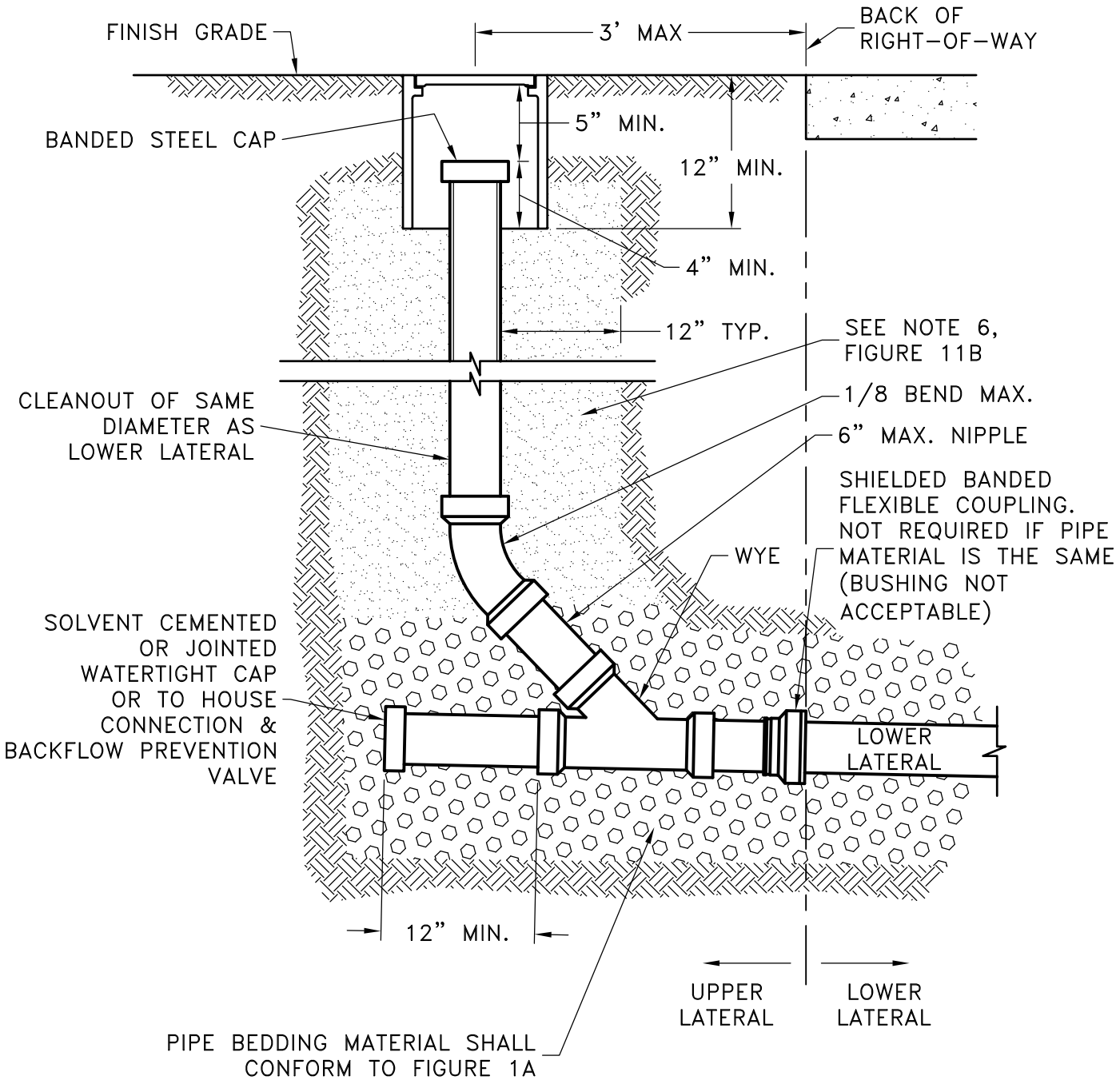


NOTE: SEE FIGURE 11B FOR CLEANOUT AND RISER NOTES

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26, 1946 CALIFORNIA	APPROVED BY:	SERVICE LATERAL CLEANOUT AND RISER DETAIL	Date FEBRUARY 2017	FIGURE 11A
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\STD-CLEANOUT-RISER_Fig11A-B.dwg
PLOT DATE: Jan 31, 2017 - 11:58am

NOTES:

