90° BEND	
PIPE SIZE	BEARING AREA
4"	2 S.F.
6"	4 S.F.
8"	8 S.F.
10"	12 S.F.
12"	16 S.F.
14"	22 S.F.
16"	29 S.F.
18"	36 S.F.
20"	44 S.F.
24"	64 S.F.
30"	100 S.F.
36"	103 S.F.

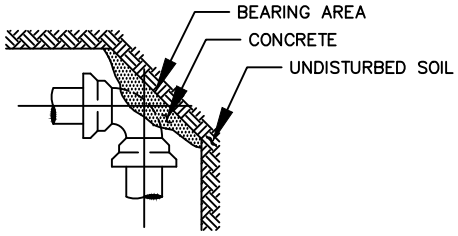
45° BEND	
PIPE SIZE	BEARING AREA
4"	1 S.F.
6"	3 S.F.
8"	4 S.F.
10"	6 S.F.
12"	9 S.F.
14"	12 S.F.
16"	16 S.F.
18"	20 S.F.
20"	24 S.F.
24"	36 S.F.
30"	54 S.F.
36"	72 S.F.

22 1/2° BEND	
PIPE SIZE	BEARING AREA
4"	1 S.F.
6"	1 S.F.
8"	2 S.F.
10"	3 S.F.
12"	5 S.F.
14"	6 S.F.
16"	8 S.F.
18"	10 S.F.
20"	12 S.F.
24"	18 S.F.
30"	28 S.F.
36"	38 S.F.

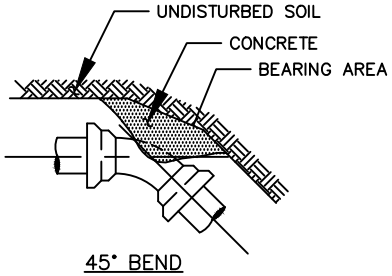
11 1/4° BEND	
PIPE SIZE	BEARING AREA
4"	1 S.F.
6"	1 S.F.
8"	1 S.F.
10"	2 S.F.
12"	2 S.F.
14"	3 S.F.
16"	4 S.F.
18"	5 S.F.
20"	6 S.F.
24"	9 S.F.
30"	12 S.F.
36"	15 S.F.

TEE	
PIPE SIZE	BEARING AREA
4"	2 S.F.
6"	3 S.F.
8"	5 S.F.
10"	8 S.F.
12"	12 S.F.
14"	15 S.F.
16"	20 S.F.
18"	25 S.F.
20"	32 S.F.
24"	45 S.F.
30"	71 S.F.
36"	77 S.F.

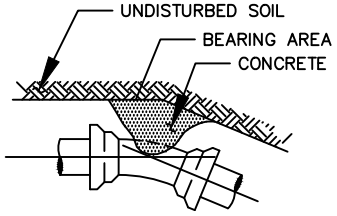
PLUG	
PIPE SIZE	BEARING AREA
4"	2 S.F.
6"	3 S.F.
8"	5 S.F.
10"	8 S.F.
12"	12 S.F.
14"	15 S.F.
16"	20 S.F.
18"	25 S.F.
20"	32 S.F.
24"	45 S.F.
30"	71 S.F.
36"	77 S.F.



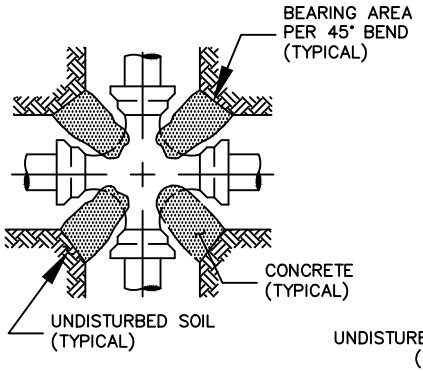
90° BEND



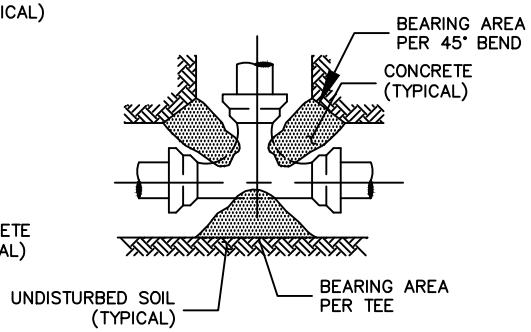
45° BEND



11 1/4° & 22 1/2° BEND



CROSS



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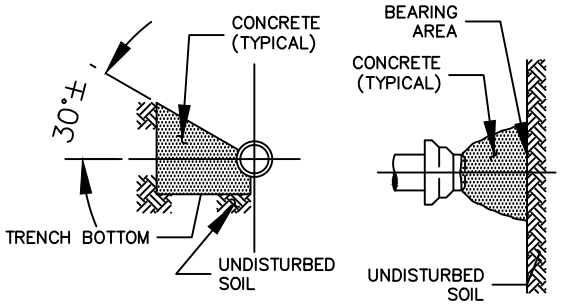


CROSS SECTION

PLUG

NOTES:

1. SEE COLC SPECIFICATIONS FOR CONCRETE.
2. PLACE CONCRETE AGAINST UNDISTURBED SOIL AND FITTING ONLY, CLEAR OF THE JOINT.
3. ALL IRON FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE FILM 8 MILS MIN THICKNESS MEETING ANSI 21.5 (AWWA C105) WITH ALL EDGES AND LAPS TAPED SECURELY TO PROVIDE A CONTINUOUS AND WATERTIGHT WRAP.
4. DIMENSIONS ARE BASED ON 150 PSI TEST PRESSURE AND SAFE SOIL BEARING LOAD OF 1100 PSI.
5. ALL FITTINGS TO BE MECHANICAL JOINT WITH MEGA-LUG RESTRAINTS OR APPROVED EQUAL.

LC TX

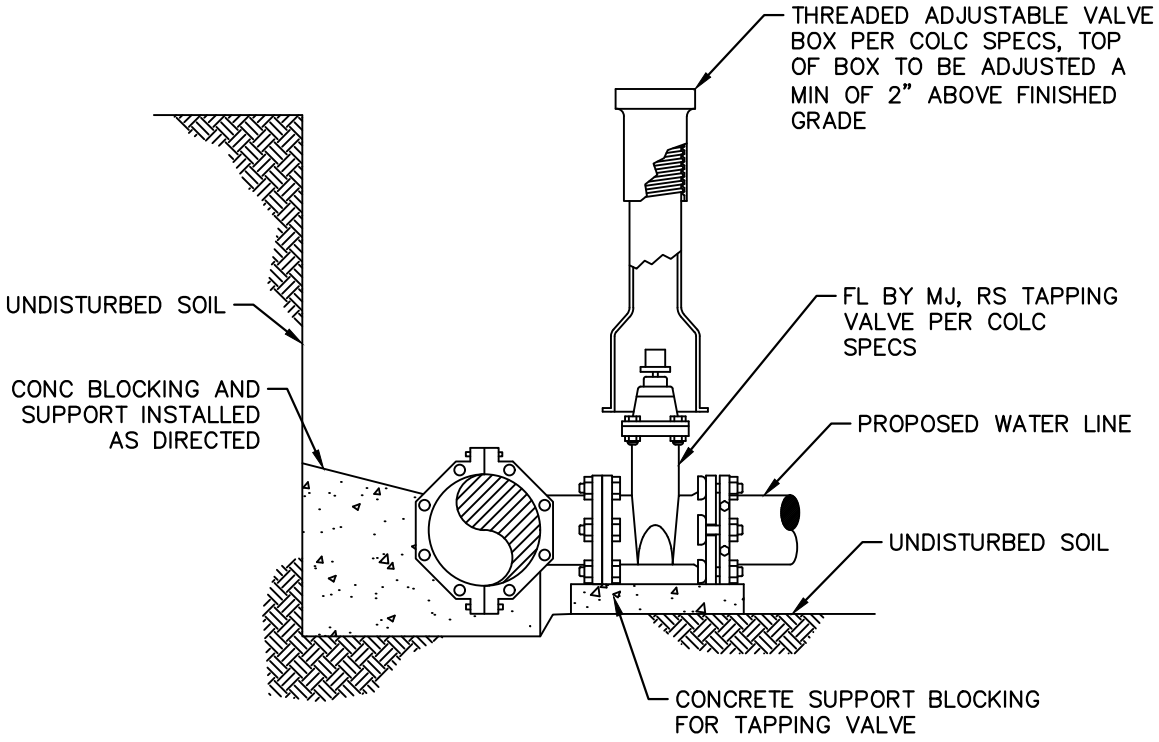
STANDARD CONSTRUCTION DETAIL

HORIZONTAL THRUST BLOCKING DETAILS

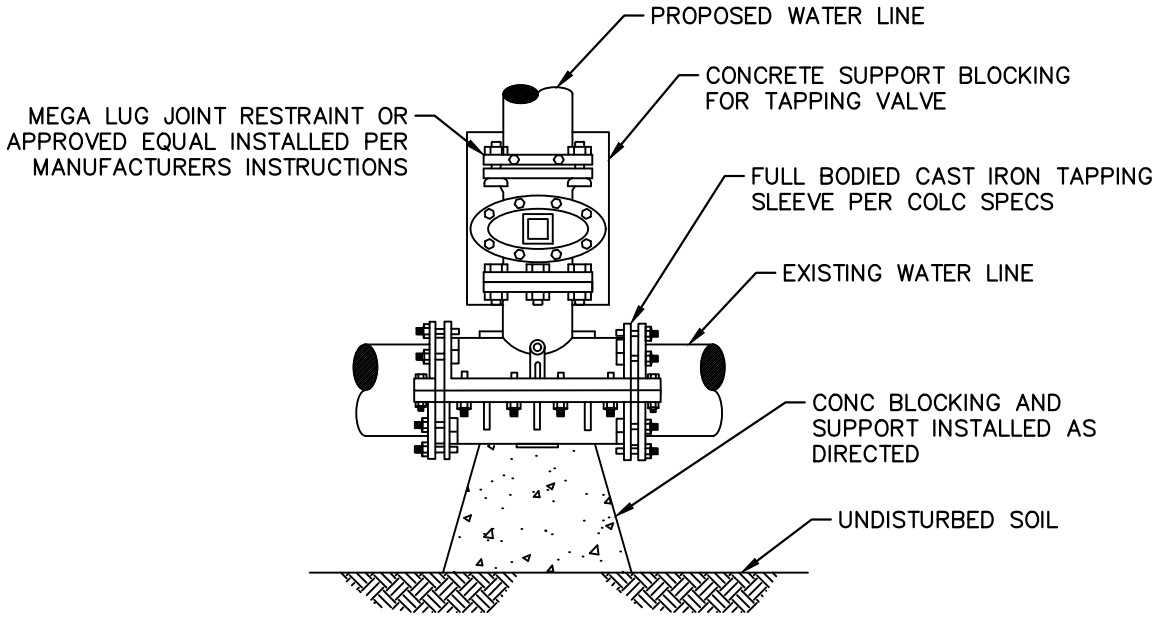
SCALE: NTS

JUNE 2025

03 30 53



SIDE VIEW



TOP VIEW

NOTES:

1. VALVE AND TAPPING SLEEVE TO BE INSTALLED PER COLC SPECIFICATION WITH POLLY WRAP BEFORE ANY CONCRETE IS POURED.
2. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
3. TAPPING SLEEVE AND VALVE TO BE AIR TESTED BEFORE TAP IS MADE.
4. ANY TAPPING SLEEVE AND VALVE SET UPS FOR THE PURPOSE OF PRIVATE WATER USE OR FIRE PROTECTION SHALL BE INSPECTED BY COLC LINE REPAIR DEPT. CALL 281–554–1390 24 HRS PRIOR TO CONSTRUCTION.

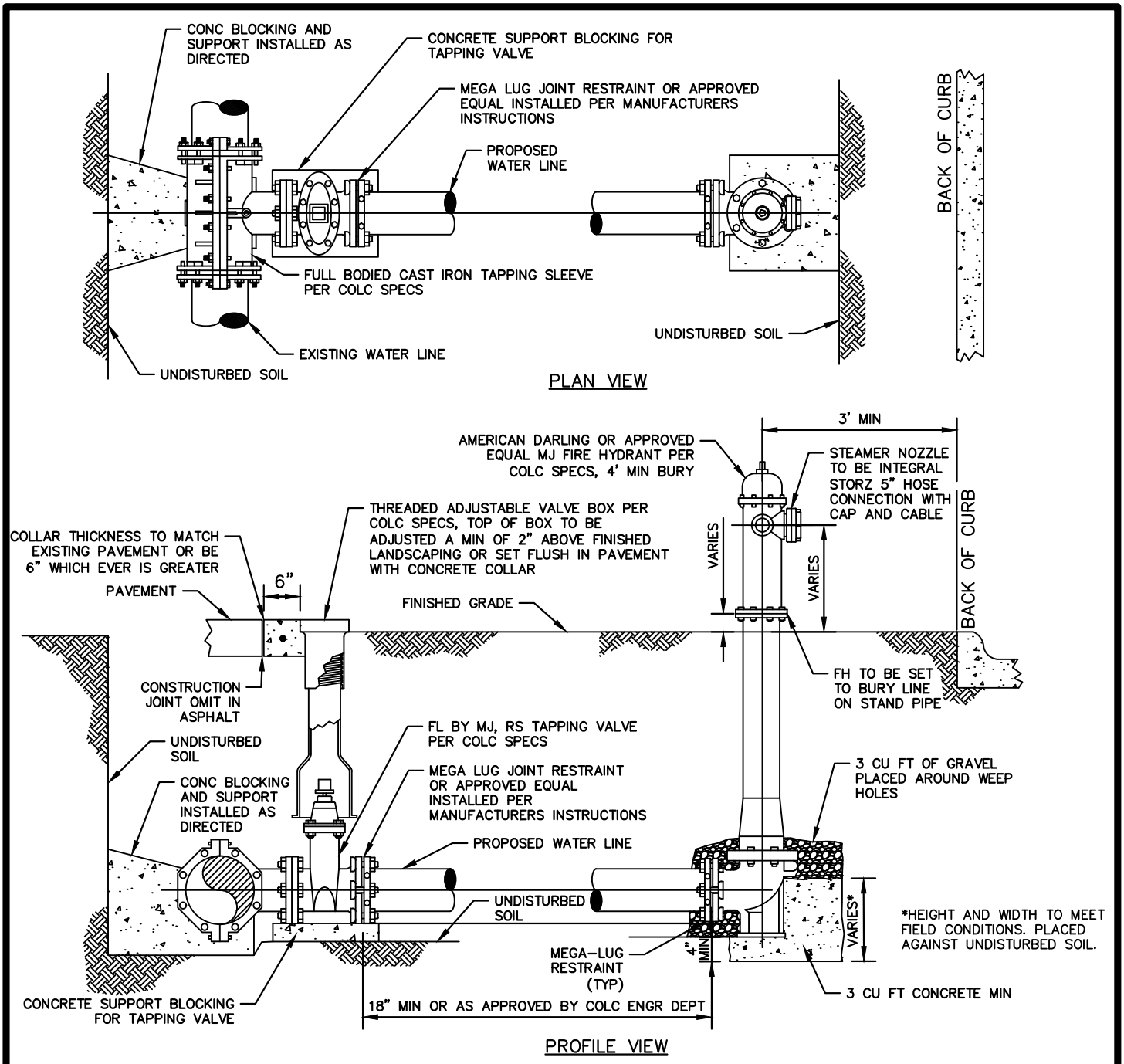
STANDARD CONSTRUCTION DETAIL

TAPPING SLEEVE AND VALVE DETAIL

SCALE: NTS

JUNE 2025

33 01 21 - 01



NOTES:

1. VALVE AND TAPPING SLEEVE TO BE INSTALLED PER COLC SPECIFICATION WITH POLLY WRAP BEFORE ANY CONCRETE IS POURED.
2. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
3. TAPPING SLEEVE AND VALVE TO BE AIR TESTED BEFORE TAP IS MADE.
4. ANY TAPPING SLEEVE AND VALVE SET UPS FOR THE PURPOSE OF PRIVATE WATER USE OR FIRE PROTECTION SHALL BE INSPECTED BY COLC LINE REPAIR DEPT. CALL 281-554-1390 24 HRS PRIOR TO CONSTRUCTION.
5. FOR MULLER HYDRANTS OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION.
6. PUMPER NOZZLE SHALL BE EQUIPPED WITH INTEGRAL STORZ 5" HOSE CONNECTOR WITH CAP AND FACE ROADWAY.
7. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
8. THIS DETAIL IS NOT INTENDED TO COVER ALL CIRCUMSTANCES WHEN USED FOR ROADWAY CROSSING THE CITY'S ROAD BOAR AND CASING DETAIL WILL ALSO APPLY.

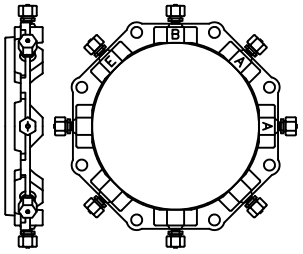
STANDARD CONSTRUCTION DETAIL

TAPPING SLEEVE - FIRE HYDRANT AND VALVE DETAIL

SCALE: NTS

JUNE 2025

33 01 21 - 02

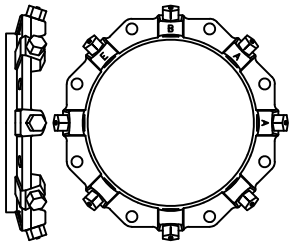


EBAA IRON
MEGA-LUG SERIES 2000
PRESSURE RATINGS FOR ORDINARY WATER WORKS:

DR14 200 PSI	SDR17 250 PSI
DR18 150 PSI	SDR21 200 PSI
DR25 100 PSI	SDR26 160 PSI

(UL) ◁FM▷ RATED 150 PSI ON DR18

EXCEEDS UNI-B-13 OF 92
FOR USE ON PVC PIPE
MADE IN THE USA

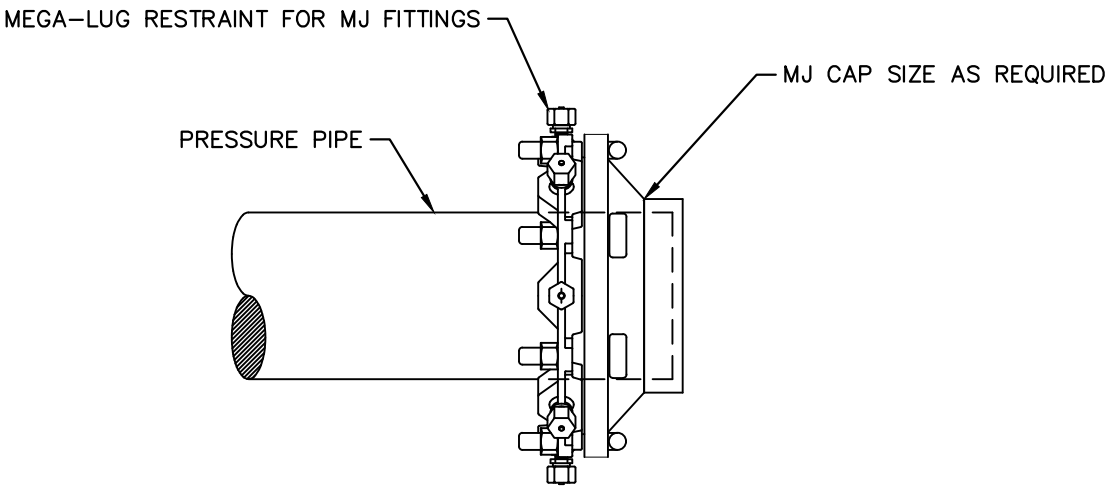


EBAA IRON
MEGA-LUG SERIES 1100
350 PSI RATING

(UL) ◁FM▷ RATED 175 PSI

FOR USE ON DUCTILE IRON PIPE
MADE IN THE USA

LC TX	STANDARD CONSTRUCTION DETAIL **MEGALUG DETAILS**	SCALE: NTS JUNE 2025 **33 05 19 - 01**

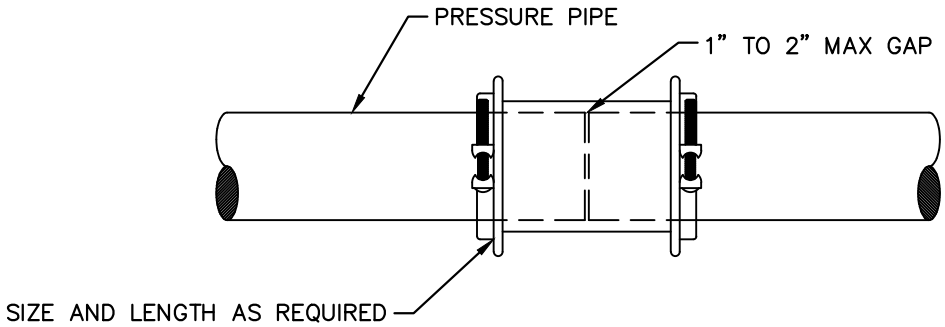


STANDARD CONSTRUCTION DETAIL
MJ CAP WITH RESTRAINT DETAIL

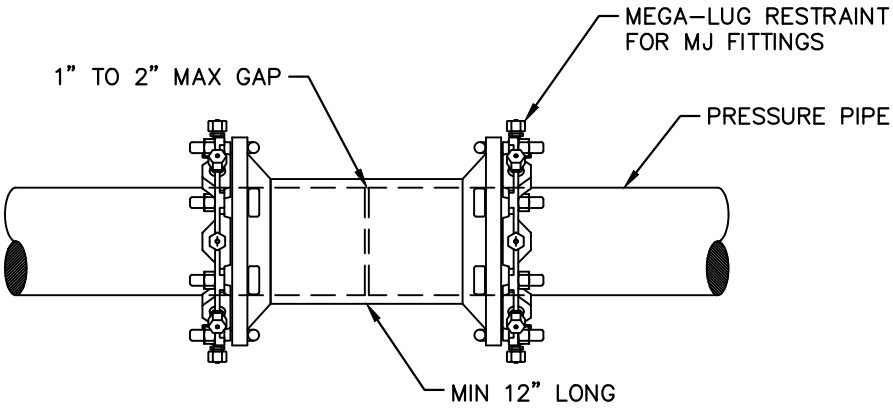
SCALE: NTS

JUNE 2025

33 05 19 - 02

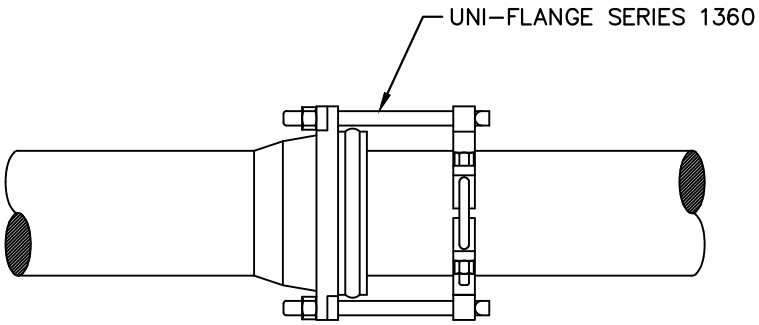


HYMAX COUPLING

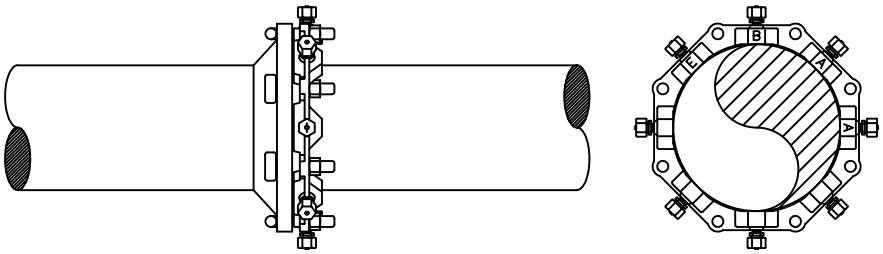


RESTRAINED MECH. JOINT SOLID SLEEVE COUPLING

LC TX	STANDARD CONSTRUCTION DETAIL **PIPE COUPLING DETAIL**	SCALE: NTS JUNE 2025 **33 05 19 - 03**



PVC BELL AND SPIGOT RESTRAINT



MECHANICAL JOINT RESTRAINT

SPECIFICATIONS:

RESTRAINT DEVICES FOR P.V.C. (AWWA C–900) AND P.V.C. PRESSURE FITTINGS (AWWA C–907) SHALL CONSIST OF A SPLIT RING INSTALLED ON THE PIPE SPIGOT, CONNECTED TO A SPLIT BACK–UP RING SEATED BEHIND THE FITTING BELL.

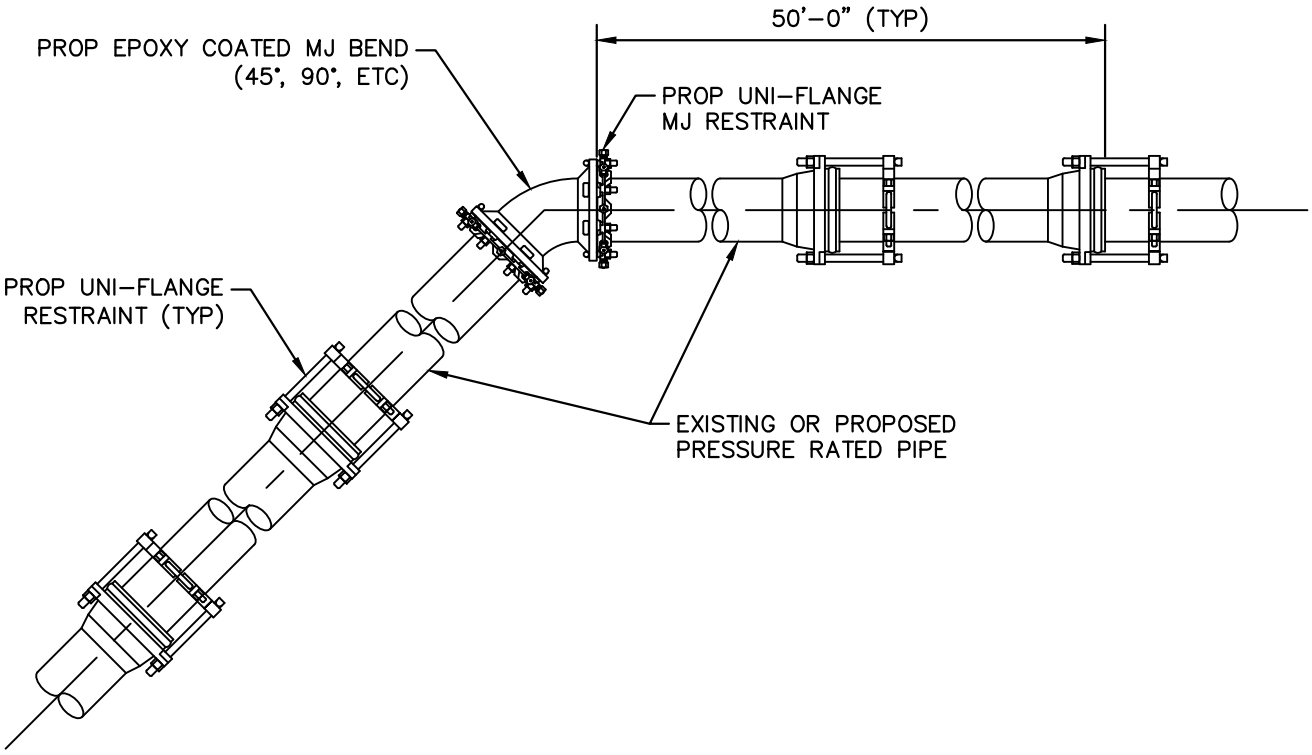
THE SPLIT RESTRAINT RING SHALL INCORPORATE A SERIES OF MACHINED SERRATIONS (NOT "AS CAST") ON THE INSIDE DIAMETER TO PROVIDE POSITIVE RESTRAINT, EXACT FIT, AND 360° CONTACT AND SUPPORT OF THE PIPE WALL.

THE TWO HALVES OF THE SPLIT BACK UP RING SHALL INTER–LOCK WITHOUT THE NEED FOR ADDITIONAL BOLTS AND SHALL FORM A BEVELED LEADING EDGE TO ASSURE EXACT FIT BEHIND THE FITTING BELL.

RESTRAINT DEVICES SHALL BE OF DUCTILE IRON, ASTM A536, GRADE 65–45–12 AND CONNECTING BOLTS SHALL BE OF HIGH STRENGTH, LOW ALLOY MATERIAL IN ACCORDANCE WITH ANSI/AWWA C111/21.11

RESTRAINT DEVICES SHALL BE UNI–FLANGE SERIES 1360 OR APPROVED EQUAL.

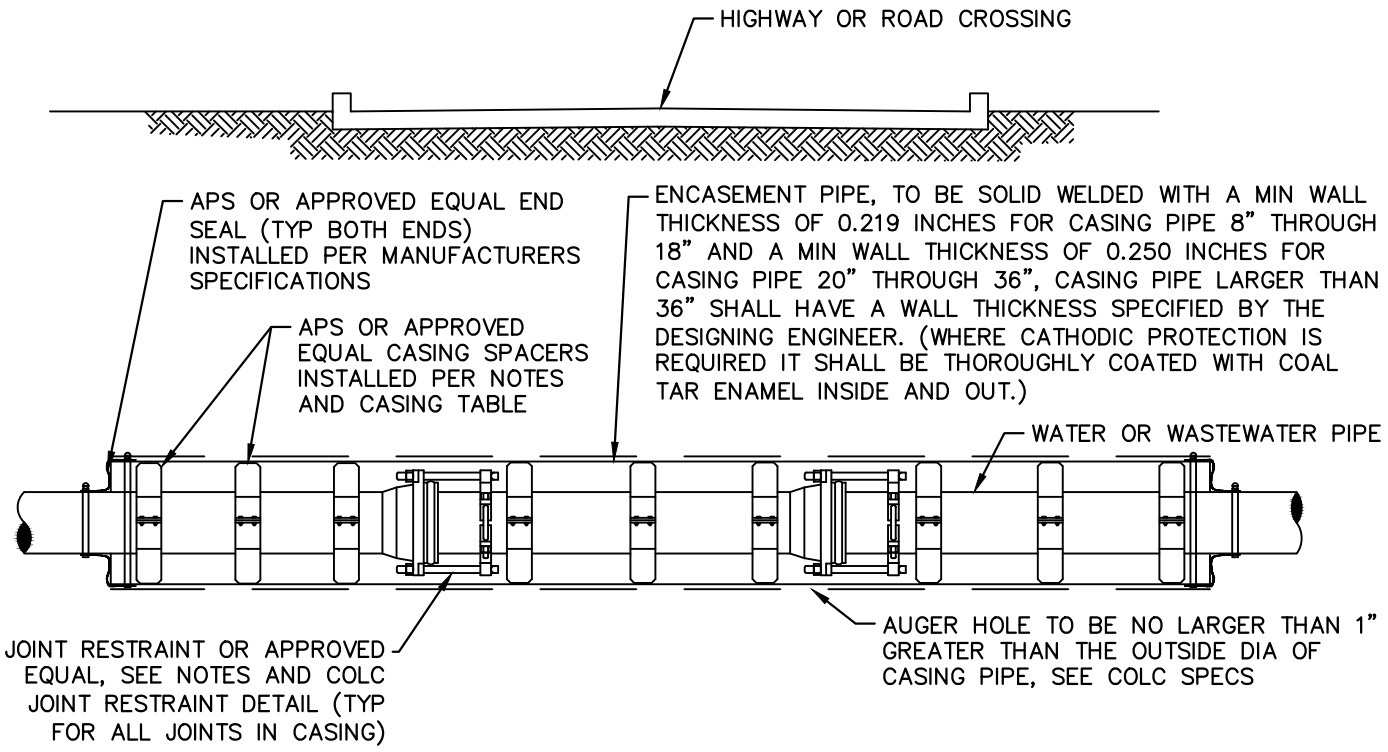
LC TX	STANDARD CONSTRUCTION DETAIL **PIPE RESTRAINT DETAIL**	SCALE: NTS JUNE 2025 **33 05 19 - 04**



NOTES:

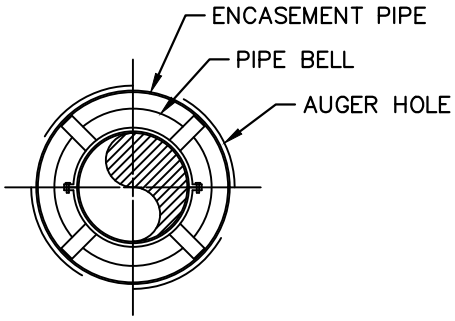
1. WHEN ALTERING EXISTING LINES RESTRAIN ANY EXISTING JOINTS EXPOSED BY CONSTRUCTION BEFORE OR AFTER PROPOSED FITTINGS WITH UNI-FLANGE BELL AND SPIGOT PIPE RESTRAINT. MAKE ANY MALE TO MALE PIPE REPAIR CONNECTION WITH HI-MAX COUPLING.
2. RESTRAIN ALL JOINTS WITHIN 50 FEET OF PROPOSED FITTINGS.
3. APPROPRIATE BEDDING AND BACKFILL SHALL BE IN ACCORDANCE WITH CITY OF LEAGUE CITY DETAILS AND DESIGN STANDARDS.
4. USE APPROPRIATE SERIES MODEL RESTRAINT FOR PIPE MATERIAL.

LC TX	STANDARD CONSTRUCTION DETAIL **RESTRAINT DETAIL FOR PRESSURE LINE WITH BEND-HORIZONTAL ADJUSTMENT**	SCALE: NTS JUNE 2025 **33 05 22**



LONGITUDINAL SECTION

CASING TABLE		
NOMINAL PIPE SIZE DIA IN INCHES	CASING SIZE INSIDE DIA IN INCHES	MAX SKID SUPPORT SPACING IN FEET
4	8–10	4.7
6	10–12	6.3
8	14–16	7.4
10	16–18	8.5
12	18–20	9.6
15	20–22	11.0
18	24–26	12.0
21	28–30	12.0
24	31–33	12.0
27	34–36	12.0



CROSS SECTION

NOTES:

1. SPACERS FOR CARRIER PIPE SHALL BE ADVANCE PRODUCTS AND SYSTEMS, INC., STAINLESS STEEL, NEOPRENE OR APPROVED EQUAL AND SHALL BE INSTALLED TO CENTER CARRIER PIPE WITHIN CASING WITH A MAX TOLERANCE OF ½" BETWEEN RUNNER AND CASING INSIDE AS WELL AS PREVENT THE CARRIER PIPE FROM RESTING ON THE BELLS WITHIN THE CASING. SEE CASING TABLE FOR SPACER DISTANCE AND NUMBER OF SPACERS.
2. CONTRACTOR TO TAKE INTO CONSIDERATION THE SIZE AND LIMITS OF PIPE RESTRAINTS WHEN ORDER AND INSTALLING CASING PIPE TO ALLOW FOR ADEQUATE CLEARANCE.
3. SPACERS TO BE PLACED A MIN OF 1' BACK FROM EACH JOINT THAT FALLS WITHIN CASING, A GREATER SET BACK MAY BE REQUIRED FOR LARGER PIPE. SEE CASING TABLE FOR ADDITIONAL INFO ON SPACING OF SUPPORTS.
4. WHEN INSTALLING GRAVITY PIPE WITH CASING CONTRACTOR SHALL TAKE INTO CONSIDERATION PIPE GRADE SO THAT THE SEWER PIPE MAINTAINS THE PROPER FALL.
5. JOINT RESTRAINTS ARE REQUIRED ON ALL JOINTS THAT FALL UNDER OR WITHIN 10' OF HIGHWAY CROSSINGS REGARDLESS OF PIPE MATERIAL, CASED OR NOT. SEE COLC PIPE RESTRAINT DETAIL. ALTERNATIVE RESTRAINT DEVICES OR PIPE WITH BUILD IN RESTRAINTS (ie..CERTAINTEED) MAY BE SUBMITTED BY DESIGN ENGINEER FOR APPROVAL.

SPECIAL NOTE: WHERE OPEN CUT GRAVITY SEWER, HIGHWAY, ROAD AND DITCH CROSSING CONSTRUCTION WILL BE DONE CONTRACTOR MAY USE GRIFFIN–20, AMSTED, H2SEWER SAFE, DUCTILE IRON SEWER PIPE, WITH SEWPER COAT LINING.

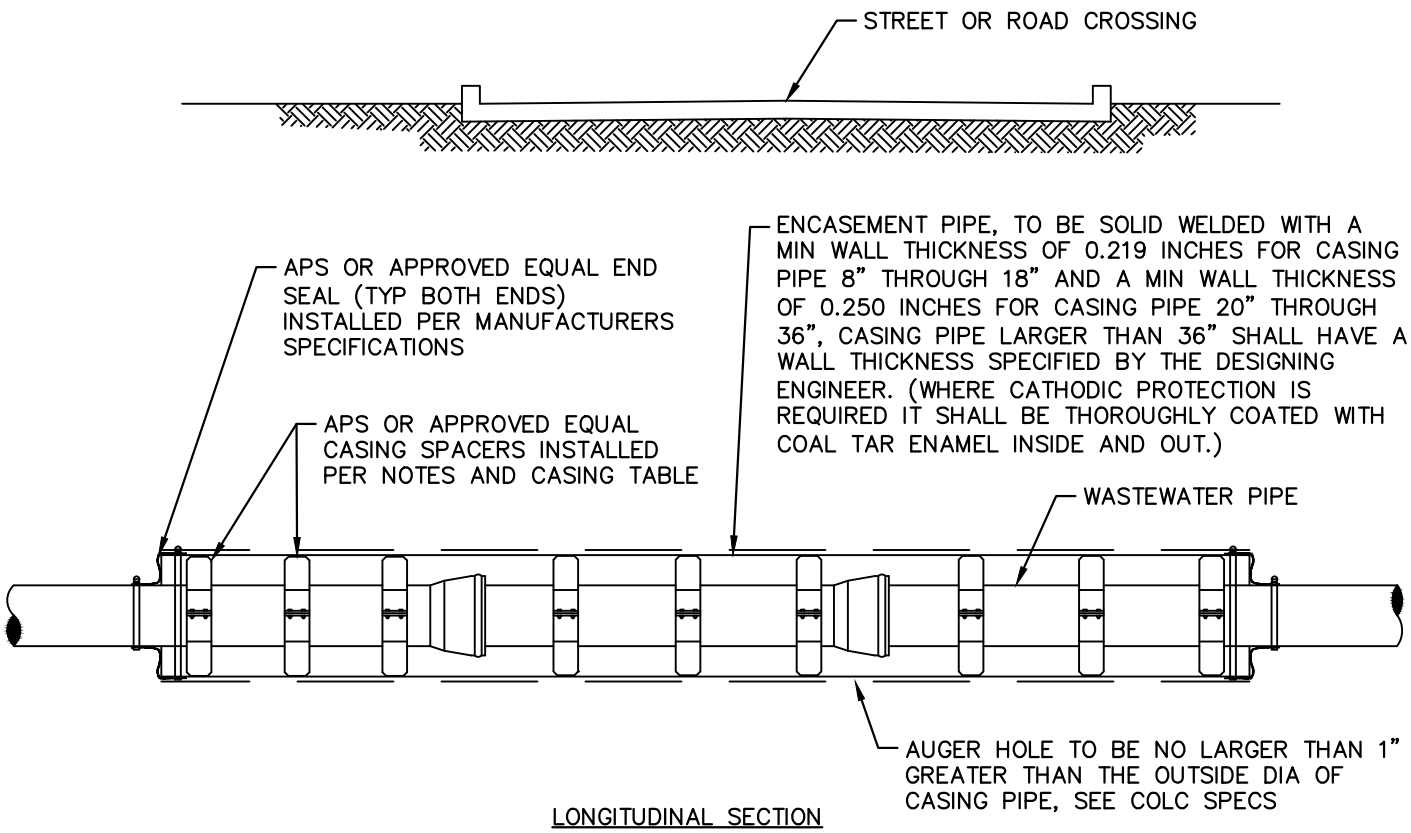
LC TX

STANDARD CONSTRUCTION DETAIL
PIPE CASING DETAIL

SCALE: NTS

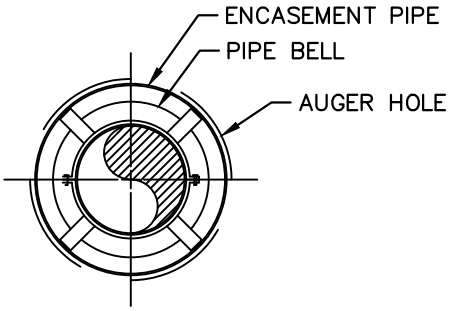
JUNE 2025

33 05 52 - 01



LONGITUDINAL SECTION

CASING TABLE		
NOMINAL PIPE SIZE DIA IN INCHES	CASING SIZE INSIDE DIA IN INCHES	MAX SKID SUPPORT SPACING IN FEET
4	8–10	4.7
6	10–12	6.3
8	14–16	7.4



CROSS SECTION

NOTES:

1. SPACERS FOR CARRIER PIPE SHALL BE ADVANCE PRODUCTS AND SYSTEMS, INC., STAINLESS STEEL, NEOPRENE OR APPROVED EQUAL AND SHALL BE INSTALLED TO CENTER CARRIER PIPE WITHIN CASING WITH A MAX TOLERANCE OF ½" BETWEEN RUNNER AND CASING INSIDE AS WELL AS PREVENT THE CARRIER PIPE FROM RESTING ON THE BELLS WITHIN THE CASING. SEE CASING TABLE FOR SPACER DISTANCE AND NUMBER OF SPACERS.
2. SPACERS TO BE PLACED A MIN OF 1' BACK FROM EACH JOINT THAT FALLS WITHIN CASING, A GREATER SET BACK MAY BE REQUIRED FOR LARGER PIPE. SEE CASING TABLE FOR ADDITIONAL INFO ON SPACING OF SUPPORTS.
3. WHEN INSTALLING GRAVITY PIPE WITH CASING CONTRACTOR SHALL TAKE INTO CONSIDERATION PIPE GRADE SO THAT THE SEWER PIPE MAINTAINS THE PROPER FALL.

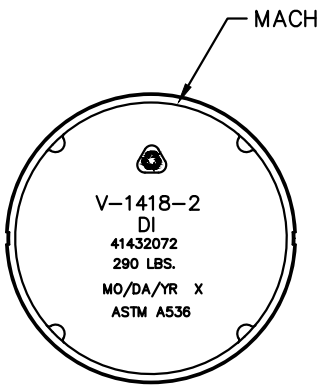
STANDARD CONSTRUCTION DETAIL

PIPE CASING DETAIL FOR GRAVITY SERVICE

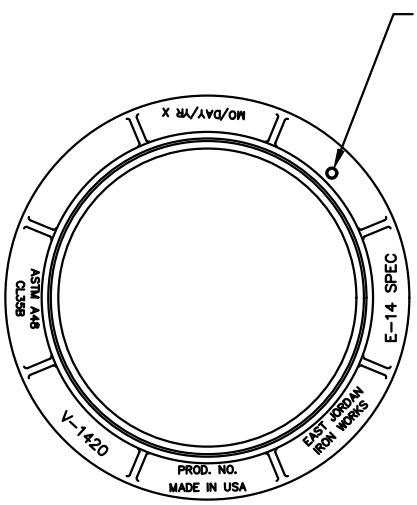
SCALE: NTS

JUNE 2025

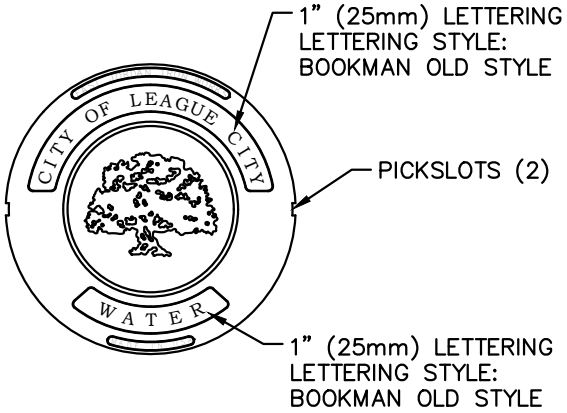
33 05 52 - 02



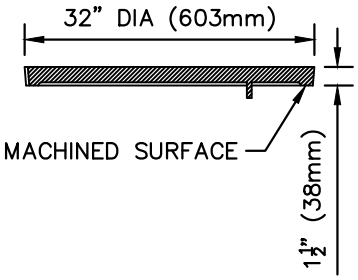
COVER BOTTOM VIEW



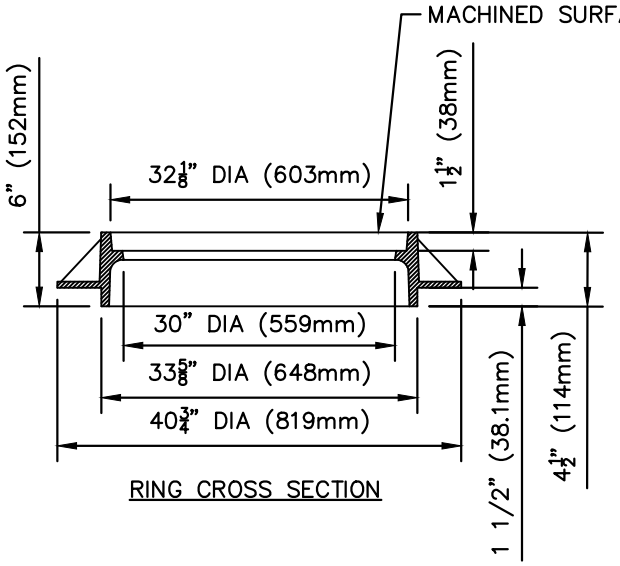
RING PLAN VIEW



COVER PLAN VIEW



COVER CROSS SECTION

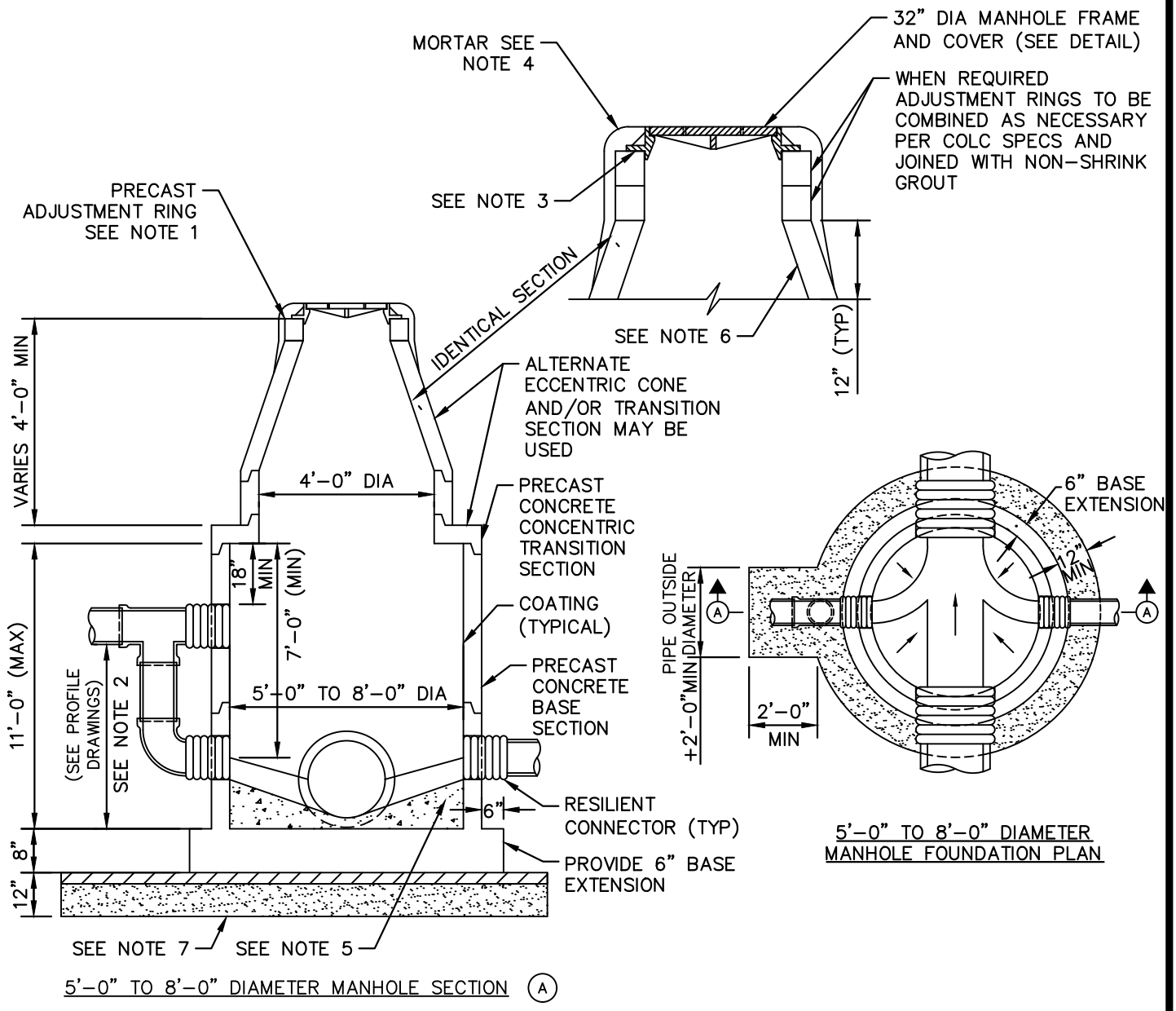


RING CROSS SECTION

NOTES:

1. COVER MATERIAL SPECS: DUCTILE IRON ASTM A 536, SHALL MEET ALL AASHTO M 306 PROOF-LOAD SPECIFICATIONS AND REQUIREMENTS.
2. RING MATERIAL SPECS: GRAY IRON ASTM A 48 CL35B, SHALL MEET ALL AASHTO M 306 PROOF-LOAD SPECIFICATIONS AND REQUIREMENTS.
3. REFER TO COLC SPECIFICATIONS FOR MORE INFORMATION.

LC TX	STANDARD CONSTRUCTION DETAIL **WATER 23 1/2" MANHOLE RING AND LID DETAIL**	SCALE: NTS JUNE 2025 **33 05 60 - 01**



NOTES:

1. WHEN REQUIRED PROVIDE RISER RINGS TO ADJUST MANHOLE RING AND LID, NOT TO EXCEED A MAX. OF 18".
2. PROVIDE DROP ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWINGS.
3. SEAT MANHOLE FRAME WITH 2 ROWS OF NON-SHRINK GROUT.
4. NON-SHRINK GROUT AROUND MANHOLE RING AS SHOWN CONTINUED DOWN OVER RISER RINGS 12" DOWN ONTO MANHOLE CONE. OMIT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
5. USE A NON-SHRINK GROUT AND THANE COAT TO FORM CHANNELS AND DIRECT FLOW IN BOTTOM OF MANHOLE IN NOT ALREADY FORMED IN BASE.
6. MANHOLE INTERIOR TO BE COATED PER COLC SPECIFICATIONS FROM BOTTOM OF RING TO BASE OF MANHOLE.
7. MANHOLE BASE TO BE SET ON 12" MIN COMPACTED CEMENT STABILIZED SAND FOR A DRY STABLE TRENCH. TOP 3" THICKNESS OF BEDDING MATERIAL IS TO BE NON-COMPACTED, FOR THE FULL EXTENT OF THE FOUNDATION. SEE CRUSHED STONE MANHOLE SUPPORT (33 05 60 – 08) OR MANHOLE PILE SUPPORT (33 05 60 – 09) FOR WET AND UNSTABLE CONDITIONS.
8. MANHOLES CONSTRUCTED ON CITY MAINS FOR THE PURPOSE OF PROVIDING PRIVATE SERVICE SHALL BE BUILT TO COLC SPECIFICATIONS AND INSPECTED BY CITY WATER UTILITY DEPT. PUBLIC MANHOLES SHALL BE VACUUM TESTED; 8" AND LARGER PUBLIC SERVICE LINES SHALL BE PRESSURE TESTED.
9. CURB TRIANGLE MARKING WHERE MANHOLE IS LOCATED.

LC TX

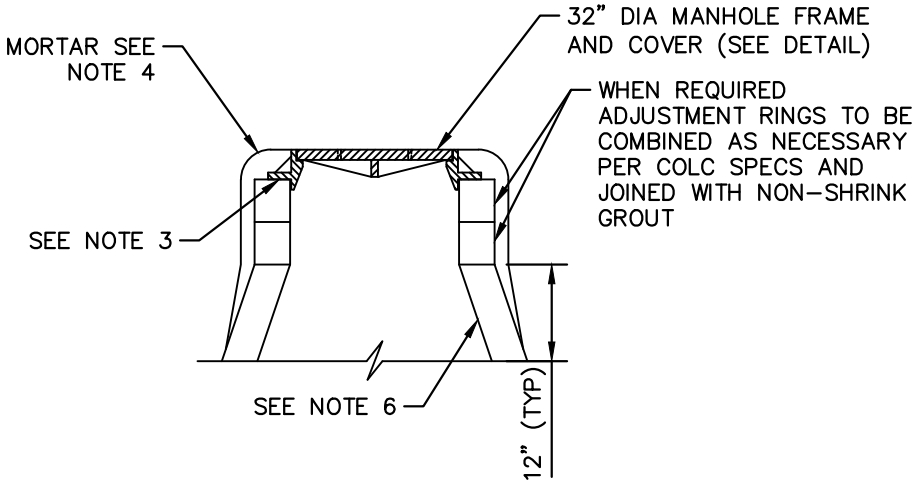
STANDARD CONSTRUCTION DETAIL

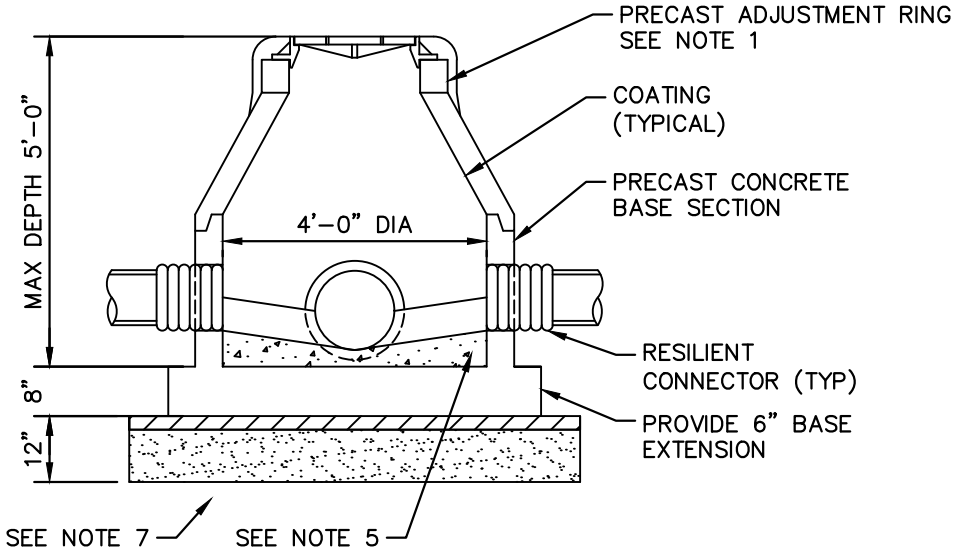
PRECAST 5 TO 8 FT SANITARY SEWER MANHOLE

SCALE: NTS

JUNE 2025

33 05 60 - 02





SHALLOW MANHOLE SECTION (A)

NOTES:

1. WHEN REQUIRED PROVIDE RISER RINGS TO ADJUST MANHOLE RING AND LID, NOT TO EXCEED A MAX. OF 18".
2. PROVIDE DROP ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWINGS.
3. SEAT MANHOLE FRAME WITH 2 ROWS OF NON-SHRINK GROUT.
4. NON-SHRINK GROUT AROUND MANHOLE RING AS SHOWN CONTINUED DOWN OVER RISER RINGS 12" DOWN ONTO MANHOLE CONE. OMIT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
5. USE A NON-SHRINK GROUT AND THANE COAT TO FORM CHANNELS AND DIRECT FLOW IN BOTTOM OF MANHOLE IN NOT ALREADY FORMED IN BASE.
6. MANHOLE INTERIOR TO BE COATED PER COLC SPECIFICATIONS FROM BOTTOM OF RING TO BASE OF MANHOLE.
7. MANHOLE BASE TO BE SET ON 12" MIN COMPACTED CEMENT STABILIZED SAND FOR A DRY STABLE TRENCH. TOP 3" THICKNESS OF BEDDING MATERIAL IS TO BE NON-COMPACTED, FOR THE FULL EXTENT OF THE FOUNDATION. SEE CRUSHED STONE MANHOLE SUPPORT (33 05 60 – 08) OR MANHOLE PILE SUPPORT (33 05 60 – 09) FOR WET AND UNSTABLE CONDITIONS.
8. MANHOLES CONSTRUCTED ON CITY MAINS FOR THE PURPOSE OF PROVIDING PRIVATE SERVICE SHALL BE BUILT TO COLC SPECIFICATIONS AND INSPECTED BY CITY WATER UTILITY DEPT. PUBLIC MANHOLES SHALL BE VACUUM TESTED; 8" AND LARGER PUBLIC SERVICE LINES SHALL BE PRESSURE TESTED.
9. CURB TRIANGLE MARKING WHERE MANHOLE IS LOCATED.

LC TX

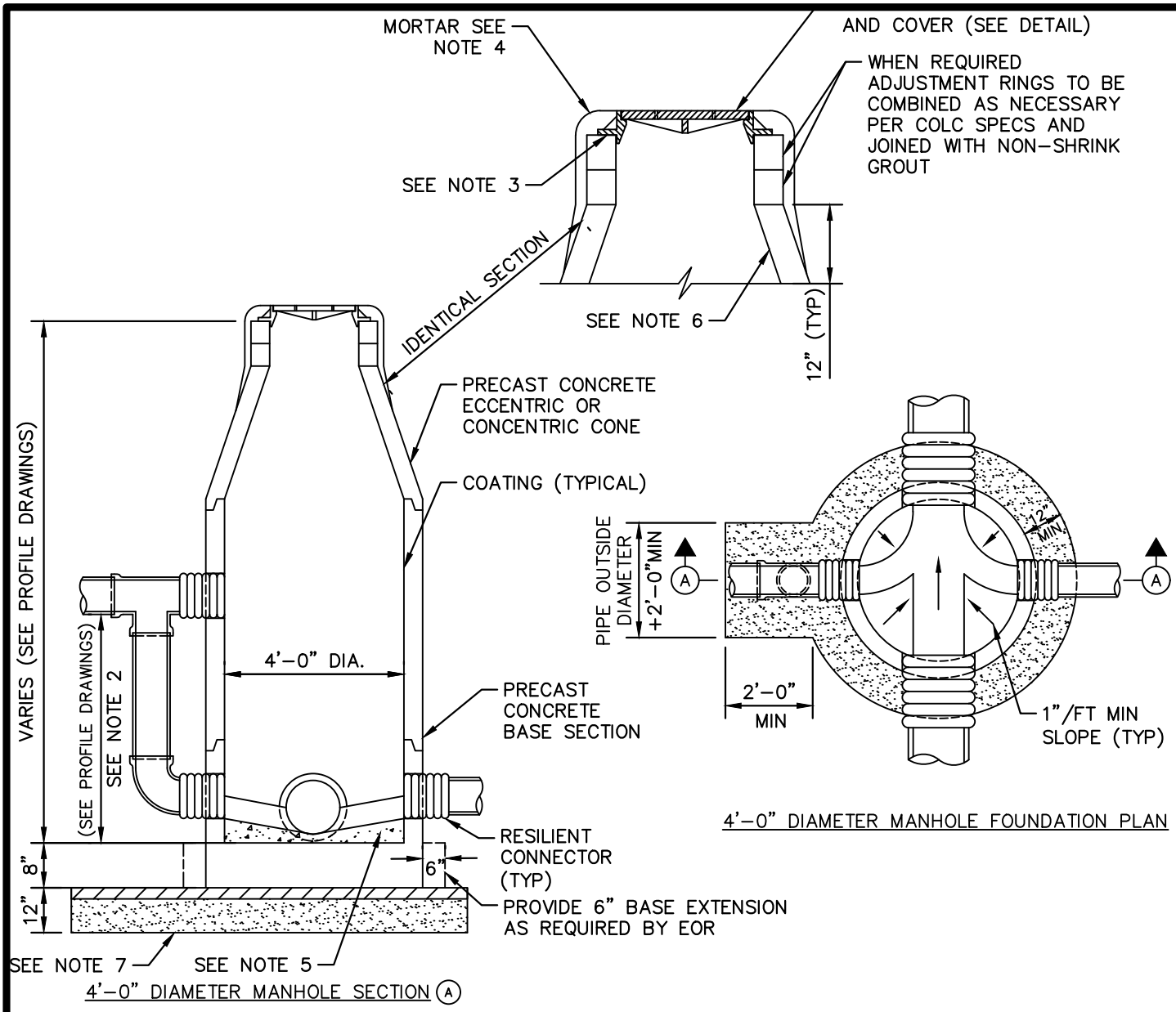
STANDARD CONSTRUCTION DETAIL

PRECAST SHALLOW SANITARY SEWER MANHOLE

SCALE: NTS

JUNE 2025

33 05 60 - 03

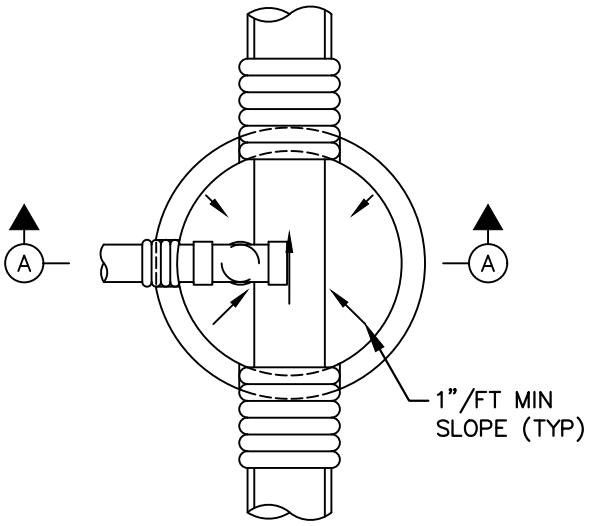


NOTES:

1. WHEN REQUIRED PROVIDE RISER RINGS TO ADJUST MANHOLE RING AND LID, NOT TO EXCEED A MAX. OF 18".
2. PROVIDE DROP ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWINGS.
3. SEAT MANHOLE FRAME WITH 2 ROWS OF NON-SHRINK GROUT.
4. NON-SHRINK GROUT AROUND MANHOLE RING AS SHOWN CONTINUED DOWN OVER RISER RINGS 12" DOWN ONTO MANHOLE CONE. OMIT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
5. USE A NON-SHRINK GROUT AND THANE COAT TO FORM CHANNELS AND DIRECT FLOW IN BOTTOM OF MANHOLE IN NOT ALREADY FORMED IN BASE.
6. MANHOLE INTERIOR TO BE COATED PER COLC SPECIFICATIONS FROM BOTTOM OF RING TO BASE OF MANHOLE.
7. MANHOLE BASE TO BE SET ON 12" MIN COMPACTED CEMENT STABILIZED SAND FOR A DRY STABLE TRENCH. TOP 3" THICKNESS OF BEDDING MATERIAL IS TO BE NON-COMPACTED, FOR THE FULL EXTENT OF THE FOUNDATION. SEE CRUSHED STONE MANHOLE SUPPORT (33 05 60 – 08) OR MANHOLE PILE SUPPORT (33 05 60 – 09) FOR WET AND UNSTABLE CONDITIONS.
8. MANHOLES CONSTRUCTED ON CITY MAINS FOR THE PURPOSE OF PROVIDING PRIVATE SERVICE SHALL BE BUILT TO COLC SPECIFICATIONS AND INSPECTED BY CITY WATER UTILITY DEPT. PUBLIC MANHOLES SHALL BE VACUUM TESTED; 8" AND LARGER PUBLIC SERVICE LINES SHALL BE PRESSURE TESTED CALL 281-554-1390 24 HRS PRIOR TO BEGINNING CONSTRUCTION AND INSPECTION.
9. CURB TRIANGLE MARKING WHERE MANHOLE IS LOCATED.

LC TX	STANDARD CONSTRUCTION DETAIL **PRECAST 4 FT SANITARY SEWER MANHOLE**	SCALE: NTS JUNE 2025 **33 05 60 - 04**

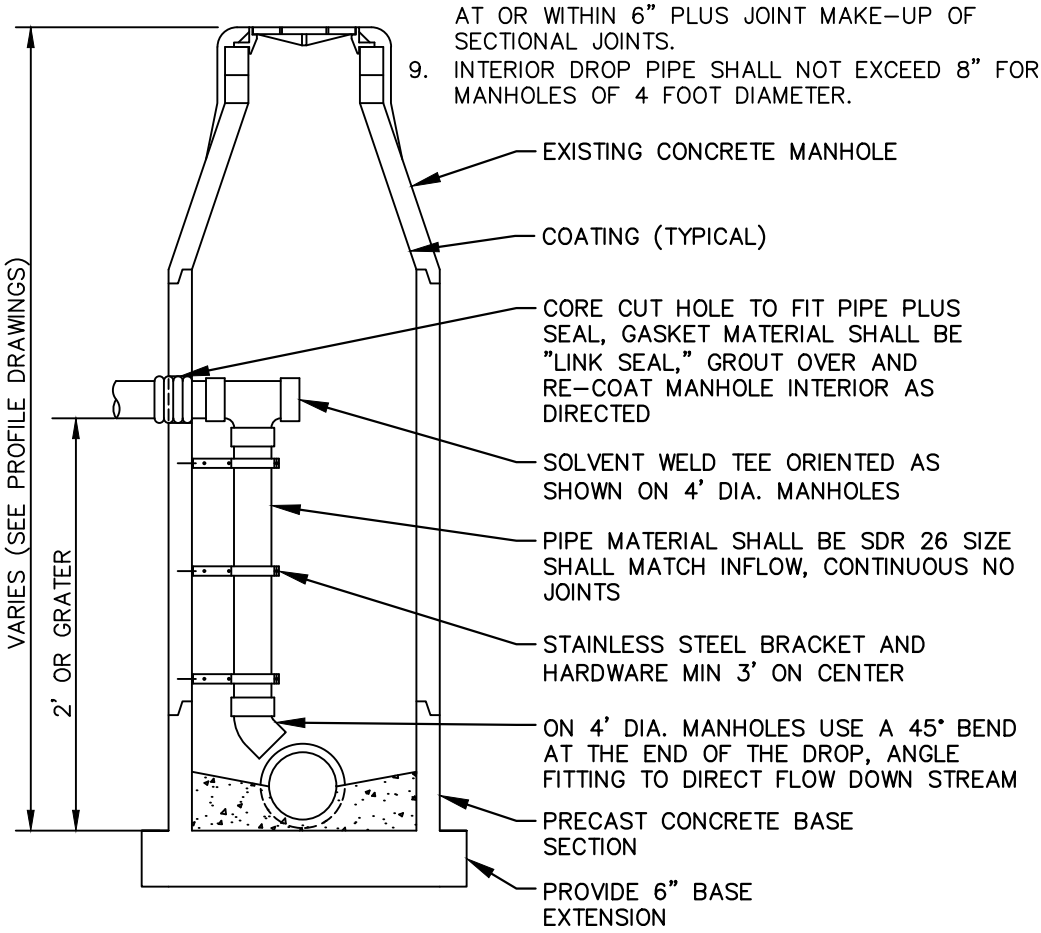
ONLY ALLOWED FOR RETROFITS NOT NEW INFRASTRUCTURE



4'–0" DIAMETER MANHOLE PLAN VIEW

NOTES: WHERE APPROVED BY CITY ENGINEER

1. PROVIDE DROP ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWINGS. INTERNAL DROP STRUCTURE ONLY ALLOWED WHERE PRE–APPROVED BY LEAGUE CITY.
2. USE A NON–SHRINK GROUT TO FORM CHANNELS AND DIRECT FLOW IN BOTTOM OF MANHOLE IF NOT ALREADY FORMED IN BASE AND AS NECESSARY.
3. INTERIOR SURFACE OF MANHOLE SHALL BE INTACT AND SOUND FOR INTERNAL STRUCTURE TO BE INSTALLED.
4. ANY DAMAGE CAUSED TO LINED MANHOLES BY INSTALLATION OF PROPOSED INTERNAL DROP STRUCTURE SHALL BE REPAIRED WITH SAME LINING MATERIAL TO MANUFACTURERS RECOMMENDATIONS.
5. ALL METAL BRACKETS, SUPPORTS AND ASSOCIATED HARDWARE SHALL BE STAINLESS STEEL.
6. ALTERNATIVE PIPE MAKEUP TO BUILD DROP STRUCTURE SHALL BE REVIEWED AND APPROVED BY LEAGUE CITY BEFORE BUILD OR INSTALLATION.
7. PIPE FITTINGS USED ON THE INTERIOR OF MANHOLE SHALL BE SOLVENT WELD ASTM 3034 (SDR 35).
8. CORE CUTS INTO MANHOLES SHALL NOT OCCUR AT OR WITHIN 6" PLUS JOINT MAKE–UP OF SECTIONAL JOINTS.
9. INTERIOR DROP PIPE SHALL NOT EXCEED 8" FOR MANHOLES OF 4 FOOT DIAMETER.



4'–0" DIAMETER MANHOLE SECTION (A)

SPECIAL CONSTRUCTION DETAIL

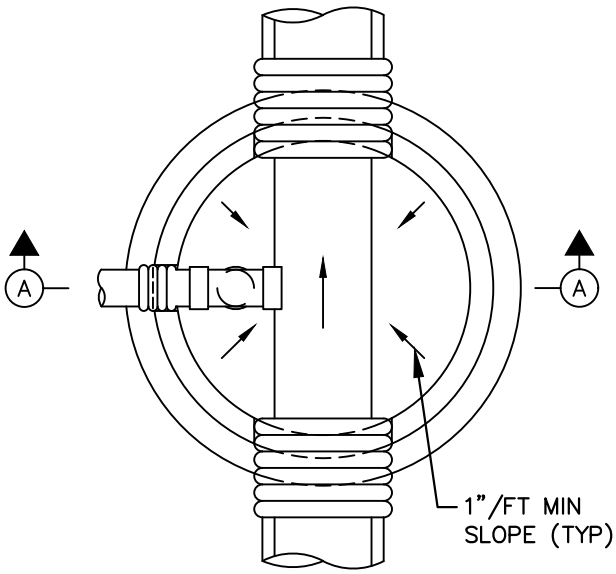
INTERNAL DROP FOR SANITARY SEWER MANHOLE

SCALE: NTS

JUNE 2025

33 05 60 - 05

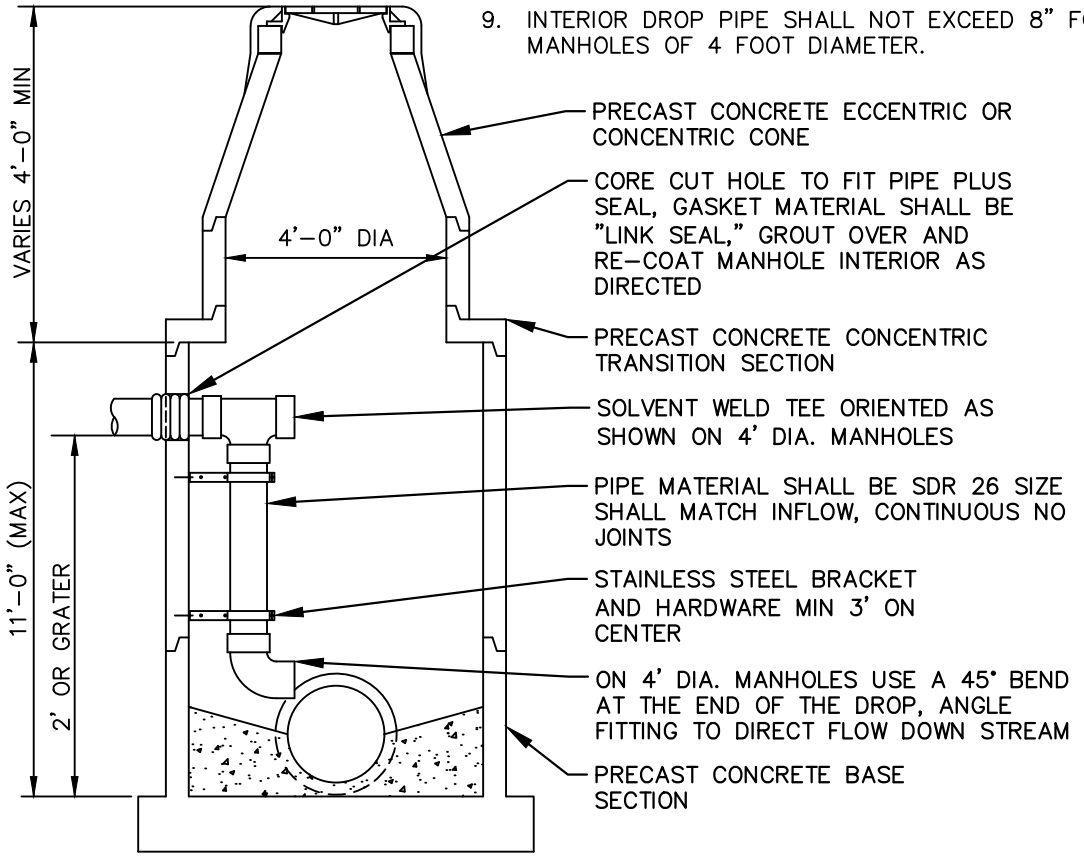
ONLY ALLOWED FOR RETROFITS NOT NEW INFRASTRUCTURE



5'–0" TO 8'–0" DIAMETER MANHOLE PLAN VIEW

NOTES: WHERE APPROVED BY CITY ENGINEER

1. PROVIDE DROP ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWINGS. INTERNAL DROP STRUCTURE ONLY ALLOWED WHERE PRE–APPROVED BY LEAGUE CITY.
2. USE A NON–SHRINK GROUT TO FORM CHANNELS AND DIRECT FLOW IN BOTTOM OF MANHOLE IF NOT ALREADY FORMED IN BASE AND AS NECESSARY.
3. INTERIOR SURFACE OF MANHOLE SHALL BE INTACT AND SOUND FOR INTERNAL STRUCTURE TO BE INSTALLED.
4. ANY DAMAGE CAUSED TO LINED MANHOLES BY INSTALLATION OF PROPOSED INTERNAL DROP STRUCTURE SHALL BE REPAIRED WITH SAME LINING MATERIAL TO MANUFACTURERS RECOMMENDATIONS.
5. ALL METAL BRACKETS, SUPPORTS AND ASSOCIATED HARDWARE SHALL BE STAINLESS STEEL.
6. ALTERNATIVE PIPE MAKEUP TO BUILD DROP STRUCTURE SHALL BE REVIEWED AND APPROVED BY LEAGUE CITY BEFORE BUILD OR INSTALLATION.
7. PIPE FITTINGS USED ON THE INTERIOR OF MANHOLE SHALL BE SOLVENT WELD ASTM 3034 (SDR 35).
8. CORE CUTS INTO MANHOLES SHALL NOT OCCUR AT OR WITHIN 6" PLUS JOINT MAKE–UP OF SECTIONAL JOINTS.
9. INTERIOR DROP PIPE SHALL NOT EXCEED 8" FOR MANHOLES OF 4 FOOT DIAMETER.



