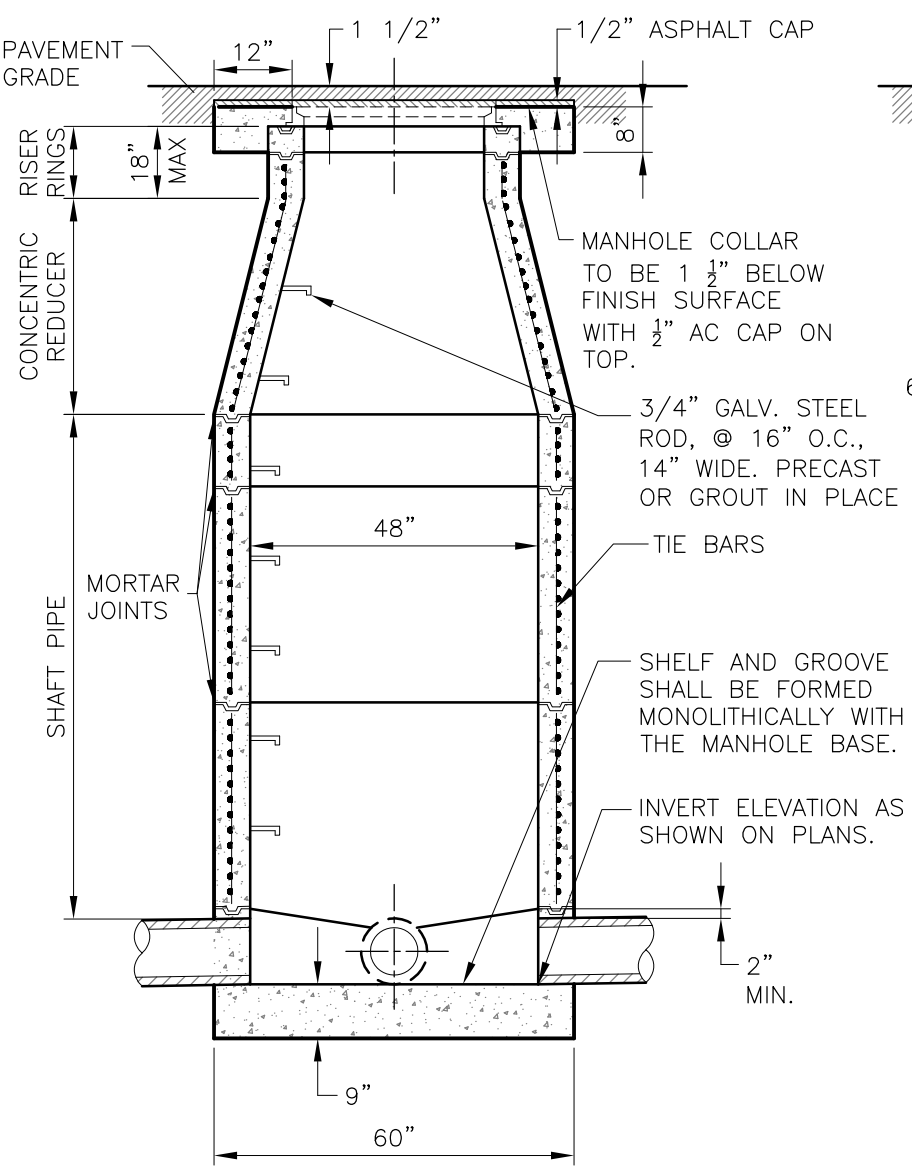
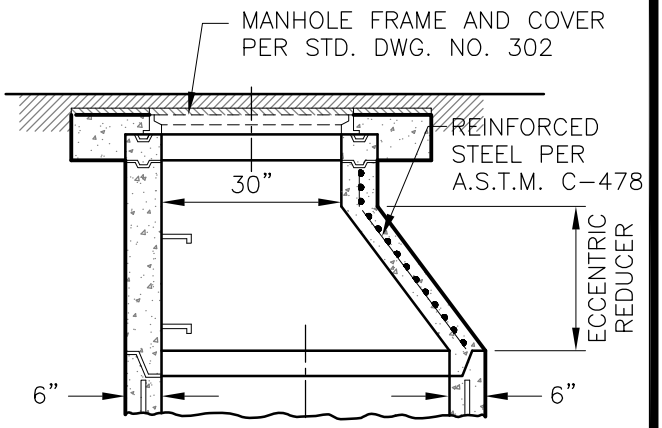
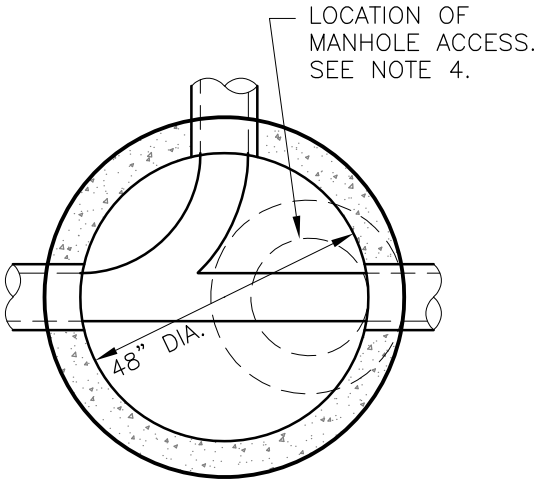


X-SECTION



ALTERNATE X-SECTION



INVERT PLAN

NOTES:

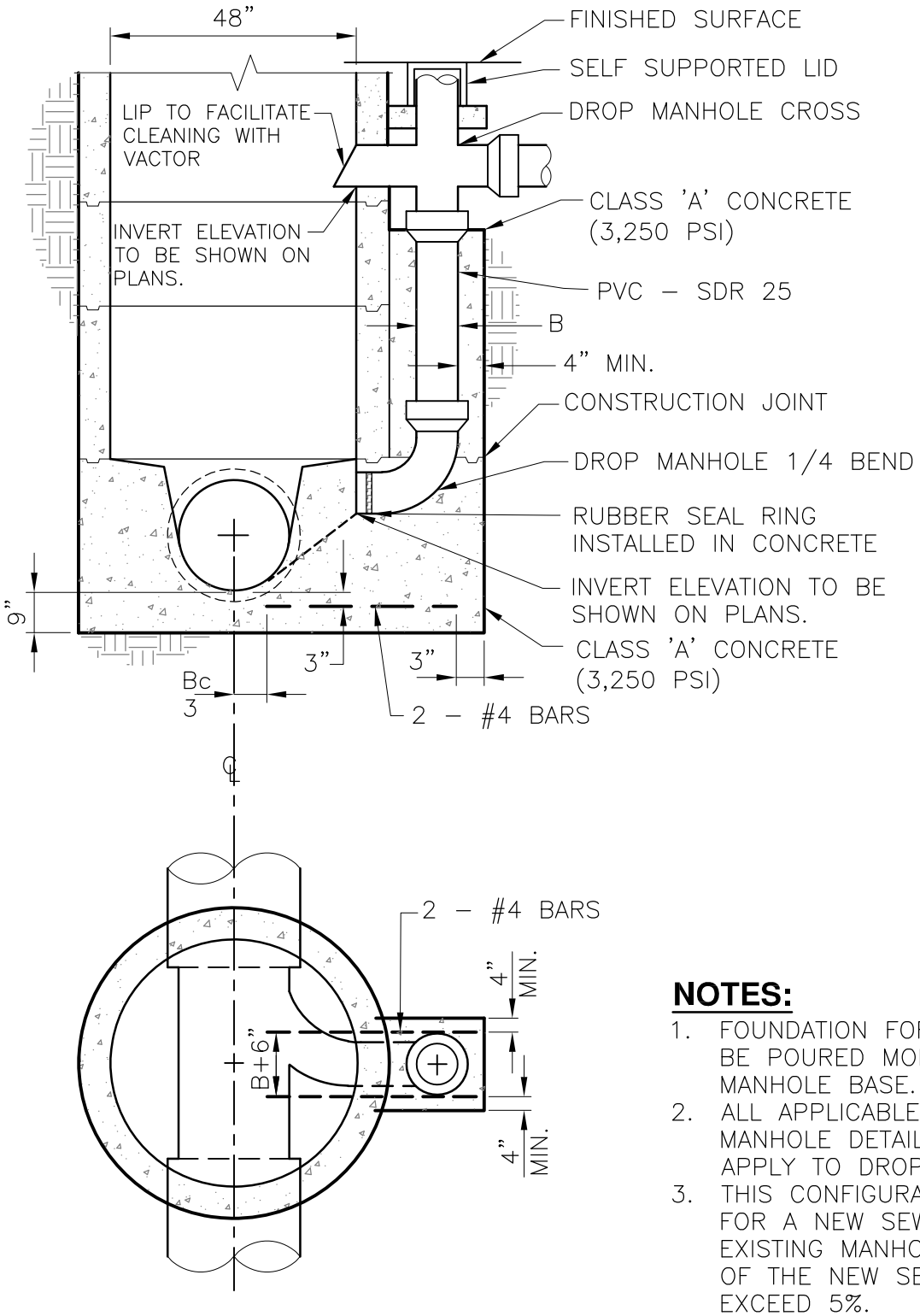
1. ALL SECTIONS TO BE WASHED TO REMOVE ANY LOOSE MATERIAL, THEY ARE TO BE SET IN PREFORMED COLD-APPLIED READY-TO-USE PLASTIC JOINT SEALING COMPOUND AND PRIMER, RAM-NEK OR APPROVED EQUAL.
2. PROVIDE FLEXIBLE JOINT IN ALL SEWER PIPES OUTSIDE OF MANHOLE BUT WITHIN 12" OF CONCRETE BASE.
3. PRECAST REINFORCED CONCRETE MANHOLES SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. C478, BE DESIGNED FOR A.A.S.H.T.O H-20 LOADING AND CONCRETE SHALL BE COMPACTLY VIBRATED, CENTRIFUGALLY SPUN, OR MECHANICALLY TAMPED.
4. SEWER MAINS ARE TO BE LAID THRU THE MANHOLE WHERE POSSIBLE AND USED AS A FORM FOR THE INVERT. THE TOP ½ DIAMETER OF THE PIPE IS TO BE BROKEN OUT TO A NEAT LINE, BROKEN EDGES SHALL BE PLASTERED SMOOTH WITH CONCRETE MORTAR.
5. ALL CONCRETE MIX DESIGN MUST BE 560C 3250.
6. CONCRETE BASE SHALL BE PLACED AGAINST UNDISTURBED EARTH IN ONE OPERATION AND MUST CURE 24 HOURS MINIMUM PRIOR TO INSTALLATION OF SHELF. CONCRETE INVERTS SHALL BE TRUE TO GRADE AND ALIGNMENT, AND FINISHED WITH A SMOOTH SURFACE. SPECIAL CARE SHALL BE USED IN FORMING ALL CHANNELS TO FACILITATE THE FLOW OF SEWAGE.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