1. CLEANOUT TO GRADE TO BE ABS (ASTM D2661), PVC (SDR35) WITH SOLVENT WELD JOINTS, OR AWWA C151.

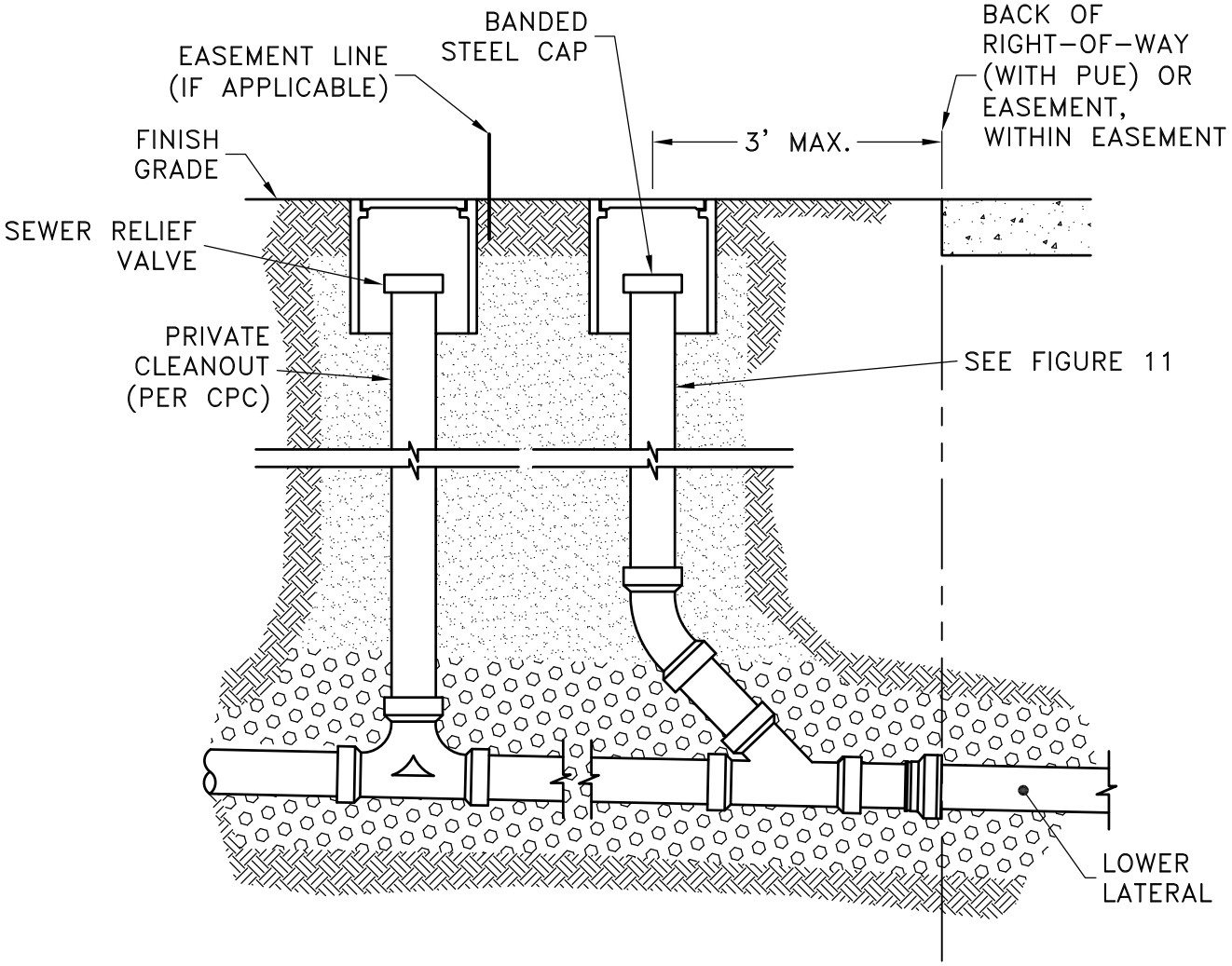
2. FOR 4" SERVICES IN NON-TRAVEL WAYS, INSTALL ROUND NON-TRAFFIC TYPE CONCRETE OR PVC VALVE BOX SUCH AS MANUFACTURED BY CARSON INDUSTRIES OR APPROVED EQUAL. COVER TO BE MARKED "SEWER". BOX INSIDE DIAMETER TO BE MINIMUM OF 7" AND A MAXIMUM OF 10".

3. FOR SERVICES 4" AND 6" OR LARGER IN CONCRETE OR TRAVELED WAY, INSTALL ROUND CONCRETE TRAFFIC TYPE VALVE BOX WITH CAST IRON COVER SUCH AS CHRISTY #G-5 OR APPROVED EQUAL. COVER TO BE MARKED "SEWER". BOX AND COVER SHALL BE RATED FOR H-20 LOADING.

4. IF A POTABLE WATER MAIN IS TO BE INSTALLED WITHIN THE P.U.E., EXTEND SERVICE TO THE BACK OF THE P.U.E.; CLEANOUT TO GRADE TO REMAIN MAXIMUM 3' FROM BACK OF RIGHT-OF-WAY AND A SECOND CLEANOUT TO BE INSTALLED ON THE END OF THE EXTENSION 12.5' BACK OF RIGHT-OF-WAY.

5. PLACE A MINIMUM OF 12" OF SELECT BACKFILL ALL AROUND THE OUTSIDE DIAMETER OF THE RISER AND MECHANICALLY COMPACT TO 90% RELATIVE DENSITY. BACKFILL MATERIAL SHALL BE USED TO 12" FROM GRADE OR TO BOTTOM OF SUBGRADE IF UNDER CONCRETE.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	CLEANOUT AND RISER DETAIL	Date FEBRUARY 2017	FIGURE 11B
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	



NOTES:

1. FOR NEW CONSTRUCTION THE SEWER RELIEF VALVE (SRV) SHALL BE INSTALLED WITHIN 5 FEET OF THE EASEMENT OR RIGHT-OF-WAY WITHIN THE PARCEL TO BE SERVED. FOR RETROFIT THE SRV MAY BE INSTALLED WITHIN 5 FEET OF THE BUILDING BEING SERVED.
2. MAINTENANCE OF THE SEWER RELIEF VALVE TO BE PERFORMED BY THE PROPERTY OWNER OR OCCUPANT PER THE MANUFACTURERS RECOMMENDATIONS.
3. ANY MODIFICATION OR RELOCATION OF THE SEWER RELIEF VALVE TO BE DONE PER THE MANUFACTURER'S RECOMMENDATIONS.
4. IF MULTI-STORY STRUCTURE, CONNECT BACKFLOW PREVENTION VALVE AS REQUIRED BY CALIFORNIA PLUMBING CODE.
5. SEWER RELIEF VALVE SHALL BE LOCATED AT LEAST 0.1 FOOT BELOW LOWEST FINISHED FLOOR ELEVATION THAT HAS PLUMBING.