5'–0" TO 8'–0" DIAMETER MANHOLE SECTION (A)

SPECIAL CONSTRUCTION DETAIL
5 FT PRECAST SANITARY SEWER MANHOLE WITH INTERNAL DROP

SCALE: NTS

JUNE 2025

33 05 60 - 06

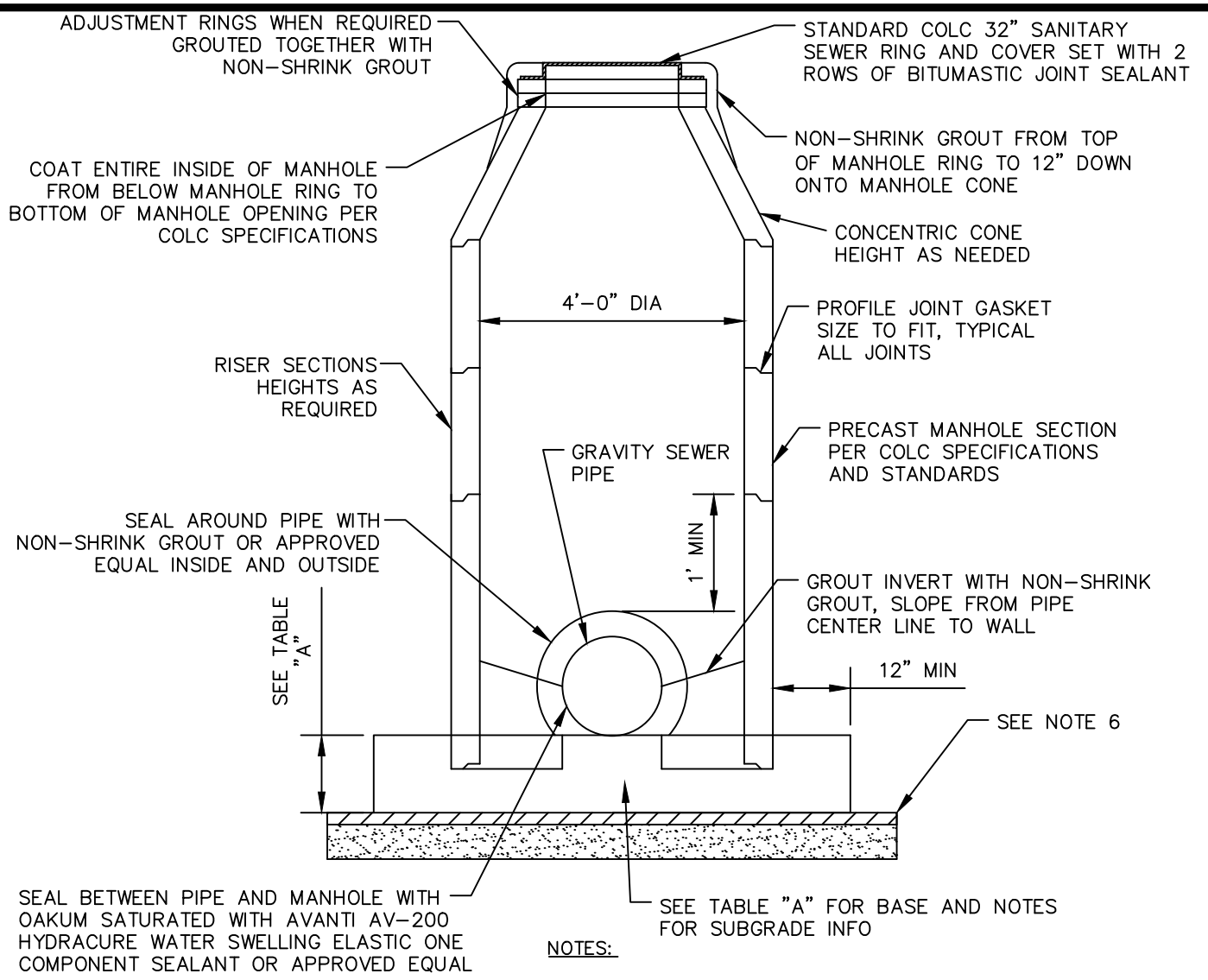


TABLE "A"			
BASE SLAB REINFORCING AND THICKNESS			
MANHOLE BASE DIAMETER FEET	DEPTH TO INVERT (FT)	BASE THICKNESS	REINFORCING BARS EACH WAY TOP AND BOTTOM
8	≤20 ≤25 ≤30 ≤40 ≤50 ≤60	1'-0" 1'-2" 1'-4" 1'-6" 1'-8" 1'-10"	#6 @ 10" #6 @ 8" #6 @ 7" #6 @ 6" #6 @ 6" #6 @ 6"
6	≤15 ≤20 ≤25 ≤30 ≤40 ≤50 ≤60	1'-0" 1'-0" 1'-2" 1'-2" 1'-2" 1'-4" 1'-4"	#5 @ 8" #5 @ 8" #5 @ 7" #5 @ 6" #6 @ 8" #6 @ 8" #6 @ 7"

NOTES:

1. BOTTOM MANHOLE SECTION TO BE SET 6" INTO CONCRETE BASE WHILE WET.
2. TOP 3" THICKNESS OF BEDDING MATERIAL FOR PRECAST MANHOLES IS TO BE NON-COMPACTED FOR THE FULL EXTENT OF THE FOUNDATION. MANHOLE BASE TO BE SET ON 12" MIN COMPACTED CEMENT STABILIZED SAND IN NORMAL CONDITIONS. SEE CRUSHED STONE MANHOLE SUPPORT OR MANHOLE PILE SUPPORT FOR WET AND UNSTABLE CONDITIONS.
3. MANHOLES SET WITHIN 3' OF ROADWAY TO BE BACKFILLED WITH CEMENT STABILIZED SAND. ALL OTHER LOCATION SEE MANHOLE SHAFT BACKFILL DETAIL.
4. BACKFILL FOR MANHOLES SET NEAR OR IN HIGHWAYS TO FOLLOW TxDOT SPECIFICATIONS.
5. MANHOLES CONSTRUCTED ON CITY MAINS FOR THE PURPOSE OF PROVIDING PRIVATE SERVICE SHALL BE BUILT TO COLC STANDARDS AND BE INSPECTED BY CITY WATER UTILITY DEPT. PUBLIC MANHOLES SHALL BE VACUUM TESTED; 8" AND LARGER PUBLIC SERVICE LINES SHALL BE PRESSURE TESTED.
7. MANHOLE BASE TO BE SET ON 12" MIN COMPACTED CEMENT STABILIZED SAND FOR A DRY STABLE TRENCH. TOP 3" THICKNESS OF BEDDING MATERIAL IS TO BE NON-COMPACTED, FOR THE FULL EXTENT OF THE FOUNDATION. SEE CRUSHED STONE MANHOLE SUPPORT (33 05 60-08) OR MANHOLE PILE SUPPORT (33 05 60-09) FOR WET AND UNSTABLE CONDITIONS.

STANDARD CONSTRUCTION DETAIL
SANITARY SEWER PRECAST MANHOLE ON EXISTING LINE WITH POURED BASE

SCALE: NTS

JUNE 2025

33 05 60 - 07

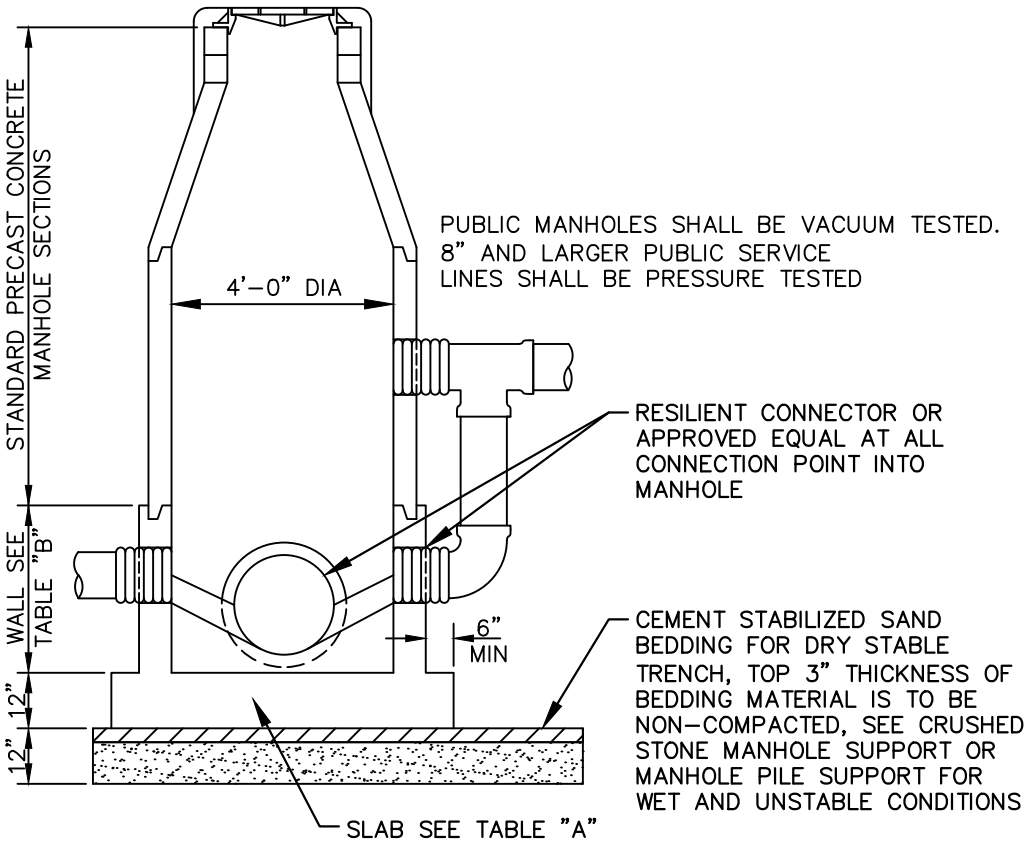


TABLE "A"

BASE SLAB REINFORCING AND THICKNESS

MANHOLE BASE DIAMETER FEET	DEPTH TO INVERT (FT)	BASE THICKNESS	REINFORCING BARS EACH WAY TOP AND BOTTOM
8	≤20	1'–0"	#6 @ 10"
	≤25	1'–2"	#6 @ 8"
	≤30	1'–4"	#6 @ 7"
	≤40	1'–6"	#6 @ 6"
	≤50	1'–8"	#6 @ 6"
	≤60	1'–10"	#6 @ 6"
6	≤15	1'–0"	#5 @ 8"
	≤20	1'–0"	#5 @ 8"
	≤25	1'–2"	#5 @ 7"
	≤30	1'–2"	#5 @ 6"
	≤40	1'–2"	#6 @ 8"
	≤50	1'–4"	#6 @ 8"
	≤60	1'–4"	#6 @ 7"

TABLE "B"

WALL REINFORCING AND THICKNESS

MANHOLE BASE DIAMETER FEET	DEPTH TO INVERT (FT)	WALL HEIGHT	WALL THICKNESS	REINFORCING AT EACH FACE	
				VERTICAL	HORIZONTAL
8	≤20	6'–0"	10"	#6 @ 12"	#6 @ 12"
	≤25	6'–6"	10"	#6 @ 10"	#6 @ 12"
	≤30	7'–0"	10"	#6 @ 8"	#6 @ 12"
	≤40	8'–0"	1'–0"	#6 @ 8"	#6 @ 12"
	≤50	9'–0"	1'–2"	#6 @ 6"	#6 @ 12"
	≤60	10'–0"	1'–4"	#6 @ 6"	#6 @ 12"
6	≤15	5'–0"	8"	#5 @ 12"	#5 @ 12"
	≤20	5'–6"	8"	#5 @ 8"	#5 @ 12"
	≤25	6'–0"	9"	#5 @ 8"	#5 @ 12"
	≤30	6'–0"	9"	#5 @ 6"	#5 @ 8"
	≤40	7'–0"	10"	#5 @ 8"	#5 @ 8"
	≤50	7'–0"	1'–0"	#6 @ 8"	#5 @ 8"
	≤60	8'–0"	1'–2"	#6 @ 7"	#5 @ 8"

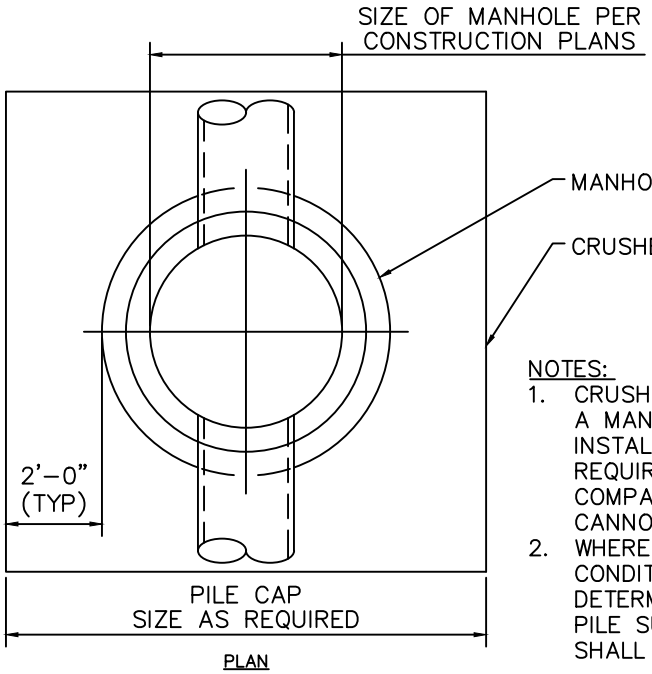
STANDARD CONSTRUCTION DETAIL

SANITARY SEWER PRECAST MANHOLE WITH CAST-IN-PLACE BASE DETAIL

SCALE: NTS

JUNE 2025

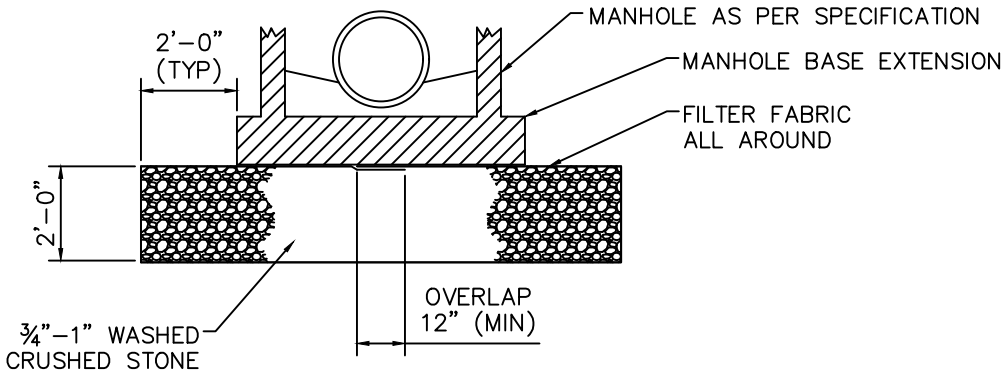
33 05 60 - 08



PLAN

NOTES:

1. CRUSHED STONE SUPPORT UNDER A MANHOLE BASE SHALL BE INSTALLED AT LOCATIONS WHERE REQUIRED SUBGRADE COMPACTION OR DEWATERING CANNOT BE ACHIEVED.
2. WHERE HEAVING SUBGRADE CONDITIONS OCCUR, AS DETERMINED BY THE ENGINEER, A PILE SUPPORT MANHOLE BASE SHALL BE PROVIDED.



SECTION

CRUSHED STONE MANHOLE SUPPORT FOR WET STABLE TRENCH

NTS 4-2012

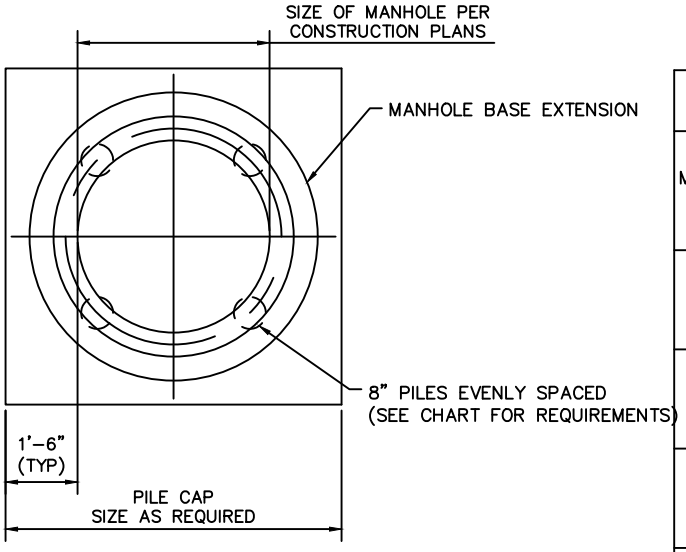
STANDARD CONSTRUCTION DETAIL

CRUSHED STONE MANHOLE SUPPORT DETAIL

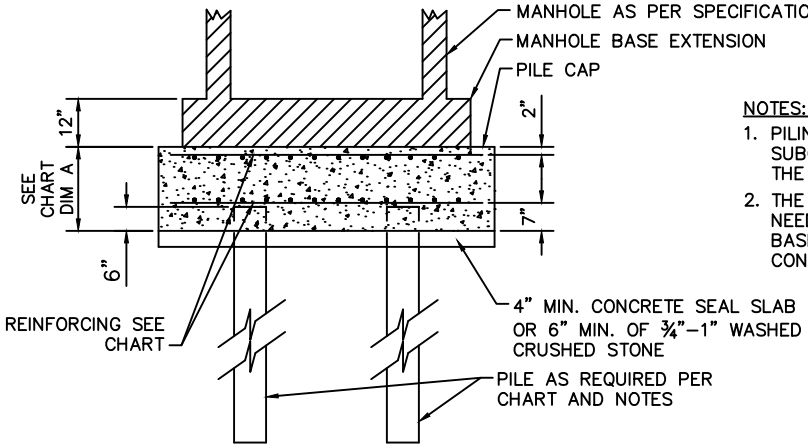
SCALE: NTS

JUNE 2025

33 05 60 - 09



PLAN



SECTION

MANHOLE PILE SUPPORT FOR UNSTABLE SUBGRADE

NTS 4-2012

PILE CHART

MANHOLE ID (FT)	NUMBE ROF PILES	DEPTH TO INVERT (FT)	CAPACITY/ PILE (TONS) MIN.	PILE CAP DIM. A (FT)	PILE CAP REIN. (EW, T&B)
4	4	10 12 15 20 25 30	9 10 11 13 15 17	1'-9"	#6 @ 6"
5	5	10 12 15 20 25 30	10 11 12 15 17 20	1'-9"	#6 @ 6"
6	6	10 12 15 20 25 30	9 10 12 15 17 20	2'-0"	#6 @ 6"
8	8	10 12 15 20 25 30	8 9 10 13 16 18	2'-0"	#6 @ 6"

NOTES:

1. PILING SHALL BE INSTALLED AT ALL LOCATION WHERE HEAVING SUBGRADE CONDITIONS ARE LIKELY TO OCCUR, AS DETERMINED BY THE ENGINEER.
2. THE ENGINEER WILL PROVIDE THE SIZE, LENGTH AND MATERIAL NEEDED TO CARRY THE CAPACITY SHOWN ON THE PILE CHART BASED ON ACTUAL CONDITIONS REVEALED AT TIME OF CONSTRUCTION.

LC TX

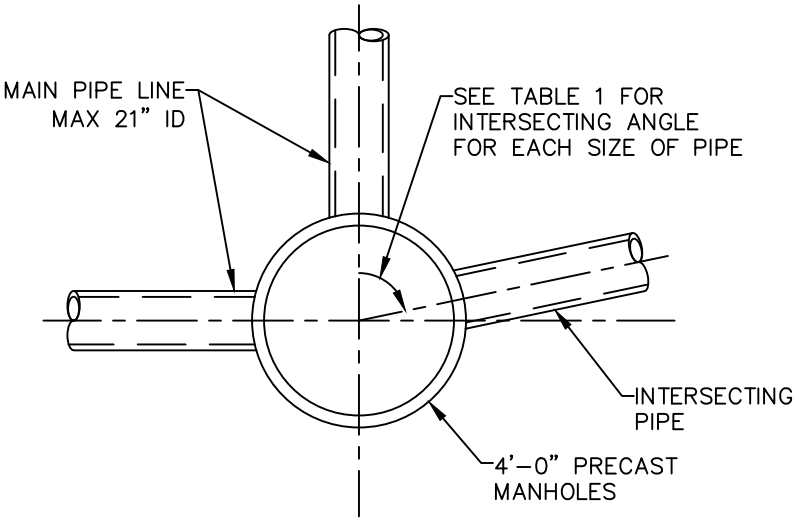
STANDARD CONSTRUCTION DETAIL

MANHOLE PILE DETAIL

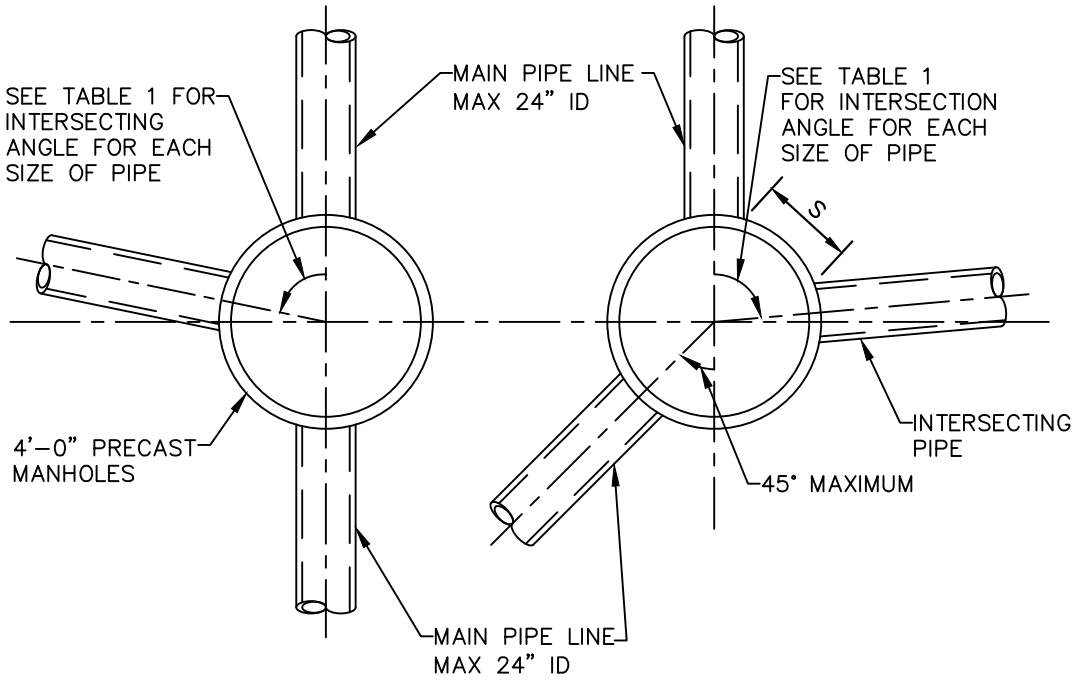
SCALE: NTS

JUNE 2025

33 05 60 - 10



MAX 21" ID MAIN PIPE ALLOWED FOR 45° TO 90° DEFLECTION



MAX 24" ID MAIN PIPE ALLOWED FOR STRAIGHT THROUGH TO 45° DEFLECTION

TABLE 1

MIN ANGLE AND INTERSECTING PIPE SIZES
FOR A 4'-0" DIA MANHOLE

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE SIZES INCHES							
	6"	8"	10"	12"	15"	18"	21"	24"
6	55	58	60	65	70	75	80	85
8		60	63	68	73	77	82	87
10			66	71	75	80	85	90
12				75	80	85	90	–
15					85	90	–	–
18						–	–	–
21							–	–
24								–

NOTES TO SPECIFIER:

1. "–" INDICATES THAT A SPECIAL DESIGN OR THE NEXT LARGER MANHOLE SIZE SHALL BE USED.
2. TABLE 1 IS BASED ON A MIN SEPARATION DISTANCE "S" OF 15.5" OR INTERSECTION PIPE OD/2, WHICHEVER IS GREATER, BETWEEN MAIN AND INTERSECTING PIPES ALONG THE MANHOLE INSIDE WALL ARC.
3. PIPE WALL THICKNESS USED IN TABLE 1 ARE BASED ON RCP. THE DESIGN ENGINEER MAY CALCULATE TO SEE IF THINNER WALL PIPES CAN MEET THE SEPARATION CRITERIA FOR ANGLES SMALLER THEN THE TABLE ALLOWS.

LC TX

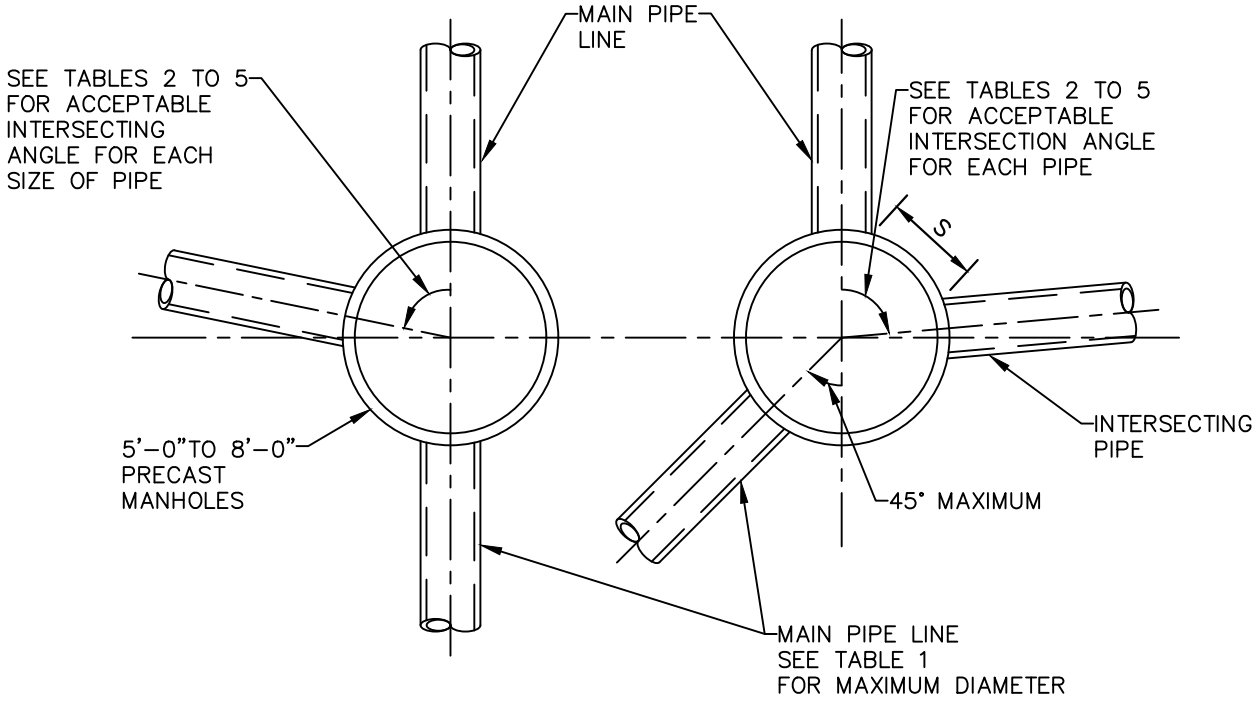
STANDARD CONSTRUCTION DETAIL

4 FOOT SANITARY SEWER MANHOLE CONNECTIONS

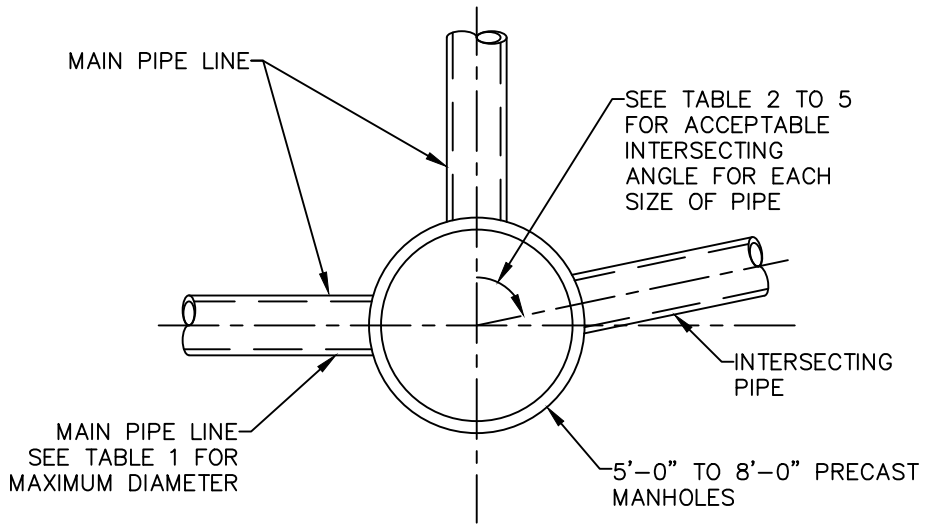
SCALE: NTS

JUNE 2025

33 05 60 - 11



MAX 24" ID MAIN PIPE ALLOWED FOR STRAIGHT THROUGH TO 45° DEFLECTION



MAX 21" ID MAIN PIPE ALLOWED FOR 45° TO 90° DEFLECTION

TABLE 1
MAXIMUM MAIN PIPE DIAMETER (ID) IN INCHES

MANHOLE DIAMETER (FT)	STRAIGHT THROUGH TO 45° DEFLECTION	WITH 90° DEFLECTION	TABLE TO BE USED
5	36	27	2
6	42	33	3
7	48	36	4
8	60	42	5

DETAIL CONTINUES ON 33 05 61–02.1

STANDARD CONSTRUCTION DETAIL
5 FT TO 8 FT MANHOLE NOTES

SCALE: NTS
JUNE 2025
33 05 60 - 12.1

TABLE 2

MIN ANGLE AND INTERSECTING PIPE SIZES FOR AN 5'–0" DIA MANHOLE

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE SIZES IN INCHES										
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"
8	49	50	54	58	61	66	69	73	77	82	86
10		53	57	61	64	68	71	76	79	84	88
12			61	65	68	72	75	80	83	88	–
15				68	71	75	79	83	87	–	–
18					75	79	82	87	90	–	–
21						83	86	90	–	–	–
24							90	–	–	–	–
27								–	–	–	–
30									–	–	–
33										–	–
36											–

TABLE 3

MIN ANGLE AND INTERSECTING PIPE SIZES FOR AN 6'–0" DIA MANHOLE

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE SIZES IN INCHES											
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	42"
8	40	42	45	49	51	54	57	61	63	67	70	78
10		44	47	50	53	56	59	62	66	68	72	79
12			50	54	56	60	62	66	68	72	75	83
15				57	59	62	65	69	71	75	78	85
18					62	65	68	71	74	78	81	88
21						68	71	74	77	81	84	–
24							74	77	80	84	87	–
27								83	85	89	–	–
30									–	–	–	–
33										–	–	–
36											–	–
42												–

TABLE 4

MIN ANGLE AND INTERSECTING PIPE SIZES FOR AN 7'–0" DIA MANHOLE

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE SIZES IN INCHES												
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	42"	48"
8	35	36	39	42	44	47	49	52	54	57	59	65	71
10		38	40	43	45	48	50	53	55	59	61	67	73
12			43	46	48	51	53	56	58	61	64	70	76
15				48	50	53	55	58	61	64	66	72	78
18					53	56	58	61	63	66	69	74	81
21						58	60	63	66	69	71	77	83
24							63	66	68	71	74	79	86
27								70	72	76	78	84	90
30									78	81	83	89	–
33										86	88	–	–
36											–	–	–
42												–	–
48													–

TABLE 5

MIN ANGLE AND INTERSECTING PIPE SIZES FOR AN 8'–0" DIA MANHOLE

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE SIZES IN INCHES														
	8"	10"	12"	15"	18"	21"	24"	27"	30"	33"	36"	42"	48"	54"	60"
8	30	32	34	36	38	41	43	45	47	50	52	56	61	67	74
10		33	35	38	40	42	44	46	48	51	53	58	63	68	77
12			38	40	42	44	46	49	51	53	55	60	65	71	79
15				42	44	47	48	51	53	56	58	62	67	73	81
18					46	49	51	53	55	58	60	64	70	75	83
21						51	53	55	57	60	62	67	72	77	85
24							55	57	59	62	64	69	74	79	89
27								61	63	66	68	73	78	83	–
30									67	70	72	77	82	87	–
33										74	76	81	86	–	–
36											81	86	–	–	–
42												–	–	–	–
48													–	–	–
54														–	–
60															–

NOTES TO SPECIFIER:

1. "–" INDICATES THAT A SPECIAL DESIGN OR THE NEXT LARGER MANHOLE SIZE SHALL BE USED.
2. TABLE 2 TO 5 ARE BASED ON A MIN SEPARATION DISTANCE "S" OF 15.5" OR INTERSECTING PIPE OD/2, WHICHEVER IS GREATER, BETWEEN MAIN AND INTERSECTING PIPES ALONG THE MANHOLE INSIDE WALL ARC.
3. PIPE WALL THICKNESS USED IN TABLES 2 TO 5 ARE BASED ON RCP. THE DESIGN ENGINEER MAY CALCULATE TO SEE IF THINNER WALL PIPES CAN MEET THE SEPARATION CRITERIA FOR ANGLES SMALLER THAN THE TABLE ALLOWS.
4. LIMITATIONS TO BASE HEIGHT ARE BASED ON RESISTING BUOYANT UPLIFT FORCES BASED ON WATER AT GROUND SURFACE AND A SAFETY FACTOR OF 1.2.
5. MANHOLE STRUCTURES LARGER THAN 8 FEET IN DIAMETER ARE ALLOWED BY APPROVAL SPECIAL DESIGN SUBMITTAL

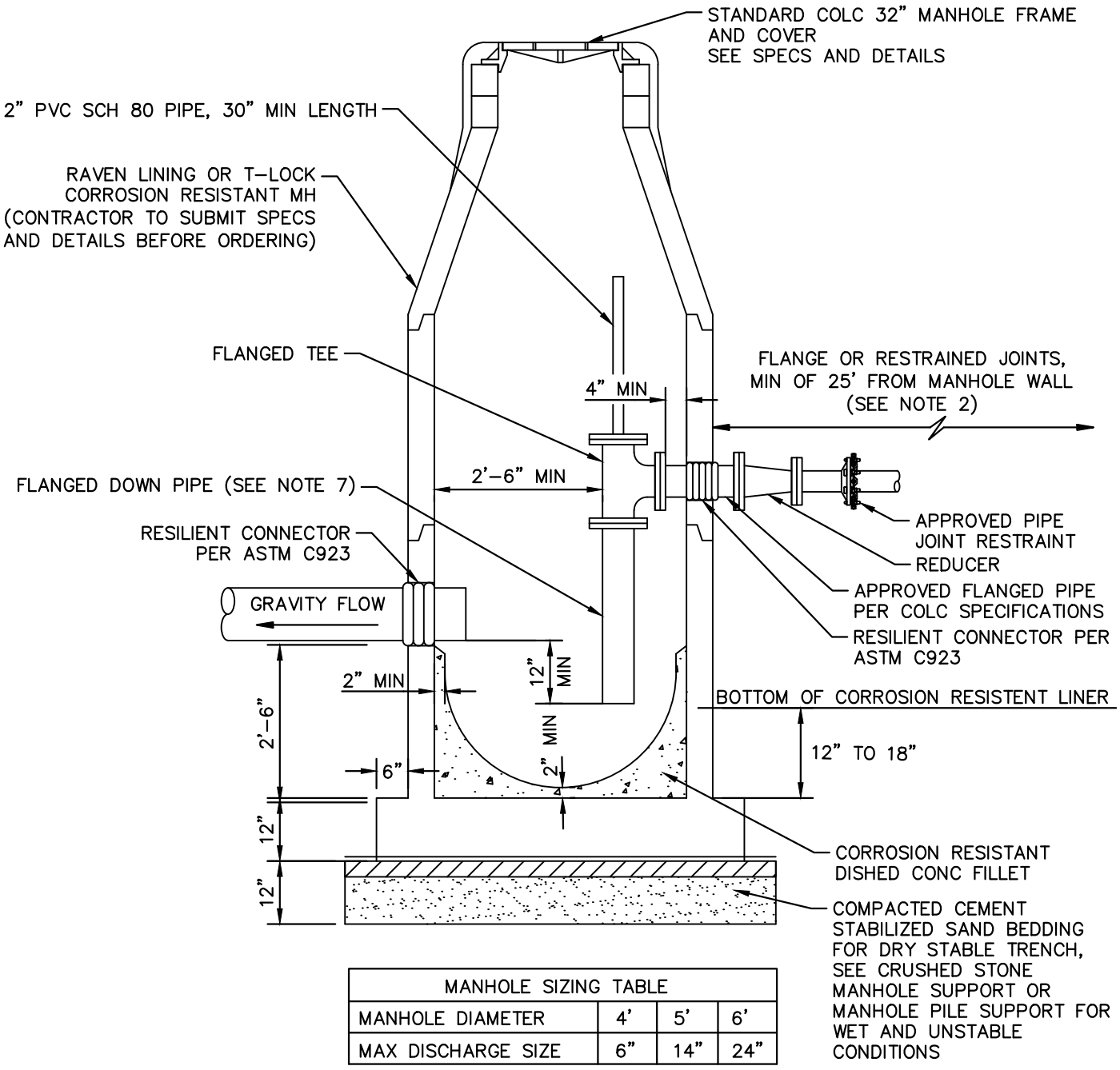
STANDARD CONSTRUCTION DETAIL

5 FT TO 8 FT MANHOLE NOTES CONTINUED

SCALE: NTS

JUNE 2025

33 05 60 - 12.2



MANHOLE SIZING TABLE			
MANHOLE DIAMETER	4'	5'	6'
MAX DISCHARGE SIZE	6"	14"	24"

NOTES:

1. CONSTRUCT MANHOLE PER COLC STANDARD DETAILS AND SPECIFICATIONS (MH TO BE CORROSION RESISTANT).
2. IF FORCE MAIN HAS BENDS WITHIN 25 FT. OF MANHOLE RESTRAIN ALL JOINTS WITHIN 25 FT OF LAST BEND.
3. INDICATE SIZE OF FORCE MAIN, REDUCER AND DISCHARGE ON THIS DETAIL AND PLAN AND PROFILE SHEETS.
4. PROVIDE INVERT ELEV FOR FORCE MAIN AND GRAVITY SEWER CONNECTION TO MANHOLE ON THIS DETAIL AND ON PLAN AND PROFILES.
5. THERE SHALL BE NO OTHER GRAVITY SEWER CONNECTIONS TO THIS MANHOLE.
6. FORCE MAIN MAY ENTER INTO MANHOLE AT ANGLES OTHER THAN SHOWN HERE.
7. IF LENGTH OF DISCHARGE DROP BELOW FLANGED TEE FITTING EXCEEDS 7 TIMES DISCHARGE DIAMETER, PROVIDE STAINLESS STEEL PIPE SUPPORT.
8. ALL PIPE AND FITTING MATERIAL FOR MANHOLE SHALL BE APPROVED BEFORE ORDERING.

LC TX

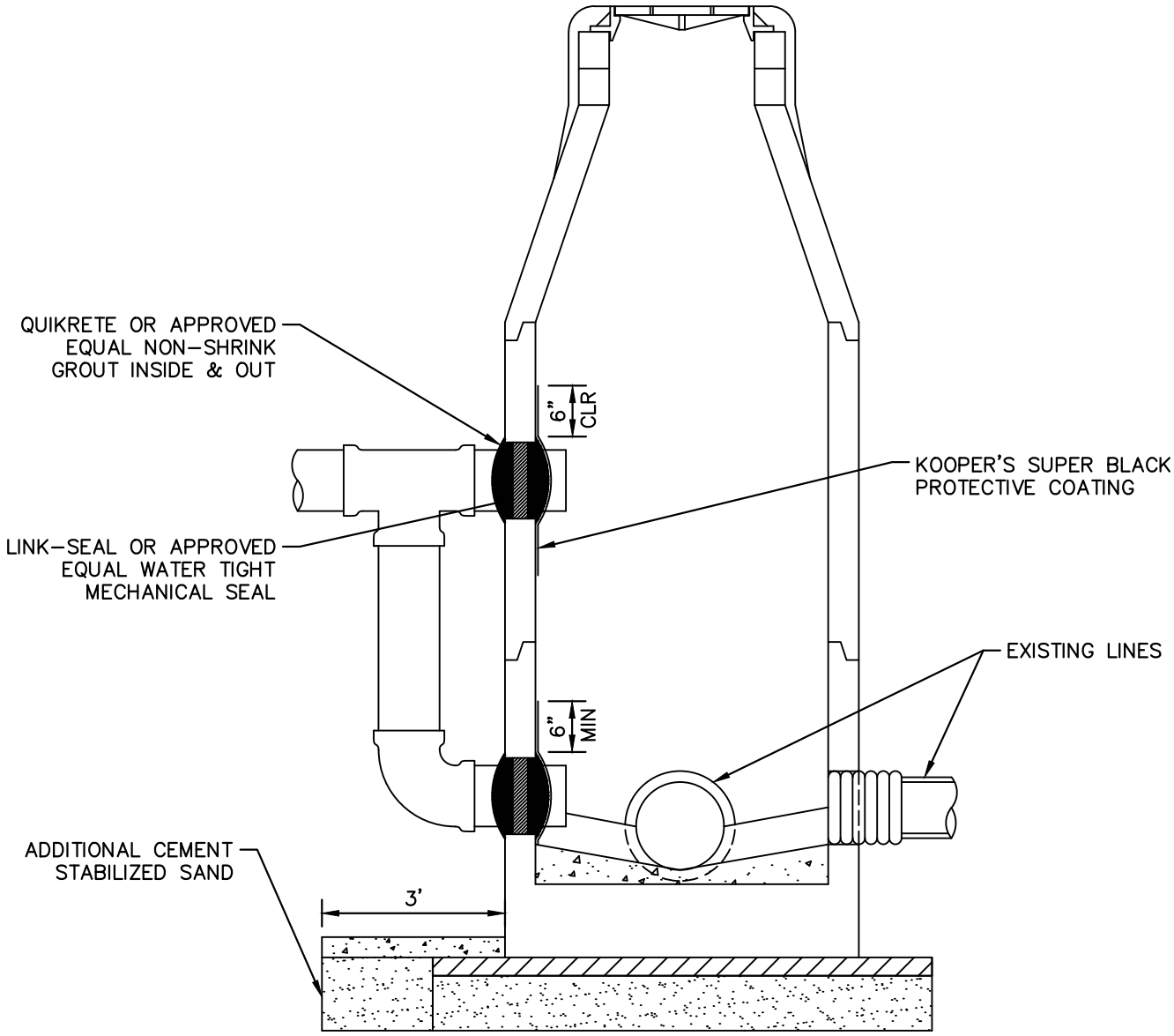
STANDARD CONSTRUCTION DETAIL

FORCE MAIN DISCHARGE MANHOLE DETAIL

SCALE: NTS

JUNE 2025

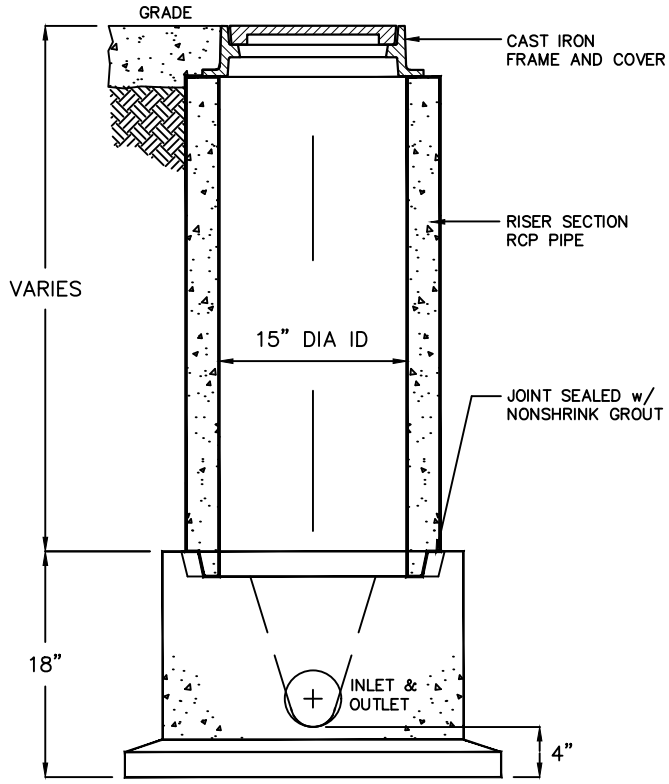
33 05 60 - 13



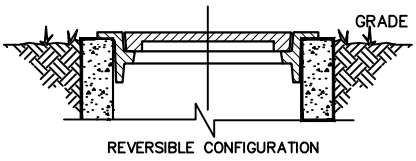
NOTES:

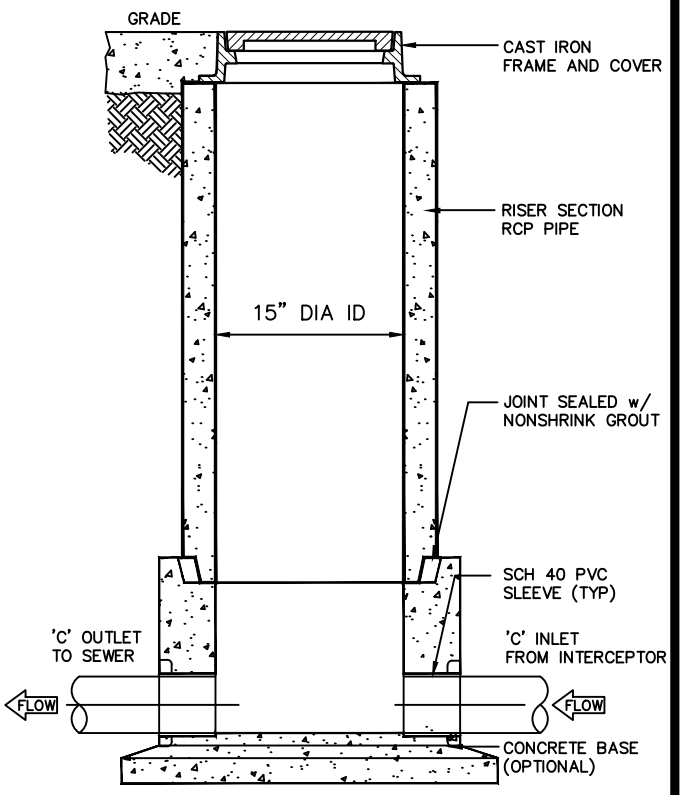
1. NO TAPS WILL BE ALLOWED ON CONE SECTION OF MANHOLE.
2. A MIN OF 6" CLEARANCE SHALL BE KEPT FROM ANY MANHOLE JOINT LINE.
3. TAPS SHALL ENTER PERPENDICULAR TO MANHOLE.
4. WATER TIGHT SEALING MATERIAL SHALL BE APPROVED BEFORE INSTALLING AND GROUTING OVER.
5. TAPS 6" AND GREATER INTO MANHOLES AND INTENDED FOR SERVICE TO PRIVATE PROPERTY SHALL BE INSTALLED TO COLC STANDARD AND HAVE A CLEANOUT OR MANHOLE INSTALLED AT THE PROPERTY AND/OR EASEMENT LINE.

LC TX	STANDARD CONSTRUCTION DETAIL **MANHOLE CORE CUT WITH EXTERNAL DROP STRUCTURE DETAIL**	SCALE: NTS JUNE 2025 **33 05 60 - 14**

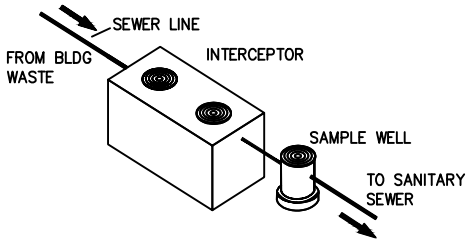


FRONT VIEW

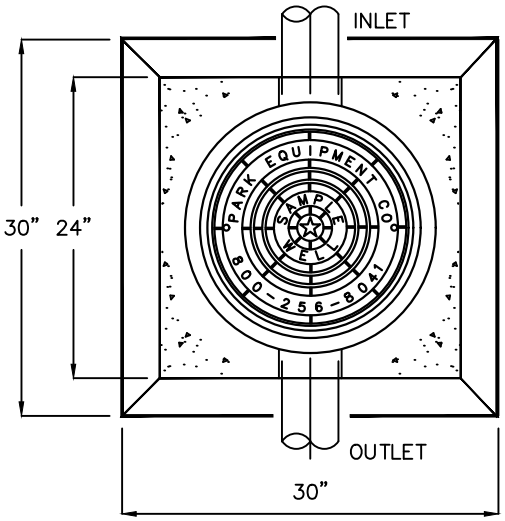




SIDE VIEW



MODEL	PIPE SIZE 'C'
SWB–154	4"
SWB–156	6"
SWB–158	8"



PLAN VIEW

NOTES:

1. SAMPLING WELL MUST BE INSTALLED UNDER A SEPARATE PLUMBING PERMIT.
2. USE 15" T&G R.C.P. FOR INSTALLATION FOR INSTALLATION 6'–0" DEEP AND LESS.
3. USE 24" T&G R.C.P. FOR INSTALLATION GREATER THAN 6'–0" DEEP. (STD RING AND M.H. COVER REQUIRED)
4. SAMPLING WELL MUST BE SET IN A CIRCULAR OR SQUARE CONCRETE PAD (1'–0" GREATER THAN OUTSIDE DIAMETER OF PIPE.)
5. INSIDE INSTALLATION NOT PERMITTED, WHERE OUTSIDE INSTALLATION IS POSSIBLE.
6. INSTALLATION INSIDE BLDG MUST BE POURED IN PLACE (15"MIN) NO CONCRETE PIPE IS PERMITTED, (AIR–TIGHT COVER REQUIRED.)
7. LAWN INSTALLATION MUST BE 4" ABOVE FINISHED GRADE.
8. DRIVE & SIDEWALK INSTALLATION MUST BE BROUGHT TO FINISHED GRADE
9. TO BE INSTALLED ON PRIVATE PROPERTY, IN AN ACCESSIBLE LOCATION TO CITY PERSONNEL.

LC TX

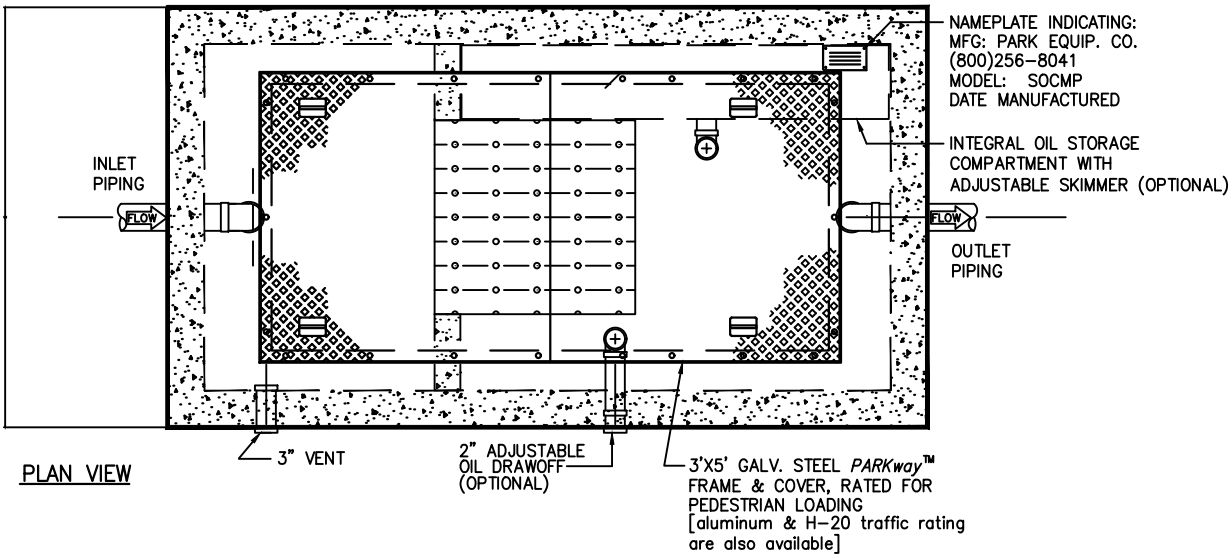
STANDARD CONSTRUCTION DETAIL

SAMPLE WELL BASIN DETAIL

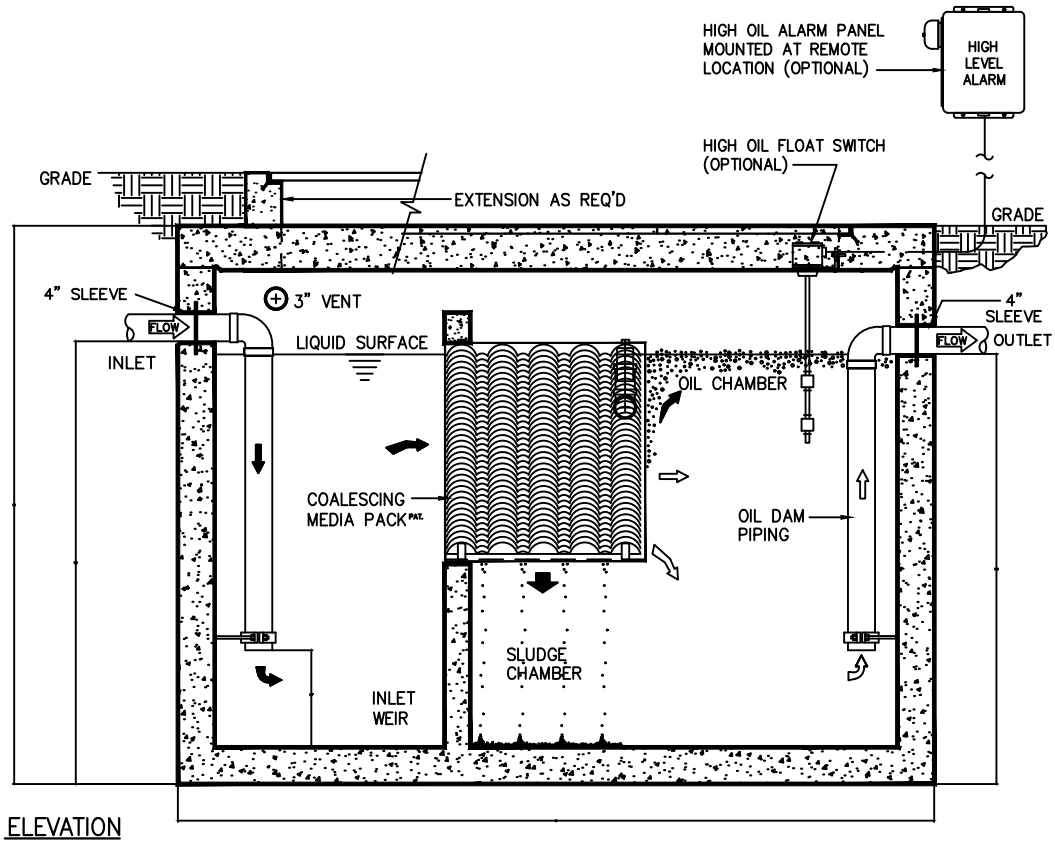
SCALE: NTS

JUNE 2025

33 05 60 - 15



PLAN VIEW



ELEVATION

SAND-OIL INTERCEPTOR SCHEDULE								
MODEL NO.	CAPACITY USGal	OIL CAP. US (GAL)	EMPTY WT (LBS)	LENGTH L1	WIDTH W1	HEIGHT H1	INLET FL1	OUTLET FL2
SOCMP-750	750	375	10,000	7'-10"	4'-4"	6'-0"	4'-5"	4'-2"
SOCMP-1000	1,000	500	13,200	8'-8"	5'-0"	6'-0"	4'-9"	4'-6"
SOCMP-1500	1,500	750	20,000	9'-2"	5'-8"	7'-0"	5'-9"	5'-6"

OTHER SIZES ARE AVAILABLE. CONTACT US FOR MORE INFORMATION

LC TX

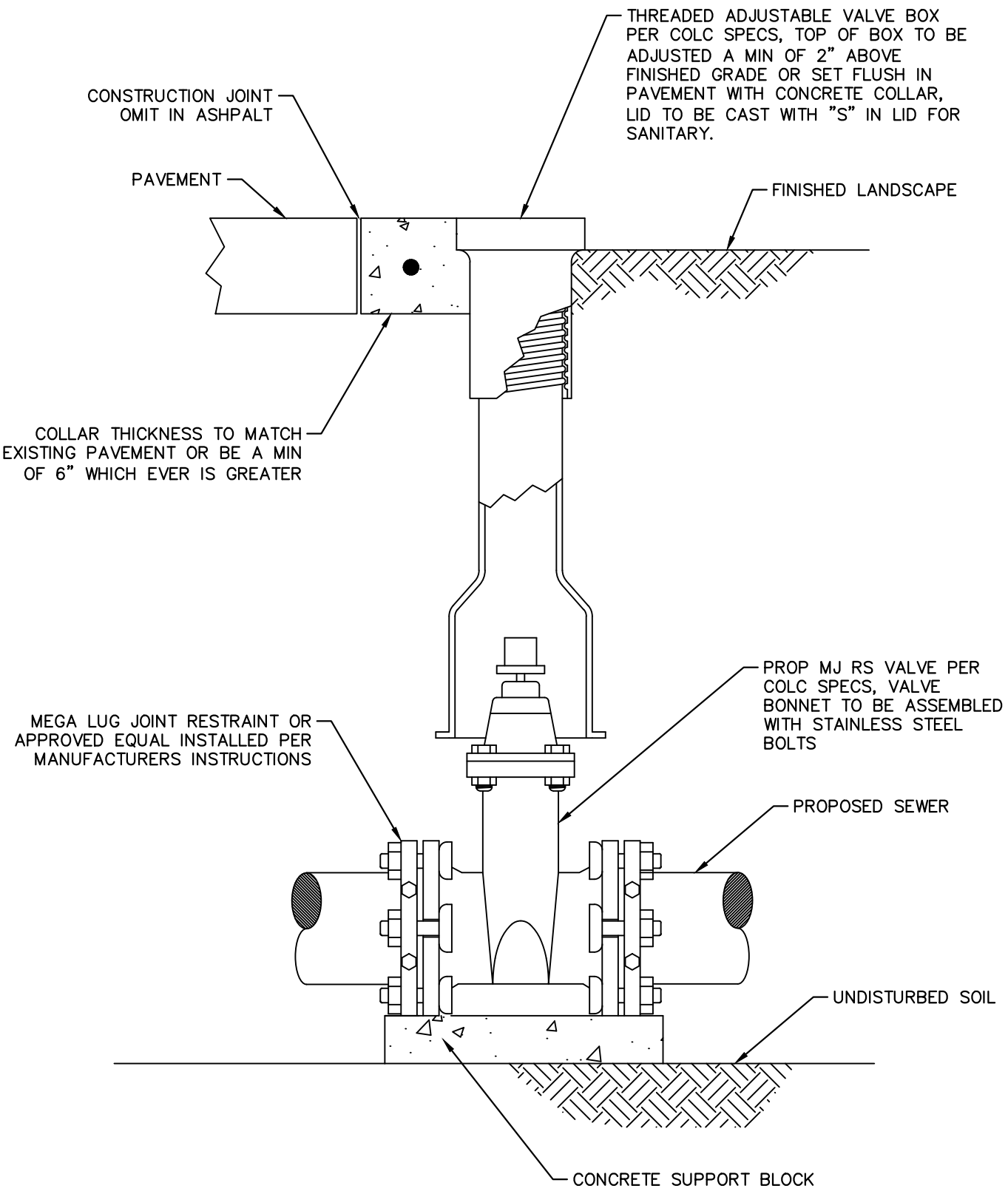
STANDARD CONSTRUCTION DETAIL

SAND-OIL SEPARATOR DETAIL

SCALE: NTS

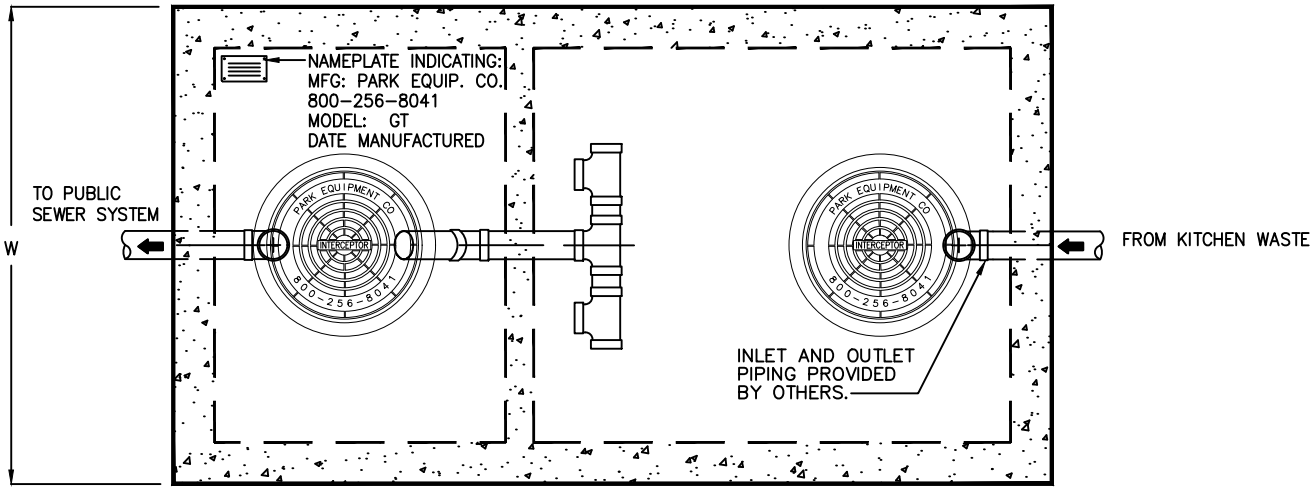
JUNE 2025

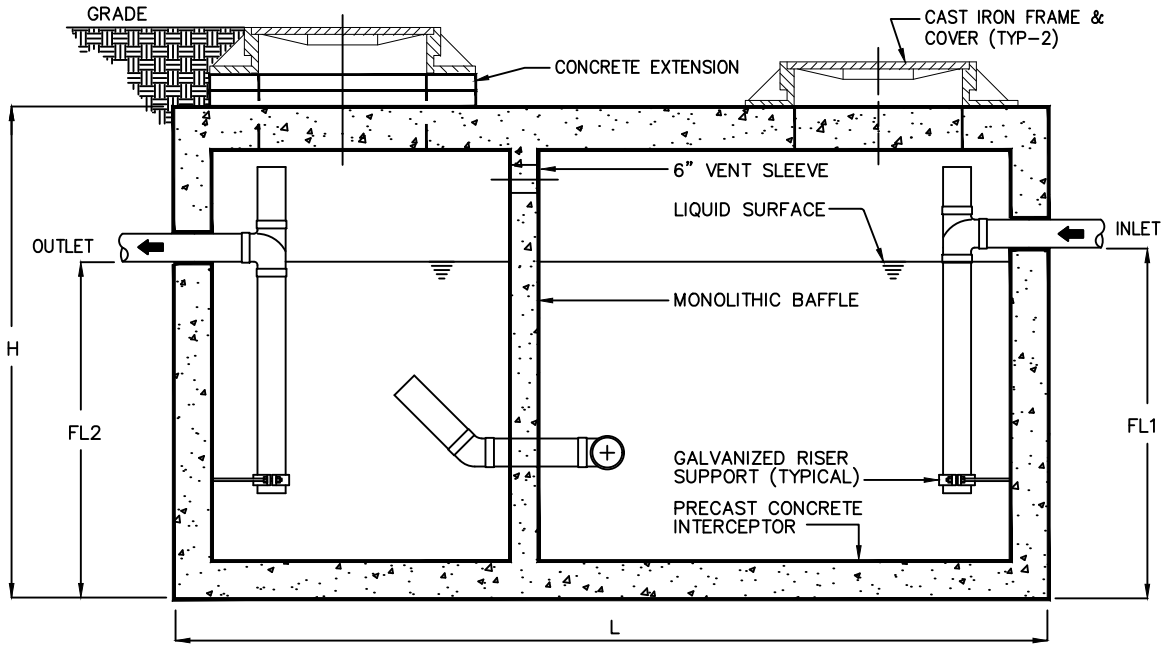
33 05 60 - 16



LC TX	STANDARD CONSTRUCTION DETAIL **SANITARY FORCE MAIN VALVE AND BOX DETAIL**	SCALE: NTS JUNE 2025 **33 05 64 - 01**

PLAN VIEW

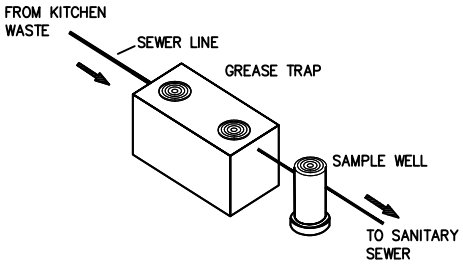




ELEVATION

GREASE INTERCEPTOR SCHEDULE								
MODEL NO.	CAPACITY USGal	GREASE CAP. (LBS)	EMPTY WT (LBS)	LENGTH L	WIDTH W	HEIGHT H	INLET FL1	OUTLET FL2
GT-500	500	1,200	7,000	7'-10"	4'-4"	4'-6"	3'-3"	3'-0"
GT-750	750	1,700	11,000	7'-10"	4'-4"	6'-0"	4'-5"	4'-2"
GT-1000	1,000	2,300	13,200	8'-8"	5'-0"	6'-0"	4'-9"	4'-6"
GT-1250	1,250	2,900	15,500	9'-2"	5'-8"	6'-0"	4'-9"	4'-6"
GT-1500	1,500	3,500	18,000	9'-2"	5'-8"	7'-0"	5'-9"	5'-6"
GT-2000	2,000	4,600	24,500	13'-0"	7'-0"	5'-10"	4'-9"	4'-6"
GT-2500	2,500	5,700	27,500	13'-0"	7'-0"	7'-0"	5'-9"	5'-6"
GT-3000	3,000	6,900	30,000	13'-0"	7'-0"	8'-0"	6'-9"	6'-6"
GT-3500	3,500	8,000	31,000	13'-0"	7'-0"	8'-4"	7'-1"	6'-10"
GT-4000	4,000	9,300	39,000	16'-0"	8'-6"	7'-0"	5'-9"	5'-6"

OTHER SIZES ARE AVAILABLE. CONTACT US FOR MORE INFORMATION



STANDARD CONSTRUCTION DETAIL

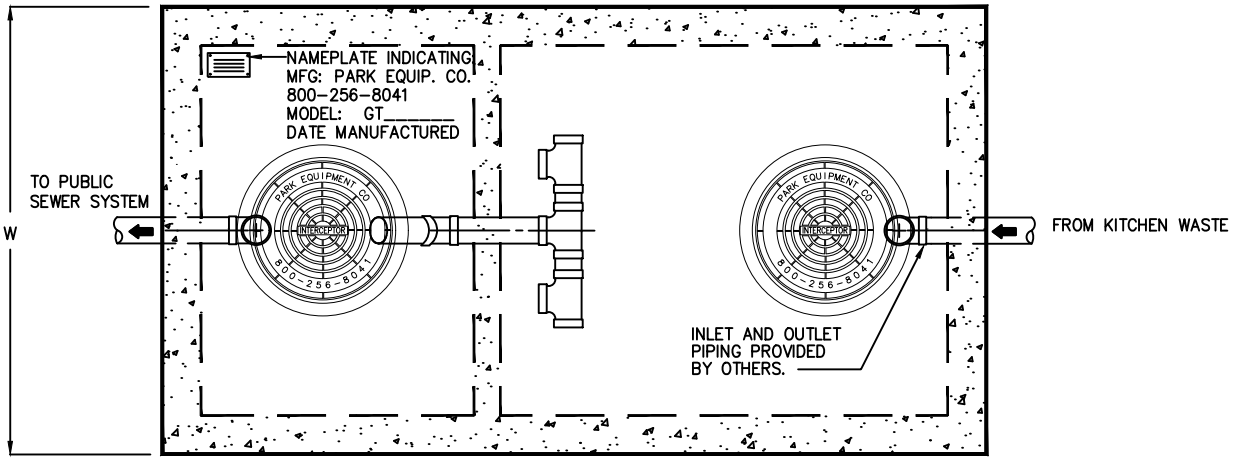
500 TO 4000 GALLON GREASE INTERCEPTOR DETAIL

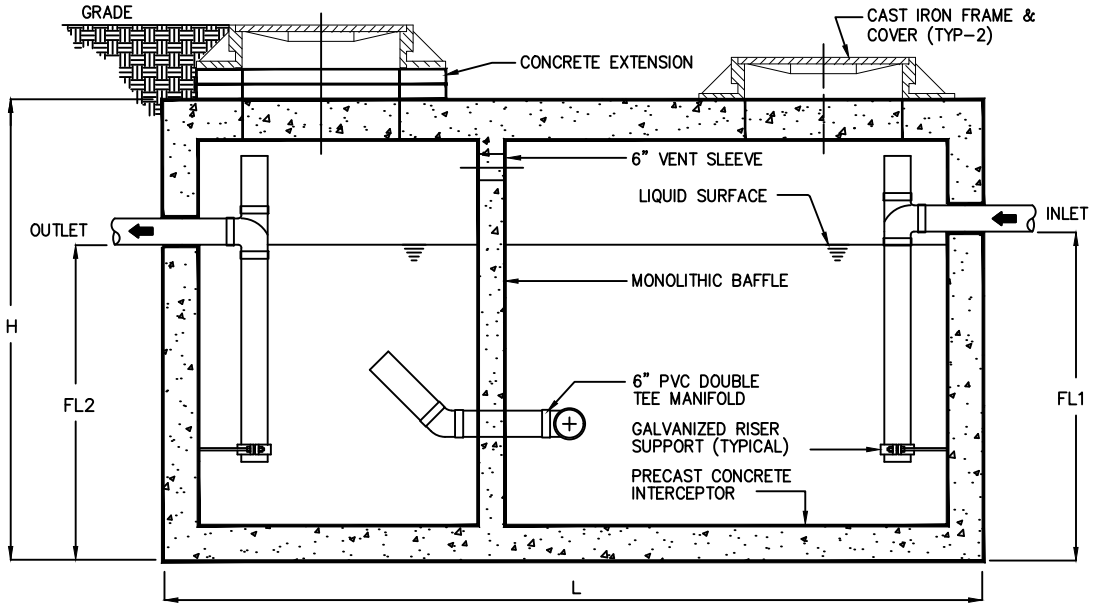
SCALE: NTS

JUNE 2025

33 05 64 - 02

PLAN VIEW

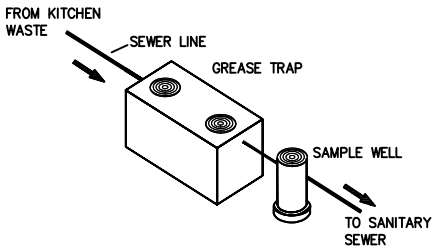




ELEVATION

GREASE INTERCEPTOR SCHEDULE								
MODEL NO.	CAPACITY USGal	GREASE CAP. (LBS)	EMPTY WT (LBS)	LENGTH L	WIDTH W	HEIGHT H	INLET FL1	OUTLET FL2
GT-5000	5,000	11,600	50,000	16'-0"	8'-6"	8'-0"	6'-9"	6'-6"
GT-6000	6,000	13,860	56,000	16'-0"	8'-6"	9'-0"	7'-9"	7'-6"
GT-7000	7,000	16,200	61,000	18'-0"	9'-0"	9'-2"	7'-11"	7'-8"
GT-8000	8,000	18,480	65,000	18'-0"	9'-0"	10'-0"	8'-9"	8'-6"
GT-9000	9,000	21,000	69,000	18'-0"	9'-0"	10'-10"	9'-7"	9'-4"
GT-10000	10,000	23,100	73,300	18'-0"	9'-0"	12'-0"	10'-9"	10'-6"
GT-11000	11,000	25,410	105,000	21'-2"	11'-2"	9'-6"	8'-3"	8'-0"
GT-12000	12,000	27,220	108,000	21'-2"	11'-2"	10'-0"	8'-9"	8'-6"
GT-13000	13,000	30,020	111,000	21'-2"	11'-2"	10'-6"	9'-10"	9'-7"
GT-14000	14,000	32,340	114,000	21'-2"	11'-2"	11'-2"	9'-11"	9'-8"
GT-15000	15,000	34,650	117,000	21'-2"	11'-2"	12'-2"	10'-11"	10'-8"

OTHER SIZES ARE AVAILABLE. CONTACT US FOR MORE INFORMATION



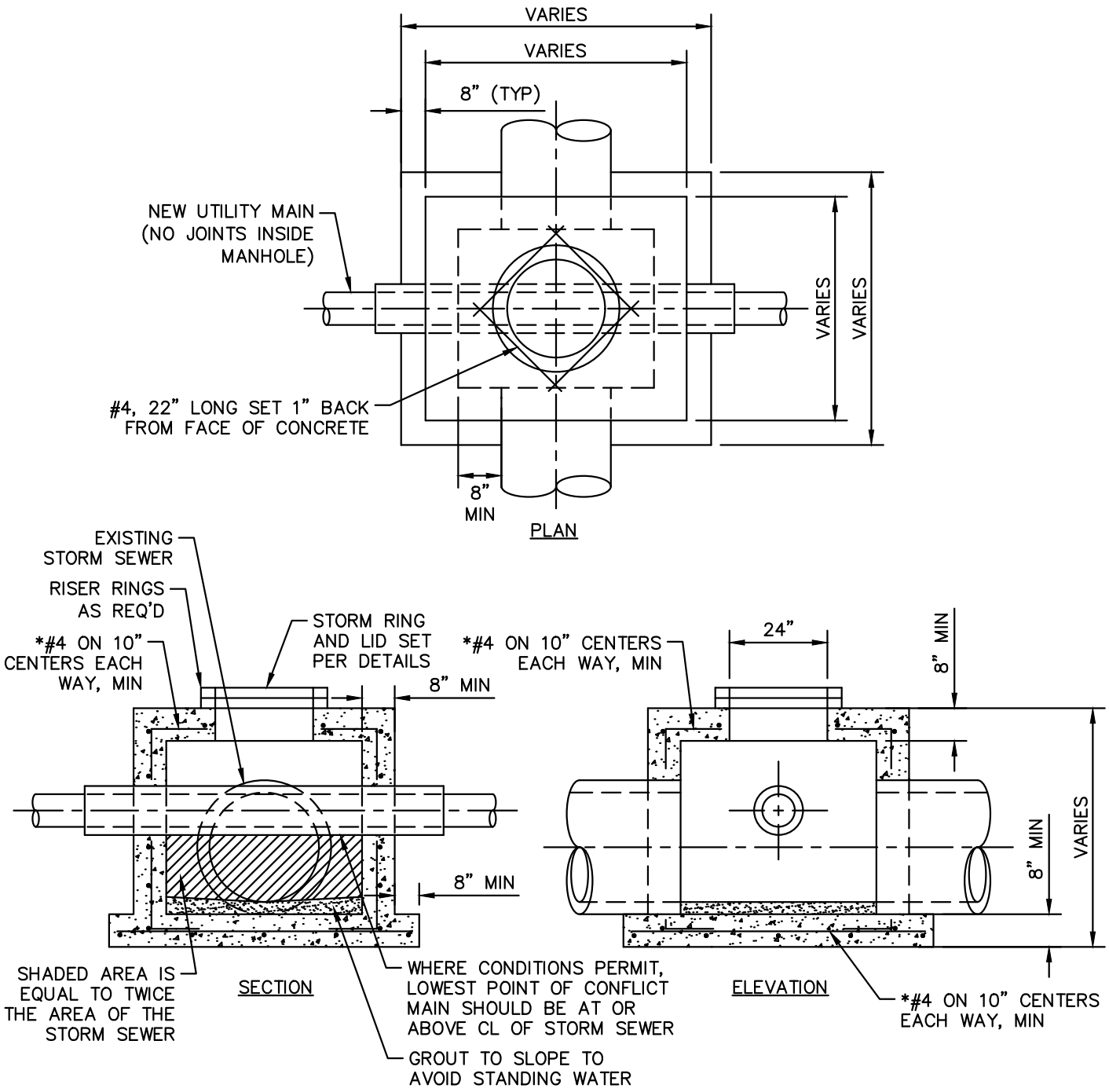
STANDARD CONSTRUCTION DETAIL

5000 TO 15000 GALLON GREASE INTERCEPTOR DETAIL

SCALE: NTS

JUNE 2025

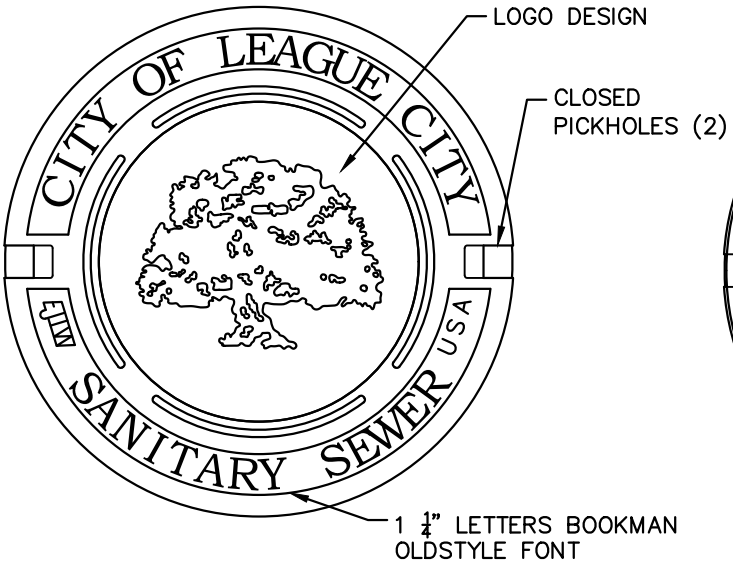
33 05 64 - 03



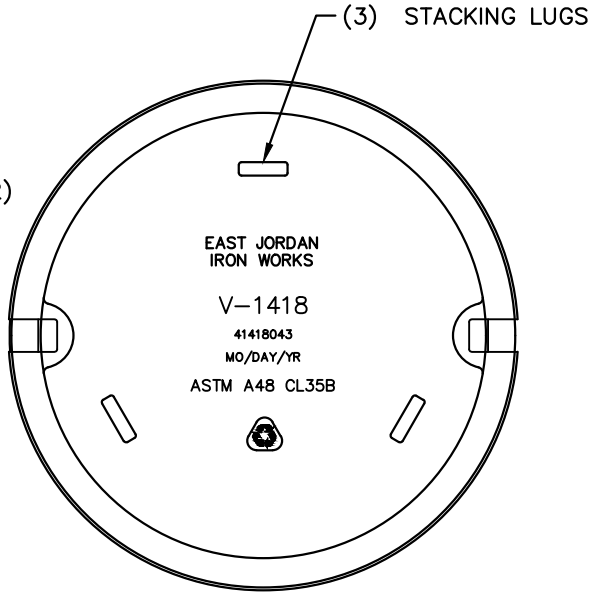
NOTES:

1. CONFLICT MANHOLE WILL BE ALLOWED ONLY WHERE DESIGN PROBLEMS AND ECONOMICS PROVE THEM TO BE THE ONLY VIABLE SOLUTION AS APPROVED BY THE GOVERNING ENTITY.
2. CONFLICT MANHOLES WILL NOT BE ALLOWED FOR WATER MAINS CROSSING GRAVITY WASTE WATER SYSTEMS.
3. THE CARRIER PIPE SHALL BE IN ACCORDANCE WITH THE CITY'S GENERAL DESIGN AND CONSTRUCTION STANDARDS SECTION 407.13.1 STEEL CARRIER PIPE AND CASING DETAIL DRAWING.
4. WHERE A (*) APPEARS BY A DIMENSION OR CALL OUT THE ENGINEER OF RECORD WILL VERIFY IF THIS DESIGN WILL BE SUFFICIENT FOR THE INTENDED LOCATION OF USE. ANY CONSTRUCTION WITHIN A ROAD SHALL BE RATED FOR H20 LOADING.
5. THIS OR ANY OTHER DESIGN SHALL HAVE NO IMPACT ON THE STORM SEWERS DESIGN FLOW.