TYPICAL R.C.P MANHOLE

DATE:	JUNE 2024	SCALE:	N.T.S.	DWG. NO.
DRWN BY:	J. McG	REV:	J. SOTTO	300
APP'D BY:	VICTOR ORTIZ, PE			

VICTOR ORTIZ, PE, CITY ENGINEER



B = OUTSIDE DIAMETER OF PIPE

NOTES:

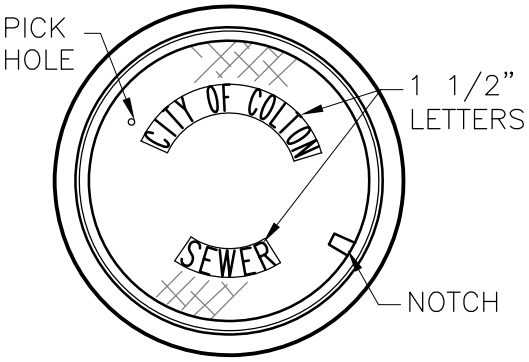
1. FOUNDATION FOR DROP SECTION SHALL BE POURED MONOLITHICALLY WITH MANHOLE BASE.
2. ALL APPLICABLE PROVISIONS OF STANDARD MANHOLE DETAIL DRAWING 300 SHALL APPLY TO DROP MANHOLE.
3. THIS CONFIGURATION IS ALLOWED ONLY FOR A NEW SEWER CONNECTION TO AN EXISTING MANHOLE, SO THAT THE SLOPE OF THE NEW SEWER PIPE DOES NOT EXCEED 5%.
4. WEIGHT OF CLEANOUT LID MUST NOT BE SUPPORTED BY THE PIPE.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

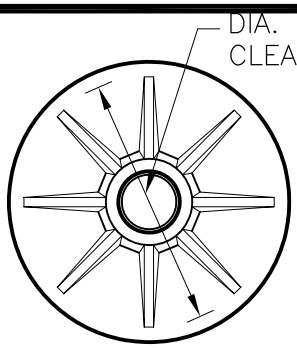
DROP MANHOLE

DATE: JUNE 2024	SCALE: N.T.S.	**DWG. NO.**
DRWN BY: J. McG	REV: J. SOTTO	**301**
APP’D BY: VICTOR ORTIZ, PE		

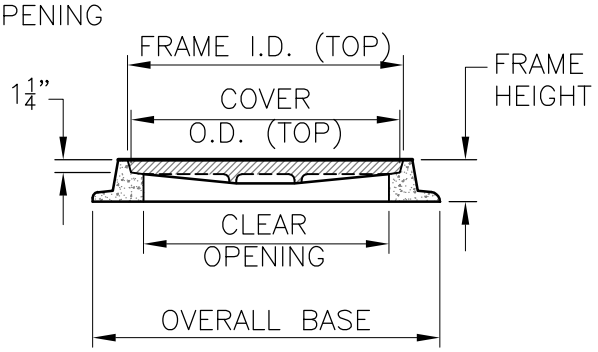
VICTOR ORTIZ, PE, CITY ENGINEER



TOP VIEW

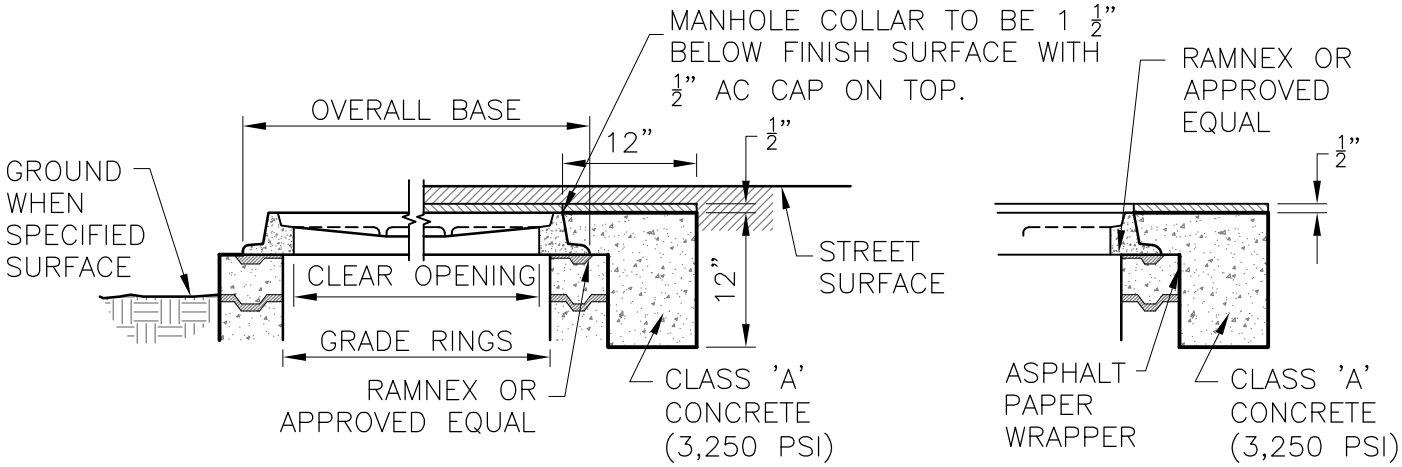


BOTTOM VIEW



SECTION

COVER DETAIL



OPEN FIELD **PAVED ROADWAY** **ROADWAY SHOULDER OR DIRT ROADWAY**

SECTION THROUGH FRAME SHOWING TYPICAL INSTALLATION

MANHOLE COVER & FRAME REQUIRED DIMENSIONS						
COVER RIM THICKNESS	CLEAR OPENING	COVER O.D.	FRAME I.D.	FRAME HEIGHT	OVERALL BASE	TOTAL WT
1¼"	30"	32¼"	32½"	5½"	36"	430

* REQUEST NOTCH AND PICK HOLE WHEN ORDERING FROM MANUFACTURER.

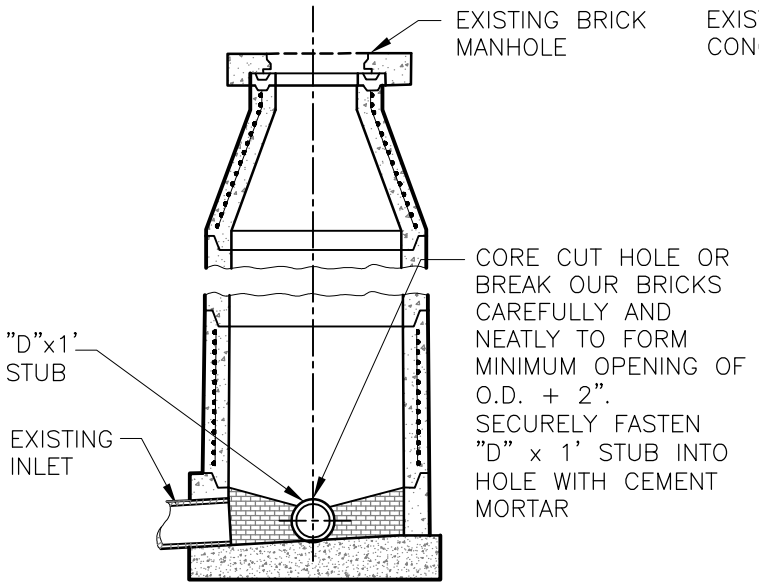
NOTES:

1. MANHOLE COVER SHALL BE DESIGNED FOR A.A.S.H.T.O. H–20 LOADING.
2. CAST IRON SHALL HAVE MINIMUM TENSILE STRENGTH OF 30,000 LBS. PER SQUARE INCH.
3. MANHOLE COVER SHALL BE 30" DIAMETER SOUTH BAY FOUNDRY CO. TYPE SBF–1252*, LONG BEACH IRON WORKS INC., TYPE X–106B, NEENAH FOUNDRY CO. TYPE NFC–1252 OR APPROVED EQUAL.
4. MARKER POSTS SHALL BE INSTALLED TO MARK MANHOLE LOCATIONS IN OPEN FIELD INSTALLATIONS.
5. FRAME AND COVER TO BE RAISED TO FINISHED GRADE AFTER FINISHED PAVING.