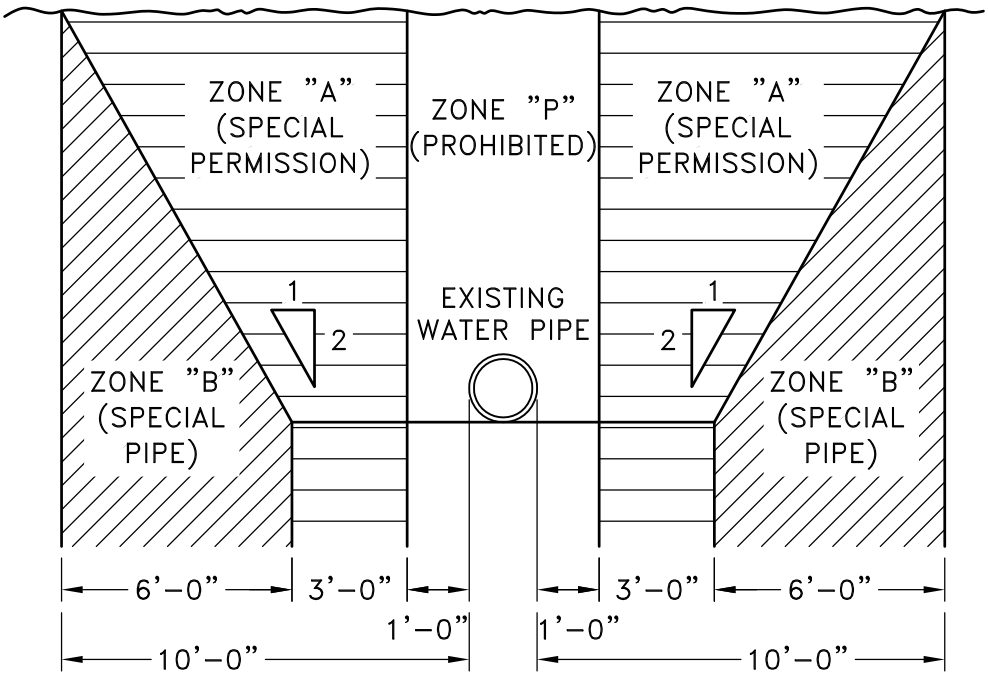
SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26, 1946 CALIFORNIA	APPROVED BY:	BACKFLOW DEVICE	Date FEBRUARY 2017	FIGURE 12
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

SPECIAL CONSTRUCTION REQUIREMENTS

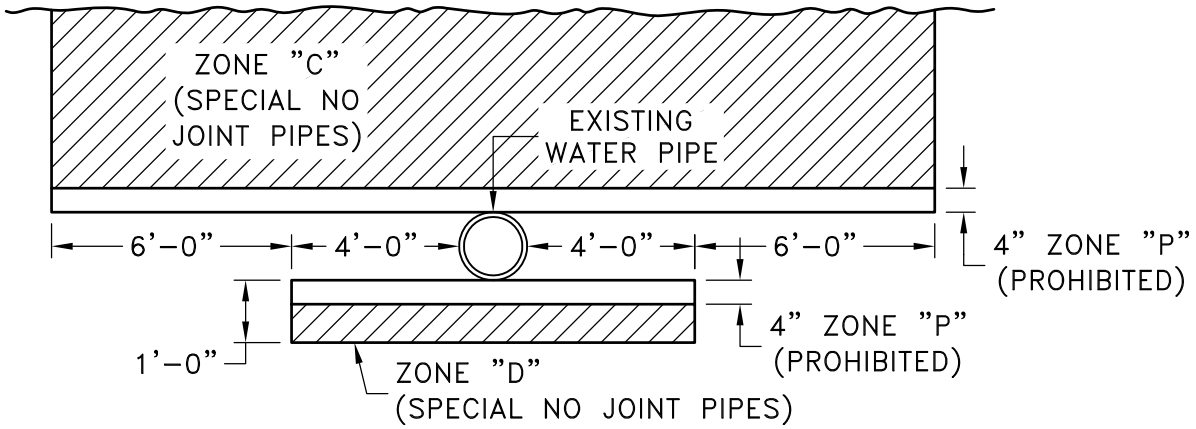
(TO BE USED ONLY WHERE REQUIRED SEPARATION CANNOT BE OBTAINED)

NEW SEWER BEING INSTALLED

ZONES A,B,C, & D INDICATE RESTRICTED AREAS.
ZONE P INDICATES PROHIBITED USE AREAS.



PARALLEL CONSTRUCTION



PERPENDICULAR CONSTRUCTION

NOTES:

1. THIS FIGURE APPLIES ONLY TO NEW SEWERS INSTALLED WHERE SEPARATION FROM EXISTING WATER MAINS CANNOT BE OBTAINED.
2. USE OF SPECIAL PIPE IS SUBJECT TO THE REVIEW AND APPROVAL OF THE OWNER OF THE PUBLIC WATER SYSTEM WATER PIPE.
3. PER CALIFORNIA DOHS GUIDANCE MEMO NO. 2003-02: SPECIAL PERMISSION AND PIPE IN ZONES A,B,C, & D IS SUBJECT TO APPROVAL BY THE CALAVERAS PUBLIC UTILITY DISTRICT.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26, 1946 CALIFORNIA	APPROVED BY:	WATER-SEWER SEPARATION STANDARDS	Date FEBRUARY 2017	FIGURE 13
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\WATER-SEWER-SEPARATION_Fig13.dwg
PLOT DATE: Jan 31, 2017 - 12:09pm

PART 1 USE REQUIRED

NOTES:

1. ALL NON-RESIDENTIAL CONNECTIONS THROUGH WHICH SEWAGE CONTAINING GREASE, OIL, AND/OR SAND THAT DISCHARGE INTO THE DISTRICT SEWER SYSTEM SHALL HAVE GRAVITY GREASE INTERCEPTORS INSTALLED.

2. ALL RESTAURANTS AND OTHER ESTABLISHMENTS WITH COMMON FOOD PREPARATION FACILITIES SHALL HAVE A GRAVITY GREASE INTERCEPTOR. STANDARDS FOR GREASE INTERCEPTORS FOR RESTAURANTS ARE AS FOLLOWS:

   A. THE GREASE INTERCEPTOR SHALL BE LOCATED OUTSIDE THE BUILDING SO THAT IT IS READILY AND EASILY ACCESSIBLE FOR CLEANING AND INSPECTION.

   B. THE GREASE INTERCEPTOR SHALL BE SIZED AND INSTALLED PURSUANT TO THE CALIFORNIA PLUMBING CODE.

   C. ALL FLOOR DRAINS FROM THE KITCHEN AREA SHALL BE CONNECTED THROUGH THE GREASE INTERCEPTOR.

   D. ALL RESTROOM FACILITIES SHALL BE PLUMBED SEPARATELY AND CONNECTED TO THE BUILDING'S SEWER DOWNSTREAM OF THE GREASE INTERCEPTOR.

