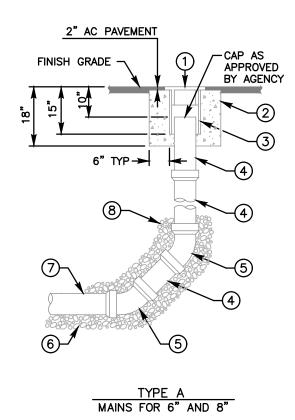
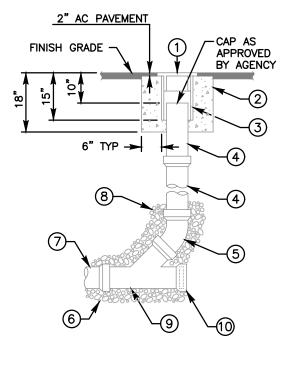
# **SEWERAGE SYSTEMS**



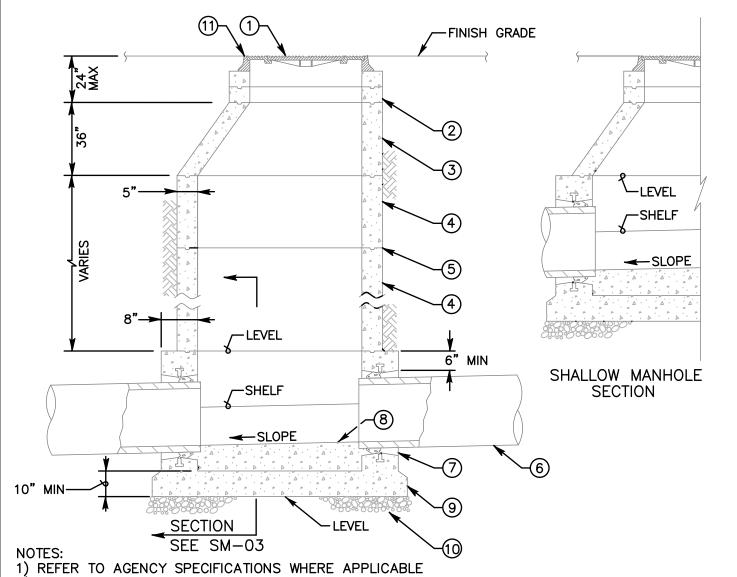


TYPE B SEWER LATERAL **CLEANOUT** 

# **NOTES:**

- 1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
- 2) CLEANOUTS TO BE INSTALLED AT THE END OF MAINS WHERE INDICATED ON THE PLANS
- 3) CLEANOUT PIPE TO BE SAME SIZE AND MATERIAL AS SEWER MAIN UP TO
- 4) BACKFILL TO TOP OF 45° BEND WITH 3/4" CRUSHED ROCK 5) MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST

NO NO		S	IZE A	ND DESCRIPTION	ITEM NO	SIZE AND	DESCRIPTION	
1				BOX COVER MARKED ENCY NAME AS REQUIRED	45° ELBOW 3/4" CRUSHED ROCK	K PIPE BEDDING		
3	CONCRETE RING  12" PVC, C-900 x 15" LONG (CLEANOUT BOX)  SIZE x REQUIRED LENGTH PVC PIPE  7 SEWER MAIN  8 3/4" CRUSHED ROCK 9 STANDARD WYE BRAI						NCH	
Revision ORIGINAL	Ву	Approved Kercheval		SAN DIEGO REGIONA	AL STAN	IDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE	
Reviewed Reviewed	BK BK		04/15 10/18		Samson Engels 03/24/2022			
Reviewed	RP	S. Engeda	03/22	SEWER	DRAWING NUMBER SC-01			