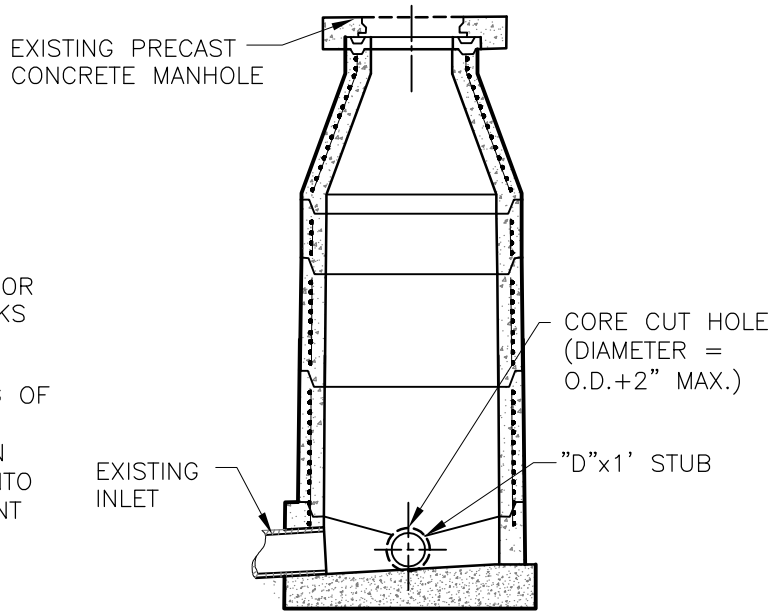
CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

MANHOLE COVER AND FRAME

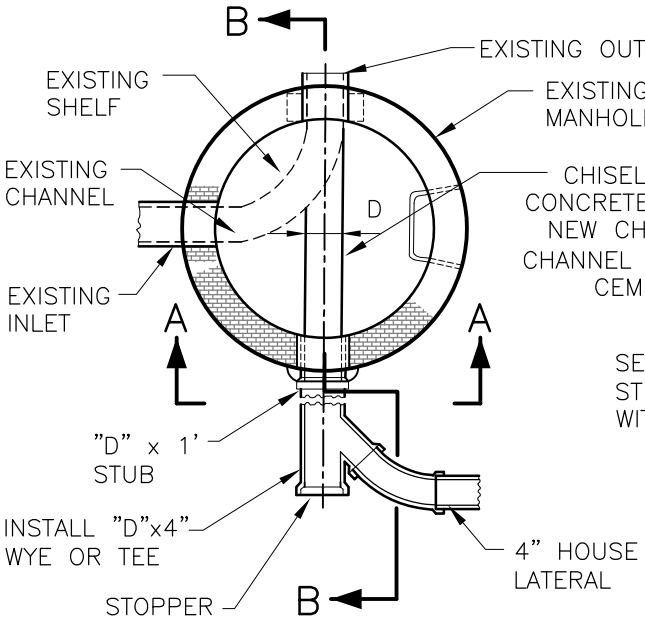
DATE: JUNE 2024	SCALE: N.T.S.	**DWG. NO.**
DRWN BY: J. McG	REV: J. SOTTO	**302**
APP'D BY: VICTOR ORTIZ, PE		
VICTOR ORTIZ, PE, CITY ENGINEER		



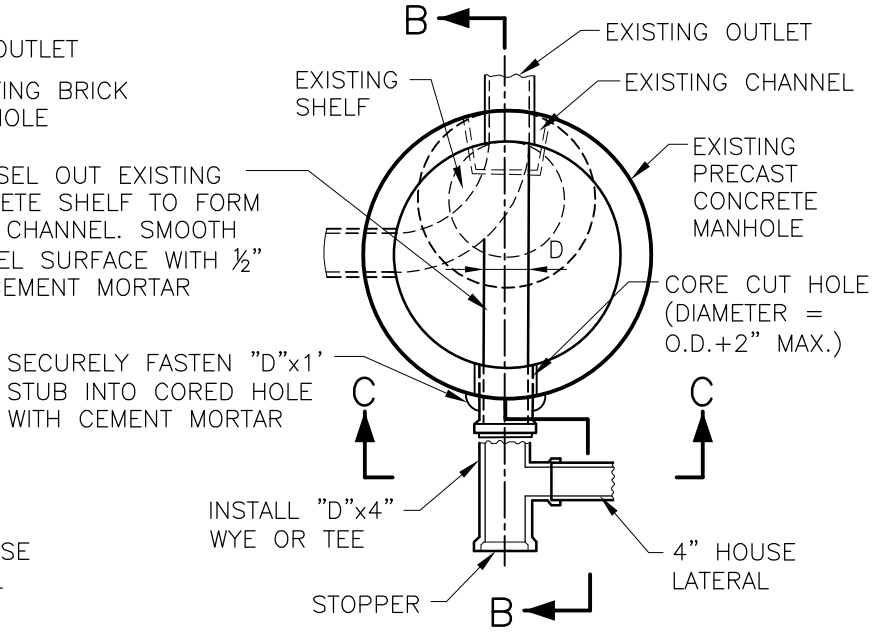
SECTIONAL ELEVATION A-A



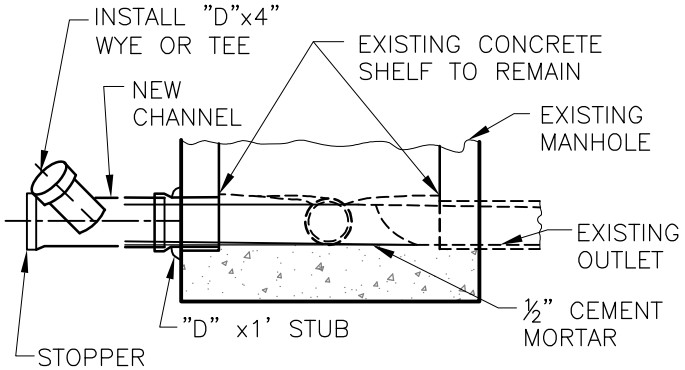
SECTIONAL ELEVATION C-C



SECTIONAL PLAN OF BASE



SECTIONAL PLAN OF BASE



SECTIONAL ELEVATION B-B UCHANNEL BASE

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

BREAKING INTO EXISTING MANHOLES

DATE: JUNE 2024	SCALE: N.T.S.	DWG. NO. 303
DRWN BY: J. McG	REV: J. SOTTO	
APP'D BY: VICTOR ORTIZ, PE VICTOR ORTIZ, PE, CITY ENGINEER		PAGE 1 OF 2

HOUSE LATERAL NOTES

1. WYE TO BE LAID WITH ⅛ IN. RISE PER 1 FT. AND 6 IN. SPUR AT 45° FROM HORIZONTAL UNLESS OTHERWISE NOTED ON PLANS.

2. "D" x 6 IN. WYE OR TEE AND 6 IN. HOUSE LATERAL MAY BE SUBSTITUTED FOR "D" x 4 IN. WYE OR TEE AND 4 IN. HOUSE LATERAL.

3. USE TYPE "D" OR "G" JOINTS PER SUB-SECTION.

4. ALL WORK SHOULD BE UNCOVERED AND CONVENIENT FOR THE INSPECTION.

NOTES:

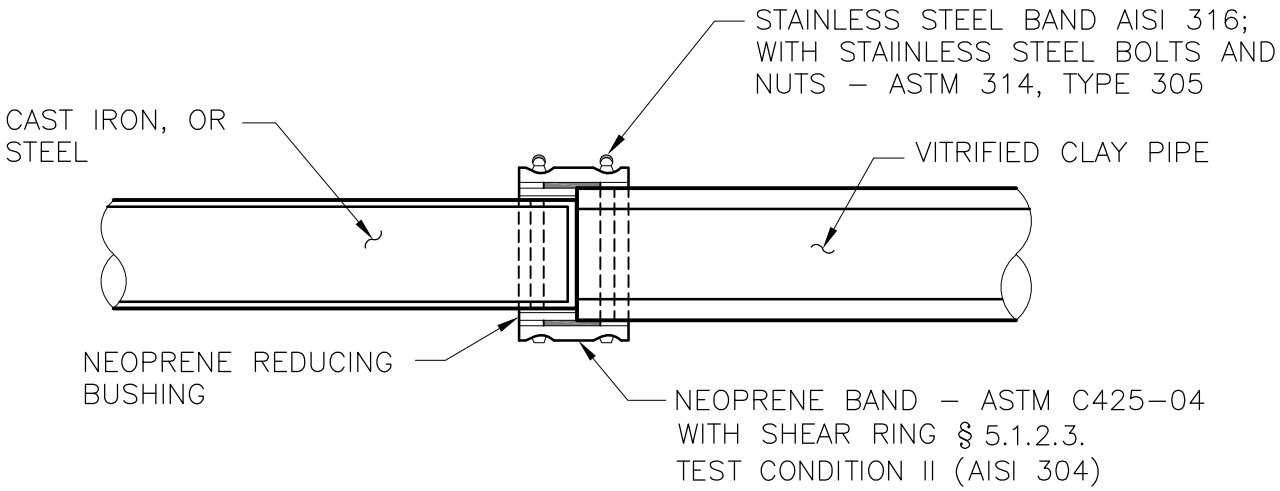
1. INVERT ELEVATION OF "D"x1 FT. STUB AT THE INSIDE FACE OF MANHOLE TO BE 0.10 FT. HIGHER THAN EXISTING OUTLET INVERT ELEVATION.
2. THE CORE CUT HOLE SHALL BE MADE WITH EQUIPMENT SPECIALLY DESIGNED TO CUT A SMOOTH HOLE WITHOUT SPALLING OR DAMAGE TO THE REINFORCING STEEL OR STRUCTURE.
3. "D" TO BE 8 IN. MINIMUM.
4. ALL WORK SHOULD BE UNCOVERED AND CONVENIENT FOR THE INSPECTION.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

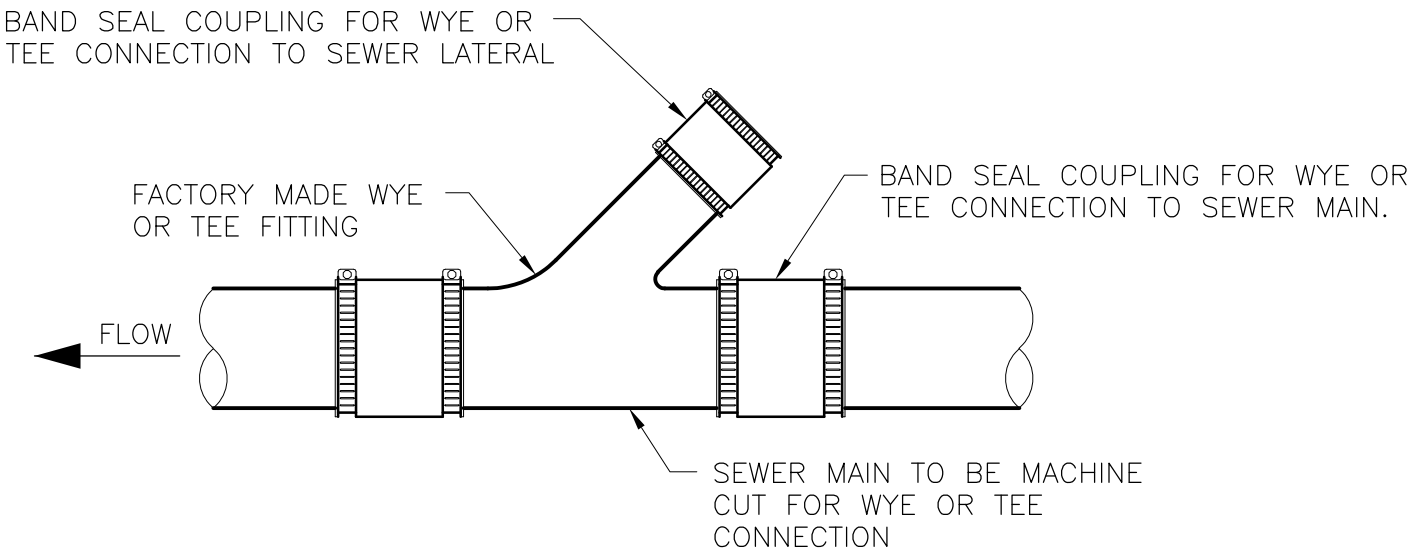
BREAKING INTO EXISTING MANHOLES

DATE: JUNE 2024	SCALE: N.T.S.	**DWG. NO.**	
DRWN BY: J. McG	REV: J. SOTTO	**303**	
APP'D BY: VICTOR ORTIZ, PE		PAGE 2 OF 2	