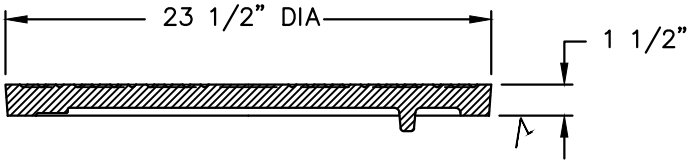
LC TX	STANDARD CONSTRUCTION DETAIL **CONFLICT MANHOLE DETAIL**	SCALE: NTS JUNE 2025 **33 05 64 - 04**



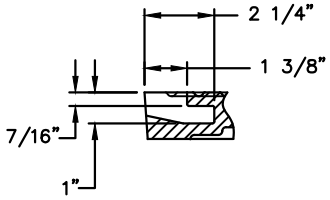
PLAN VIEW



BOTTOM VIEW



COVER SECTION



PICKHOLE DETAIL

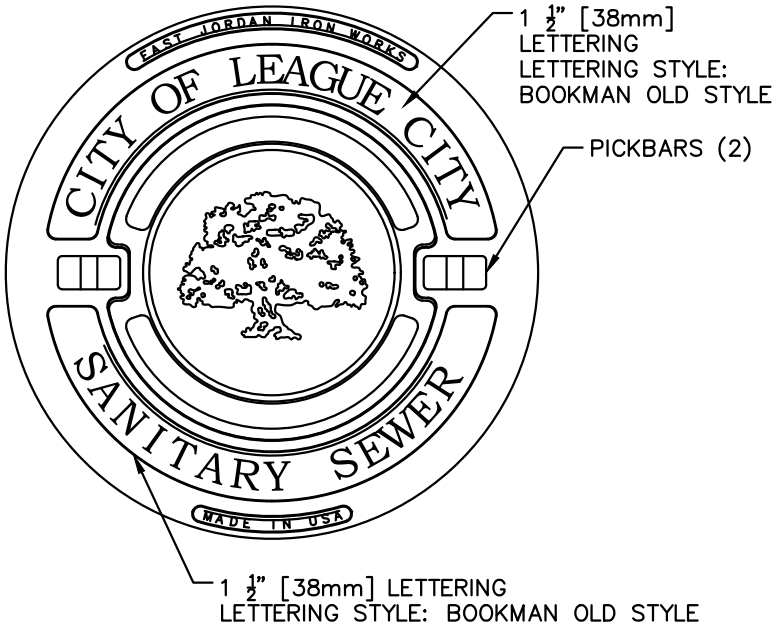
√ DESIGNATES MACHINED SURFACE

STANDARD CONSTRUCTION DETAIL
23-1/2" SANITARY SEWER MANHOLE COVER

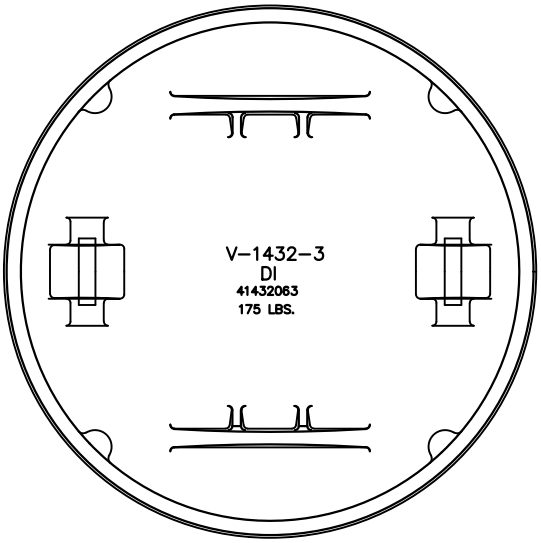
SCALE: NTS

JUNE 2025

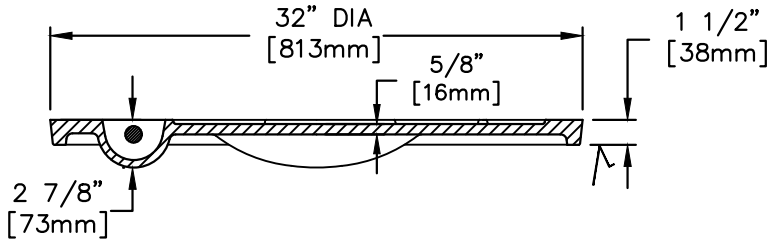
33 05 67 - 01



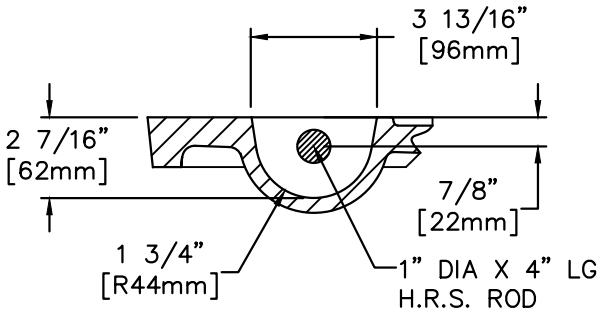
PLAN VIEW



BOTTOM VIEW



CROSS SECTION



PICKBAR DETAIL

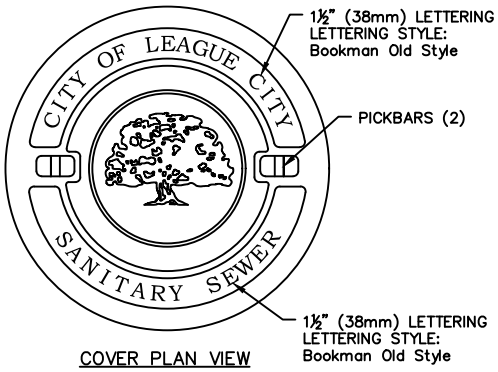
√ DESIGNATES MACHINED SURFACE

STANDARD CONSTRUCTION DETAIL
32" SANITARY SEWER MANHOLE COVER

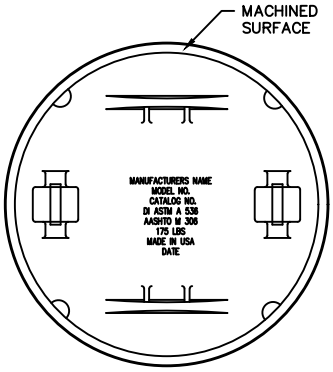
SCALE: NTS

JUNE 2025

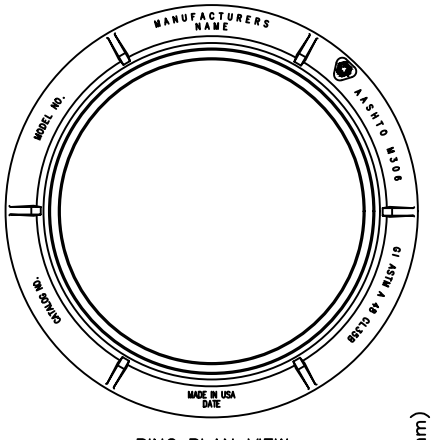
33 05 67 - 02



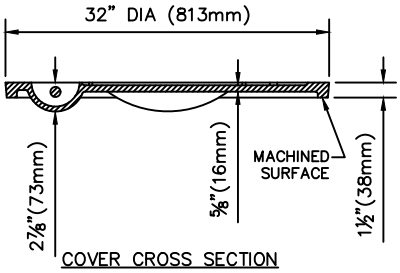
COVER PLAN VIEW



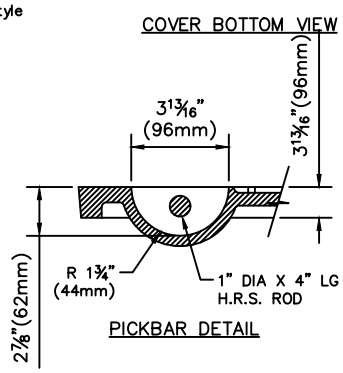
COVER BOTTOM VIEW



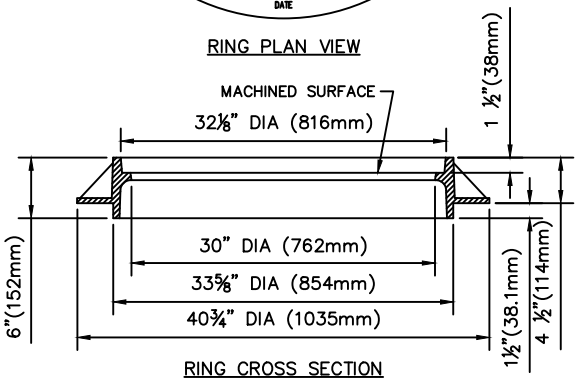
RING PLAN VIEW



COVER CROSS SECTION



PICKBAR DETAIL

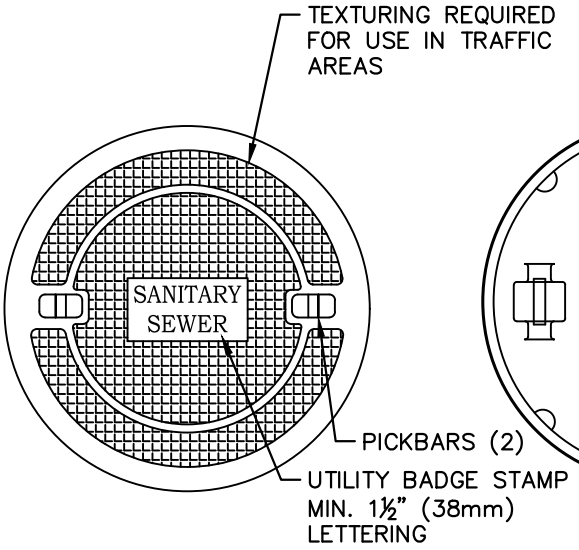


RING CROSS SECTION

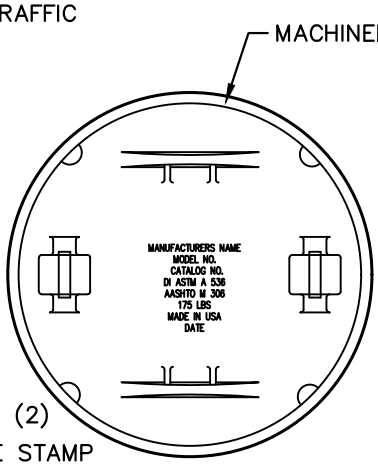
NOTES:

1. COVER MATERIAL SPECS: DUCTILE IRON ASTM A 536, SHALL MEET ALL AASHTO M 306 PROOF–LOAD SPECIFICATIONS AND REQUIREMENTS.
2. RING MATERIAL SPECS: GRAY IRON ASTM A 48 CL35B, SHALL MEET ALL AASHTO M 306 PROOF–LOAD SPECIFICATIONS AND REQUIREMENTS.
3. FOR USE ON PUBLIC SANITARY SEWERS ONLY. FOR PRIVATE MAINS USE GENERIC LIDS THAT MEET THE ABOVE SPECIFICATIONS.
4. REFER TO CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS FOR MORE INFORMATION.

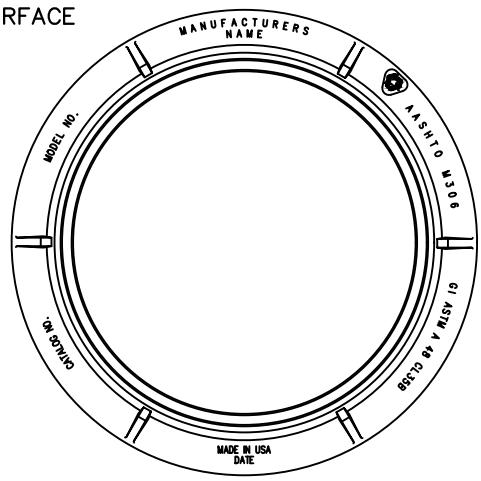
LC TX	STANDARD CONSTRUCTION DETAIL **HEAVY DUTY SANITARY SEWER 32" MANHOLE RING AND COVER DETAIL**	SCALE: NTS JUNE 2025 **33 05 67 - 03**



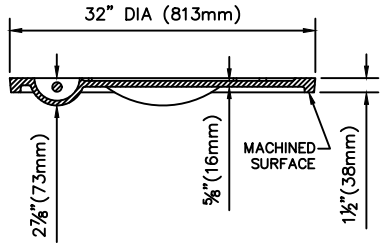
COVER PLAN VIEW



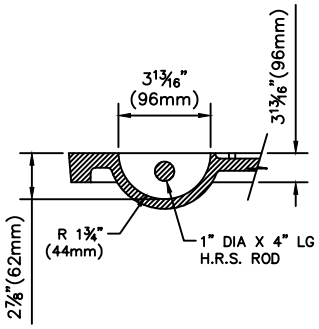
COVER BOTTOM VIEW



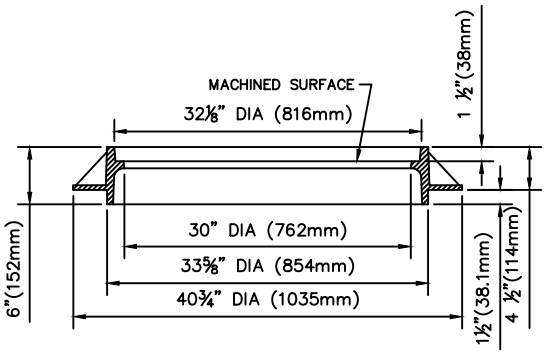
RING PLAN VIEW



COVER CROSS SECTION



PICKBAR DETAIL

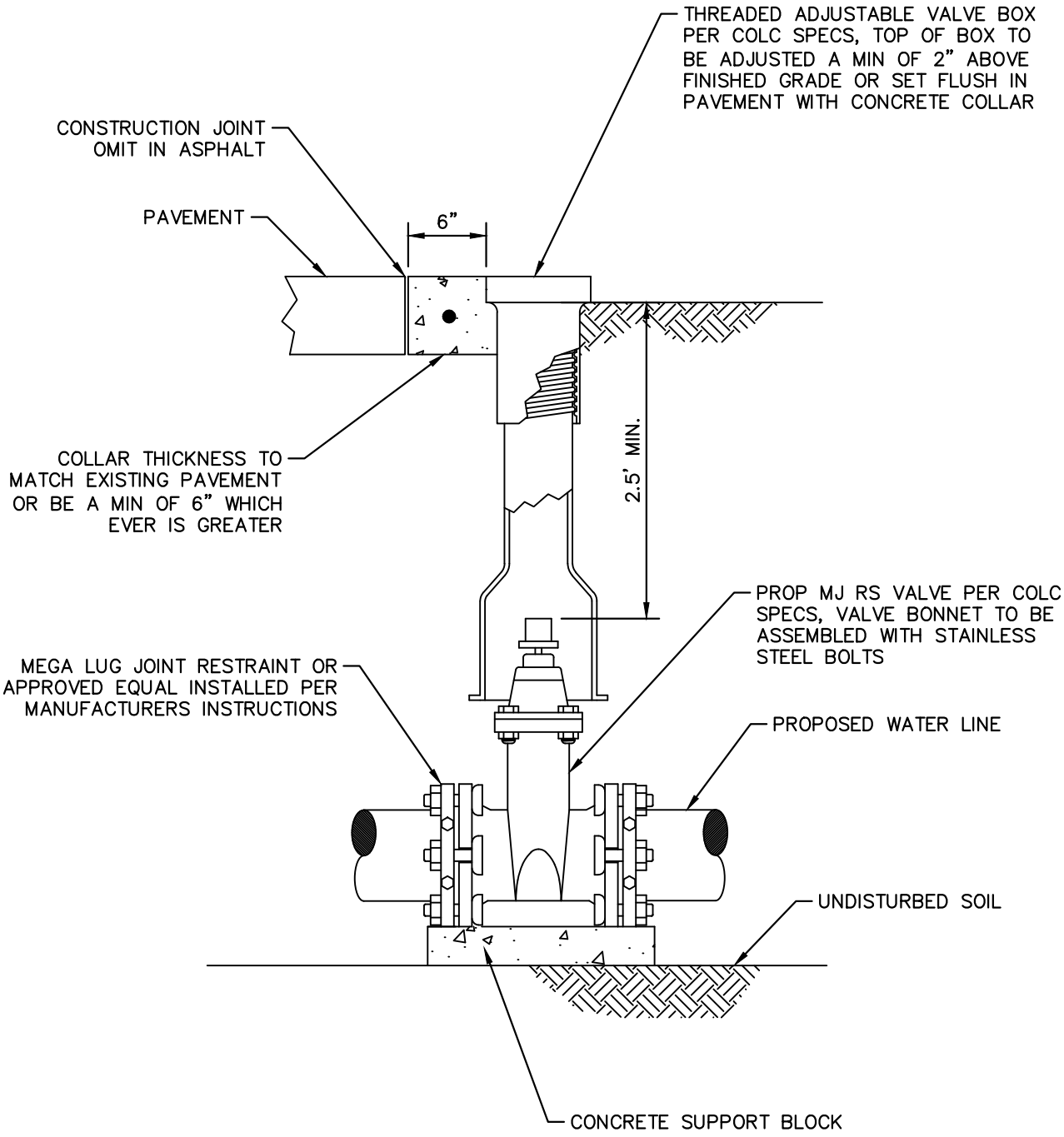


RING CROSS SECTION

NOTES:

1. COVER MATERIAL SPECS: DUCTILE IRON ASTM A 536, SHALL MEET ALL AASHTO M 306 PROOF–LOAD SPECIFICATIONS AND REQUIREMENTS.
2. RING MATERIAL SPECS: GRAY IRON ASTM A 48 CL35B, SHALL MEET ALL AASHTO M 306 PROOF–LOAD SPECIFICATIONS AND REQUIREMENTS.
3. FOR USE IN HIGH TRAFFIC RELATED AREAS, MANHOLES PLACED IN GREEN SPACES CAN USE A LIGHTER DUTY FRAME AND LID, EOR TO SPECIFY.
4. REFER TO CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS ITEM 507.7.3 FOR MORE INFORMATION.

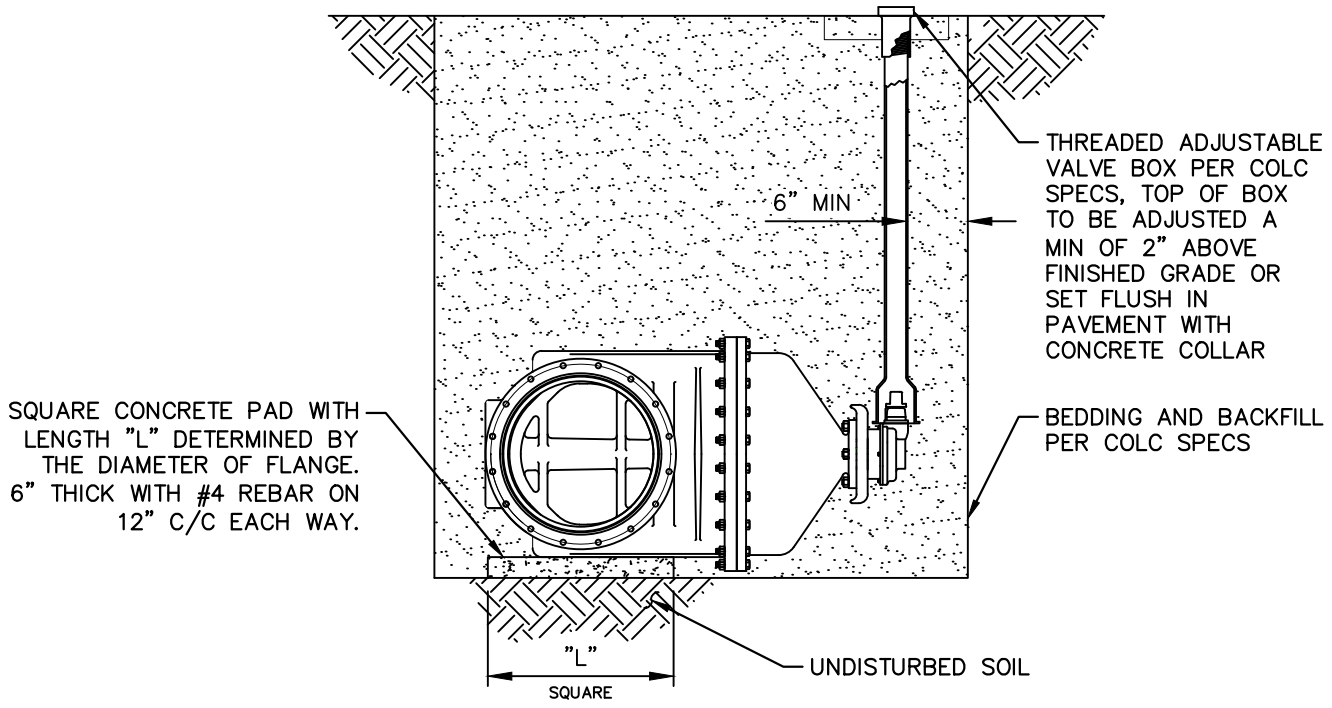
LC TX	STANDARD CONSTRUCTION DETAIL **HEAVY DUTY SANITARY SEWER 32" MANHOLE RING AND COVER DETAIL FOR PRIVATE SYSTEM USE**	SCALE: NTS JUNE 2025 **33 05 67 - 04**



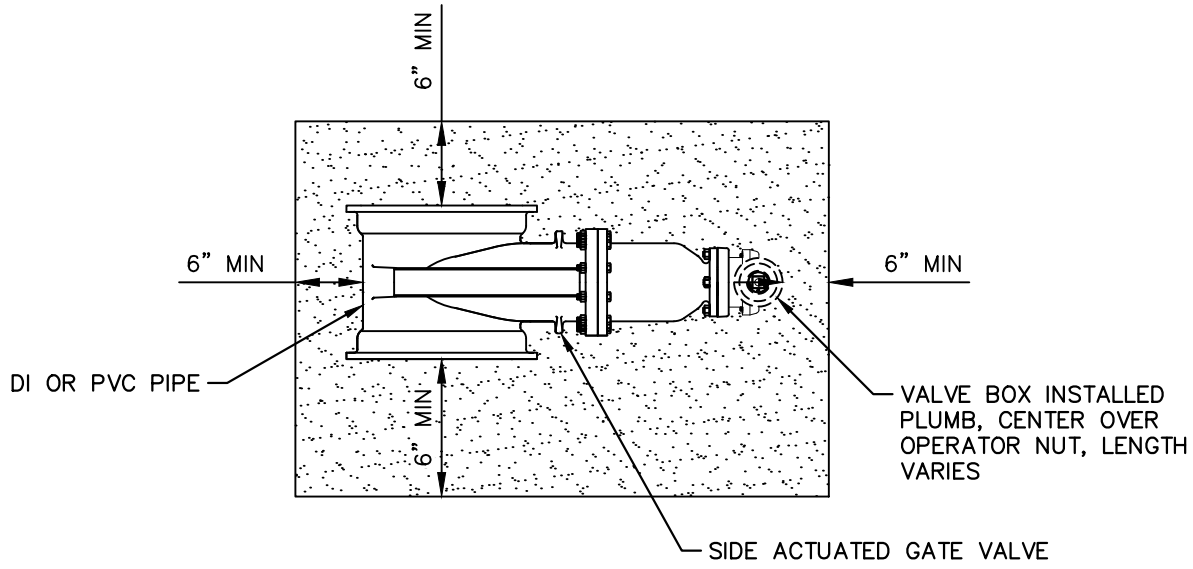
NOTES:

1. PAINT TOP SECTION AND LID BLUE WITH EXTERIOR EPOXY PAINT.
2. IN LOCATIONS WHERE VALVE IS LOCATED WITHIN 2' OF UNCURBED STREETS, PLACE 6" BORDER OF CONCRETE 4" THICK AROUND VALVE BOX AND FLUSH WITH GRADE.
3. IN LOCATIONS OF CURBED STREETS, CUT TRIANGLE INTO CURB TO ALIGN WITH VALVE BOX.

LC TX	STANDARD CONSTRUCTION DETAIL **WATER VALVE AND BOX DETAIL LESS THAN 24"**	SCALE: NTS JUNE 2025 **33 05 84**



FRONT VIEW



TOP VIEW

NOTES:

1. INSTALL SIDE ACTUATED GATE VALVE WITH SHAFT HORIZONTAL.
2. USE OF SIDE ACTUATED GATE VALVE ONLY WHEN APPROVED CITY ENGINEERING DEPT.
3. TOP SECTION AND LID OF SIDE ACTUATED GATE OPERATING VALVE BOX TO BE PAINTED BLUE WITH EXTERIOR EPOXY PAINT, BY-PASS VALVE BOXES TO BE LEFT NATURAL.

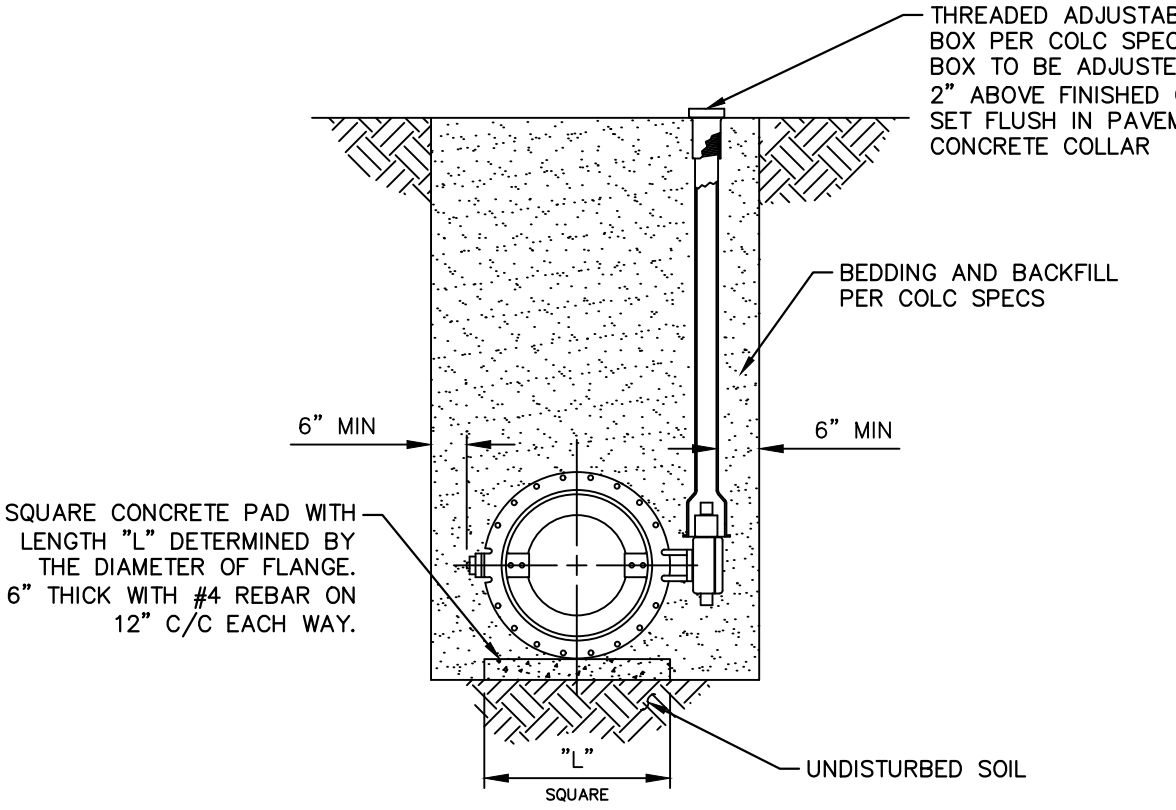
STANDARD CONSTRUCTION DETAIL

SIDE ACTUATED GATE VALVE AND BOX DETAIL 24" AND LARGER

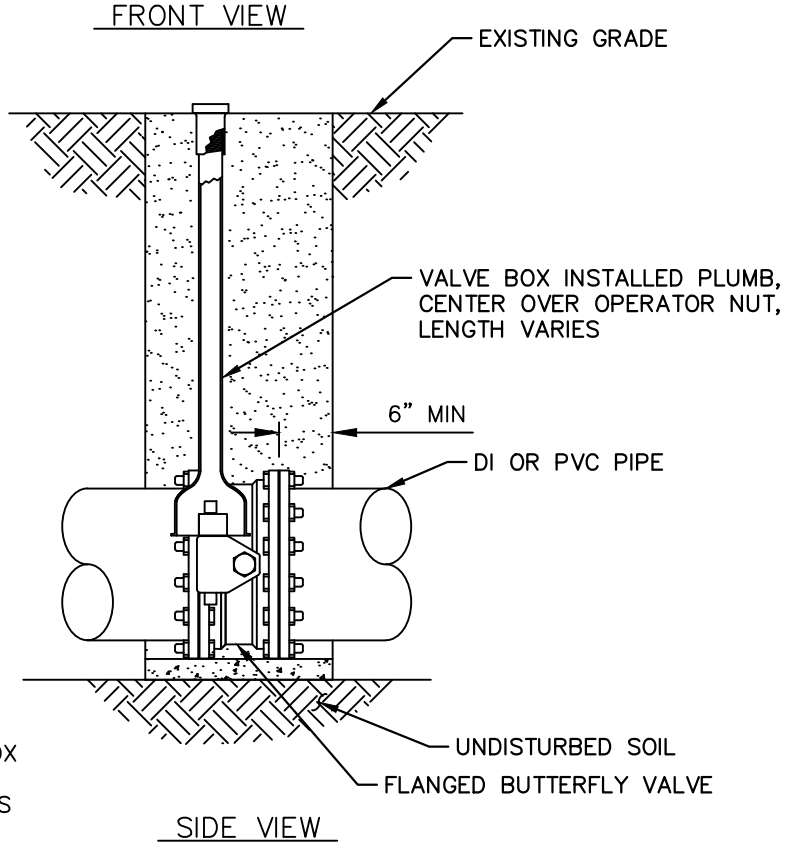
SCALE: NTS

JUNE 2025

33 05 85



FRONT VIEW



SIDE VIEW

NOTES:

1. INSTALL BUTTERFLY VALVE WITH SHAFT HORIZONTAL.
2. USE OF BUTTERFLY VALVE ONLY WHEN APPROVED CITY ENGINEERING DEPT.
3. TOP SECTION AND LID OF BUTTERFLY OPERATING VALVE BOX TO BE PAINTED BLUE WITH EXTERIOR EPOXY PAINT, BY-PASS VALVE BOXES TO BE LEFT NATURAL.

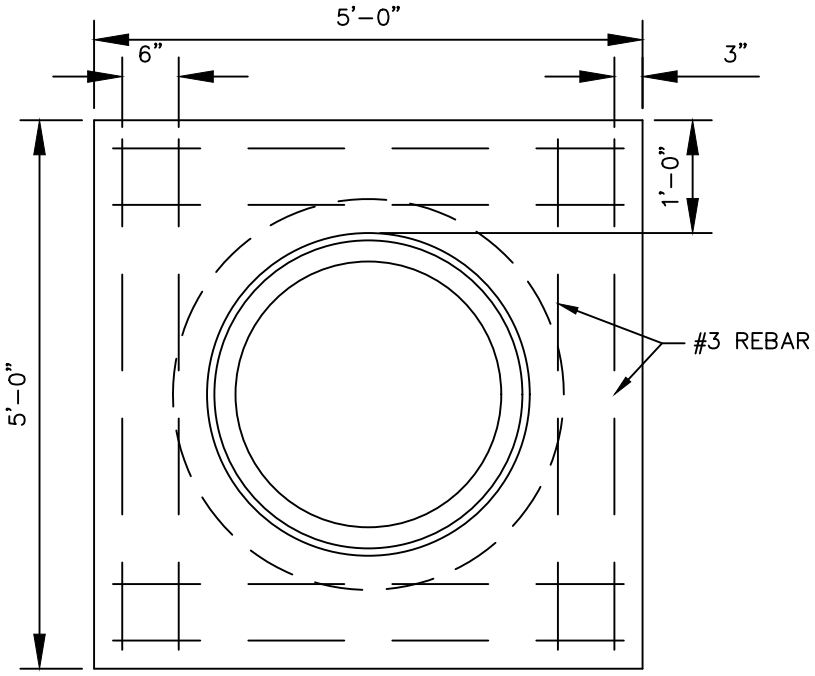
STANDARD CONSTRUCTION DETAIL

BUTTERFLY VALVE AND BOX DETAIL

SCALE: NTS

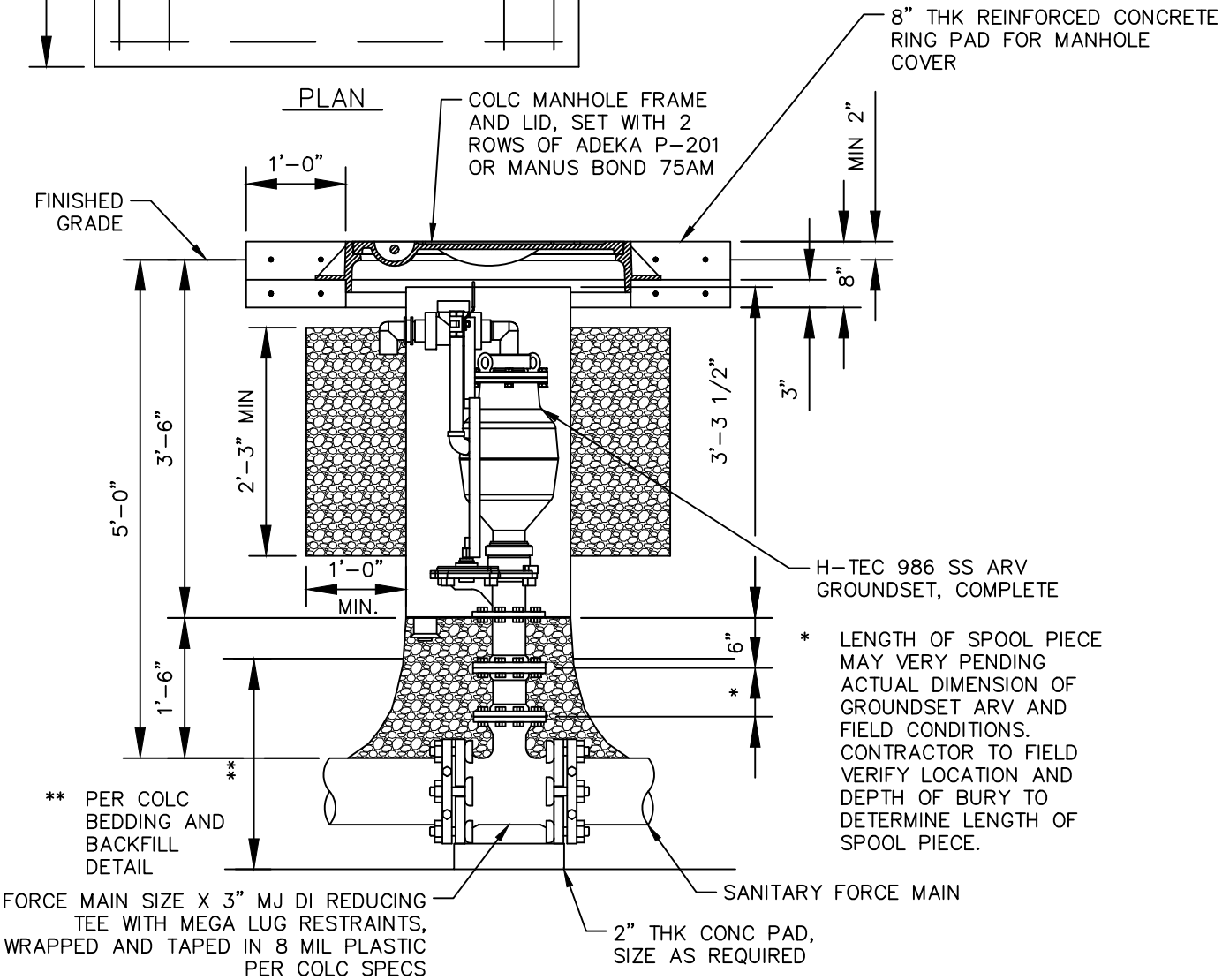
JUNE 2025

33 05 85

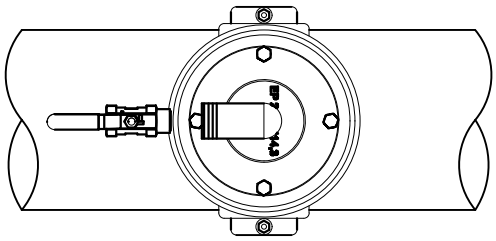


NOTES:

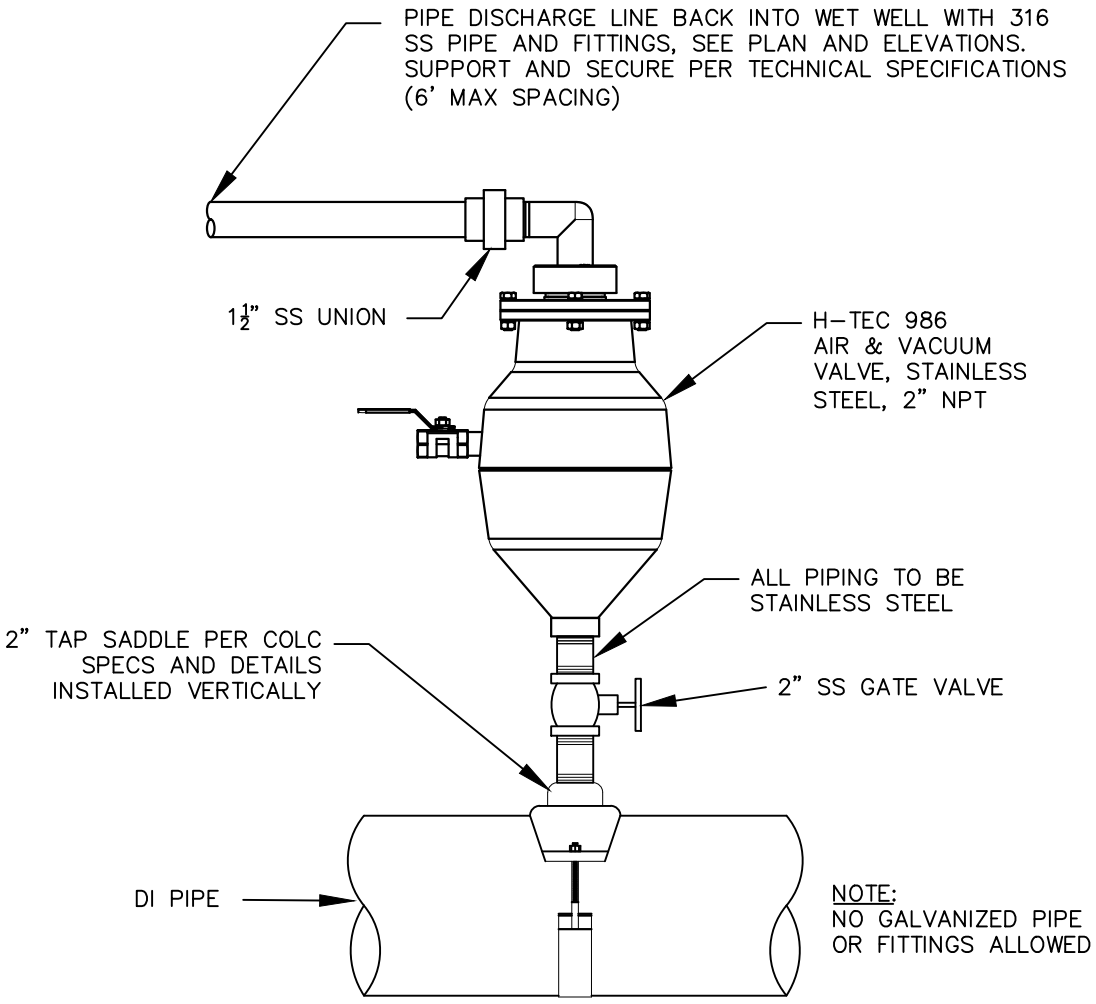
1. ROCK OR CRUSHED STONE TO BE USED IN AREAS AS SHOWN– 3/4" TO 1" IN SIZE.
2. ARV EXHAUST OUTLET TO BE COVERED WITH ROCK OR CRUSHED STONE.
3. A FILTER FABRIC SHALL BE USED OVER THE TOP LAYER OF AGGREGATE TO KEEP SOILS FROM FILTERING DOWN.
4. SPECIAL CARE SHALL BE TAKEN TO INSURE THAT EARTH SOILS DO NOT CLOG THE DRAIN PIPE UNDER CONTAINER.
5. CONCRETE PAD FOR FRAME AND LID SHALL BE POURED IN TWO LAYERS.



LC TX	STANDARD CONSTRUCTION DETAIL **ARV ASSEMBLY FOR FORCE MAIN DETAIL**	SCALE: NTS JUNE 2025 **33 05 86 - 01**



PLAN VIEW



PLAN VIEW

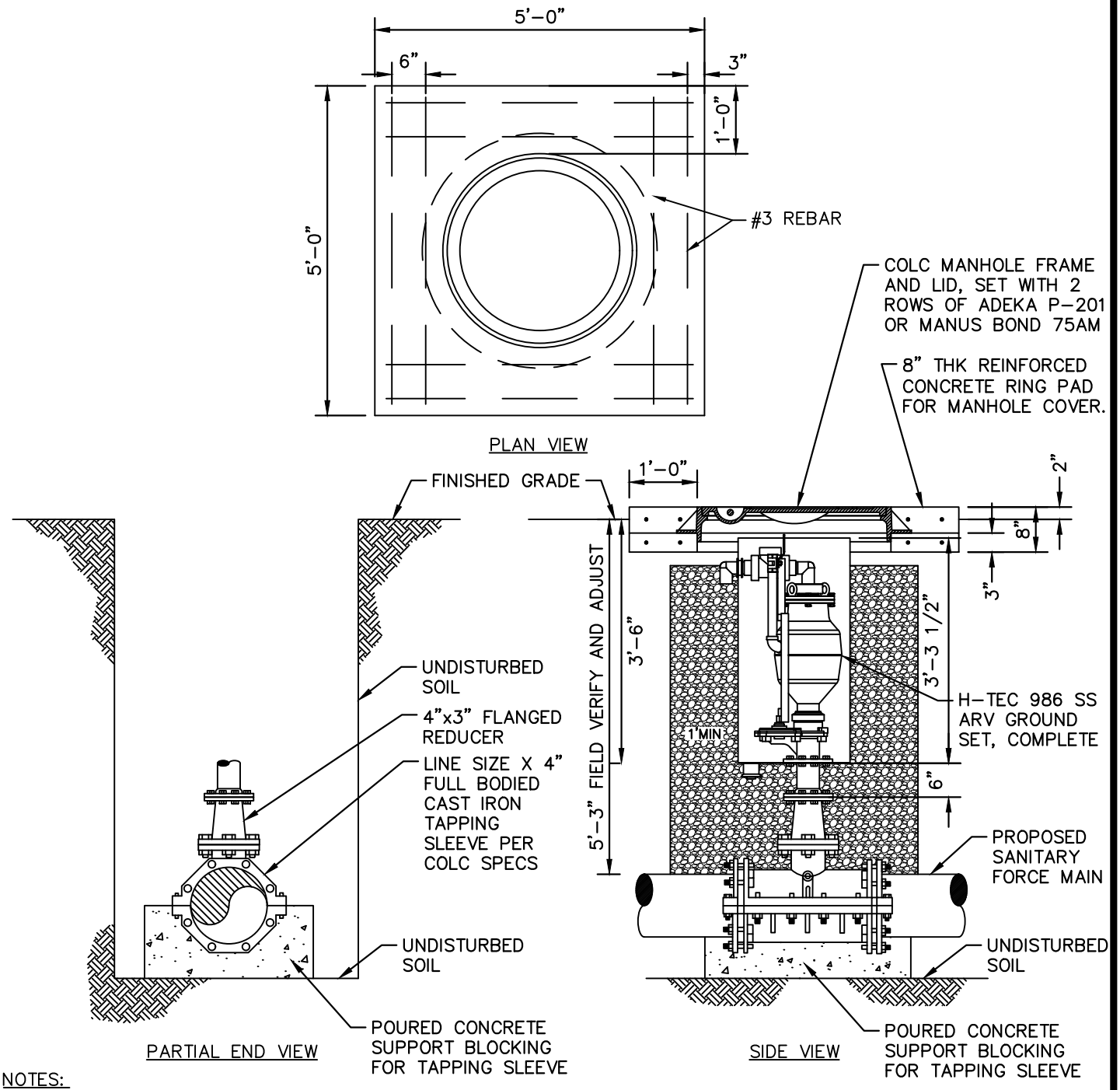
LC TX

STANDARD CONSTRUCTION DETAIL
ARV ASSEMBLY FOR LIFT STATION DETAIL

SCALE: NTS

JUNE 2025

33 05 86 - 02



NOTES:

1. TAPPING SLEEVE TO BE INSTALLED PER COLC SPECIFICATION WITH POLY WRAP BEFORE ANY CONCRETE IS POURED.
2. TAPPING SLEEVE TO BE AIR TESTED BEFORE LINE IS CORED FOR ARV CONNECTION.
3. TAPPING SLEEVE TO BE INSTALLED VERTICAL AND PLUMB.
4. PLUG FROM CORE CUT SHALL BE PRODUCED FOR INSPECTION AT TIME BEFORE INSTALLATION OF REDUCER AND ARV.
5. ROCK OR CRUSHED STONE TO BE USED IN AREAS AS SHOWN 3/4" TO 1" IN SIZE.
6. ARV EXHAUST OUTLET TO BE COVERED WITH ROCK OR CRUSHED STONE.
7. FILTER FABRIC SHALL BE USED OVER THE TOP LAYER OF AGGREGATE TO KEEP SOILS FROM FILTERING DOWN.
8. SPECIAL CARE SHALL BE TAKEN TO INSURE THAT SOILS DO NOT CLOG THE DRAIN PIPE UNDER CONTAINER.
9. CONCRETE PAD FOR FRAME AND LID SHALL BE POURED IN TWO LAYERS
10. FORCE MAIN TO BE BEDDED AND BACKFILLED PER NOTE 2 OF THE BEDDING AND BACKFILL DETAIL FOR DRY STABLE TRENCH.

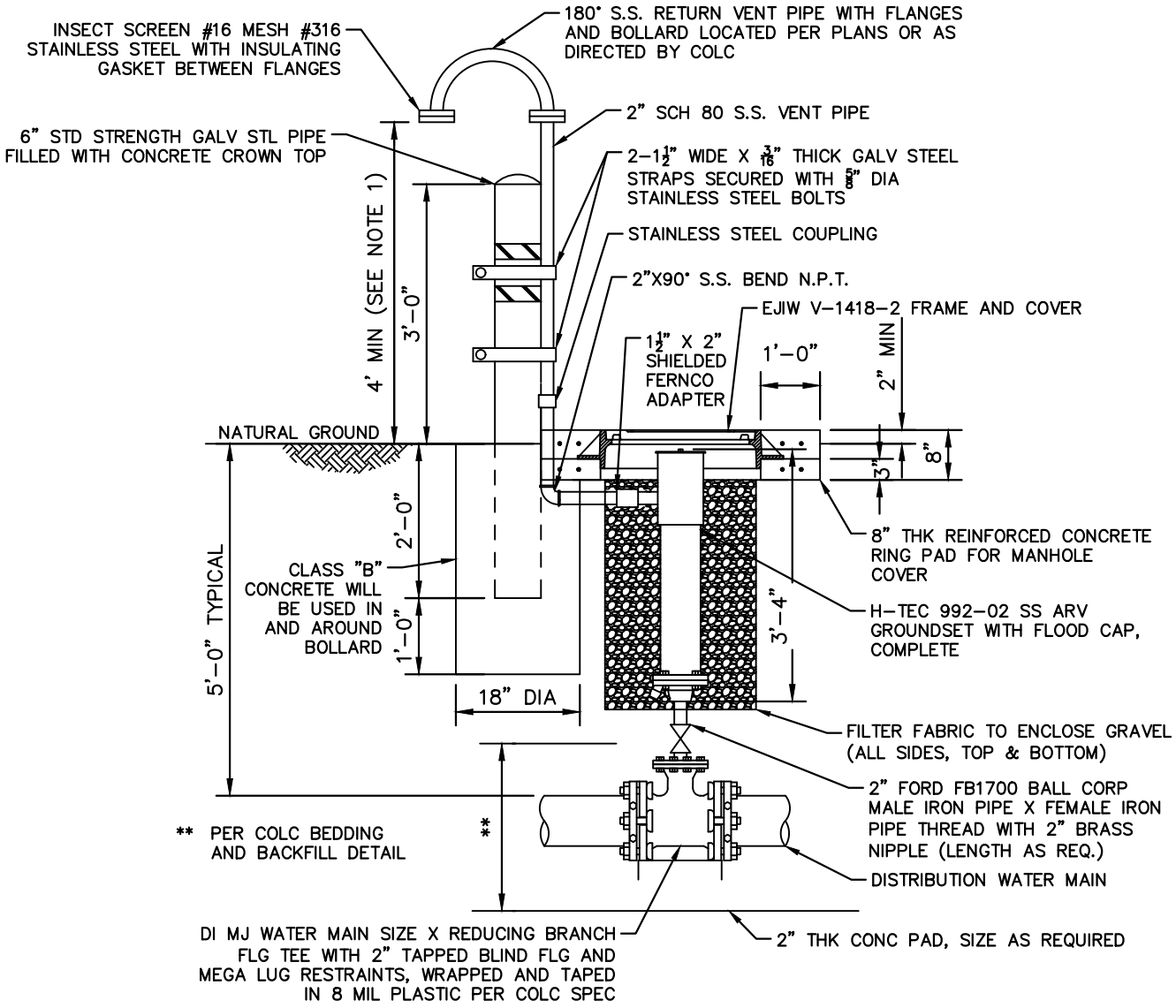
LC TX

STANDARD CONSTRUCTION DETAIL
H-TEC ARV TAPPING SLEEVE DETAIL

SCALE: NTS

JUNE 2025

33 05 86 - 03

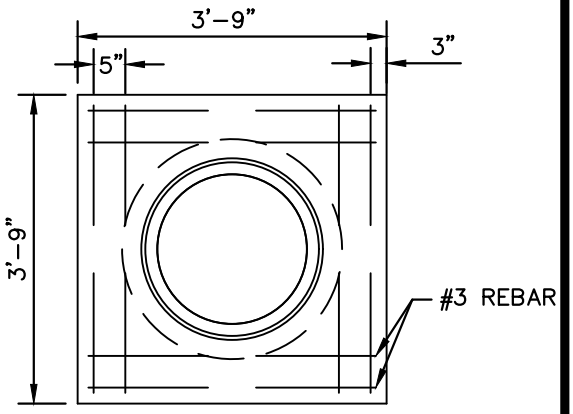


VENT PIPE NOTES:

1. VERIFY THAT LOCATION OF SCREEN IS 2 FOOT ABOVE 100–YEAR FLOOD PLAIN ELEVATION OR 4 FEET ABOVE NATURAL GROUND WHICHEVER IS HIGHER.
2. REFER TO PLAN AND PROFILE SHEETS FOR LOCATIONS OF AIR RELEASE VALVE AND MANHOLES.
3. PROVIDE 2–2" WIDE STRIPS OF REFLECTORISED TAPE ON BOLLARD, PAINT BOLLARD AND VENT PIPING YELLOW

ARV NOTES:

1. ROCK OR CRUSHED STONE TO BE USED IN AREAS AS SHOWN– 3/4" TO 1" IN SIZE. MINIMUM 12" ALL AROUND VALVE.
2. SPECIAL CARE SHALL BE TAKEN TO INSURE THAT EARTH SOILS DO NOT CLOG THE DRAIN PIPE UNDER CONTAINER.
3. CONCRETE PAD FOR FRAME AND LID SHALL BE POURED IN TWO LAYERS.
4. INSTALLATION OF ARV SHALL BE AT A DEPTH THAT MANHOLE LID DOES NOT IMPACT OR REST ON THE ARV CAP.



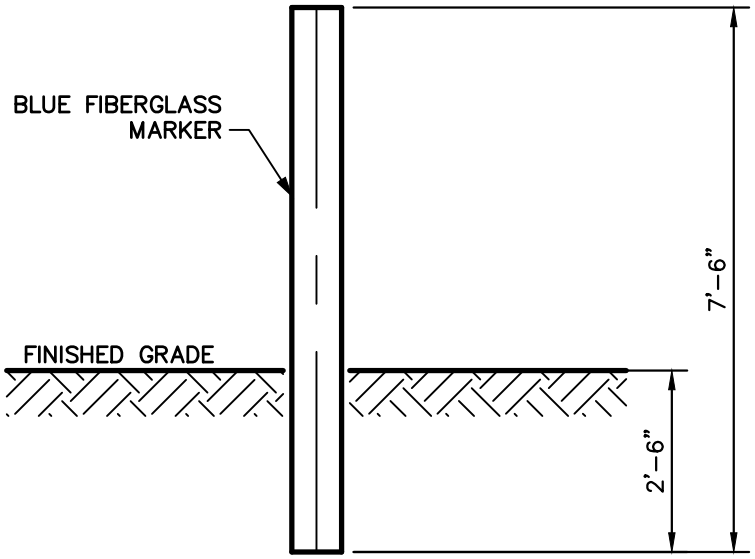
PLAN

STANDARD CONSTRUCTION DETAIL
H-TEC AIR/VACUUM RELEASE VALVE ASSEMBLY FOR DISTRIBUTION MAIN DETAIL

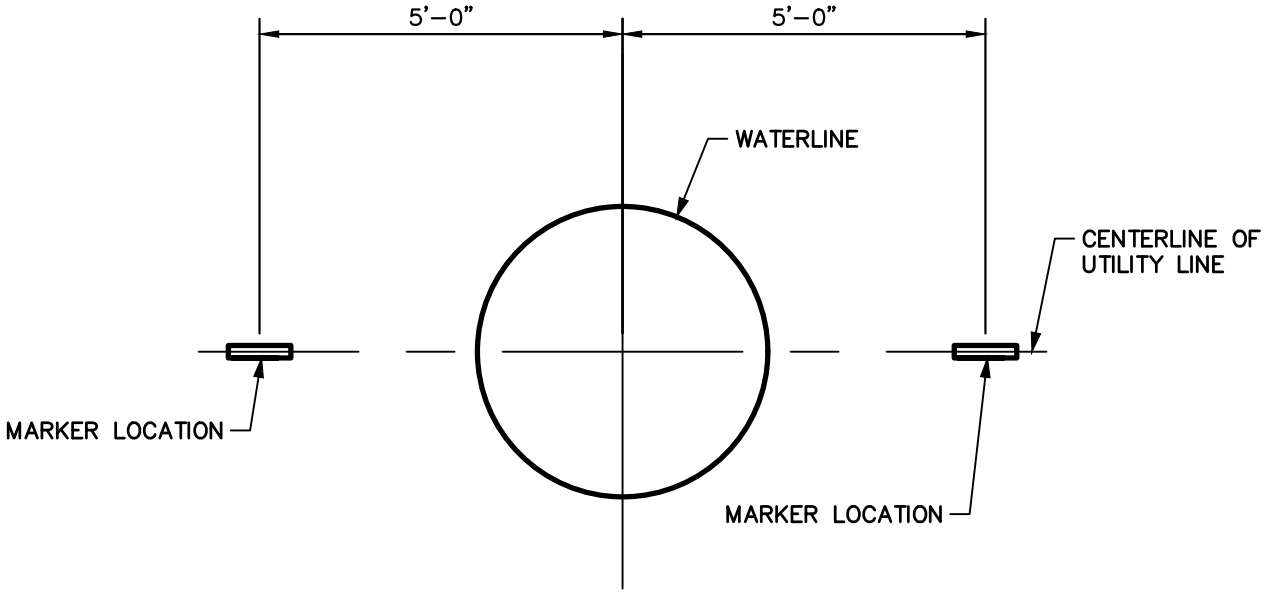
SCALE: NTS

JUNE 2025

33 05 86



ELEVATION

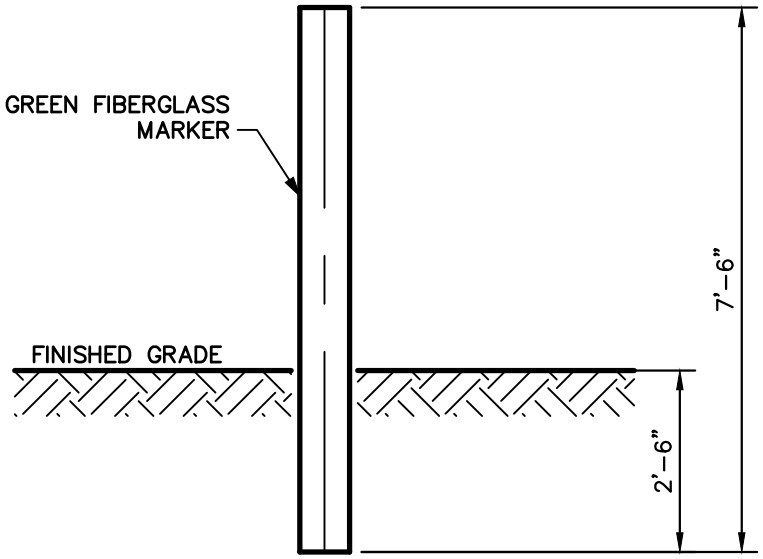


FIELD INSTALLATION DETAIL

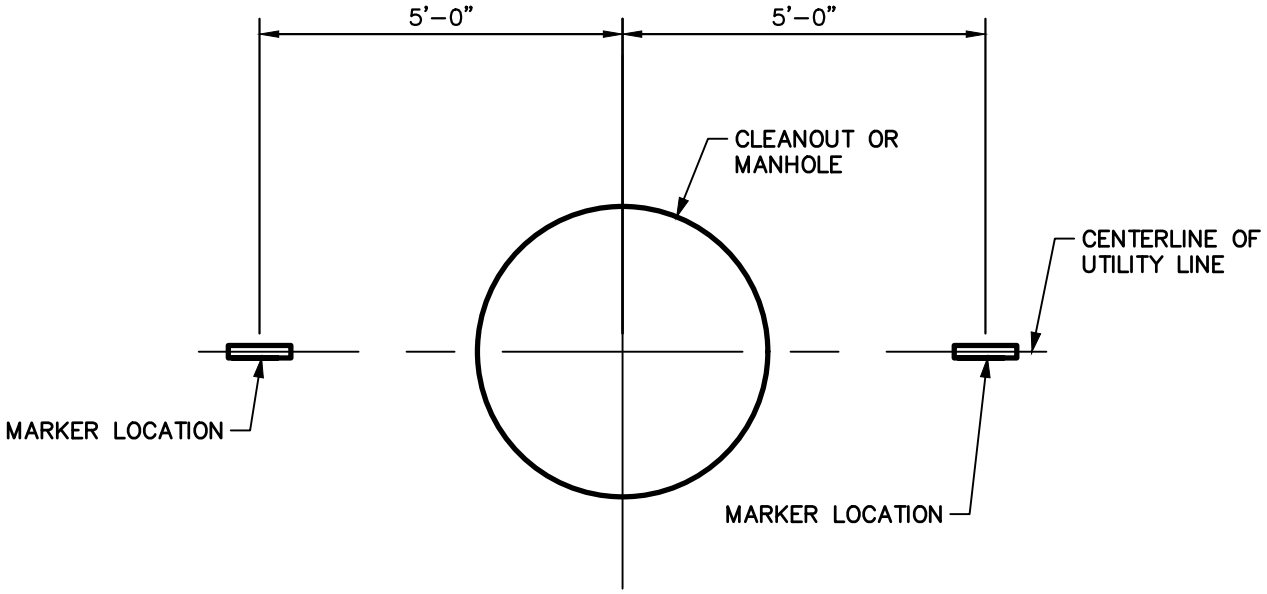
NOTES:

1. ALL OFFSITE CITY MAINS SHALL BE MARKED EVERY 500 FEET AS DETAILED ON THIS SHEET.
2. THE OFFSITE WATER MAIN MARKER SHALL HAVE THE FOLLOWING WRITING: "CITY OF LEAGUE CITY WATER LINE".