   E. THE DISCHARGER SHALL ADEQUATELY MAINTAIN THE GREASE INTERCEPTOR SO THAT IT IS IN PROPER WORKING ORDER AT ALL TIMES.

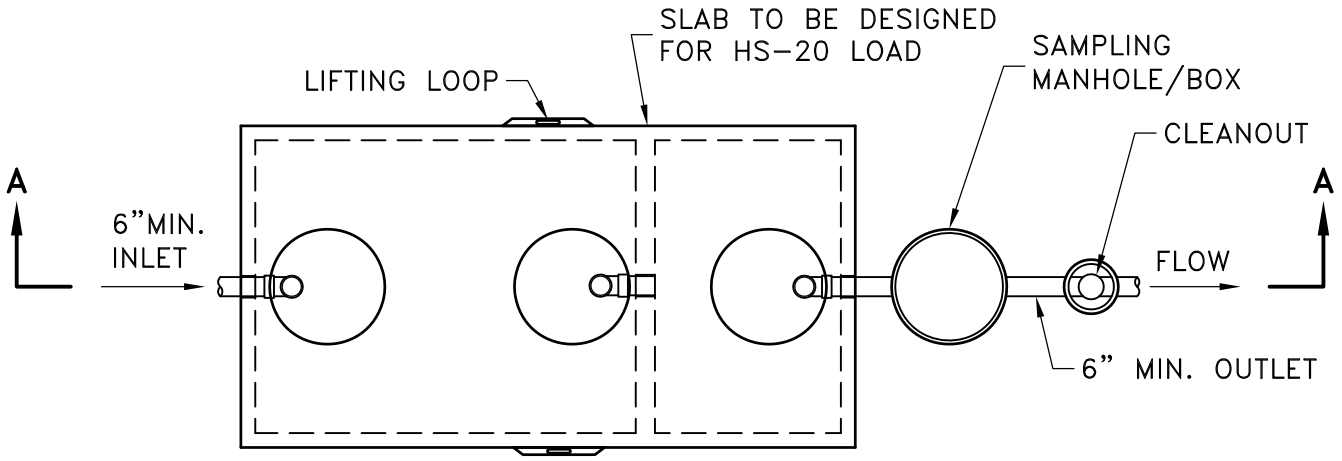
   F. GREASE INTERCEPTORS SHALL MEET THE DESIGN REQUIREMENTS OF THE CALIFORNIA PLUMBING CODE, THE MINIMUM DESIGN CRITERIA CONTAINED HEREIN, AND SHALL INCLUDE THE MINIMUM FEATURES OF THIS STANDARD GREASE INTERCEPTOR. ALL GREASE INTERCEPTORS SHALL BE DESIGNED AND MAINTAINED TO REMOVE FAT, OIL, OR GREASE TO 100 PARTS PER MILLION BY WEIGHT OR LESS.

3. ALL OTHER COMMERCIAL BUSINESSES, INCLUDING SERVICE STATIONS, CAR WASHES, AND SIMILAR ESTABLISHMENTS, AS DETERMINED BY THE DISTRICT IN ORDINANCE NO. 7, SHALL HAVE A GREASE INTERCEPTOR AS SIZED AND INSTALLED PURSUANT TO THE CALIFORNIA PLUMBING CODE.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	GREASE SEPARATOR/INTERCEPTOR	Date FEBRUARY 2017	FIGURE 14A
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

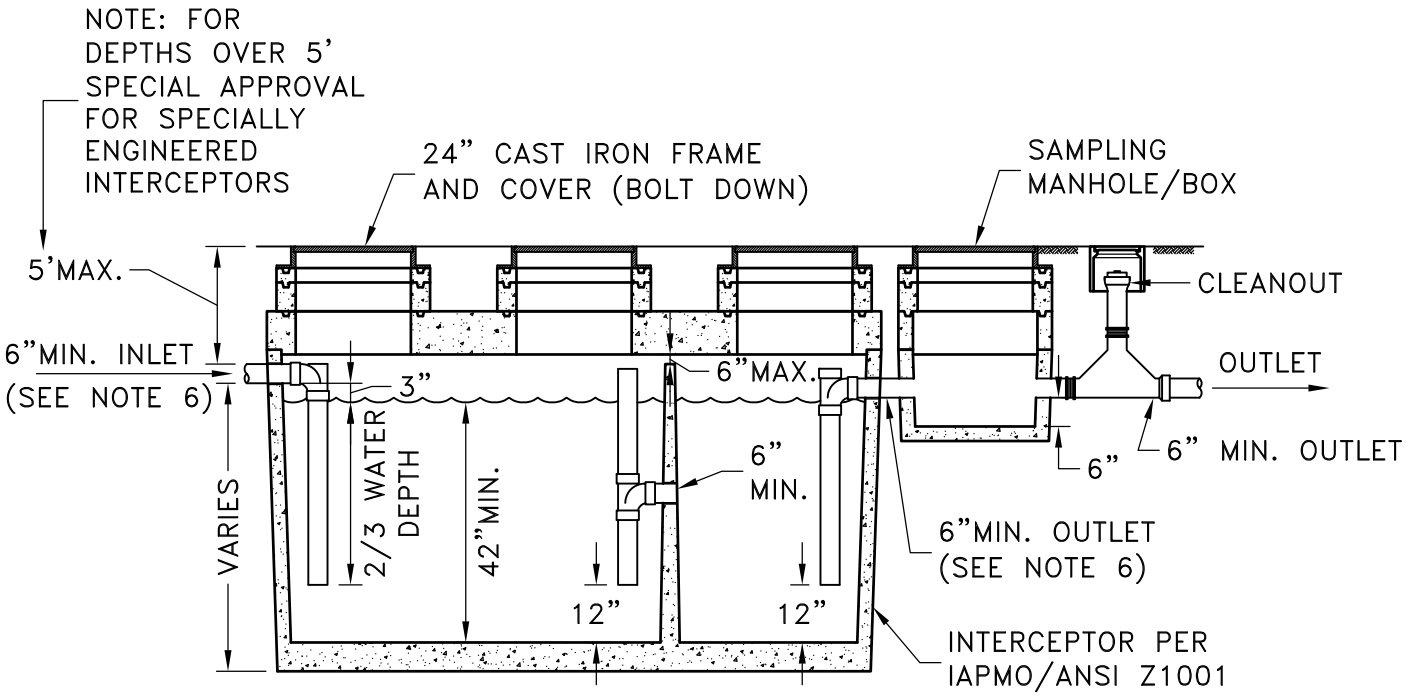
PART 2 MINIMUM DESIGN REQUIREMENTS

FEATURES OF STANDARD GREASE INTERCEPTOR



PLAN VIEW

(MH FRAMES, COVERS & RINGS NOT SHOWN)