VICTOR ORTIZ, PE, CITY ENGINEER



FLEXIBLE COUPLING (NON-PRESSURE)

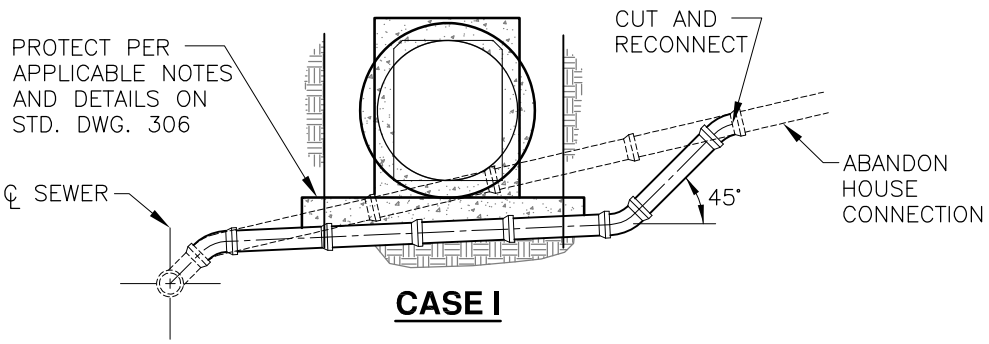


FACTORY MADE WYE OR TEE CONNECTION

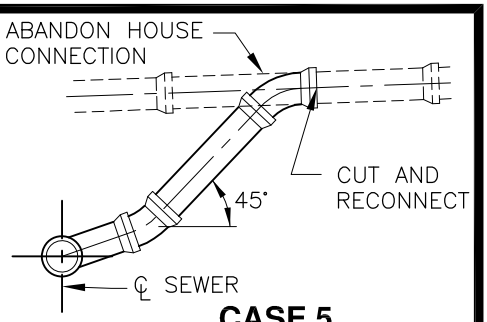
NOTES:

NO CONNECTION ALLOWABLE AT BELL END OF V.C.P. CUT BELL END OFF V.C.P. PRIOR TO MAKING CONNECTION.

	CITY OF COLTON **PUBLIC WORKS DEPARTMENT** **WASTEWATER DIVISION**
SEWER CONNECTIONS	
DATE: JUNE 2024 / SCALE: N.T.S.	**DWG. NO.**
DRWN BY: J. McG / REV: J. SOTTO	**304**
APP'D BY: VICTOR ORTIZ, PE VICTOR ORTIZ, PE, CITY ENGINEER	



CASE I



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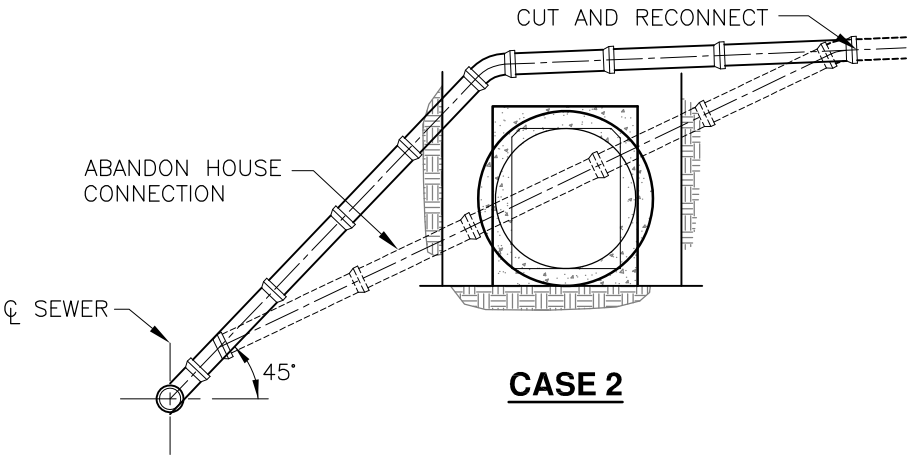
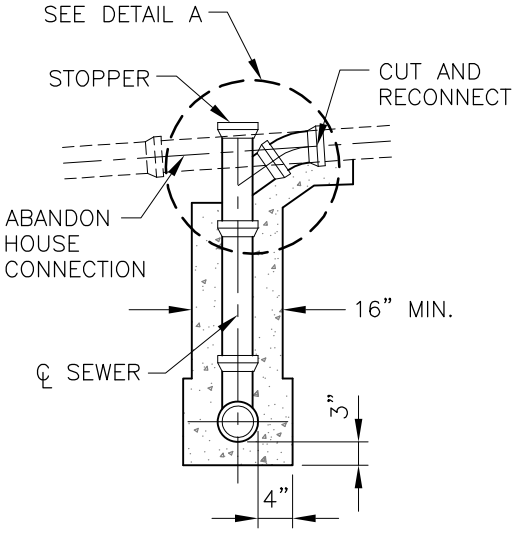
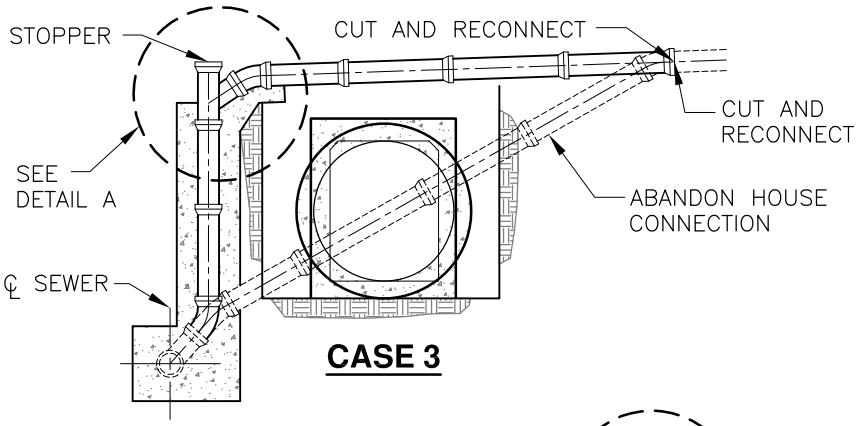


CASE 2



CASE 6



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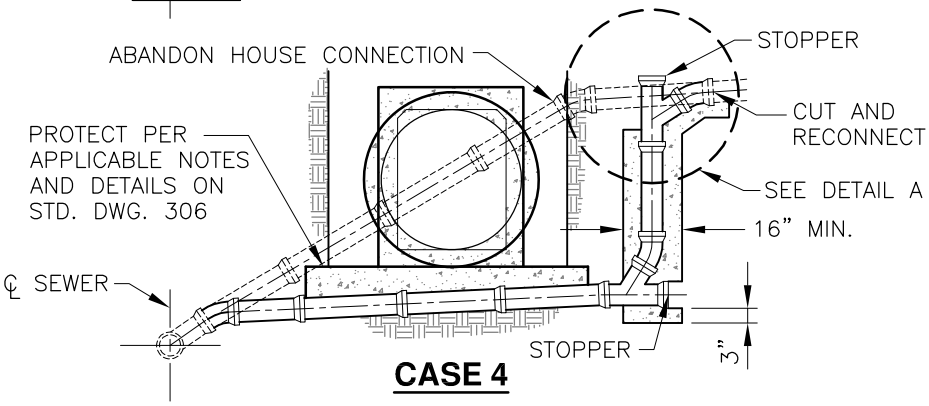
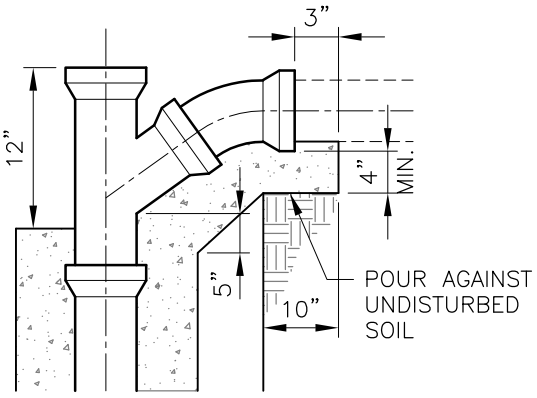


CASE 4



DETAIL A

NOTES:

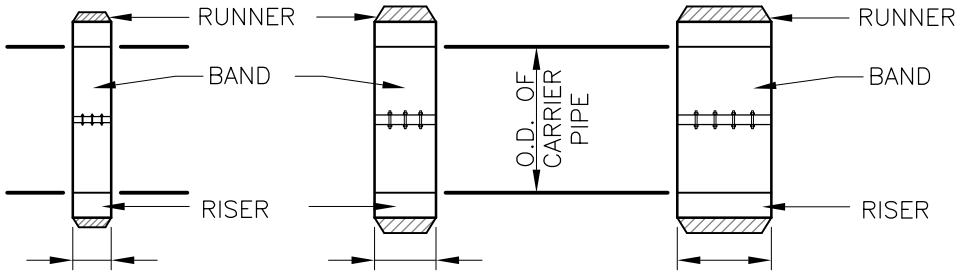
NO CONNECTION ALLOWABLE AT BELL END OF V.C.P. CUT BELL END OFF V.C.P. PRIOR TO MAKING CONNECTION.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WATER DIVISION

STANDARD SEWER LATERAL CONNECTIONS

DATE: JUNE 2024	SCALE: N.T.S.	**DWG. NO.**
DRWN BY: J. McG	REV: J. SOTTO	**304A**
APP'D BY: VICTOR ORTIZ, PE		

VICTOR ORTIZ, PE, CITY ENGINEER



5" WIDE BAND MIN.