2) VERTICAL WALL OF CONE TO BE ON THE UPSTREAM SIDE OF MANHOLE SEE SM-05 FOR ACCESS LOCATIONS

3) FOR MANHOLE BASES SEE SM-03

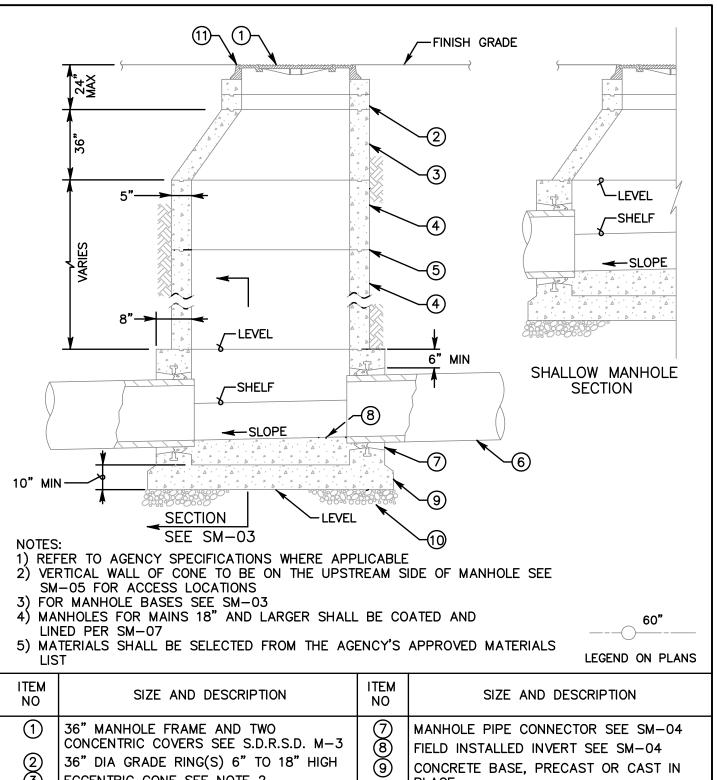
4) MANHOLES FOR MAINS 18" AND LARGER SHALL BE COATED AND LINED PER SM-07

5) MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST

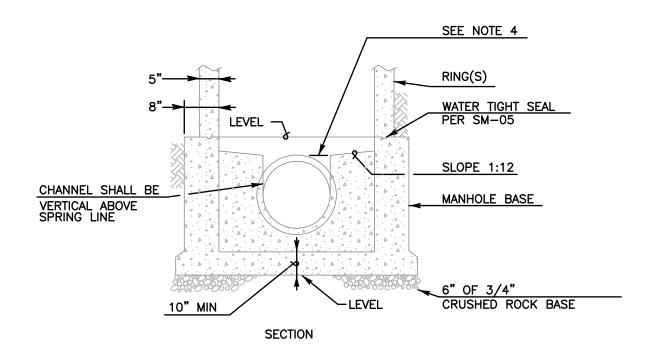
LEGEND ON PLANS

48"

ITEM NO		:	SIZE	AND DESCRIPTION	ITEM NO	SIZE AN	ID DESCRIPTION
1 2 3 4 5 6	26 36 E0 48 W	ONCENTRI 6" DIA GI CCENTRIC 3" DIA RI	C CO RADE CON NG(S) HT JO	RAME AND TWO VERS SEE S.D.R.S.D. M-3 RING(S) 6" TO 18" HIGH E SEE NOTE 2 ) VARIABLE HEIGHT DINTS SEE SM-05	7 8 9 0 0	FIELD INSTALLED I	
Revision ORIGINAL	Ву	Approved Kercheval	Date	SAN DIEGO REGIONAL	STANDA	ARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
Reviewed	BK		04/15				Samon Ingeda 03/24/2022
Reviewed	ВК	B. KNOLL	10/18	48" DIAMETER P			Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22	INSTA	LLATIO	N	DRAWING NUMBER <b>SM-01</b>



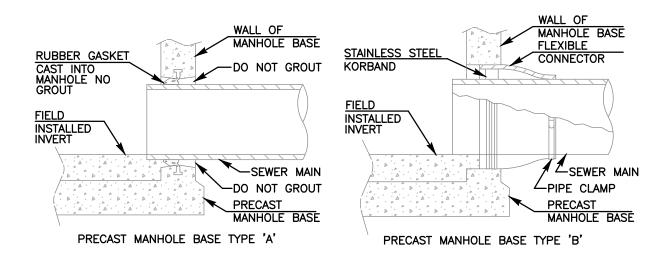
ITEM NO			SIZE	AND DESCRIPTION	SIZE AN	ND DESCRIPTION					
1 2 3 4 5 6	C( 36 E( 60 W	ONCENTR 6" DIA G CCENTRIC 0" DIA R	IC CC RADE CON ING(S GHT JO	FRAME AND TWO EVERS SEE S.D.R.S.D. M-3 RING(S) 6" TO 18" HIGH E SEE NOTE 2 VARIABLE HEIGHT DINTS SEE SM-05	78999	FIELD INSTALLED INVERT SEE SM-04 CONCRETE BASE, PRECAST OR CAST IN PLACE O" OF 3/4" CRUSHED ROCK					
Revision	Ву	Approved	Date	SAN DIEGO REGIONAL	STANDA	ARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE				
ORIGINAL		Kercheval	12/75		01711127						
Reviewed	ВК	B. KNOLL	04/15	OO! DIAMETED D	DEO 4 O:		Samson Engeda 03/24/2022				
Reviewed	ВК	B. KNOLL	10/18	60" DIAMETER PI			Chairperson R.C.E. 52241 Date				
Reviewed	RP	S. Engeda	03/22	INSTAL	LATIO	INSTALLATION					

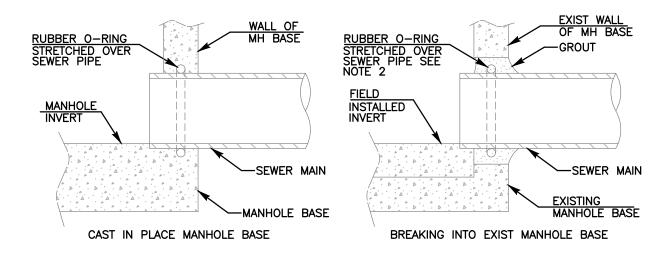


- 1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE

- 2) FOR MANHOLE INSTALLATIONS SEE SM-01 AND SM-02
  3) MANHOLE BASES FOR MAINS 18" AND LARGER SHALL BE COATED PER SM-07
  4) LOWEST POINT ON SHELF SHALL BE EVEN WITH TOP OF PIPE
  5) MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST

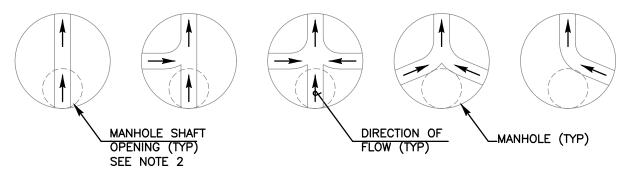
Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		Kercheval	12/75	O/ III BIEGO NEGIOTA LE GIVINDA IND BIO (VIIII)	
Reviewed	ВК	B. KNOLL	04/15		Samon Franka 03/24/2022
Reviewed	ВК	B. KNOLL	10/18	SEWER MANHOLE BASE	Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22		DRAWING CM 02
					NUMBER SM-03