SECTION A–A

NOTE: SEE FIGURE 14C FOR GREASE SEPARATOR/INTERCEPTOR NOTES

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	GREASE SEPARATOR/INTERCEPTOR	Date FEBRUARY 2017	FIGURE 14B
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\STD-GREASE-TRAP_Fig14A-C.dwg
PLOT DATE: Jan 31, 2017 - 12:01pm

NOTES:

1. INTERCEPTOR SHALL BE PLACED ON A MINIMUM OF 6" CLASS 2 AGGREGATE BASE PER CALTRANS SECTION 26 BEDDING MATERIAL. COMPACT TO 95% RC.

2. ALL ELEVATIONS SHALL BE APPROVED BY DISTRICT ENGINEER PRIOR TO INSTALLATION.

3. GREASE INTERCEPTORS ARE NOT INTENDED FOR THE INTRODUCTION OF DOMESTIC SEWAGE. LOCATION AND TRIBUTARY DISCHARGE SOURCES SHALL BE APPROVED BY DISTRICT ENGINEER PRIOR TO INSTALLATION.

4. INTERCEPTOR LOCATED IN AN AREA SUBJECT TO TRAFFIC MUST BE HS-20 TRAFFIC RATED.

5. ALL INLET AND OUTLET PIPES SHALL BE 6"MIN. DIAMETER.

6. THE USE OF CAST IRON SOIL PIPE FOR GREASE INTERCEPTOR APPLICATIONS IS PROHIBITED. OUTLET SHALL BE SAME SIZE OR LARGER THAN INLET.

7. GREASE INTERCEPTOR VOLUME SHALL BE DETERMINED PER CPC SECTION 1014.3.6, WITH A MINIMUM VOLUME NOT LESS THAN 1000 GALLONS.

8. CAST IN PLACE GREASE INTERCEPTORS SHALL MEET OR EXCEED THE DESIGN, MATERIAL, AND TESTING REQUIREMENTS OF IAPMO/ANSI Z1001. THE STRUCTURAL CALCULATIONS AND IMPROVEMENT PLANS FOR A CAST IN PLACE INTERCEPTOR SHALL BE SIGNED AND STAMPED BY A CALIFORNIA REGISTERED ENGINEER.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	GREASE SEPARATOR/INTERCEPTOR	Date FEBRUARY 2017	FIGURE 14C
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

MINIMUM SEWER DESIGN CRITERIA:

1.0 ALL SEWERS SHALL BE DESIGNED IN ACCORDANCE WITH SASD ORDINANCE NO. 7 AND THIS STANDARD DETAIL.

2.0 DESIGN FLOW:

SEWER SYSTEM SHALL BE DESIGNED TO CONVEY PEAK WET WEATHER FLOW BY GRAVITY AT A NORMAL DEPTH NOT TO EXCEED 75% OF THE DIAMETER OF THE PIPE. PEAK WET WEATHER FLOW SHALL BE CALCULATED FOR EACH PIPE BASED ON THE FOLLOWING:

DESIGN FLOW = AVERAGE FLOW * PEAKING FACTOR + I/I, WHERE

AVERAGE FLOW = FLOW FROM ALL EXISTING AND PLANNED DEVELOPMENT TRIBUTARY TO PIPE PER TABLE 1A OF SASD ORDINANCE NO. 7 AND CONVERTED TO EQUIVALENT DWELLING UNITS (EDUs) AT 270 GALLONS/DAY PER EDU.

PEAKING FACTOR = _____

I/I = _____

3.0 MINIMUM PIPE SIZE FOR ALL PUBLIC SEWERS SHALL BE SIX (6) INCHES INSIDE DIAMETER.

4.0 MINIMUM SLOPE OR GRADE OF PIPES SHALL BE SUCH THAT THE VELOCITY OF FLOW IN THE PIPE WHEN AT RATED (FULL PIPE) CAPACITY SHALL NOT BE LESS THAN TWO (2) FEET PER SECOND. THE MINIMUM ACCEPTABLE SLOPES OR GRADES FOR PIPE SIZES ARE AS FOLLOWS:

PIPE SIZE INCHES	MINIMUM SLOPE RATIO FEET PER FOOT
6"	0.0050
8"	0.0035
10"	0.0025
12"	0.0020

5.0 MINIMUM SLOPE OR GRADE OF SEWER PIPES OF ANY DIAMETER NOT LISTED HEREIN SHALL BE ESTABLISHED FOR EACH PROJECT BY THE DISTRICT ENGINEER.

6.0 SEWER CALCULATIONS SHALL BE PREPARED AND STAMPED BY A CALIFORNIA LICENSED CIVIL ENGINEER FOR EACH SEWER SEGMENT INCLUDING ALL DESIGN INFORMATION CONTAINED IN THE FOLLOWING SEWER DESIGN SHEET. HYDRAULIC CALCULATIONS SHALL BE BASED ON THE MANNING'S EQUATION WITH A MANNING'S n = 0.013.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26, 1946 CALIFORNIA	APPROVED BY:	SANITARY SEWER DESIGN DATA	Date FEBRUARY 2017	FIGURE 15A
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

MINIMUM SEWER DESIGN CRITERIA:

7.0 MANHOLES SHALL BE LOCATED AT THE FOLLOWING LOCATIONS:

A. AT ALL PIPE INTERSECTIONS.

B. AT ALL CHANGES OF PIPE TYPE OR SIZE.

C. AT ANY CHANGE IN HORIZONTAL DIRECTION OR CHANGE IN VERTICAL SLOPE.

D. AT A MAXIMUM SPACING OF 200 FEET.

E. BOTH SIDES OF CREEK/STREAM/RIVER CROSSINGS.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY: SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SANITARY SEWER DESIGN DATA SAN ANDREAS SANITARY DISTRICT	Date FEBRUARY 2017 Scale N.T.S.	FIGURE 15B