8" WIDE BAND MIN. FOR PIPE SIZES UP TO 24"

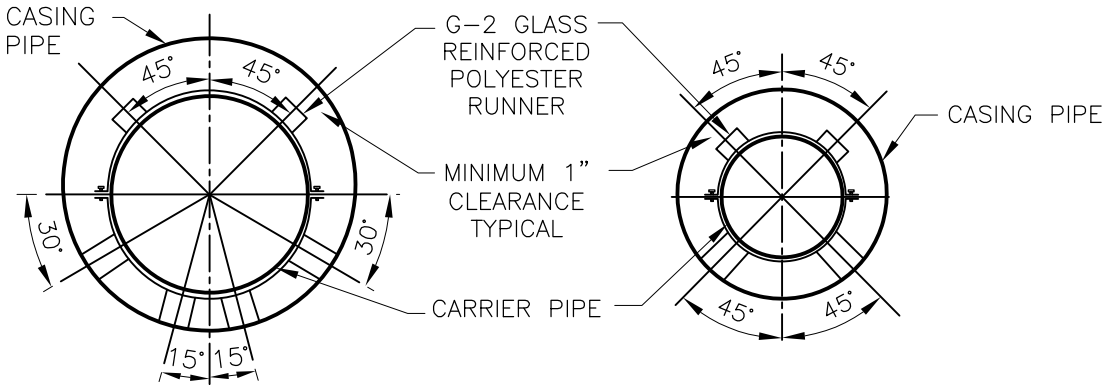
12" WIDE BAND MIN. FOR PIPES LARGER THAN 24"

WALL THICKNESS FOR STEEL CASING PIPE

UNDER 14"	0.251"
14" & 16"	0.282"
18"	0.313"
20"	0.344"
22"	0.375"
24"	0.407"
26"	0.438"
28" & 30"	0.469"
32"	0.501"
34" & 36"	0.532"
38" – 44"	0.563"
46" – 50"	0.688"
52" & 54"	0.813"
60"	0.876"
66"	1.000"

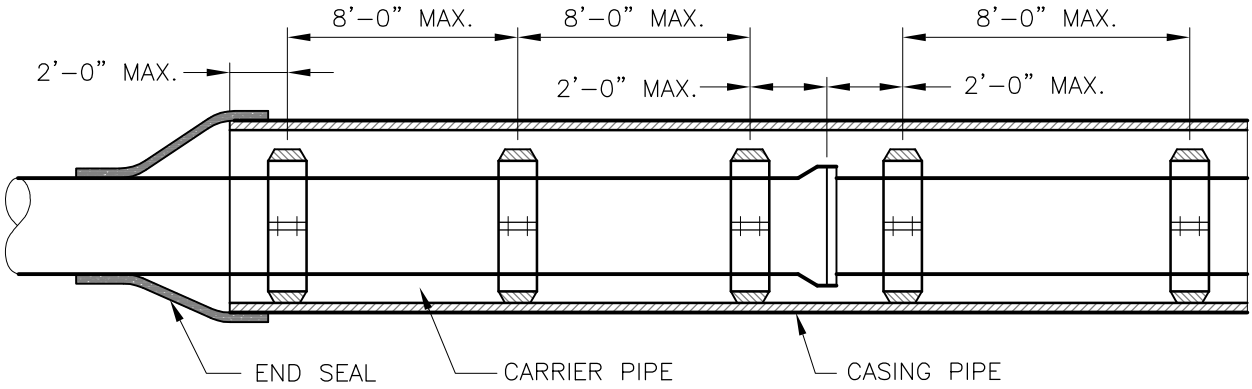
TYPE I SPACERS

TYPE II SPACERS



SIZES 14" THRU 36"

SIZES 4" THRU 12"



NOTES:

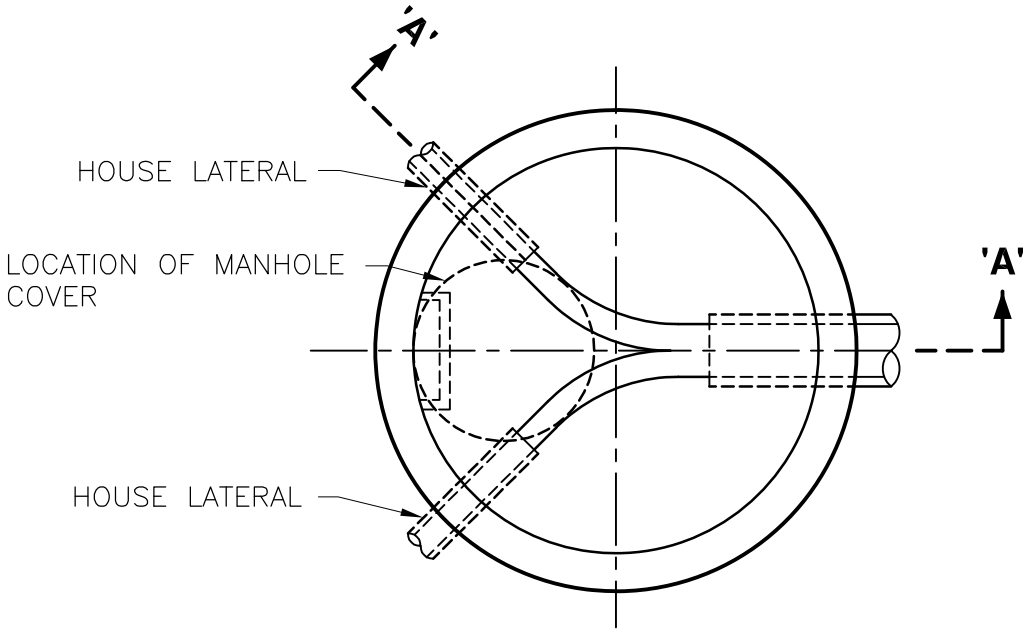
1. 2" MINIMUM BELL CLEARANCE SHALL BE PROVIDED FOR SLEEVES LESS THAN 60' LONG.
2. 4" MINIMUM BELL CLEARANCE SHALL BE PROVIDED FOR SLEEVES 60' OR LONGER.
3. THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE A MINIMUM OF 2" LARGER THAN THE OUTSIDE BELL DIAMETER OF THE CARRIER PIPE IF CARRIER PIPE IS LESS LESS THAN 6" IN DIAMETER. IF THE DIAMETER OF THE CARRIER PIPE IS 6" OR LARGER, THE DIAMETER OF THE CASING PIPE SHALL BE A MINIMUM OF 4" LARGER THAN THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE.
4. THE END OF THE CASING PIPE SHALL EXTEND A MINIMUM OF 25' FROM THE CENTERLINE OF RAIL WHEN APPLICABLE.
5. THE END OF CASING PIPE SHALL EXTEND A MINIMUM OF 6' FROM EDGE OF PAVEMENT OR BACK OF CURB.
6. THE TOP OF THE CASING PIPE SHALL BE A MINIMUM OF 6' BELOW THE BASE OF RAIL WHEN APPLICABLE.
7. THE TOP OF THE CASING PIPE SHALL BE A MINIMUM OF 3' BELOW THE INVERT OF ROADSIDE DRAINAGE DITCHES.
8. STEEL CASING SHALL BE INSTALLED BY MEANS OF JACKING OR DRY BORING, EXCEPT WHERE SPECIFICALLY DIRECTED BY DIRECTOR TO BE INSTALLED BY OPEN TRENCH CONSTRUCTION.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

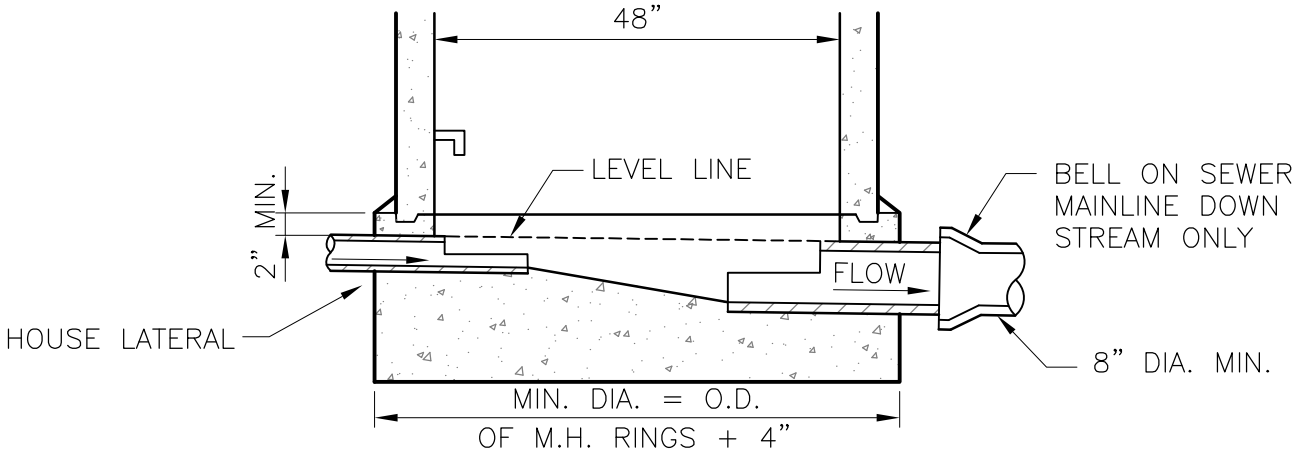
STEEL ENCASEMENT PIPE

DATE:	JUNE 2024	SCALE:	N.T.S.	DWG. NO.
DRWN BY:	J. McG	REV:	J. SOTTO	306
APP'D BY:	VICTOR ORTIZ, PE			

VICTOR ORTIZ, PE, CITY ENGINEER



PLAN
TERMINUS MANHOLE WITH HOUSE LATERALS



SECTION "A" - "A"
TERMINUS MANHOLE

NOTES:

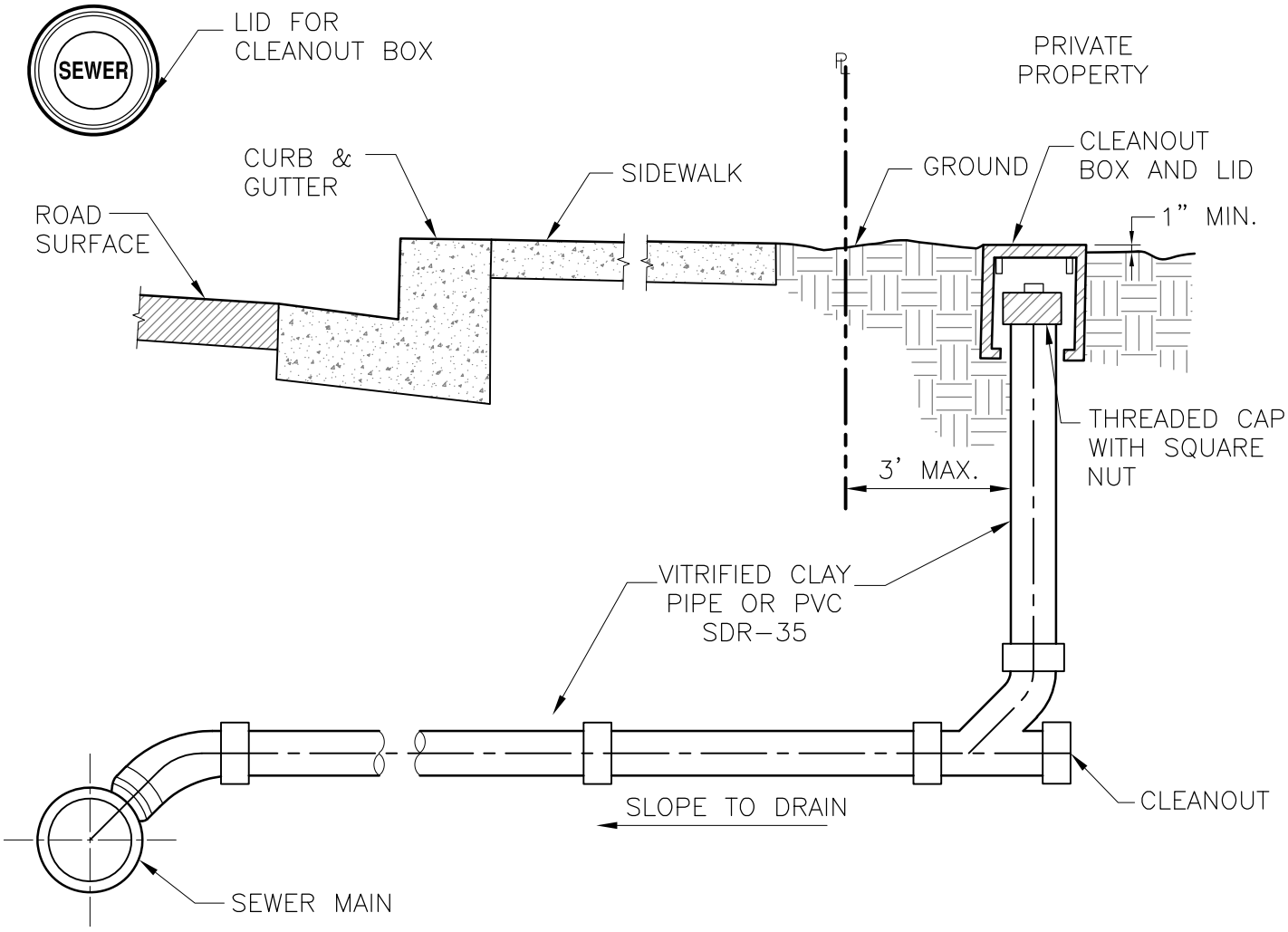
1. REFER TO STANDARD DRAWINGS OF MANHOLES FOR DETAILS PERTAINING TO MANHOLES ONLY.
2. SEWER MAINS SHALL BE 8" MIN. AND LAID IN THE MANHOLE TO FORM THE INVERT. THE TOP 1/2 DIA. OF THE PIPE IS TO BE BROKEN OUT TO A NEAT LINE. BROKEN EDGES SHALL BE PLASTERED SMOOTH WITH CEMENT MORTAR.
3. AS MANY AS FOUR 4" LATERALS MAY FLOW INTO TERMINUS MANHOLE.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

TERMINUS MANHOLE WITH LATERALS

DATE: JUNE 2024	SCALE: N.T.S.	**DWG. NO.**
DRWN BY: J. McG	REV: J. SOTTO	**307**
APP'D BY: VICTOR ORTIZ, PE		

VICTOR ORTIZ, PE, CITY ENGINEER



NOTES:

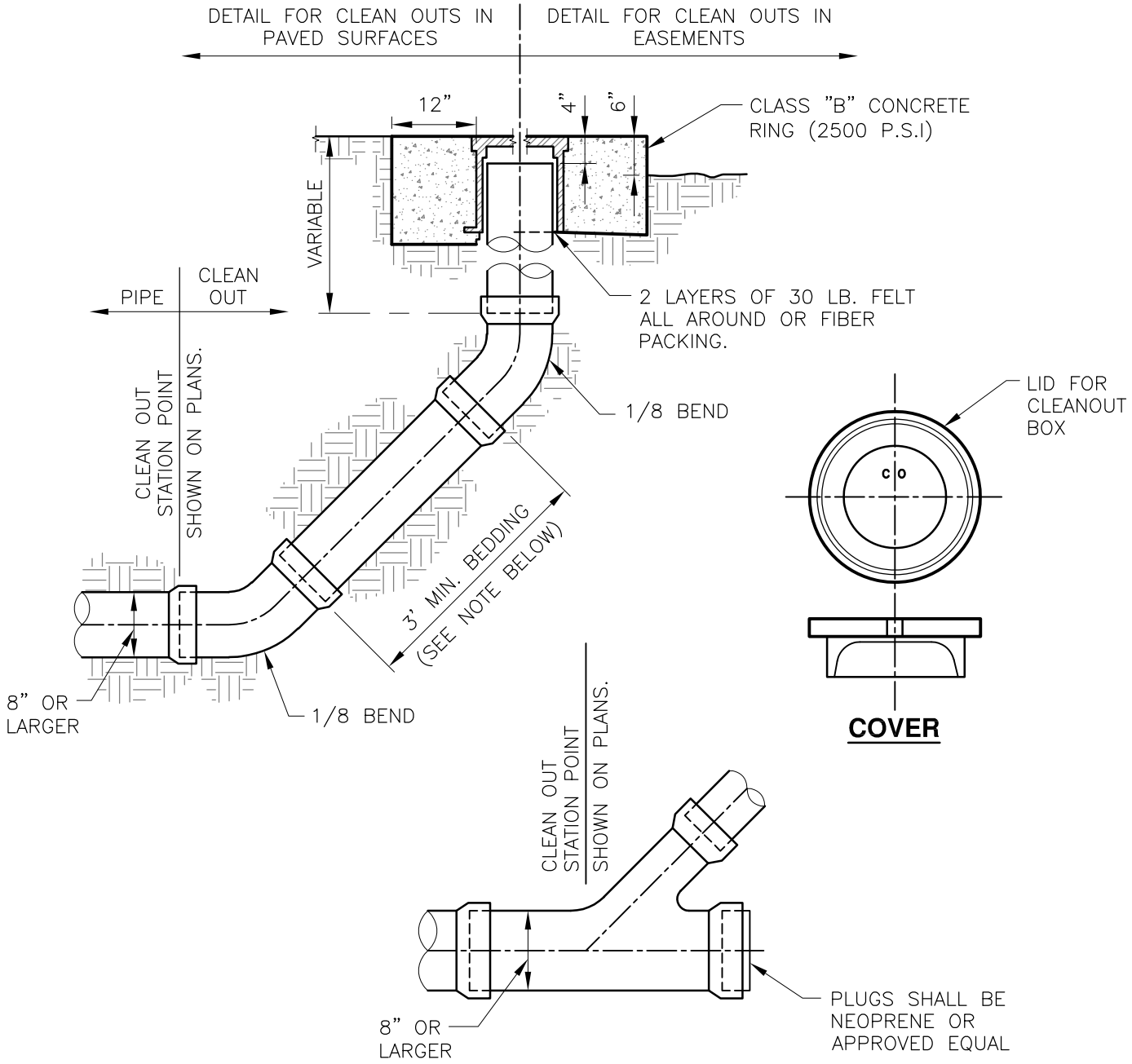
1. CLEANOUT RING AND COVER BROOKS 1-RT VALVE BOX MARKED "SEWER", OR APPROVED EQUAL.
2. MINIMUM 4" LATERAL, OR AS SHOWN ON PLANS.
3. PLACE CLEANOUT A MAXIMUM OF 3' BEHIND PROPERTY LINE OR AT BOUNDARY OF EASEMENT.
4. LID MUST BE CAST IRON FOR LOCATING PURPOSES, MARKED "SEWER".
5. TOP OF CLEANOUT LID TO BE PLACED 1" ABOVE GROUND SURFACE.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

SEWER ON-SITE CLEANOUT

DATE:	JUNE 2024	SCALE:	N.T.S.	DWG. NO. 308
DRWN BY:	J. McG	REV:	J. SOTTO	
APP'D BY:	VICTOR ORTIZ, PE			

VICTOR ORTIZ, PE, CITY ENGINEER



ALTERNATE

FOR LOWER 1/8 BEND WHERE APPROVED BY DIRECTOR AND SHOWN ON PLANS.

