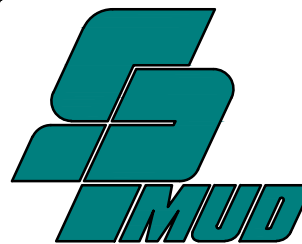
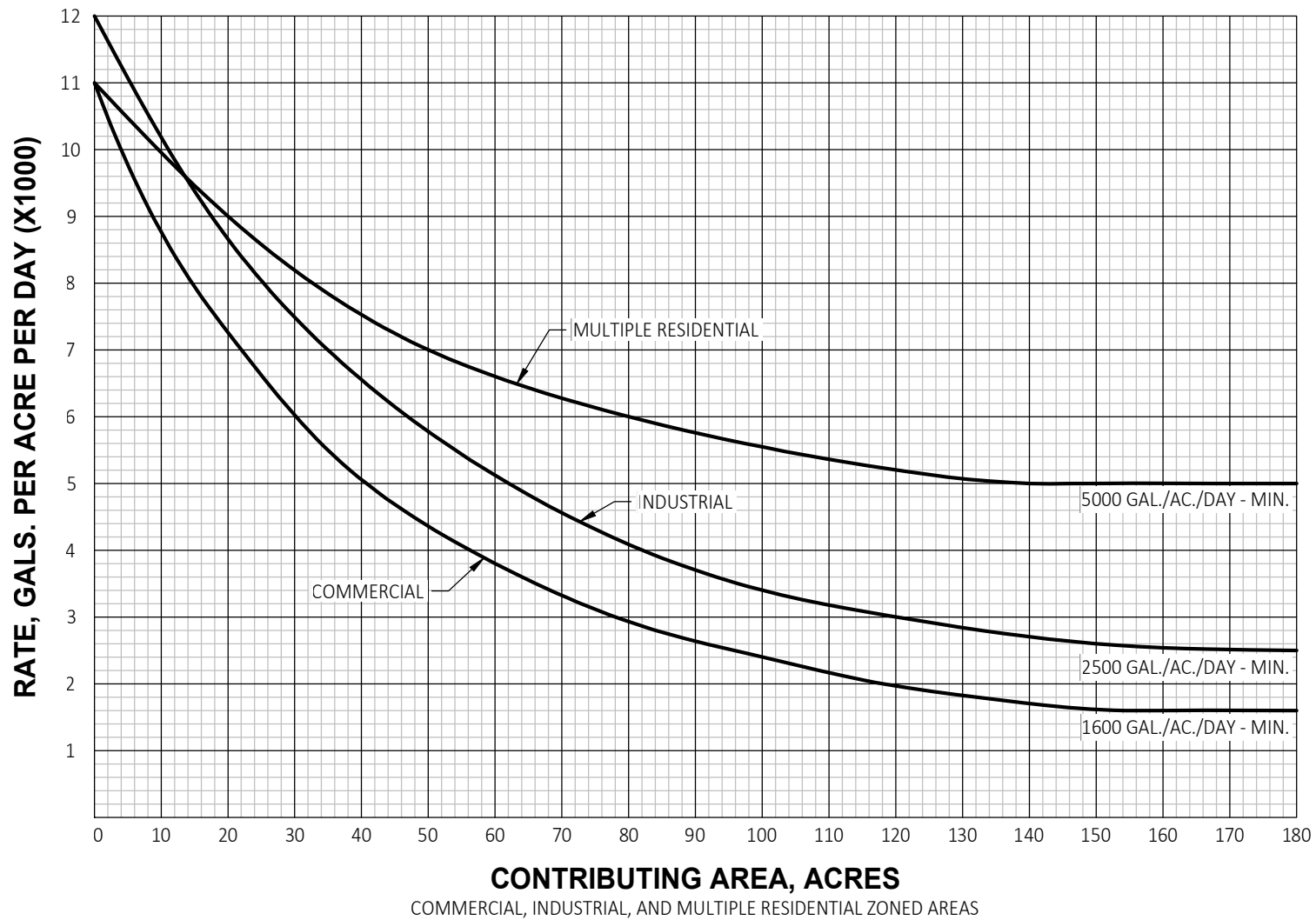


SECTION 8: STANDARD DETAIL DRAWINGS

8.01 Standard Detail Drawings

Drawing No.

1. Estimated Average Flow
2. Peaking Factors
3. Maximum Trench Width for Vitrified Clay Pipe
4. Pipe Bedding and Initial Backfill
5. Manholes
6. Shallow Pipe Manholes
7. Inside Drop Connection
8. Outside Drop Connection
9. 6" And 8" Flushing Branch
10. Building Sewer Lower Lateral Elevation
11. Building Sewer Lower Lateral Plan
12. Property Line Cleanout To Grade
13. Access Road Easement Right Turn
14. Access Road Easement Hammerhead Turn Around
15. Access Road Easement Intermediate Turn Around
16. Access Road Pipe Gate
17. Utility Crossing
18. Concrete Erosion Protection
19. Wastewater Pump Station Bypass Manifold
20. Signature Block and Standard Notes
21. Raised Manholes
22. Removable Bollard



SOUTH PLACER
MUNICIPAL UTILITY DISTRICT

ESTIMATED AVERAGE FLOW

APPROVED BY:

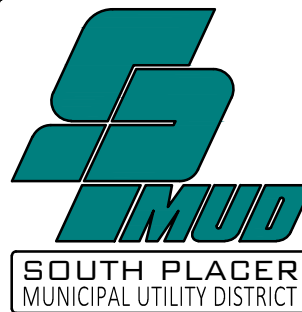
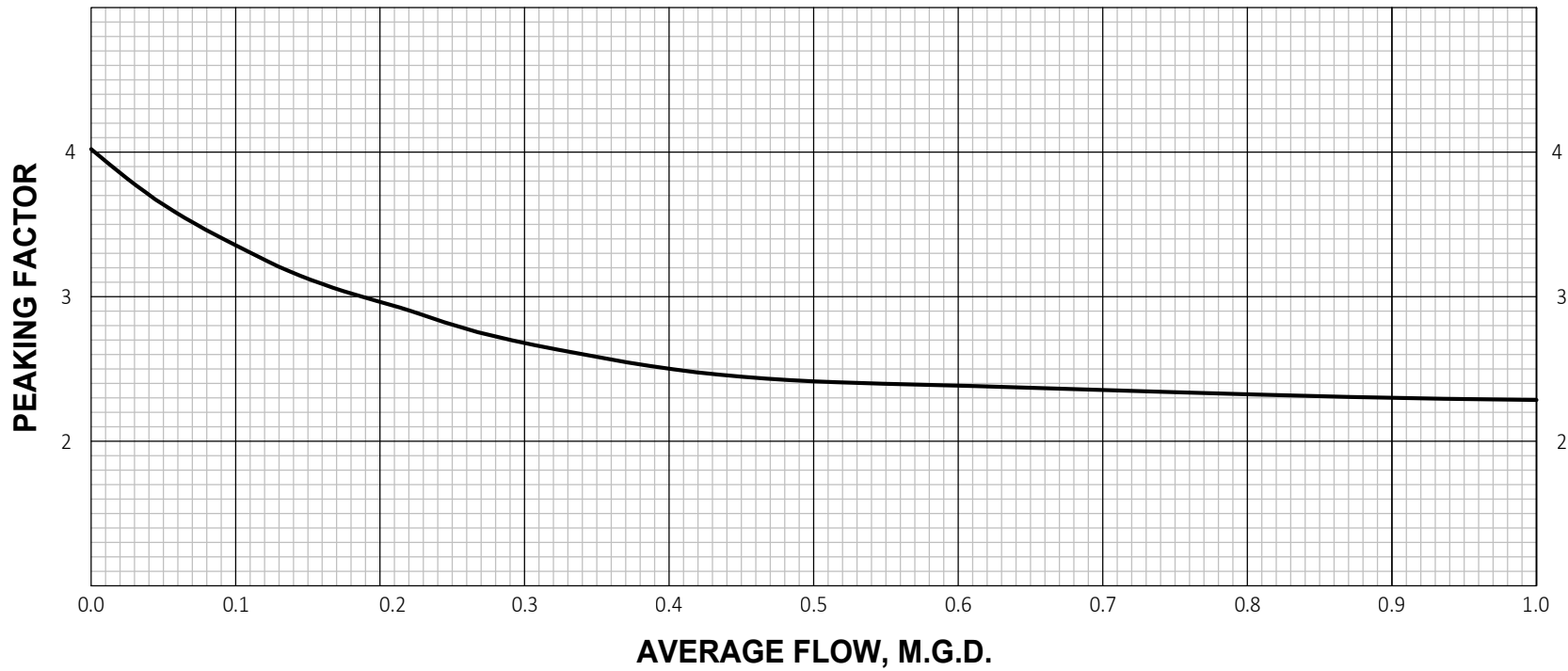
Carie Huff
CARIE HUFF, P.E.
DISTRICT ENGINEER

REVISION DATE:

5/6/21

DRAWING:

1



PEAKING FACTORS

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DISTRICT ENGINEER

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5/6/21

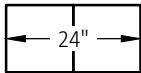
DRAWING:

2

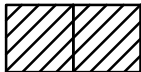
SIZE	THREE-EDGE BEARING STRENGTH	BEDDING TYPE	DEPTH OF COVER (FEET)																	
			4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'	
6" DIA.	2000	I												← 24" →						
		II																		
8" DIA.	2200	I											← 24" →							
		II														← 30" →	← 27" →			
10" DIA.	2400	I									← 30" →	← 27" →								
		II													← 30" →					
12" DIA.	2600	I									← 30" →			← 27" →						
		II											← 33" →			← 30" →				



NO LIMIT ON TRENCH WIDTH -
SEE SECTIONS 3.06 AND 5.08.



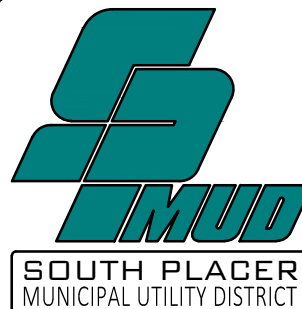
MAXIMUM TRENCH WIDTH
MEASURED AT TOP OF PIPE



PIPE BEARING STRENGTH, BEDDING TYPE,
AND DEPTH OF COVER NOT ACCEPTABLE

NOTES:

1. CALCULATIONS BASED ON SOIL WT. = 120 lb/ft³, SATURATED CLAY K_{μ} = 0.110.
2. FOR DEPTHS LESS THAN 3 FEET OR MORE THAN 20 FEET SEE SECTIONS 3.06 - SPECIAL PIPE STRENGTH REQUIREMENTS.



MAXIMUM TRENCH WIDTH FOR VITRIFIED CLAY PIPE

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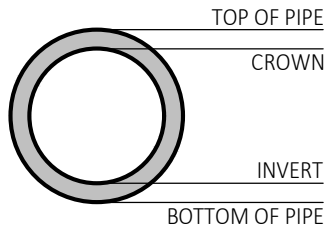
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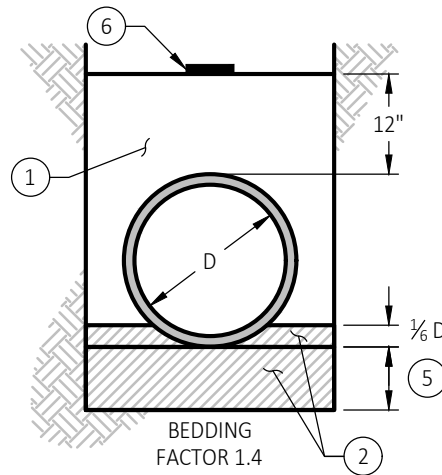
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KEYNOTES:

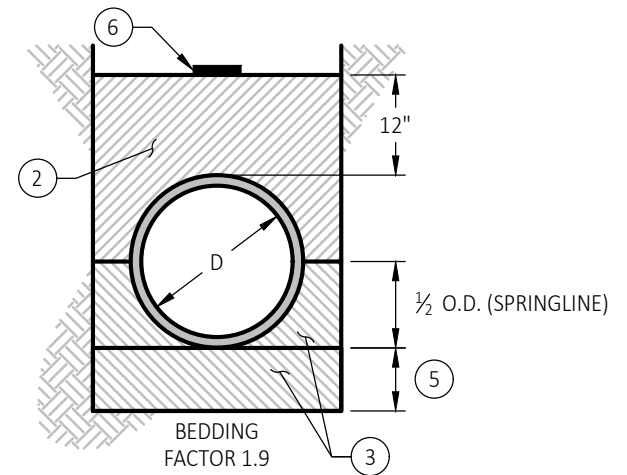
- ① CAREFULLY PLACED BACKFILL, NO SPECIAL COMPACTION REQUIRED.
- ② IMPORTED MATERIAL, CRUSHED ROCK, 100% PASSING $\frac{3}{4}$ -INCH SIEVE.
- ③ IMPORTED MATERIAL, CRUSHED ROCK, LESS THAN 10% PASSING 8 SIEVE, 100% PASSING $\frac{3}{4}$ -INCH SIEVE.
- ④ CONCRETE - "2-SACK" MINIMUM, OR AS REQUIRED BY THE DISTRICT, AND WITH PIPE WRAP.
- ⑤ MINIMUM OF 4-INCHES OR $\frac{1}{8}$ O.D. (WHICHEVER IS GREATER).
- ⑥ WARNING TAPE SHALL BE GREEN, 6-INCH WIDE, AND STATE "CAUTION: BURIED SEWER LINE BELOW." SEE SECTION 2.02.A.5 OF THESE SPECIFICATION.