LC TX	STANDARD CONSTRUCTION DETAIL **OFFSITE WATER MARKER DETAIL**	SCALE: NTS JUNE 2025 **33 05 91 - 01**



ELEVATION

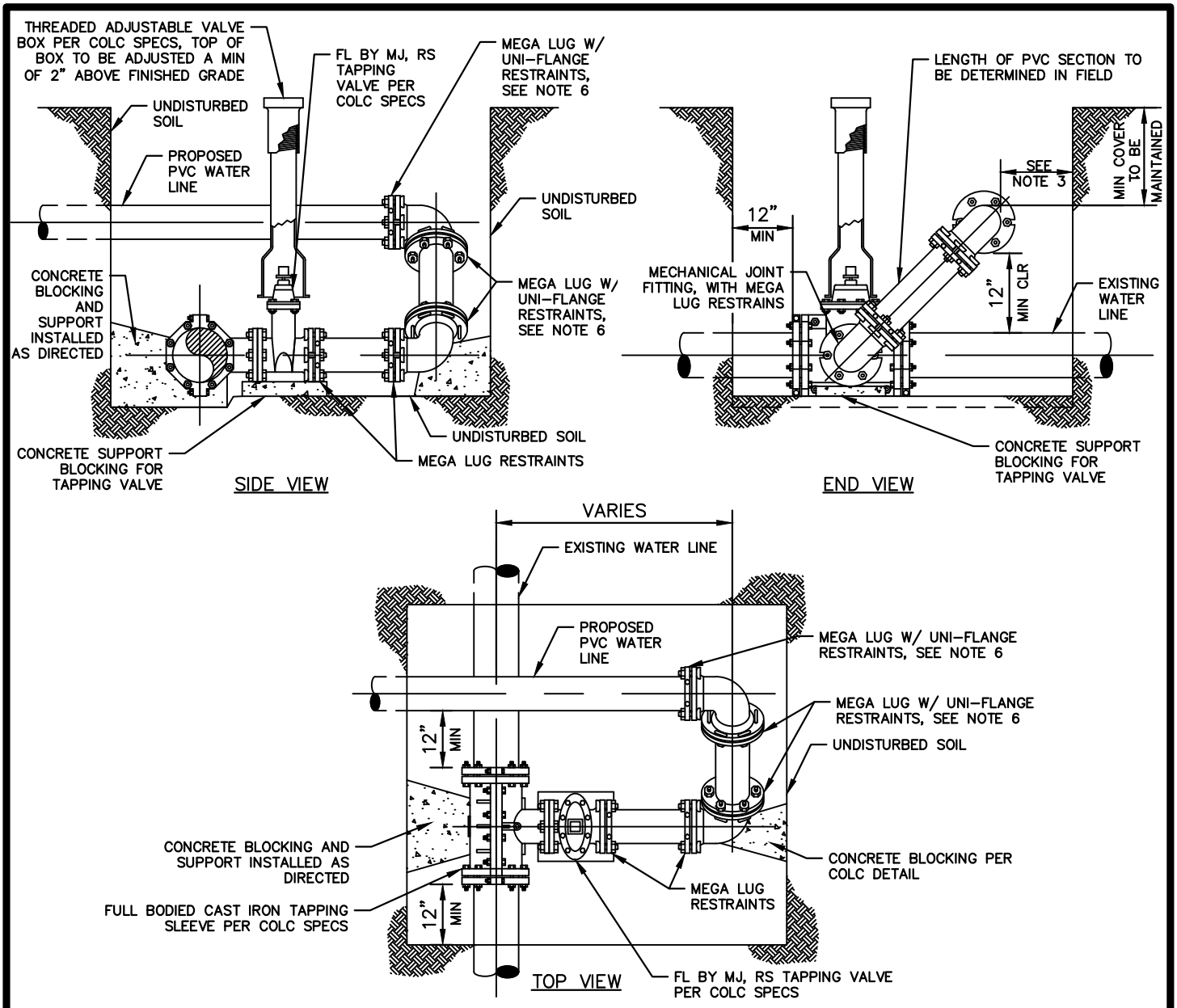


FIELD INSTALLATION DETAIL

NOTES:

1. ALL OFFSITE CITY MAINS WITH CLEANOUTS AND MANHOLES SHALL BE MARKED AS DETAILED ON THIS SHEET.
2. THE OFFSITE SANITARY SEWER MARKER SHALL HAVE THE FOLLOWING WRITING: "CITY OF LEAGUE CITY SANITARY SEWER".

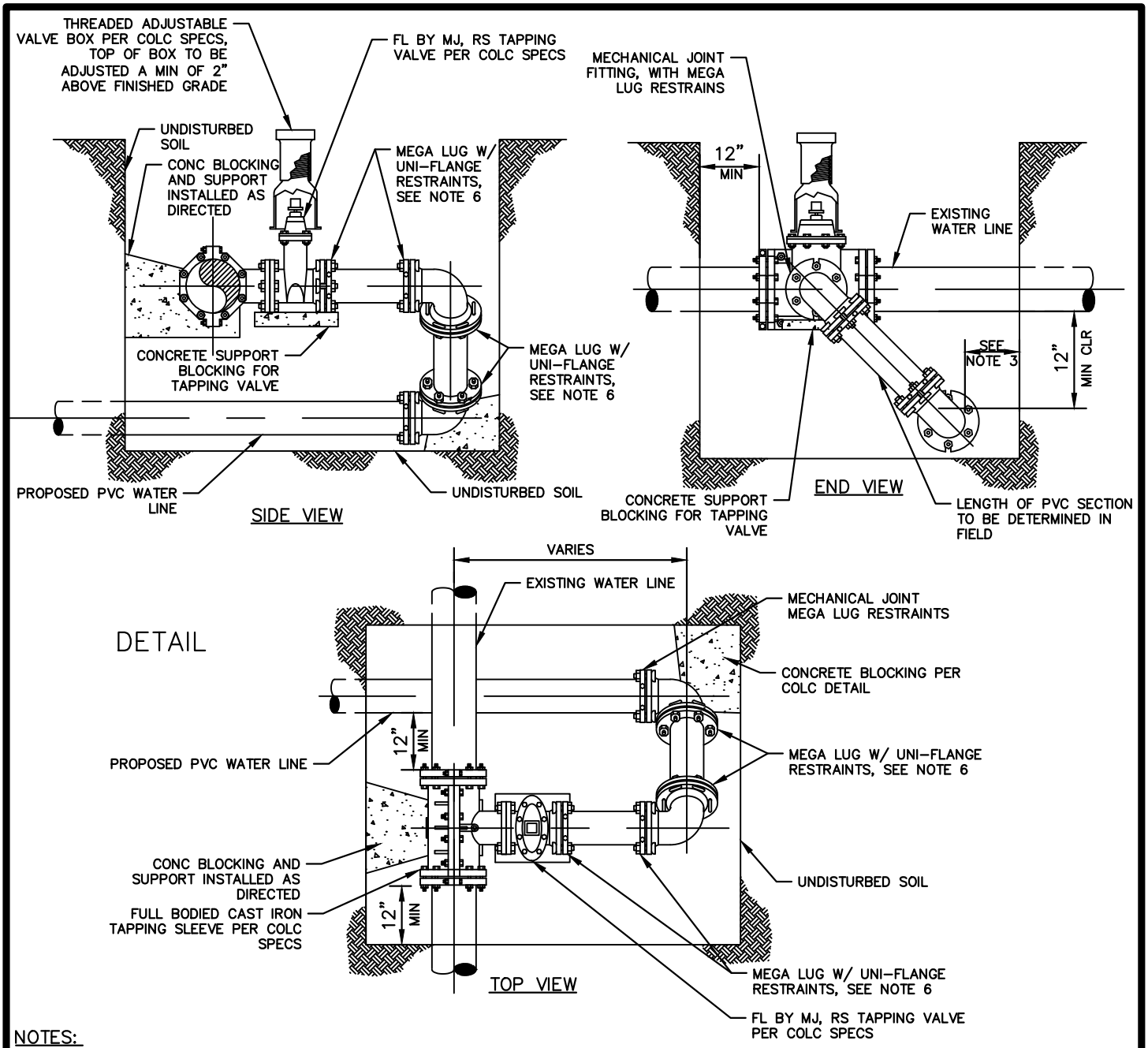
LC TX	STANDARD CONSTRUCTION DETAIL **OFFSITE WASTEWATER MARKER DETAIL**	SCALE: NTS JUNE 2025 **33 05 91 - 02**



NOTES:

1. VALVE AND TAPPING SLEEVE TO BE INSTALLED PER COLC SPECIFICATION WITH POLY WRAP.
2. ALL MATERIALS AND COATINGS TO BE IN ACCORDANCE WITH SPECIFICATIONS FOR WATER MAIN CONSTRUCTION AS PER COLC SPECIFICATIONS.
3. ALL CLEARANCES FOR BEDDING AND BACKFILL TO BE MAINTAINED. NO FITTING SHALL FALL UNDER PAVEMENT.
4. SIZE OF TAP SADDLE, VALVE AND PIPING TO BE SHOWN ON PLANS.
5. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
6. UNBLOCKED FITTINGS AND PIPING SHALL HAVE UNI-FLANGE PIPE RESTRAINTS IN ADDITION TO MJ MEGA LUG.
7. SEE TAPPING SLEEVE AND VALVE DETAIL FOR ADDITIONAL NOTES.
8. ANY TAPPING SLEEVE AND VALVE SET UPS FOR THE PURPOSE OF PRIVATE WATER USE OR FIRE PROTECTION SHALL BE INSPECTED BY COLC LINE REPAIR DEPT. CALL 281-554-1390 24 HRS PRIOR TO CONSTRUCTION.
9. MINIMUM CLEARANCES NEAR OBSTRUCTIONS SUCH AS STORM SEWERS AND OTHER DRY UTILITIES SHALL BE 5' HORIZONTAL DISTANCE. OTHER OBSTRUCTION MAY REQUIRE ADDITIONAL FOOTAGE DETERMINED ON THE SIZE OF THE OBSTRUCTION AND ON A CASE BY CASE SITUATION.
10. UNLESS OTHERWISE APPROVED ALL BACK TAPS SHALL PASS UNDER THE MAIN LINE THAT IS BEING TAPPED. ANY BACK TAP PASSING OVER MAIN LINE SHALL MAINTAIN MINIMUM CLEARANCES AND COVER PER COLC DESIGN AND CONSTRUCTION STANDARDS.

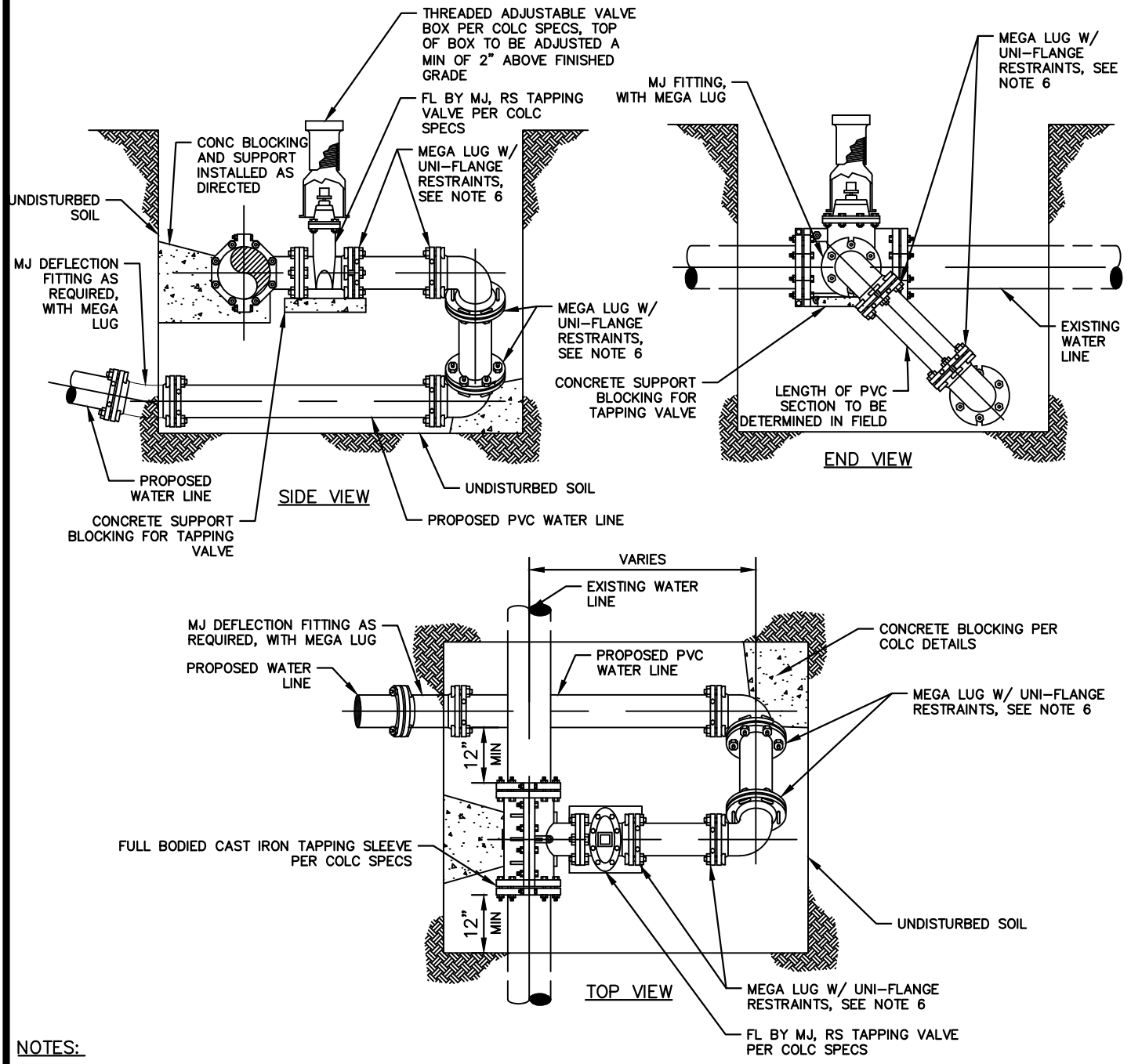
LC TX	STANDARD CONSTRUCTION DETAIL **BACK TAP OVER MAIN DETAIL** (ONLY WHERE APPROVED BY CITY)	SCALE: NTS JUNE 2025 **33 11 05 - 01**



NOTES:

1. VALVE AND TAPPING SLEEVE TO BE INSTALLED PER COLC SPECIFICATION WITH POLY WRAP.
2. ALL MATERIALS AND COATINGS TO BE IN ACCORDANCE WITH SPECIFICATIONS FOR WATER MAIN CONSTRUCTION AS PER COLC SPECIFICATIONS.
3. ALL CLEARANCES FOR BEDDING AND BACKFILL TO BE MAINTAINED. NO FITTING SHALL FALL UNDER PAVEMENT.
4. SIZE OF TAP SADDLE, VALVE AND PIPING TO BE SHOWN ON PLANS.
5. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
6. UNBLOCKED FITTINGS AND PIPING SHALL HAVE UNI-FLANGE PIPE RESTRAINTS IN ADDITION TO MJ MEGA LUG.
7. SEE TAPPING SLEEVE AND VALVE DETAIL FOR ADDITIONAL NOTES.
8. ANY TAPPING SLEEVE AND VALVE SET UPS FOR THE PURPOSE OF PRIVATE WATER USE OR FIRE PROTECTION SHALL BE INSPECTED BY COLC LINE REPAIR DEPT. CALL 281-554-1390 24 HRS PRIOR TO CONSTRUCTION.
9. MINIMUM CLEARANCES NEAR OBSTRUCTIONS SUCH AS STORM SEWERS AND OTHER DRY UTILITIES SHALL BE 5' HORIZONTAL DISTANCE. OTHER OBSTRUCTION MAY REQUIRE ADDITIONAL FOOTAGE DETERMINED ON THE SIZE OF THE OBSTRUCTION AND ON A CASE BY CASE SITUATION.
10. UNLESS OTHERWISE APPROVED ALL BACK TAPS SHALL PASS UNDER THE MAIN LINE THAT IS BEING TAPPED. ANY BACK TAP PASSING OVER MAIN LINE SHALL MAINTAIN MINIMUM CLEARANCES AND COVER PER COLC DESIGN AND CONSTRUCTION STANDARDS.

LC TX	STANDARD CONSTRUCTION DETAIL **BACK TAP UNDER MAIN DETAIL**	SCALE: NTS JUNE 2025 **33 11 05 - 02**



NOTES:

1. VALVE AND TAPPING SLEEVE TO BE INSTALLED PER COLC SPECIFICATION WITH POLY WRAP.
2. ALL MATERIALS AND COATINGS TO BE IN ACCORDANCE WITH SPECIFICATIONS FOR WATER MAIN CONSTRUCTION AS PER COLC SPECIFICATIONS.
3. ALL CLEARANCES FOR BEDDING AND BACKFILL TO BE MAINTAINED. NO FITTING SHALL FALL UNDER PAVEMENT
4. SIZE OF TAP SADDLE, VALVE AND PIPING TO BE SHOWN ON PLANS.
5. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
6. UNBLOCKED FITTINGS AND PIPING SHALL HAVE UNI-FLANGE PIPE RESTRAINTS IN ADDITION TO MJ MEGA LUG.
7. SEE TAPPING SLEEVE AND VALVE DETAIL FOR ADDITIONAL NOTES.
8. ANY TAPPING SLEEVE AND VALVE SET UPS FOR THE PURPOSE OF PRIVATE WATER USE OR FIRE PROTECTION SHALL BE INSPECTED BY COLC LINE REPAIR DEPT. CALL 281-554-1390 24 HRS PRIOR TO CONSTRUCTION.
9. MINIMUM CLEARANCES NEAR OBSTRUCTIONS SUCH AS STORM SEWERS AND OTHER DRY UTILITIES SHALL BE 5' HORIZONTAL DISTANCE. OTHER OBSTRUCTION MAY REQUIRE ADDITIONAL FOOTAGE DETERMINED ON THE SIZE OF THE OBSTRUCTION AND ON A CASE BY CASE SITUATION.

LC TX

STANDARD CONSTRUCTION DETAIL

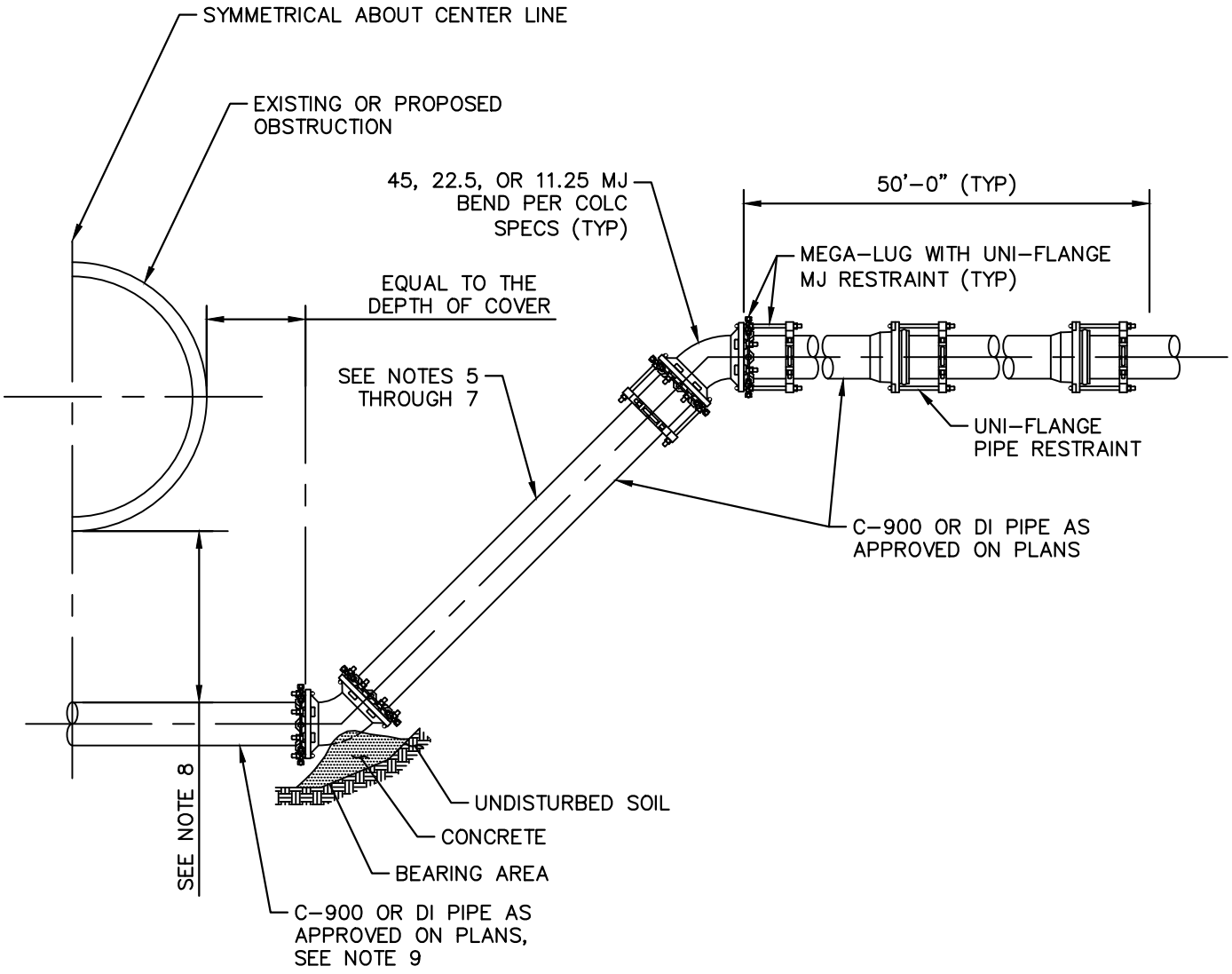
BACK TAP UNDER MAIN WITH DEFLECTION FITTING DETAIL

(ONLY WITH APPROVAL FROM CITY)

SCALE: NTS

JUNE 2025

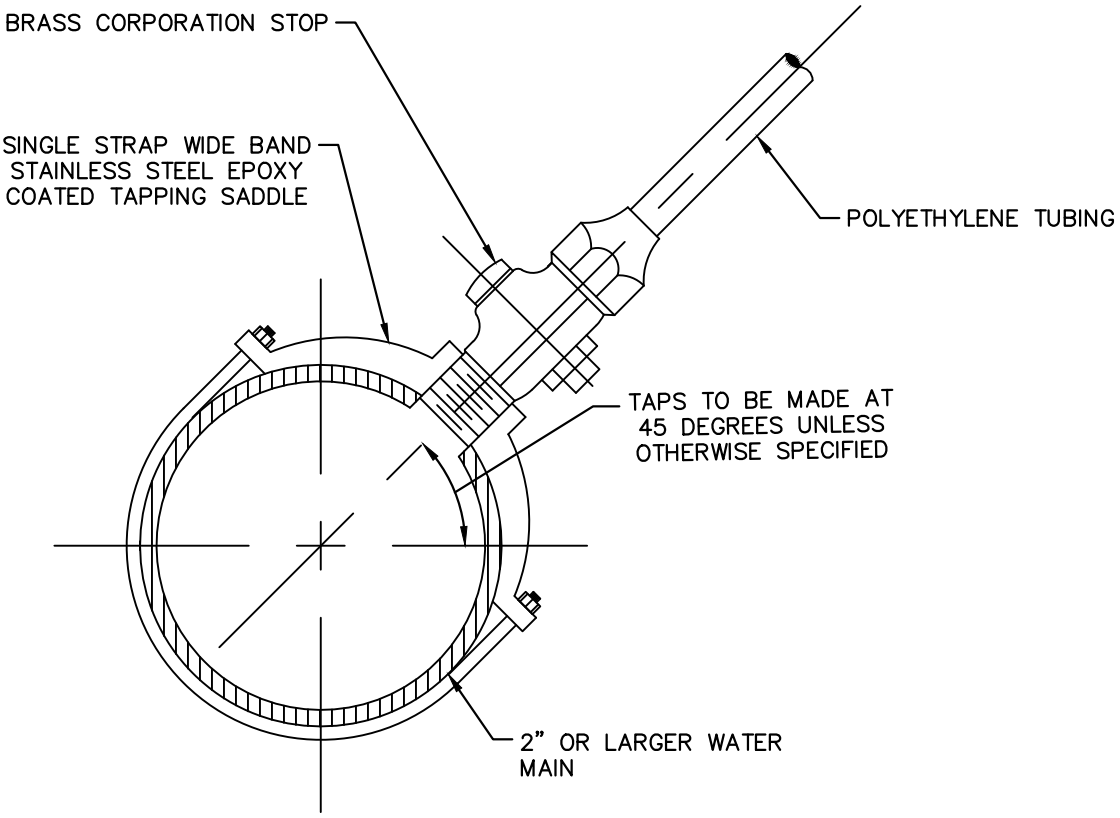
33 11 05 - 03



NOTES:

1. WHEN ALTERING EXISTING LINES RESTRAIN ANY EXISTING JOINTS EXPOSED BY CONSTRUCTION BEFORE OR AFTER PROPOSED FITTINGS WITH UNI-FLANGE BELL AND SPIGOT PIPE RESTRAINT.
2. RESTRAIN ALL JOINTS WITHIN 50 FEET OF PROPOSED FITTINGS.
3. APPROPRIATE BEDDING AND BACKFILL SHALL BE IN ACCORDANCE WITH CITY OF LEAGUE CITY DETAILS AND DESIGN STANDARDS.
4. USE APPROPRIATE SERIES MODEL RESTRAINT FOR PIPE MATERIAL.
5. WHERE POSSIBLE THERE SHOULD BE NO PIPE JOINTS WITHIN THE VERTICAL OR HORIZONTAL RUN OF THE OFFSET (WHEN AND WHERE APPROVED SEE NOTE 6 AND 7).
6. IF A PIPE JOINT IS REQUIRED WITHIN THE VERTICAL OFFSET IT SHALL BE RESTRAINED WITH UNI-FLANGE BELL AND SPIGOT TYPE RESTRAINT.
7. WHEN DEPTH OF OFFSET REQUIRES MORE THAN A STANDARD LENGTH OF PIPE NO SEGMENT SHALL BE LESS THAN 5' IN LENGTH.
8. THE MINIMUM CLEARANCE SHALL BE DETERMINED BY THE AMOUNT OF BEDDING AND BACKFILL REQUIRED BY THE PROSPECTIVE PIPE AND THEIR USAGE. SEE THE BEDDING AND BACKFILL DETAILS FOR DIMENSIONS.
9. A SOLID CONTINUOUS JOINT OF PIPE SHALL BE USED AT ALL TIMES FOR THE HORIZONTAL SECTION OF THE OFFSET. IF THE MINIMUM SIDE CLEARANCE DISTANCES PLUS THE DIMENSION OF THE OBSTRUCTION IS GREATER THAN A STANDARD JOINT OF PIPE AN APPROPRIATELY SIZED AND CONTINUOUS LENGTH OF HDPE SHALL BE USED WITH TRANSITION FITTING OR GASKETS AS SPECIFIED BY THE MANUFACTURER IF NEEDED.

LC TX	STANDARD CONSTRUCTION DETAIL **RESTRAINED MECHANICAL JOINT** **VERTICAL OFFSET DETAIL**	SCALE: NTS JUNE 2025 **33 11 05 - 04**



NOTES:
1. BED AND COVER TAP AND SERVICE TO METER BOX WITH BANK SAND, USE REMAINING SPOIL TO FILL TO GRADE.

STANDARD CONSTRUCTION DETAIL

3/4" TO 2" SERVICE TAP DETAIL

SCALE: NTS

JUNE 2025

33 14 12 - 01

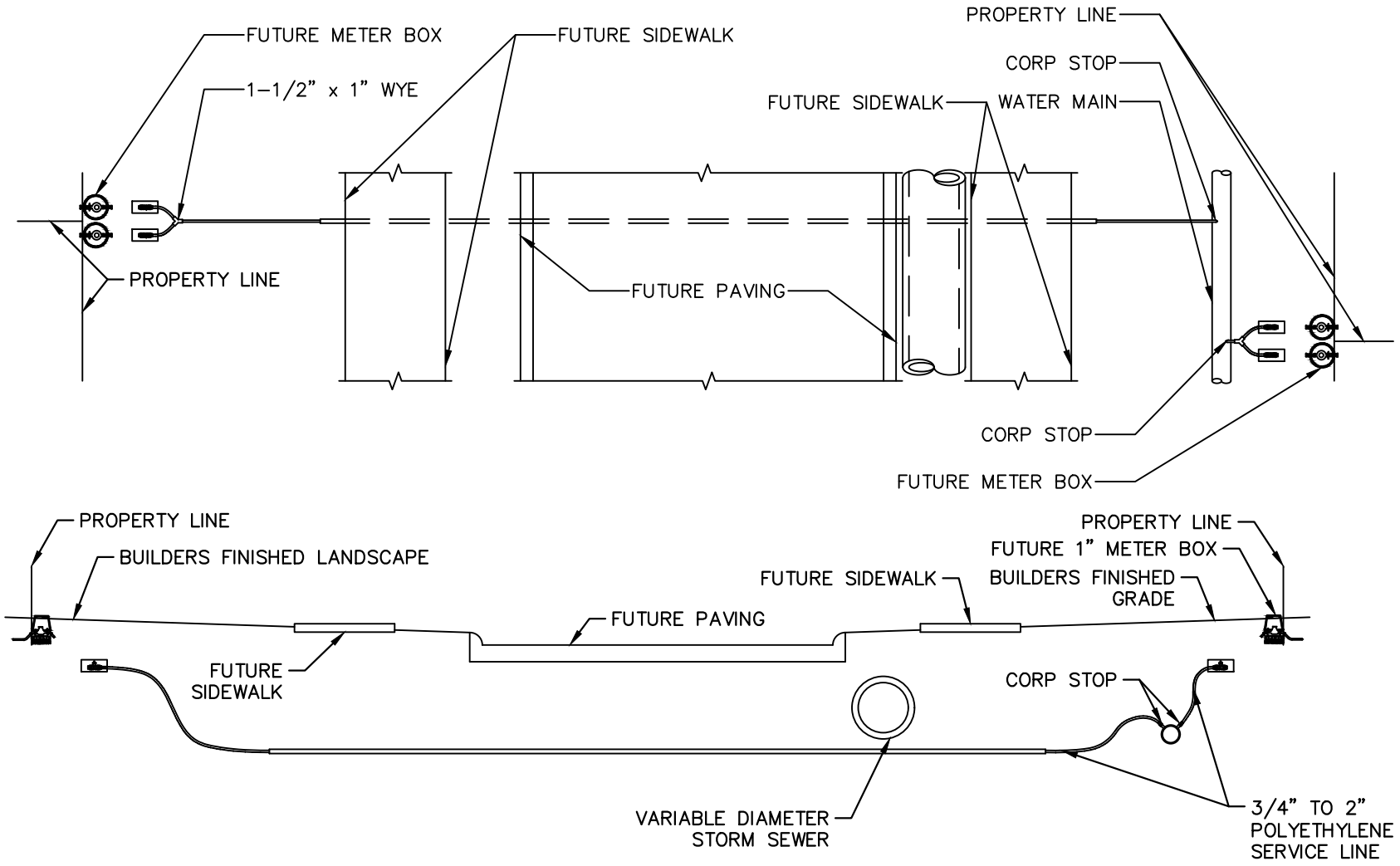
STANDARD CONSTRUCTION DETAIL

WATER SERVICE LEAD DETAIL

SCALE: NTS

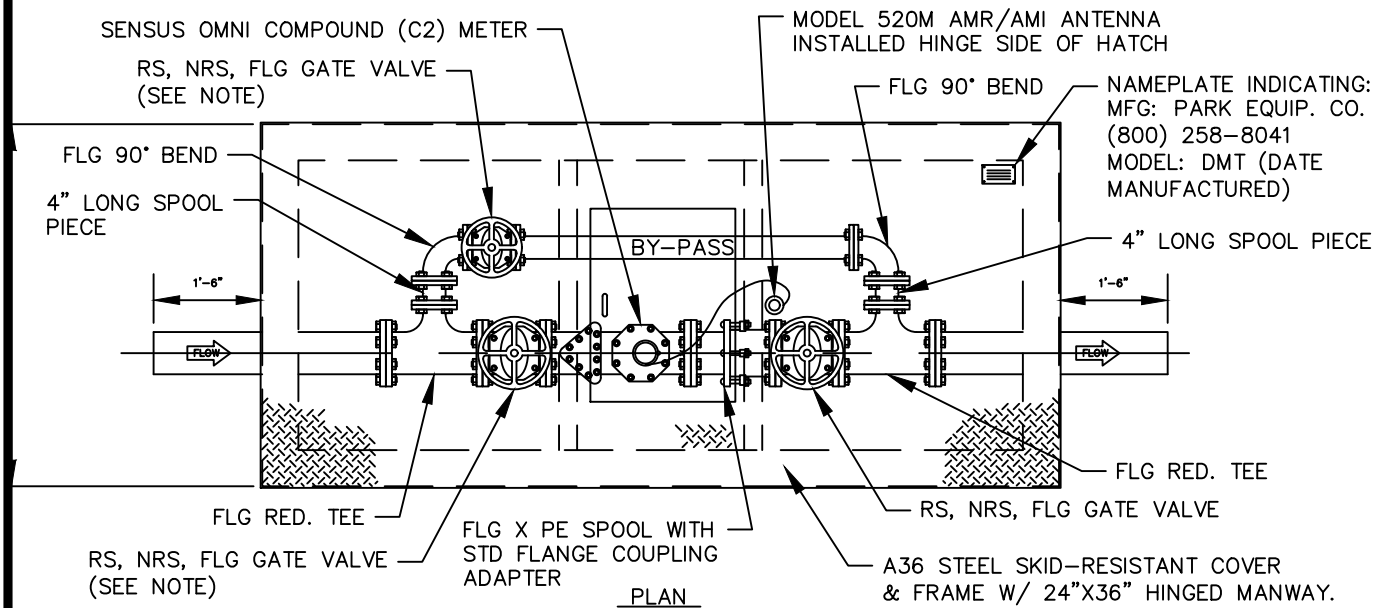
JUNE 2025

33 14 12 - 02

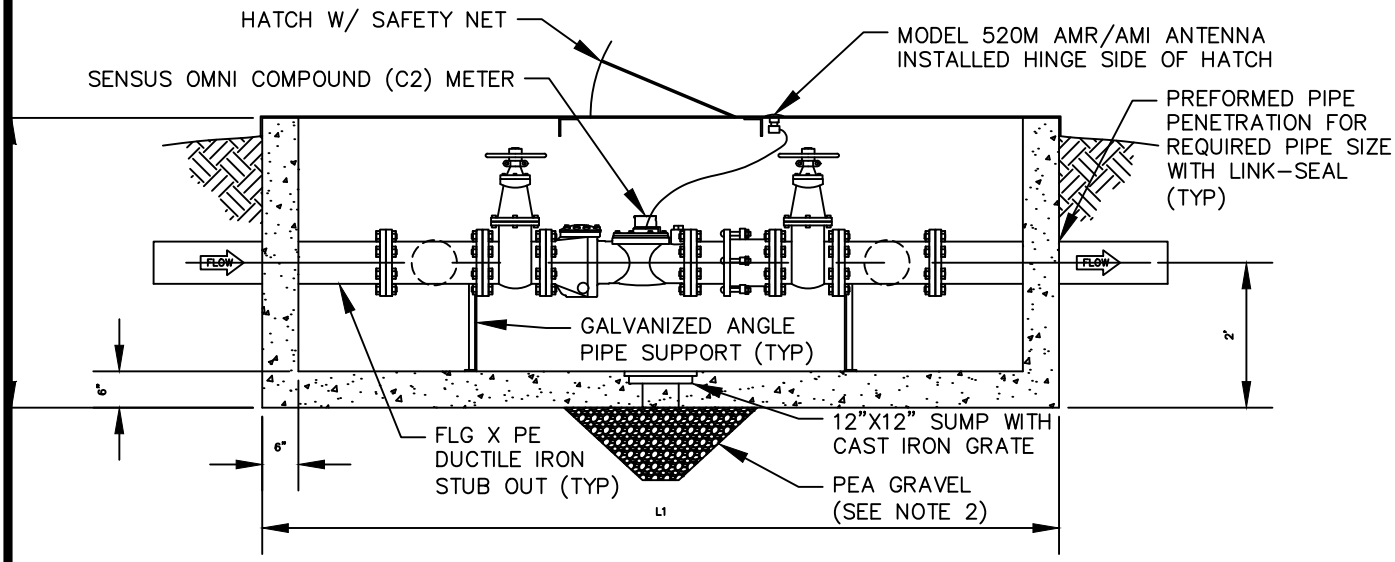


NOTES:

1. CURB STOPS AND WYE'S TO BE ALL COMPRESSIONS TYPE FITTINGS FOR BLACK POLYETHYLENE TUBING, SIZED AS REQUIRED.
2. LOCATION OF WATER MAIN MAY VARY
3. BED AND COVER TAP AND SERVICE TO METER BOX WITH BANK SAND, USE REMAINING SPOIL TO FILL TO GRADE.
4. IN LOCATION OF ROAD SIDE DITCHES, SERVICE LINE SHALL BE 2 FEET BELOW DITCH FLOW LINE.



PLAN



ELEVATION

DEL	SIZE	BY PASS	L1	W1	H1
C3	3"	2"	8'-8"	5'-0"	4'-0"
C4	4"	2"	8'-8"	5'-0"	4'-0"
C6	6"	3"	11'-0"	6'-0"	4'-3"
C8	8"	4"	13'-0"	7'-0"	4'-6"
C10	10"	6"	16'-0"	7'-0"	4'-6"

NOTE:

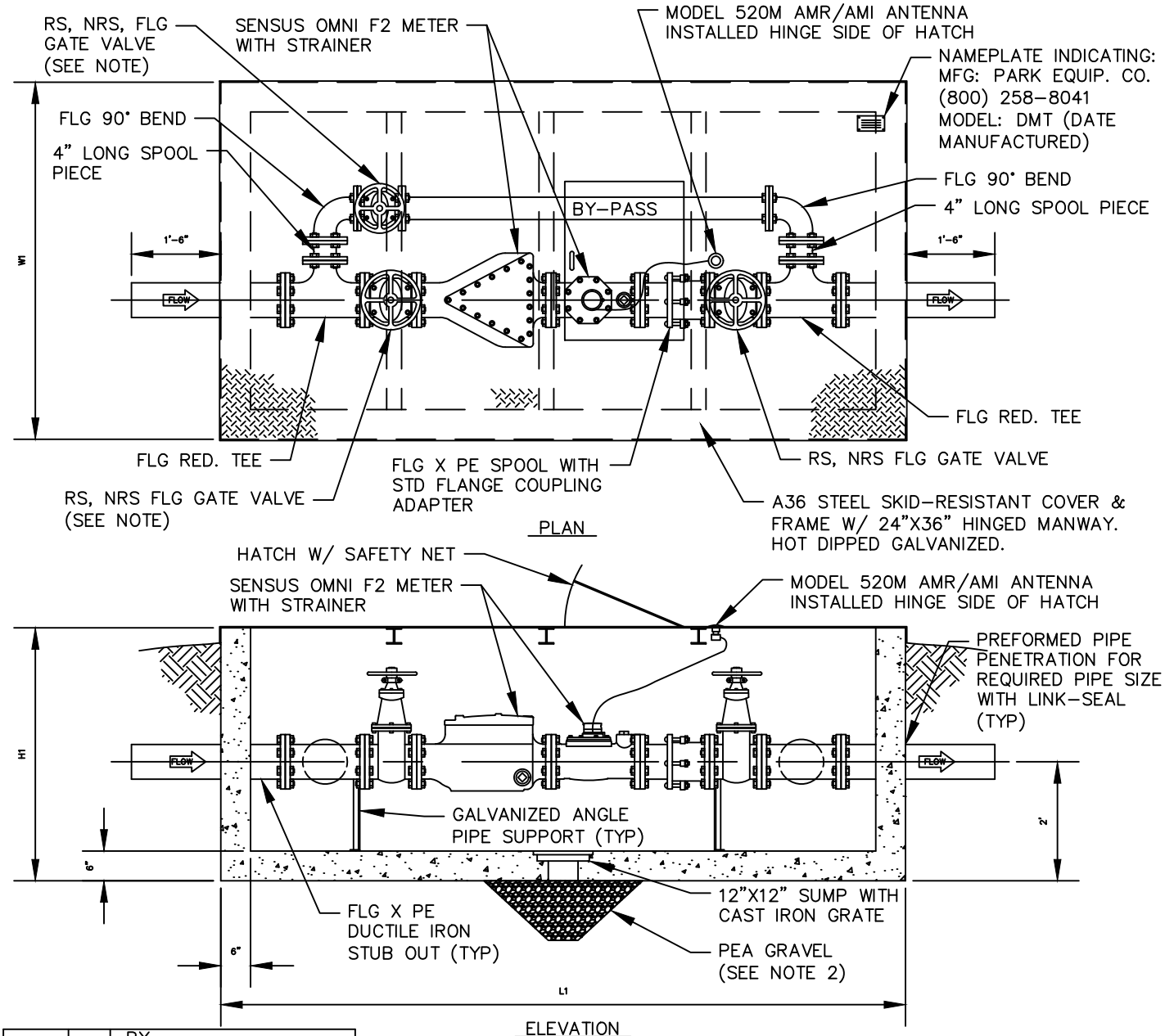
1. UPON INSTALLATION OF WATER METER VAULT LEAGUE CITY PERSONNEL WILL VERIFY THAT THE BY-PASS VALVE AND VALVE BEFORE THE METER ARE IN THE OFF POSITION. A LEAGUE CITY METER TECHNICIAN WILL CHAIN AND PAD LOCK THE VALVES. ANY OPERATION OF THE VALVES WILL BE DONE ONLY BY DESIGNATED LEAGUE CITY EMPLOYEES.
2. BEDDING: 1' STABILIZE SAND WITH 3X3 PEA GRAVEL TRENCH FROM DRAIN TO NATURAL GROUND.
3. 3" METER VAULTS REQUIRE 4" TS&V CONNECTION. 4X3 REDUCER SHALL BE PLACED MAXIMUM 4' FROM OUTSIDE OF VAULT WALL.

STANDARD CONSTRUCTION DETAIL
3" TO 10" DOMESTIC COMPOUND
WATER METER ASSEMBLY DETAIL

SCALE: NTS

JUNE 2025

33 14 12 - 03



MODEL	SIZE	BY PASS	L1	W1	H1
FMC4	4"	2"	11'-0"	6'-0"	4'-3"
FMC6	6"	4"	11'-0"	6'-0"	4'-3"
FMC8	8"	4"	13'-0"	7'-0"	4'-6"
FMC10	10"	6"	16'-0"	7'-0"	4'-6"

NOTE:

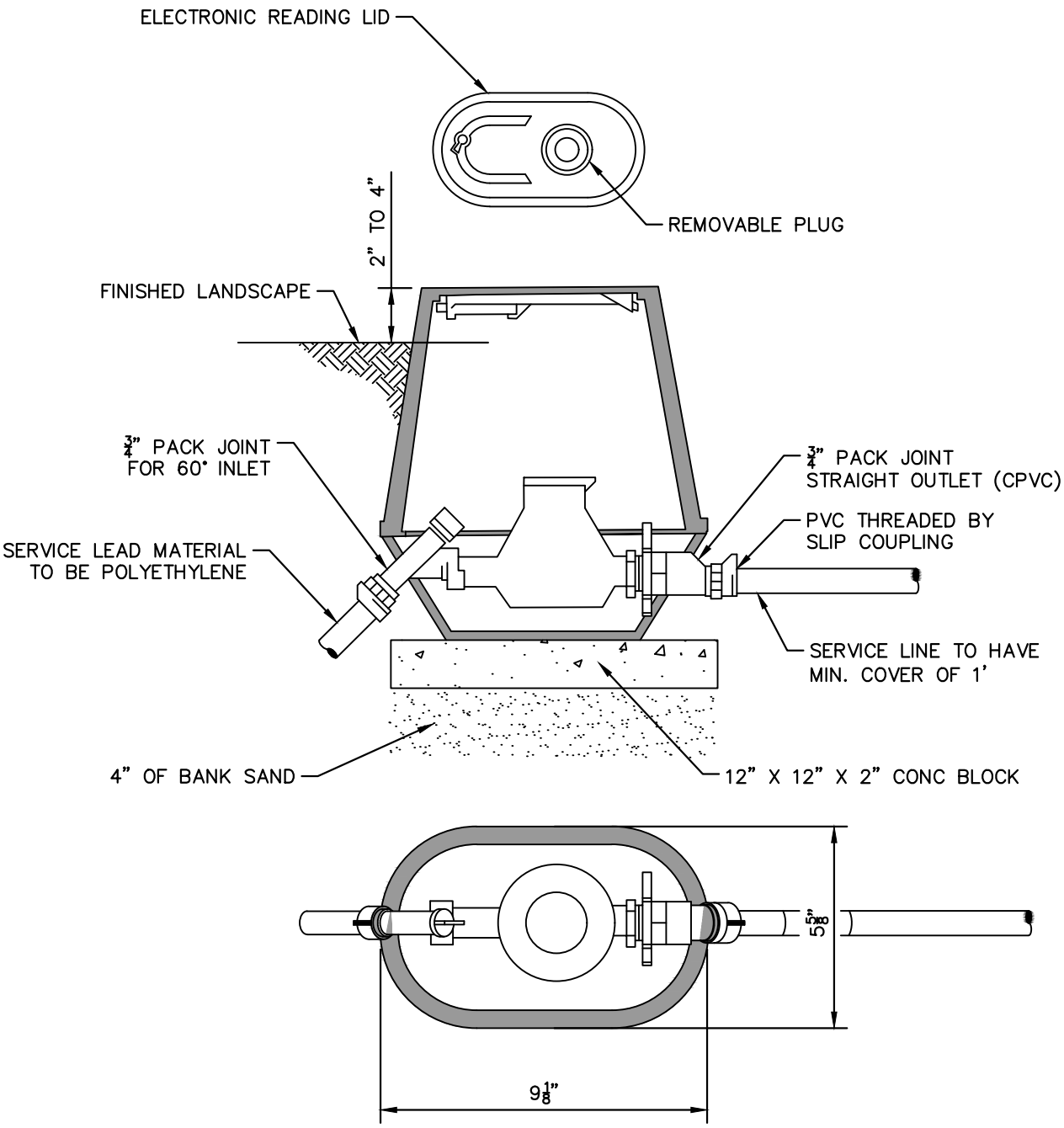
1. UPON INSTALLATION OF WATER METER VAULT LEAGUE CITY PERSONNEL WILL VERIFY THAT THE BY-PASS VALVE AND VALVE BEFORE THE METER ARE IN THE OFF POSITION. A LEAGUE CITY METER TECHNICIAN WILL CHAIN AND PAD LOCK THE VALVES. ANY OPERATION OF THE VALVES WILL BE DONE ONLY BY DESIGNATED LEAGUE CITY EMPLOYEES.
2. BEDDING: 1' STABILIZE SAND WITH 3X3 PEA GRAVEL TRENCH FROM DRAIN TO NATURAL GROUND.
3. 3" METER VAULTS REQUIRE 4" TS&V CONNECTION. 4X3 REDUCER SHALL BE PLACED MAXIMUM 4' FROM OUTSIDE OF VAULT WALL.

STANDARD CONSTRUCTION DETAIL
3" TO 10" COMBINATION FIRE & DOMESTIC WATER METER ASSEMBLY

SCALE: NTS

JUNE 2025

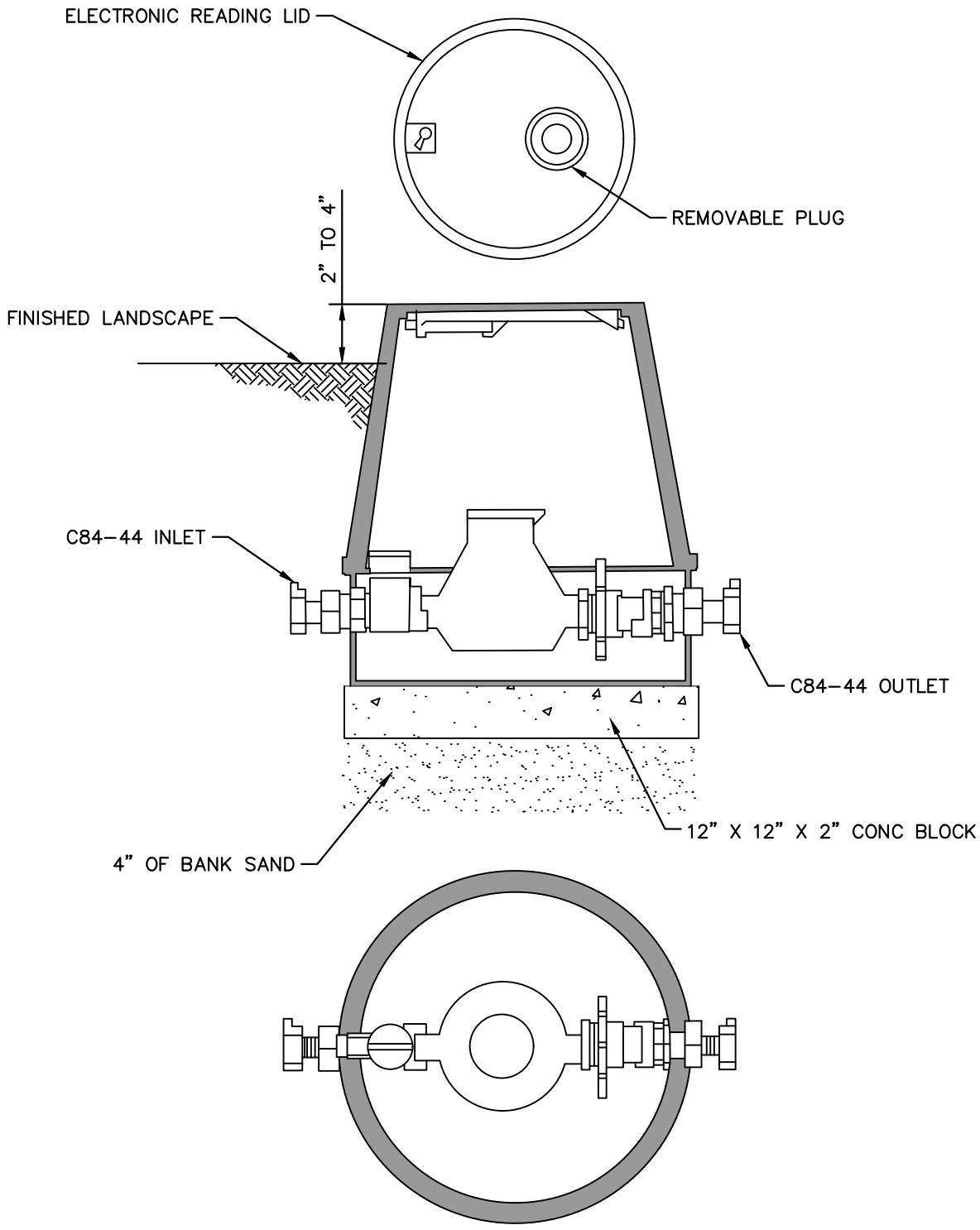
33 14 12 - 03



NOTES:

1. METER BOX DESIGN FOR SERVICES TO HOMES WITH LESS THAN 2000 SQ.FT.
2. METER BOX TO BE TYPE FORD YOKE BOX YM244–333–T OR APPROVED EQUAL.
3. METER BOX TO BE SET ON 16" x 16" x 4" CONC. BLOCK.
4. BRANCH PIECES, VALVES, EXPANSION CONNECTIONS AND OUTLET PIECES TO BE WATERWORKS BRASS.
5. BODY CASTING AND LID TO BE CAST IRON OR DUCTILE IRON–LOCKING.
6. CUSTOMERS SERVICE TO BE PER BUILDING CODE SPECIFICATIONS.

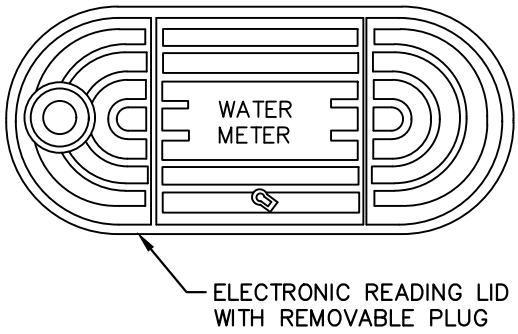
LC TX	STANDARD CONSTRUCTION DETAIL **3/4"x3/4" SINGLE SERVICE METER BOX DETAIL**	SCALE: NTS JUNE 2025 **33 14 12 - 04**

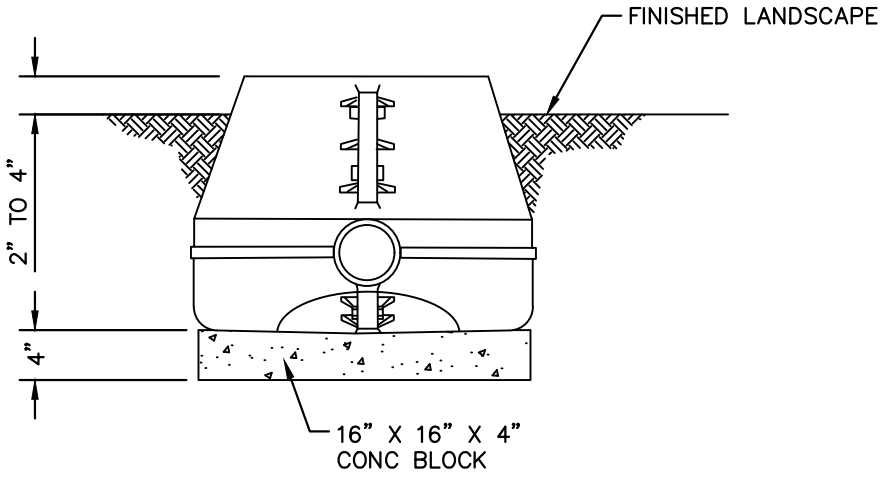


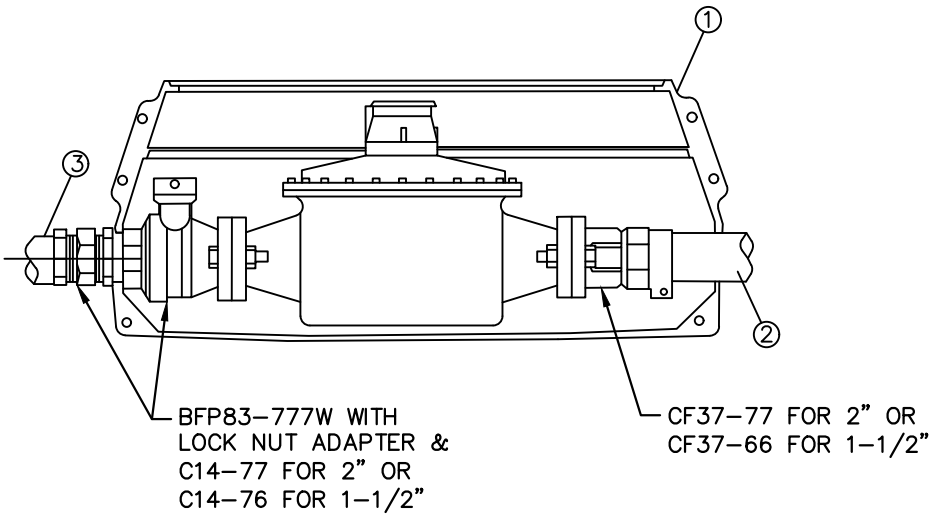
NOTES:

1. METER BOX DESIGN FOR SERVICE TO HOMES WITH GREATER THAN 2000 SQ. FT.
2. METER BOX TO BE FORD YL111-444-TP YOKE BOX OR APPROVED EQUAL.
3. BRANCH PIECE, VALVES EXPANSION CONNECTIONS, AND CUTLET PIECES TO BE WATER WORKS BRASS.
4. BODY CASTING AND LID TO BE CAST IRON LOCKING.
5. CITY SERVICE LEAD MATERIAL TO BE POLYETHYLENE.
6. CUSTOMER SERVICE LINE TO BE PER BUILDING CODE SPECIFICATION AND HAVE A MIN. ONE FOOT COVER.

LC TX	STANDARD CONSTRUCTION DETAIL **1" METER BOX DETAIL**	SCALE: NTS JUNE 2025 **33 14 12 - 05**



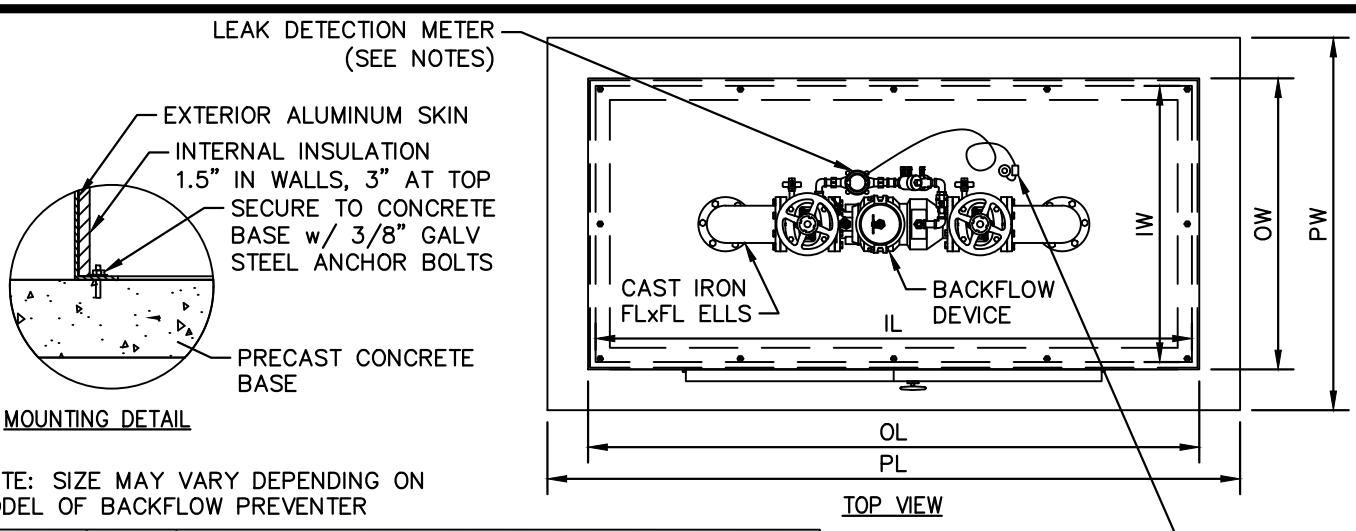




NOTES:

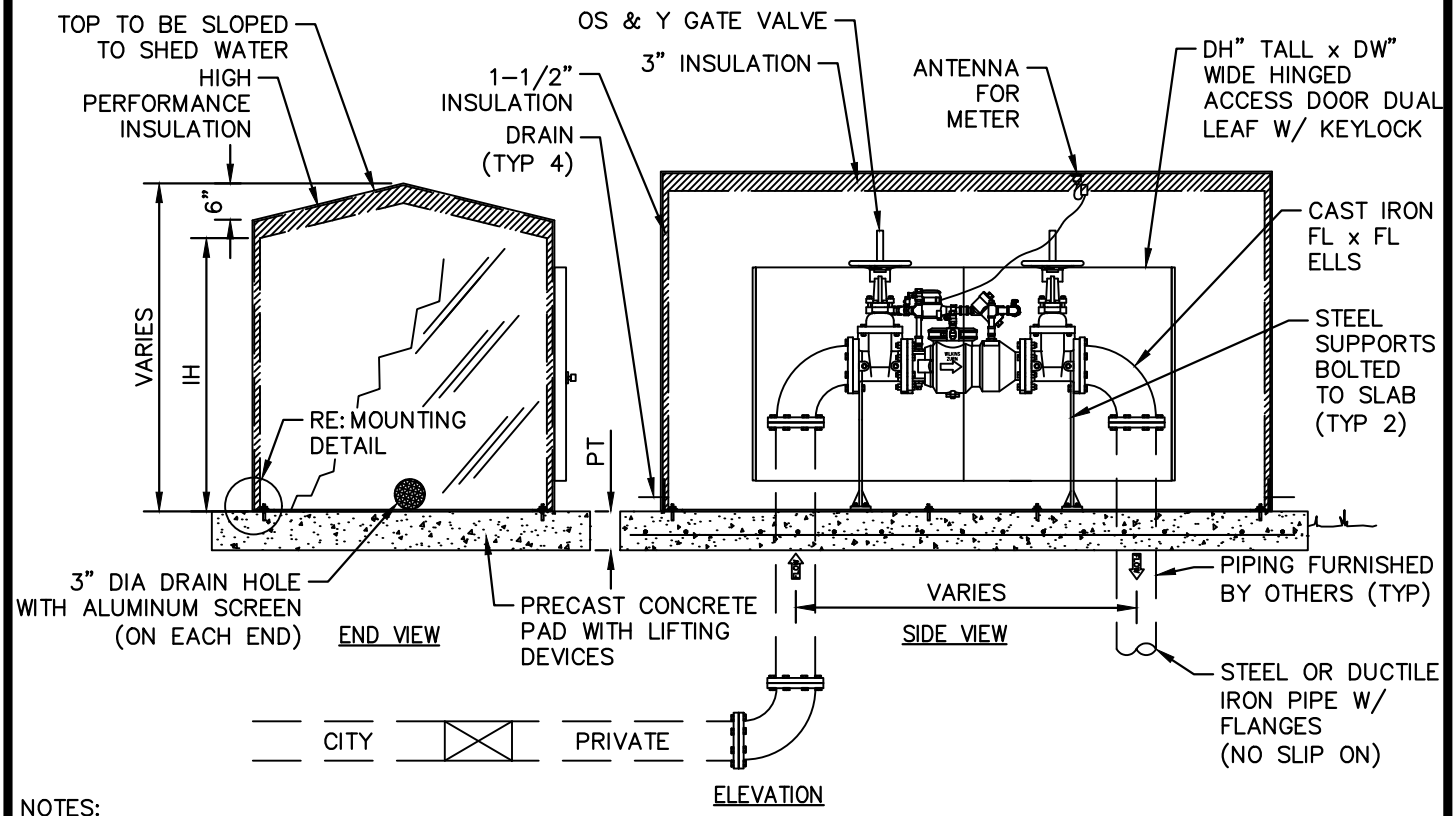
1. FORD 2" METER BOX WITH CAST IRON BODY, ASTM A48-CLASS 25, EPOXY COATED, FUSION BONDED, #FPMB-7EP-TP OR APPROVED EQUAL.
2. CUSTOMER SERVICE LINE MATERIAL TO BE PER CITY SPECIFICATIONS AND HAVE A MIN COVER OF 12 INCHES.
3. CITY SERVICE LEAD MATERIAL TO BE POLYETHYLENE.

LC TX	STANDARD CONSTRUCTION DETAIL **1-1/2" & 2" METER BOX DETAIL**	SCALE: NTS JUNE 2025 **33 14 12 - 03**



NOTE: SIZE MAY VARY DEPENDING ON MODEL OF BACKFLOW PREVENTER

MODEL NO.	BFP SIZE	PAD DIMENSIONS							
		PL	PW	PT	CL	IH	IW	OL	OW
BP-3	3"	94"	40"	6"	43"	44"	26"	89"	29"
BP-4	4"	94"	52"	8"	51"	44"	26"	89"	29"
BP-6	6"	120"	60"	8"	61"	61"	33"	100"	36"
BP-8	8"	120"	60"	8"	79"	61	33"	100"	36"
BP-10	10"	120"	48"	8"	106"	64"	38"	123"	41"



NOTES:

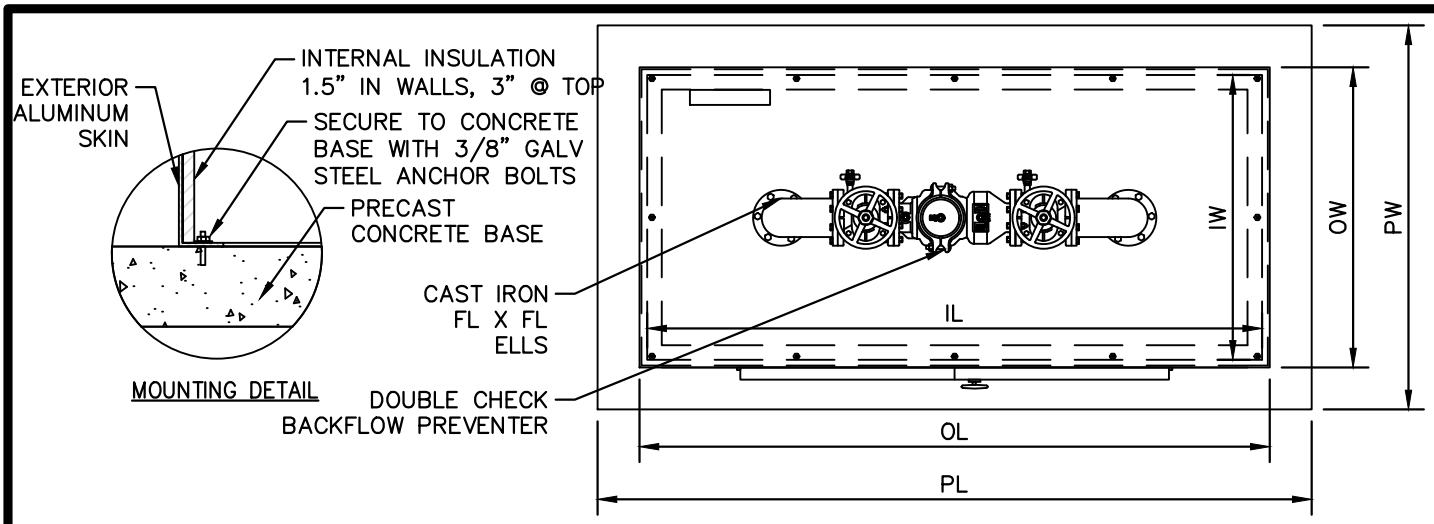
1. METERED LINES DO NOT REQUIRE THE DETECTOR METER SET UP.
2. ¾" SENSUS IPERL METER WITH SMARTPOINT M2 PIT-SET TRANCEIVER
3. SIZE MAY VARY DEPENDING ON MODEL OF BACKFLOW PREVENTER
4. THIS DETAIL IS FOR USE ON PRIVATE, NON-METERED DEDICATED FIRE LINES OR AS DIRECTED BY CITY OF LEAGUE CITY.

STANDARD CONSTRUCTION DETAIL
3" TO 10" DOUBLE CHECK BACKFLOW PREVENTER ASSEMBLY DETAIL

SCALE: NTS

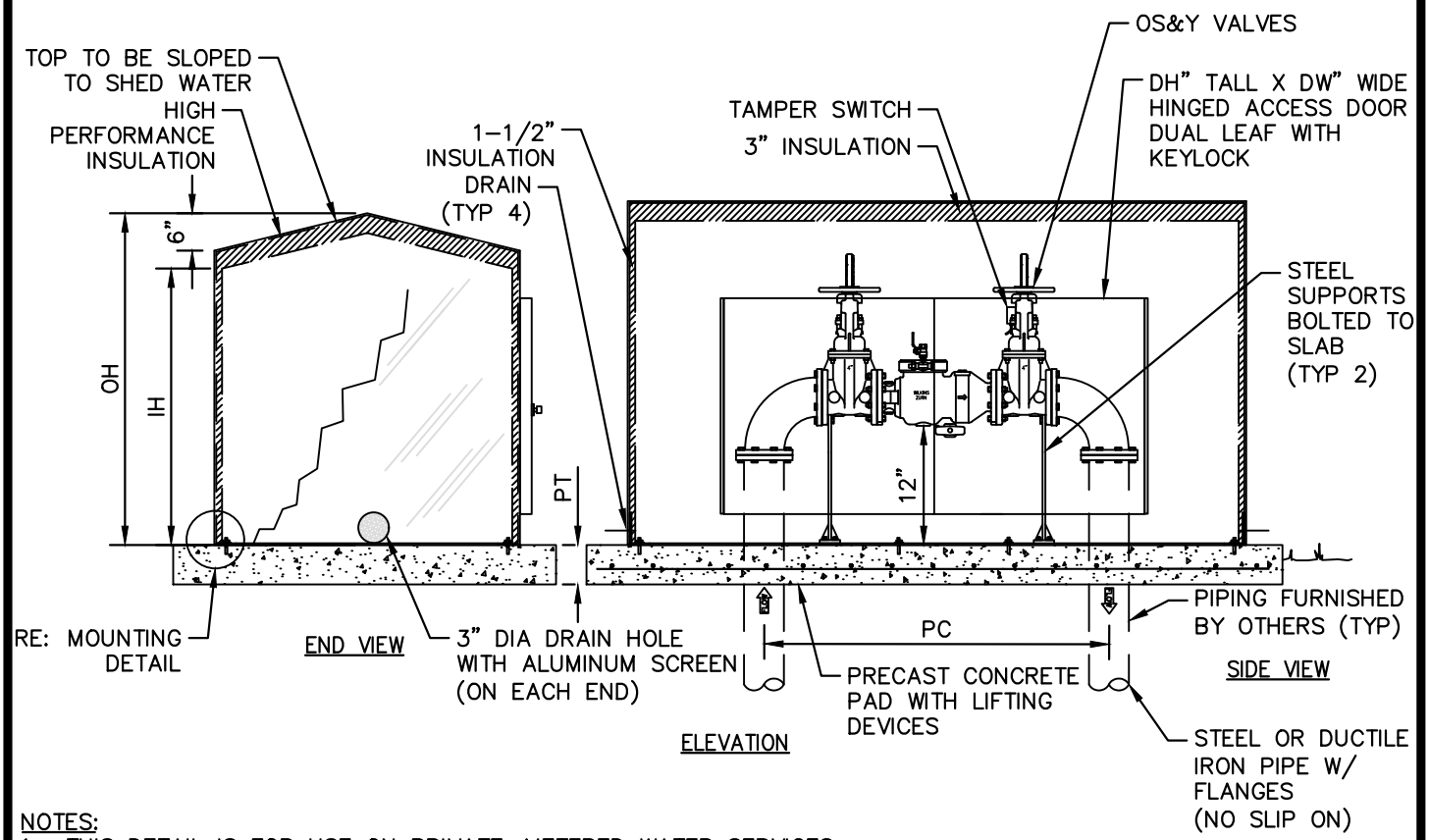
JUNE 2025

33 14 12 - 07



NOTE: SIZE MAY VARY DEPENDING ON MODEL OF BACKFLOW PREVENTER

MODEL NO.	BFP SIZE	PAD DIMENSIONS							
		PL	PW	PT	CL	IH	IW	OL	OW
BP-3	3"	94"	40"	6"	43"	44"	26"	89"	29"
BP-4	4"	94"	52"	8"	51"	44"	26"	89"	29"
BP-6	6"	120"	60"	8"	61"	61"	33"	100"	36"
BP-8	8"	120"	60"	8"	79"	61	33"	100"	36"
BP-10	10"	120"	48"	8"	106"	64"	38"	123"	41"



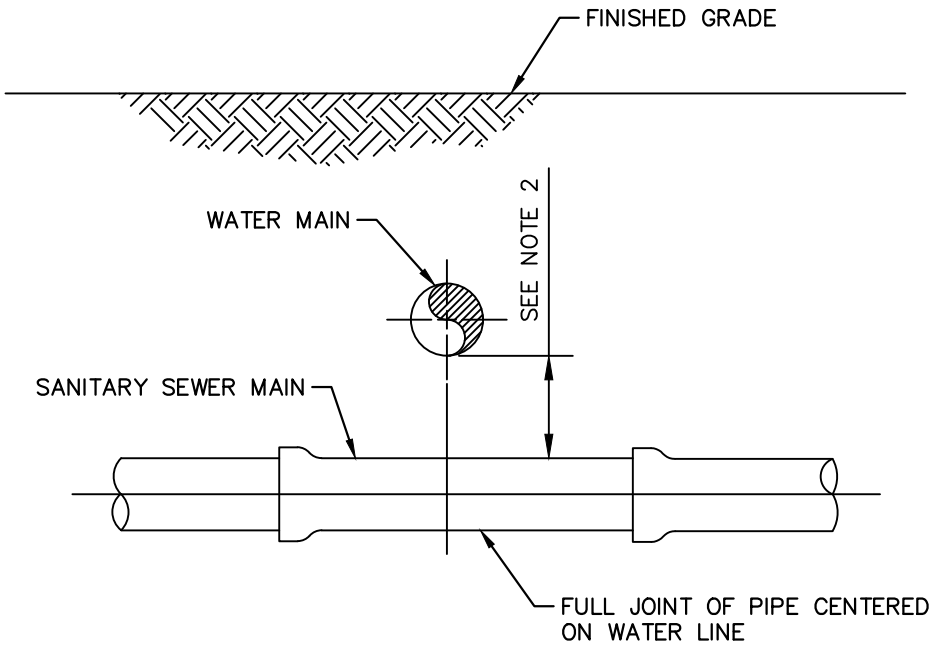
NOTES:
1. THIS DETAIL IS FOR USE ON PRIVATE, METERED WATER SERVICES
2. USED IN CONJUNCTION W/ METERED LINES (IE. APARTMENT COMPLEXES) COMBINATION DOMESTIC/FIRE PROTECTION

STANDARD CONSTRUCTION DETAIL
3" TO 10" DOUBLE CHECK BACKFLOW PREVENTER ASSEMBLY WITH TAMPER SWITCHES DETAIL

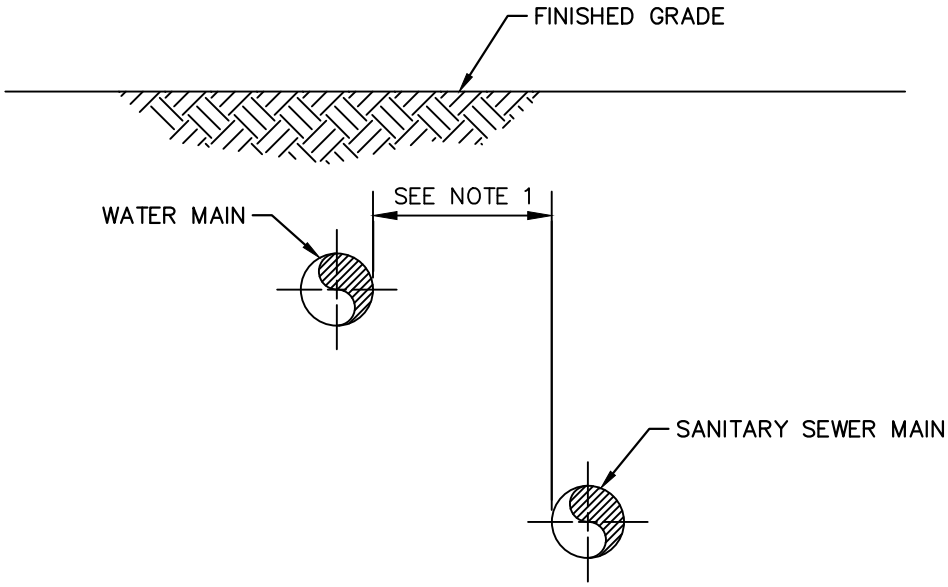
SCALE: NTS

JUNE 2025

33 14 12 - 08



NEW SANITARY SEWER CROSSING EXISTING WATER LINE

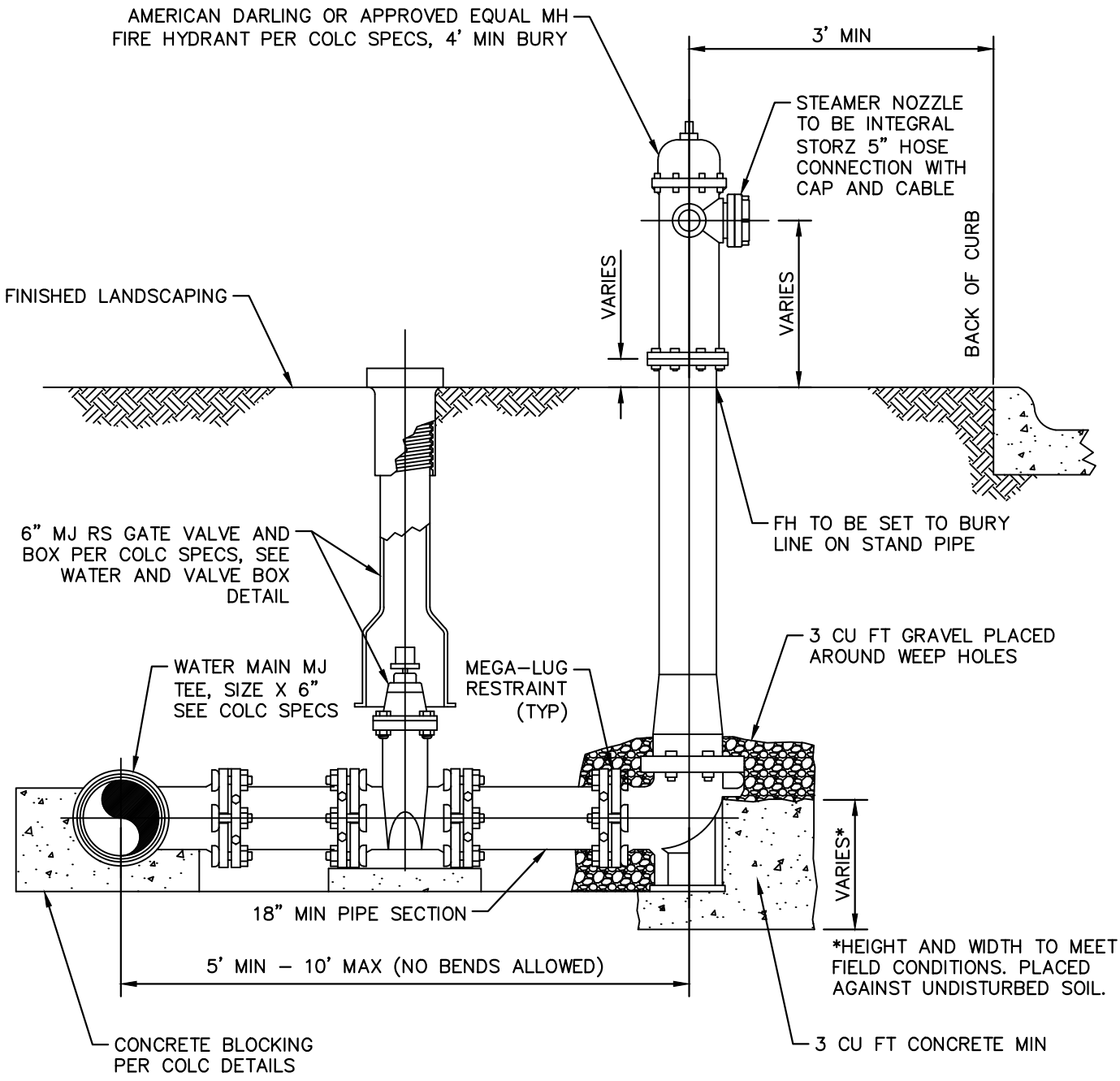


NEW SANITARY SEWER MAIN PARALLEL TO EXISTING WATER MAIN

NOTES:

1. ALL WATER AND SEWER MAIN CONSTRUCTION RUNNING PARALLEL WITH EACH OTHER SHALL MAINTAIN A 9' HORIZONTAL SEPARATION, PIPE WALL TO PIPE WALL.
2. ALL SEWER AND WATER MAIN CROSSINGS SHALL COMPLY WITH THE TCEQ CHAPTER 290, PUBLIC DRINKING WATER SECTION 290.44 WATER DISTRIBUTION, SUB SECTION B, NEW WATERLINE INSTALLATION–CROSSING LINES, PARAGRAPHS (I) THROUGH (VI) AND ALL SUB PARAGRAPHS THEREIN.