NOTES:

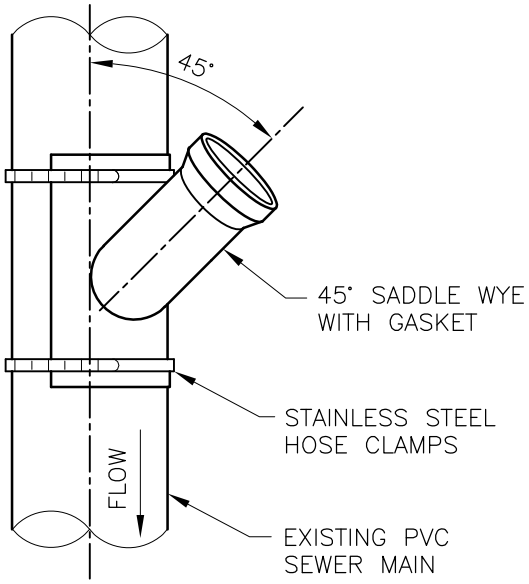
1. CLEANOUT PIPE MUST BE SAME DIAMETER AND MATERIAL AS MAIN LINE SEWER.
2. CLEANOUT COVER AND CASTING SHALL BE SOUTH BAY FOUNDRY TYPE SBF-1240 OR APPROVED EQUAL.
3. CLEANOUT COVER SHALL BE MARKED "CO".
4. STATION OF LOWER 1/8 BEND OR WYE SHALL CORRESPOND TO THE CLEANOUT STATION SHOWN ON THE CONSTRUCTION DRAWINGS WITH CLEANOUT CONSTRUCTION EXTENDED BEYOND THAT POINT AS NECESSARY.
5. PLUGS SHALL BE CEMENTED IN PLACE WITH CEMENT MORTAR OR SHALL BE NEOPRENE PLUG OR APPROVED EQUAL.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

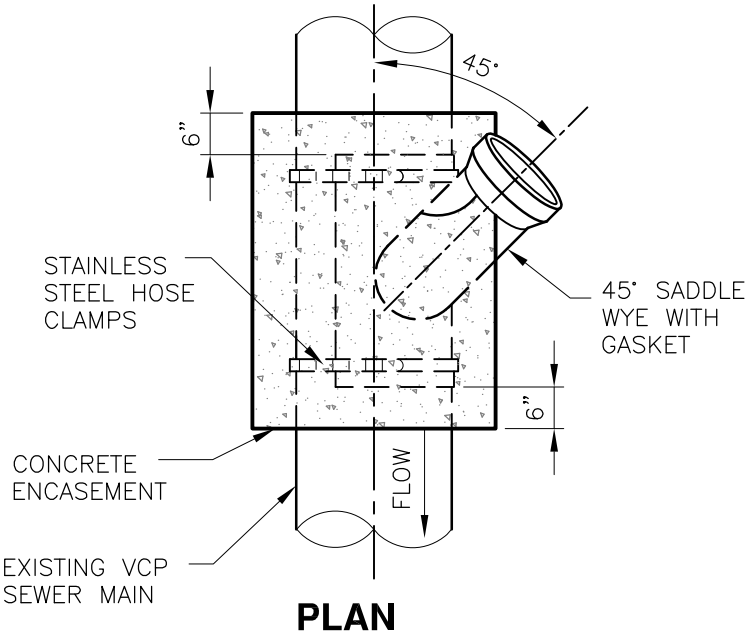
SEWER MAINLINE CLEANOUT

DATE: JUNE 2024	SCALE: N.T.S.	**DWG. NO.**
DRWN BY: J. McG	REV: J. SOTTO	**309**
APP'D BY: VICTOR ORTIZ, PE		

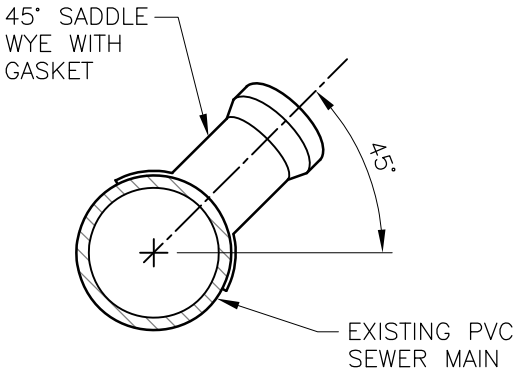
VICTOR ORTIZ, PE, CITY ENGINEER



PLAN

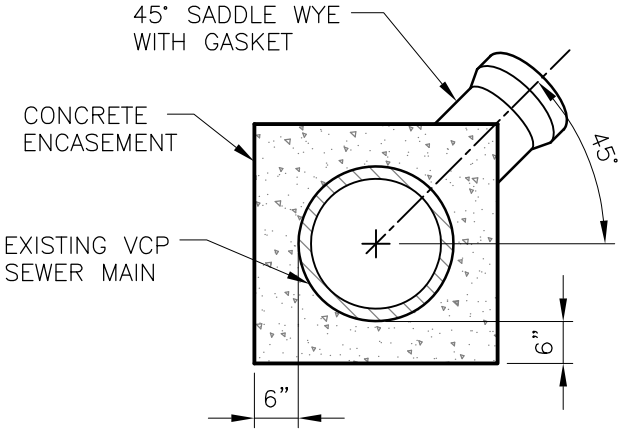


PLAN



ELEVATION

WYE CONNECTION FOR EXISTING PVC PIPE



ELEVATION

WYE CONNECTION FOR EXISTING VCP PIPE

NOTES:

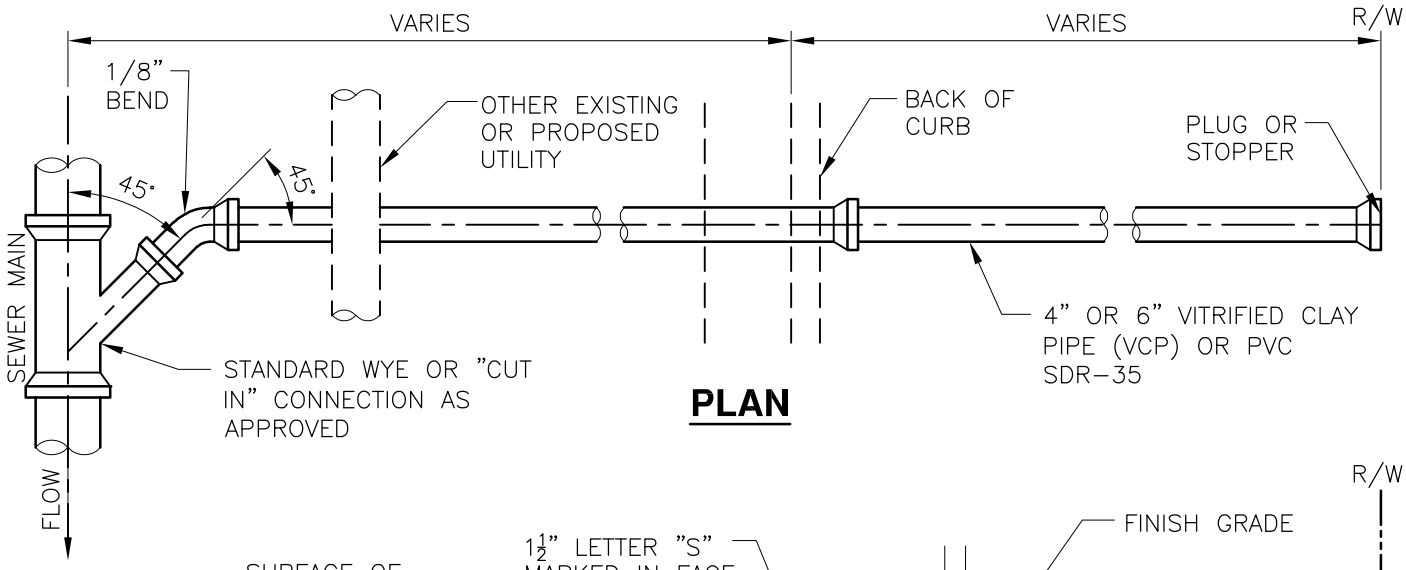
1. CONNECTIONS TO EXISTING SEWER MAINS TO BE MADE BY "A" OR "C-42" LICENSED CONTRACTOR AND INSPECTED BY UTILITIES INSPECTOR.
2. FOR SEWER LATERAL INSTALLATION, SEE CITY OF COLTON STANDARD 308 AND 312.
3. NO MORE THAN ONE CUT IN WYE WILL BE ALLOWED FOR EACH LENGTH OF EXISTING SEWER MAIN.
4. CONNECTION SHALL NOT BE MADE DIRECTLY ON TOP OF SEWER MAIN UNLESS APPROVED BY DIRECTOR.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