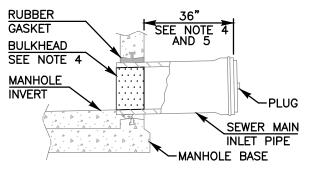


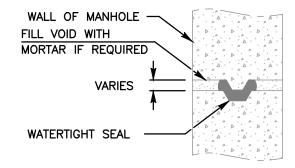
- 1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
  2) A RUBBER O-RING OR A FLEXIBLE CONNECTOR (AS SHOWN IN PRECAST MANHOLE BASE TYPE 'B') CAN BE USED WHEN BREAKING INTO EXISTING MANHOLE
- 3) FOR MANHOLES REQUIRING COATING AND LINING SEE SM-07
  4) MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST

Revision	-	<u> </u>	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		Kercheval	12/75		
Reviewed	ВК	B. KNOLL	04/15		Samph - 26 03/24/2022
Reviewed	ВК	B. KNOLL	10/18	MANHOLE PIPE CONNECTORS	Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22	MANHOLE PIPE CONNECTORS	DRAWING SM-04
					NUMBER SM-04



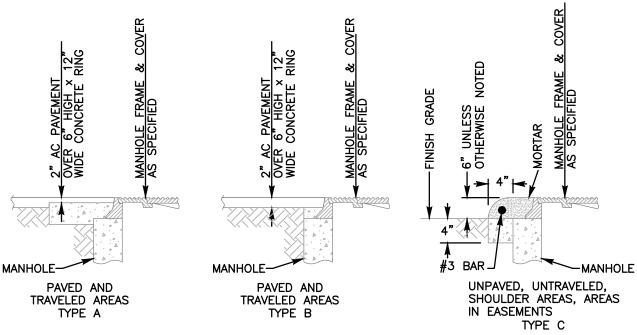
MANHOLE ACCESS LOCATION PLAN VIEW





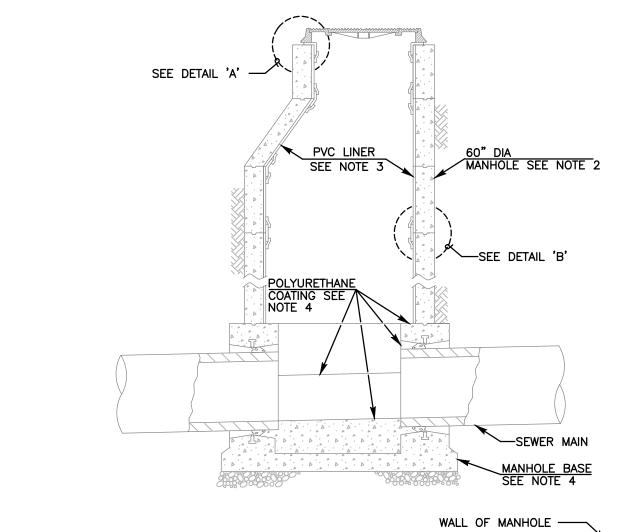
MANHOLE STUB OUT FOR FUTURE CONNECTION

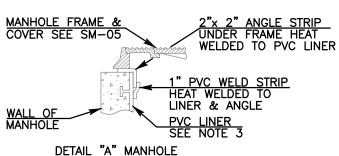
WATERTIGHT MANHOLE JOINT

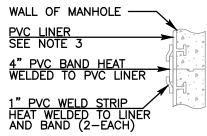


- 1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
  2) VERTICAL WALL OF CONE TO BE ON THE UP STREAM SIDE OF MANHOLE
- 3) FOR MANHOLES REQUIRING COATING AND LINING SEE SM-07
- 4) STUBS SHALL BE BULKHEADED AT THE MANHOLE END
- 5) SEWER MAIN TO BE LAID WITH BELLS UP-GRADE
- 6) MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST

				DE! MEO	NUMBER	3IVI-U3
Reviewed	RP	S. Engeda	03/22	DETAILS	DRAWING	SM-05
Reviewed	ВК	B. KNOLL	10/18	MANHOLE MISCELLANEOUS	Chairperson R.C.E.	
Reviewed	BK	B. KNOLL	04/15		Samon	ed 03/24/2022
ORIGINAL		Kercheval	12/75	SAN DIEGO NEGIGINAL GTANDAND DINAWING	I REGIONAL STAND	NAMES COMMITTEE
Revision	RÀ	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	REGIONAL STAND	







DETAIL "B" MANHOLE JOINT SECTIONS

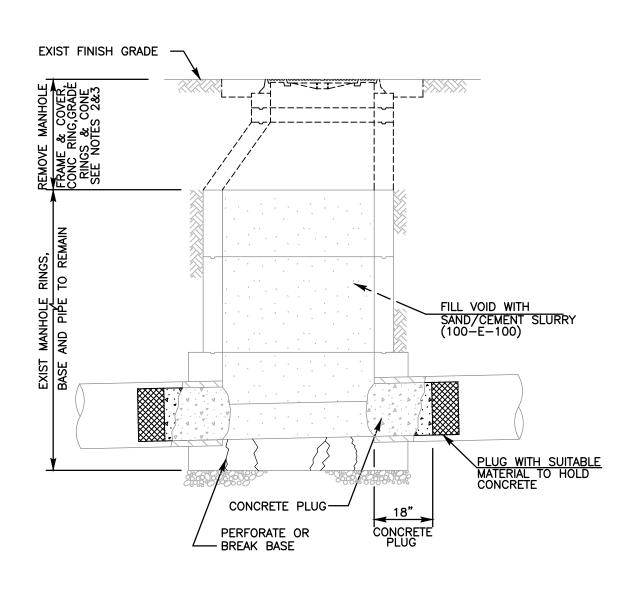
### NOTES:

1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE

FRAME & COVER

- 2) MANHOLES FOR SEWER MAINS 18" AND LARGER SHALL BE COATED AND LINED
- 3) MANHOLE SHAFT AND CONE SECTIONS, AND GRADE RINGS SHALL HAVE A PVC LINER PLACED WITH T-SHAPED SUPPORTS INTEGRALLY CAST INTO THE CONCRETE (OR AGENCY APPROVED EQUAL TO PVC LINER)
- 4) ELASTOMERIC POLYURETHANE COATING SHALL BE APPLIED TO THE INTERIOR OF MANHOLE BASES
- 5) MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST

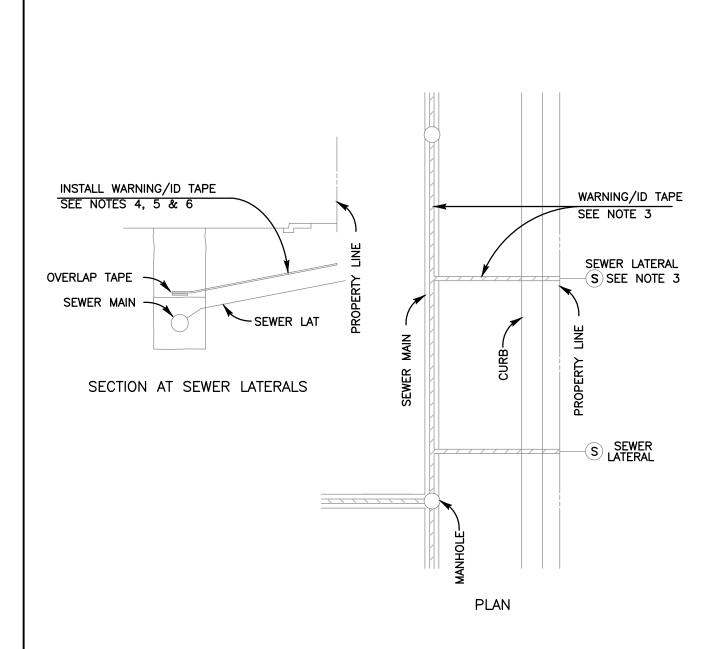
				Entints of of Em	NUMBER SIVI-U7
Reviewed	RP	S. Engeda	03/22	LINING SYSTEM	DRAWING SM-07
Reviewed	BK	B. KNOLL	10/18	MANHOLE COATING AND	Chairperson R.C.E. 52241 Date
Note 3	ВК	B. KNOLL	04/15		Samon Engela 03/24/2022
ORIGINAL		Kercheval	12/75	OAN DIEGO NEGIONAL GTANDAND DIVAWING	THE STATE STATES SOMMETTIES
Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE



1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
2) ALL SALVAGED MATERIAL BECOMES PROPERTY OF AGENCY OF JURISDICTION
3) BACKFILL PER AGENCY'S REQUIREMENT

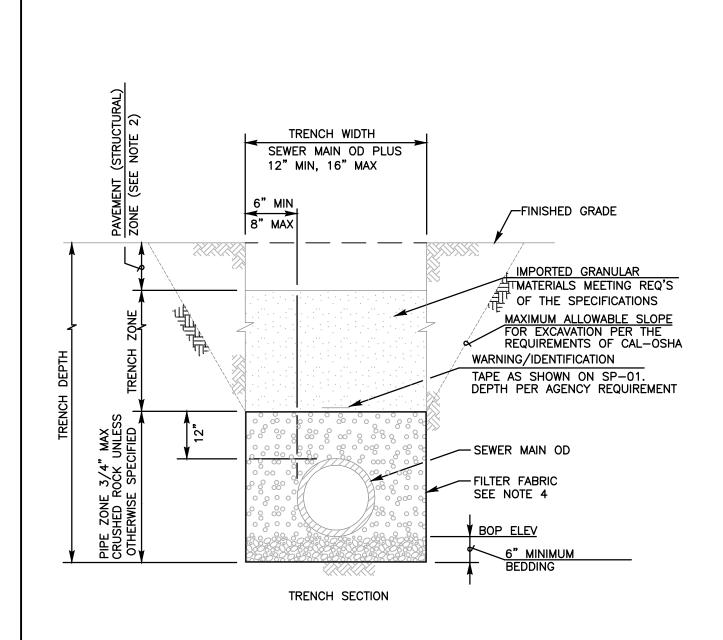
4) FOR CUTTING & PLUGGING ABANDONED SEWER MAINS SEE WP-03

Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		Kercheval	12/75		
Add Call—out	BK	B. KNOLL	04/15		Samon Spela 03/24/2022
Reviewed	ВК	B. KNOLL	10/18	EXISTING MANHOLE	Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22	ABANDONMENT	DRAWING SM-08
				ABANDONNEN	NUMBER SIVI-U8



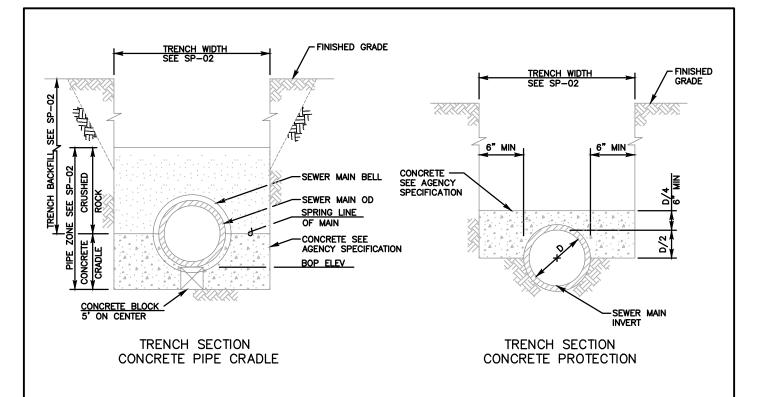
- 1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
- 2) WARNING/IDENTIFICATION TAPE SHALL BE INSTALLED AS SPECIFIED BY AGENCY 3) STAMP OR CHISEL A 2" HIGH 'S' IN CURB FACE TO IDENTIFY SEWER LATERAL **LOCATION**
- 4) FOR SEWER LATERALS EXTEND TAPE TO PROPERTY LINE
- 5) DEPTH OF WARNING/IDENTIFICATION TAPE AS SPECIFIED BY AGENCY
- 6) MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST

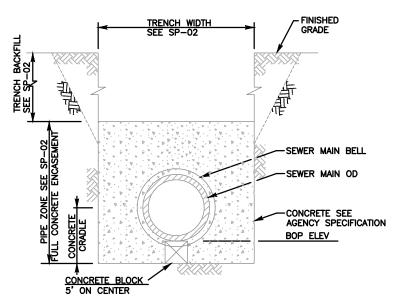
Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		Kercheval	12/75	0/ 1/ B/200 / (20/0/1/ 12 0 // 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/	
Reviewed	BK	B. KNOLL	04/15		Samson Engels 03/24/2022
Reviewed	ВК	B. KNOLL	10/18	WARNING/IDENTIFICATION	Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22	TAPE INSTALLATION	DRAWING SP-01
				TALE INSTALLATION	NUMBER SP-UI



- 1) REFER TO AGENCY SPECIFICATIONS FOR TRENCHING, BACKFILLING AND COMPACTING WHERE APPLICABLE
- 2) PAVING OR PAVEMENT REPAIR TO BE DONE IN ACCORDANCE WITH AGENCY OF JURISDICTION
- 3) EXCAVATE BELL HOLES AT EACH JOINT TO PERMIT PROPER ASSEMBLY AND INSPECTION OF THE ENTIRE JOINT
- 4) FILTER FABRIC AS REQUIRED BY AGENCY OF JURISDICTION (WITH A MINIMUM 12" OVERLAP).

Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		Kercheval	12/75		
Reviewed	ВК	B. KNOLL	04/15	DIDE DEDDING AND TRENGU	Samon Fra do 03/24/2022
Reviewed	ВК	B. KNOLL	10/18	PIPE BEDDING AND TRENCH	Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22	BACKFILL FOR SEWER FACILITIES	DRAWING SP-02
					NUMBER 3P-02

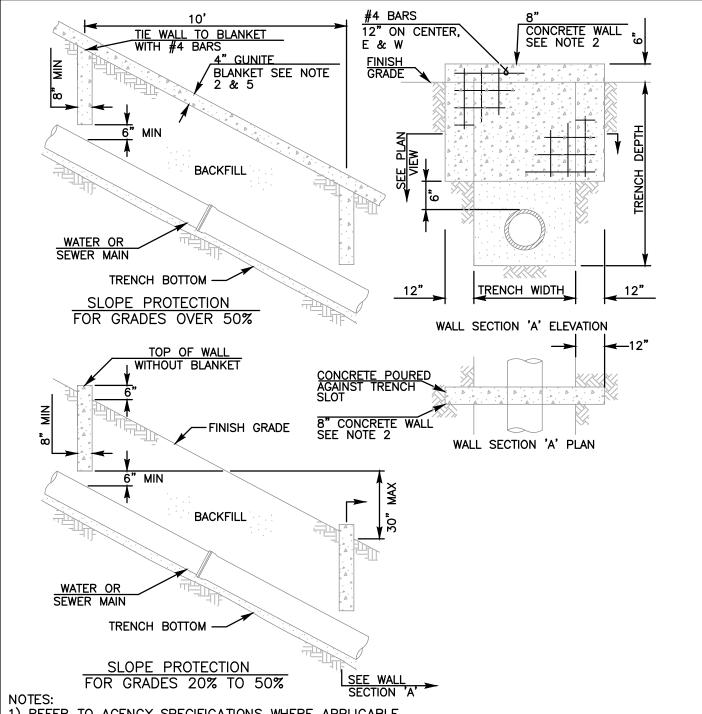




TRENCH SECTION CONCRETE PIPE ENCASEMENT

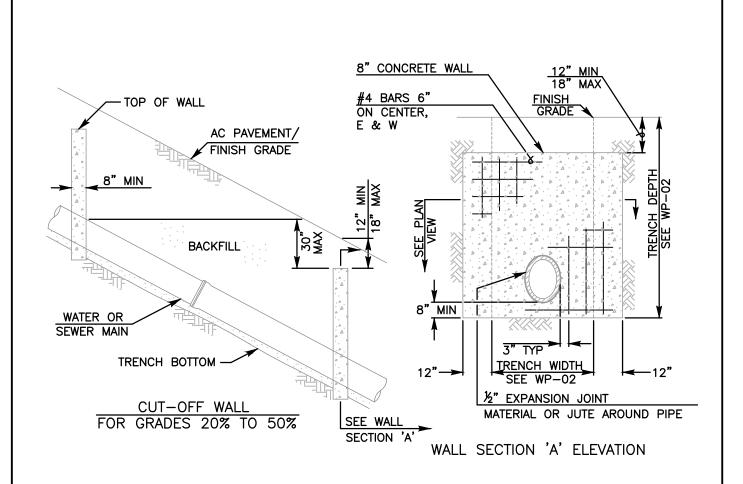
- 1) REFER TO AGENCY SPECIFICATIONS FOR TRENCHING, BACKFILLING AND COMPACTING WHERE APPLICABLE
- 2) CONCRETE CRADLE SHALL BE USED WHEN THE TRENCH WIDTH AT THE UPPER LIMIT OF THE PIPE ZONE EXCEEDS THE MAX WIDTH SPECIFIED ON SP-02 AND OR DIRECTED BY AGENCY'S ENGINEER
- 3) FOR PIPE BEDDING AND TRENCH BACKFILL SEE SP-02