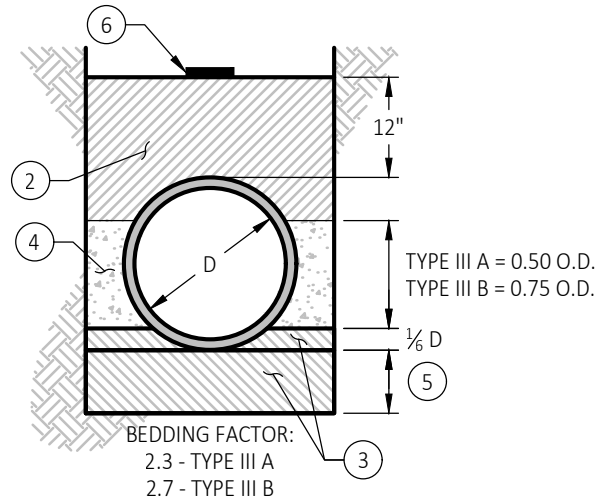
PIPE DEFINITIONS



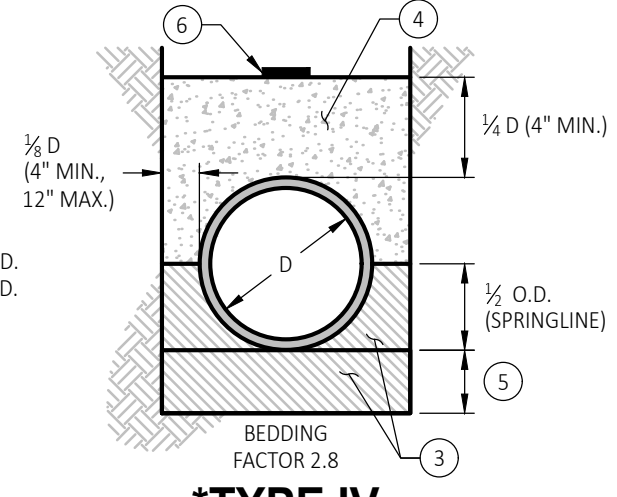
TYPE I



TYPE II



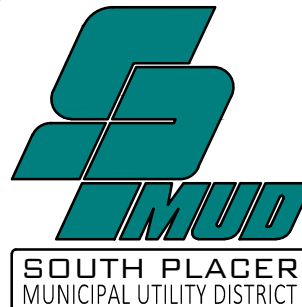
*TYPE III



*TYPE IV

NOTES:

1. *NOT PERMITTED WITHOUT SPECIFIC DISTRICT APPROVAL.
2. ALL DRAWINGS ARE NOT TO SCALE.
3. CONTROLLED LOW STRENGTH MATERIAL (CSLM) SHALL BE IN ACCORDANCE WITH SECTION 2.13, 3.17, AND 3.40 OF THESE SPECIFICATIONS AND USED AS BACKFILL AS APPROVED BY THE DISTRICT.



PIPE BEDDING AND INITIAL BACKFILL

APPROVED BY:

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DISTRICT ENGINEER

REVISION DATE:

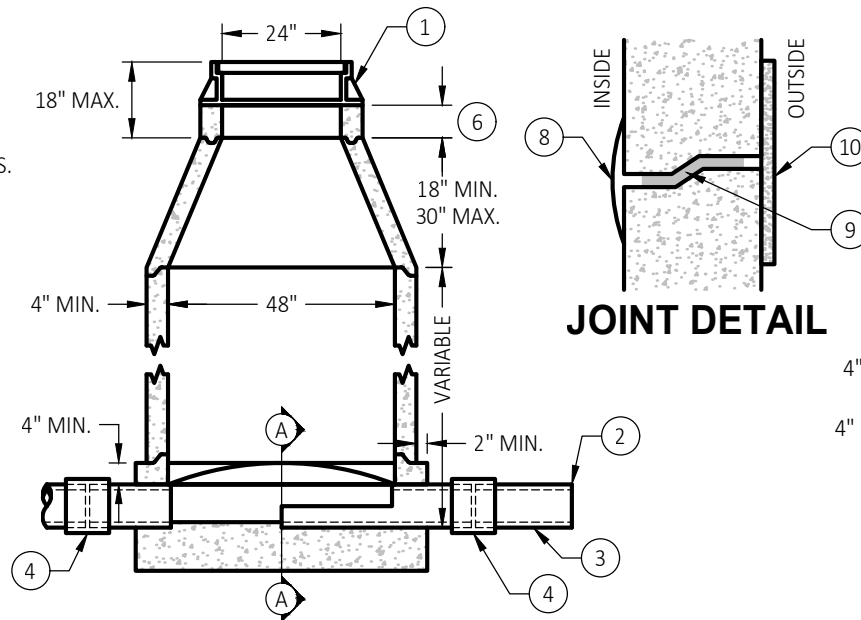
5/6/21

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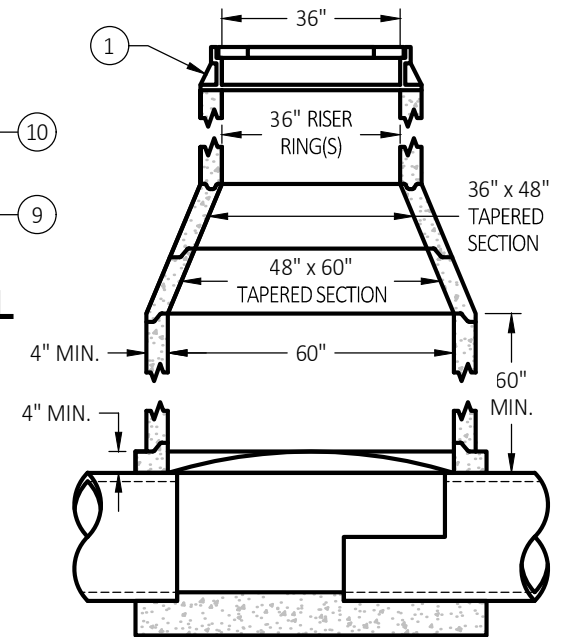
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KEYNOTES:

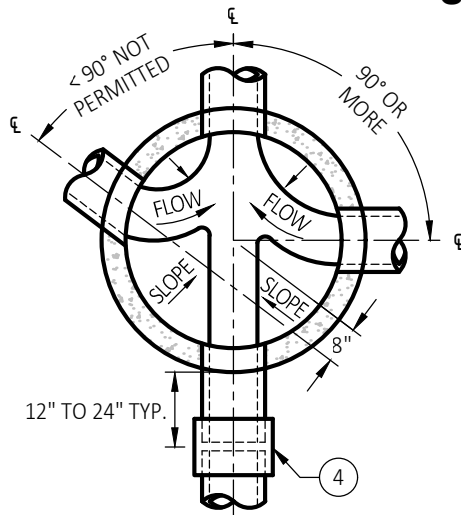
- ① PROVIDE FRAME AND COVER PER SECTION 2.13 OF THESE SPECIFICATIONS.
- ② PLUG OR INSPECTION CLEANOUT OR FLUSHING BRANCH AS REQUIRED BY THESE SPECIFICATIONS.
- ③ SEWER STUB (LENGTH = AS PER PLANS OR ONE JOINT).
- ④ REPAIR COUPLING OR FLEXIBLE JOINT.
- ⑤ FORM PERIMETER BY USE OF AN "IMPRESSION" RING. NO BARRELS OR CONE SHALL BE PLACED UNTIL CONCRETE BASE HAS SET.
- ⑥ MANHOLE GRADE RINGS, 3-INCHES MINIMUM - 11-INCHES MAXIMUM.
- ⑦ 8-INCHES OF $\frac{3}{4}$ -INCH CRUSHED ROCK.
- ⑧ MORTAR JOINT ON INSIDE OF MANHOLE.
- ⑨ PREFORMED PLASTIC SEALING COMPOUND.
- ⑩ SECURE JOINT WRAP TAPE ON OUTSIDE.



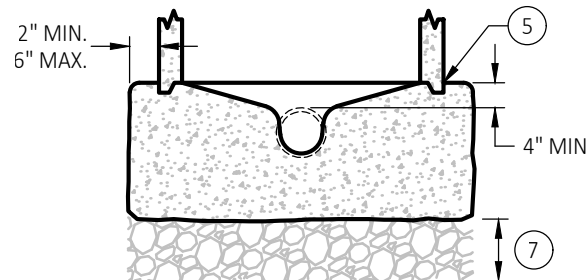
STANDARD 48" MANHOLE



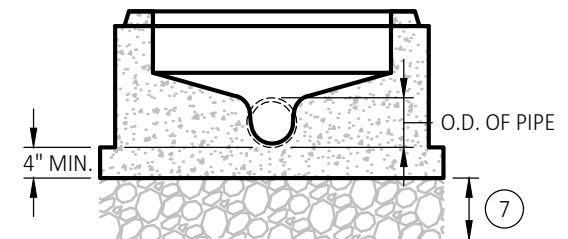
60" MANHOLE



**INTERSECTING
SEWER AT MANHOLE**



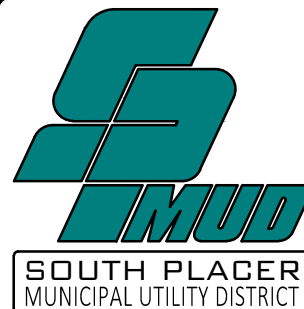
**SECTION A-A
CAST-IN-PLACE BASE**



**SECTION A-A
PRECAST BASE**

NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. SEE GENERAL MANHOLE NOTES ON STANDARD DRAWING NO. 6 - SHALLOW PIPE MANHOLE.



MANHOLES

APPROVED BY:

Carie Huff
CARIE HUFF, P.E.
DISTRICT ENGINEER

REVISION DATE:

5/6/21

DRAWING:

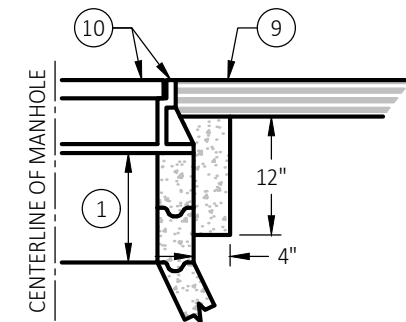
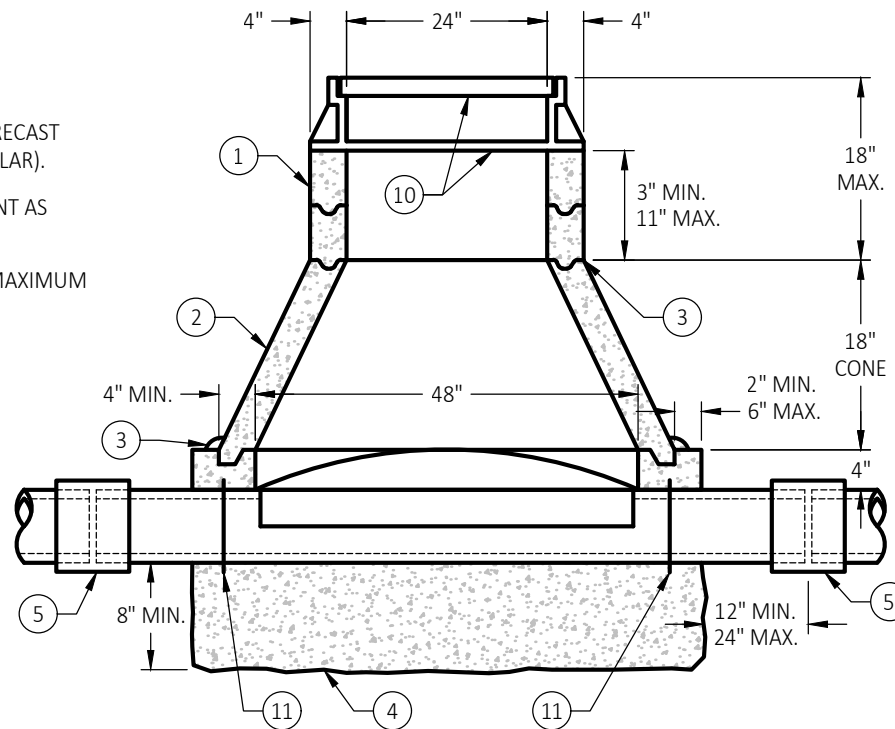
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KEYNOTES:

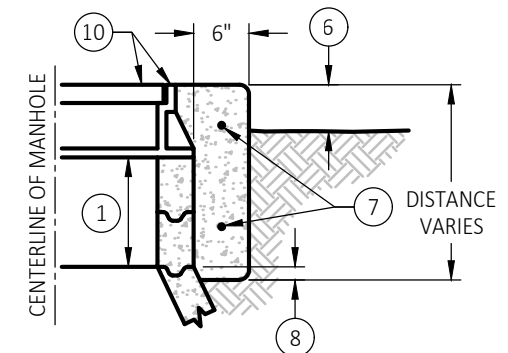
- (1) ADJUSTING RINGS AS REQUIRED.
- (2) CONCENTRIC CONE.
- (3) MORTAR SEAL AT JOINT, TYPICAL
- (4) CAST-IN-PLACE MANHOLE BASE (PRECAST MANHOLE BASE NOT SHOWN, SIMILAR).
- (5) REPAIR COUPLING OR FLEXIBLE JOINT AS APPROVED BY THE DISTRICT.
- (6) 6-INCHES MINIMUM - 12-INCHES MAXIMUM AS DIRECTED BY THE DISTRICT.
- (7) #4 REINFORCEMENT HOOPS.
- (8) EXTEND CONCRETE TO 2-INCHES BELOW JOINT.
- (9) AC SURFACE, 3-INCHES AC OVER 8-INCHES AB MINIMUM OR PER ROAD CONTROLLING ENTITY.
- (10) PROVIDE FRAME AND COVER PER SECTION 2.12 OF THESE SPECIFICATIONS.
- (11) WATER STOP.

NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. CLASS A CONCRETE SHALL BE USED FOR MANHOLES WHICH ARE GREATER THAN 10 FEET IN DEPTH.
3. CAST-IN-PLACE MANHOLE BASES SHALL BE SHAPED TO BE PERPENDICULAR TO THE PIPE. OVER-POURING OF CONCRETE WILL NOT BE ALLOWED. CONCRETE SHALL BE CONSOLIDATED IN A MANNER ACCEPTABLE TO THE DISTRICT. THE PERIMETER OF THE BASE SHALL BE FORMED BY THE USE OF AN "IMPRESSION" RING TO RECEIVE THE BARREL OR CONE.
4. PIPE MAY STOP AT THE INSIDE FACE OF THE MANHOLE OR MAY BE LAID CONTINUOUS THROUGH THE MANHOLE. IF LAID CONTINUOUS, THE TOP OF HALF OF THE PIPE SHALL BE BROKEN AWAY AFTER THE BASE IS POURED.
5. JOINTS SHALL BE TONGUE AND GROOVE AND SEALED WITH APPROVED PLASTIC SEALING COMPOUND. MORTAR SHALL BE PLACED ON ALL INSIDE JOINTS, AND THE OUTSIDE JOINT OF THE MANHOLE SHALL BE SEALED WITH APPROVED JOINT WRAP TAPE.
6. MANHOLE FRAME SHALL HAVE 24-INCHES INSIDE DIAMETER OPENING AND COVER SHALL BE 26-INCHES DIAMETER. PROVIDE FOUR HOLES AT 1 1/2 - 2-INCHES IN DIAMETER AT 90 DEGREES IN THE LOWER LIP OF COVER FRAME.
7. MANHOLES SHALL BE VACUUM TESTED FOR LEAKAGE AS SPECIFIED IN SECTION 5.34, ACCEPTANCE TEST.

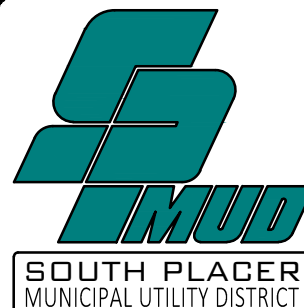


PAVED AREA



UNPAVED AREA

MANHOLE CONCRETE COLLAR



SHALLOW PIPE MANHOLE

APPROVED BY:

Carie Huff
CARIE HUFF, P.E.
DISTRICT ENGINEER

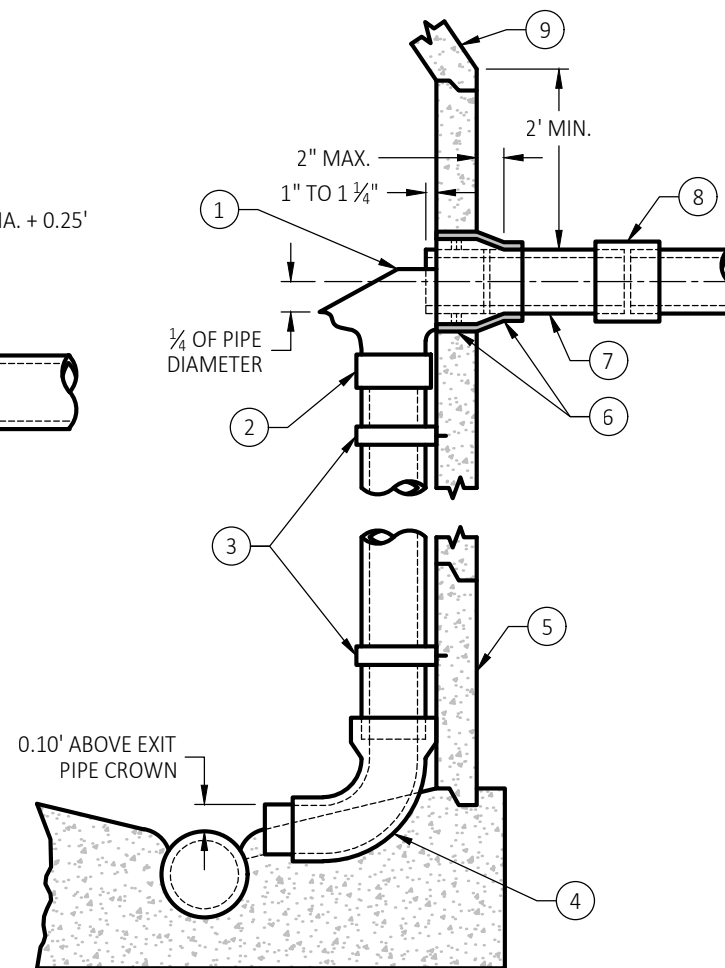
REVISION DATE:

5/6/21

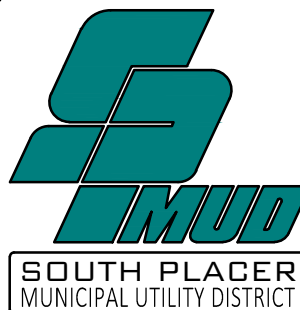
DRAWING:

6

- 1 INSIDE DROP BOWL SECURED WITH FOUR (4) STAINLESS STEEL BOLTS.
- 2 CAULDER COUPLING OR APPROVED EQUAL.
- 3 STAINLESS STEEL CLAMPS AT 3-FOOT INTERVALS WITH $\frac{3}{8}$ -INCH X 3 $\frac{3}{4}$ -INCHES STAINLESS STEEL BOLTS AND EPOXY PASTE.
- 4 90° ELBOW EMBEDDED IN CONCRETE AT 45° WITH SEWER FLOW.
- 5 MANHOLE BARREL
- 6 SMOOTH BORE CUT AND FLEXIBLE CONNECTOR MINIMUM 6-INCHES FROM BARREL JOINT.
- 7 12-INCH LENGTH OF PIPE.
- 8 FOUR BAND SHIELDED REPAIR COUPLING.
- 9 MANHOLE CONE



1. ALL DRAWINGS ARE NOT TO SCALE.
2. OUTSIDE DROP CONNECTIONS ARE ONLY AS APPROVED BY THE DISTRICT.
3. ALL INSIDE DROP PIPING SHALL BE PVC SDR-26.
4. PRIME AND CEMENT ALL JOINTS AS RECOMMENDED BY THE MANUFACTURER.
5. DROP CONNECTION PIPE AND FITTINGS TO BE THE SAME SIZE AS THE ENTERING PIPE.
6. INSIDE DROP CONNECTION MINIMUM DISTANCES:
 - 6.A. 6-INCH AND 8-INCH PIPE = 48-INCHES MINIMUM DROP, UNLESS OTHERWISE APPROVED BY THE DISTRICT.
 - 6.B. 10-INCHES AND LARGER PIPE = DROP CONNECTION NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE DISTRICT.
 - 6.C. 4-INCH LOWER LATERAL CONNECTIONS = 48-INCHES MINIMUM FOR OUTSIDE DROP OR 12-INCHES MINIMUM FOR INSIDE DROP, UNLESS OTHERWISE APPROVED BY THE DISTRICT.
7. FLEXIBLE CONNECTOR SHALL BE "KOR-N-SEAL 1", "PRESS-BOOT", OR EQUAL.
8. REFER TO SECTIONS 3.08 AND 5.24 FOR PERMISSIBLE DROP CONNECTION SITUATIONS.
9. ALL INSIDE DROP CONNECTIONS FOR LOWER LATERALS AND COLLECTOR SEWERS SHALL USE THE DROP BOWL AS PRODUCED BY RELINER-DURAN, INC. (53 MT. ARCHER RD., LYME, CT 06317) OR APPROVED EQUAL.



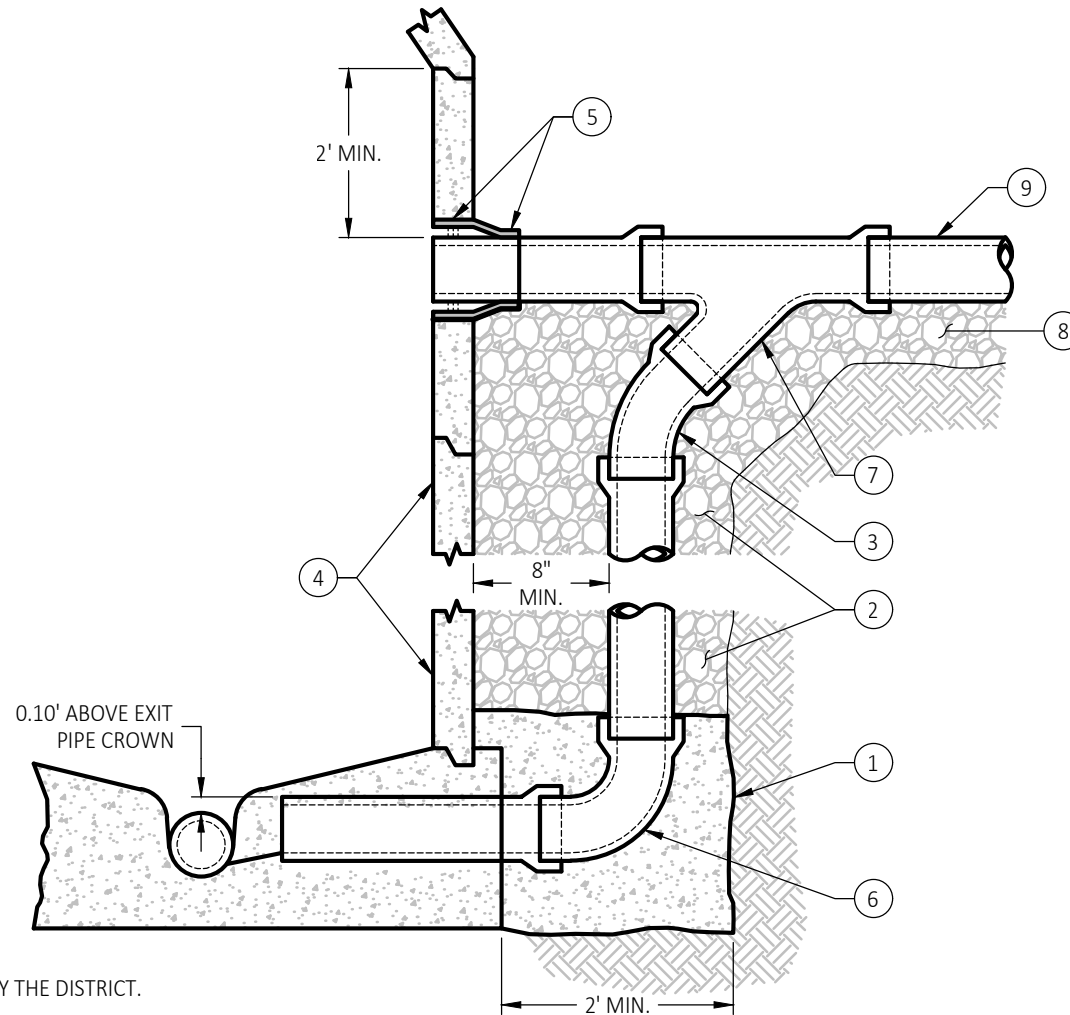
APPROVED BY: Carrie Huff
CARIE HUFF, P.E.
DISTRICT ENGINEER

REVISION DATE:
5/6/21

DRAWING:
7

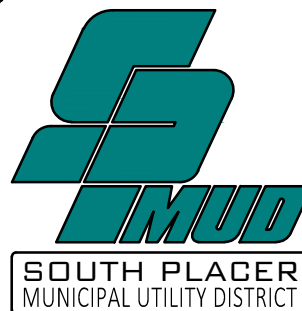
KEYNOTES:

- ① ENCASEMENT CONCRETE SHALL BE POURED AGAINST UNDISTURBED EARTH.
- ② ¾-INCH CRUSHED ROCK BACKFILL MATERIAL
- ③ 45° BEND.
- ④ MANHOLE BARREL
- ⑤ SMOOTH BORE CUT AND FLEXIBLE CONNECTOR MINIMUM 6-INCHES FROM BARREL JOINT.
- ⑥ 90° BEND
- ⑦ REVERSE WYE
- ⑧ BEDDING PER STANDARD DRAWING NO. 4.
- ⑨ COLLECTOR SEWER.



NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. OUTSIDE DROP CONNECTIONS ARE ONLY AS APPROVED BY THE DISTRICT.
3. OUTSIDE DROP CONNECTION PIPE AND FITTINGS TO BE DUCTILE IRON PIPE WITH APPROVED LINING, OR PVC SDR-26 PIPE.
4. OUTSIDE DROP CONNECTION MINIMUM DISTANCES:
 - 4.A. 6-INCH AND 8-INCH PIPE = 48-INCHES MINIMUM DROP, UNLESS OTHERWISE APPROVED BY THE DISTRICT.
 - 4.B. 10-INCHES AND LARGER PIPE = DROP CONNECTION NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE DISTRICT.
 - 4.C. 4-INCH LOWER LATERAL CONNECTIONS = 48-INCHES MINIMUM FOR OUTSIDE DROP OR 12-INCHES MINIMUM FOR INSIDE DROP, UNLESS OTHERWISE APPROVED BY THE DISTRICT.
5. FLEXIBLE CONNECTOR SHALL BE "KOR-N-SEAL 1", "PRESS-BOOT", OR EQUAL.
6. REFER TO SECTIONS 3.08 AND 5.24 FOR PERMISSIBLE DROP CONNECTION SITUATIONS.