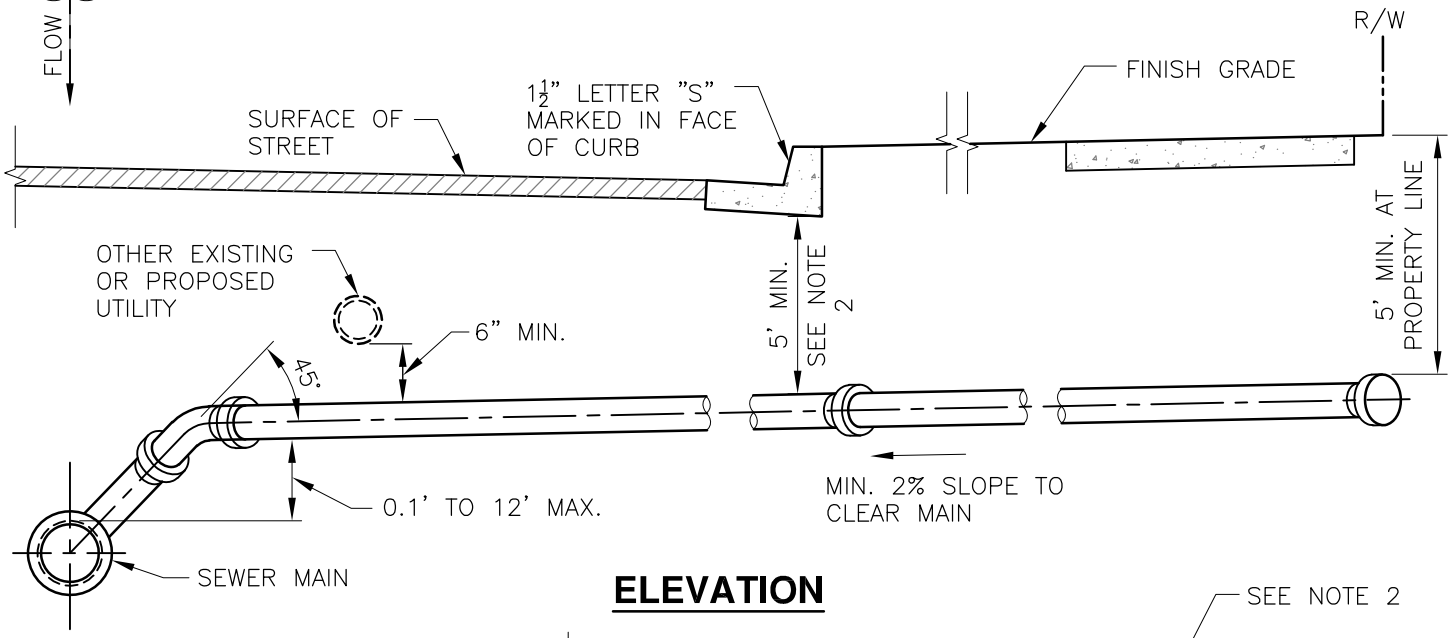
SEWER WYE CONNECTIONS

DATE: JUNE 2024	SCALE: N.T.S.	**DWG. NO.**
DRWN BY: J. McG	REV: J. SOTTO	**310**
APP'D BY: VICTOR ORTIZ, PE		

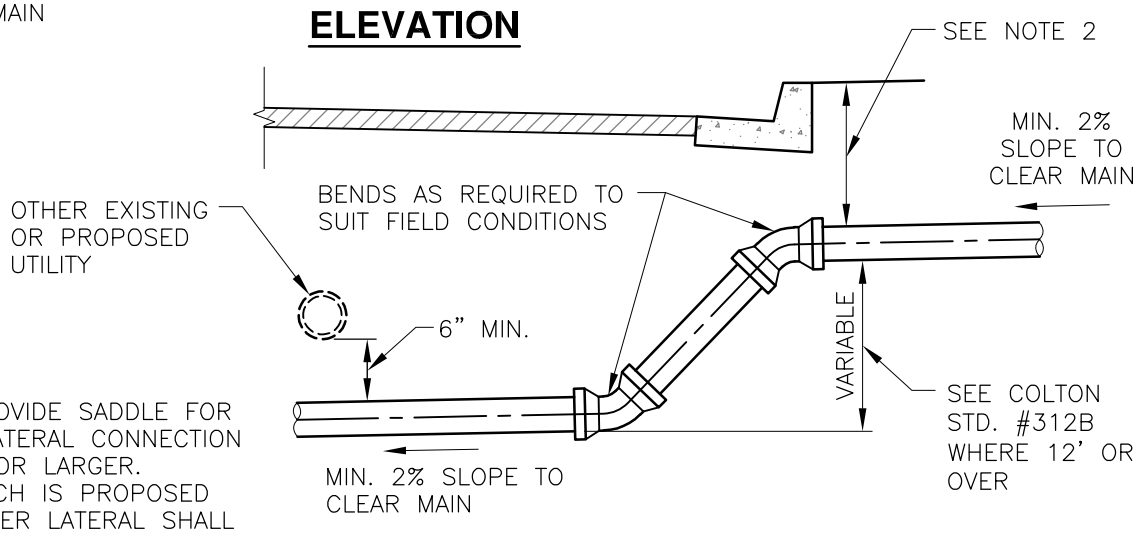
VICTOR ORTIZ, PE, CITY ENGINEER



PLAN



ELEVATION



ALTERNATE ELEVATION

NOTES:

1. CORE DRILL AND PROVIDE SADDLE FOR PROPOSED SEWER LATERAL CONNECTION TO SEWER MAIN 8" OR LARGER.
2. WHERE UTILITY TRENCH IS PROPOSED BACK OF CURB, SEWER LATERAL SHALL HAVE 5' COVER BELOW CURB GRADE AT PROPERTY LINE.
3. WHEN CLEARANCE IS LESS THAN SHOWN BETWEEN UTILITIES, CONCRETE ENCASEMENT OF SEWER IS REQUIRED.
4. SEPARATION BETWEEN WATER AND SEWER LINES SHALL BE 10" MINIMUM.
5. WHERE SEWER LATERAL CROSSES ABOVE AN EXISTING OR PROPOSED WATER MAIN, USE D.I. PIPE WITH HOT DIP BITUMINOUS COATING 10' EACH SIDE OF WATER MAIN.
6. PIPE MUST BE VITRIFIED CLAY PIPE (VCP) OR PVC SDR-35.
7. LATERALS SHALL END AT THE PROPERTY LINE BY MEANS OF SEWER CLEANOUT.

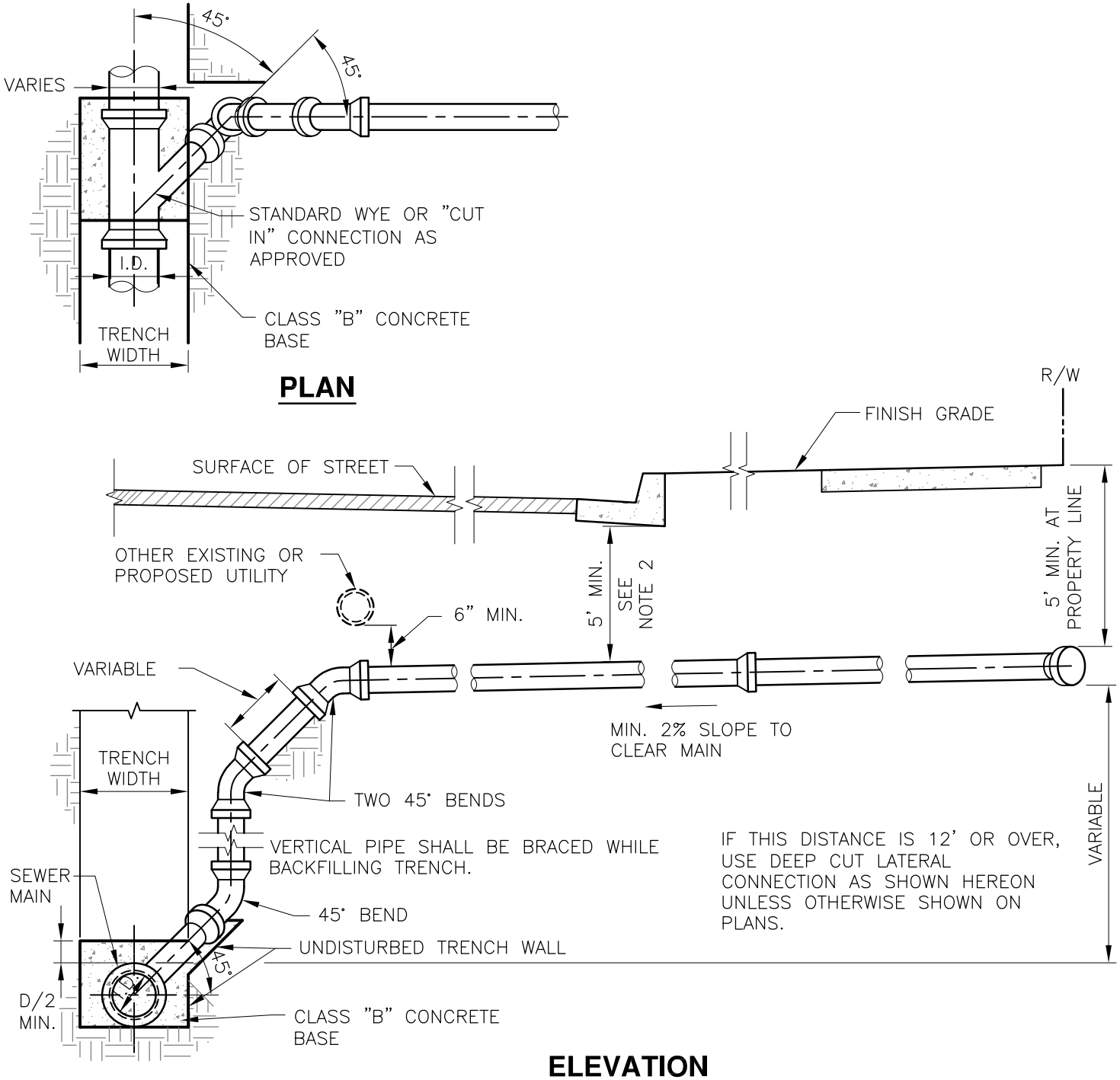
CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

SEWER LATERAL CONNECTIONS NORMAL CUT

DATE:	JUNE 2024	SCALE:	N.T.S.
DRWN BY:	J. McG	REV:	J. SOTTO
APP'D BY:	VICTOR ORTIZ, PE		

VICTOR ORTIZ, PE, CITY ENGINEER

DWG. NO. 312



NOTES:

1. CORE DRILL AND PROVIDE SADDLE FOR PROPOSED SEWER LATERAL CONNECTION TO SEWER MAIN 8" OR LARGER.
2. WHERE UTILITY TRENCH IS PROPOSED BACK OF CURB, SEWER LATERAL SHALL HAVE 5' COVER BELOW CURB GRADE AT PROPERTY LINE.
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4. SEPARATION BETWEEN WATER AND SEWER LINES SHALL BE 10" MINIMUM.
5. WHERE SEWER LATERAL CROSSES ABOVE AN EXISTING OR PROPOSED WATER MAIN, USE D.I. PIPE WITH HOT DIP BITUMINOUS COATING 10' EACH SIDE OF WATER MAIN.
6. PIPE MUST BE VITRIFIED CLAY PIPE (VCP) OR PVC SDR-35.
7. LATERALS SHALL END AT THE PROPERTY LINE BY MEANS OF SEWER CLEANOUT.

CITY OF COLTON
PUBLIC WORKS DEPARTMENT
WASTEWATER DIVISION

SEWER LATERAL CONNECTIONS
DEEP CUT

DATE: JUNE 2024	SCALE: N.T.S.	**DWG. NO.**
DRWN BY: J. McG	REV: J. SOTTO	**312B**
APP'D BY: VICTOR ORTIZ, PE		

VICTOR ORTIZ, PE, CITY ENGINEER