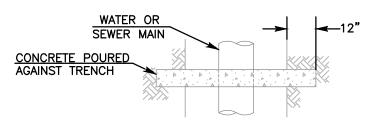
Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		Kercheval	12/75		MEGICINE STANDARDS COMMITTEE
Reviewed	ВК	B. KNOLL	04/15		Samon 9 20 to 03/24/2022
Reviewed	ВК	B. KNOLL	10/18	CONCRETE PROTECTION FOR	Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22	SEWER PIPE	DRAWING SP-03
				OEWER THE	NUMBER SP-03



- 1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
- 2) THE DETAILS SHOWN REPRESENT THE MINIMUM REQUIRED. THE ENGINEER OF WORK IS REQUIRED TO PROVIDE A SUBMITTAL TO THE AGENCY OF JURISDICTION FOR REVIEW AND APPROVAL BY THE AGENCY'S ENGINEER PRIOR TO INSTALLATION
- 3) WALLS SHALL BE REINFORCED CONCRETE OR 8" x 8" x 16" CONCRETE BLOCK, REINFORCED AND ALL CORES FILLED WITH GROUT SEE SPECIFICATIONS
- 4) FOR GRADES OVER 50%, SLOPE PROTECTION SHALL ALSO INCLUDE AC PAVING, CONCRETE SLAB OR GUNITE BLANKET PLACED OVER THE PIPELINE ALIGNMENT
- 5) 4" GUNITE BLANKET WITH 6" SQUARE x 10 GAGE WIRE FABRIC AT THE **ENGINEERS DISCRETION**

					NUMBER SP-US
Reviewed	RP	S. Engeda	03/22	SLOPE PROTECTION INSTALLATIONS	DRAWING SP-05
Reviewed	ВК	B. KNOLL	10/18	SLOPE PROTECTION INSTALLATIONS	Chairperson R.C.E. 52241 Date
Reviewed	ВК	B. KNOLL	04/15		Samer Engels 03/24/2022
ORIGINAL		J. Tomasulo	03/05	OAN DIEGO REGIONAE GTANDARD DRAWING	Theoretical Strategic South Title
Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE



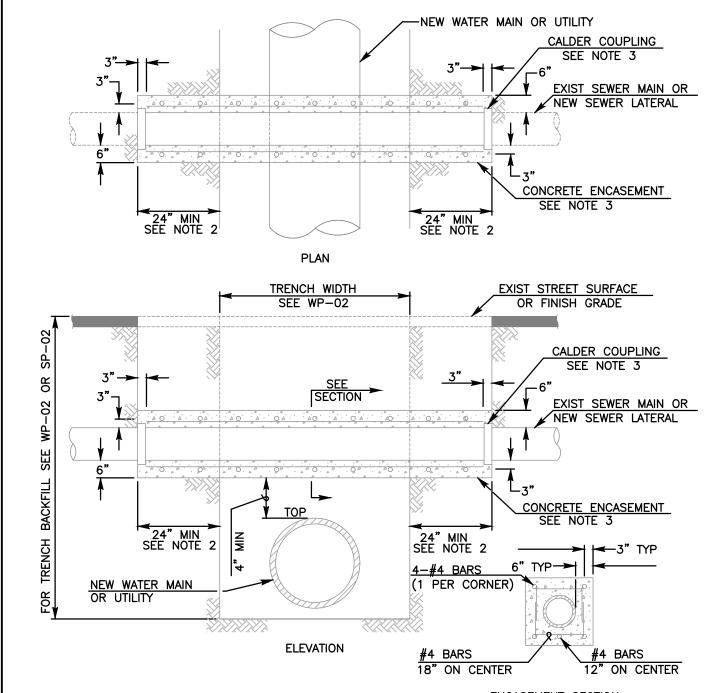


WALL SECTION 'A' PLAN

- 1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
- 2) FOR USE AS TRENCH BACKFILL STABILIZATION IN TRAVELED AREAS
  3) THE DETAILS SHOWN REPRESENT THE MINIMUM REQUIRED. THE ENGINEER OF WORK IS REQUIRED TO PROVIDE A SUBMITTAL TO THE AGENCY OF JURISDICTION FOR REVIEW AND APPROVAL BY THE AGENCY'S ENGINEER PRIOR TO INSTALLATION
  4) WALLS SHALL BE REINFORCED CONCRETE OR 8" x 8" x 16" CONCRETE BLOCK, BEINFORCED AND ALL CORES FILED.
- REINFORCED AND ALL CORES FILLED WITH GROUT SEE SPECIFICATIONS (HOR. 2-#4@32", VERT. 1-#4@8")

5) FOR GRADES OVER 50% SEE WP-05/SP-05"

Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		J. Tomasulo	03/05	OAN BIEGO REGIONAE OTANDARD BIOWING	
Note 4	вк	B. KNOLL	04/15		Samon 200 for 03/24/2022
Reviewed	ВК	B. KNOLL	10/18	CUT-OFF WALL INSTALLATION IN	Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22	TRAVELED AREAS	DRAWING SP-07
				THAT LLED AILLAG	NUMBER SP-07