SEWER DESIGN SHEET

SAN ANDREAS SANITARY DISTRICT

DATE: _____
PREPARED BY: _____
SHEET _____ OF _____

TITLE: _____

STREET/AREA	FROM MH	TO MH	TRIB. ACRES*	TRIB. EDUs*	AVER. FLOW (MGD)	AVER. ACCU. FLOW (MGD)	PEAKING FACTOR	I/I	PEAK FLOW (MGD)	PIPE DIA. (IN.)	LENGTH (FT)	SLOPE (%)	d/D	CAP-ACITY FULL (MGD)	FULL VEL. (FPS)	CAP-ACITY ACTUAL FLOW (MGD)	ACTUAL VEL. (FPS)	REMARKS

* AREA AND EDUs TRIBUTARY TO (UPSTREAM OF) SEWER SEGMENT

SAN ANDREAS SANITARY DISTRICT
675 GOLD OAK ROAD
SAN ANDREAS, CA 95249

APPROVED BY:

SAN ANDREAS SANITARY DISTRICT

SANITARY SEWER
DESIGN DATA

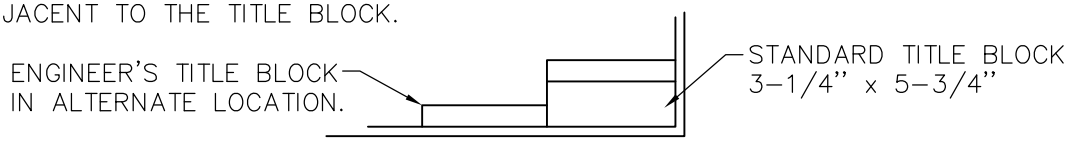
Date: FEBRUARY 2017

Scale: N.T.S.

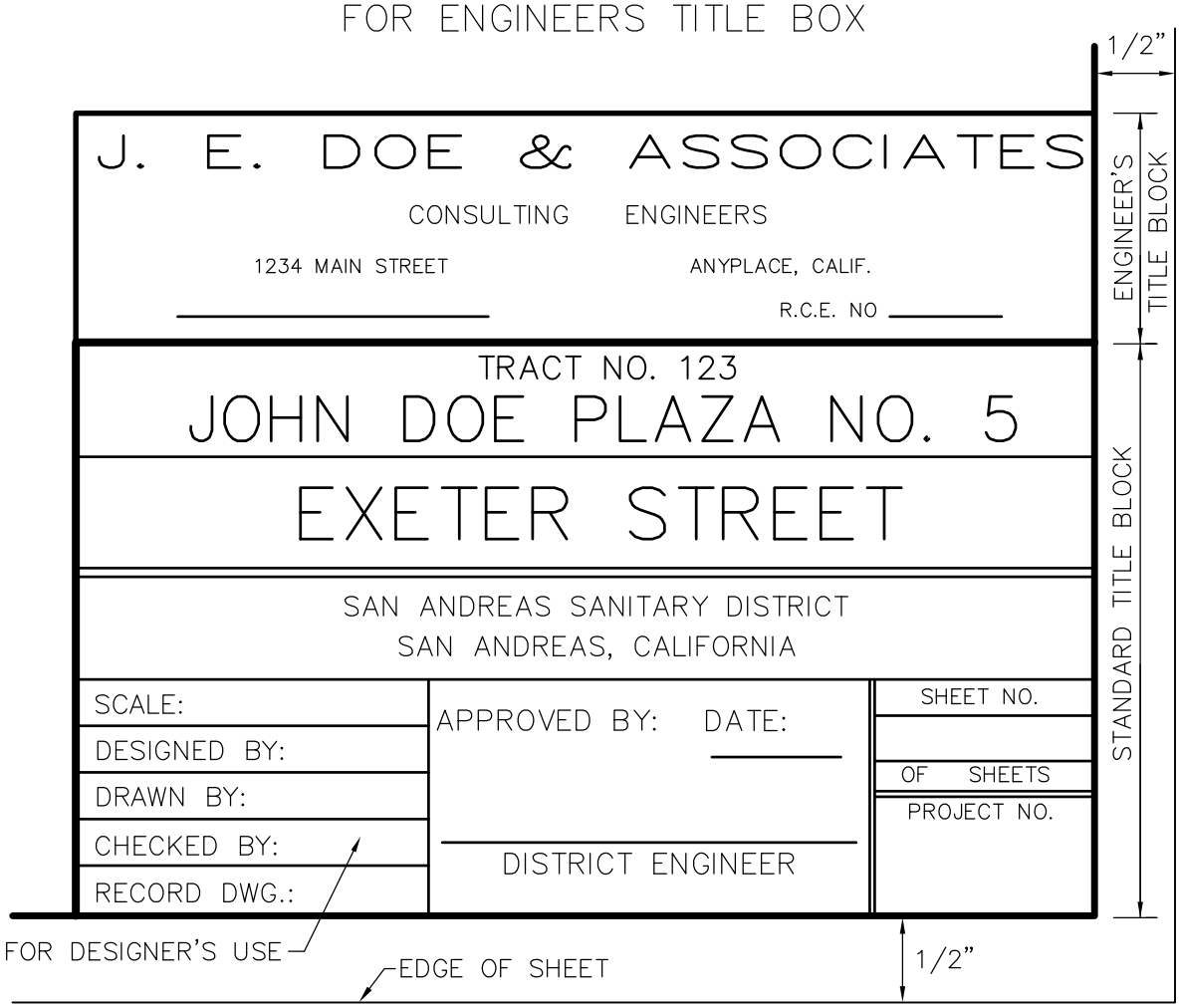
FIGURE 15C

NOTE:

TITLE SHEET SHALL BE STAMPED AND SIGNED BY A REGISTERED ENGINEER ADJACENT TO THE TITLE BLOCK.