OUTSIDE DROP CONNECTION

APPROVED BY:

Carie Huff
CARIE HUFF, P.E.
DISTRICT ENGINEER

REVISION DATE:

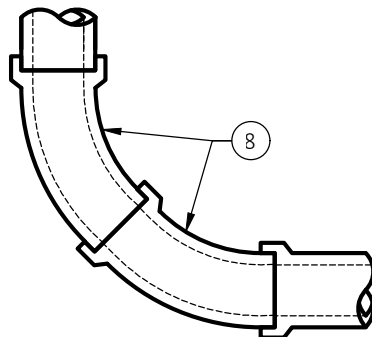
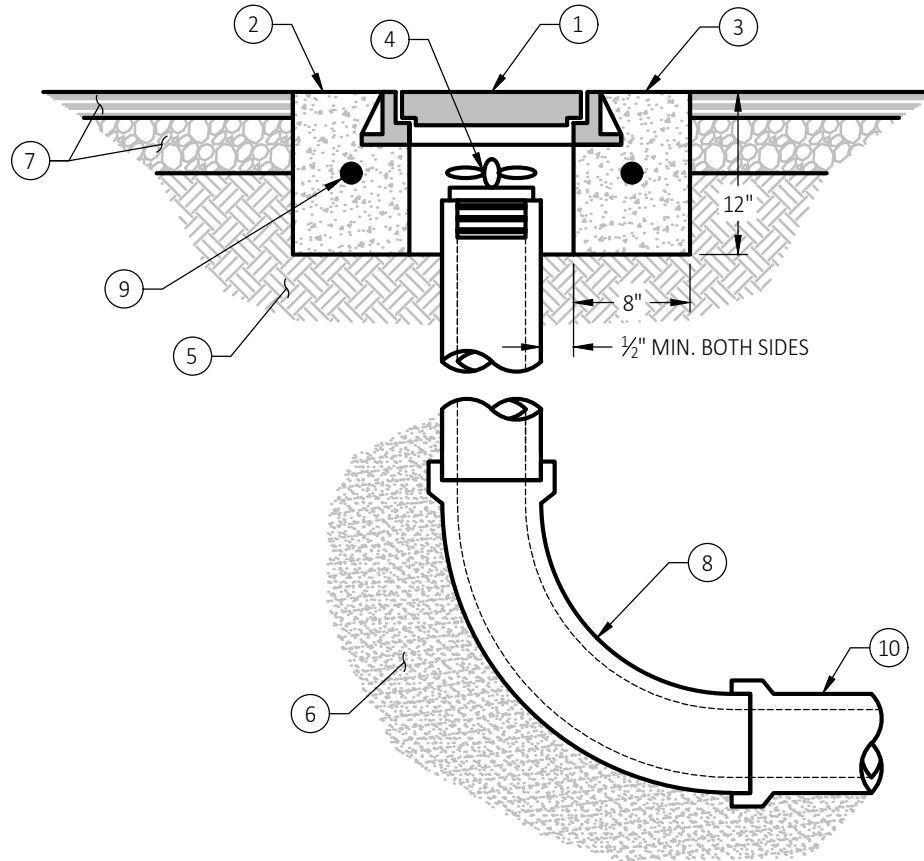
5/6/21

DRAWING:

8

KEYNOTES:

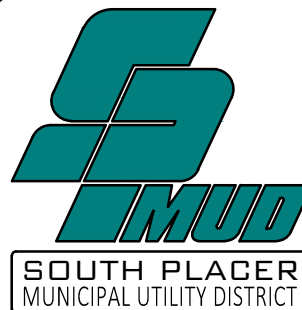
- ① TRAFFIC FRAME AND COVER "D&L SUPPLY" #4-8024 SERIES OR EQUAL (WITH LID MARKED "S" OR "SEWER").
- ② FLUSH WITH EXISTING PAVING OR SIDEWALK OR 1-INCH ABOVE SURROUNDING GROUND SURFACE.
- ③ CONCRETE (SQUARE OR CIRCULAR).
- ④ CAP SHALL BE NON-CORROSIVE. CHERNE INDUSTRIES "END OF PIPE GRIPPER PLUG", MODEL 270245, OR APPROVED EQUAL, INSIDE WING-NUT TWIST PLUG.
- ⑤ 90% COMPACTED BACKFILL MATERIAL, SEE STANDARD DRAWING NO. 4.
- ⑥ BACKFILL MATERIAL, SEE STANDARD DRAWING NO. 4.
- ⑦ PAVING SURFACE AND BASE ROCK, SEE STANDARD DRAWING NO. 4.
- ⑧ LONG RADIUS 90° BEND OR TWO (2) 45° BENDS, AS APPROVED BY THE DISTRICT.
- ⑨ NO. 4 REINFORCEMENT HOOP.
- ⑩ COLLECTOR SEWER.



**TWO 45° BEND
ALTERNATIVE**

NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. FLUSHING BRANCH PIPE AND FITTINGS SHALL BE THE SAME SIZE AND MATERIAL AS THE HORIZONTAL PIPE TO WHICH IT CONNECTS. JOINT SHALL BE AS SPECIFIED FOR THE TYPE OF PIPE USED.



**6-INCH AND 8-INCH
FLUSHING BRANCH**

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DISTRICT ENGINEER

REVISION DATE:

5/6/21

DRAWING:

9

KEYNOTES:

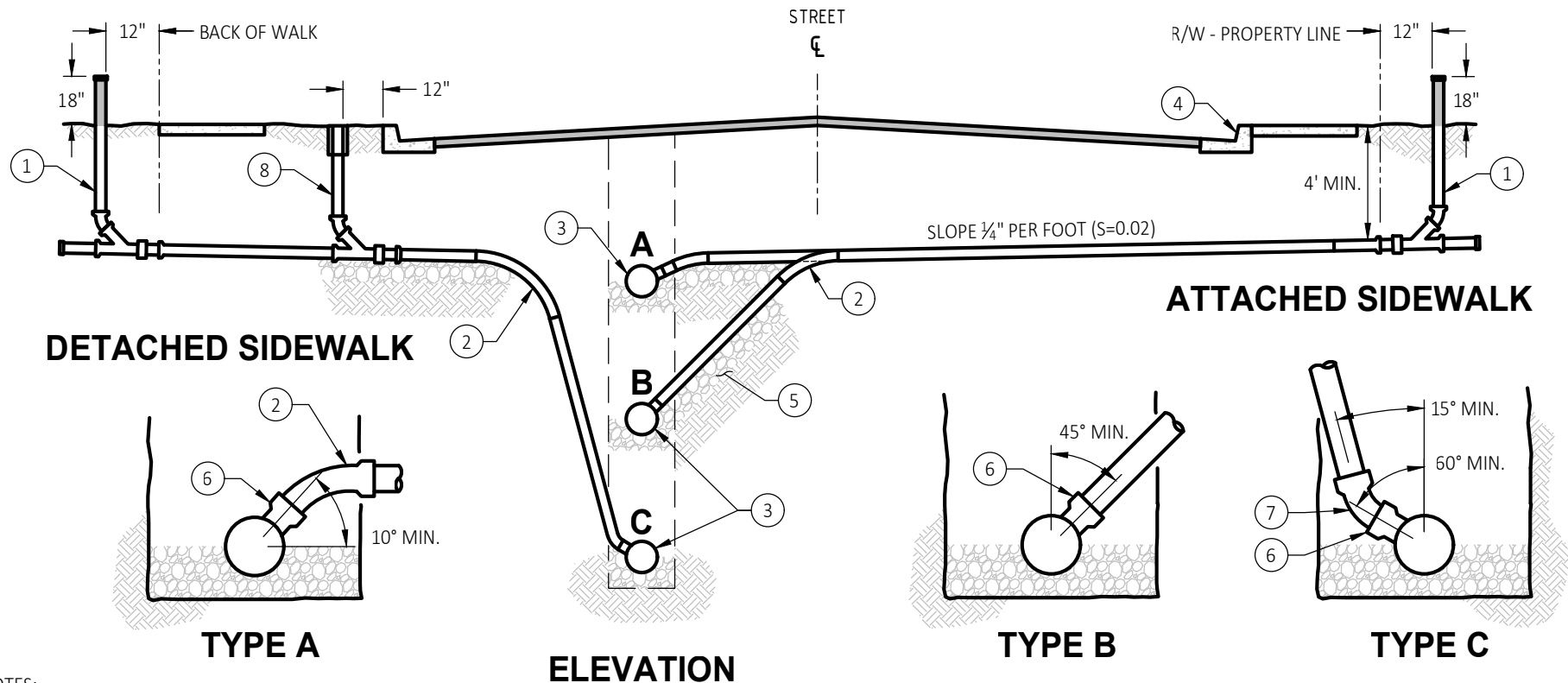
- ① INSPECTION CLEANOUT WITH TOP 18-INCHES ABOVE GROUND AND PAINTED GREEN, SEE DRAWING NO. 11.
- ② LONG RADIUS BEND.
- ③ COLLECTOR SEWER, SEE NOTE 3.

KEYNOTES CONTINUED:

- ④ "S" IN FACE OF CURB TO IDENTIFY SERVICE SEWER (2-INCH x 2-INCH).
- ⑤ UNDISTURBED EARTH.
- ⑥ WYE.

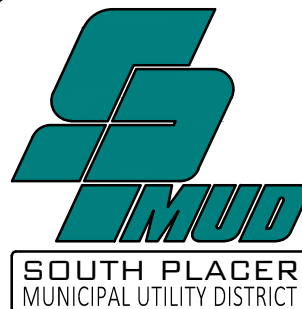
KEYNOTES CONTINUED:

- ⑦ 45° BEND.
- ⑧ PROPERTY LINE CLEANOUT IN BOX SET FLUSH TO SURFACE, SEE DRAWING NO. 12.



NOTES:

- 1. ALL DRAWINGS ARE NOT TO SCALE.
- 2. LOWER LATERALS SHALL HAVE THE SAME BEDDING AND BACKFILL AS THE COLLECTOR SEWER.
- 3. CONTRACTOR SHALL USE THE MOST APPROPRIATE CONNECTION (A, B, C) FOR THE PARTICULAR SITUATION ENCOUNTERED.
- 4. PLACE WELL COMPACTED BEDDING MATERIAL 18-INCHES WIDE UNDER THE WYE BRANCH, THE FITTING, AND UNSUPPORTED PIPE.
- 5. ALL LOWER LATERALS PIPE AND FITTINGS SHALL BE THE SAME MATERIAL AS THE COLLECTOR SEWER, UNLESS OTHERWISE PERMITTED BY THE DISTRICT.
- 6. THE INSPECTION CLEANOUT IS FOR THE PURPOSE OF TESTING/INSPECTING THE LOWER LATERAL, AND FOR THE SERVING TO LOCATE THE END OF THE LOWERS LATERAL STUB.



BUILDING SEWER LOWER LATERAL ELEVATION

APPROVED BY:

Carrie Huff
CARIE HUFF, P.E.
DISTRICT ENGINEER

REVISION DATE:

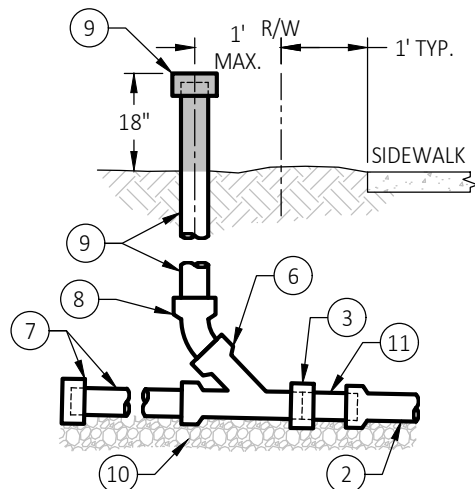
5/6/21

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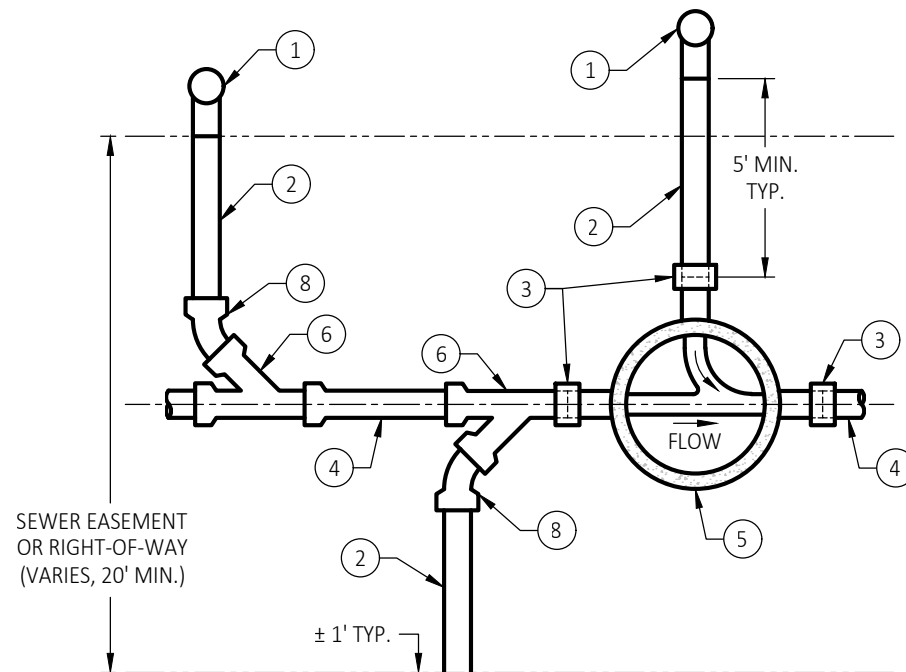
10

KEYNOTES:

- ① INSPECTION CLEANOUT (TYPICAL).
- ② LOWER LATERAL.
- ③ REPAIR COUPLING OR FLEXIBLE JOINT.
- ④ COLLECTOR SEWER.
- ⑤ SEWER MANHOLE, SEE DRAWING NO. 5.
- ⑥ WYE
- ⑦ 3 FEET LONG ABS TAIL WITH ABS GLUE CAP.
- ⑧ 45° BEND.
- ⑨ ABS RISER WITH ABS GLUE CAP. TOP 18-INCHES ABOVE GROUND AND PAINTED GREEN.
- ⑩ PIPE BEDDING, SEE DRAWING NO. 4.
- ⑪ PLAIN END x PLAIN END PUP OF PIPE.