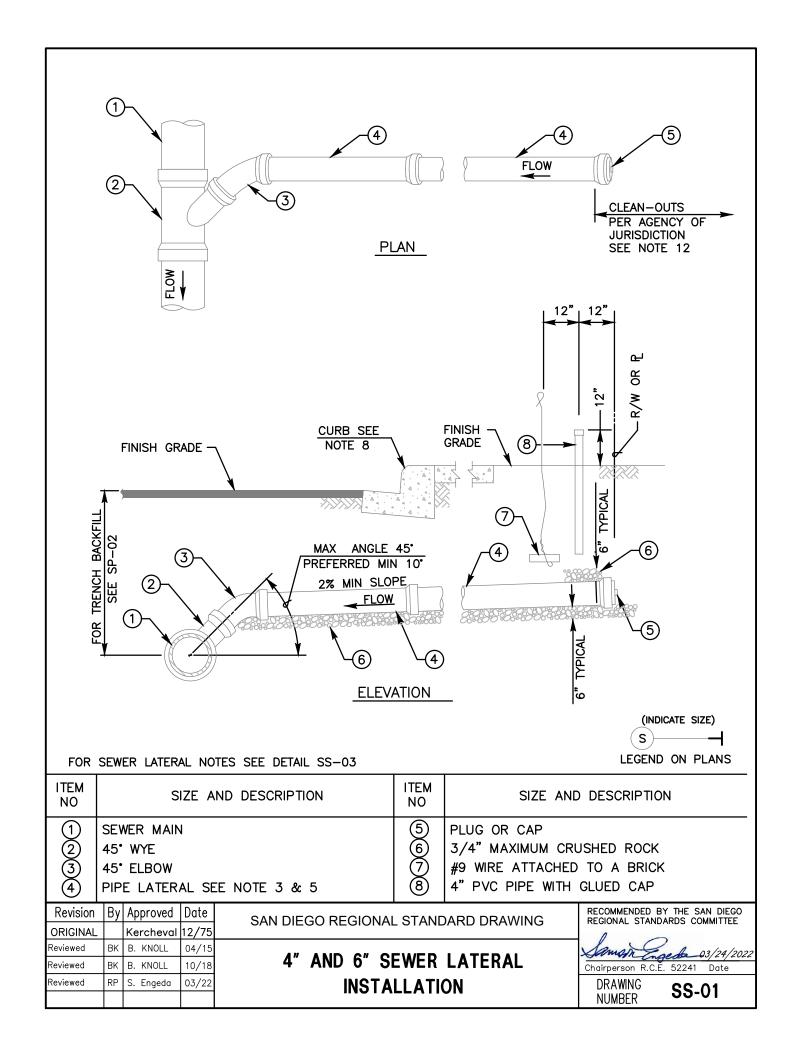
**ENCASEMENT SECTION** 

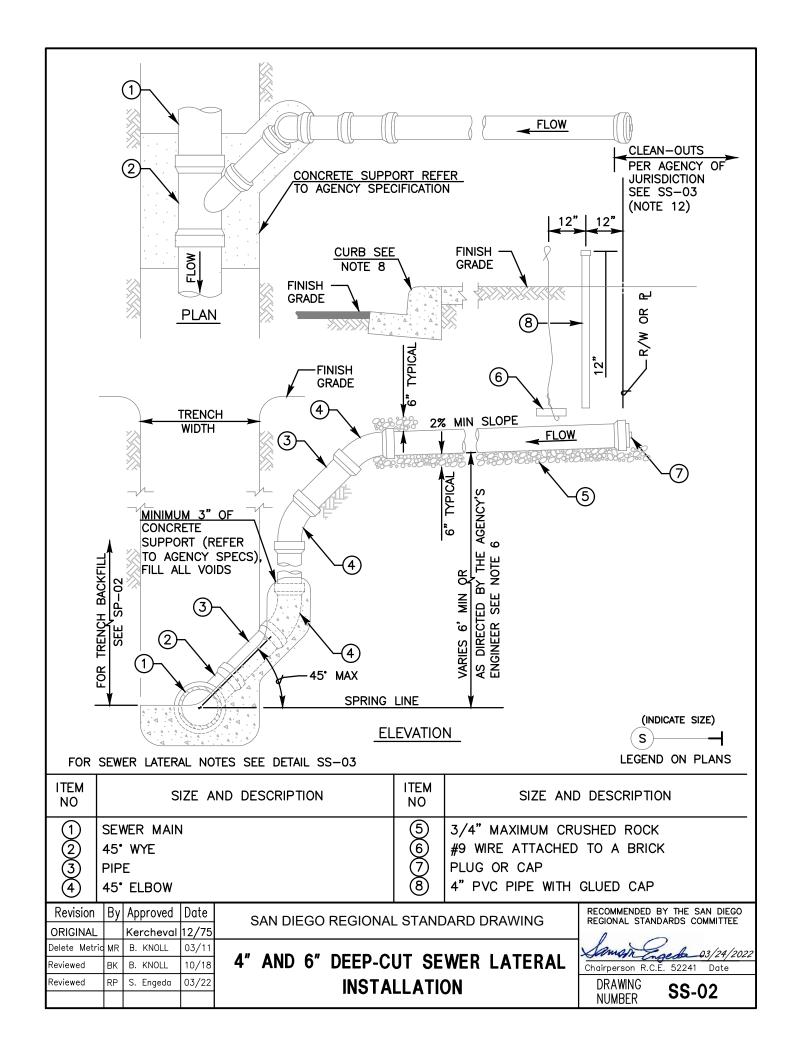
# NOTES:

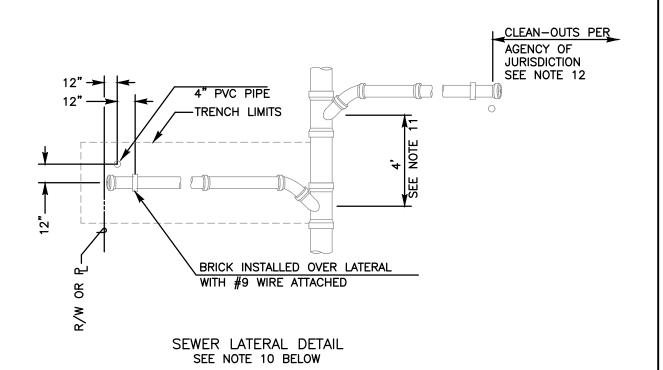
- 1) REFER TO AGENCY SPECIFICATIONS FOR PROTECTION OF EXISTING FACILITIES
- 2) ENCASEMENT SHALL EXTEND TO FIRST JOINT BEYOND BOTH SIDES OF TRENCH (24" MIN, 48" MAX OF SUITABLE NATIVE SUPPORT BEYOND EDGE OF TRENCH).
- 3) CONCRETE ENCASEMENT REQUIRED FOR SEWER MAINS ONLY. CALDER COUPLINGS REQUIRED FOR SEWER LATERALS ONLY. SEWER LATERALS TO BE REPLACED WITH SCH. 80 PVC WITH NO INTERMEDIATE JOINTS.

4) FOR PIPE BEDDING AND TRENCH BACKFILL SEE WP-02 OR SP-02.

Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		J. Tomasulo	03/05	Of the Diego Theoretic of the Divition	1
Reviewed	BK	B. KNOLL	04/15		Samer Engela 03/24/2022
Reviewed	BK	B. KNOLL	10/18	PIPE SUPPORT FOR UNDERCUT	Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22	SEWER MAINS OR SEWER LATERALS	DRAWING SP-09
				DETICINATION OF THE PATERIALS	NUMBER SP-U9



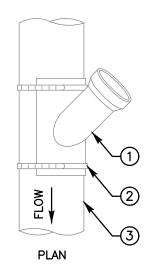


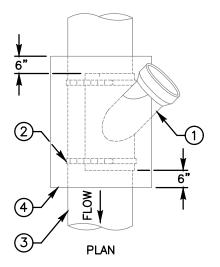


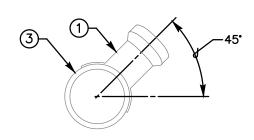
- 1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
- 2) IN NO CASE SHALL LATERAL CONNECT DIRECTLY ON TOP OF SEWER MAIN 3) LATERAL SHALL BE INSTALLED TO PROPERTY LINE UNLESS SPECIFIED ON PLANS
- 4) MINIMUM 4' COVER ABOVE LATERAL AT PROPERTY LINE
- 5) LATERAL TO HAVE A MINIMUM SLOPE OF 2%
- 6) VERTICAL PIPE SHALL BE BRACED WHILE BACKFILLING TRENCH
- 7) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON SP-01 8) STAMP OR CHISEL A 2" HIGH "S" IN CURB FACE OVER LATERAL TO IDENTIFY SEWER LATERAL LOCATION
- 9) MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST
- 10)FOR SEWER LATERAL INSTALLATIONS SEE SS-01 AND SS-02
- 11)FOR SEWERS SPECIFIED AS PVC PIPE, A MINIMUM 3' SECTION OF PIPE IS REQUIRED BETWEEN FITTINGS
- 12)SEWER CLEAN-OUT SEE SC-01 TYPE B AS REQUIRED BY AGENCY OF **JURISDICTION**

(INDICATE SIZE) LEGEND ON PLANS

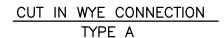
Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
ORIGINAL		Kercheval	12/75		1
Delete Metric	MR	B. KNOLL	03/11		Sames Engela 03/24/2022
Reviewed	BK	B. KNOLL	10/18	SEWER LATERAL NOTES AND DETAIL	Chairperson R.C.E. 52241 Date
Reviewed	RP	S. Engeda	03/22		DRAWING SS-03
					NUMBER 33-03

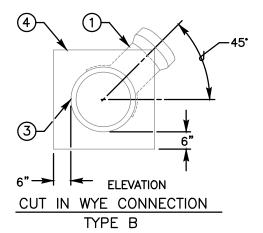






**ELEVATION** 





## NOTES:

- 1) REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
- 2) CONNECTIONS TO EXISTING SEWER MAINS TO BE MADE BY AGENCY PERSONNEL IN ACCORDANCE WITH SPECIFICATIONS UNLESS OTHERWISE NOTED ON PLANS
- 3) IN NO CASE SHALL CONNECTION BE MADE DIRECTLY ON TOP OF SEWER MAIN
- 4) NO MORE THAN ONE CUT IN WYE WILL BE ALLOWED FOR EACH LENGTH OF EXISTING VCP SEWER MAIN
- 5) FOR SEWER LATERAL INSTALLATION SEE SS-01 AND SS-02
- 6) FOR TRENCH BACKFILL SEE SP-02
- 7) MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1 2	45° SADDLE WYE WITH GASKET STAINLESS STEEL HOSE CLAMPS (2-EACH)	<u>3</u>	EXISTING SEWER MAIN CONCRETE ENCASEMENT

					NUMBER 33-04
Reviewed	RP	S. Engeda	03/22	CONNECTIONS	DRAWING SS-04
Reviewed	BK	B. KNOLL	10/18	4 AND O SEWER CUI-IN WIE	Chairperson R.C.E. 52241 Date
Reviewed	BK	B. KNOLL	04/15	4" AND 6" SEWER CUT-IN WYE	Samon Engela 03/24/2022
ORIGINAL		Kercheval	12/75		
Revision	Ву	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
	317	AIINLE 22	SIEEL	HUSE CLAMPS (2-EACH) (4)   CONCRETE ENCASE	MENI