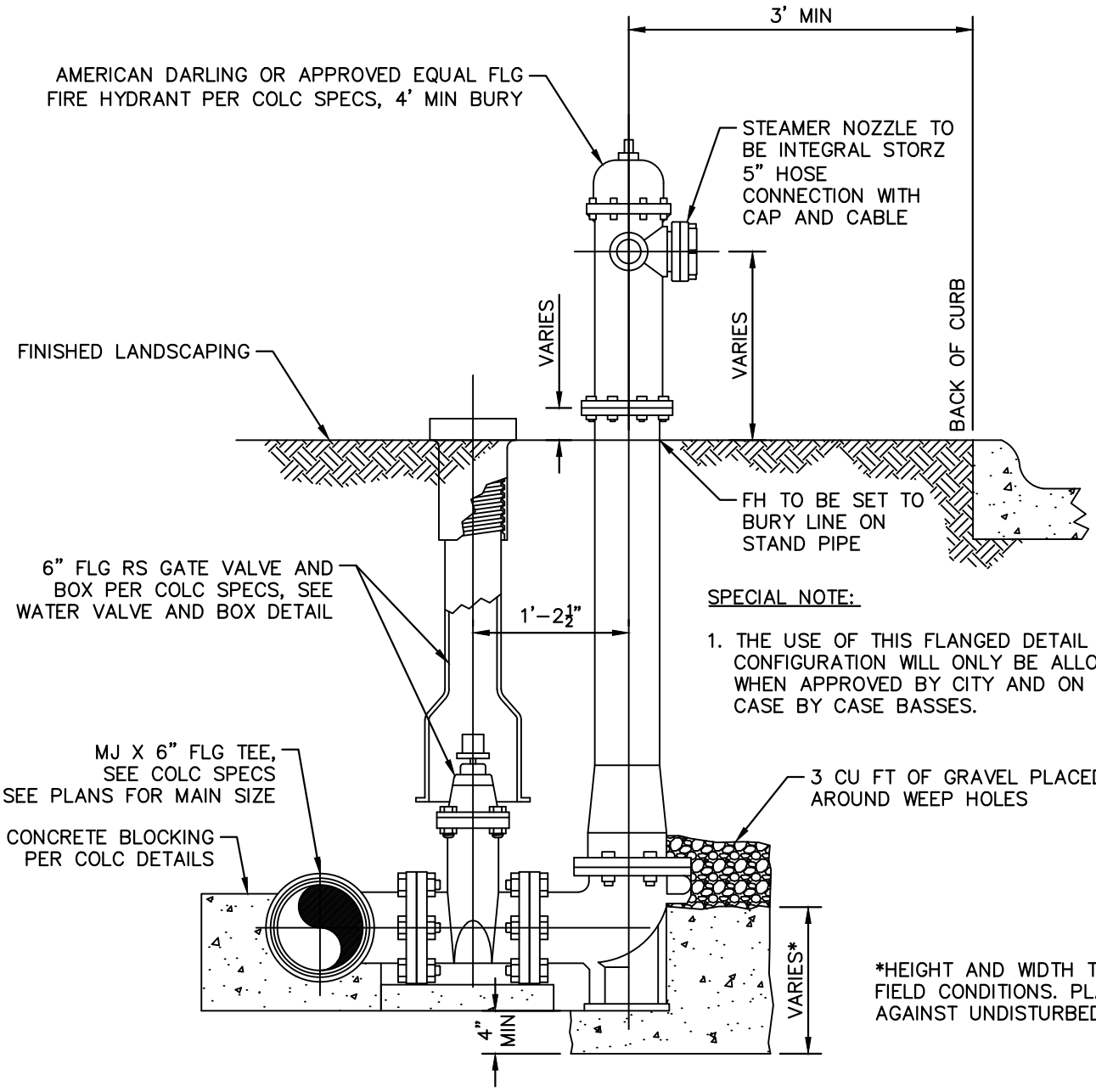
LC TX	STANDARD CONSTRUCTION DETAIL **SANITARY SEWER INSTALLATION CROSSING OR PARALLEL TO WATER MAIN DETAIL**	SCALE: NTS JUNE 2025 **33 14 12 - 09**



NOTES:

1. FOR MUELLER HYDRANTS OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION.
2. PUMPER NOZZLE SHALL BE EQUIPPED WITH INTEGRAL STORZ 5" HOSE CONNECTOR WITH CAP AND FACE ROADWAY.
3. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
4. WHEN APPROVED BY CITY, A MJ SWIVEL TEE MAY BE SUBSTITUTED FOR THE ALL BELL MJ TEE.

LC TX	STANDARD CONSTRUCTION DETAIL **FIRE HYDRANT AND VALVE DETAIL**	SCALE: NTS JUNE 2025 **33 14 19 - 01**



NOTES:

1. FOR MUELLER HYDRANTS OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION..
2. PUMPER NOZZLE SHALL BE EQUIPPED WITH INTEGRAL STORZ 5" HOSE CONNECTOR WITH CAP AND FACE ROADWAY.
3. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.

LC TX

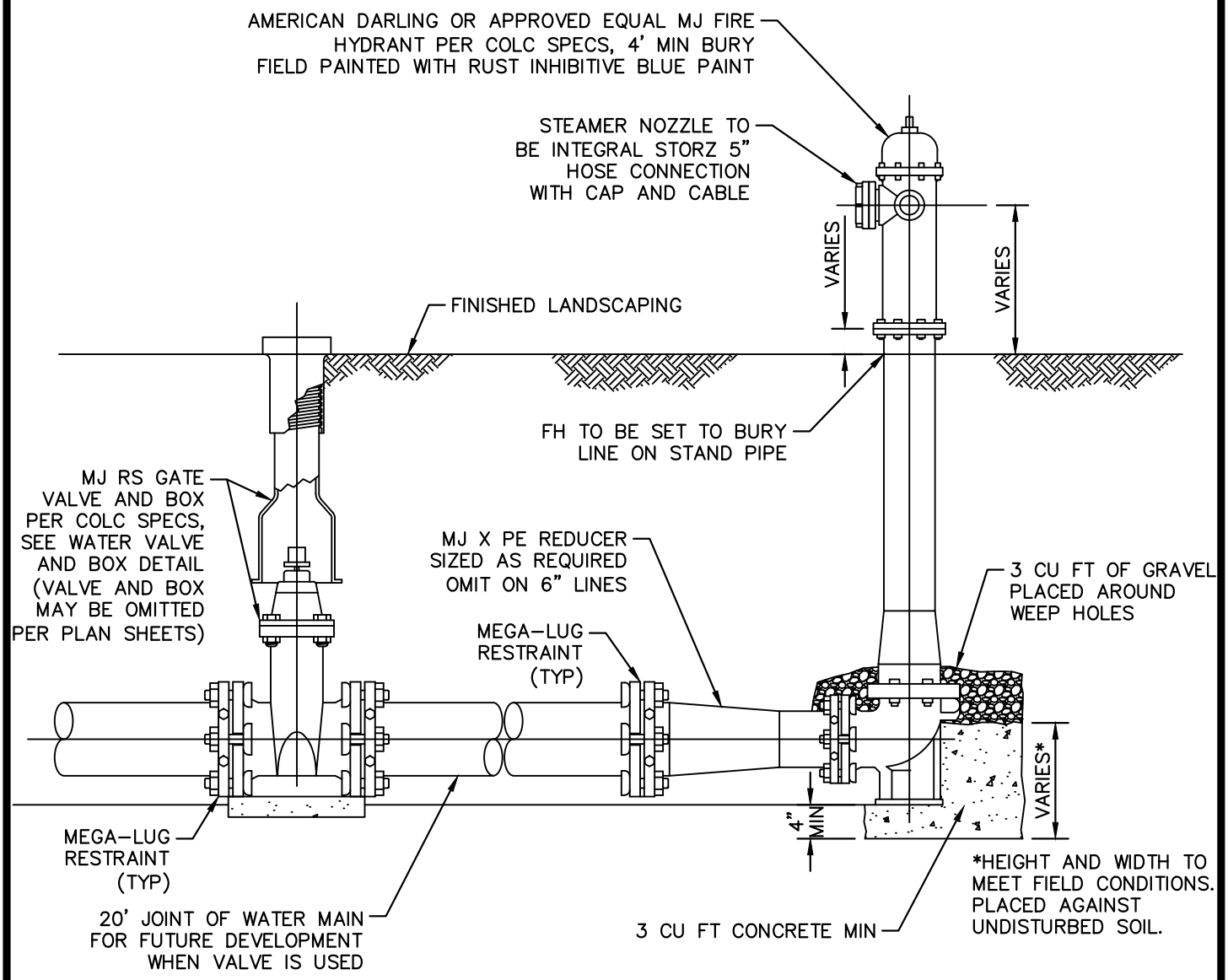
STANDARD CONSTRUCTION DETAIL

FLANGED FIRE HYDRANT AND VALVE DETAIL

SCALE: NTS

JUNE 2025

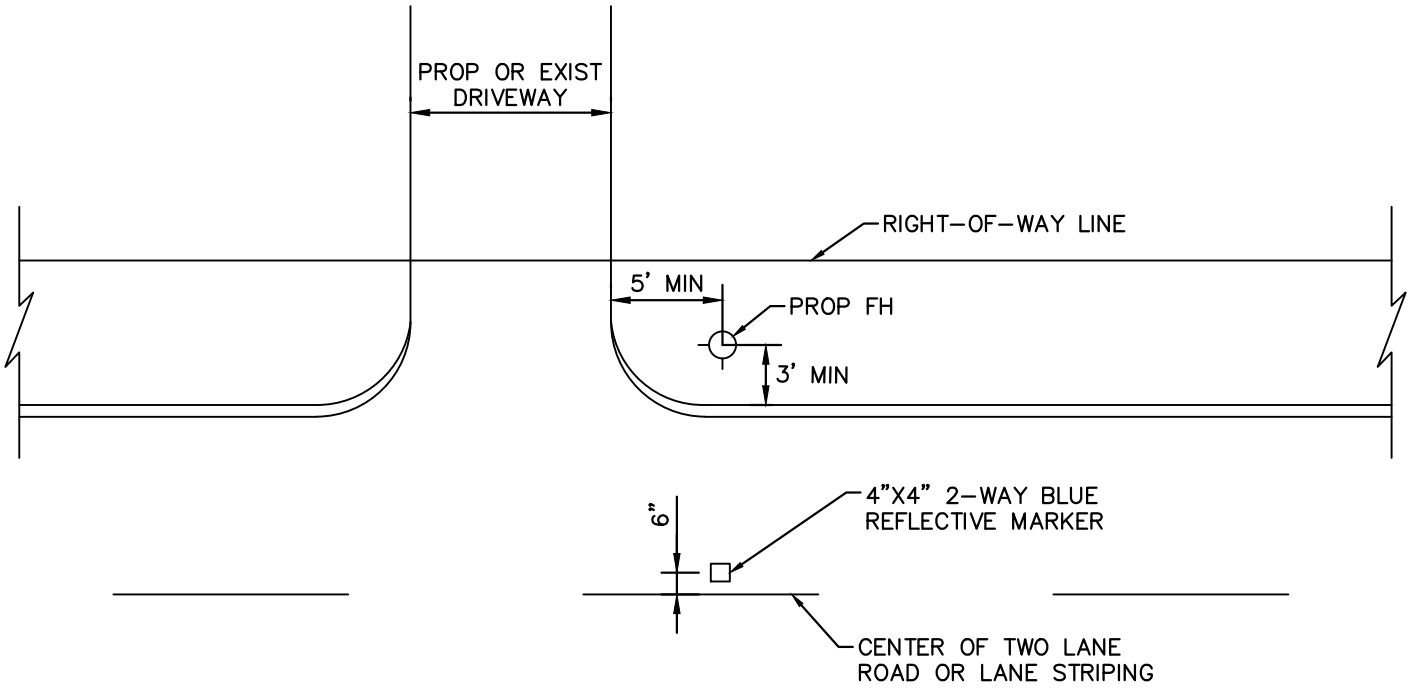
33 14 19 - 02



NOTES:

1. FOR MUELLER HYDRANTS OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION.
2. PUMPER NOZZLE SHALL BE EQUIPPED WITH INTEGRAL STORZ 5" HOSE CONNECTOR WITH CAP AND FACE ROADWAY OR IN APPROVED CASES AN OPEN FIELD.
3. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
4. VALVE AND BOX TO BE PERMANENT STRUCTURES TO WATER MAIN SYSTEM.
5. FIRE HYDRANT AND REDUCER WILL BE REMOVED AT TIME OF FUTURE EXPANSION OF WATER MAIN SYSTEM.

LC TX	STANDARD CONSTRUCTION DETAIL **END OF LINE FIRE HYDRANT AND VALVE FOR FUTURE LINE EXTENSION DETAIL**	SCALE: NTS JUNE 2025 **33 14 19 - 03**



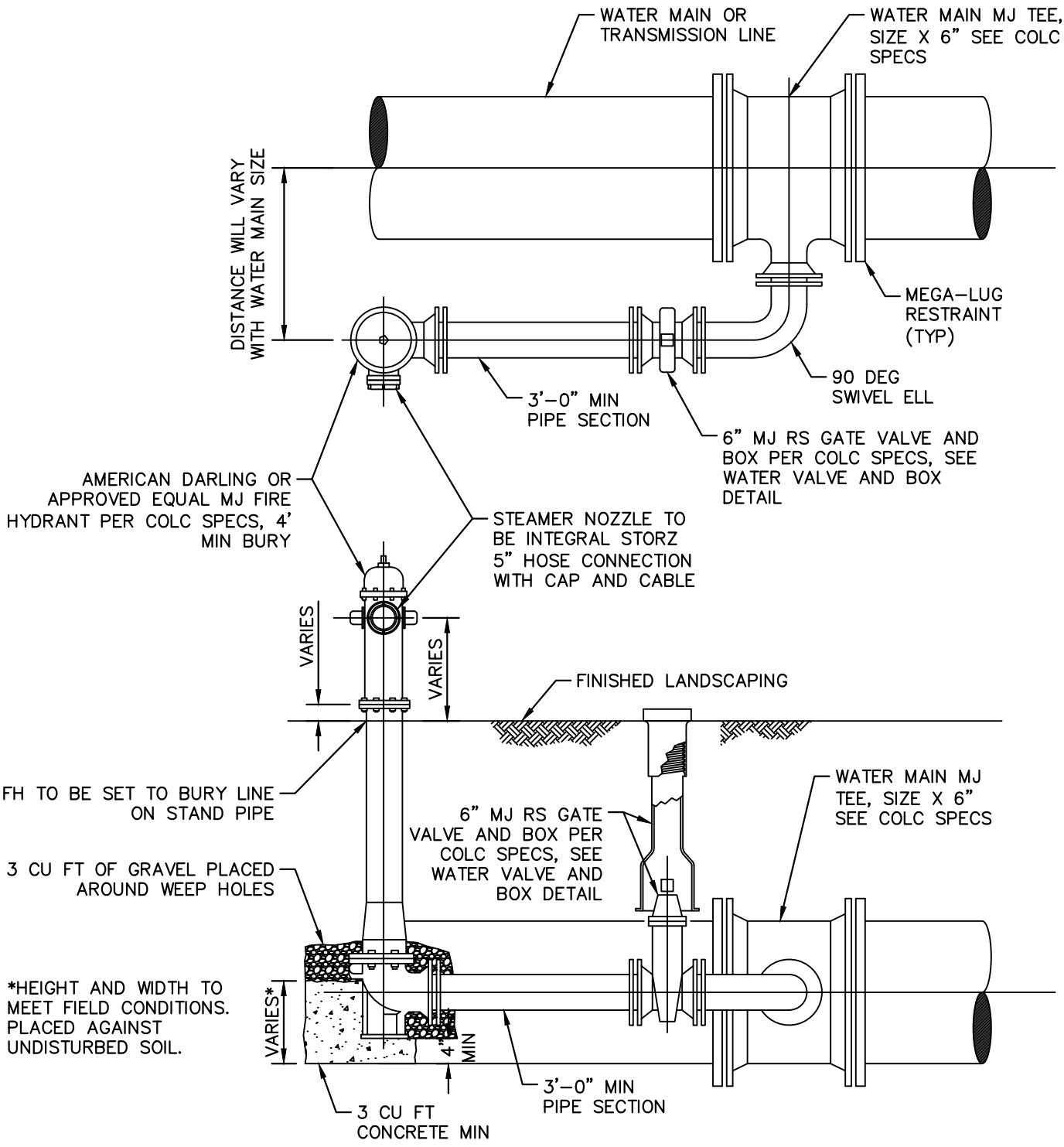
NOTE:
1. REFER TO COLC DESIGN STANDARDS ITEM 405 FOR ADDITIONAL INFORMATION.

STANDARD CONSTRUCTION DETAIL
FIRE HYDRANT TO PAVEMENT CLEARANCE DETAIL

SCALE: NTS

JUNE 2025

33 14 19 - 04



NOTES:

1. FOR MUELLER HYDRANTS OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION.
2. PUMPER NOZZLE SHALL BE EQUIPPED WITH INTEGRAL STORZ 5" HOSE CONNECTOR WITH CAP AND FACE ROADWAY.
3. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.

STANDARD CONSTRUCTION DETAIL

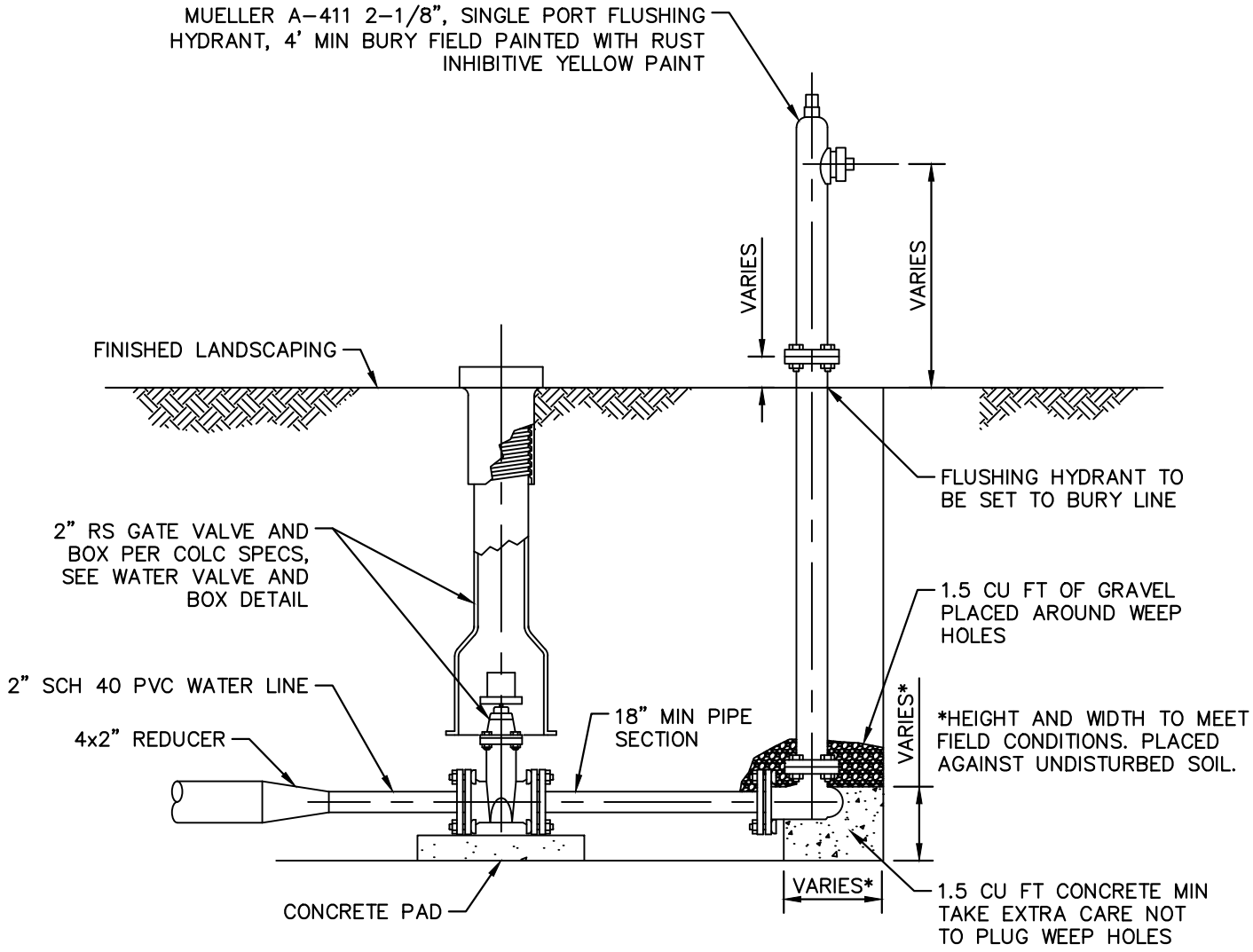
CONFINED SPACE FIRE HYDRANT AND VALVE DETAIL

(USE ONLY WHEN DIRECTED BY CITY)

SCALE: NTS

JUNE 2025

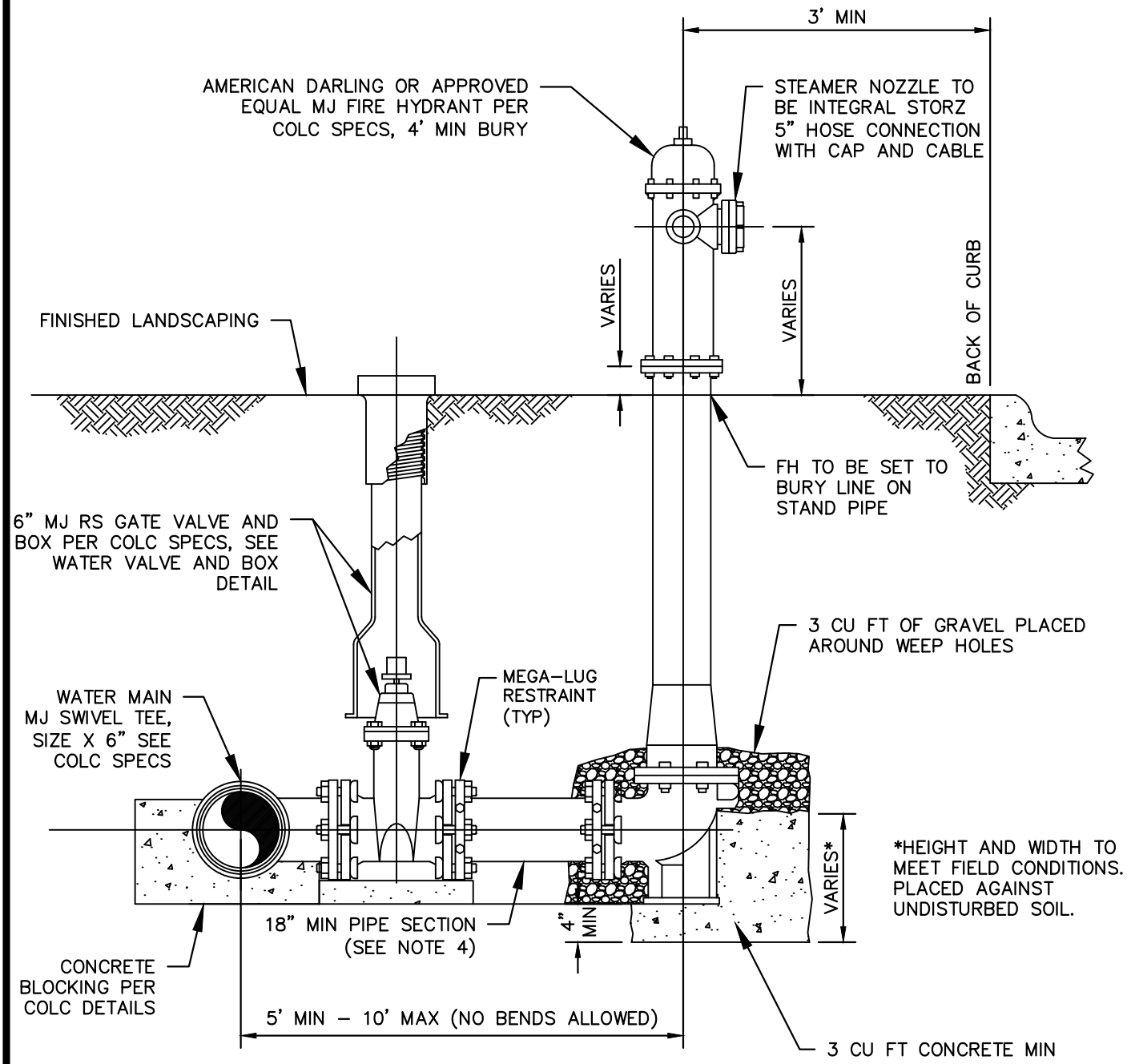
33 14 19 - 05



NOTES:

1. OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION.
2. MAIN VALVE OPENING SHALL FACE ROADWAY.
3. ALL ASSEMBLY NUTS AND BOLTS TO BE STAINLESS STEEL.
4. INSTALL VALVE AND HYDRANT AT END OF LINE AS SHOWN ON PLANS OR AS DIRECTED BY CITY REPRESENTATIVE.
5. 2" FLUSHING HYDRANTS TO ONLY BE USED WHEN APPROVED AND DIRECTED BY CITY ENGINEERING OR UTILITY LINE REPAIR DEPT.

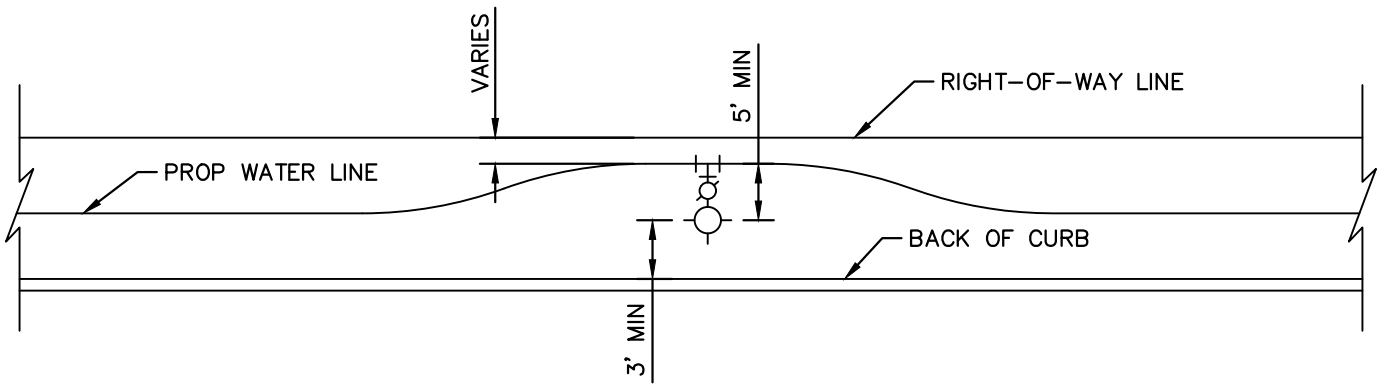
LC TX	SPECIAL CONSTRUCTION DETAIL **2" FLUSHING HYDRANT DETAIL**	SCALE: NTS JUNE 2025 **33 14 19 - 06**



NOTES:

1. FOR MUELLER HYDRANTS OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION.
2. PUMPER NOZZLE SHALL BE EQUIPPED WITH INTEGRAL STORZ 5" HOSE CONNECTOR WITH CAP AND FACE ROADWAY.
3. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
4. IN PLACE OF PIPE SECTION WITH MEGA-LUG RESTRAINTS THE USE OF SELF RESTRAINING 6"X12" OR 6"X18" SWIVEL X SOLID ADAPTER MAY BE USE WHEN APPROVED BY CITY.

LC TX	STANDARD CONSTRUCTION DETAIL **SWIVEL TEE FIRE HYDRANT AND VALVE DETAIL**	SCALE: NTS JUNE 2025 **33 14 19 - 07**



NOTE:
1. DEFLECTION OF PIPE SHALL BE A MAX. OF 1 DEG AT PIPE BELL. BENDING OF PIPE ALONG ITS LENGTH SHALL NOT BE ALLOWED. IF A GREATER DEFLECTION IS REQUIRED SEE HORIZONTAL OFFSET DETAIL.

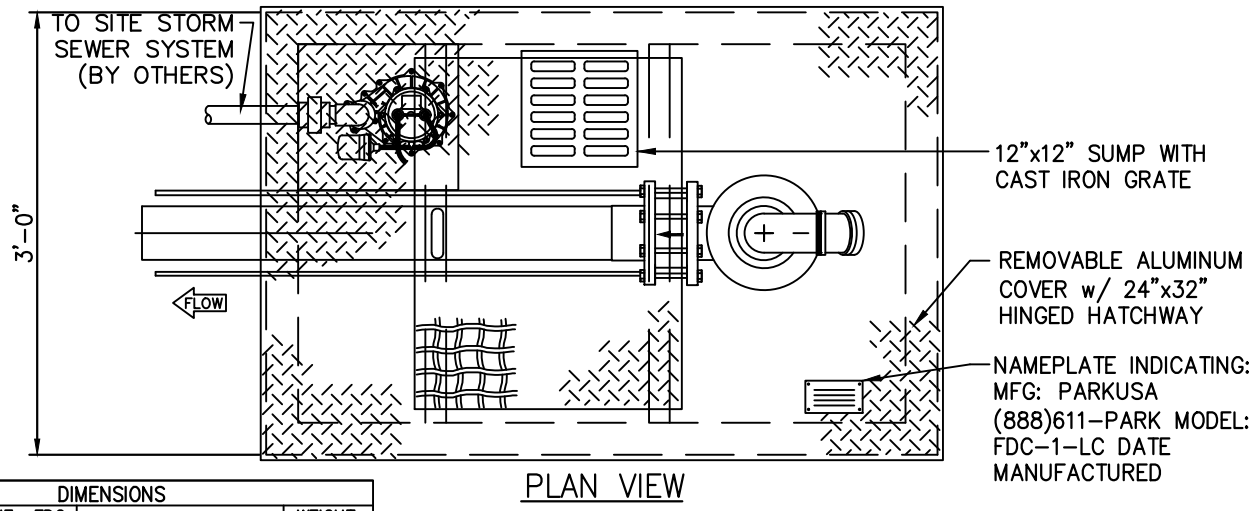
STANDARD CONSTRUCTION DETAIL

WATER LINE DEFLECTION FOR FIRE HYDRANT DETAIL

SCALE: NTS

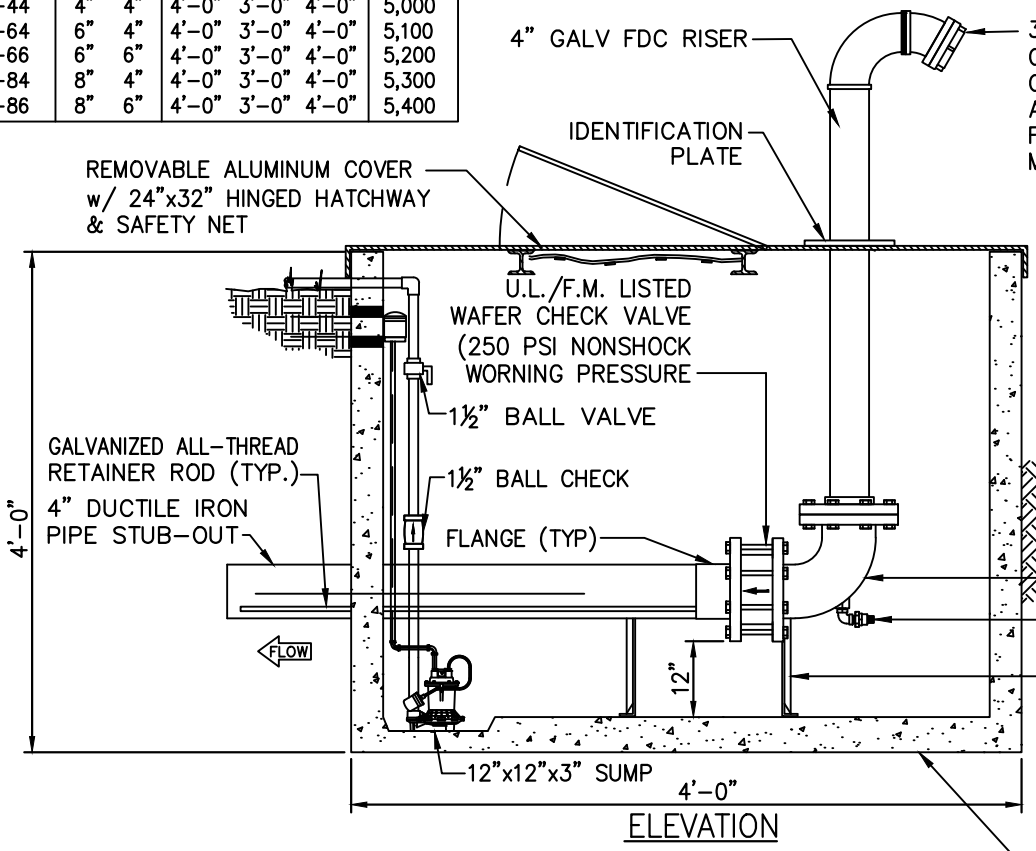
JUNE 2025

33 14 19 - 08



PLAN VIEW

DIMENSIONS						
MODEL	LINE SIZE	FDC SIZE	L1	W1	H1	WEIGHT LBS
FDC-44	4"	4"	4'-0"	3'-0"	4'-0"	5,000
FDC-64	6"	4"	4'-0"	3'-0"	4'-0"	5,100
FDC-66	6"	6"	4'-0"	3'-0"	4'-0"	5,200
FDC-84	8"	4"	4'-0"	3'-0"	4'-0"	5,300
FDC-86	8"	6"	4'-0"	3'-0"	4'-0"	5,400



NOTES:
1. 30° ANGLE MAY BE ACHIEVED WITH FITTINGS OR ONE PIECE FABRICATED HEAD STOCK.
2. HORIZONTAL ROTATION TO BE DONE BY ROTATING RISER FLANGE.

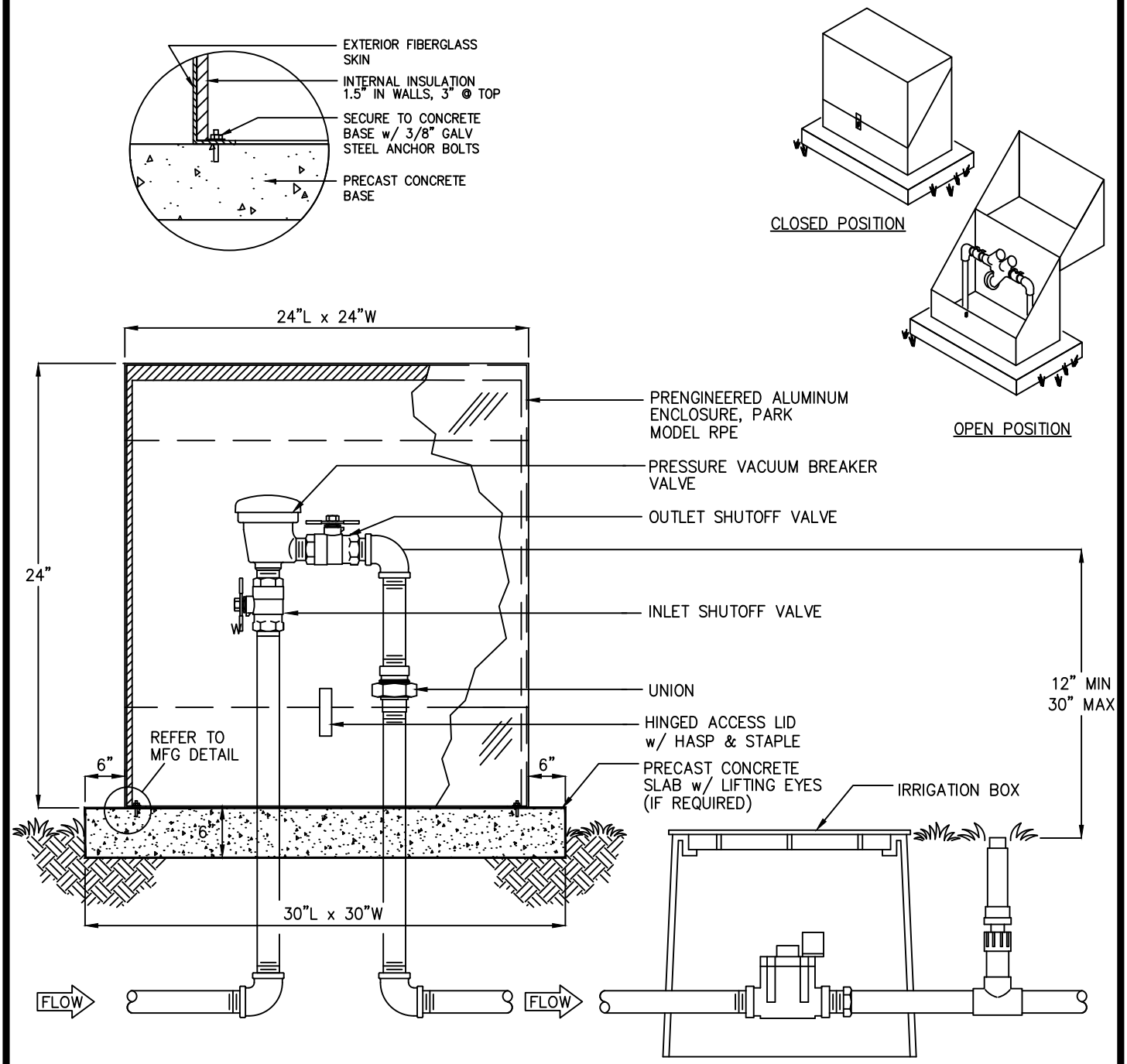
ELEVATION

STANDARD CONSTRUCTION DETAIL
FIRE DEPARTMENT CONNECTION ASSEMBLY WITH SUMP PUMP DETAIL

SCALE: NTS

JUNE 2025

33 14 25 - 01



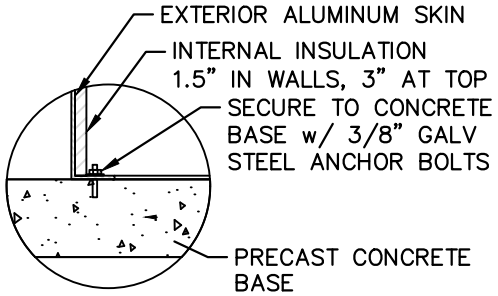
STANDARD CONSTRUCTION DETAIL

PRESSURE VACUUM BREAKER ASSEMBLY DETAIL

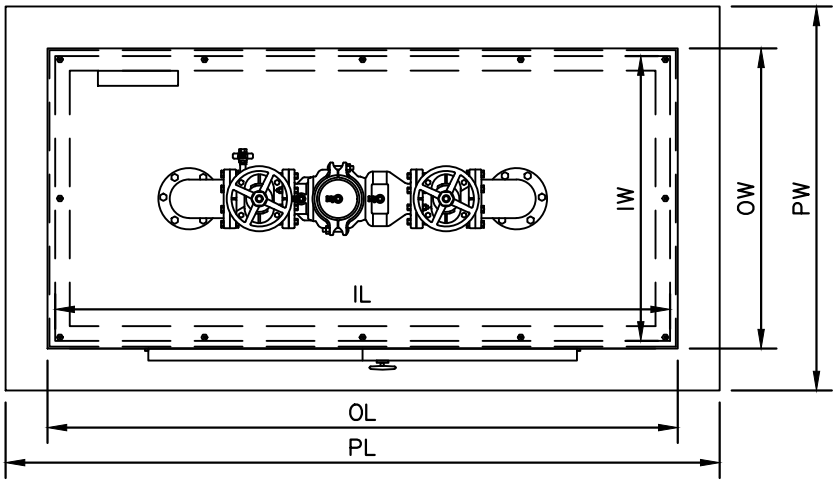
SCALE: NTS

JUNE 2025

33 14 25 - 02



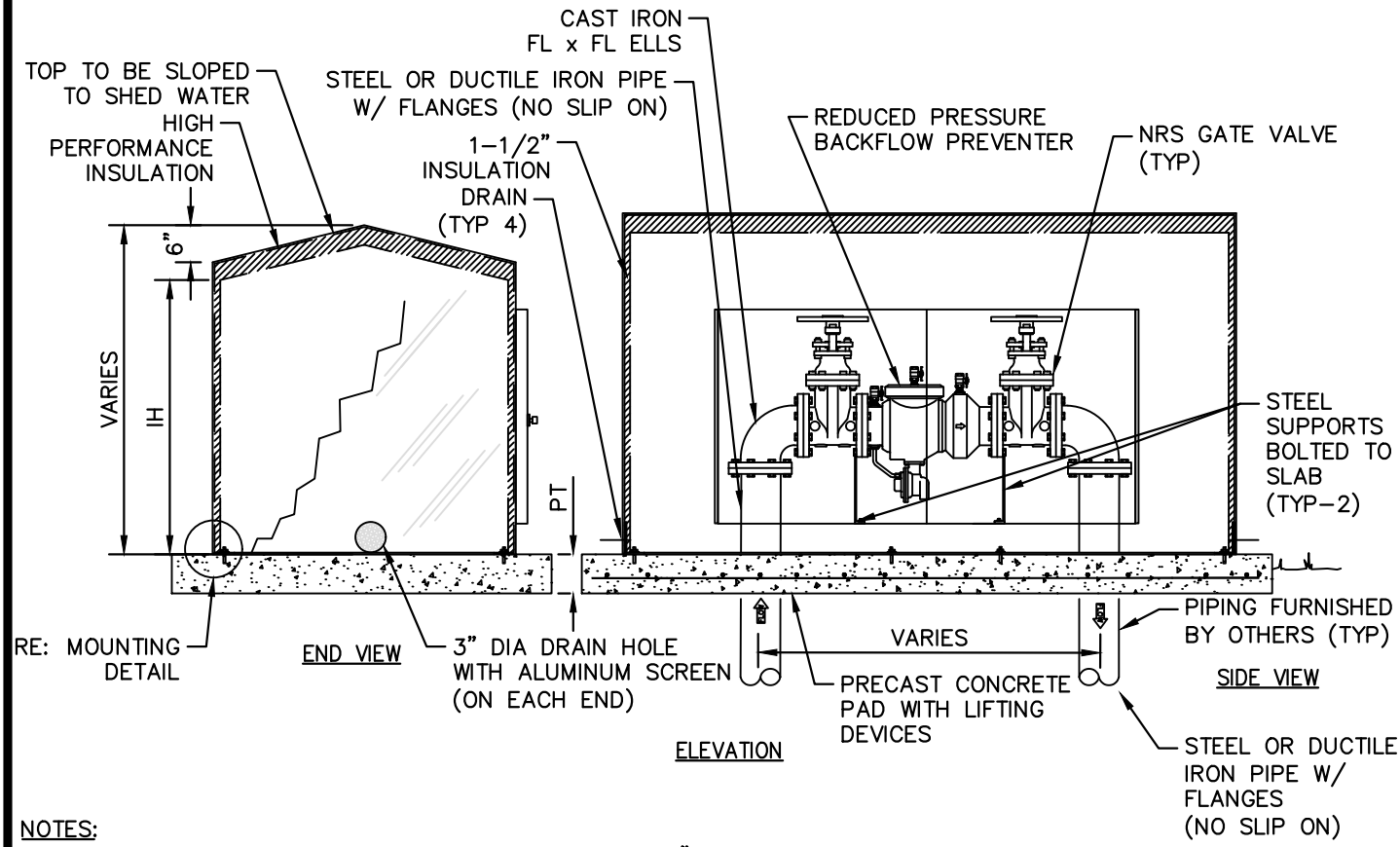
MOUNTING DETAIL



TOP VIEW

NOTE: SIZE MAY VARY DEPENDING ON MODEL OF BACKFLOW PREVENTER

MODEL NO.	BFP SIZE	PAD DIMENSIONS							
		PL	PW	PT	CL	IH	IW	OL	OW
BP-3	3"	94"	40"	6"	43"	44"	26"	89"	29"
BP-4	4"	94"	52"	8"	51"	44"	26"	89"	29"
BP-6	6"	120"	60"	8"	61"	61"	33"	100"	36"
BP-8	8"	120"	60"	8"	79"	61	33"	100"	36"
BP-10	10"	120"	48"	8"	106"	64"	38"	123"	41"



ELEVATION

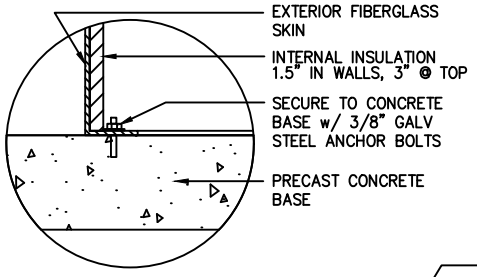
NOTES:
1. RP2 OR USE ON COMMERCIAL DOMESTIC SERVICES 3" AND LARGER NON FIRE RELATED APPLICATIONS

STANDARD CONSTRUCTION DETAIL
REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY WITH NRS GATE VALVES DETAIL

SCALE: NTS

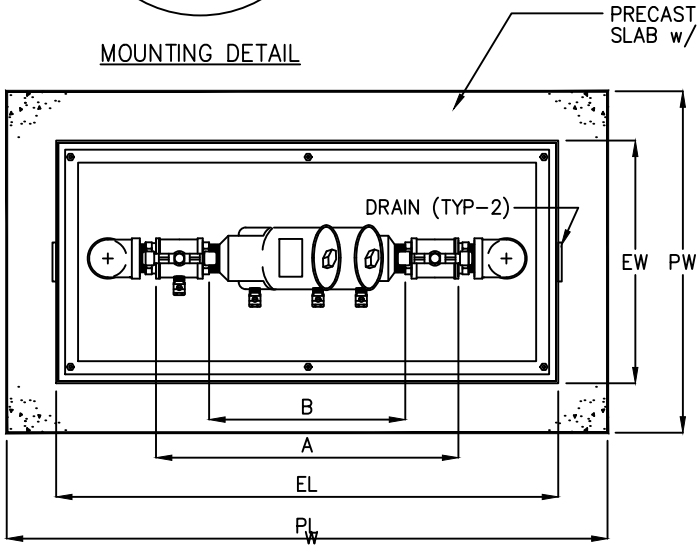
JUNE 2025

33 14 25 - 03

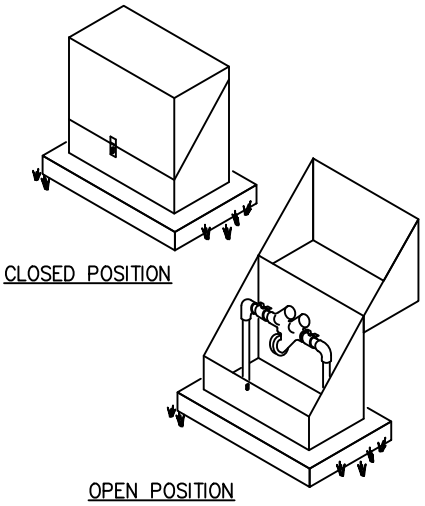


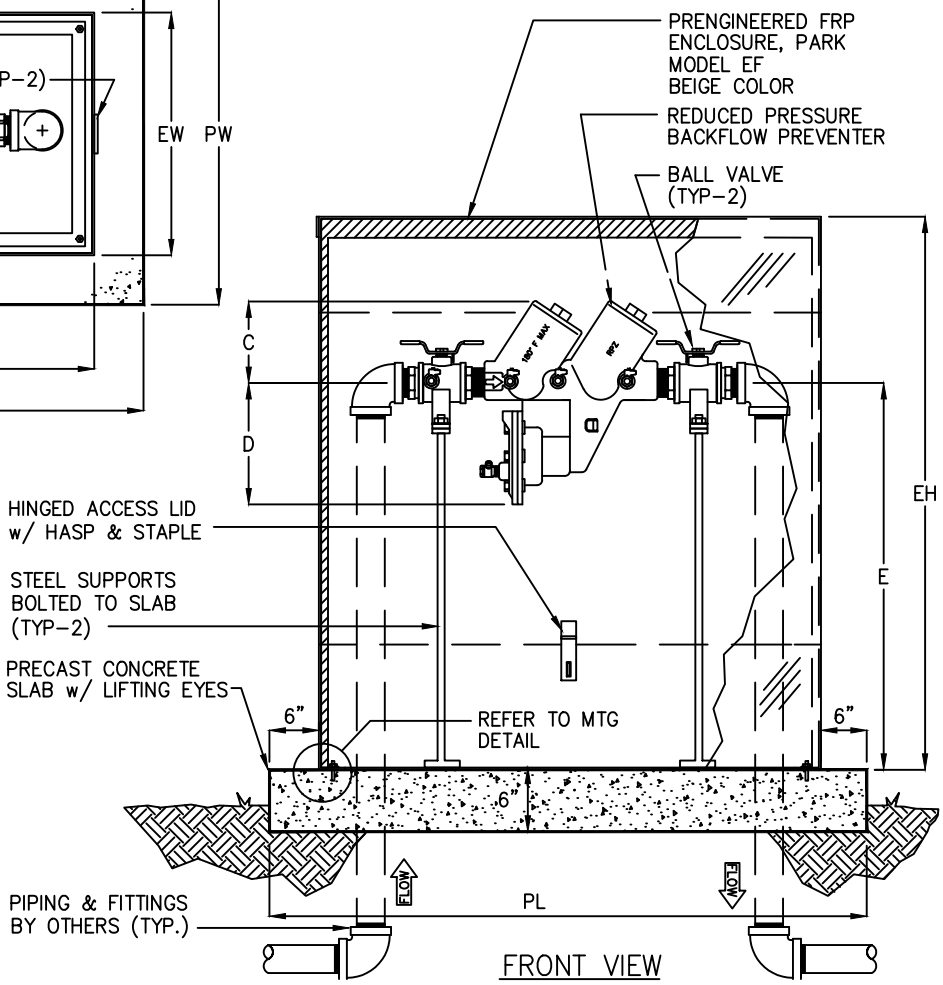
MOUNTING DETAIL

MODEL NO.	BFP SIZE	BACKFLOW DIMENSIONS					ENCLOSURE DIMENSIONS			PAD DIMENSIONS	
		A	B	C	D	E	EL	EW	EH	PL	PW
RPE34	3/4"	12"	7"	4"	3"	28"	39"	17"	30"	54"	28"
RPE10	1"	13"	7"	4"	3"	28"	39"	17"	30"	54"	28"
RPE14	1 1/4"	14"	7"	4"	3"	28"	39"	17"	30"	54"	28"
RPE15	1 1/2"	18"	10"	5"	4"	28"	39"	17"	30"	54"	28"
RPE20	2"	19"	10"	5"	3"	28"	39"	17"	30"	54"	28"



TOP VIEW





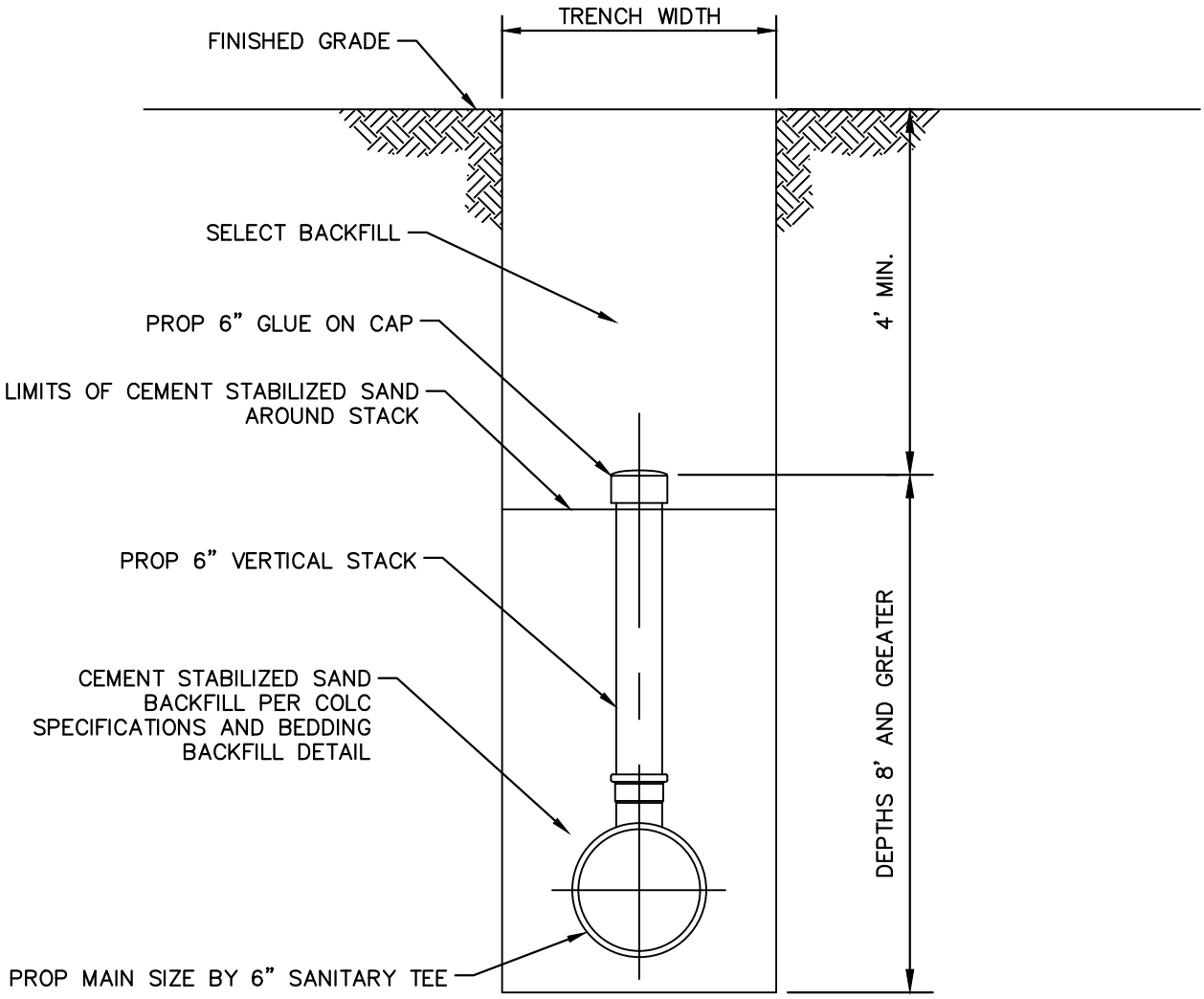
FRONT VIEW

STANDARD CONSTRUCTION DETAIL
REDUCED PRESSURE BACKFLOW PREVENTER ON PRECAST CONCRETE PAD DETAIL

SCALE: NTS

JUNE 2025

33 14 25 - 04

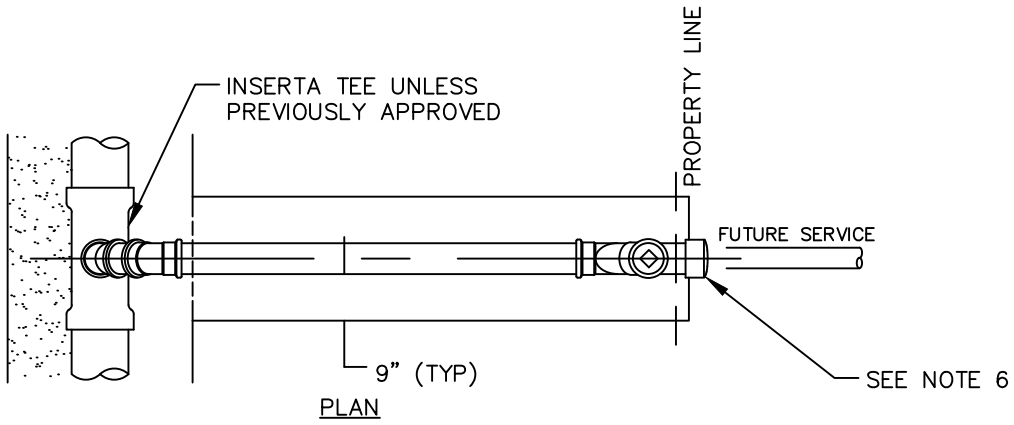


CROSS–SECTION

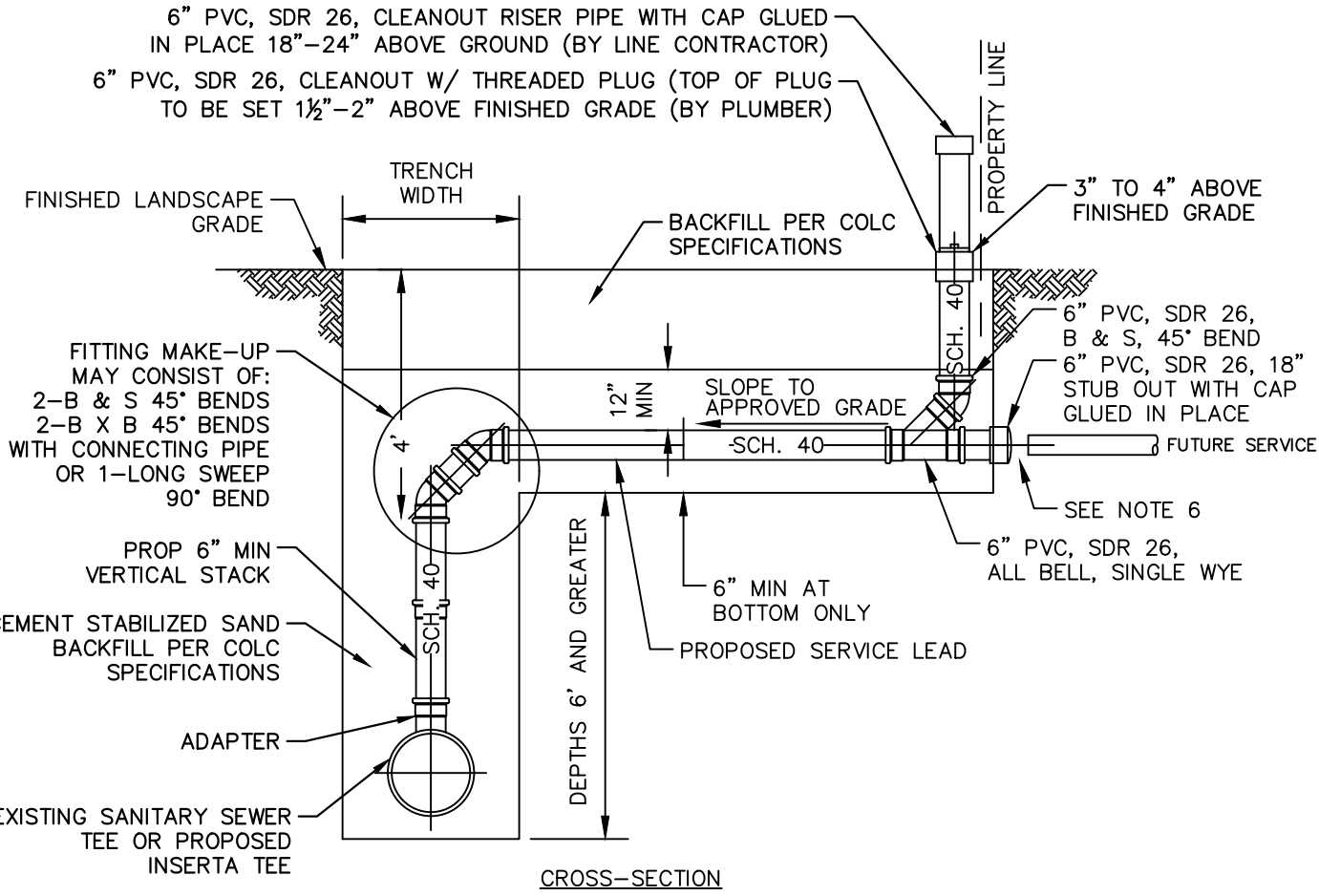
NOTES:

1. SEWER MAIN CONTRACTOR TO EXTEND 6" STACK RISER PIPE TO WITHIN 4' OF FINISHED GRADE WITH CAP GLUED IN PLACE.
2. ALL FITTINGS AND PIPE TO BE GASKETED BELL AND SPIGOT EXCEPT WHERE NOTED ON DETAIL.
3. CEMENT STABILIZED SAND TO BE PLACED AROUND SEWER TEE AND STACK AT MAIN LINE.
4. ALL PVC GRAVITY PIPE AND FITTINGS TO BE PER COLC SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED.
5. WHERE PAVEMENT REPAIR IS REQUIRED SEE COLC PAVEMENT REPAIR DETAIL.

LC TX	STANDARD CONSTRUCTION DETAIL **SANITARY TAP WITH STACK DETAIL**	SCALE: NTS JUNE 2025 **33 31 16 - 01**



PLAN

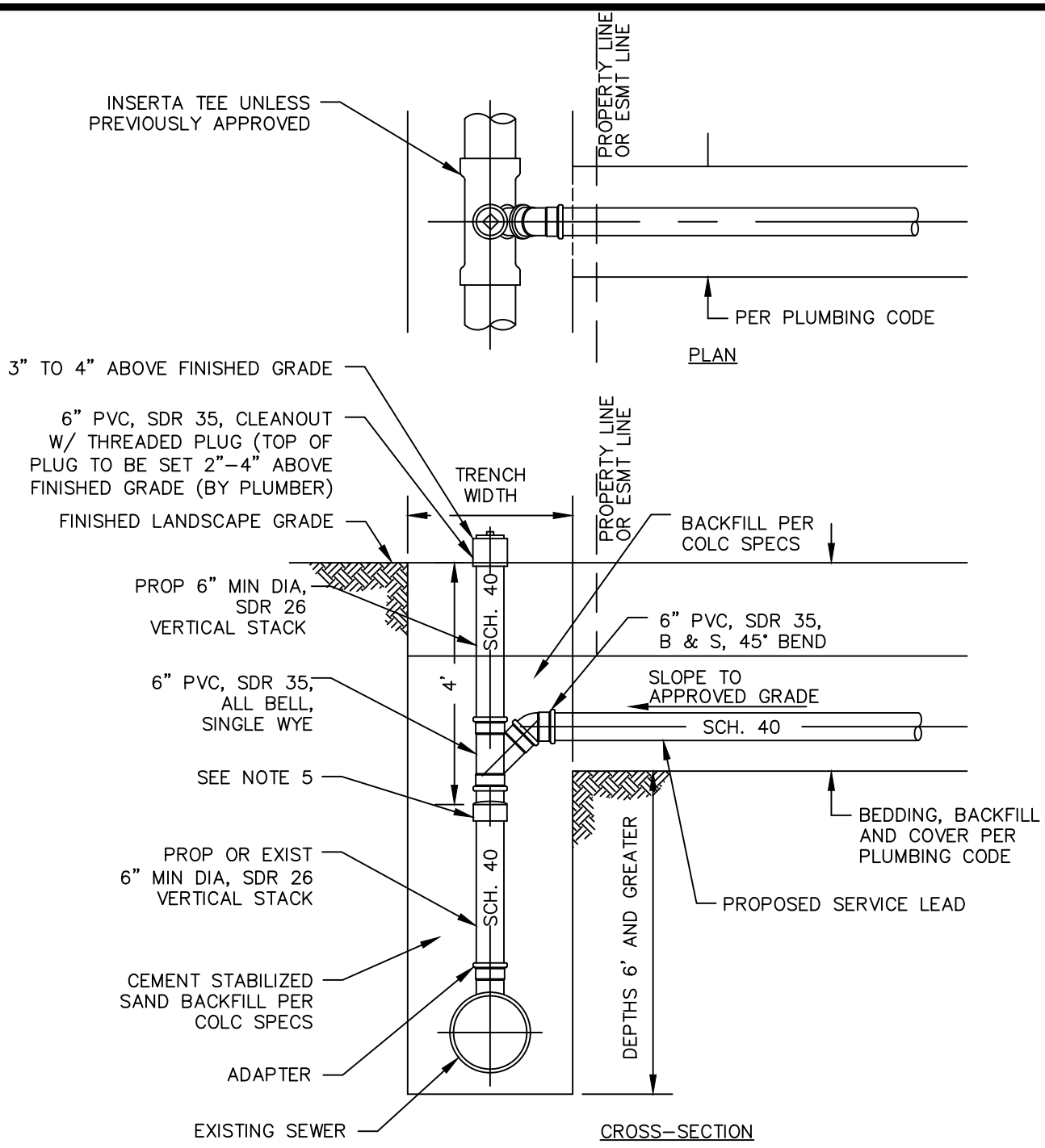


CROSS–SECTION

NOTES:

1. CEMENT STABILIZED SAND TO BE PLACED AROUND TAPPING SADDLE OR SEWER TEE AT MAIN LINE.
2. PRE ACCEPTANCE: SEWER MAIN CONTRACTOR TO EXTEND 6" CLEAN OUT RISER PIPE 18" TO 24" ABOVE GRADE AT TIME OF CONSTRUCTION WITH CAP GLUED IN PLACE.
3. PLUMBING CONTRACTOR TO SET TOP OF 6" THREADED ADAPTER CLEAN OUT WITH PLUG 1 1/2" TO 2" ABOVE FINISHED GRADE.
4. ALL FITTINGS AND PIPE TO BE GASKETED BELL AND SPIGOT EXCEPT WHERE NOTED ON DETAIL.
5. SERVICE LEADS TO BE BEDDED AND COVERED PER PIPE BEDDING DETAILS.
6. PLUMBING CONTRACTOR TO REMOVE SERVICE PLUG AND ATTACH LINE FROM HOUSE TO SERVICE LEAD BY APPROVED COLC PLUMBING CODE.
7. ALL PVC GRAVITY PIPE AND FITTINGS TO BE PER COLC SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED.
8. WHERE STREET PAVEMENT REPAIR IS REQUIRED SEE COLC PAVEMENT REPAIR DETAIL.