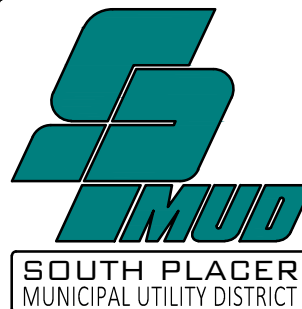
INSPECTION CLEANOUT



PLAN VIEW

NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. SEE STANDARD DRAWING NO. 10 - BUILDING SEWER LOWER LATERAL (ELEVATION) FOR LATERAL DETAILS.



**BUILDING SEWER
LOWER LATERAL
PLAN**

APPROVED BY:

Carie Huff
CARIE HUFF, P.E.
DISTRICT ENGINEER

REVISION DATE:

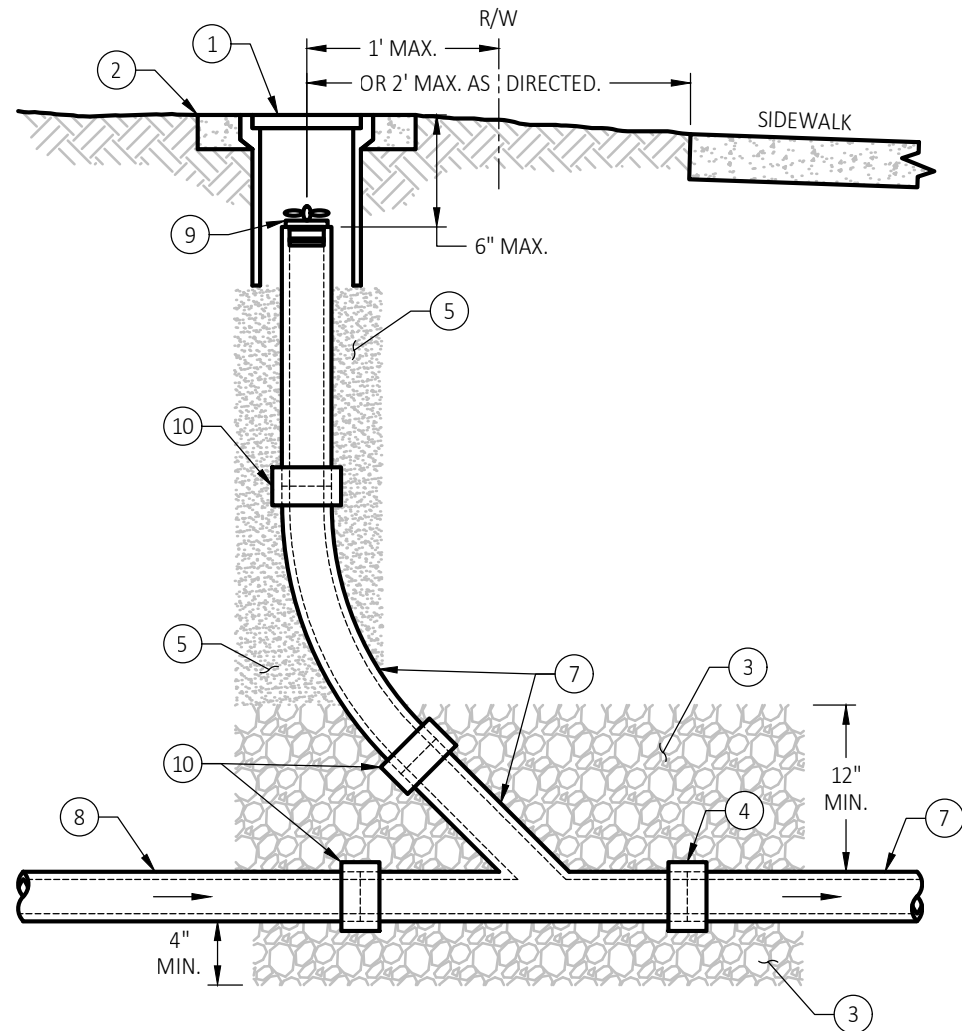
5/6/21

DRAWING:

11

KEYNOTES:

- ① F-8 CHRISTY (OR APPROVED EQUAL) CONCRETE VALVE BOX WITH CAST IRON LID MARKED "S" OR "SEWER," INSTALLED BY BUILDING CONTRACTOR.
- ② 4-INCHES x 18-INCHES x 18-INCHES CONCRETE PAD IN REMOTE LOCATIONS AS DIRECTED.
- ③ $\frac{3}{4}$ -INCH C RUSHED A.B. BEDDING MATERIAL EXTEND 1-FOOT BEYOND WYE (BOTH DIRECTIONS).
- ④ FOUR BAND SHIELDED REPAIR COUPLING AT MATERIAL TRANSITIONS AS APPROVED BY THE DISTRICT.
- ⑤ BACKFILL MATERIAL, SEE STANDARD DRAWING NO. 4.
- ⑥ WYE 45° WITH LONG RADIUS 45° BEND.
- ⑦ BUILDING SEWER LOWER LATERAL.
- ⑧ BUILDING SEWER UPPER LATERAL.
- ⑨ CAP SHALL BE NON-CORROSIVE. CHERNE INDUSTRIES "END OF PIPE GRIPPER PLUG", MODEL 270245, OR APPROVED EQUAL, INSIDE WING-NUT TWIST PLUG.
- ⑩ GLUE JOINT.



NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. ALL CLEANOUT PIPE AND FITTINGS SHALL BE THE SAME SIZE AS THE LOWER LATERAL TO WHICH IT CONNECTS, UNLESS OTHERWISE DIRECTED BY THE DISTRICT. MATERIALS TO CONFORM TO SECTION 7.06 OF THESE SPECIFICATIONS
3. STACK SHALL BE STRAIGHT AND VERTICAL (PLUMB).



PROPERTY LINE CLEANOUT TO GRADE

APPROVED BY:

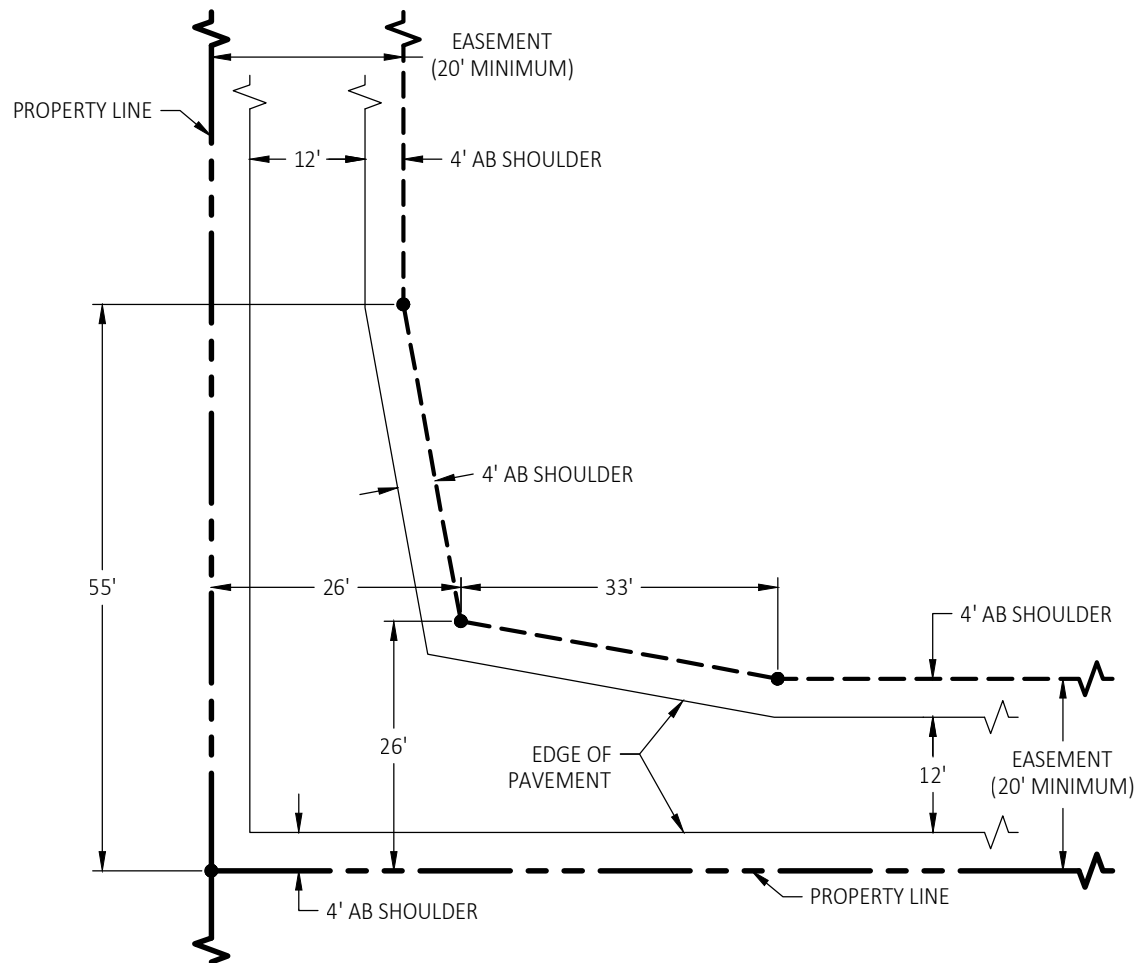
Carie Huff
CARIE HUFF, P.E.
DISTRICT ENGINEER

REVISION DATE:

5/6/21

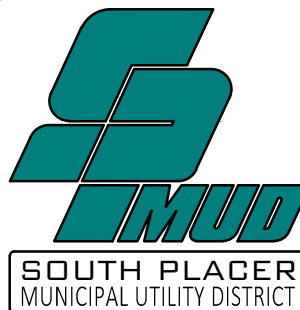
DRAWING:

12



NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. GENERAL WIDTH: 12-FEET TRAVELED WAY (MINIMUM), WITH 4-FEET SHOULDERS EACH SIDE, WIDEN THROUGH TURNS TO DIMENSIONS SHOWN.
3. SURFACING/SECTION: 3-INCHES OF ASPHALT CONCRETE (AC) OVER 8-INCHES OF COMPACTED AGGREGATE BASE (AB), OR AS REQUIRED BY THE DISTRICT.



ACCESS ROAD EASEMENT RIGHT TURN

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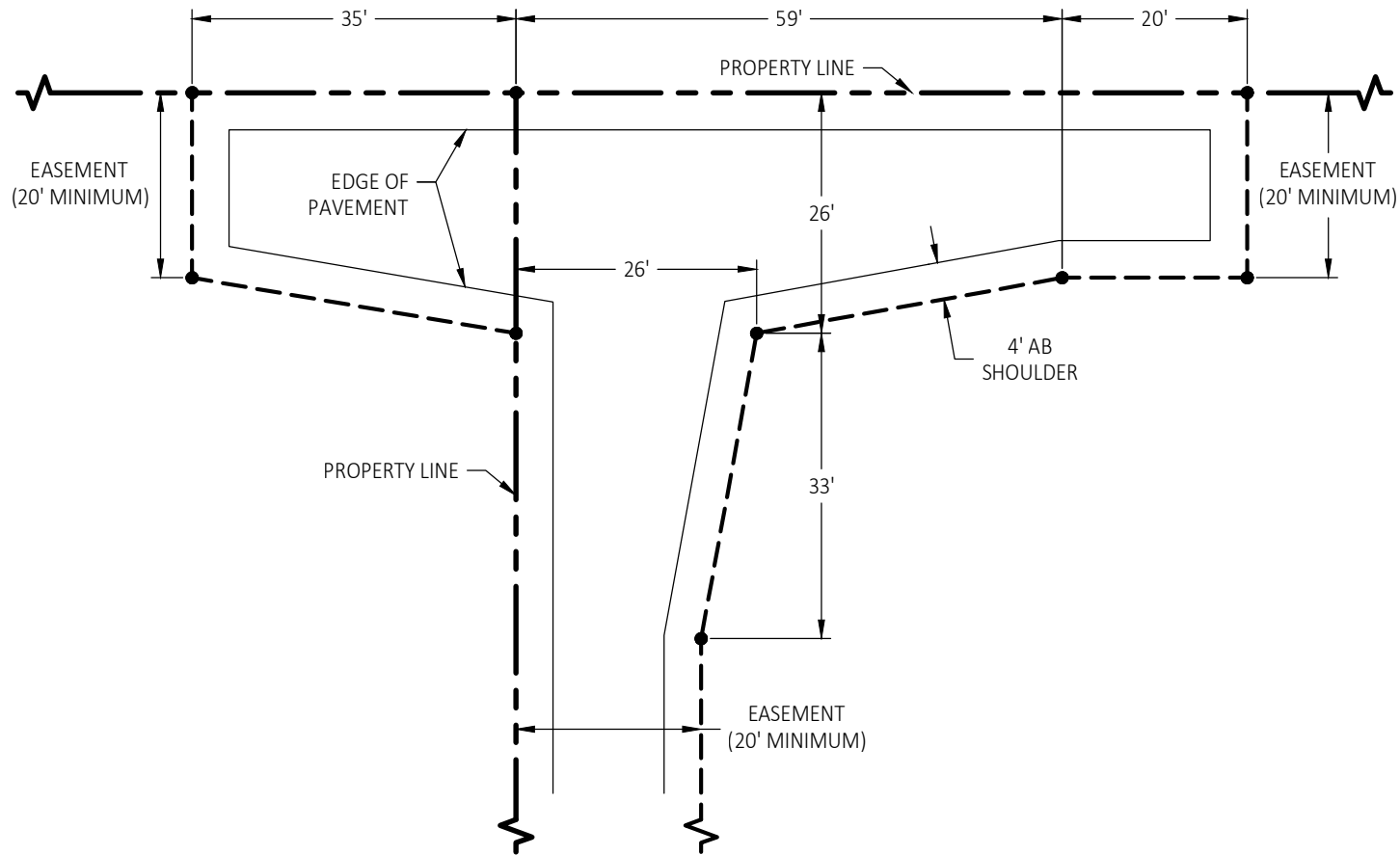
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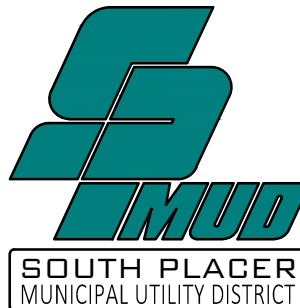
DRAWING:

13



NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. GENERAL WIDTH: 12-FOOT TRAVELED WAY (MINIMUM), WITH 4-FOOT SHOULDERS EACH SIDE, WIDEN THROUGH TURNS TO DIMENSIONS SHOWN.
3. SURFACING/SECTION: 3-INCHES OF ASPHALT CONCRETE (AC) OVER 8-INCHES OF COMPACTED AGGREGATE BASE (AB), OR AS REQUIRED BY THE DISTRICT.