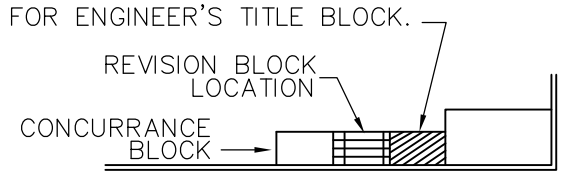
ALTERNATE LOCATION
FOR ENGINEERS TITLE BOX



Revision No.	Description	Date	By	Aprvd. By
1				

REVISION BLOCK

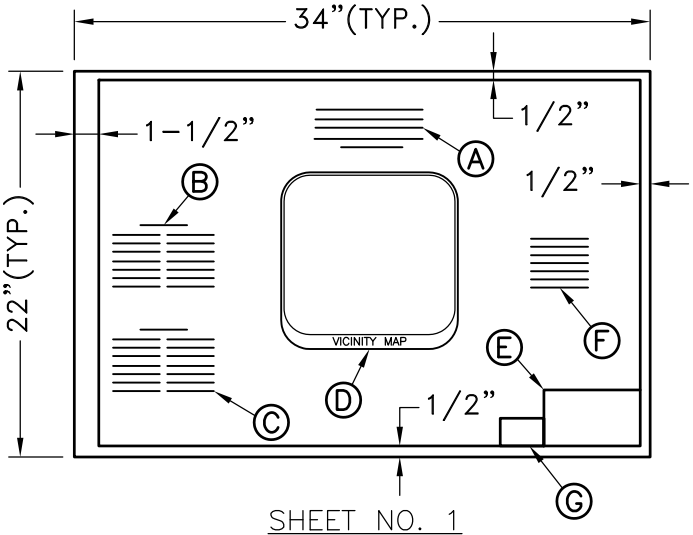
ALTERNATE LOCATION OF REVISION BLOCK IF NOT USED FOR ENGINEER'S TITLE BLOCK.



REVISION BLOCK LOCATION

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY: SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	IMPROVEMENT PLAN TITLE BLOCK SAN ANDREAS SANITARY DISTRICT	Date FEBRUARY 2017 Scale N.T.S.	FIGURE 16

FILE SPEC: \\project\proj\0277 SASD\0780_Standard_Details\0010_2011_Update\05_Civil\300_Design\SASD-TITLE BLOCK_Fig16.dwg
PLOT DATE: Jan 31, 2017 - 11:48am



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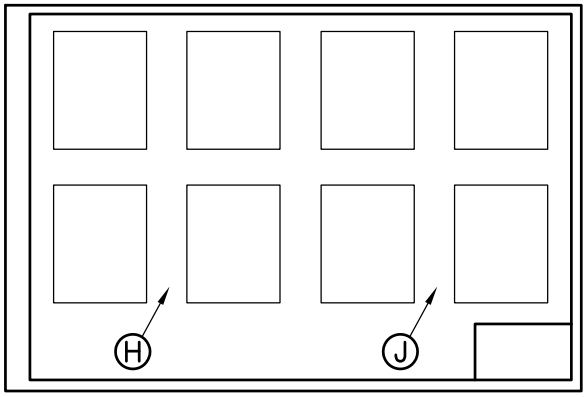
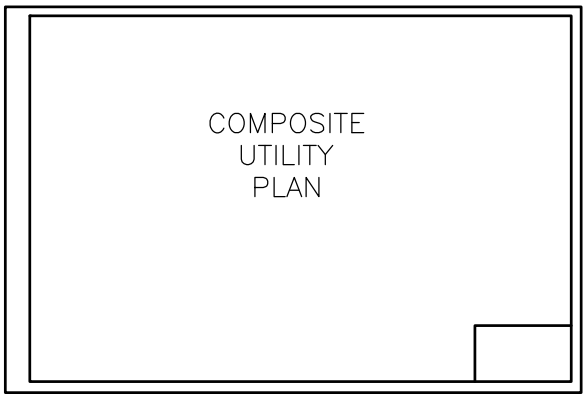


SHEET NO. 2

TYPICAL DETAILS AS REQUIRED



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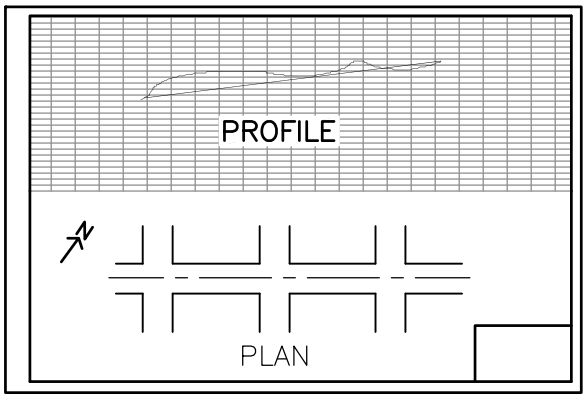

SHEET NO. 4

COMPOSITE UTILITY PLAN SHALL INCLUDE SANITARY SEWER, WATER, STORM DRAIN, AND MANHOLES. SASD MANHOLES SHALL BE NUMBERED ACCORDING TO SASD SYSTEM (PLAN VIEW OR PROFILE VIEW). SUBSEQUENT SHEETS AS NECESSARY, HORIZONTAL SCALE FOR PLAN & PROFILE TO BE 1"=20' TO 1"=60'.

LEGEND

A. PROJECT TITLE
B. CONVENTIONAL SYMBOLS
C. ABBREVIATIONS
D. VICINITY MAP
E. TITLE BLOCK
F. INDEX OF SHEETS
G. CONCURRENCY BY OTHER ENTITIES
H. TYPICAL DETAILS
J. SPECIAL DETAILS AS REQUIRED

NOTES:

1. 8-1/2'' X 11'' DRAWINGS MAY BE USED FOR SKETCHES AND DETAILS ON SMALL PROJECTS WHEN APPROVED BY THE ENGINEER.
2. BORDER AND TITLE BLOCK TO BE SAN ANDREAS SANITARY DISTRICT STANDARD FOR 8-1/2'' x 11'' SHEET AS PER FIGURE 16.
3. FOR TITLE BLOCK DETAILS, SEE FIGURE 16.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	IMPROVEMENT PLAN STANDARDS	Date FEBRUARY 2017	FIGURE 17
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

MINIMUM SEWAGE LIFT STATION OR PUMP STATION DESIGN CRITERIA:

1.0 SEWAGE LIFT STATIONS OR PUMP STATIONS SHALL ONLY BE ALLOWED WHEN APPROVED BY THE DISTRICT, UPON SUBMITTAL OF AN ACCEPTABLE ENGINEERING ANALYSIS OF THE INFEASIBILITY OF CONSTRUCTING A GRAVITY SANITARY SEWER.