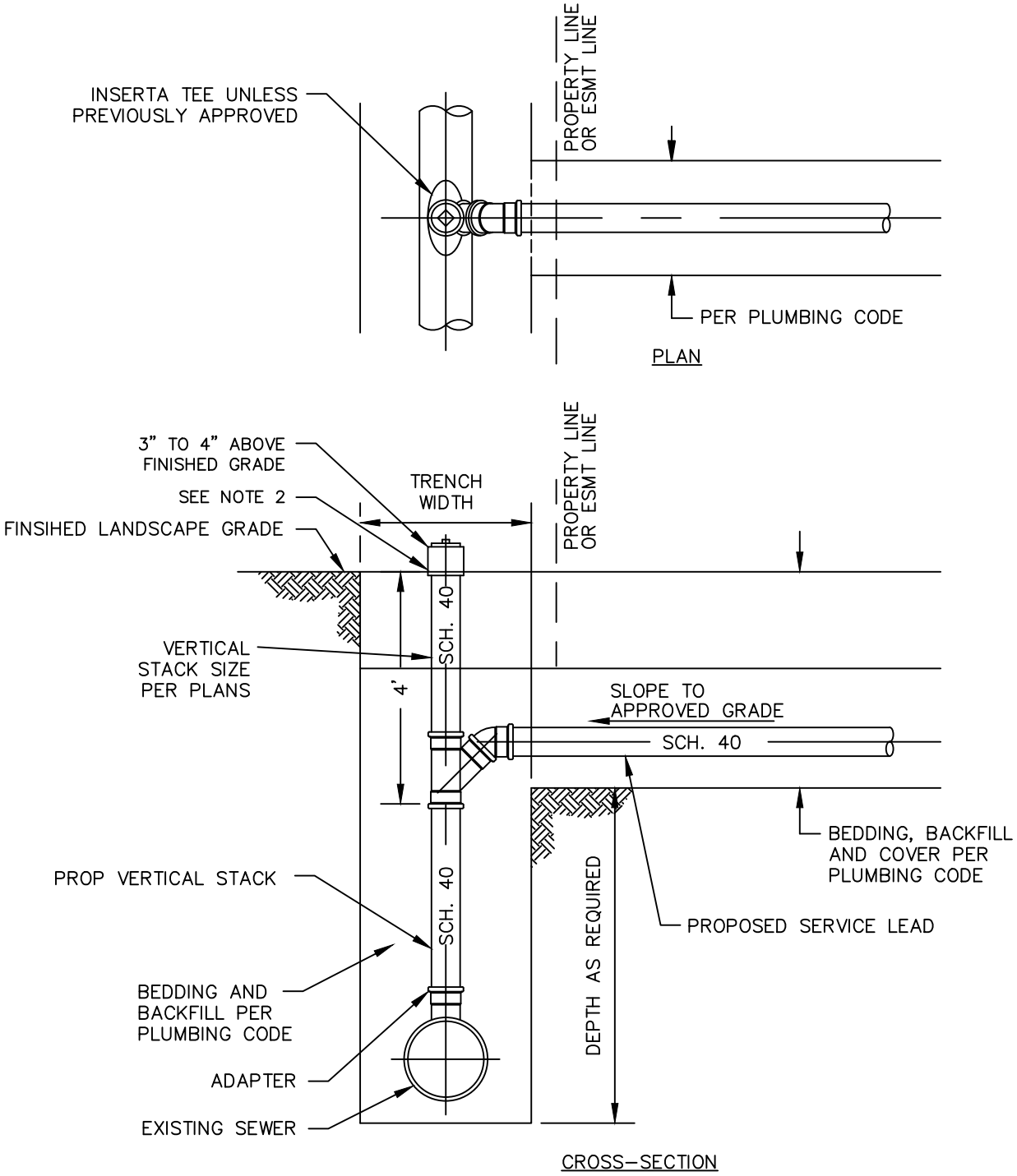
LC TX	STANDARD CONSTRUCTION DETAIL **SANITARY TAP WITH STACK AND CLEAN-OUT DETAIL**	SCALE: NTS JUNE 2025 **33 31 16 - 02**



NOTES:

1. CEMENT STABILIZED SAND TO BE PLACED AROUND TAPPING SADDLE OR SEWER TEE AT MAIN LINE.
2. PLUMBING CONTRACTOR TO SET TOP OF 6" THREADED ADAPTER CLEAN OUT WITH PLUG 2" TO 4" ABOVE FINISHED GRADE.
3. ALL FITTINGS AND PIPE TO BE GASKETED BELL AND SPIGOT EXCEPT WHERE NOTED ON DETAIL.
4. SERVICE LEADS TO BE BEDDED AND COVERED PER CURRENT CITY PLUMBING CODES.
5. PLUMBING CONTRACTOR TO REMOVE SERVICE PLUG AND ATTACH LINE FROM HOUSE TO SERVICE LEAD BY APPROVED COLC PLUMBING CODE.
6. ALL PVC GRAVITY PIPE AND FITTINGS TO BE PER COLC SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED.
7. WHERE STREET PAVEMENT REPAIR IS REQUIRED SEE COLC PAVEMENT REPAIR DETAIL.

LC TX	STANDARD CONSTRUCTION DETAIL **SANITARY TAP WITH STACK AND CLEAN-OUT OVER MAIN**	SCALE: NTS JUNE 2025 **33 31 16 - 03**



NOTES:

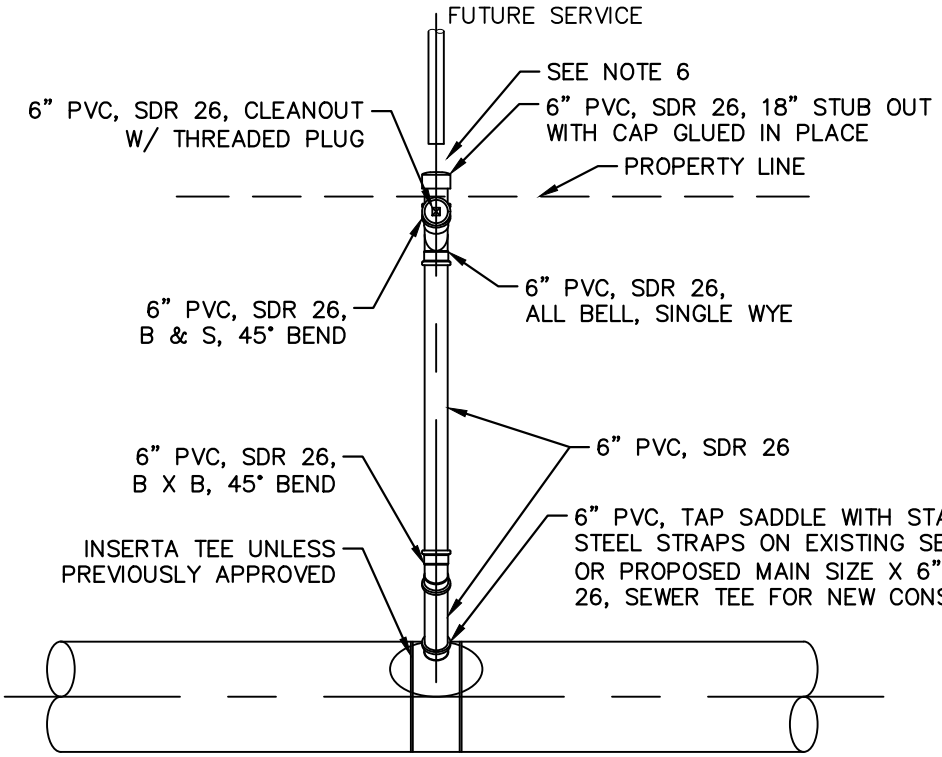
1. PLUMBING CONTRACTOR TO SET TOP OF THREADED ADAPTER CLEAN OUT WITH PLUG 2" TO 4" ABOVE FINISHED GRADE.
2. ALL FITTINGS AND PIPE PER CITY OF LEAGUE CITY PLUMBING CODES AS CURRENTLY ADOPTED.
3. SERVICE LEADS TO BE BEDDED AND COVERD PER CURRENT CITY PLUMBING CODES.
4. PLUMBING CONTRACTOR TO SCHEDULE ALL REQUIRED INSPECTIONS FOR PRIVATE SYSTEM CONNECTION THROUGH THE LEAGUE CITY BUILDING DEPT.

STANDARD CONSTRUCTION DETAIL
PRIVATE SANITARY TAP WITH STACK AND CLEAN OUT OVER MAIN

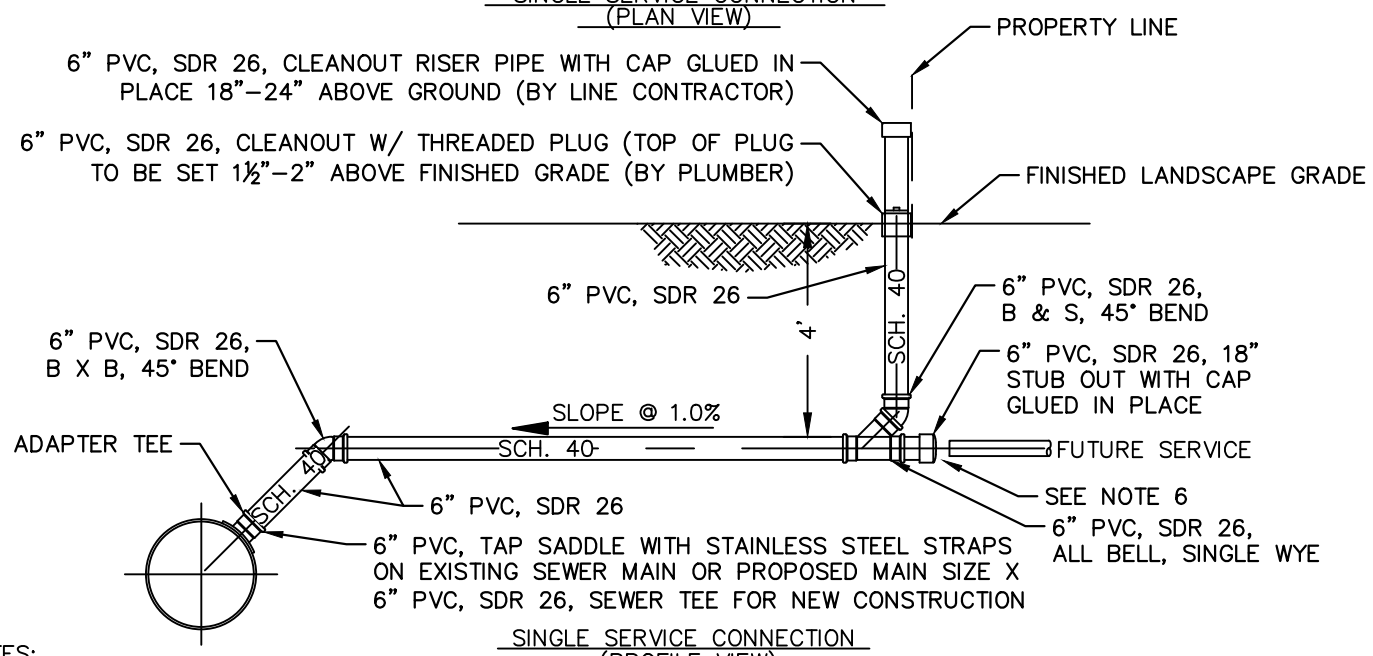
SCALE: NTS

JUNE 2025

33 31 16 - 04



SINGLE SERVICE CONNECTION
(PLAN VIEW)



SINGLE SERVICE CONNECTION
(PROFILE VIEW)

NOTES:

1. CEMENT STABILIZED SAND TO BE PLACED AROUND TAPPING SADDLE OR SEWER TEE AT MAIN LINE.
2. SEWER MAIN CONTRACTOR TO EXTEND 6" CLEAN OUT RISER PIPE 18" TO 24" ABOVE GRADE AT TIME OF CONSTRUCTION WITH CAP GLUED IN PLACE.
3. PLUMBING CONTRACTOR TO SET TOP OF 6" THREADED ADAPTER CLEAN OUT WITH PLUG 1½" TO 2" ABOVE FINISHED GRADE.
4. ALL FITTINGS AND PIPE TO BE GASKETED BELL AND SPIGOT EXCEPT WHERE NOTED ON DETAIL.
5. SERVICE LEADS TO BE BEDDED AND COVERED PER PIPE BEDDING DETAILS.
6. PLUMBING CONTRACTOR TO REMOVE SERVICE PLUG AND ATTACH LINE FROM HOUSE TO 6" BY APPROVED COLC PLUMBING CODE.

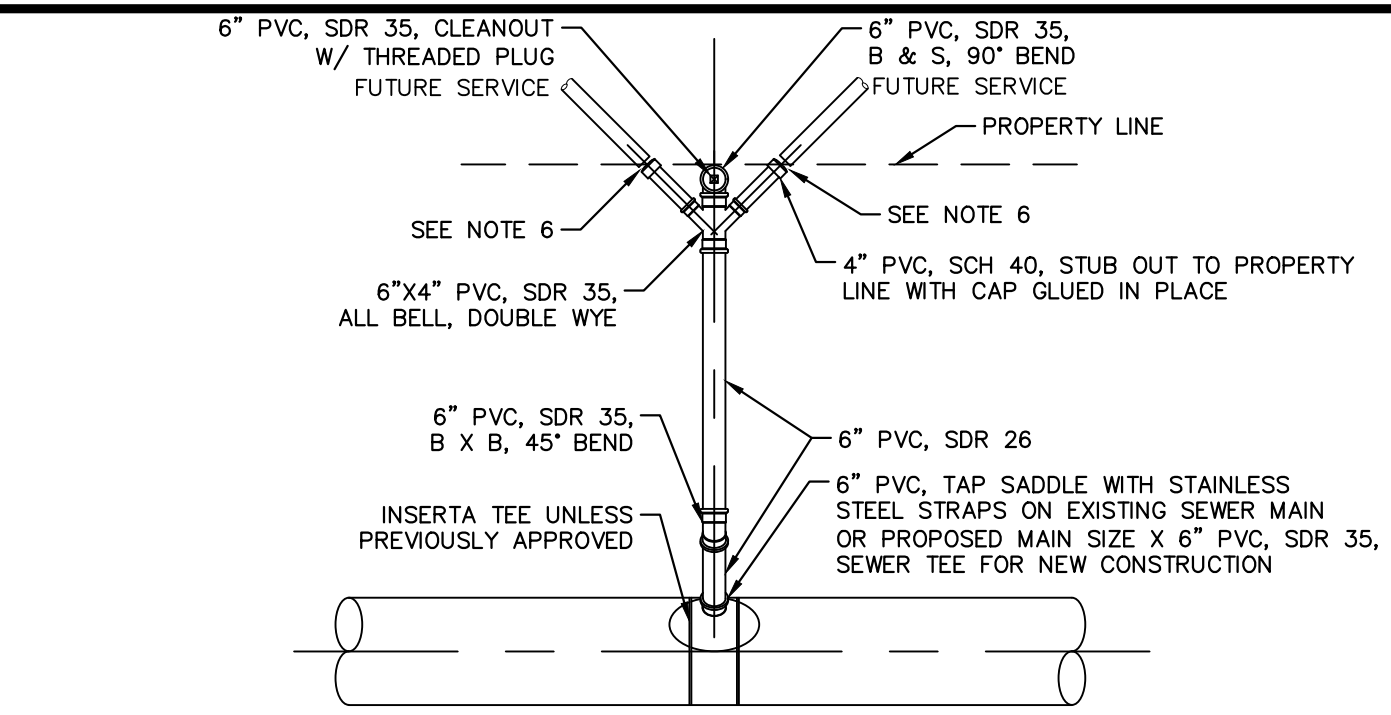
STANDARD CONSTRUCTION DETAIL

SINGLE SERVICE TAP AND LEAD DETAIL

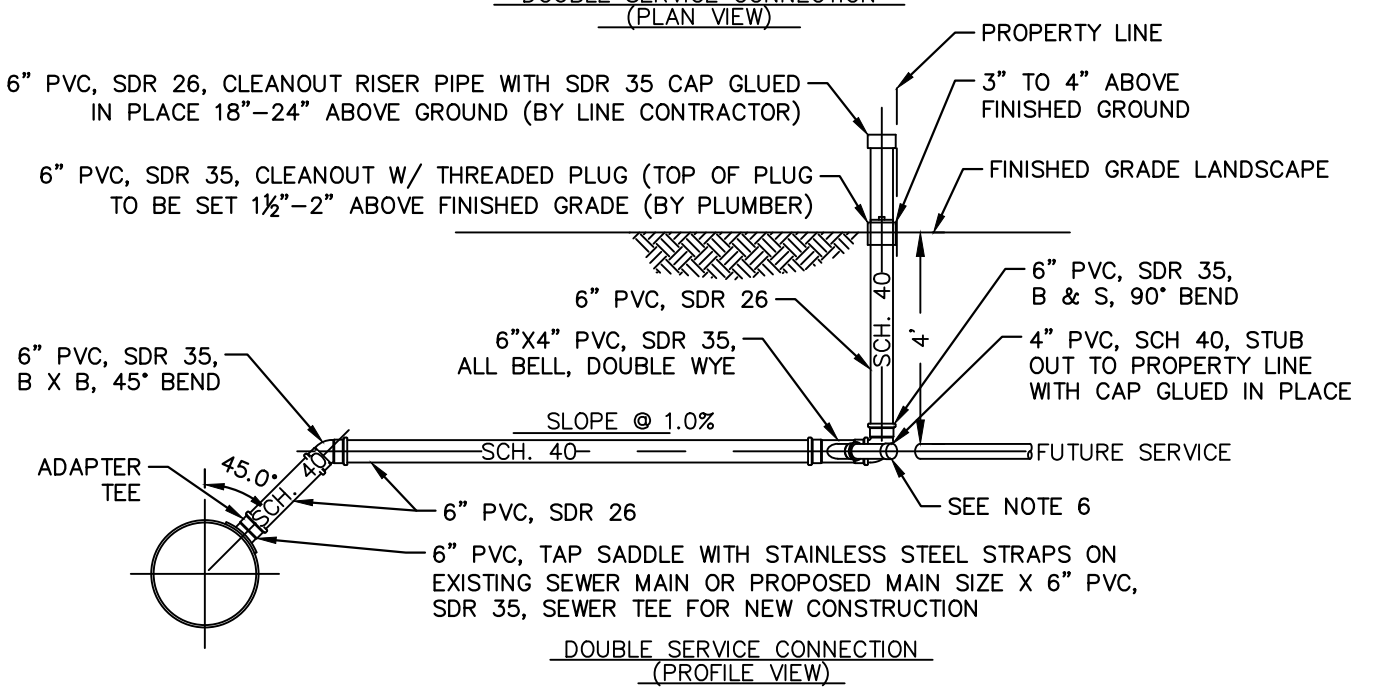
SCALE: NTS

JUNE 2025

33 31 16 - 05



DOUBLE SERVICE CONNECTION
(PLAN VIEW)



DOUBLE SERVICE CONNECTION
(PROFILE VIEW)

NOTES:

1. CEMENT STABILIZED SAND TO BE PLACED AROUND TAPPING SADDLE OR SEWER TEE AT MAIN LINE.
2. SEWER MAIN CONTRACTOR TO EXTEND 6" CLEAN OUT RISER PIPE 18" TO 24" ABOVE GRADE AT TIME OF CONSTRUCTION WITH CAP GLUED IN PLACE.
3. PLUMBING CONTRACTOR TO SET TOP OF 6" THREADED ADAPTER CLEAN OUT WITH PLUG 1½" TO 2" ABOVE FINISHED GRADE.
4. ALL FITTINGS AND PIPE TO BE GASKETED BELL AND SPIGOT EXCEPT WHERE NOTED ON DETAIL.
5. SERVICE LEADS TO BE BEDDED AND COVERED PER PIPE BEDDING DETAILS.
6. PLUMBING CONTRACTOR TO REMOVE SERVICE PLUG AND ATTACH LINE FROM HOUSE TO 6" BY APPROVED COLC PLUMBING CODE.

LC TX

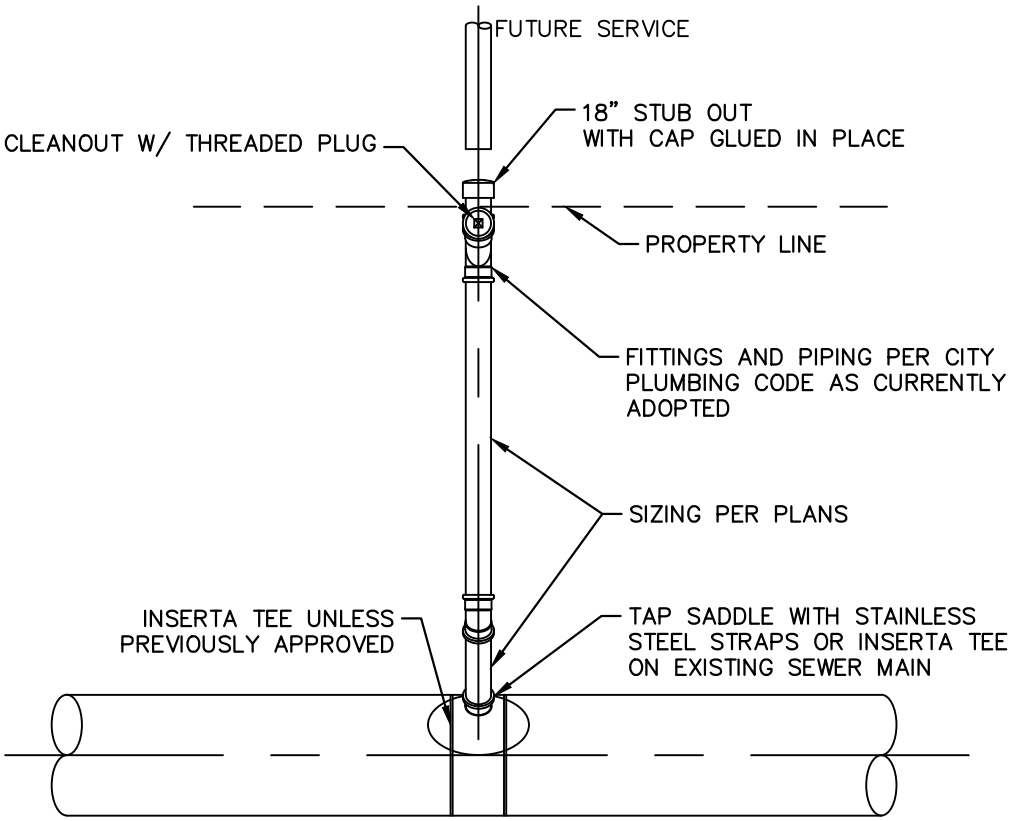
STANDARD CONSTRUCTION DETAIL

DOUBLE SERVICE TAP AND LEAD DETAIL

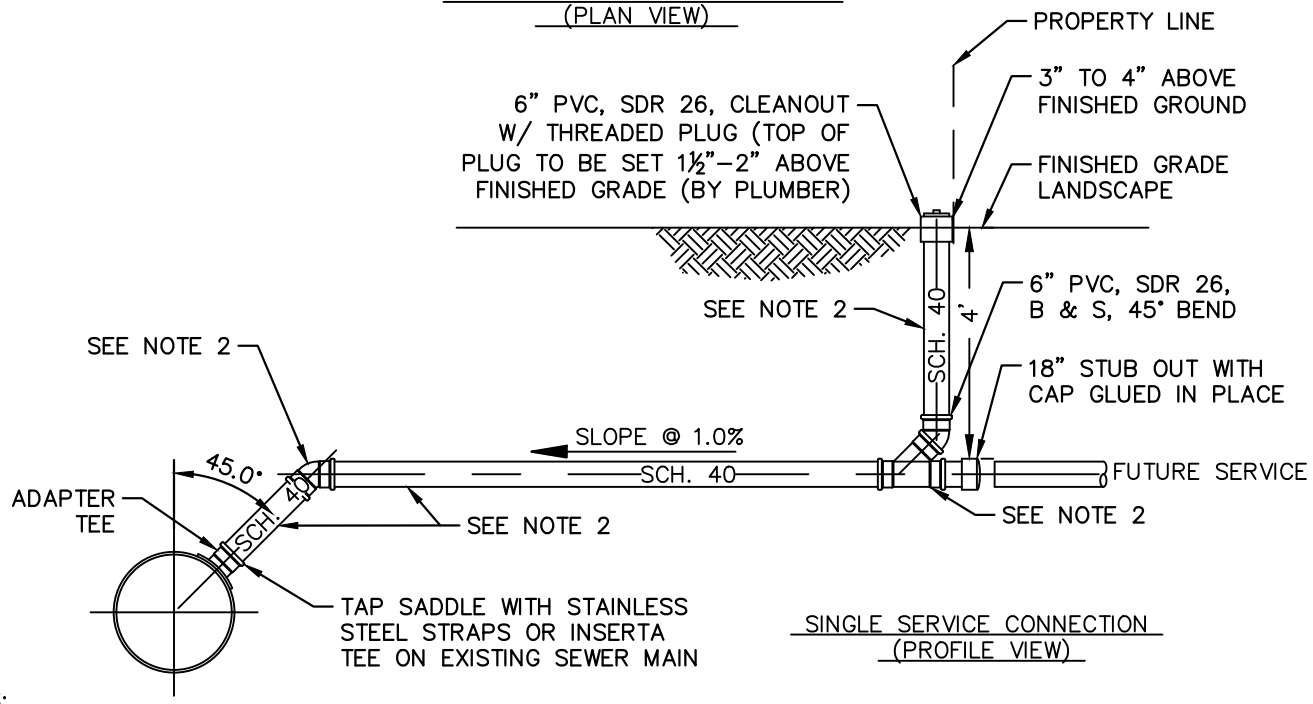
SCALE: NTS

JUNE 2025

33 31 16 - 06



SINGLE SERVICE CONNECTION
(PLAN VIEW)



SINGLE SERVICE CONNECTION
(PROFILE VIEW)

NOTES:

1. PLUMBING CONTRACTOR TO SET TOP OF THREADED ADAPTER CLEAN OUT WITH PLUG 2" TO 4" ABOVE FINISHED GRADE.
2. ALL FITTINGS AND PIPE PER CITY OF LEAGUE CITY PLUMBING CODES AS CURRENTLY ADOPTED.
3. SERVICE LEADS TO BE BEDDED AND COVERED PER CURRENT CITY PLUMBING CODES.
4. PLUMBING CONTRACTOR TO SCHEDULE ALL REQUIRED INSPECTIONS FOR PRIVATE SYSTEM CONNECTION THROUGH THE LEAGUE CITY BUILDING DEPT.

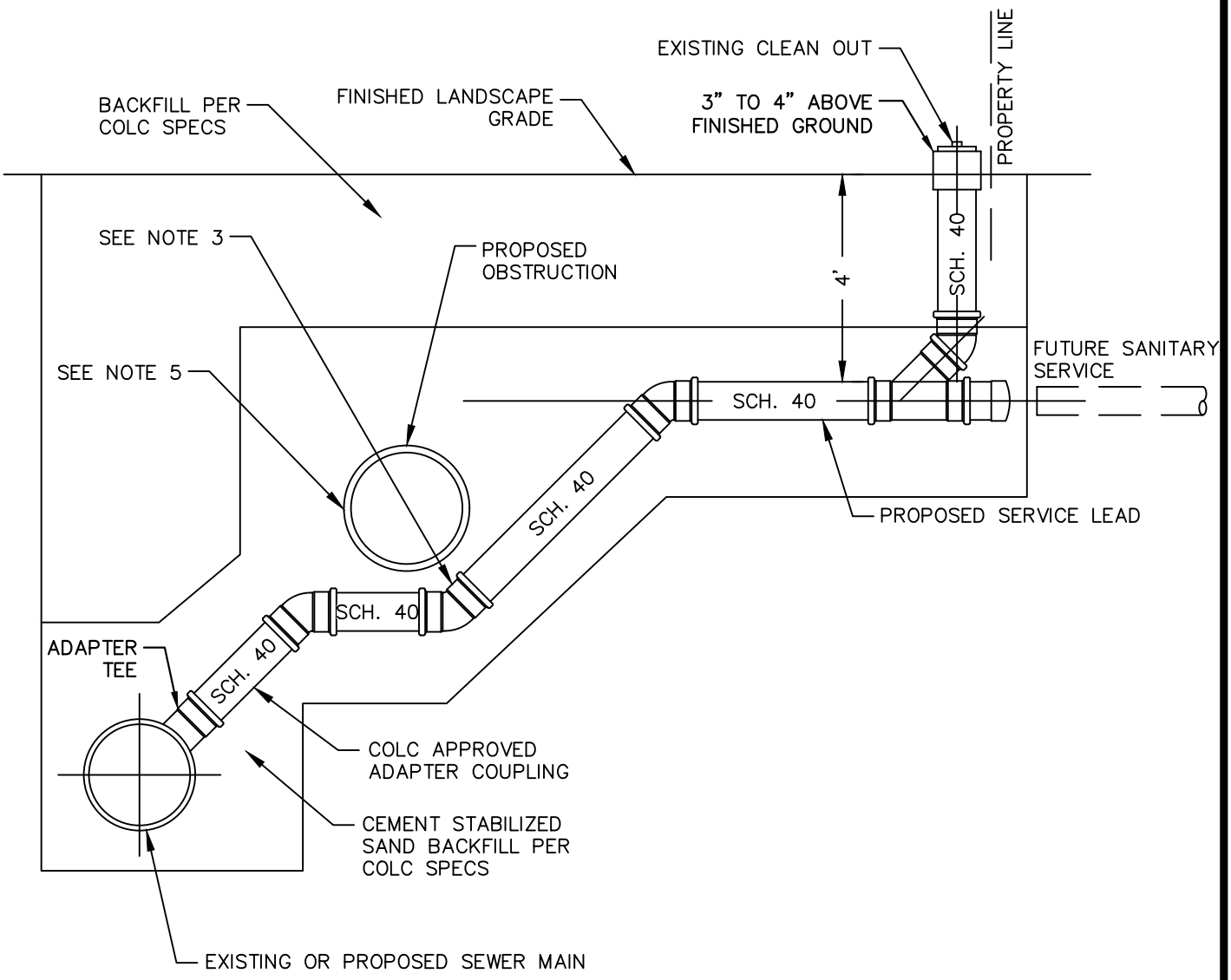
STANDARD CONSTRUCTION DETAIL

PRIVATE SINGLE SERVICE TAP AND LEAD

SCALE: NTS

JUNE 2025

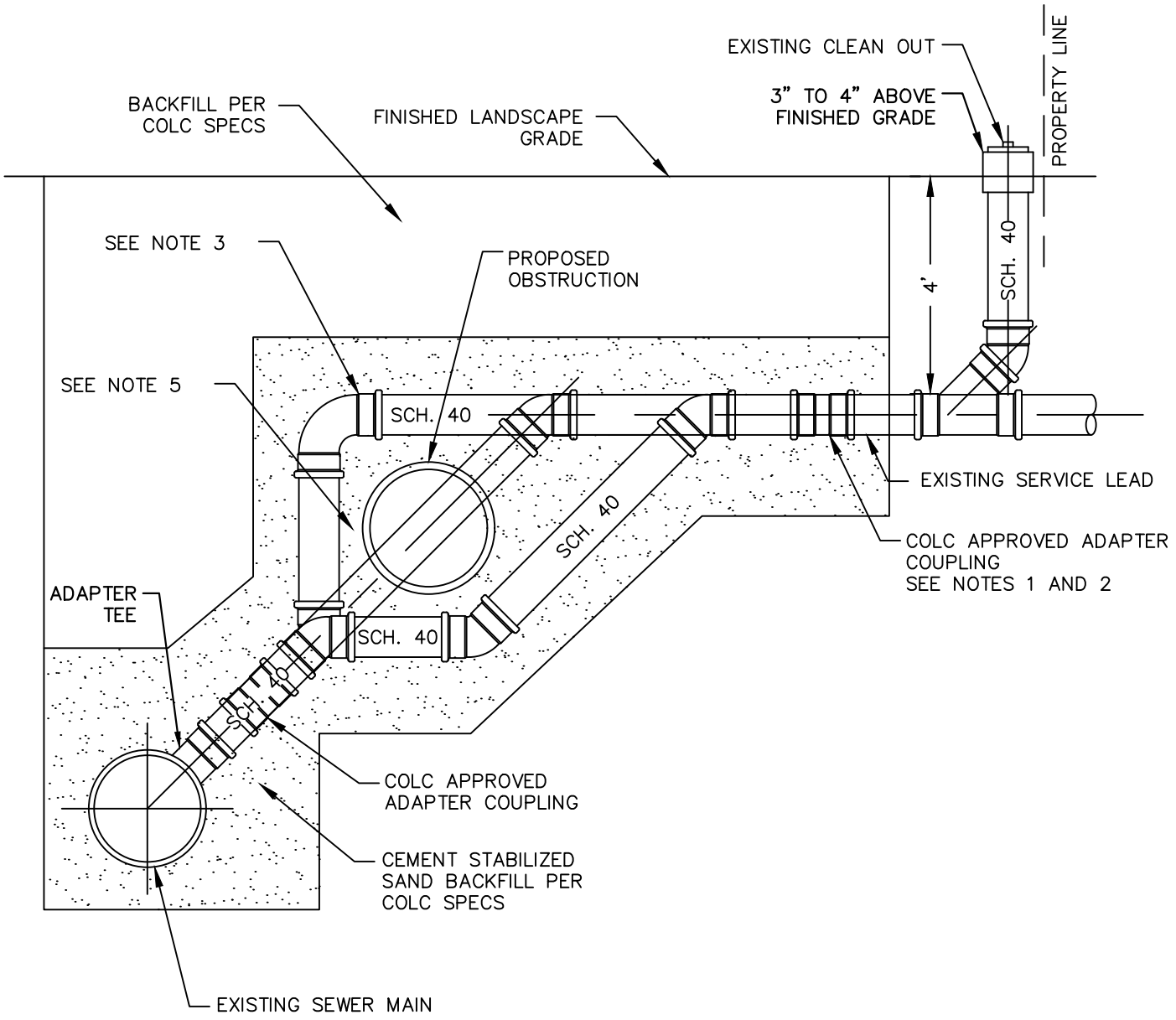
33 31 16 - 07



NOTES:

1. REPLACE EXISTING SERVICE LINE TO EXTENTS SHOWN ON PLAN AND PROFILE DRAWINGS OR AS SPECIFIED BY COLC.
2. WHERE SEWER SERVICE CONNECTION IS 4" AND/OR NO CITY CLEAN OUT EXISTS, TAKE RECONNECT TO PROPERTY LINE AND CONSTRUCT CLEAN OUT PER COLC SERVICE TAP AND LEAD DETAIL (33 31 16–05).
3. ALL PVC GRAVITY PIPE AND FITTINGS TO BE PER COLC SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED.
4. WHERE PAVEMENT REPAIR IS REQUIRED SEE COLC PAVEMENT REPAIR DETAIL (33 31 16–14).
5. WHERE PROPOSED OBSTRUCTION IS A POTABLE WATER LINE, SEWER SERVICE LEAD MUST GO UNDER AND MAINTAIN MIN CLEARANCES. ALL OTHER OBSTRUCTION MAINTAIN A MIN 6" CLEARANCE ALL AROUND.

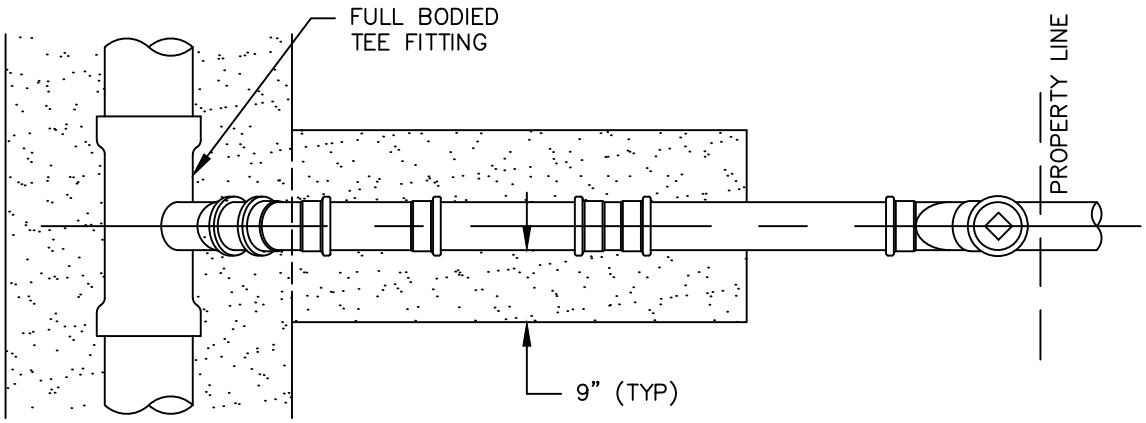
LC TX	STANDARD CONSTRUCTION DETAIL **SEWER LEAD OBSTRUCTION DETAIL** **NEW CONSTRUCTION**	SCALE: NTS JUNE 2025 **33 31 16 - 08**



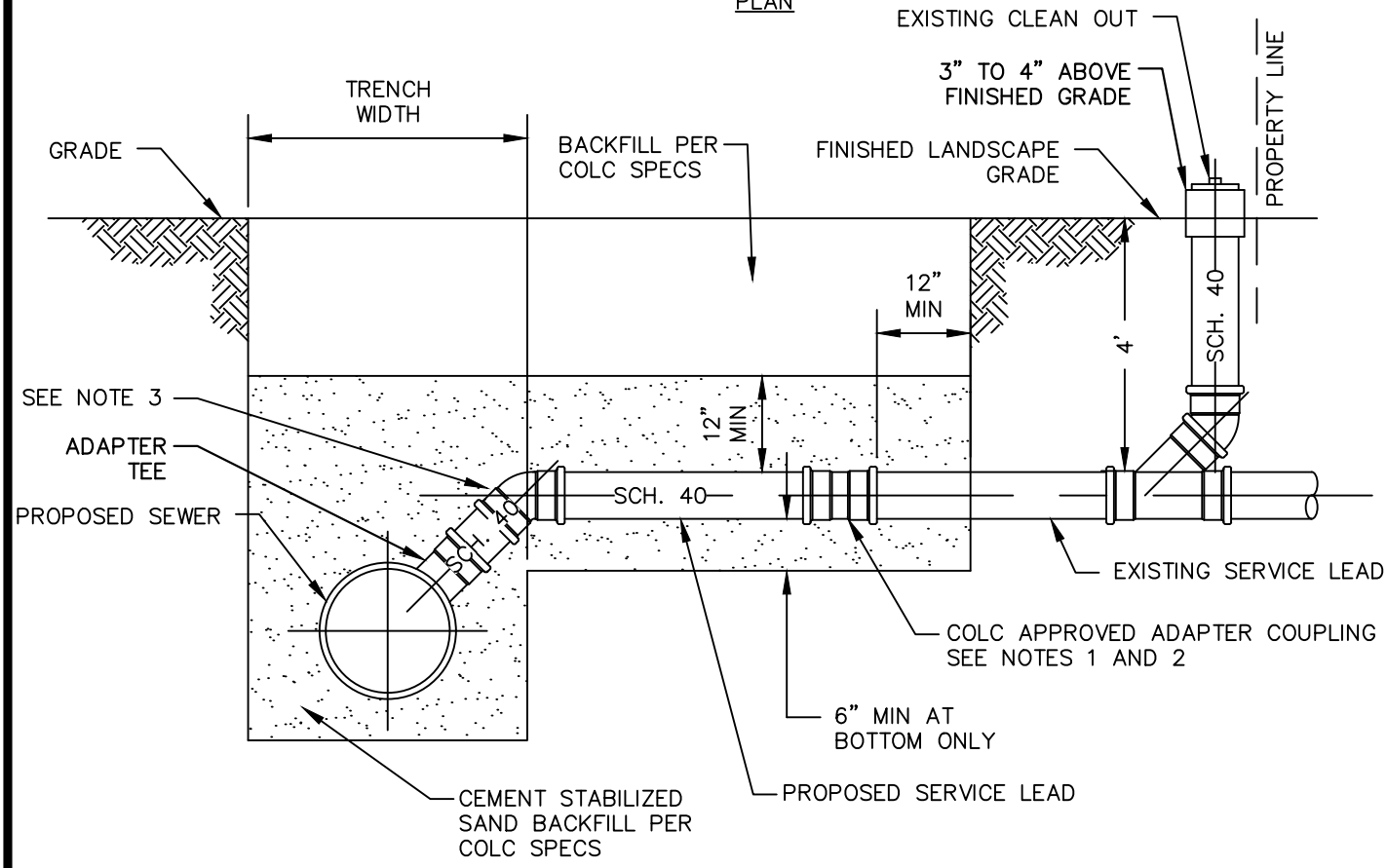
NOTES:

1. REPLACE EXISTING SERVICE LINE TO EXTENTS SHOWN ON PLAN AND PROFILE DRAWINGS OR AS SPECIFIED BY COLC.
2. WHERE SEWER SERVICE CONNECTION IS 4" AND/OR NO CITY CLEAN OUT EXISTS, TAKE RECONNECT TO PROPERTY LINE AND CONSTRUCT CLEAN OUT PER COLC SERVICE TAP AND LEAD DETAIL (33 31 16–06).
3. ALL PVC GRAVITY PIPE AND FITTINGS TO BE PER COLC SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED.
4. WHERE PAVEMENT REPAIR IS REQUIRED SEE COLC PAVEMENT REPAIR DETAIL (33 31 16–14).
5. WHERE PROPOSED OBSTRUCTION IS A POTABLE WATER LINE, SEWER SERVICE LEAD MUST GO UNDER AND MAINTAIN MIN CLEARANCES. ALL OTHER OBSTRUCTION MAINTAIN A MIN 6" CLEARANCE ALL AROUND.

LC TX	STANDARD CONSTRUCTION DETAIL **SEWER LEAD OBSTRUCTION DETAIL**	SCALE: NTS JUNE 2025 **33 31 16 - 09**



PLAN

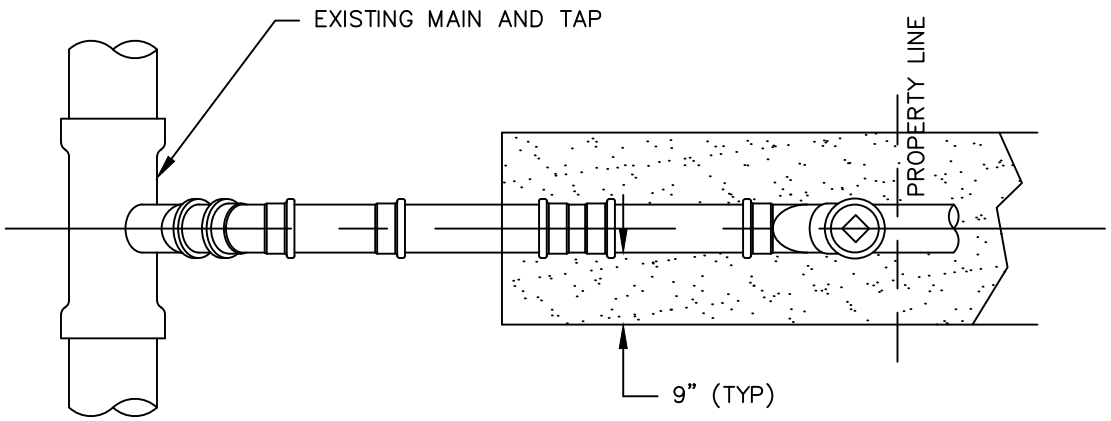


CROSS–SECTION

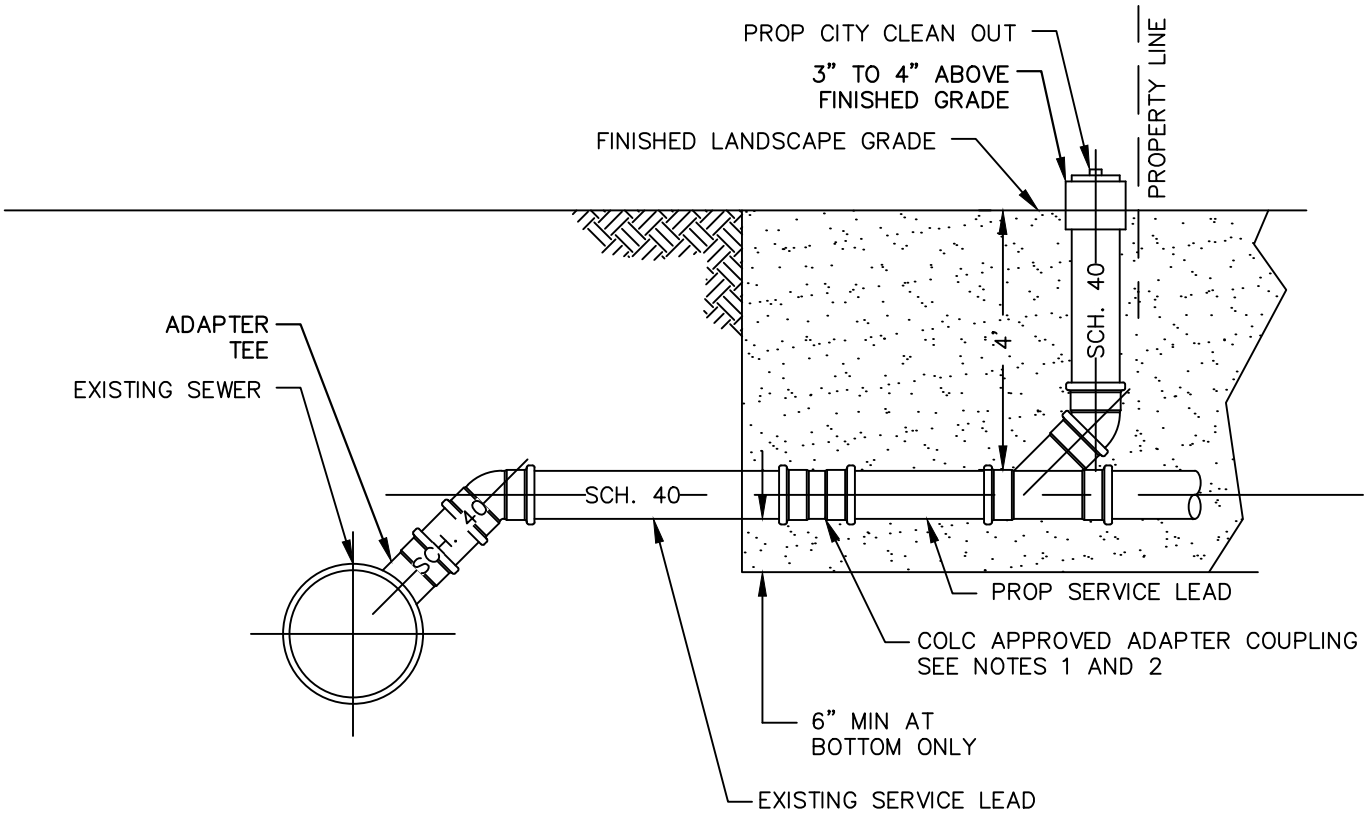
NOTES:

1. REPLACE EXISTING SERVICE LINE TO EXTENTS SHOWN ON PLAN AND PROFILE DRAWINGS OR AS SPECIFIED BY COLC.
2. WHERE SEWER SERVICE CONNECTION IS 4" AND/OR NO CITY CLEAN OUT EXISTS, TAKE RECONNECT TO PROPERTY LINE AND CONSTRUCT CLEAN OUT PER COLC SERVICE TAP AND LEAD DETAIL (33 31 16–05).
3. ALL PVC GRAVITY PIPE AND FITTINGS TO BE PER COLC SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED.
4. WHERE PAVEMENT REPAIR IS REQUIRED SEE COLC PAVEMENT REPAIR DETAIL (33 31 16–14).

LC TX	STANDARD CONSTRUCTION DETAIL **SEWER LEAD RECONNECT DETAIL**	SCALE: NTS JUNE 2025 **33 31 16 - 10**



PLAN

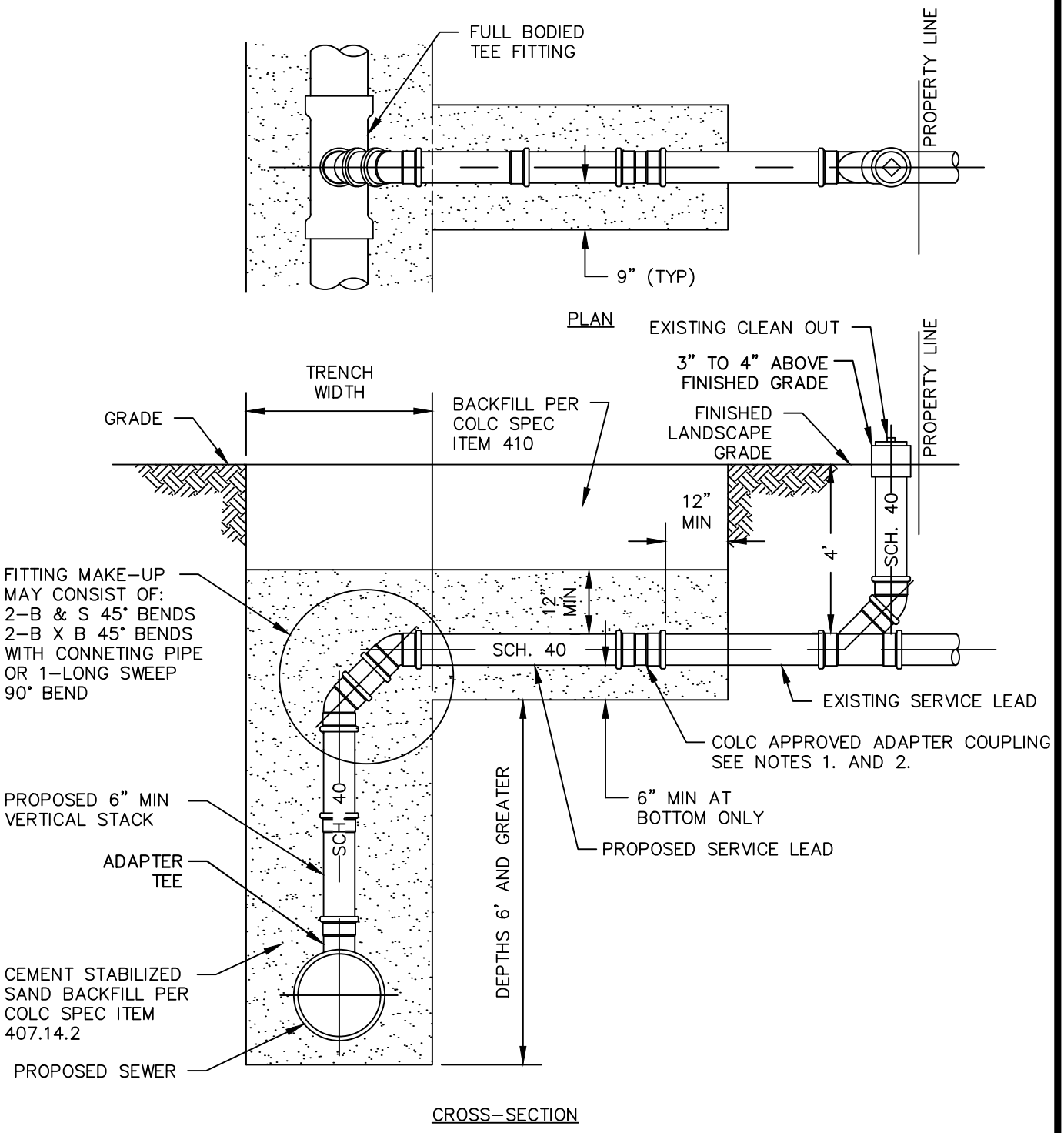


CROSS–SECTION

NOTES:

1. WHERE A CITY SANITARY CLEAN OUT IS MISSING CONTRACTOR/PLUMBER TO CONSTRUCT AS SHOWN. USE APPROPRIATE FITTINGS AS APPROVED BY CITY STANDARDS.
2. IN AREAS WHERE EXISTING SERVICE LEAD IS 4" CONSTRUCT NEW CLEAN OUT WITH 4" PVC, US APPROPRIATE FITTINGS TO RECONNECT TO CITY SERVICE LEAD.
3. WHERE PAVEMENT REPAIR IS REQUIRED SEE COLC PAVEMENT REPAIR DETAIL (33 31 16–14).

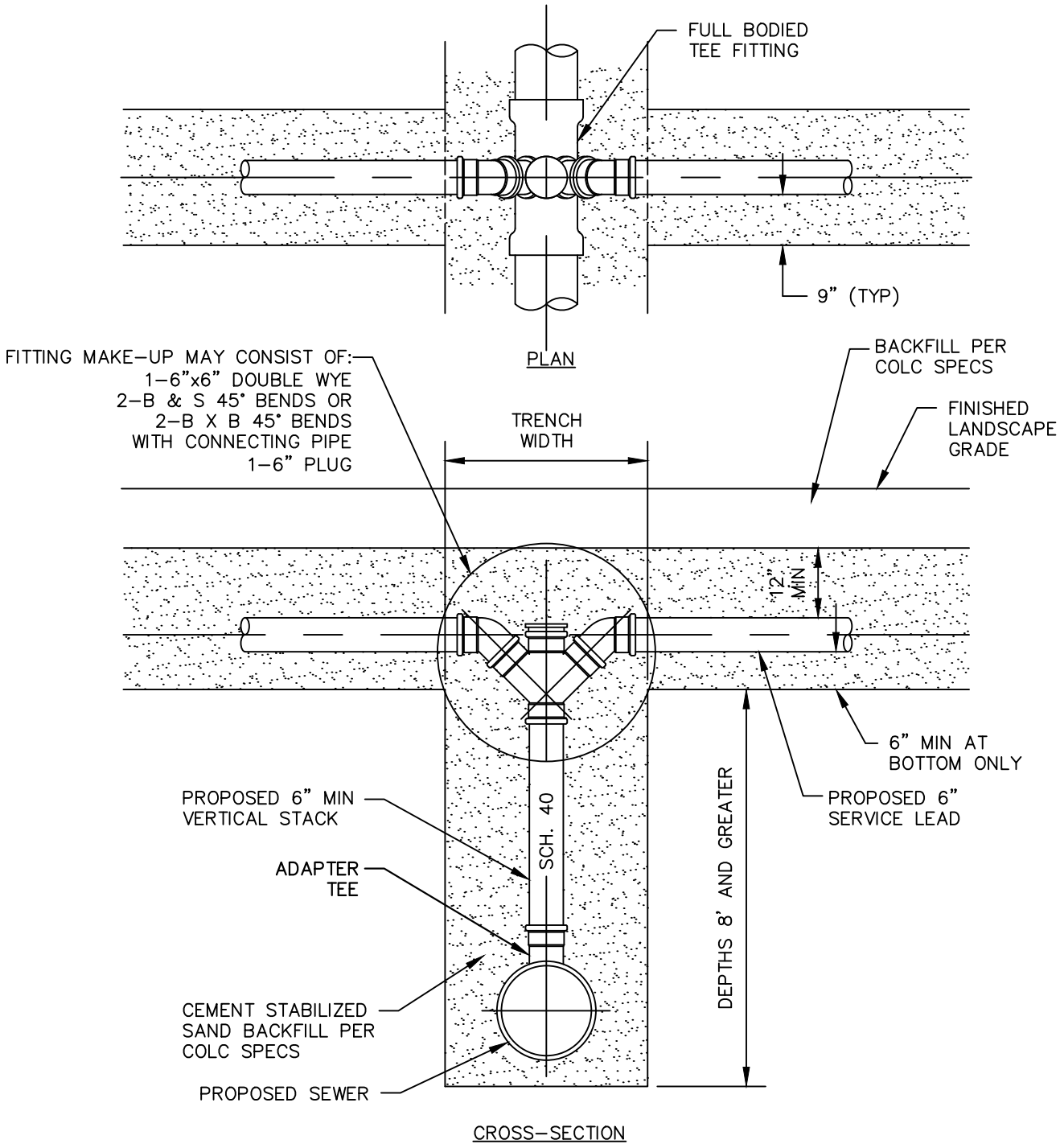
LC TX	STANDARD CONSTRUCTION DETAIL **SEWER LEAD PRIVATE SIDE RECONNECT DETAIL**	SCALE: NTS JUNE 2025 **33 31 16 - 11**



NOTES:

1. REPLACE EXISTING SERVICE LINE TO EXTENTS SHOWN ON PLAN AND PROFILE DRAWINGS OR AS SPECIFIED BY COLC.
2. WHERE SEWER SERVICE CONNECTION IS 4" AND/OR NO CITY CLEAN OUT EXISTS, TAKE RECONNECT TO PROPERTY LINE AND CONSTRUCT CLEAN OUT PER COLC SERVICE TAP AND LEAD DETAIL (33 31 16-05).
3. ALL PVC GRAVITY PIPE AND FITTINGS TO BE PER COLC SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED.
4. WHERE PAVEMENT REPAIR IS REQUIRED SEE COLC PAVEMENT REPAIR DETAIL (33 31 16-14).

LC TX	STANDARD CONSTRUCTION DETAIL **DEEP CUT SEWER LEAD AND RECONNECT**	SCALE: NTS JUNE 2025 **33 31 16 - 12**



NOTES:

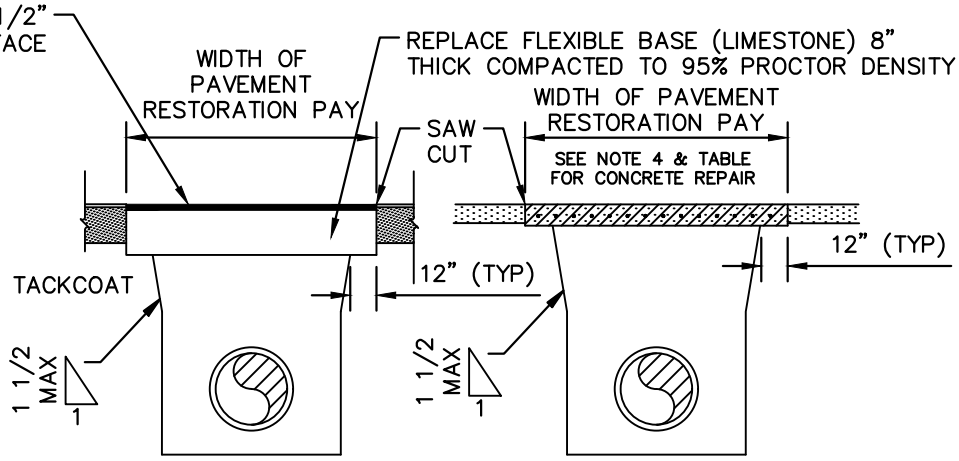
1. REPLACE EXISTING SERVICE LINE TO EXTENTS SHOWN ON PLAN AND PROFILE DRAWINGS OR AS SPECIFIED BY COLC.
2. WHERE SEWER SERVICE CONNECTION IS 4" AND/OR NO CITY CLEAN OUT EXISTS, TAKE SERVICE LEAD TO PROPERTY LINE AND CONSTRUCT CLEAN OUT PER COLC SERVICE TAP AND LEAD DETAIL (33 31 16-05).
3. ALL PVC GRAVITY PIPE AND FITTINGS TO BE PER COLC SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED.
4. WHERE PAVEMENT REPAIR IS REQUIRED SEE COLC PAVEMENT REPAIR DETAIL (33 31 16-14).

LC TX	STANDARD CONSTRUCTION DETAIL **DEEP CUT SEWER LEAD WITH DUAL SERVICE**	SCALE: NTS JUNE 2025 **33 31 16 - 13**

REPLACEMENT SURFACE 1/2" THICKER THAN ORIGINAL SURFACE

SPECIAL NOTE:

ALL CONCRETE DRIVEWAY REPAIR TO BE A MINIMUM OF 6" THK. WITH #3 REBAR ON 12" CENTERS WITH PLASTIC CHAIRS.

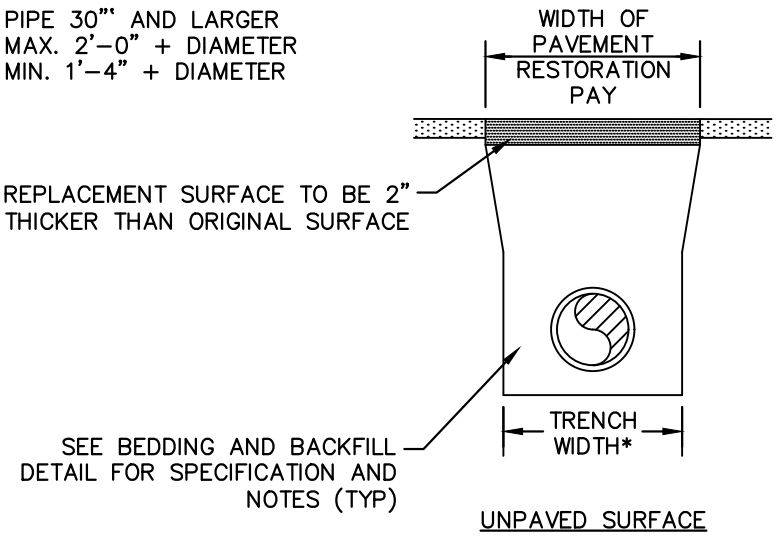


* PIPE LESS THAN 30"ϕ
MAX. 1'-6" + DIAMETER
MIN. 1'-0" + DIAMETER

PIPE 30"ϕ AND LARGER
MAX. 2'-0" + DIAMETER
MIN. 1'-4" + DIAMETER

ASPHALT SURFACE

CONCRETE SURFACE ROADWAY



UNPAVED SURFACE

TABLE OF SLAB DEPTH & REINFORCEMENT

Min. Depth of Slab	Width of Trench	Size of Bar	Spacing	Length of Bar
8"	18"	4	9"	40"
8"	24"	4	8"	46"
8"	30"	4	7"	52"
8"	36"	4	6"	58"
10"	42"	4	8 1/2"	64"
10"	48"	4	7 1/2"	70"
10"	54"	4	7"	76"
10"	60"	4	6 1/2"	82"
10"	66"	5	9"	88"
10"	72"	6	8 1/2"	94"
10"	78"	6	8"	100"
10"	84"	6	7 1/2"	106"

NOTES:

1. PAVEMENT REPAIR SHALL BE MADE TO THE LIMITS OF EXISTING PAVEMENT SECTION WITH LIKE MATERIALS UNLESS NOTED OTHERWISE.
2. UNPAVED DRIVEWAYS, NOT SURFACED WITH ASPHALT, SHALL BE REPAIRED WITH MINIMUM 6" CRUSHED LIMESTONE.
3. NEW PAVEMENT SHALL BE SUPPORTED ON MINIMUM 12" EACH SIDE ON UNDISTURBED SOIL.
4. SAW CUT EXISTING CONCRETE PAVEMENT EXPOSING 12" OF REBAR; BEND STEEL BACK OUT OF THE WAY & CONSTRUCT TRENCH. BEND STEEL BACK TO ORIGINAL POSITION AND SPLICE; SEE "TABLE OF SLAB DEPTHS & REINFORCEMENT" FOR BAR SIZE AND SPACING. WHERE REBAR IS REMOVED, THE CONTRACTOR SHALL DRILL 12" INTO THE CENTER OF EXISTING CONCRETE AND SECURE A 24", DEFORMED STEEL BAR ON 24" CENTERS WITH CEMENT GROUT OR SUITABLE EPOXY, THEN PLACE AND TIE IN REBAR. REPLACE CONCRETE 2" THICKER THAN ORIGINAL. ANY PAVEMENT REMOVED IN STATE R.O.W. SHALL BE REPLACED TO STATE SPECIFICATIONS.
5. ALL CONCRETE TO BE 5-1/2 SACK MIX, 3,500 PSI MIN. AT 28 DAYS.
6. LIMITS OF SAW CUT TO BE VERIFIED BY CITY OF LEAGUE CITY OFFICIALS.

LC TX

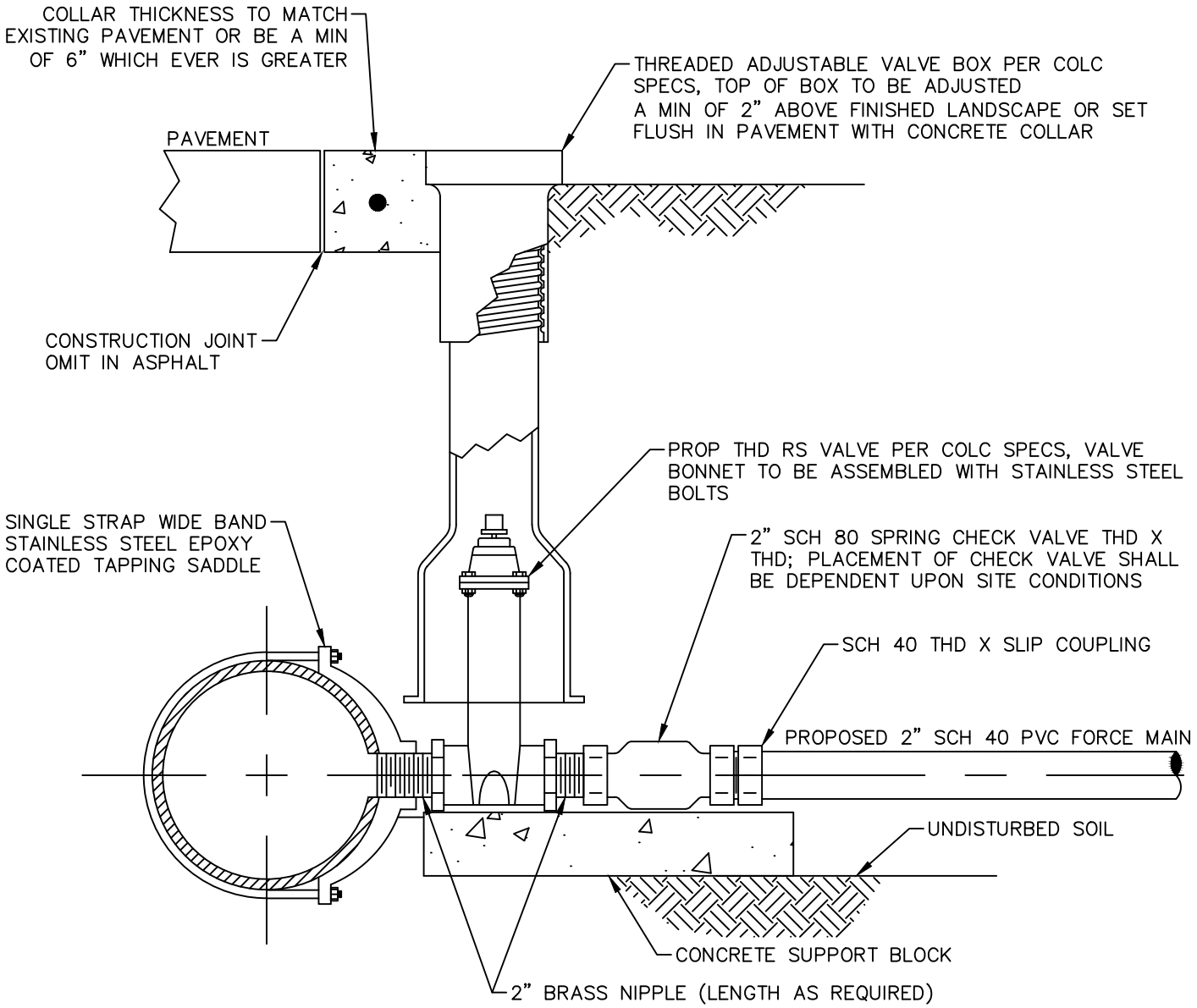
STANDARD CONSTRUCTION DETAIL

PAVEMENT REPLACEMENT DETAIL

SCALE: NTS

JUNE 2025

33 31 16 - 14

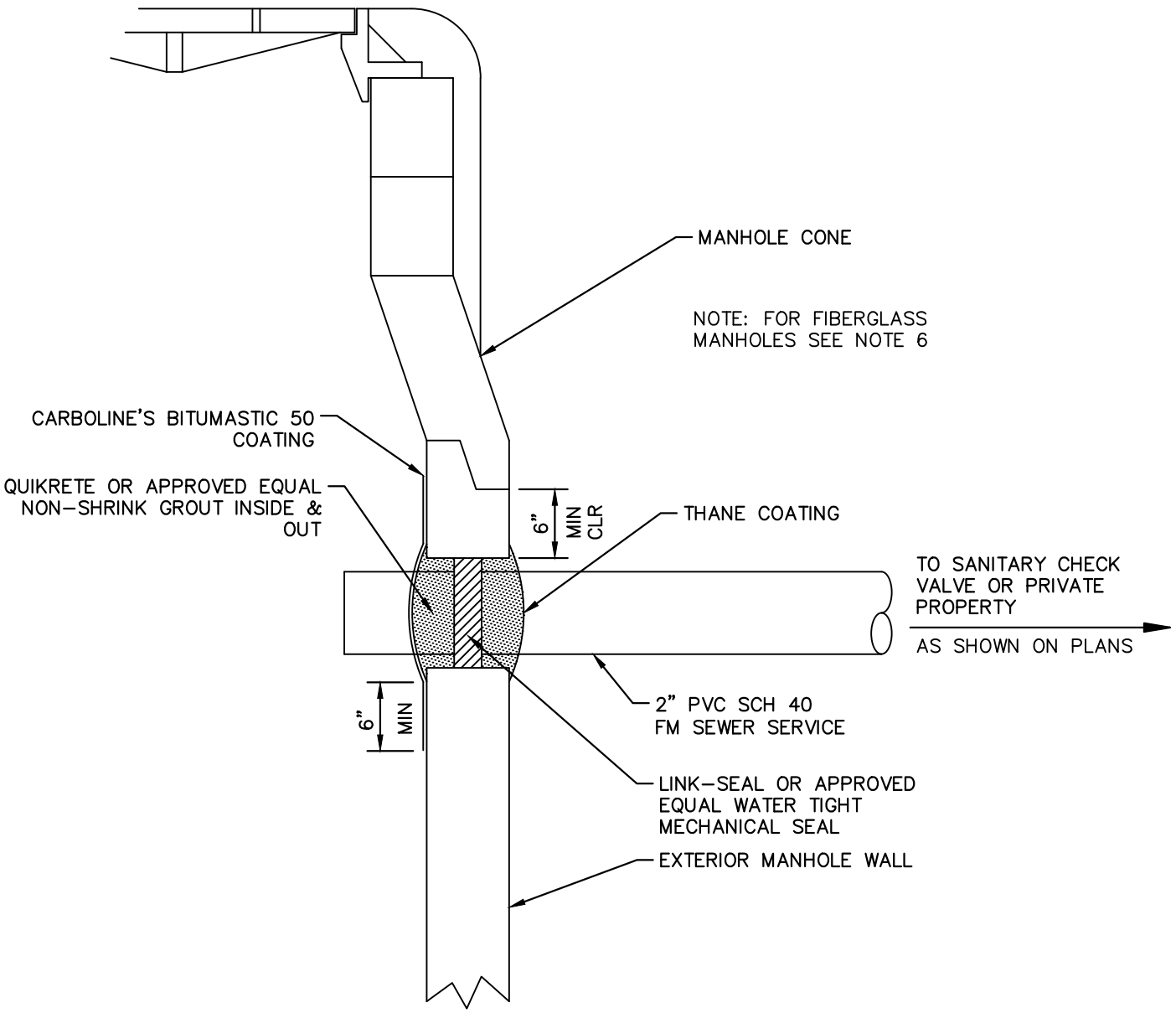


STANDARD CONSTRUCTION DETAIL
2" SERVICE FORCE MAIN TAP DETAIL

SCALE: NTS

JUNE 2025

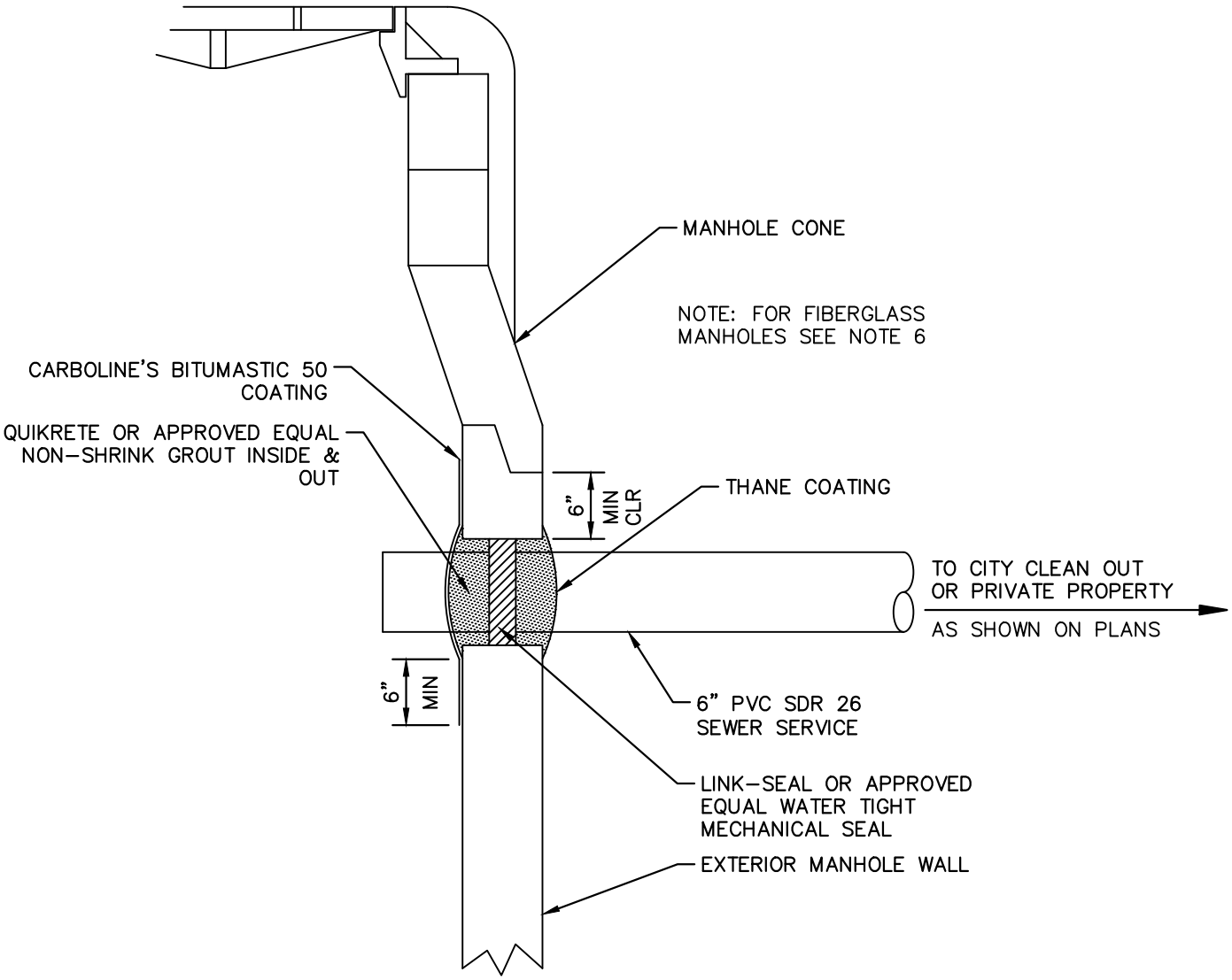
33 31 16 - 15



NOTES:

1. NO TAPS WILL BE ALLOWED ON CONE SECTION OF MANHOLE.
2. A MIN OF 6" CLEARANCE SHALL BE KEPT FROM ANY MANHOLE JOINT LINE.
3. TAPS SHALL ENTER PERPENDICTULAR TO MANHOLE.
4. WATER TIGHT SEALING MATERIAL SHALL BE APPROVED BEFORE INSTALLING AND GROUTING OVER.
5. PRELIMINARY INSPECTION OF TAP TO OCCURE BEFORE GROUT PLACEMENT; FINAL INSPECTION OF TAP TO OCCURE AFTER GROUT PLACEMENT AND INTERIOR PROTECTIVE COATING.
6. IN CASES OF FIBERGLASS MANHOLES, TAPS SHALL BE MADE WITH AN "INSERTA-TEE" AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
7. CONTACT COLC LINE REPAIR DEPT. @ 281-554-1390 24 HRS IN ADVANCE OF MAKING TAP TO SCHEDULE INSPECTION.