ACCESS ROAD EASEMENT HAMMERHEAD TURNAROUND

APPROVED BY:

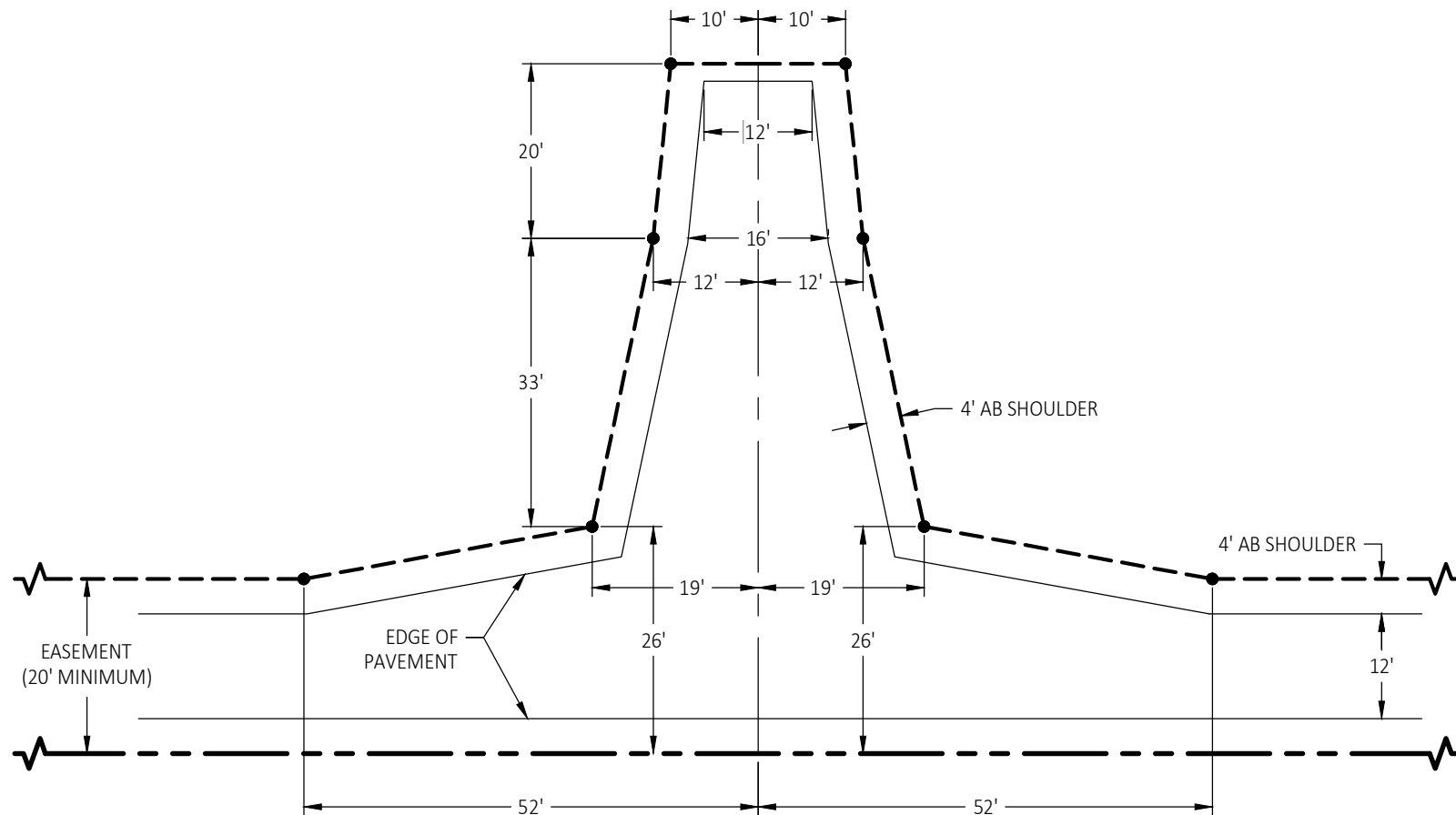
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DISTRICT ENGINEER

REVISION DATE:

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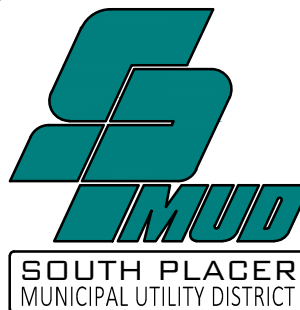
DRAWING:

14



NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. GENERAL WIDTH: 12-FOOT TRAVELED WAY (MINIMUM), WITH 4-FOOT SHOULDERS EACH SIDE, WIDEN THROUGH TURNS TO DIMENSIONS SHOWN.
3. SURFACING/SECTION: 3-INCHES OF ASPHALT CONCRETE (AC) OVER 8-INCHES OF COMPACTED AGGREGATE BASE (AB), OR AS REQUIRED BY THE DISTRICT.



ACCESS ROAD EASEMENT INTERMEDIATE TURNAROUND

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DISTRICT ENGINEER

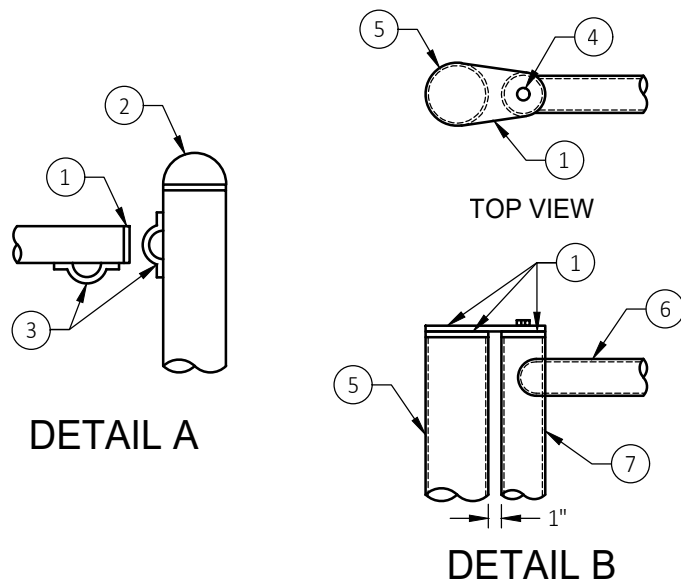
REVISION DATE:

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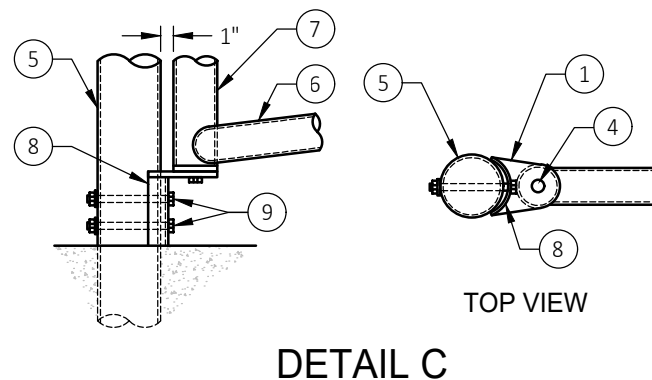
DRAWING:

15

- ① 1/2-INCH STEEL PLATE
- ② PIPE CAP
- ③ 1/2-INCH REBAR LOOP 2-INCH DIA. FOR CHAIN TACK WELD FOR BREAKAWAY.
- ④ 1-INCH DIA. STEEL PIN THRU STEEL PLATE FOR PIVOT.
- ⑤ 5-INCH O.D. GALVANIZED STEEL PIPE
- ⑥ 2 - 7/8-INCH O.D. STEEL PIPE
- ⑦ 3 - 1/2-INCH O.D. STEEL PIPE
- ⑧ HALF OF 5-INCH O.D. STEEL PIPE WELDED TO POST.
- ⑨ 1/2-INCH STEEL BOLT TYPICAL (LENGTH AS REQUIRED)
- ⑩ 1/8-INCH THICK x 6-INCH STEEL PLATES WELDED TO GATE FOR SIGNS.
- ⑪ 18-INCH DIA. X 24-INCH DEEP CONCRETE FOOTING
- ⑫ BARRICADE MARKER TYPE 1 (TYPICAL)



1. ALL DRAWINGS ARE NOT TO SCALE.
2. ALL PIPES SHALL BE BLACK STEEL PIPES. OUTSIDE DIAMETER (O.D.) AND WELDED.
3. ALL STEEL TO BE PAINTED WITH TWO (2) COATS OF PRIMER AND INSIGNIA YELLOW.
4. PROVIDE TWO (2) O.D. PIPES AND INSTALL WITH CONCRETE FOOTING (18-INCH x 24-INCH DIA.) FOR TIE-DOWN WHEN GATE IS OPENED AND CLOSED.



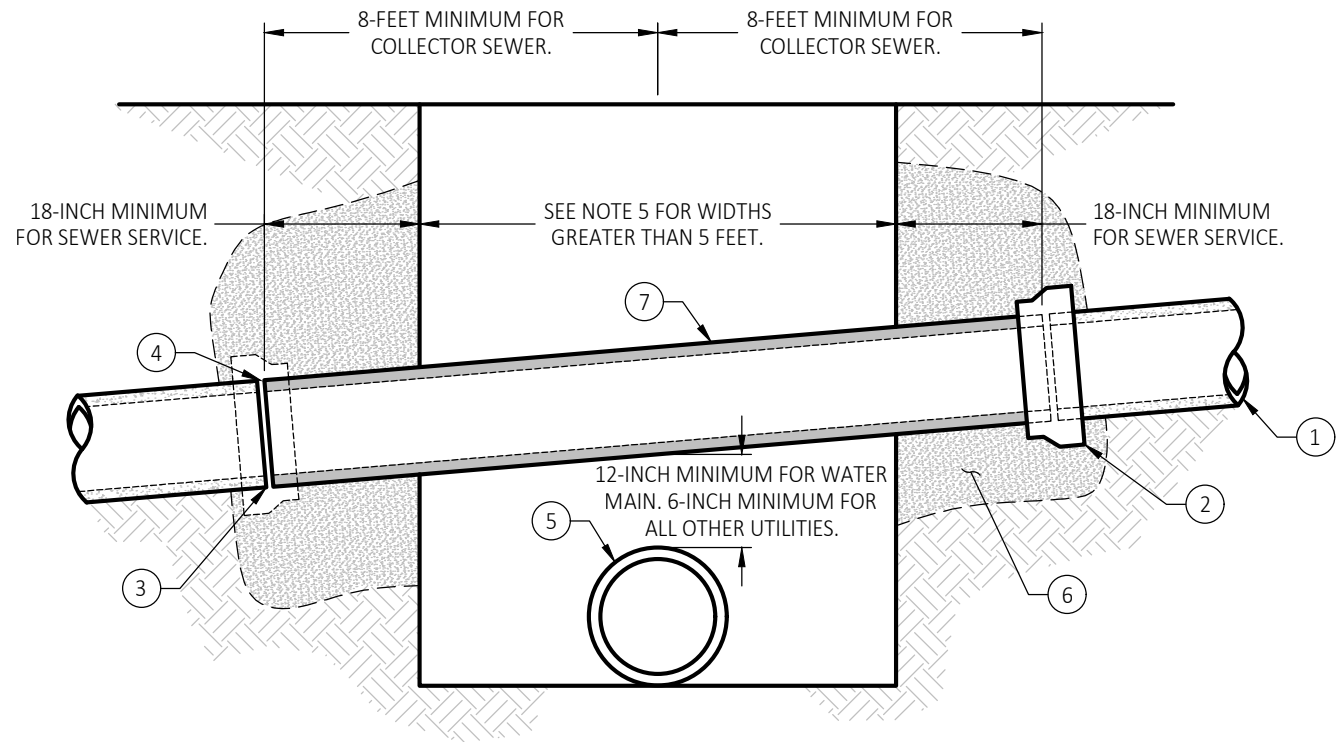
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DISTRICT ENGINEER

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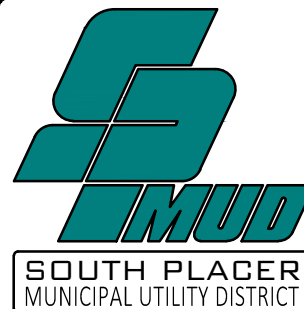
KEYNOTES:

- ① COLLECTOR SEWER OR LOWER LATERAL.
- ② COMPRESSION COUPLING WITH PROPER ADAPTER.
- ③ TRIM LATERAL SEWER PIPE TO AN UNDAMAGED CLEAN CUT END WITH MECHANICAL PIPE CUTTER.
- ④ ¼-INCH MAXIMUM CLEARANCE BETWEEN ENDS OF PIPE.
- ⑤ NEW UTILITY.
- ⑥ TYPE II BEDDING.
- ⑦ DUCTILE IRON PIPE (431) OR PVC SDR-26 SEWER PIPE.