2.0 SEWAGE LIFT/PUMP STATIONS SHALL BE DESIGNED TO CONVEY PEAK WET WEATHER FLOW FOR ALL EXISTING AND PLANNED LAND USES TRIBUTARY TO THE STATION WITH THE LARGES PUMPING UNIT OUT OF SERVICE. ALL SEWAGE LIFT/PUMP STATIONS SHALL BE EQUIPPED AT A MINIMUM WITH DUPLEX PUMPS. PEAK WET WEATHER FLOW SHALL BE CALCULATED PURSUANT TO THE SASD STANDARD DETAILS.

3.0 SEWAGE LIFT/PUMP STATIONS SHALL BE OF THE SUBMERSIBLE STYLE DESIGNED IN ACCORDANCE WITH CHAPTER 40 OF THE LATEST EDITION OF THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES, TEN STATE STANDARDS, EXCEPT AS MODIFIED HEREIN. ALL WET WELL STRUCTURES SHALL BE LINED WITH AN IMPERMEABLE CORROSION RESISTANT LINER.

4.0 WET WELL SHALL BE DESIGNED IN ACCORDANCE WITH THE SOLIDS-BEARING REQUIREMENTS OF THE LATEST REVISION OF THE HYDRAULIC INSTITUTE STANDARD NO. 9.8, PUMP INTAKE DESIGN.

5.0 ELECTRICAL AND INSTRUMENTATION SYSTEMS:

I. ALL ELECTRICAL AND INSTRUMENTATION SYSTEM SHALL BE DESIGNED ACCORDING TO THE CURRENT EDITION OF THE CALIFORNIA ELECTRIC CODE,
II. PRESSURE TRANSDUCER WET WELL MONITORING WITH ULTRASONIC LEVEL SENSOR BACKUP SHALL BE PROVIDED,
III. VARIABLE FREQUENCY DRIVE (VFD) SHALL BE PROVIDED FOR STATIONS WITH A PUMP STATION CAPACITY GREATER THAN APPROXIMATELY 1.4 MGAL/D.
IV. DIESEL POWERED EMERGENCY BACKUP GENERATOR SHALL BE PROVIDED WITH AUTOMATIC TRANSFER SWITCH SIZED TO OPERATE ALL LIFT/PUMP STATION LOADS.
V. MINIMUM FUEL CAPACITY FOR BACKUP ENGINES SUFFICIENT TO OPERATE PUMPING FOR A MINIMUM OF 12 HOURS.
VI. TELEMETRY AND SCADA SHALL BE PROVIDED TO INTEGRATE INTO THE DISTRICT'S EXISTING SYSTEMS.
VII. STARTERS, BREAKERS, AND WIRES SHALL BE SIZED TO OPERATE AT NOT LESS THAN 125% OF ACTUAL MOTOR NAMEPLATE.
VIII. LIGHTNING AND SURGE PROTECTION SHALL BE PROVIDED.
IX. AMMETER, HOA SWITCH, AND ELAPSED TIME METERS SHALL BE PROVIDED FOR EACH PUMP.
X. HIGHEST FEASIBLE SYSTEM VOLTAGE SHALL BE USED, E.G., 480 VS. 240 VOLT,

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	SEWAGE LIFT/PUMP STATION	Date FEBRUARY 2017	FIGURE 18A
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	

6.0 SITE IMPROVEMENTS SHALL INCLUDE:

I. SITE SECURITY AND FENCING,
II. SPACE FOR MAINTENANCE EQUIPMENT, VEHICLES, AND BACKUP GENERATORS AS NECESSARY,
III. LIGHTING,
IV. TRAFFIC RATED COVERS SHALL BE PROVIDED ON ALL MAINTENANCE HATCHES, VALVE OR PULL BOXES REGARDLESS OF LOCATION,
V. ENCLOSURE OR CANOPY OVER ELECTRICAL PANELS,
VI. SPACE FOR ODOR CONTROL SYSTEMS,
VII. FEE TITLE TO DISTRICT FOR LIFT/PUMP STATION SITE,
VIII. WATER FOR WASHDOWN AND CLEANUP WITH FREEZE-PROOF WHARF HYDRANTS, AND
IX. ALL WEATHER ACCESS TO PUBLIC RIGHT OF WAY.

7.0 REMOVABLE HOIST SHALL BE PROVIDED TO AID IN REMOVING AND LOADING PUMPS.

8.0 SPARE PARTS AND FUSES SHALL BE PROVIDED FOR ALL LIFT/PUMP STATION EQUIPMENT.

9.0 A LIFT/PUMP STATION LOCKOUT-TAGOUT PROCEDURE SHALL BE PREPARED FOR REVIEW AND ACCEPTANCE BY THE DISTRICT.

10. ALL PANELS, VAULTS AND ENCLOSURES SHALL BE PROVIDED WITH LOCKS KEYED TO DISTRICT KEY SYSTEM.

11. FOUR HARD COPIES AND ONE ELECTRONIC COPY OF ALL MAINTENANCE AND OPERATION MANUALS SHALL BE PROVIDED PRIOR TO FINAL ACCEPTANCE.

12. A ONE YEAR MAINTENANCE BOND SHALL BE PROVIDED FOR ALL ELECTRICAL AND MECHANICAL EQUIPMENT.

SAN ANDREAS SANITARY DISTRICT ESTABLISHED JULY 26,1946 CALIFORNIA	APPROVED BY:	SEWAGE LIFT/PUMP STATION	Date FEBRUARY 2017	FIGURE 18B
	SAN ANDREAS SANITARY DISTRICT 675 GOLD OAK ROAD SAN ANDREAS, CA 95249	SAN ANDREAS SANITARY DISTRICT	Scale N.T.S.	