LC TX	STANDARD CONSTRUCTION DETAIL **MANHOLE CORE CUT 2" FORCE MAIN SERVICE DETAIL**	SCALE: NTS JUNE 2025 **33 31 16 - 16**



NOTES:

1. NO TAPS WILL BE ALLOWED ON CONE SECTION OF MANHOLE.
2. A MIN OF 6" CLEARANCE SHALL BE KEPT FROM ANY MANHOLE JOINT LINE.
3. TAPS SHALL ENTER PERPENDICULAR TO MANHOLE.
4. WATER TIGHT SEALING MATERIAL SHALL BE APPROVED BEFORE INSTALLING AND GROUTING OVER.
5. PRELIMINARY INSPECTION OF TAP TO OCCUR BEFORE GROUT PLACEMENT; FINAL INSPECTION OF TAP TO OCCUR AFTER GROUT PLACEMENT AND INTERIOR PROTECTIVE COATING.
6. IN CASES OF FIBERGLASS MANHOLES, TAPS SHALL BE MADE WITH AN "INSERTA-TEE" AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
7. CONTACT COLC LINE REPAIR DEPT. @ 281-554-1390 24 HRS IN ADVANCE OF MAKING TAP TO SCHEDULE INSPECTION.

LC TX

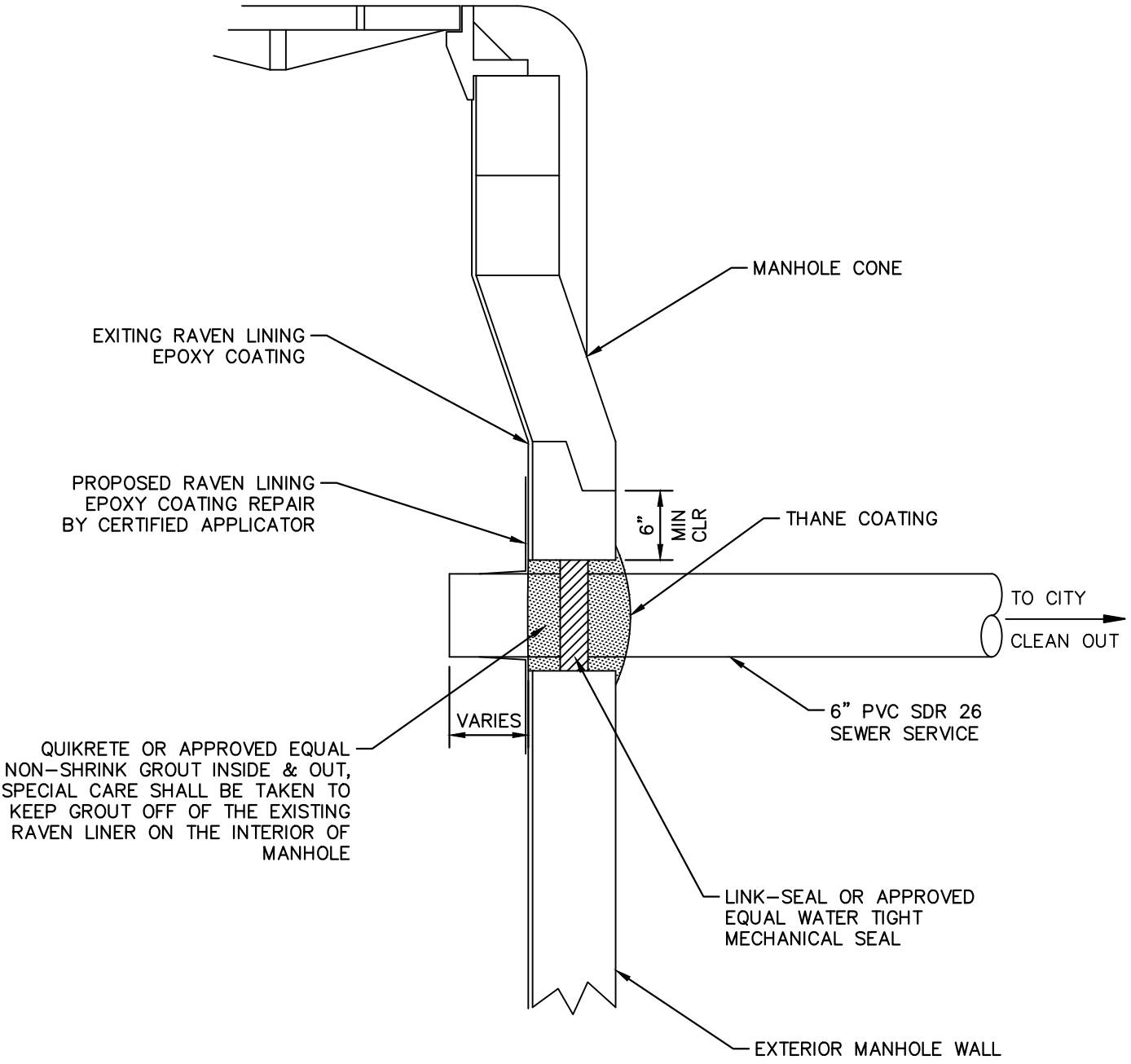
STANDARD CONSTRUCTION DETAIL

MANHOLE CORE CUT 6" SERVICE DETAIL

SCALE: NTS

JUNE 2025

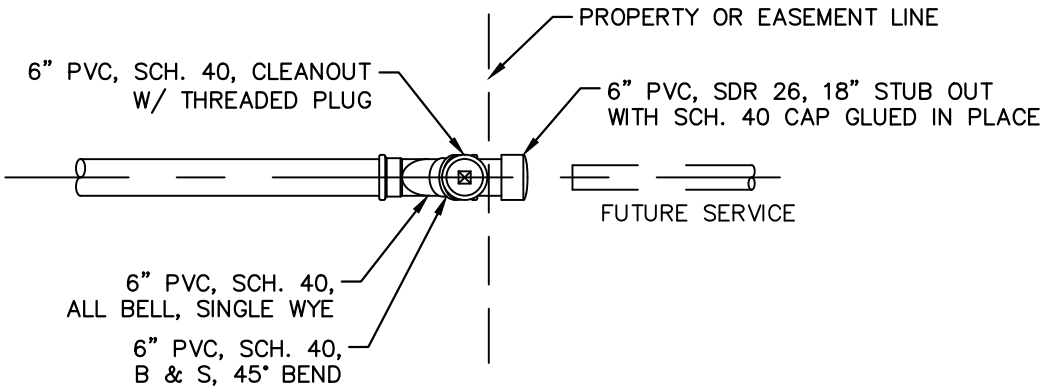
33 31 16 - 17



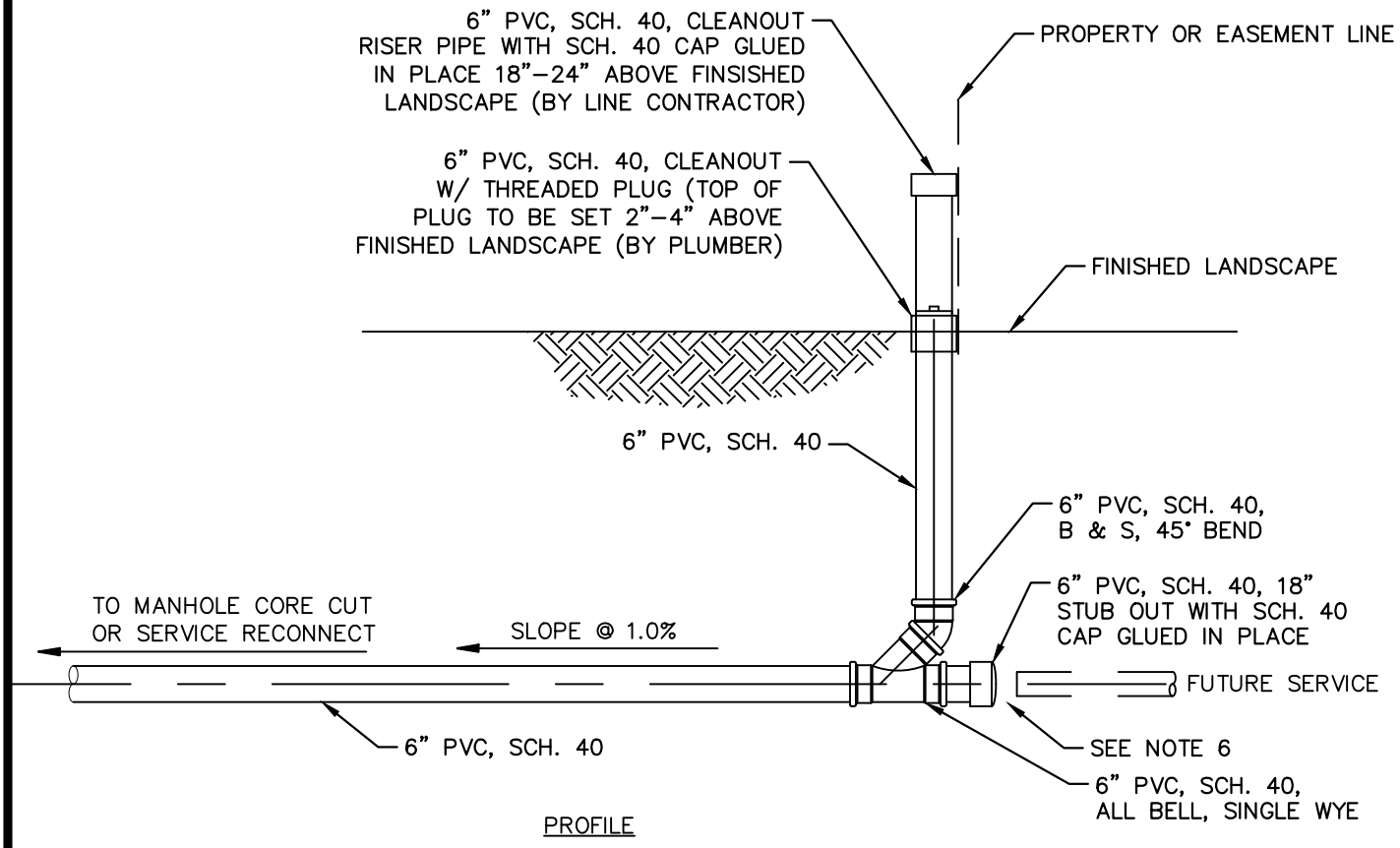
NOTES:

1. NO TAPS WILL BE ALLOWED ON CONE SECTION OF MANHOLE.
2. A MIN OF 6" CLEARANCE SHALL BE KEPT FROM ANY MANHOLE JOINT LINE.
3. TAPS SHALL ENTER PERPENDICULAR TO MANHOLE.
4. WATER TIGHT SEALING MATERIAL SHALL BE APPROVED BEFORE INSTALLING AND GROUTING OVER.
5. PRELIMINARY INSPECTION OF TAP TO OCCURE BEFORE GROUT PLACEMENT; FINAL INSPECTION OF TAP TO OCCUR AFTER GROUT PLACEMENT AND INTERIOR PROTECTIVE COATING.
6. CONTACT COLC LINE REPAIR DEPT. @ 281-554-1390 24 HRS IN ADVANCE OF MAKING TAP TO SCHEDULE INSPECTION.

LC TX	STANDARD CONSTRUCTION DETAIL **RAVEN LINED MANHOLE CORE CUT 6" SERVICE DETAIL**	SCALE: NTS JUNE 2025 **33 31 16 - 18**



PLAN

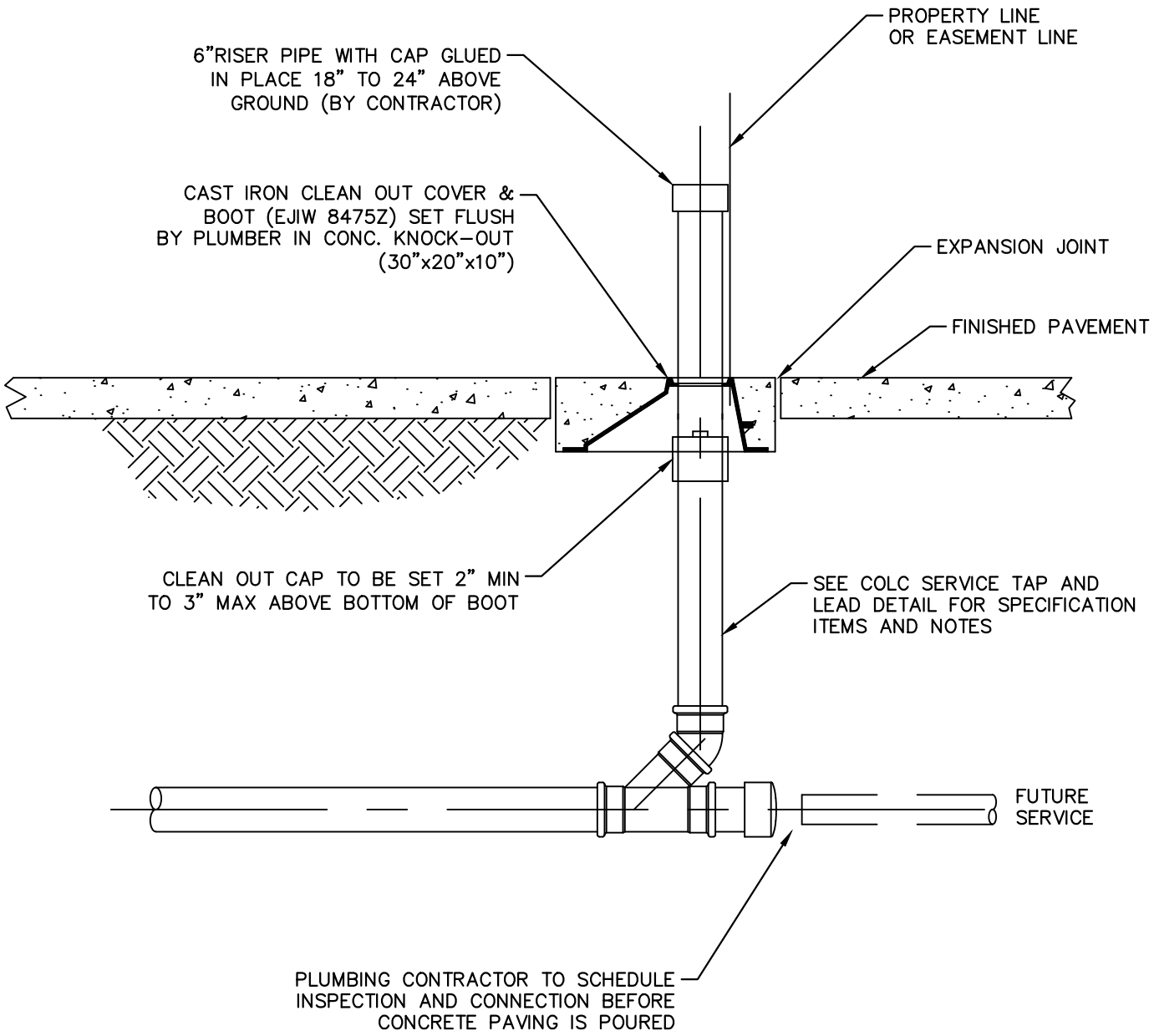


PROFILE

NOTES:

1. PLUMBING CONTRACTOR TO SET TOP OF 6" THREADED ADAPTER CLEAN OUT WITH PLUG, 2" TO 4" ABOVE FINISHED LANDSCAPE.
2. ALL FITTINGS AND PIPE TO BE GASKETED BELL AND SPIGOT EXCEPT WHERE NOTED ON DETAIL.
3. SERVICE LEADS TO BE BEDDED AND BACKFILLED PER PIPE BEDDING DETAILS UNLESS OTHERWISE DIRECTED BY CITY INSPECTOR.

LC TX	STANDARD CONSTRUCTION DETAIL **SINGLE SANITARY CLEAN-OUT DETAIL**	SCALE: NTS JUNE 2025 **33 31 16 - 19**



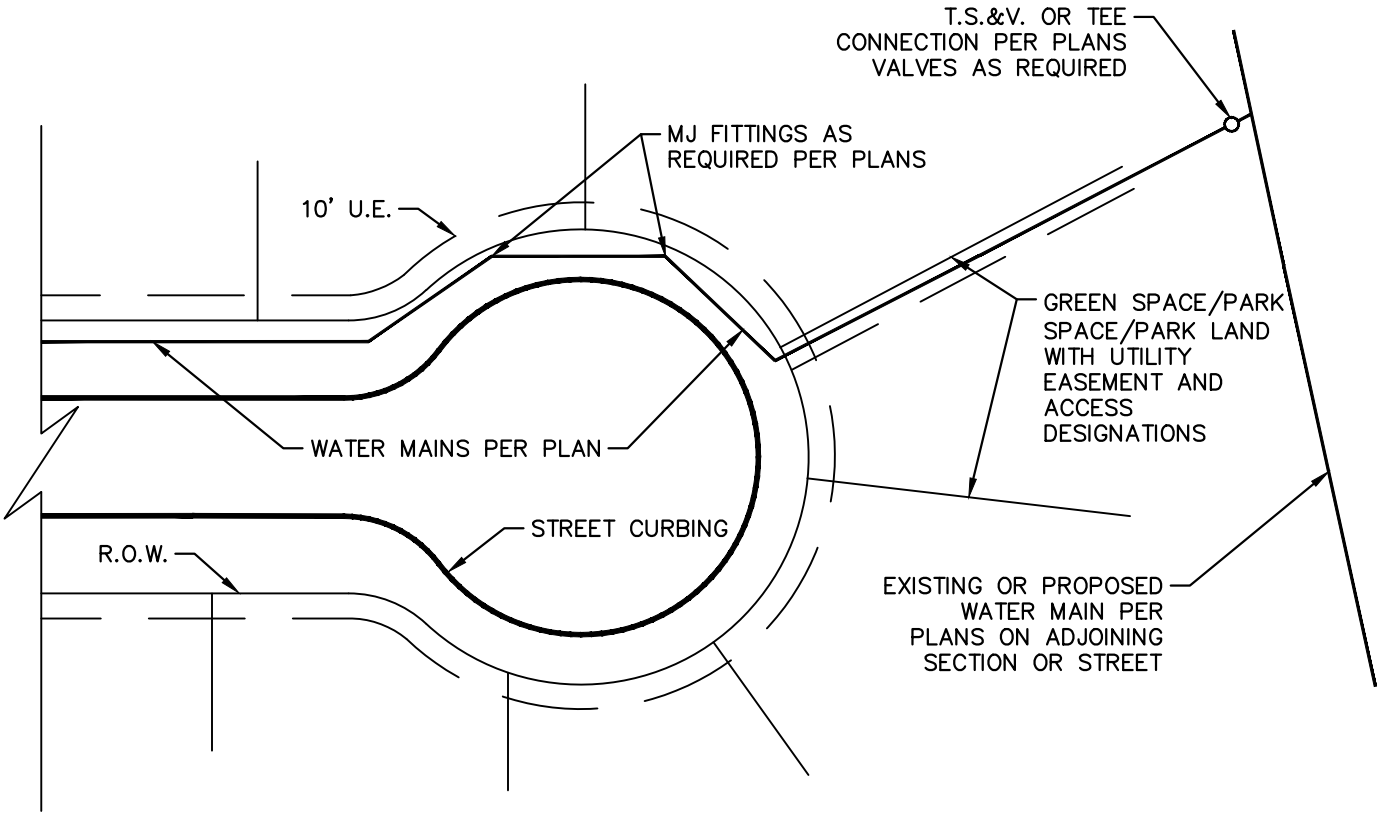
STANDARD CONSTRUCTION DETAIL

CLEAN OUT IN PAVEMENT DETAIL

SCALE: NTS

JUNE 2025

33 31 16 - 20

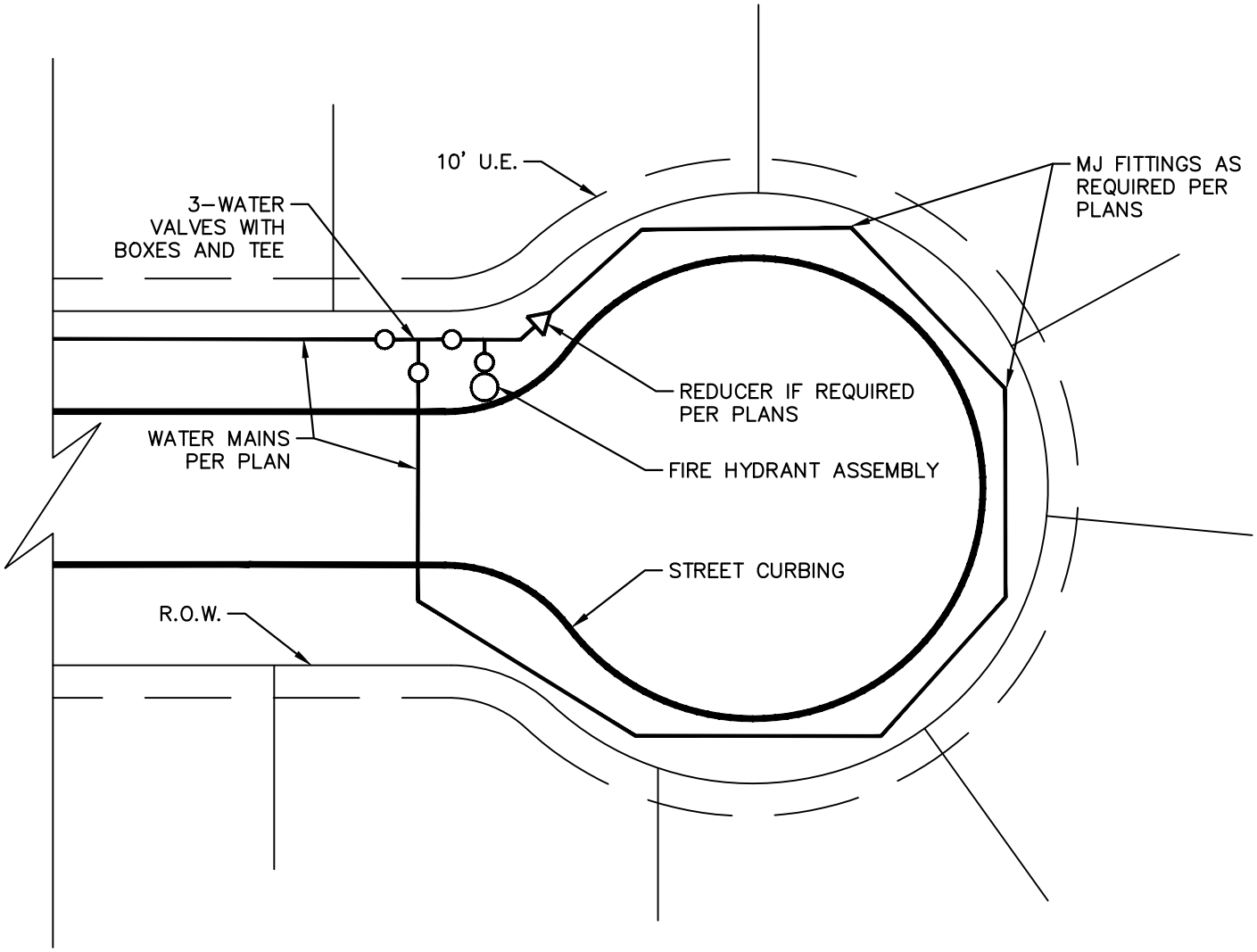


STANDARD CONSTRUCTION DETAIL
PREFERRED WATER LINE CONNECTION THROUGH CUL-DE-SAC

SCALE: NTS

JUNE 2025

DIV 33



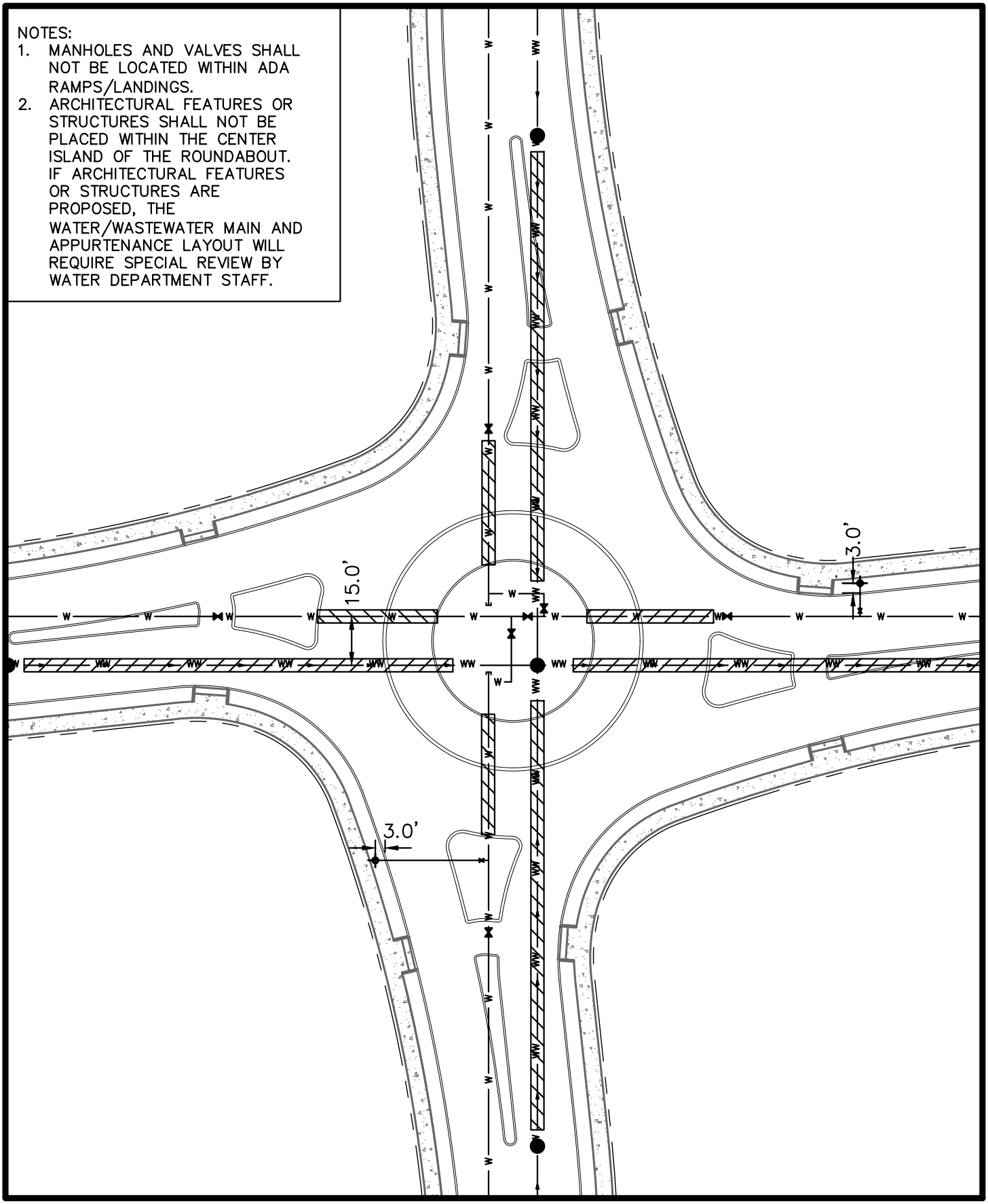
STANDARD CONSTRUCTION DETAIL
PREFERRED WATER LINE CONNECTION AROUND CUL-DE-SAC

SCALE: NTS

JUNE 2025

DIV 33

NOTES:
1. MANHOLES AND VALVES SHALL NOT BE LOCATED WITHIN ADA RAMPS/LANDINGS.
2. ARCHITECTURAL FEATURES OR STRUCTURES SHALL NOT BE PLACED WITHIN THE CENTER ISLAND OF THE ROUNDABOUT. IF ARCHITECTURAL FEATURES OR STRUCTURES ARE PROPOSED, THE WATER/WASTEWATER MAIN AND APPURTENANCE LAYOUT WILL REQUIRE SPECIAL REVIEW BY WATER DEPARTMENT STAFF.

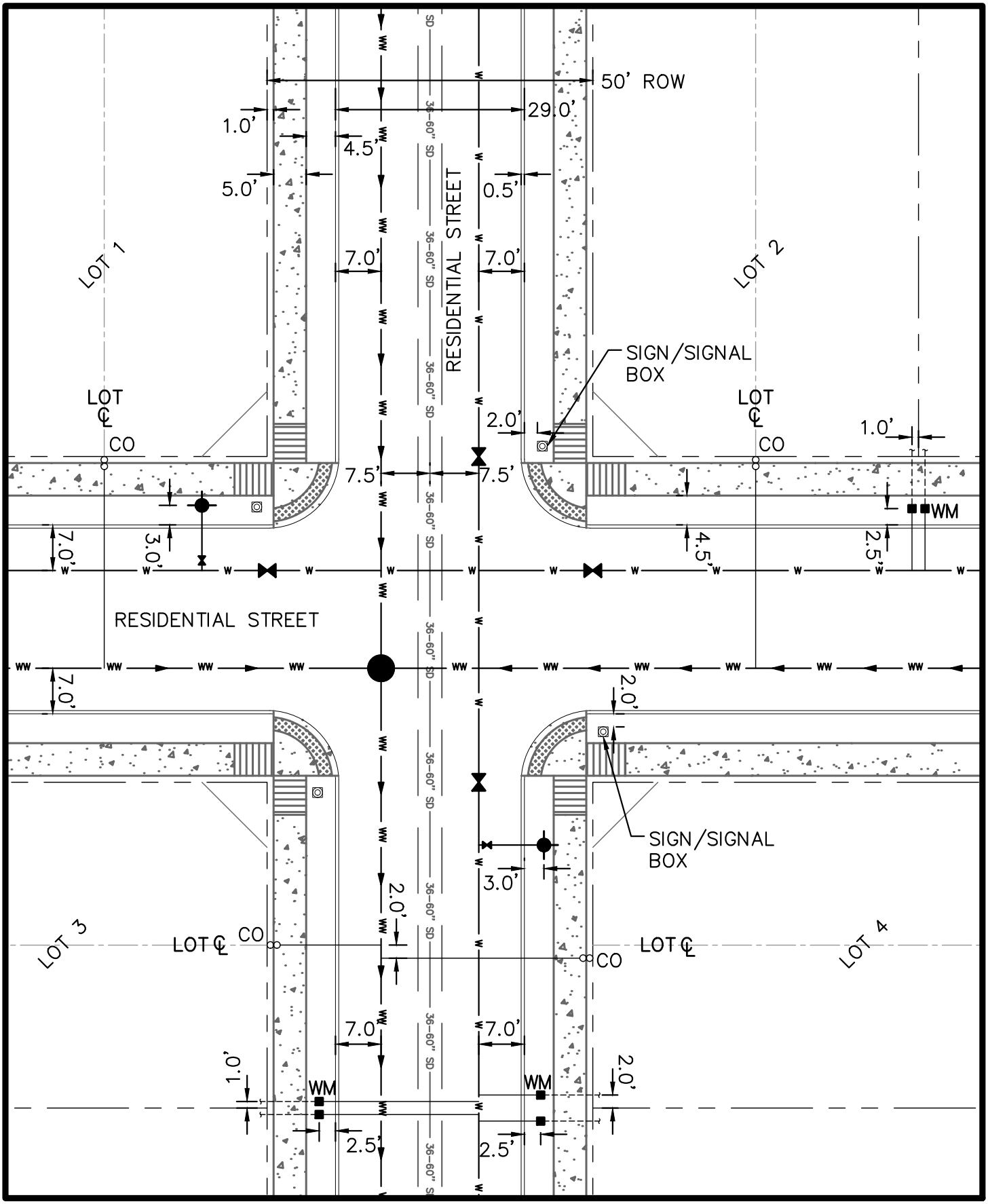


STANDARD CONSTRUCTION DETAIL
TYPICAL WATER & WASTEWATER MAIN AND APPURTENANCE LAYOUT FOR ROUNDABOUT

SCALE: NTS

JUNE 2025

DIV 33

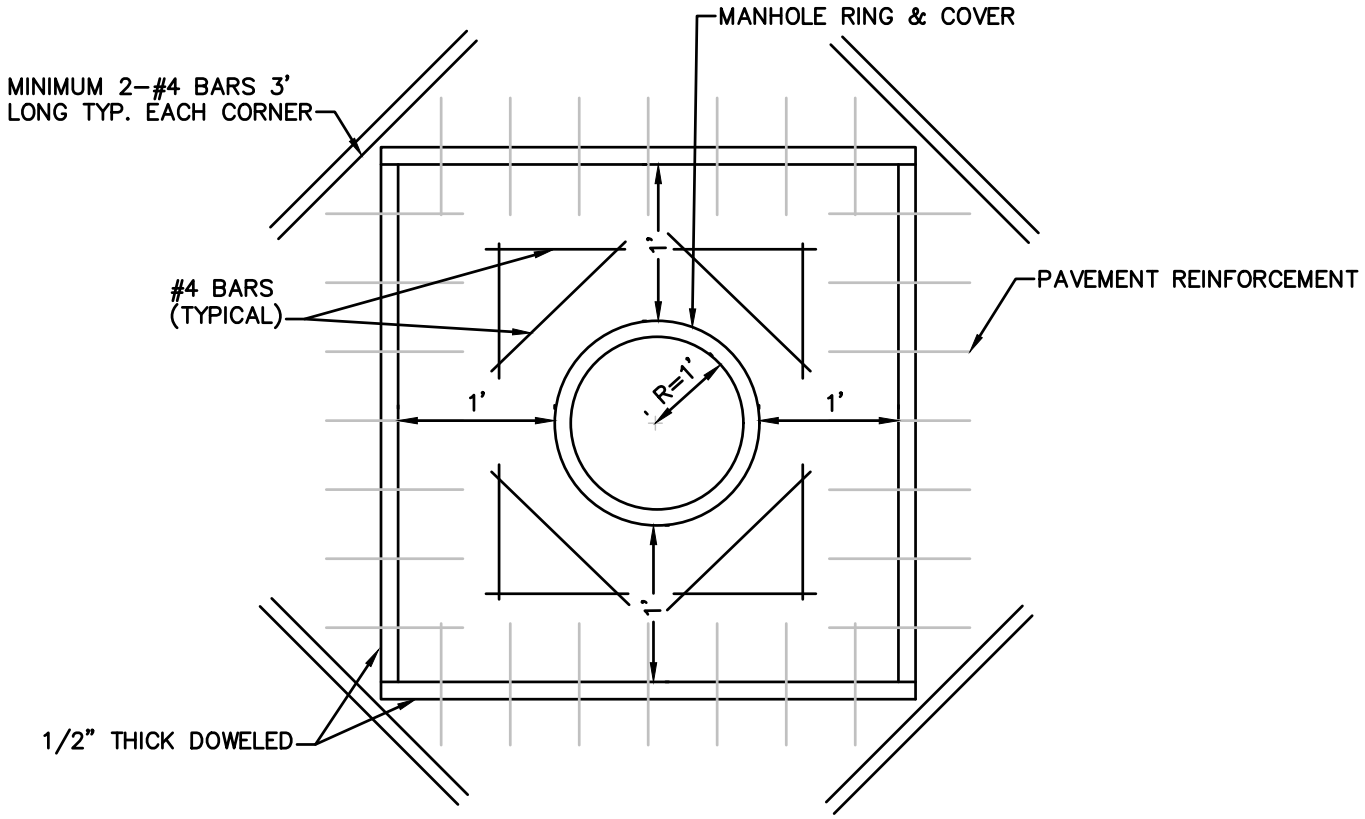


STANDARD CONSTRUCTION DETAIL
UTILITY TYPICAL STREET LAYOUT

SCALE: NTS

JUNE 2025

DIV 33

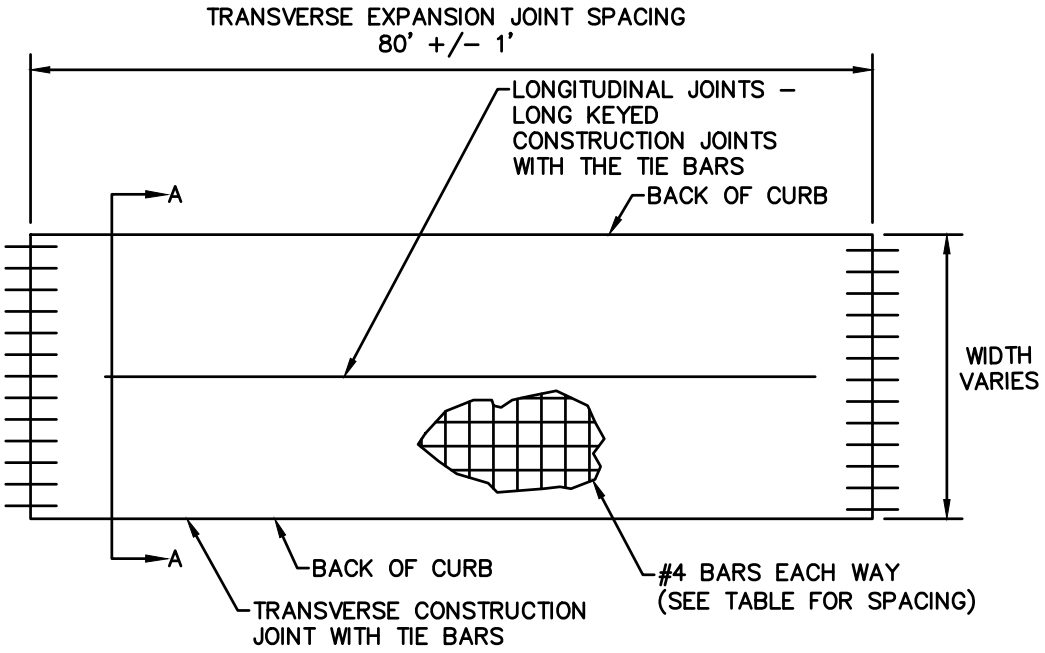


33 31 16 - 20

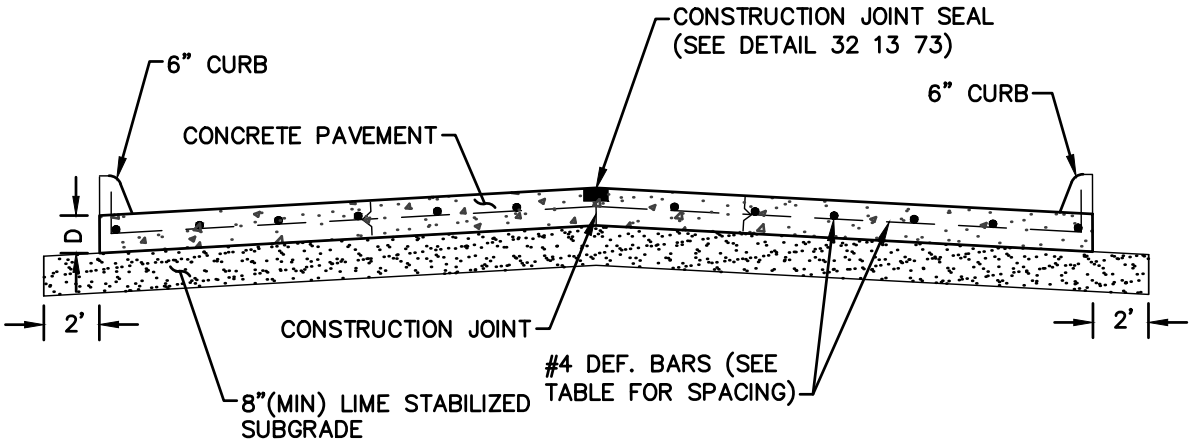
NOTES:

1. FOR ADDING OR REPLACING MANHOLE ON AN EXISTING SECTION, DOWEL INTO THE PAVEMENT AND MATCH THE SPACING AND SIZING OF EXISTING PAVEMENT REINFORCEMENT.

LC TX	STANDARD CONSTRUCTION DETAIL MANHOLE BLOCKOUT IN PAVEMENT	SCALE: NTS JUNE 2025 **32 01 29**



PLAN



SECTION A–A

CLASSIFICATION	PAVEMENT THICKNESS (D)	MAXIMUM SPACING (C–C)	DESIGN LIFE
LOCAL, RURAL	6" MINIMUM	24"	30 YEARS
COLLECTOR	7" MINIMUM	18"	50 YEARS
ARTERIAL	8" MINMUM	18"	30 YEARS

NOTE:

1. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED APPROX. 80' APART.
2. PAVEMENT THICKNESS "D" SHALL COMPLY WITH THE TABLE ABOVE. ENGINEER TO PROVIDE GEOTECHNICAL ANALYSIS FOR SPECIFIC PROJECT AND SHALL ENSURE PAVEMENT SECTION MEET THE DESIGN LIFE REQUIREMENTS.

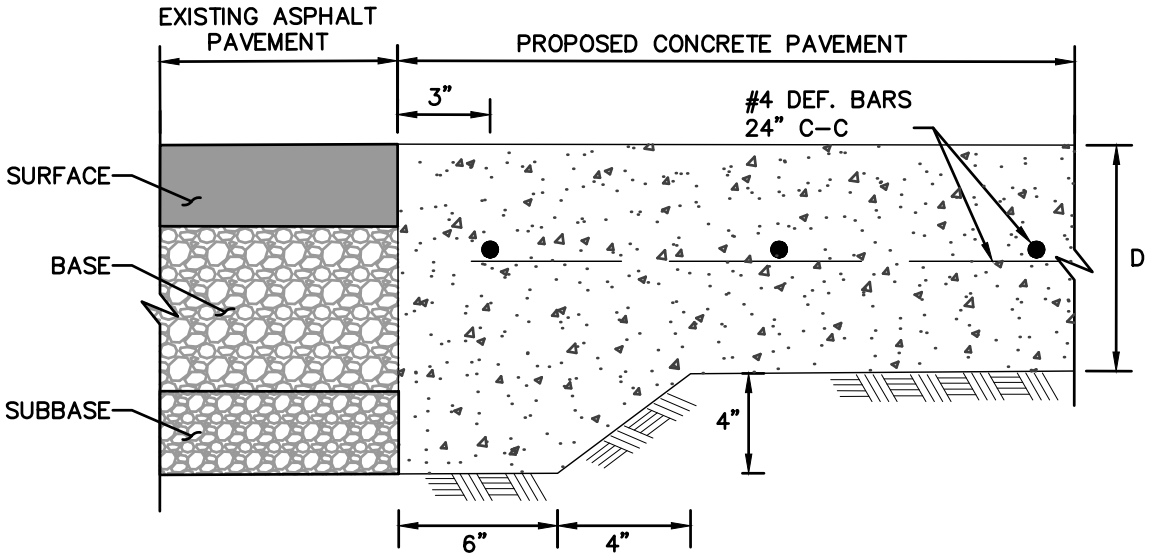
STANDARD CONSTRUCTION DETAIL

PAVING PANEL

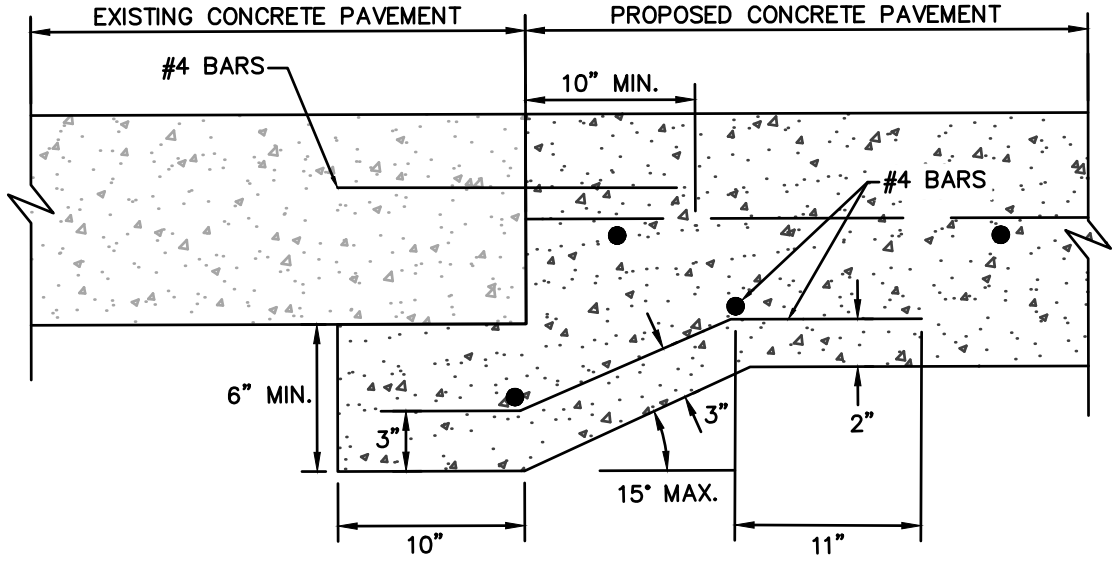
SCALE: NTS

JUNE 2025

32 13 13 - 01



EXISTING ASPHALT TO PROPOSED CONCRETE HEADER

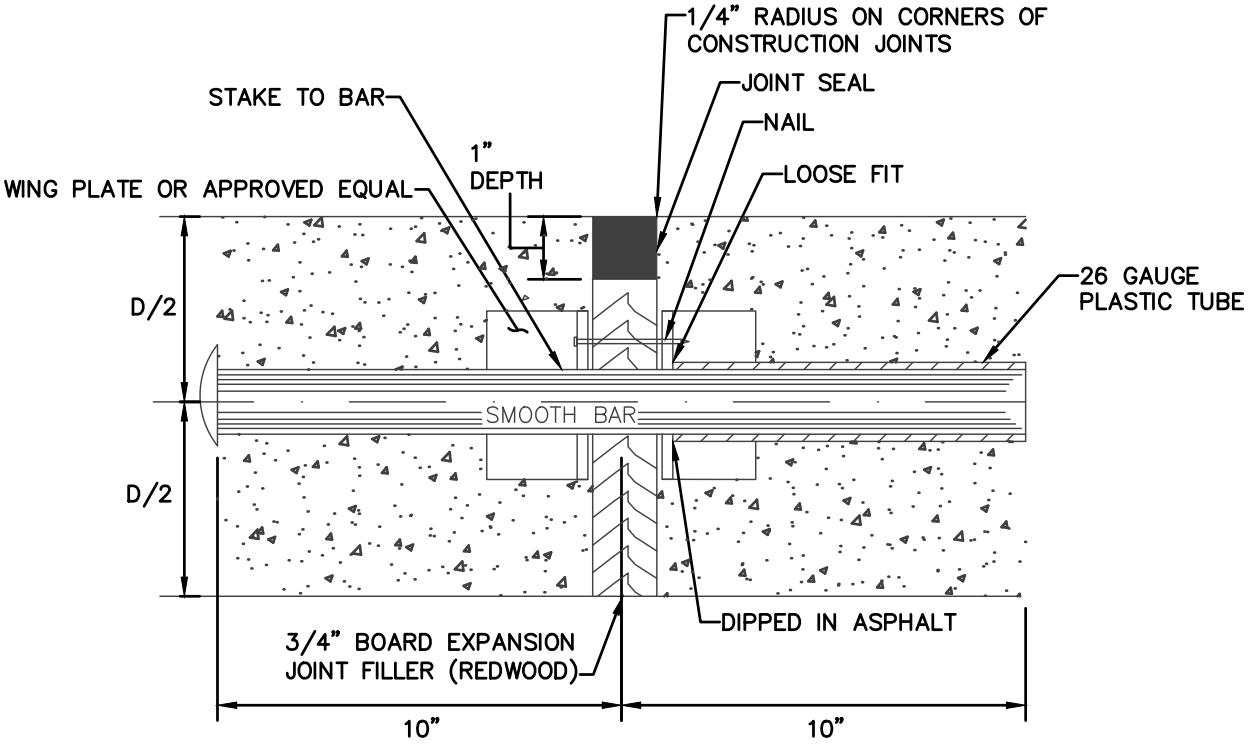


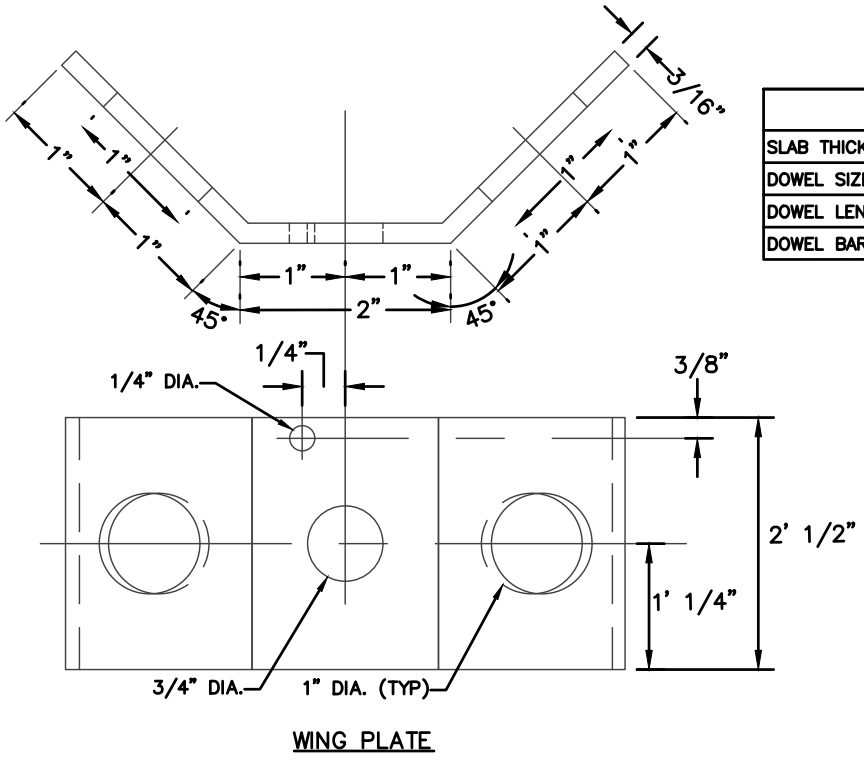
CONCRETE TO CONCRETE HEADER

NOTE:

1. PAVEMENT THICKNESS "D" SHALL COMPLY WITH THE TABLE ON DETAIL 32 13 13 – 01. ENGINEER TO PROVIDE GEOTECHNICAL ANALYSIS FOR SPECIFIC PROJECT AND SHALL ENSURE PAVEMENT SECTION MEET THE REQUIREMENTS.

LC TX	STANDARD CONSTRUCTION DETAIL CONCRETE PAVING HEADER	SCALE: NTS JUNE 2025 **32 13 13 - 02**





WING PLATE

DOWEL BAR DATA					
SLAB THICKNESS	6"	7"	8"	9"	10" TO 15"
DOWEL SIZE	3/4"	1"	1"	1 1/8"	1 1/4"
DOWEL LENGTH	18"	18"	18"	20"	22"
DOWEL BAR SPACING	MATCH EXIST PVMT REINFORCEMENT				

NOTE:

1. PAVEMENT THICKNESS "D" SHALL COMPLY WITH THE TABLE ON DETAIL 32 13 13 – 01. ENGINEER TO PROVIDE GEOTECHNICAL ANALYSIS FOR SPECIFIC PROJECT AND SHALL ENSURE PAVEMENT SECTION MEET THE REQUIREMENTS.

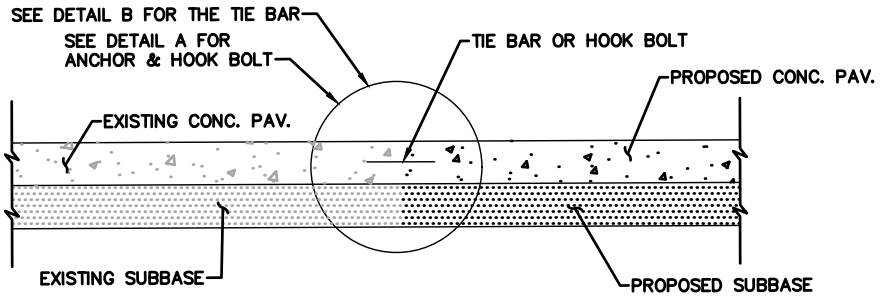
STANDARD CONSTRUCTION DETAIL

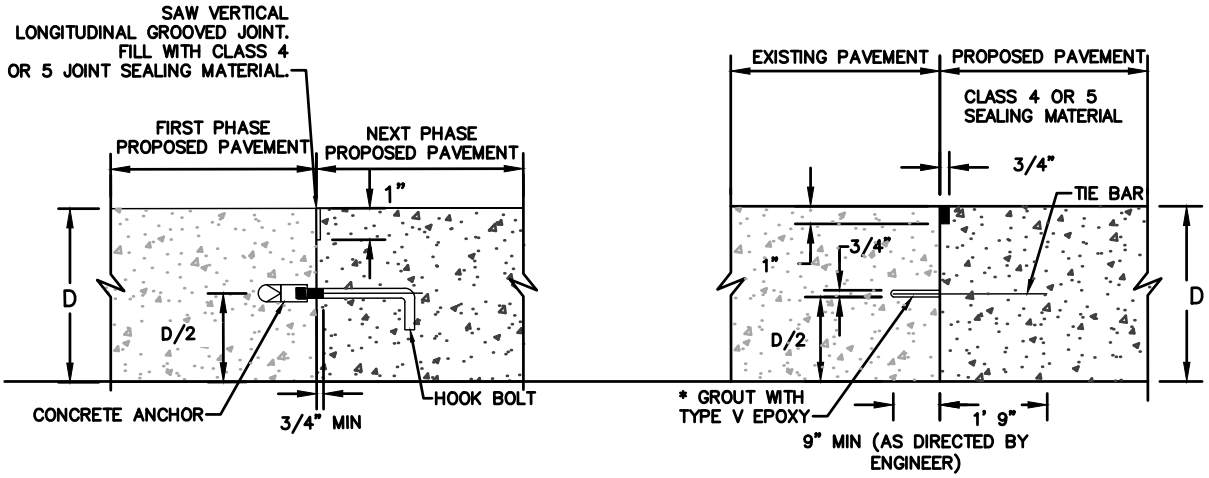
DOWEL TYPE EXPANSION JOINT

SCALE: NTS

JUNE 2025

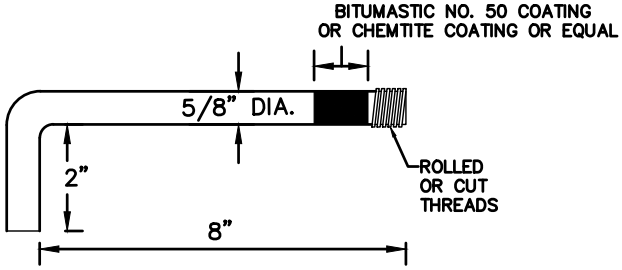
32 13 13 - 03





DETAIL "A"

DETAIL "B"



EXPANSION HOOK BOLT

DOWEL BAR DATA					
SLAB THICKNESS	6"	7"	8"	9"	10" TO 15"
DOWEL SIZE	3/4"	1"	1"	1 1/8"	1 1/4"
DOWEL LENGTH	18"	18"	18"	20"	22"
DOWEL BAR SPACING	12"	12"	12"	12"	12"

NOTE:

1. PAVEMENT THICKNESS "D" SHALL COMPLY WITH THE TABLE ON DETAIL 32 13 13 – 01. ENGINEER TO PROVIDE GEOTECHNICAL ANALYSIS FOR SPECIFIC PROJECT AND SHALL ENSURE PAVEMENT SECTION MEET THE REQUIREMENTS.
2. TYPE VII EPOXY MAY BE REQUIRED IF, IN THE OPINION OF THE ENGINEER, TYPE V IS TOO FLUID.
3. DETAIL A TO BE USED FOR NEW CAPITOL IMPROVEMENT PROJECTS ONLY.

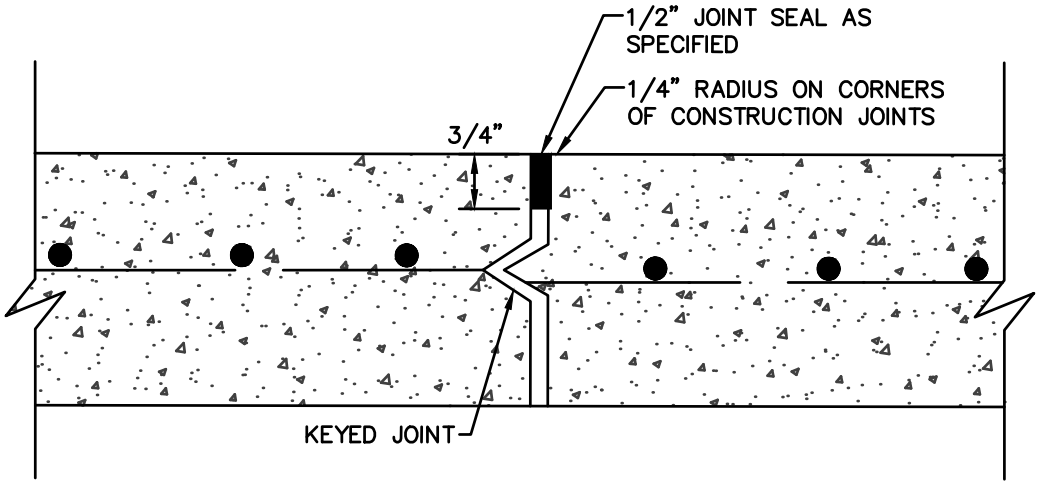
STANDARD CONSTRUCTION DETAIL

TIE BAR AND HOOK BOLT

SCALE: NTS

JUNE 2025

32 13 13 - 04



NOTE:

1. PAVEMENT THICKNESS "D" SHALL COMPLY WITH THE TABLE ON DETAIL 32 13 13 – 01. ENGINEER TO PROVIDE GEOTECHNICAL ANALYSIS FOR SPECIFIC PROJECT AND SHALL ENSURE PAVEMENT SECTION MEET THE REQUIREMENTS.

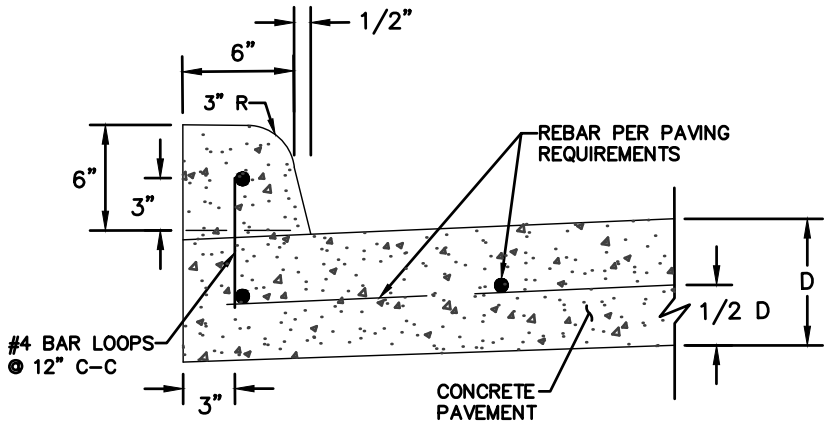
STANDARD CONSTRUCTION DETAIL

CONSTRUCTION JOINT SEAL

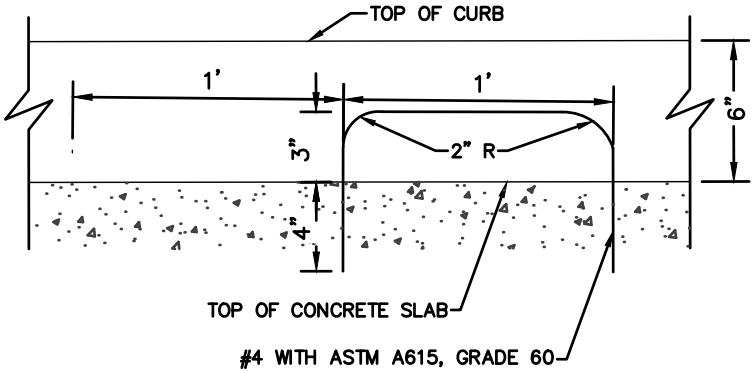
SCALE: NTS

JUNE 2025

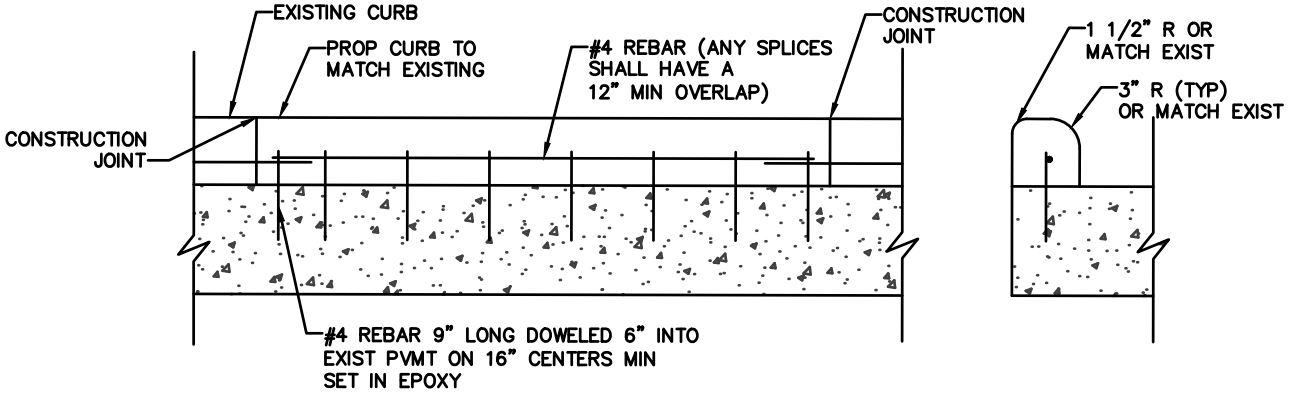
32 13 73



6-INCH CONCRETE CURB



CONCRETE CURB REINFORCING FOR LOOP REBAR



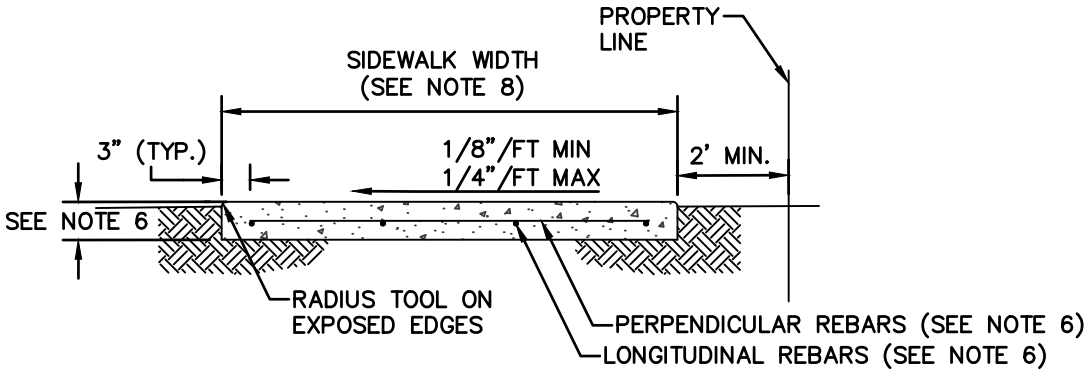
ELEVATION SECTION

CURB REPLACEMENT

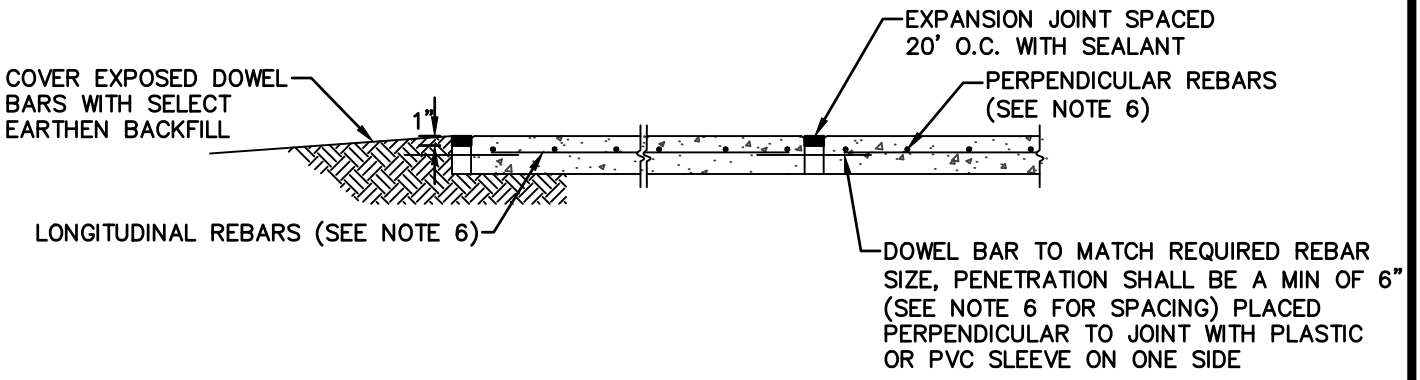
NOTE:

1. PAVEMENT THICKNESS "D" SHALL COMPLY WITH THE TABLE ON DETAIL 32 13 13 – 01. ENGINEER TO PROVIDE GEOTECHNICAL ANALYSIS FOR SPECIFIC PROJECT AND SHALL ENSURE PAVEMENT SECTION MEET THE REQUIREMENTS.
2. WHEN CONCRETE CURB IS POURED MONOLITHICALLY WITH PAVEMENT, REINFORCING SHALL BE WITH #4 "L" BAR HAVING A LEG OF 24". "L" BARS WILL BE PLACED ON 36" CENTERS WITH A #4 TOP BAR. SPLICES ON TOP BAR TO BE A MIN. OF 12".
3. MORTAR FINISH NOT REQUIRED WHEN CURB IS POURED BY A MACHINE, BUT CURB WILL HAVE THE SAME OUTSIDE DIMENSIONS.

LC TX	STANDARD CONSTRUCTION DETAIL CONCRETE CURB	SCALE: NTS JUNE 2025 32 16 00 – 01



SECTION

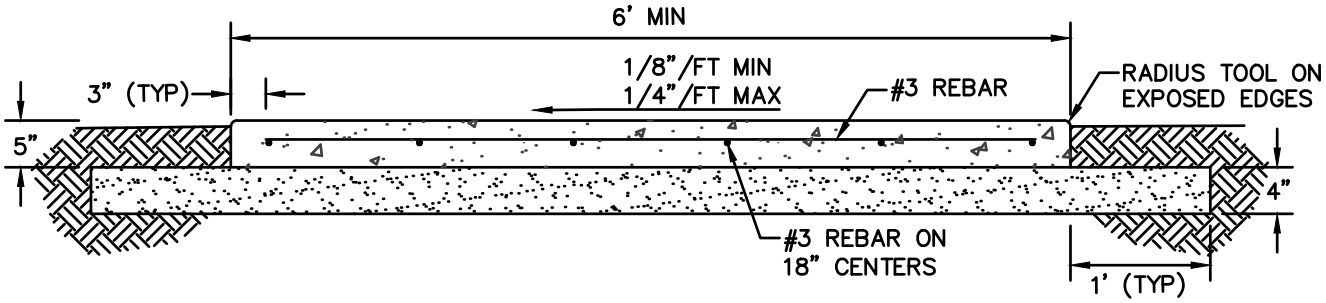


EXPANSION JOINT SECTION

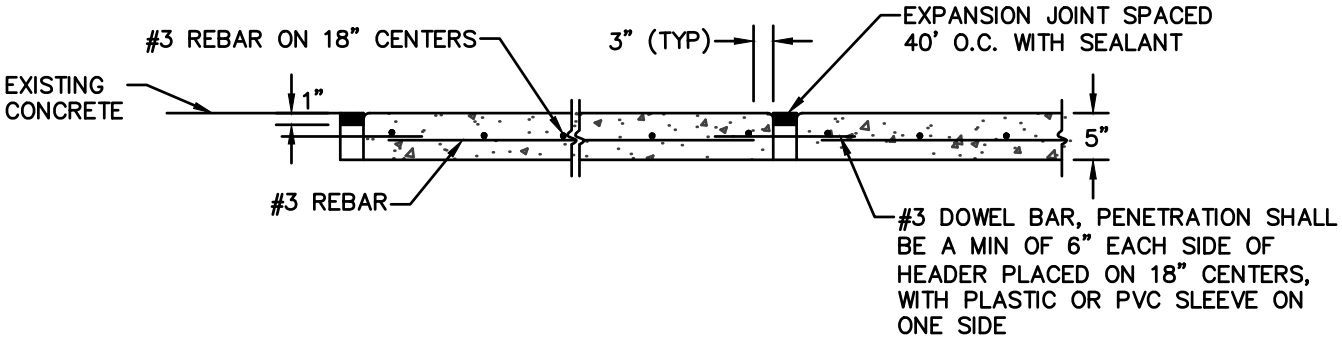
NOTES:

1. 1" EXPANSION JOINTS TO BE PLACED EVERY 20' AND CONTRACTION JOINT EVERY 4' OR 5' (MATCH SIDEWALK WIDTH).
2. EXPANSION JOINTS SHALL BE PLACED WHERE NEW WALKS MEET CONCRETE STRUCTURES, FIRE HYDRANTS, AND UTILITY POLES.
3. CONSTRUCT SIDEWALKS WITH 5 1/2 SACK PORTLAND CEMENT.
4. EXPANSION JOINT TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190 OR APPROVED EQUAL.
5. PROVIDE A MIN OF 15" OVERLAP ON REINFORCING.
6. SIDEWALK THICKNESS IN RESIDENTIAL DRIVEWAYS TO BE A MIN OF 4" WITH #3 REBAR REINFORCING ON 14" CENTERS LONGITUDINAL AND 18" CENTERS PERPENDICULAR; COMMERCIAL DRIVEWAYS SHALL HAVE A MIN THICKNESS OF 6" WITH #4 REBAR ON 18" CENTERS EACH WAY.
7. SIDEWALKS SHALL MAINTAIN A ONE FOOT CLEARANCE FROM OUTER EDGE OF SIDEWALK TO OUTER EDGE OF ALL UTILITY STRUCTURES (I.E. VALVE BOXES, FIRE HYDRANT, MANHOLE, ETC.)
8. SIDEWALKS IN RESIDENTIAL AREAS SHALL BE A MIN WIDTH OF 4 FT.; SIDEWALKS ALONG A COLLECTOR, MAJOR OR MINOR ARTERIAL STREET SHALL BE A MIN WIDTH OF 5 FT. EXCEPT FOR WHEN A 6 FT OR LARGER SIDEWALK IS REQUIRED OR CALLED FOR PER PLANNING AND ZONING OR TRAILS MASTER PLAN REQUIREMENTS. REFER TO DETAIL 32 16 00 – 03.