NOTES:

1. THIS DETAIL IS APPLICABLE TO NEW UTILITY CROSSING EXISTING SEWERS. IN CASES INVOLVING NEW SEWER AND NEW UTILITY CONSTRUCTION IN CONJUNCTION WITH NEW IMPROVEMENTS FOR DEVELOPMENTS, DUCTILE IRON PIPE 431 (DIP 431) SHALL BE USED FOR THE ENTIRE SEWER RUN, MANHOLE TO MANHOLE, OR ENTIRE BUILDING SEWER LOWER LATERAL, COLLECTOR SEWER TO RIGHT-OF-WAY.
2. DIP 431 IS TO BE USED AS PER THIS DETAIL FOR THE EXISTING COLLECTOR SEWER OR EXISTING LOWER LATERAL WHENEVER THE SEWER IS CUT OR DAMAGED, WHENEVER NEW CONSTRUCTION PASSES BENEATH THE SEWER, AND WHENEVER CLEARANCE BETWEEN THE EXISTING SEWER AND OTHER UTILITY IS LESS THAN 6-INCHES. IN NO CASE SHALL CLEARANCE BE LESS THAN 4-INCHES, UNLESS OTHERWISE APPROVED BY THE DISTRICT.
3. INSIDE DIAMETER OF DIP 431 IS TO BE THE SAME AS THE PIPE TO WHICH IT CONNECTS.
4. ONLY AFTER WRITTEN PERMISSION HAS BEEN RECEIVED FROM THE DISTRICT, WILL ALTERATION OF EXISTING SEWER GRADES BE PERMITTED.
5. WHENEVER THE SPAN OF DIP 431 EXCEEDS 5-Feet, PLACE TYPE II BEDDING TO 6-INCHES ABOVE THE DIP 431 AND 18-INCHES EACH SIDE OF ITS CENTERLINE.
6. WATER / SEWER CROSSINGS SHALL CONFORM TO STATE HEALTH DEPARTMENT AND WATER PURVEYOR REQUIREMENTS AND AS DIRECTED BY THE DISTRICT.



UTILITY CROSSING

APPROVED BY:

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 DISTRICT ENGINEER

REVISION DATE:

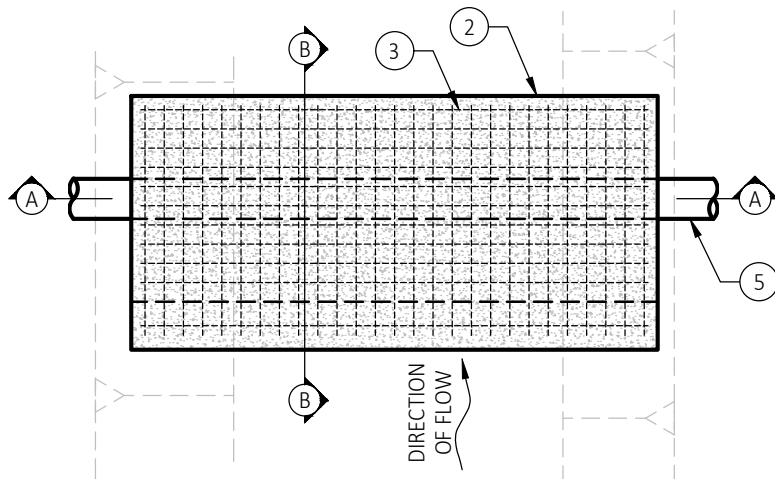
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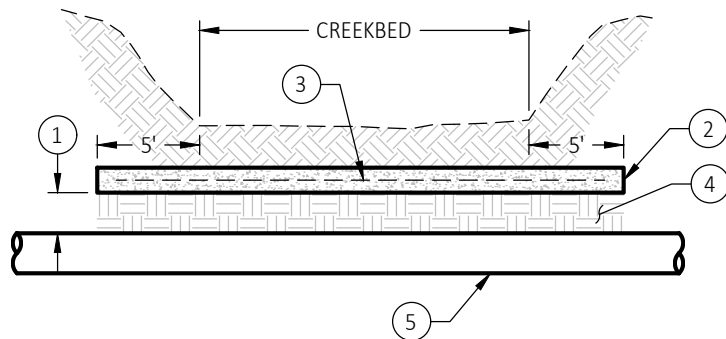
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KEYNOTES:

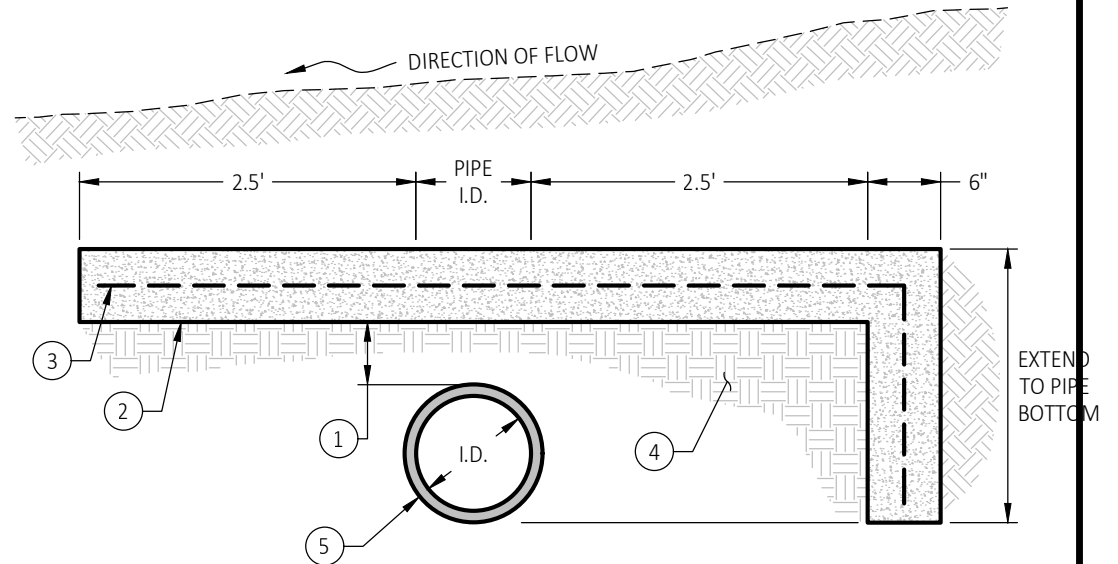
- ① NON-CONTACT AREA BETWEEN CONCRETE AND SEWER PIPE, SPACE VARIES.
- ② CONCRETE SLAB (5 - SACK MIX), SEE NOTE 2.
- ③ #10 6-INCH x 6-INCH WIRE MESH.
- ④ COMPACT BACKFILL MATERIAL TO 90% UNDER SLAB.
- ⑤ SEWER PIPE.



PLAN VIEW



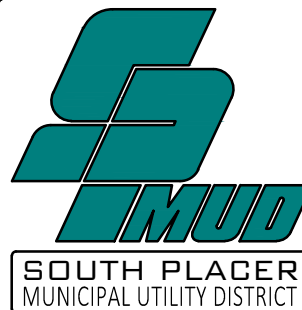
SECTION A-A



SECTION B-B

NOTES:

1. CONCRETE SLAB TO EXTEND FULL CREEK BED WIDTH, PLUS 5' MINIMUM EACH SIDE.
2. ABOVE GROUND CREEK CROSSINGS MUST BE DESIGNED BY A REGISTERED CIVIL ENGINEER, AND DESIGN APPROVED BY THE DISTRICT.



CONCRETE EROSION PROTECTION

APPROVED BY:

Carie Huff
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DISTRICT ENGINEER

REVISION DATE:

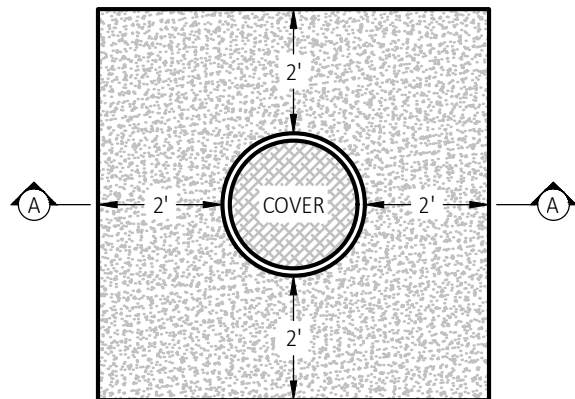
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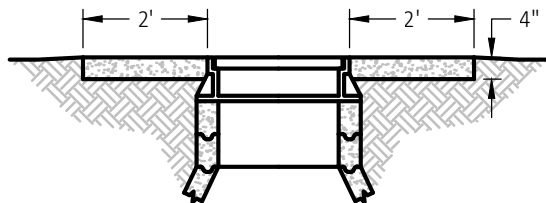
18

KEYNOTES:

- ① BYPASS MANIFOLD LOCATION AS DETERMINED BY THE DISTRICT.
- ② ALTERNATE BYPASS MANIFOLD LOCATION, WHEN APPROVED BY THE DISTRICT.
- ③ GATE VALVE.
- ④ CHECK VALVE.
- ⑤ STATION VALVE BOX.
- ⑥ CAM AND GROOVE COUPLER WITH END CAP OR PLUG.
- ⑦ CHRISTY VALVE BOX AS REQUIRED (SIZE VARIES).
- ⑧ ¾-INCH CRUSHED ROCK TO PIPE SPRINGLINE.



PLAN VIEW

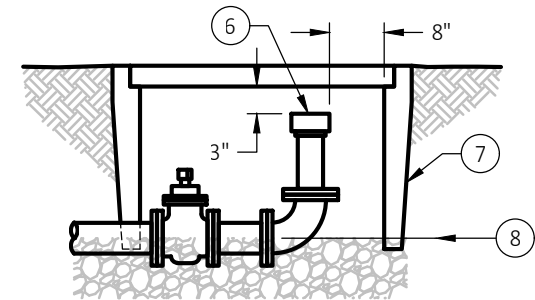


SECTION A-A

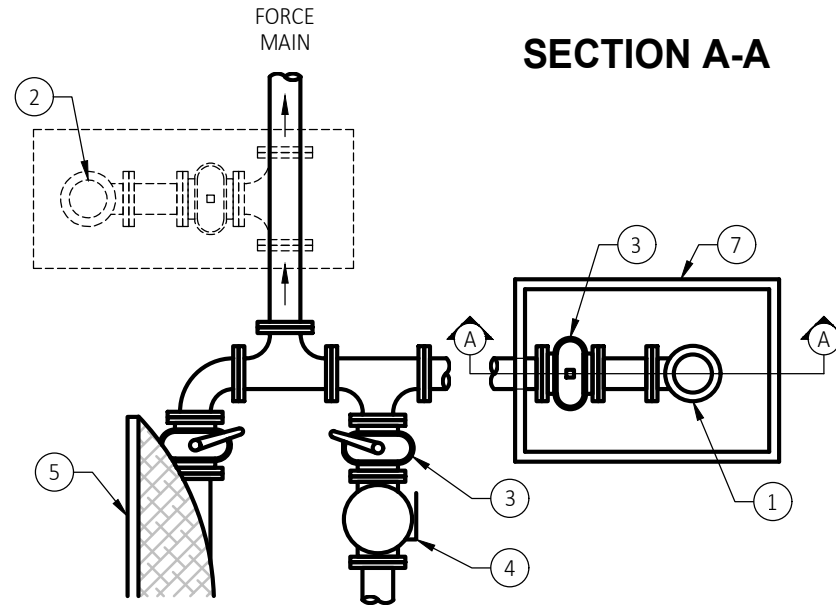
MANHOLE CONCRETE PAD

NOTE:

ALL DRAWINGS ARE NOT TO SCALE.



SECTION A-A



TYPICAL LAYOUT



SOUTH PLACER
MUNICIPAL UTILITY DISTRICT

WASTEWATER PUMP STATION
BYPASS MANIFOLD

APPROVED BY:

Carie Huff
CARIE HUFF, P.E.
DISTRICT ENGINEER

REVISION DATE:

5/6/21

DRAWING:

19

SEWER NOTES (SOUTH PLACER MUNICIPAL UTILITY DISTRICT)

1. ALL SANITARY SEWER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SOUTH PLACER MUNICIPAL UTILITY DISTRICT STANDARD SPECIFICATIONS AND IMPROVEMENT STANDARDS FOR SANITARY SEWERS, LATEST EDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL INFORMATION, DRAWINGS AND REQUIREMENTS FROM SPMUD NECESSARY TO COMPLETE THE WORK SHOWN ON THESE PLANS.
2. THE CONTRACTOR SHALL NOTIFY SPMUD 48 HOURS PRIOR TO THE START OF SEWER CONSTRUCTION, AND TO ARRANGE FOR A PRE-CONSTRUCTION MEETING. (916)-786-8555.
3. ALL SEWER PIPE SHALL BE PVC SDR-26 OR VITRIFIED CLAY PIPE, EXTRA STRENGTH, UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL EXPOSE EXISTING SEWER LINES TO VERIFY LOCATION AND INVERTS PRIOR TO THE PLACEMENT OF PIPE.
4. ANY WATER OR DEBRIS ENTERING THE SEWERS TO BE CONSTRUCTED UNDER THESE PLANS SHALL NOT BE DISCHARGED TO THE EXISTING SEWER SYSTEM. PLUGS OF THE MECHANICAL TYPE, OR AS APPROVED BY SPMUD, SHALL BE INSTALLED IN THE MANHOLES AT THE POINTS OF CONNECTION TO THE EXISTING SYSTEM, AND SHALL BE REMOVED ONLY AT THE DIRECTION OF SPMUD. INFLATABLE DEVICES ARE NOT PERMISSIBLE.
5. SEWER MANHOLES SHALL BE VACUUM TESTED FOR LEAKAGE PER SPMUD REQUIREMENTS.
6. THE CONTRACTOR SHALL NOTIFY SPMUD FIVE (5) DAYS PRIOR TO SCHEDULED AIR TEST, T.V. INSPECTION, AND FINAL FLUSH. (916)-786-8555.
7. THE ENDS OF ALL SEWER SERVICES SHALL HAVE AN INSPECTION CLEANOUT INSTALLED FOR T.V. INSPECTION PURPOSES. (SEE DETAIL, SHEET ____).
8. THE FLOWLINE OF ANY SANITARY SEWER SERVICE ENTERING A MANHOLE SHALL MATCH THE CROWN OF THE EXITING SEWER MAINLINE UNLESS OTHERWISE NOTED.
9. BOOTS ARE NOT ALLOWED AT MANHOLE CONNECTIONS. ALL MANHOLE CONNECTIONS SHALL HAVE A GASKETED BELL CAST INTO THE MANHOLE.
10. PRIOR TO THE START OF ANY GRADING OR CONSTRUCTION, THE CONTRACTOR SHALL T.V. INSPECT AND MAY BE REQUIRED TO PERFORM AN ACCEPTANCE TEST (AIR TEST) FOR LEAKAGE ON THE EXISTING SEWER WITHIN THIS PROJECT TO DEMONSTRATE THE CONDITION THEREOF. UPON COMPLETION OF CONSTRUCTION THE CONTRACTOR SHALL RE-TEST AND RE-T.V. INSPECT THE SAME EXISTING SEWER. ANY INDICATED ADDITIONAL DAMAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND REPAIRED AT HIS EXPENSE PRIOR TO SEWER FINAL. ALL WORK AND TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED IN THE PRESENCE OF SPMUD. THE CONTRACTOR IS ADVISED THAT THE SEWER IS SUBJECT TO CLEANING PRIOR TO T.V. INSPECTION.
11. PORTIONS OF THE EXISTING SEWER MAY BE SUBJECT TO CLEANING BY THE CONTRACTOR, AT THE DIRECTION OF SPMUD, PRIOR TO SEWER FINAL.
12. BUILDING(S) SHALL NOT BE PHYSICALLY CONNECTED TO THE SEWER UNTIL ALL REQUIRED SEWER PARTICIPATION FEES HAVE BEEN PAID TO SPMUD, AND THE CONNECTION AUTHORIZED.

SEWER NOTES (SOUTH PLACER MUNICIPAL UTILITY DISTRICT) CONTINUED

13. SEWERS CONSTRUCTED PER THESE PLANS WILL NOT BE FINALED BY SPMUD OR APPROVED FOR USE UNTIL SUCH TIME AS THE FOLLOWING SEWERS HAVE BEEN CONSTRUCTED, AND HAVE BEEN FINALED, APPROVED, AND ACCEPTED BY SPMUD.
14. CONFINED SPACE ENTRY (SPMUD SEWER MANHOLES): IT IS THE OWNER / DEVELOPER'S RESPONSIBILITY AS HOST EMPLOYER TO HAVE A CONFINED SPACE ENTRY PROGRAM IN COMPLIANCE WITH THE REQUIREMENTS OF SECTIONS 5156-5159, OF TITLE 8, GENERAL INDUSTRIAL SAFETY ORDERS, CALIFORNIA CODE OF REGULATIONS. SPMUD'S EXISTING MANHOLES ARE "PERMIT REQUIRED" CONFINED SPACES. THE HOST EMPLOYER'S CONTRACTOR MUST STRICTLY CONFORM TO SPMUD'S PERMIT REQUIRED CONFINED SPACE PROGRAM IN ENTERING ANY SPMUD OWNED MANHOLE.
15. UPON PROJECT SEWER COMPLETION AND PRIOR TO FIELD FINAL, A FULL AND COMPLETE SET OF THE IMPROVEMENT PLAN DRAWINGS—AND SHOWING ALL AS-BUILT OR RECORD CHANGES TO THE SEWER—SHALL BE SUBMITTED TO SPMUD IN A DIGITAL VERSION ON CD OR DVD MEDIA IN AN ADOBE ACROBAT (PDF FILE) AND AUTOCAD 2004 FORMAT (EITHER DWG OR DXF FILE), AND BE ON THE FOLLOWING SPMUD COORDINATE SYSTEM: CALIFORNIA COORDINATE SYSTEM STATE PLANE ZONE 2, NAD 1983 (CONUS), US SURVEY FEET.
14. DRAIN LOCKS REQUIRED AT ALL FLOOR SINKS, TRENCH DRAINS IN COMMERCIAL KITCHENS (IF APPLICABLE).

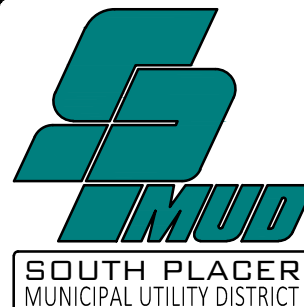
* PLEASE CONTACT SOUTH PLACER MUNICIPAL UTILITY DISTRICT FOR THE MOST CURRENT STANDARD NOTES.

**SEWER PLAN ONLY APPROVED BY:
SOUTH PLACER MUNICIPAL UTILITY DISTRICT**

DISTRICT ENGINEER

DATE

STANDARD DISTRICT SIGNATURE BLOCK



**SIGNATURE BLOCK AND
STANDARD NOTES**

APPROVED BY:

Carie Huff

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DISTRICT ENGINEER

REVISION DATE:

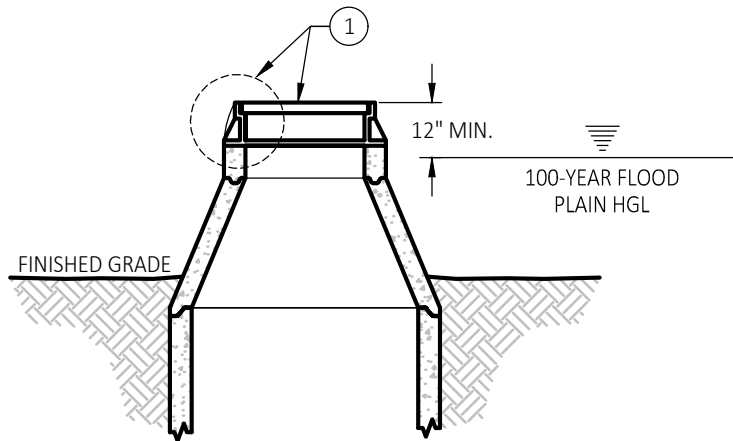
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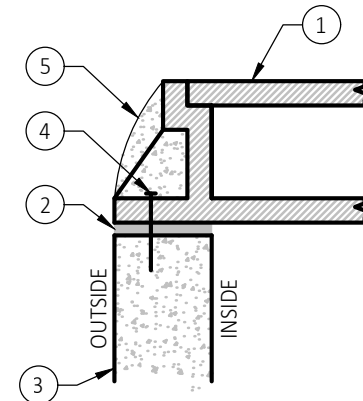
20

KEYNOTES:

- ① PROVIDE COMPOSITE FRAME AND COVER PER SECTION 2.13 OF THESE SPECIFICATIONS. SEE FRAME CONNECTION DETAIL.
- ② NECK SEALANT, "RAM-NEK" OR APPROVED EQUAL.
- ③ MANHOLE GRADE RING PER STANDARD DRAWING NO. 5.
- ④ 3/8" DIA x 4" REDHEAD CONCRETE ANCHOR, OR APPROVED EQUAL.
- ⑤ MORTAR OVER FRAME, CONCRETE ANCHOR, AND MANHOLE GRADE RING CONNECTION.



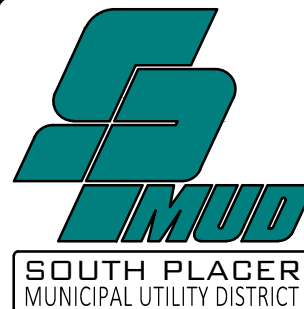
**RAISED MANHOLE
RIM ABOVE FINISHED GRADE**



FRAME CONNECTION DETAIL

NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.
2. RAISED MANHOLES SHALL ONLY BE USED WHEN APPROVED BY THE DISTRICT.
3. RIM ELEVATION TO BE SET A MINIMUM 12 INCHES ABOVE THE DESIGNATED 100 YEAR FLOOD PLAIN.
4. SEE STANDARD DRAWING NO. 5 - MANHOLE DETAIL.
5. SEE GENERAL MANHOLE NOTES ON STANDARD DRAWING NO. 6 - SHALLOW PIPE MANHOLE.



RAISED MANHOLES

APPROVED BY:

Carie Huff
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DISTRICT ENGINEER

REVISION DATE:

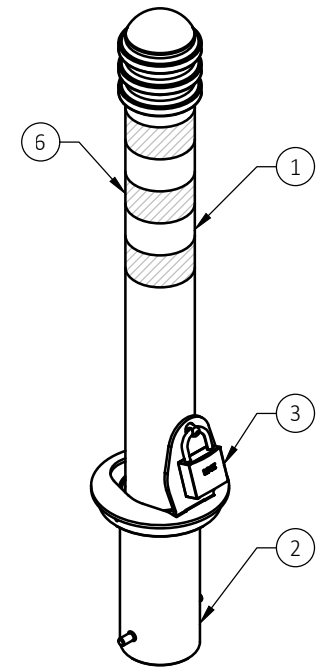
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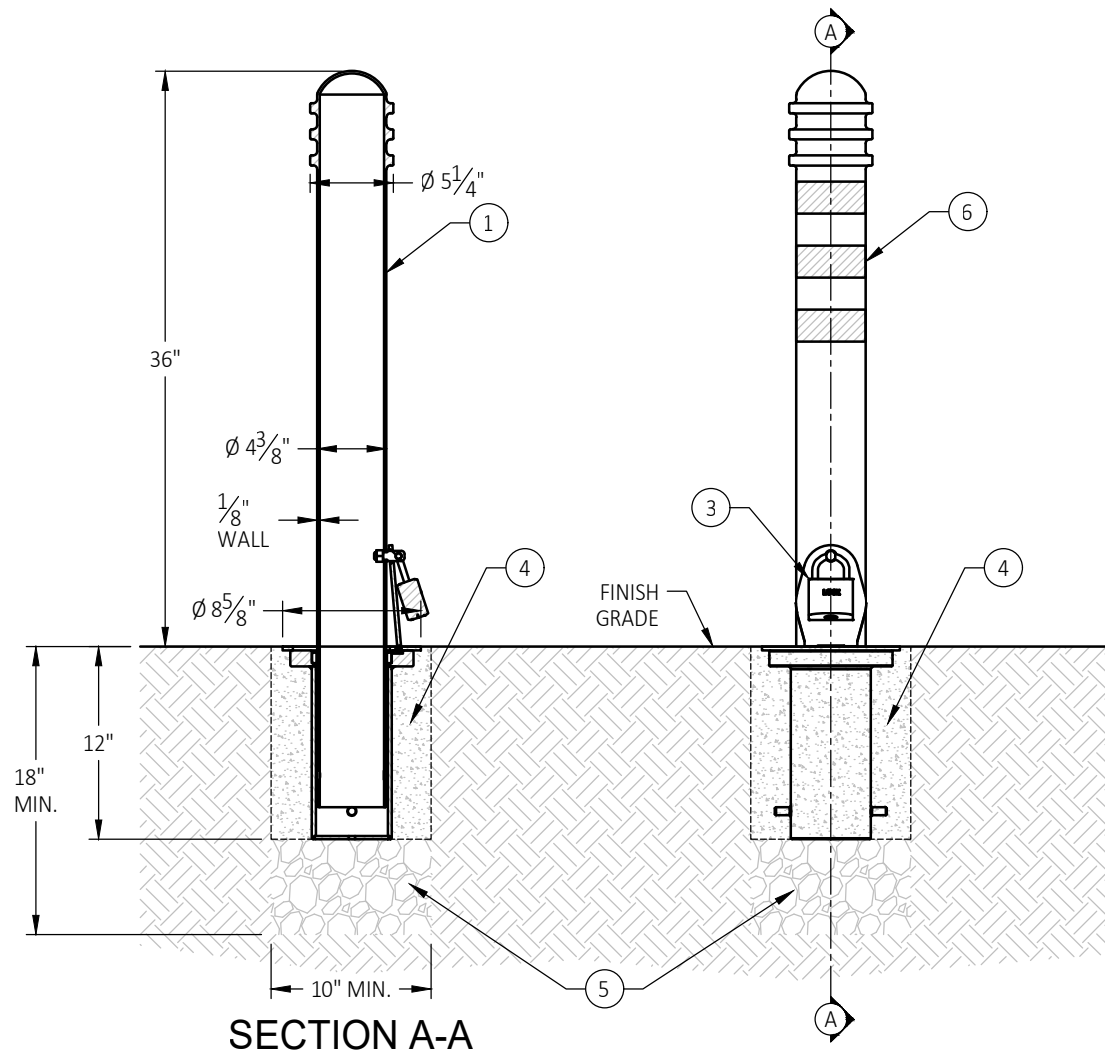
21

KEYNOTES:

- ① REMOVABLE BOLLARD ASSEMBLY (RELIANCE FOUNDRY R7901, OR APPROVED EQUAL). COLOR SHALL BE SAFETY YELLOW OR AS APPROVED BY THE LAND JURISDICTION.
- ② RECEIVER ASSEMBLY WITH LID, FLUSH WITH FINISHED SURFACE (RELIANCE FOUNDRY R7901R, OR APPROVED EQUAL).
- ③ PADLOCK PROVIDED BY DISTRICT.
- ④ CONCRETE FOOTING
- ⑤ ¾-INCH CRUSHED DRAIN ROCK.
- ⑥ THREE BANDS OF HI-INTENSITY REFLECTIVE TAPE, 2-INCHES SILVER, SPACED 4-INCHES ON CENTER.



ISOMETRIC VIEW



SECTION A-A



REMOVABLE BOLLARD

APPROVED BY:

Carie Huff
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DISTRICT ENGINEER

REVISION DATE:

5/6/21

DRAWING:

22

NOTES:

1. ALL DRAWINGS ARE NOT TO SCALE.