LC TX	STANDARD CONSTRUCTION DETAIL 4 FT & 5 FT SIDEWALK SECTION AND EXPANSION JOINT	SCALE: NTS JUNE 2025 32 16 00 – 02



SECTION

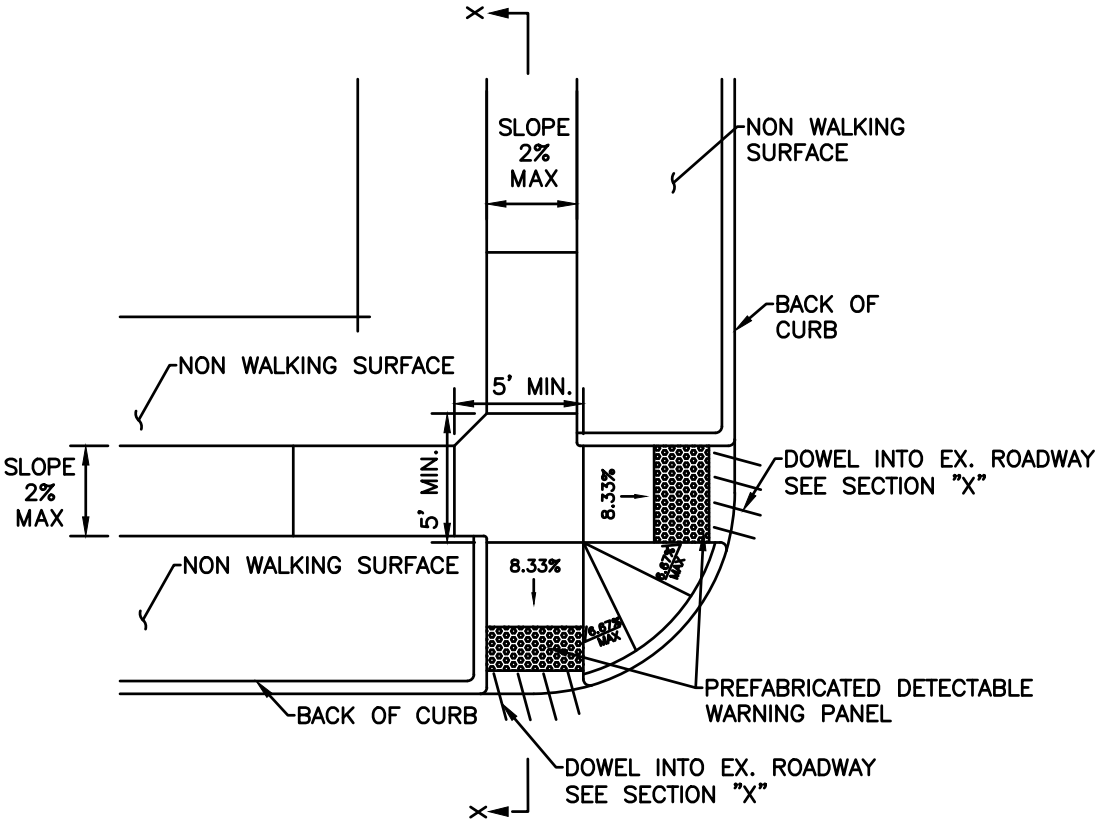


EXPANSION JOINT SECTION

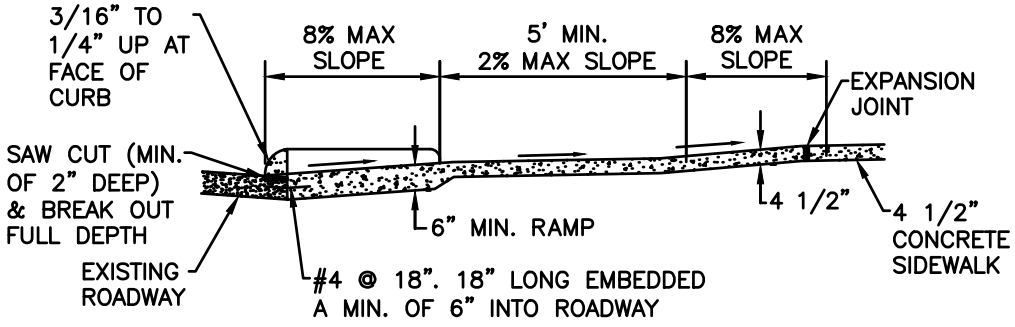
NOTES:

1. 1" EXPANSION JOINTS TO BE PLACED EVERY 40' AND CONTRACTION JOINT EVERY 6'– 10' (MATCH SIDEWALK WIDTH).
2. EXPANSION JOINTS SHALL BE PLACED WHERE NEW WALKS MEET EXISTING CONCRETE STRUCTURES, FIRE HYDRANTS AND UTILITY POLES.
3. CONSTRUCT SIDEWALKS WITH 5 1/2 SACK PORTLAND CEMENT.
4. ALL EXPANSION/CONSTRUCTION JOINT TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190 OR APPROVED EQUAL.
5. PROVIDE A MIN OF 20" OVERLAP ON REINFORCING.
6. SIDEWALKS SHALL MAINTAIN A ONE FOOT CLEARANCE FROM OUTER EDGE OF SIDEWALK TO OUTER EDGE OF ALL UTILITY STRUCTURES (I.E.VALVE BOXES, FIRE HYDRANT, MANHOLE, ETC.)
7. SIDEWALK SUBGRADE SHALL BE 1 1/2 SACKS CEMENT STABILIZED SAND.

LC TX	STANDARD CONSTRUCTION DETAIL 6 FT & LARGER SIDEWALK SECTION AND EXPANSION JOINT	SCALE: NTS JUNE 2025 32 16 00 – 03



PLAN VIEW



SECTION X–X

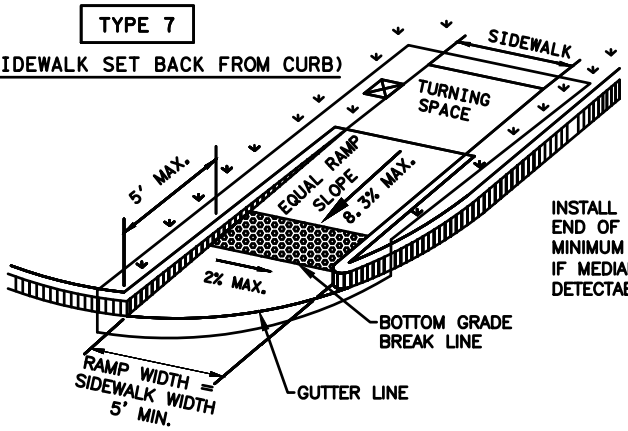
NOTES:

1. CONSTRUCT TRANSITION AND WALKWAY WITH 5 1/2 SACKS PORTLAND CEMENT.
2. USE PREFABRICATED DETECTABLE WARNING PANEL ON RAMP.
3. ALL CONSTRUCTION JOINTS TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190.

LC TX	STANDARD CONSTRUCTION DETAIL WHEELCHAIR RAMP	SCALE: NTS JUNE 2025 32 16 00 – 04

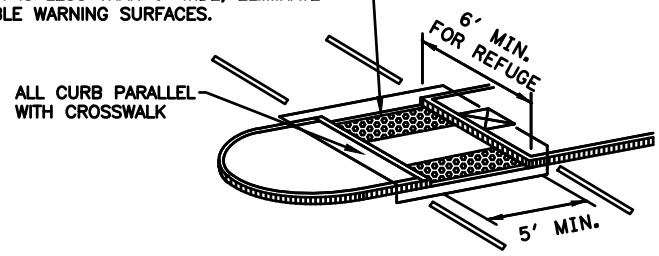
TYPE 7

(SIDEWALK SET BACK FROM CURB)



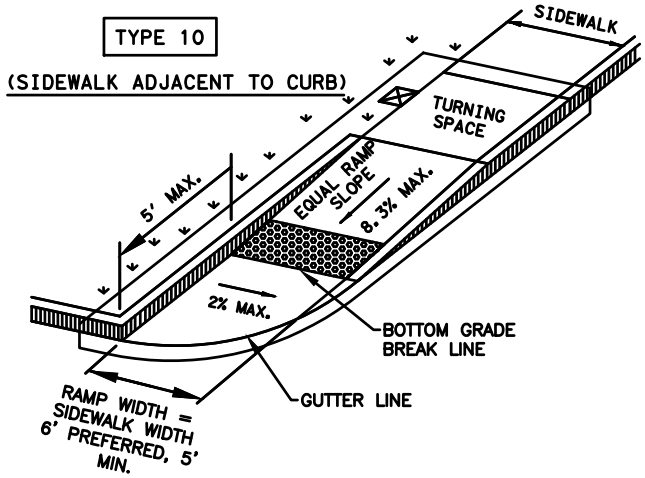
TYPE 21
OPTION 1

INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BETWEEN. IF MEDIAN IS LESS THAN 6' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.

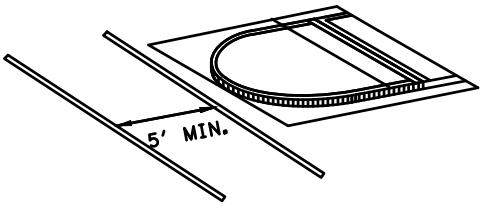


TYPE 10

(SIDEWALK ADJACENT TO CURB)



TYPE 21
OPTION 2



NOTES:

1. USE OF TXDOT ADA RAMPS TYPE 7, 10, AND 21 MUST BE PRE-APPROVED BY THE CITY ENGINEER BEFORE USE
2. CONSTRUCT TRANSITION AND WALKWAY WITH 5 1/2 SACKS PORTLAND CEMENT.
3. USE PREFABRICATED DETECTABLE WARNING PANEL ON RAMP.
4. ALL CONSTRUCTION JOINTS TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190.

LC TX

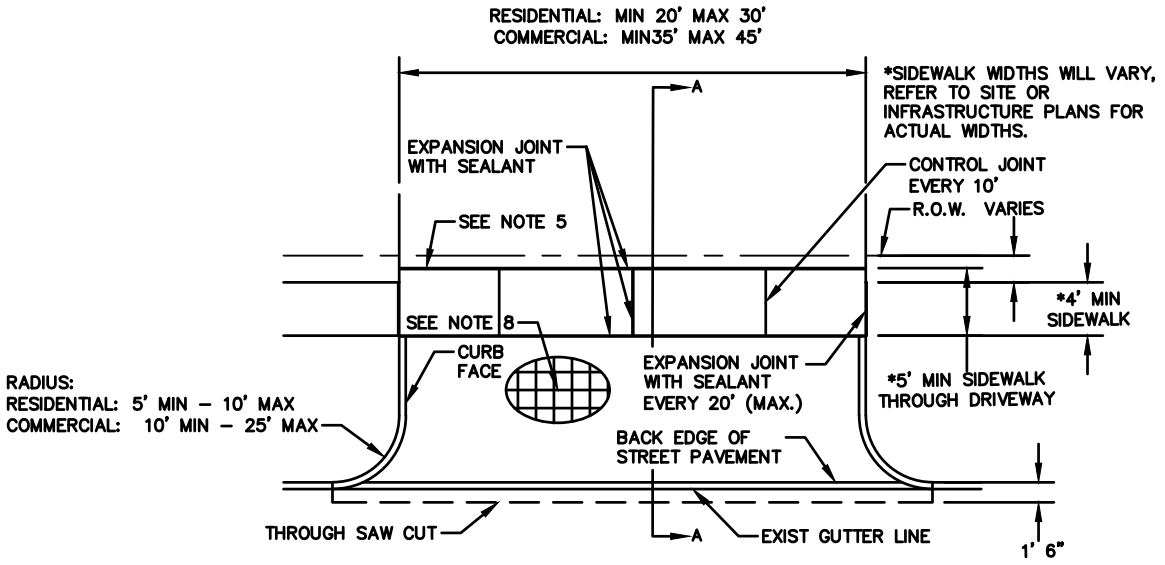
STANDARD CONSTRUCTION DETAIL

ALTERNATIVE WHEELCHAIR RAMPS

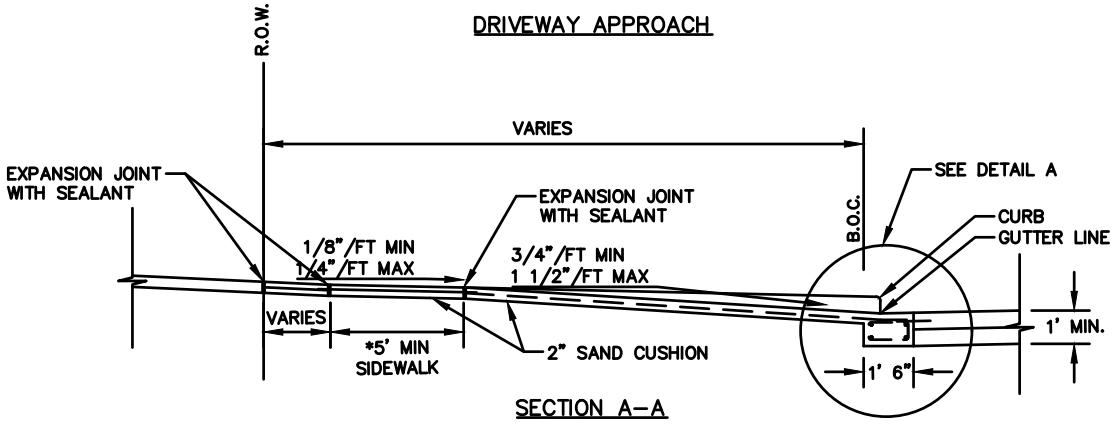
SCALE: NTS

JUNE 2025

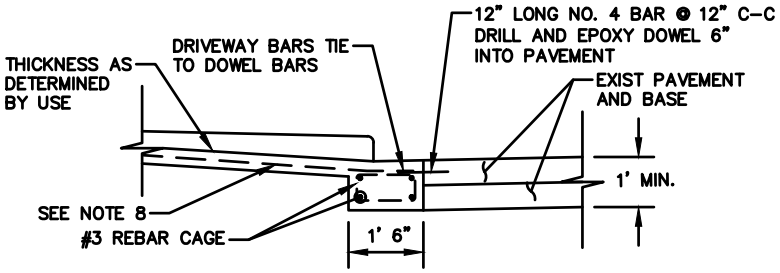
32 16 00 – 05



DRIVEWAY APPROACH



SECTION A–A

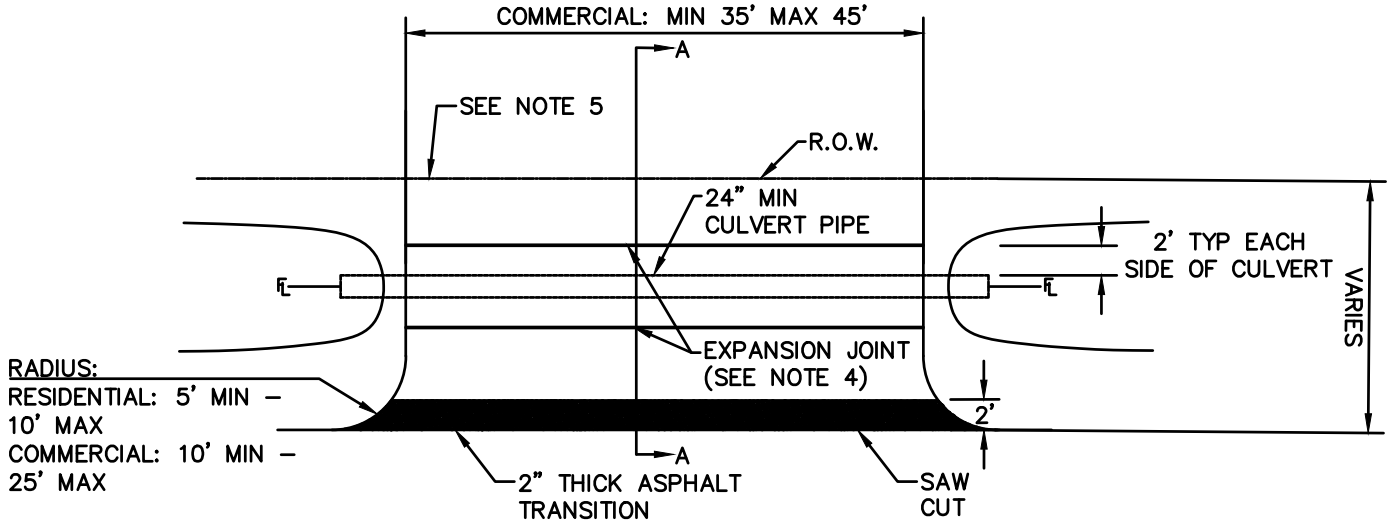


DETAIL A

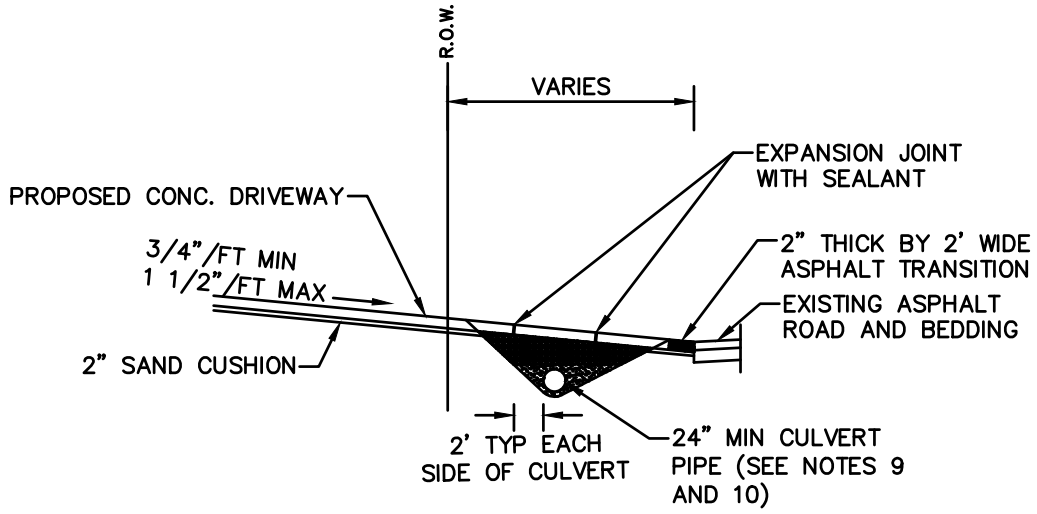
NOTES:

1. ON PRIVATE SIDE: DRIVEWAYS SHALL INCLUDE DOWELED EXPANSION JOINTS AT 20' SPACING AND CONTROL BREAK JOINTS AT 10' SPACING. REINFORCING TO BE EITHER 6X6, 6 GA WELDED WIRE MESH OR #3 REBAR ON 18" CENTERS E.W. FOR RESIDENTIAL. SEE ENGINEERED SITE DRAWINGS FOR COMMERCIAL PAVING REQUIREMENTS.
2. PROVIDE A MIN OF 10" OVERLAP ON REINFORCING.
3. CONSTRUCT DRIVEWAYS WITH 5 1/2 SACK PORTLAND CEMENT.
4. ALL EXPANSION JOINT TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190 OR APPROVED EQUAL.
5. PROVIDE EXPANSION JOINT WITH SEALANT WHEN CONNECTING TO EXIST DRIVE.
6. SIDEWALKS SHALL MATCH THICKNESS OF DRIVEWAYS IN THE CONFINES OF DRIVEWAY WIDTH.
7. DRIVEWAY THICKNESS TO BE A MIN OF 4" FOR RESIDENTIAL AND 6" MIN FOR COMMERCIAL OR AS CALLED OUT ON APPROVED ENGINEERED PLANS.
8. ON PUBLIC SIDE, WITHIN ROW: DRIVEWAY REINFORCING FOR RESIDENTIAL SHALL BE #3 REBAR ON 18" CENTERS E.W.; FOR COMMERCIAL MIN. REINFORCING SHALL BE #4 REBAR ON 24" CENTERS E.W.

LC TX	STANDARD CONSTRUCTION DETAIL CONCRETE DRIVEWAY DETAIL	SCALE: NTS JUNE 2025 32 16 00 – 06



DRIVEWAY APPROACH

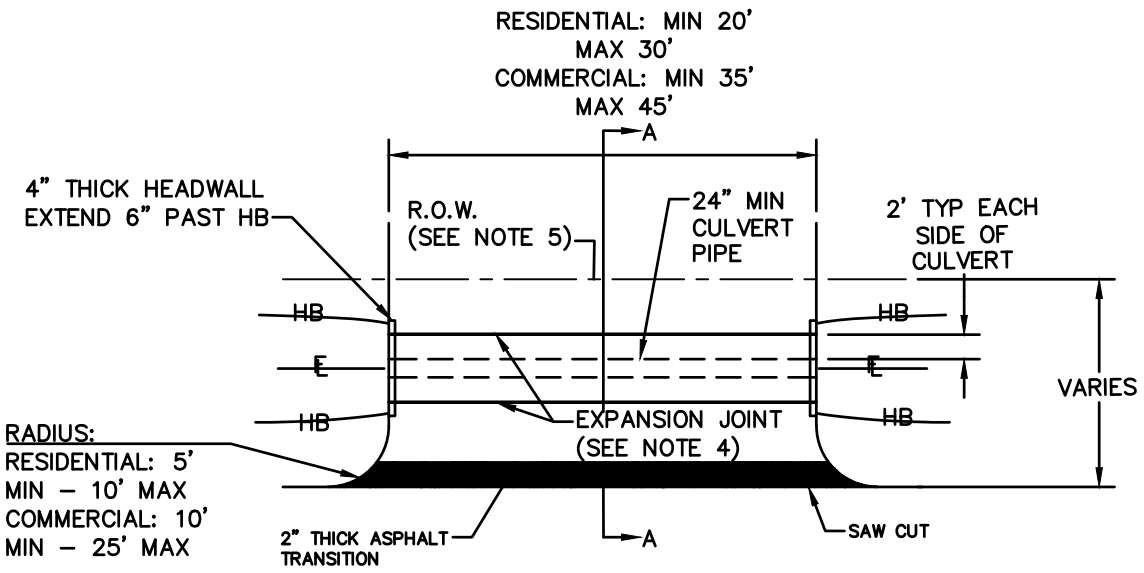


SECTION A–A

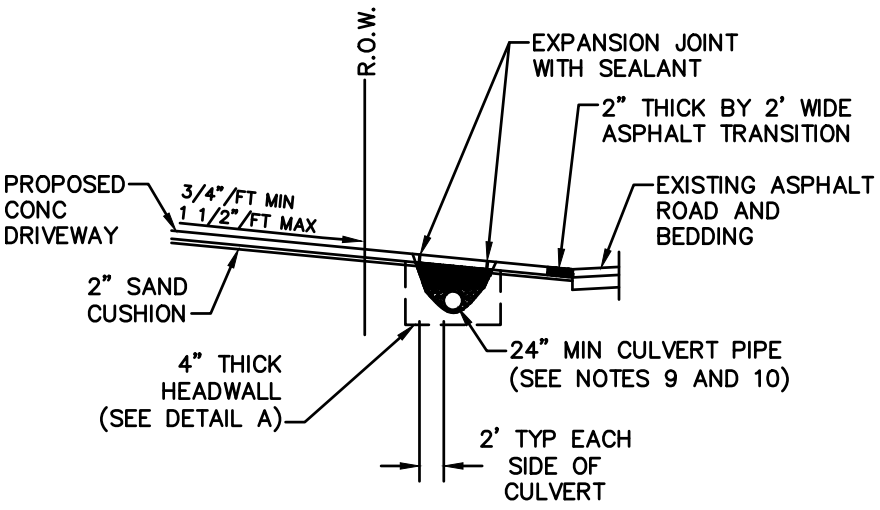
NOTES:

1. DRIVEWAYS SHALL INCLUDE DOWELED EXPANSION JOINTS AT 20' SPACING AND CONTROL BREAK JOINTS AT 10' SPACING.
2. PROVIDE A MIN OF 10" OVERLAP ON REINFORCING.
3. CONSTRUCT DRIVEWAYS WITH 5 1/2 SACK PORTLAND CEMENT.
4. ALL EXPANSION JOINTS TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190 OR APPROVED EQUAL.
5. PROVIDE EXPANSION JOINT WITH SEALANT WHEN CONNECTING TO EXIST DRIVE.
6. SIDEWALKS SHALL MATCH THICKNESS OF DRIVEWAYS IN THE CONFINES OF DRIVEWAY WIDTH. SIDEWALKS WHEN CALLED FOR ON PLANS SHALL BE BUILT TO ADA COMPLIANCE. SEE CONCRETE DRIVEWAY DETAIL FOR SIDEWALK INFORMATION.
7. DRIVEWAY THICKNESS TO BE A MIN OF 4" FOR RESIDENTIAL AND 6" MIN FOR COMMERCIAL.
8. ON PUBLIC SIDE, WITHIN ROW: DRIVEWAY REINFORCING FOR RESIDENTIAL SHALL BE #3 REBAR ON 18" CENTERS E.W.; FOR COMMERCIAL MIN. REINFORCING SHALL BE #4 REBAR ON 24" CENTERS E.W.
9. DRIVEWAY CULVERTS SHALL BE BEDDED IN 1.5 SACK CEMENT STABILIZED SAND, FULL WIDTH OF DITCH IN DRIVEWAY ZONE. MECHANICALLY COMPACTED IN 6 INCH LIFTS, 6" INCHES BELOW PIPE TO 6" OVER THE PIPE. REMAINING AREA TO BE MECHANICALLY COMPACTED CRUSHED LIMESTONE.
10. DRIVEWAY CULVERTS SHALL BE A MINIMUM OF 24 INCH GASKET TONGUE AND GROOVE RCP. IF REQUIRED SHALL BE SIZED BY A PROFESSIONAL ENGINEER REGISTERED WITH THE STATE OF TEXAS AND INCLUDED WITHIN THE GRADING AND DRAINAGE PLAN OR AS DIRECTED BY THE CITY.

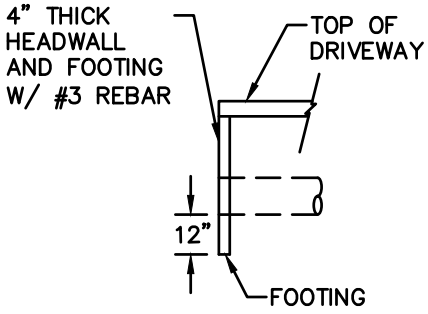
LC TX	STANDARD CONSTRUCTION DETAIL CONCRETE DRIVEWAY TO ASPHALT ROAD OPTION 1	SCALE: NTS JUNE 2025 32 16 00 – 07



DRIVEWAY APPROACH



SECTION A–A



DETAIL A

NOTES:

1. DRIVEWAYS SHALL INCLUDE DOWELED EXPANSION JOINTS AT 20' SPACING AND CONTROL BREAK JOINTS AT 10' SPACING.
2. PROVIDE A MIN OF 10" OVERLAP ON REINFORCING.
3. CONSTRUCT DRIVEWAYS WITH 5 1/2 SACK PORTLAND CEMENT.
4. ALL EXPANSION JOINTS TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190 OR APPROVED EQUAL.
5. PROVIDE EXPANSION JOINT WITH SEALANT WHEN CONNECTING TO EXIST DRIVE.
6. SIDEWALKS SHALL MATCH THICKNESS OF DRIVEWAYS IN THE CONFINES OF DRIVEWAY WIDTH. SIDEWALKS WHEN CALLED FOR ON PLANS SHALL BE BUILT TO ADA COMPLIANCE. SEE CONCRETE DRIVEWAY DETAIL FOR SIDEWALK INFORMATION.
7. DRIVEWAY THICKNESS TO BE A MIN OF 4" FOR RESIDENTIAL AND 6" MIN FOR COMMERCIAL.
8. ON PUBLIC SIDE, WITHIN ROW: DRIVEWAY REINFORCING FOR RESIDENTIAL SHALL BE #3 REBAR ON 18" CENTERS

LC TX

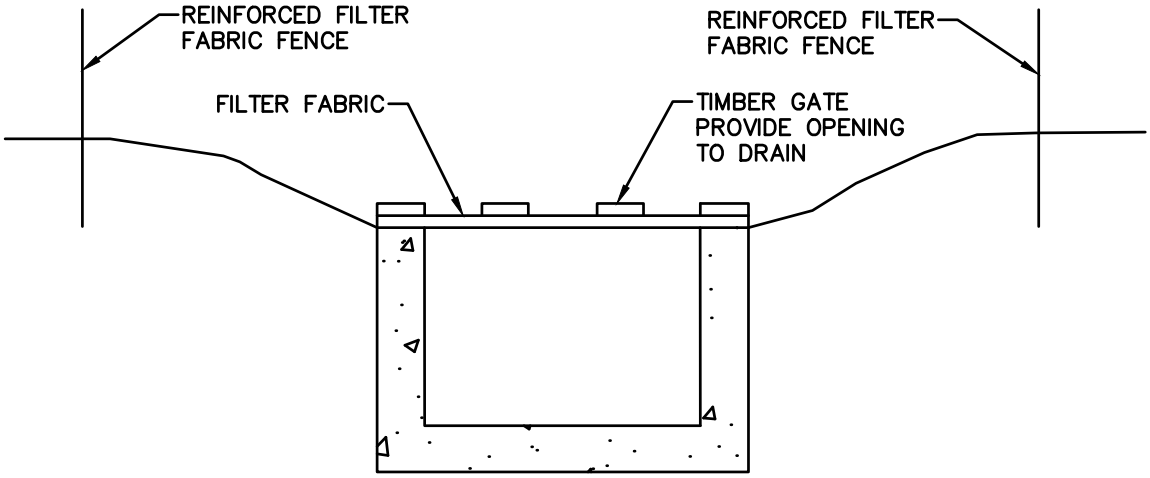
STANDARD CONSTRUCTION DETAIL

CONCRETE DRIVEWAY TO ASPHALT ROAD OPTION 2

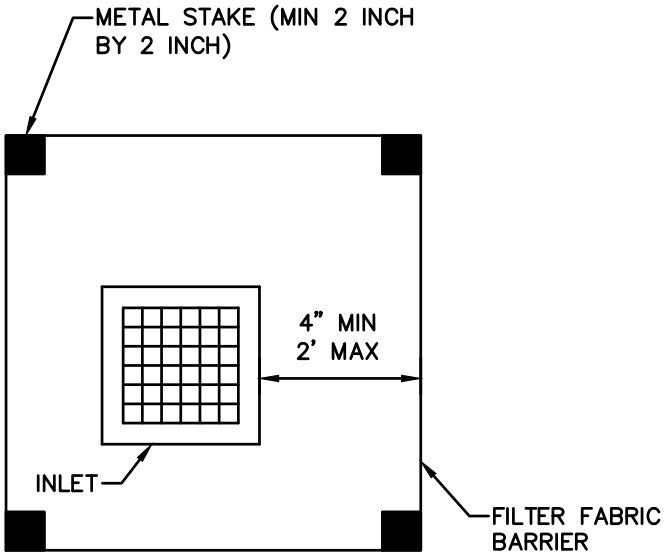
SCALE: NTS

JUNE 2025

32 16 00 – 08



SECTION



PLAN

IPB STAGE 1

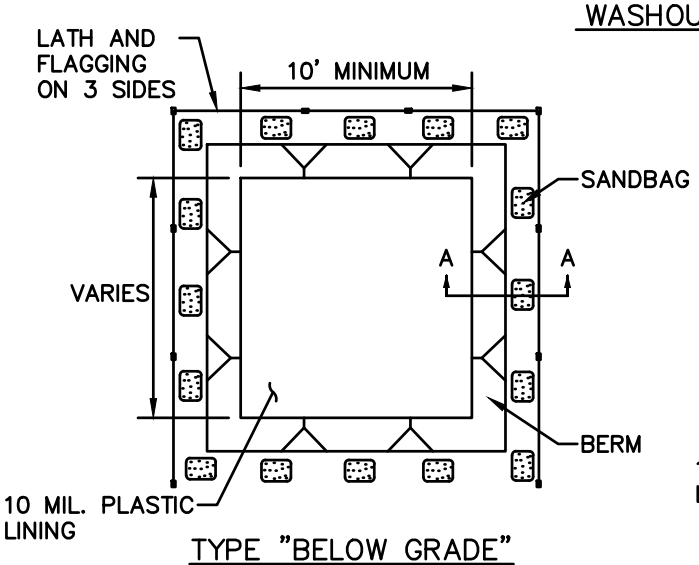
SYMBOL

CATCH BASIN

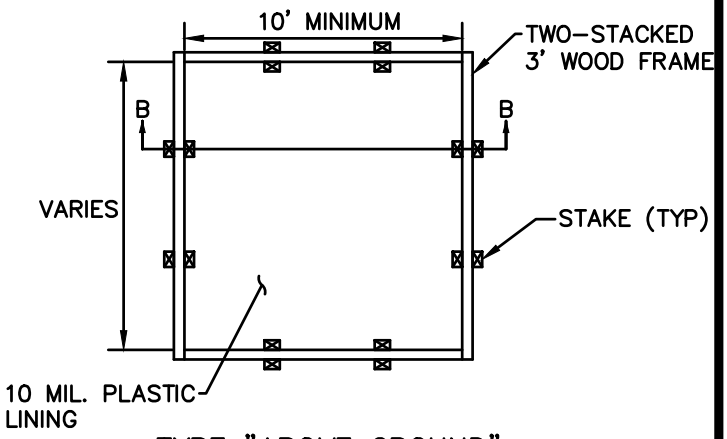
NOTES:
1. A CONTINUOUS SILT BARRIER FENCE SHALL BE CONSTRUCTED AROUND ALL FIRST STAGE INLETS BY THE UTILITY CONTRACTOR.

LC TX	STANDARD CONSTRUCTION DETAIL INLET PROTECTION – STAGE 1	SCALE: NTS JUNE 2025 31 25 14 – 01

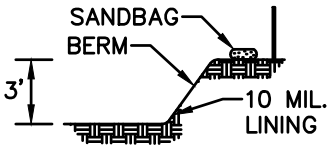
WASHOUT PIT



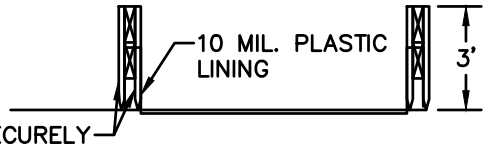
TYPE "BELOW GRADE"



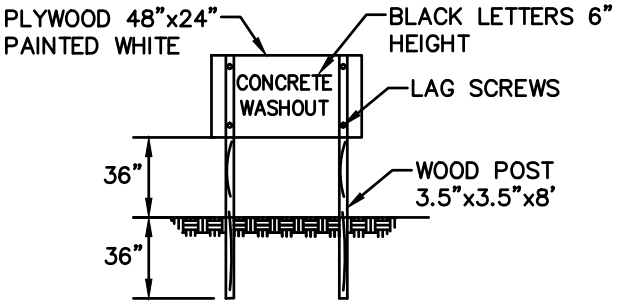
TYPE "ABOVE GROUND"
WITH WOOD PLANKS



SECTION A–A



SECTION B–B



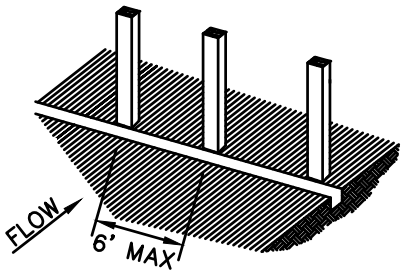
CONCRETE WASHOUT SIGN DETAIL
(OR EQUIVALENT)

NOTES:

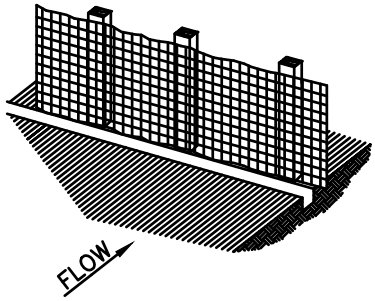
1. CONCRETE WASHOUT FACILITIES ARE TO BE LOCATED AT LEAST 50' FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, CONSTRUCTION ENTRANCE OR WATER BODIES.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE CONCRETE WASHOUT FACILITY.
3. ONCE 75% OF THE ORIGINAL VOLUME OF THE WASHOUT PIT IS FILLED OR IF THE LINER IS TORN, THE MATERIAL MUST BE REMOVED AND PROPERLY DISPOSED OF ONCE IT IS COMPLETELY HARDENED. ONCE THE HARDENED CONCRETE IS REMOVED, THE LINER MUST BE REPLACED (IF TORN). A NEW PIT MUST BE CONSTRUCTED IF THE ORIGINAL STRUCTURE IS NO LONGER SUITABLE.
4. ONCE THE PIT IS NO LONGER NEEDED, ENSURE ALL WASHOUT MATERIAL HAS COMPLETELY HARDENED, THEN REMOVE AND PROPERLY DISPOSE OF ALL MATERIALS.

LC TX	STANDARD CONSTRUCTION DETAIL CONCRETE TRUCK WASHOUT (CTW)	SCALE: NTS JUNE 2025 31 25 14 – 02

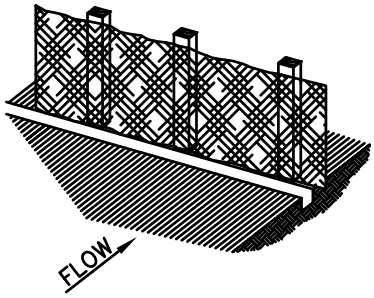
1. SET POSTS AND EXCAVATE 6"x6" TRENCH UPSLOPE ALONG LINE OF POSTS (SEE NOTE 1).



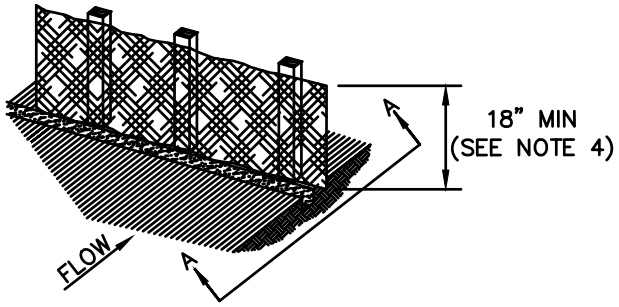
2. SECURE WIRE FENCING TO POSTS (SEE NOTE 2).

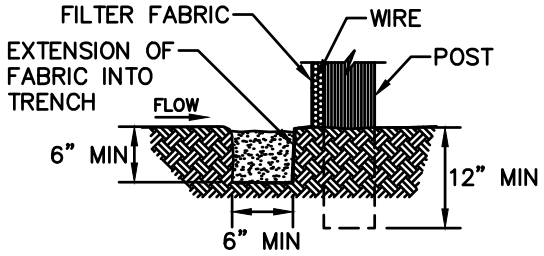


3. ATTACH FILTER MATERIAL TO WIRE FENCE AND EXTEND IT INTO THE TRENCH (SEE NOTE 3).



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.





SECTION A–A

SYMBOL

NOTES:

1. SET 2 INCH BY 2 INCH T–POST STAKES SPACE A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES FOR RESIDENTIAL HOME BUILDING AND A MINIMUM OF 36 INCHES ABOVE NATURAL GROUND IN ALL OTHER CASES.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS AND FOLDED.

LC TX

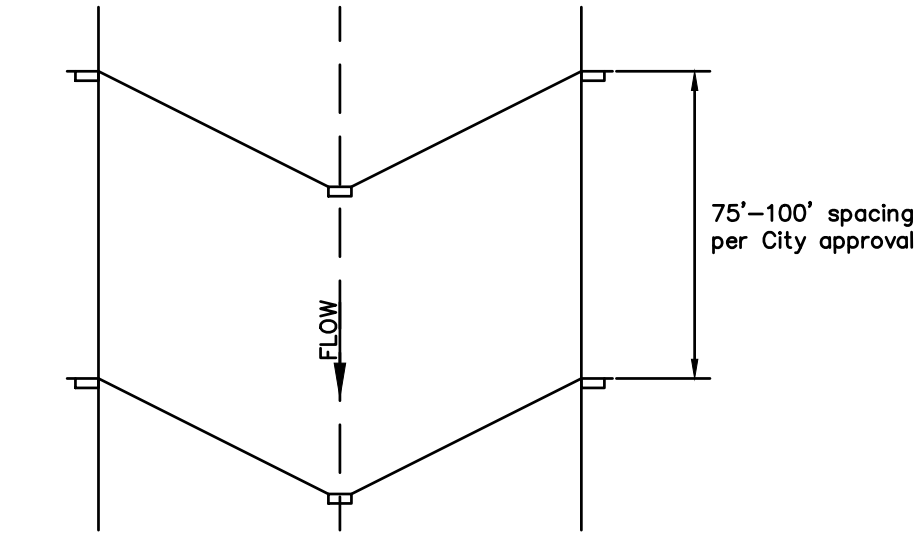
STANDARD CONSTRUCTION DETAIL

REINFORCED FILTER FABRIC BARRIER

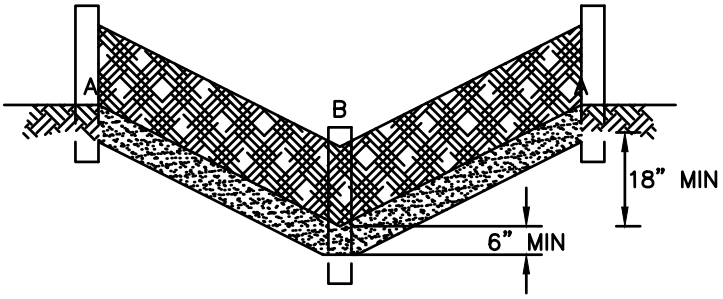
SCALE: NTS

JUNE 2025

31 25 14 – 03



PLAN



ELEVATION

NOTES:
1. POINT A SHOULD BE HIGHER THAN POINT B, OR AT TOP OF BANK (TYP)
2. CLEAN THE DITCH WEEKLY AND AFTER ANY RAIN EVENT.
3. REGRADE AND CLEAN AT THE END OF CONSTRUCTION.
4. FABRIC TO BE INSTALLED PER DETAIL 31 25 14 – 03.

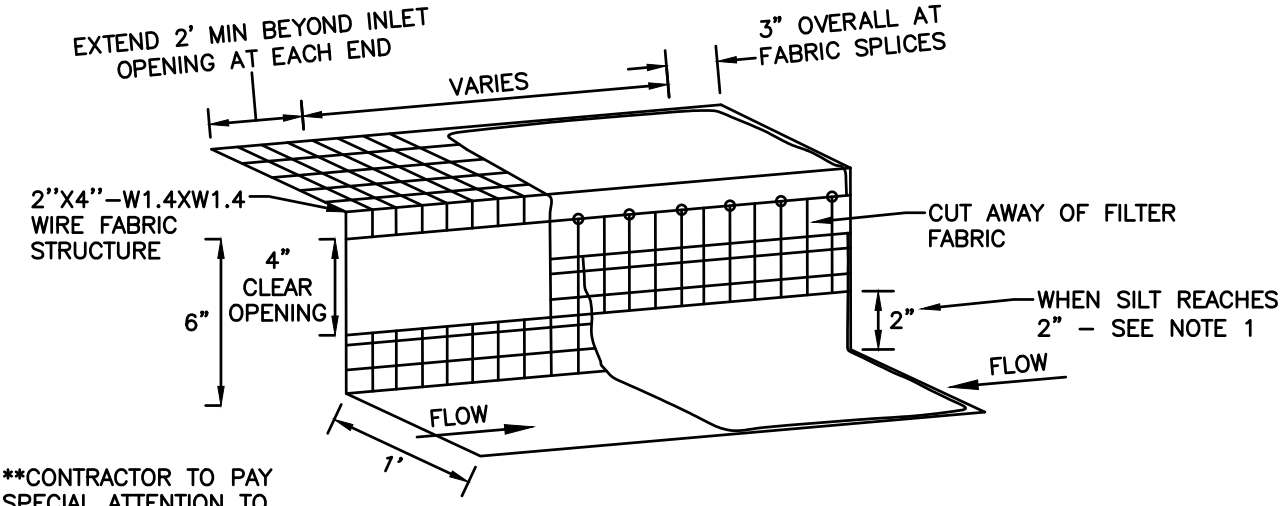
STANDARD CONSTRUCTION DETAIL

V–DITCH SECTION (RFB)

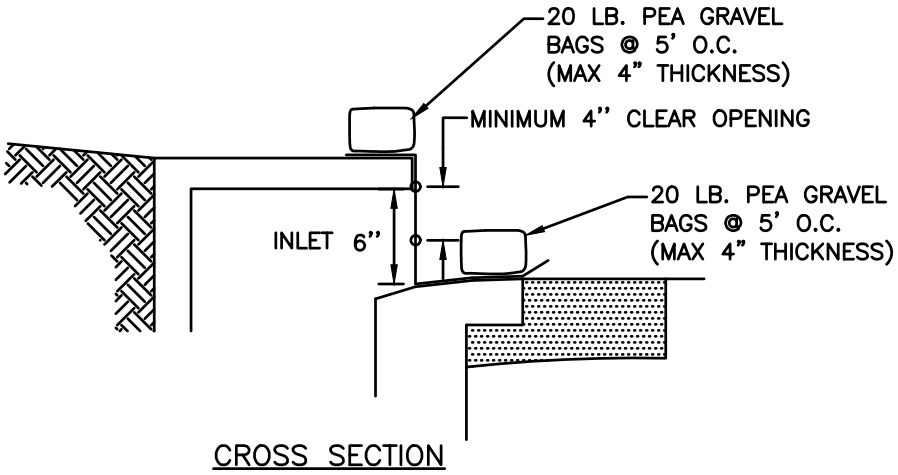
SCALE: NTS

JUNE 2025

31 25 14 – 04



ISOMETRIC



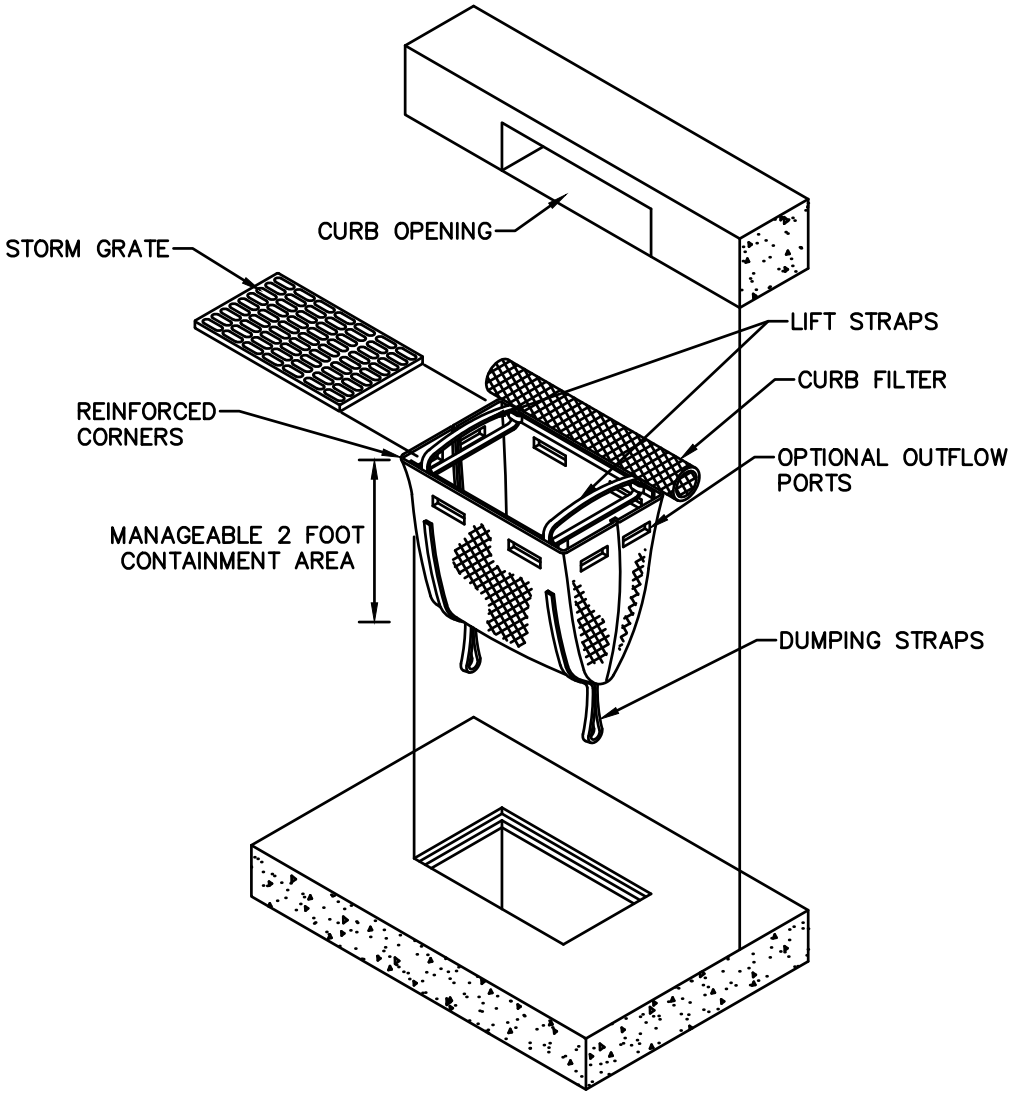
CROSS SECTION

WIRE FILTER FABRIC CURB INLET

NOTES:

1. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2" AT FLOW LINE.
2. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION BEFORE AND AFTER EACH RAINFALL EVENT AND IMMEDIATELY REMOVE AND REPLACE THE INLET PROTECTIONS AFTER A RAINFALL EVENT.
4. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.
5. FAILURE TO PROVIDE ROUTINE MAINTENANCE MAY RESULT IN A CITY CITATION.

LC TX	STANDARD CONSTRUCTION DETAIL INLET PROTECTION – STAGE 2 (SHEET 1 OF 3)	SCALE: NTS JUNE 2025 31 25 14 – 05

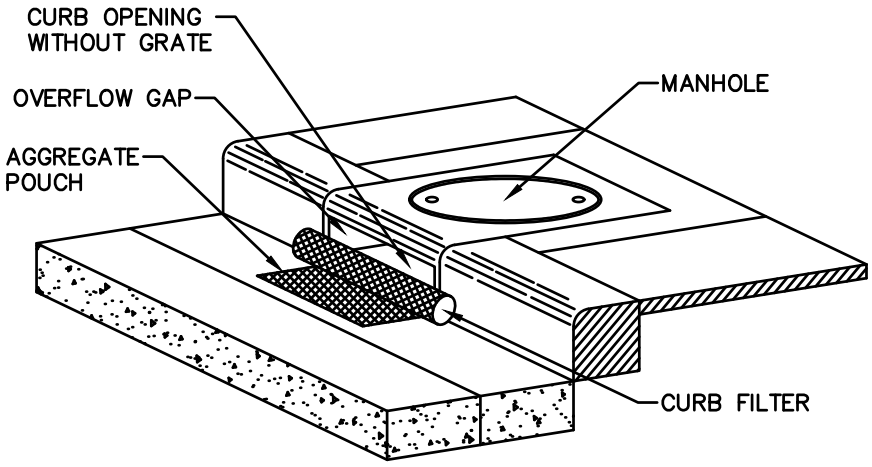


CURB INLET

NOTES:

1. REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FOR THE VICINITY OF THE UNIT AFTER EACH STORM EVENT.
2. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE UNIT. IF UNIT IS MORE THAN 1/3 FULL OF ACCUMULATED SEDIMENT, THE UNIT MUST BE EMPTIED.
3. EMPTY THE UNIT IN A LOCATION WHERE IT WILL NOT ENTER THE STORM SEWER SYSTEM.
4. INLET PROTECTION SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

LC TX	STANDARD CONSTRUCTION DETAIL INLET PROTECTION – STAGE 2 (SHEET 2 OF 3)	SCALE: NTS JUNE 2025 31 25 14 – 06



NOTES:

1. REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FOR THE VICINITY OF THE UNIT AFTER EACH STORM EVENT.
2. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE UNIT. IF UNIT IS MORE THAN 1/3 FULL OF ACCUMULATED SEDIMENT, THE UNIT MUST BE EMPTIED.
3. EMPTY THE UNIT IN A LOCATION WHERE IT WILL NOT ENTER THE STORM SEWER SYSTEM.
4. INLET PROTECTION SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

STANDARD CONSTRUCTION DETAIL

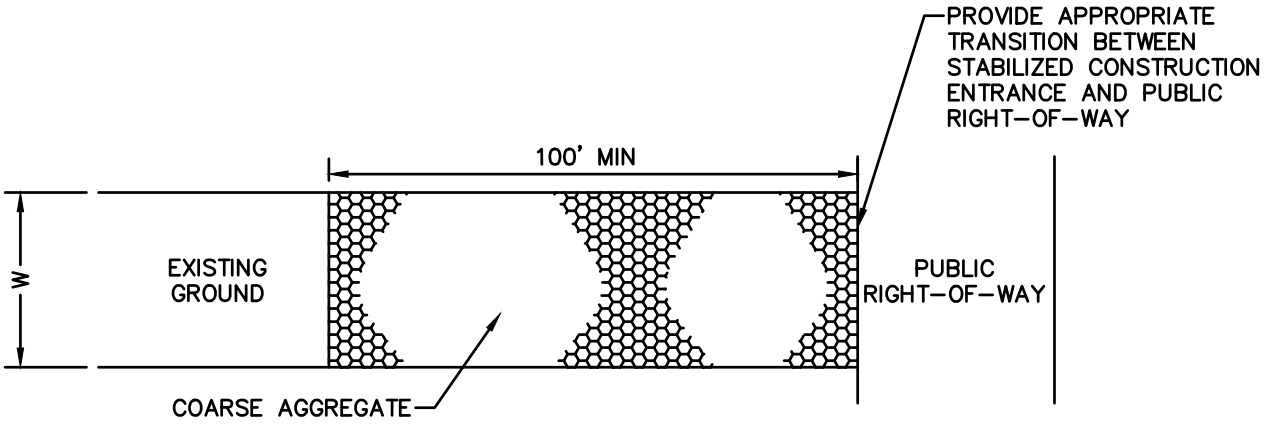
INLET PROTECTION – STAGE 2

(SHEET 3 OF 3)

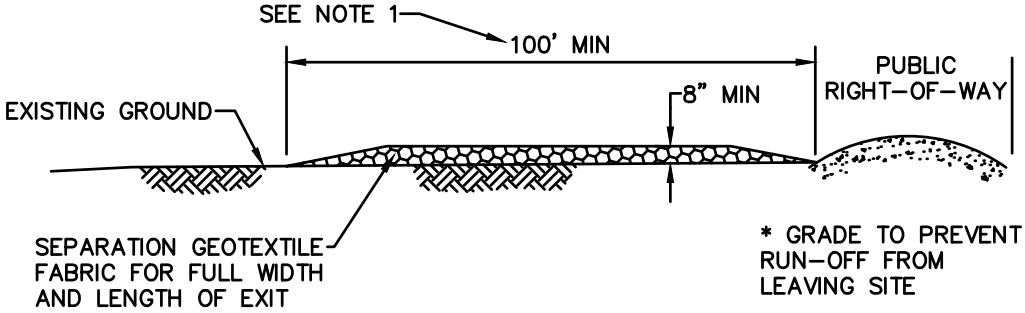
SCALE: NTS

JUNE 2025

31 25 14 – 07

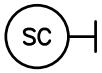


PLAN



PROFILE

	RECOMMENDED MIN WIDTH (W)
RESIDENTIAL	20'
COMMERCIAL & INDUSTRIAL	30'



SYMBOL

NOTES:

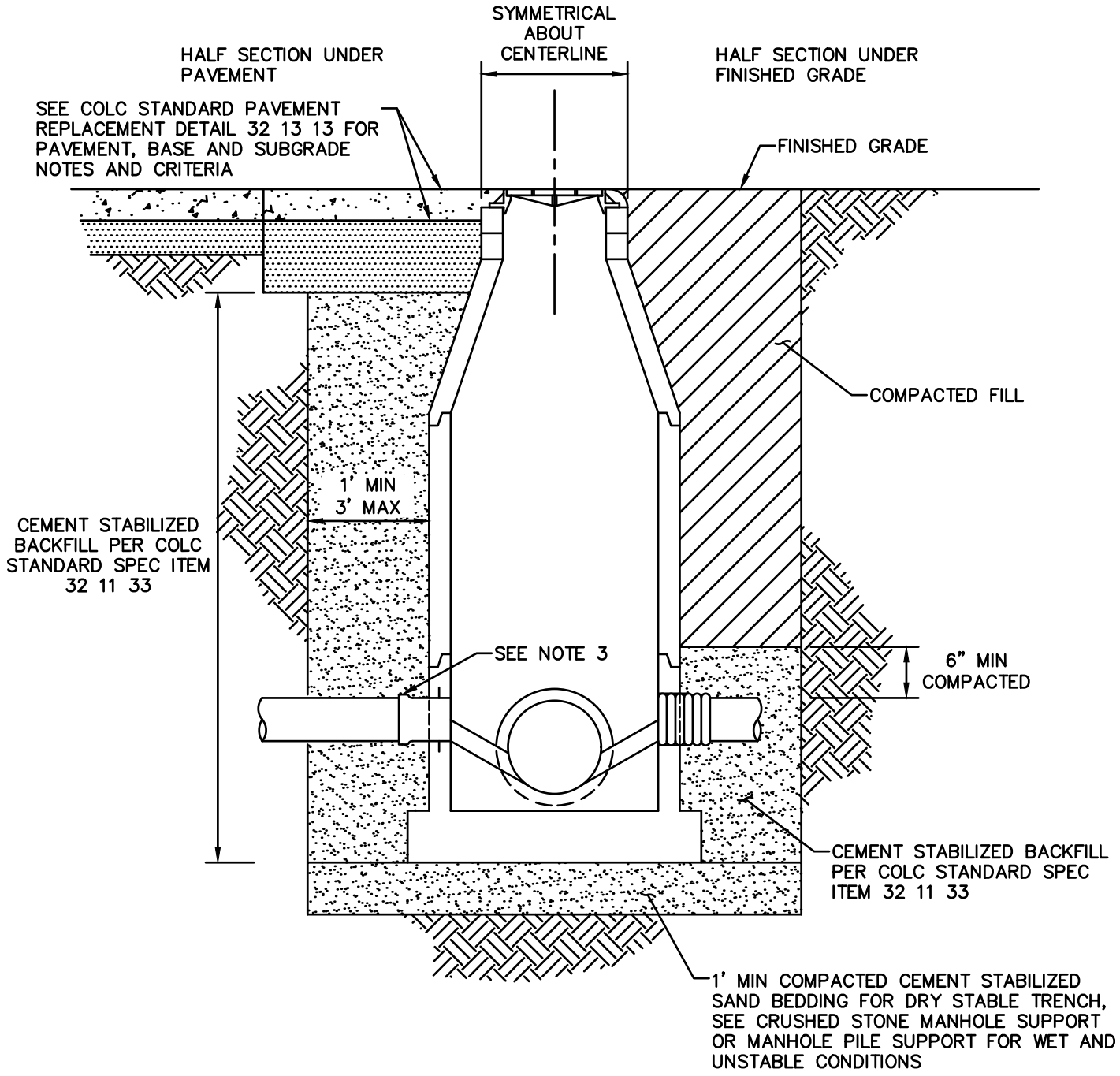
1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 100 FEET, UNLESS PRIOR WRITTEN APPROVAL FROM THE CITY ENGINEER.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF ENTRY OR EXIT.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMMODATE A TRUCK WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE TRUCK WASHING AREA.
6. STABILIZED CONSTRUCTION EXIT SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT. CONTRACTOR TO REESTABLISH ACCEPTABLE PERFORMANCE AT LEAST ONCE PER 2 WEEKS DURING ACTIVE CONSTRUCTION, OR AS NEEDED.

STANDARD CONSTRUCTION DETAIL
STABILIZED CONSTRUCTION ENTRANCE AND EXIT

SCALE: NTS

JUNE 2025

31 25 14 – 08



NOTES:

1. WHERE PLACEMENT AND COMPACTION OF CEMENT STABILIZED SAND IN MANHOLE ANNULAR SPACE IS RESTRICTED, A FLOWABLE GROUT MIXTURE OF ONE PART STANDARD PORTLAND CEMENT TO FOUR PARTS FINE CLEAN SAND MIXED WITH POTABLE WATER MAY BE USED.
2. THIS DETAIL ALSO APPLIES TO BACKFILL OF SHAFTS WITHOUT STRUCTURES.
3. ARRANGE PIPE JOINTS AS SHOWN WHEN USING RIGID CONNECTION TO CAST IN PLACE MANHOLE BASE.
4. BACKFILL PER COLC STANDARD SPEC ITEM 31 24 00.

LC TX

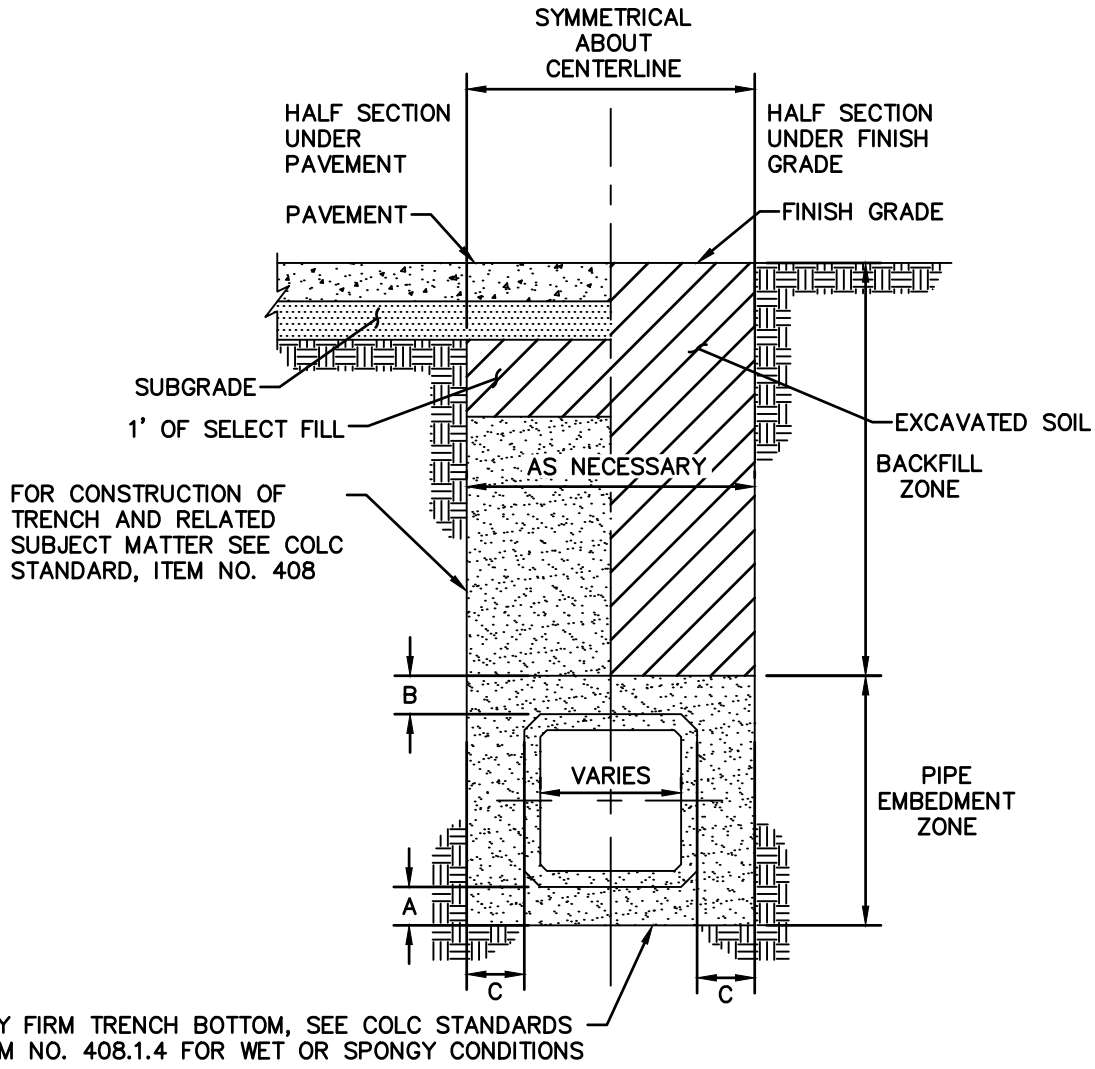
STANDARD CONSTRUCTION DETAIL

MANHOLE SHAFT BACKFILL

SCALE: NTS

JUNE 2025

33 05 06 – 01



DIMENSIONAL REQUIREMENTS

PIPE SIZE	A	B	C
3'x2' AND LARGER	6"	6"	1'

BACKFILL ZONE:

1. IN PAVED AREAS, USE CEMENT STABILIZED SAND, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY, TO WITHIN 1' OF SUBGRADE.
2. IN UNPAVED AREAS, USE SOIL EXCAVATED FROM TRENCH, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

PIPE EMBEDMENT ZONE:

1. USE CEMENT STABILIZED SAND, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.
2. 2' WIDE FILTER FABRIC PLACED AT EACH JOINT ALL AROUND WITH 1' OVERLAP. FABRIC TO BE ARMCO TREVIRA S1115 OR APPROVED EQUAL.

NOTES:

1. ANY EXCAVATION WITHIN 3' OR LESS OF HIGHWAY PAVEMENT EDGE OR CITY STREET SHALL REQUIRE 1 1/2 SACK CEMENT STABILIZED BACKFILL UP TO ROAD BASE. COMPACTED IN 8" LIFTS WITH VIBRATORY PLATE.
2. WHERE MULTIPLE BOX SEWERS ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
3. ALTERNATE TRENCH BOTTOM TREATMENT MAY BE USED AS APPROVED BY THE CITY ENGINEER AND AS PAID FOR IN THE PROPOSAL.
4. CONCRETE IN SLAB TO REACH MIN COMPRESSIVE STRENGTH OF 1000 PSI BASED ON MAX DESIGN BEFORE PIPE IS LAID.
5. PRECAST SEAL SLAB MAY BE USED AS APPROVED BY CITY ENGINEER.

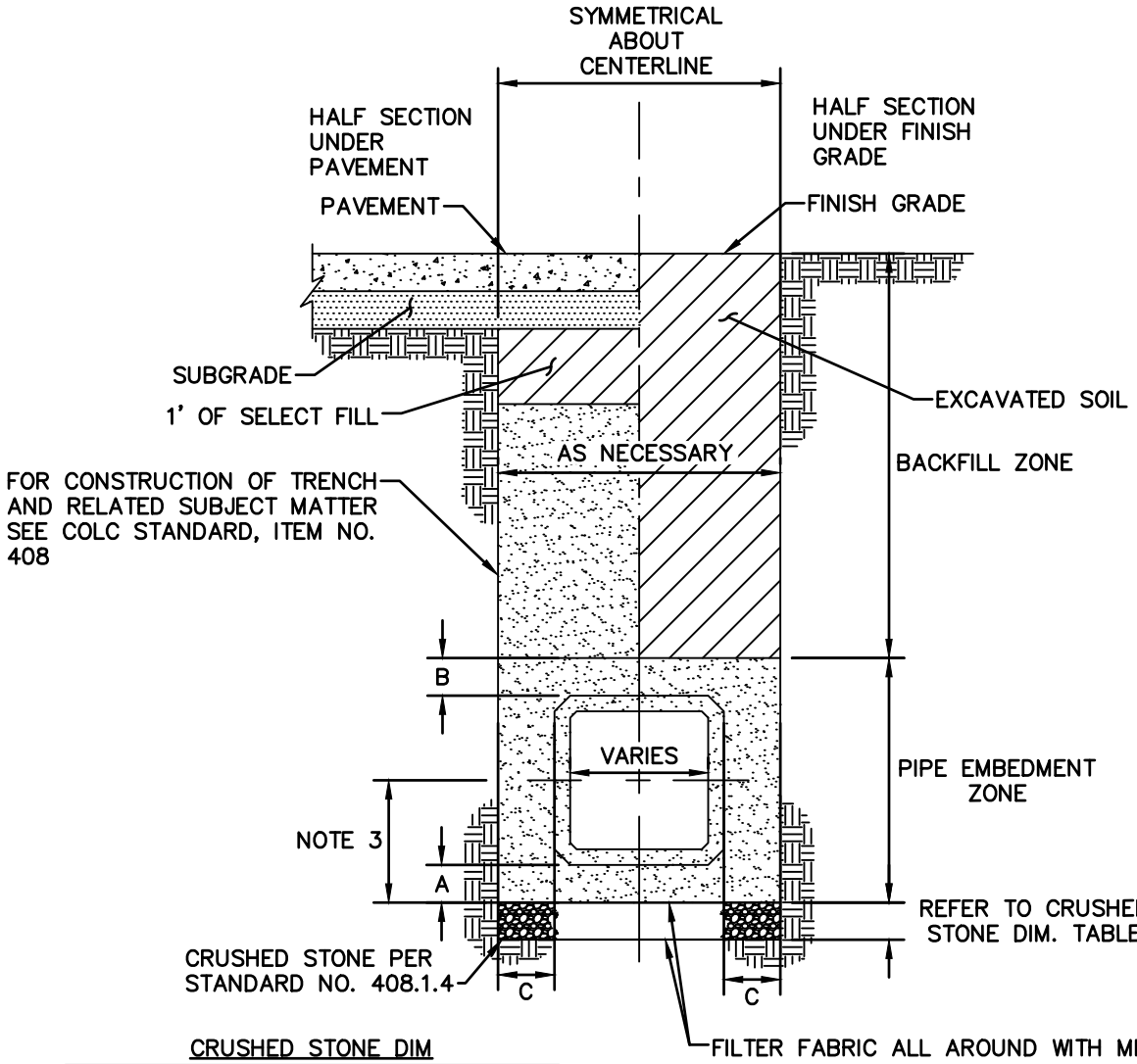
STANDARD CONSTRUCTION DETAIL

BOX CULVERT FOR DRY STABLE TRENCH

SCALE: NTS

JUNE 2025

33 05 06 – 02



CRUSHED STONE DIM

PIPE SIZE	DEPTH
3'x2' TO 6'x6'	1'
> 6'X6'	1' 6"

DIMENSIONAL REQUIREMENTS

PIPE SIZE	A	B	C
3'x2' AND LARGER	6"	6"	1'

BACKFILL ZONE:

1. IN PAVED AREAS, USE CEMENT STABILIZED SAND, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY, TO WITHIN 1' OF SUBGRADE.
2. IN UNPAVED AREAS, USE SOIL EXCAVATED FROM TRENCH, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

PIPE EMBEDMENT ZONE:

1. USE CEMENT STABILIZED SAND, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.
2. 2' WIDE FILTER FABRIC PLACED AT EACH JOINT ALL AROUND WITH 1' OVERLAP. FABRIC TO BE ARMCO TREVIRA S1115 OR APPROVED EQUAL.

NOTES:

1. ANY EXCAVATION WITHIN 3' OR LESS OF HIGHWAY PAVEMENT EDGE OR CITY STREET SHALL REQUIRE 1 1/2 SACK CEMENT STABILIZED BACKFILL UP TO ROAD BASE. COMPACTED IN 8" LIFTS WITH VIBRATORY PLATE.
2. WHERE MULTIPLE BOX SEWERS ARE USED IN THE SAME TRENCH, MIN OUTSIDE TO OUTSIDE BOX SEWER SEPERATION SHALL BE 6".
3. ALTERNATE TRENCH BOTTOM TREATMENT MAY BE USED AS APPROVED BY THE CITY ENGINEER AND AS PAID FOR IN THE PROPOSAL.
4. CONCRETE IN SLAB TO REACH MIN COMPRESSIVE STRENGTH OF 1000 PSI BASED ON MAX DESIGN BEFORE PIPE IS LAID.
5. PRECAST SEAL SLAB MAY BE USED AS APPROVED BY CITY ENGINEER.

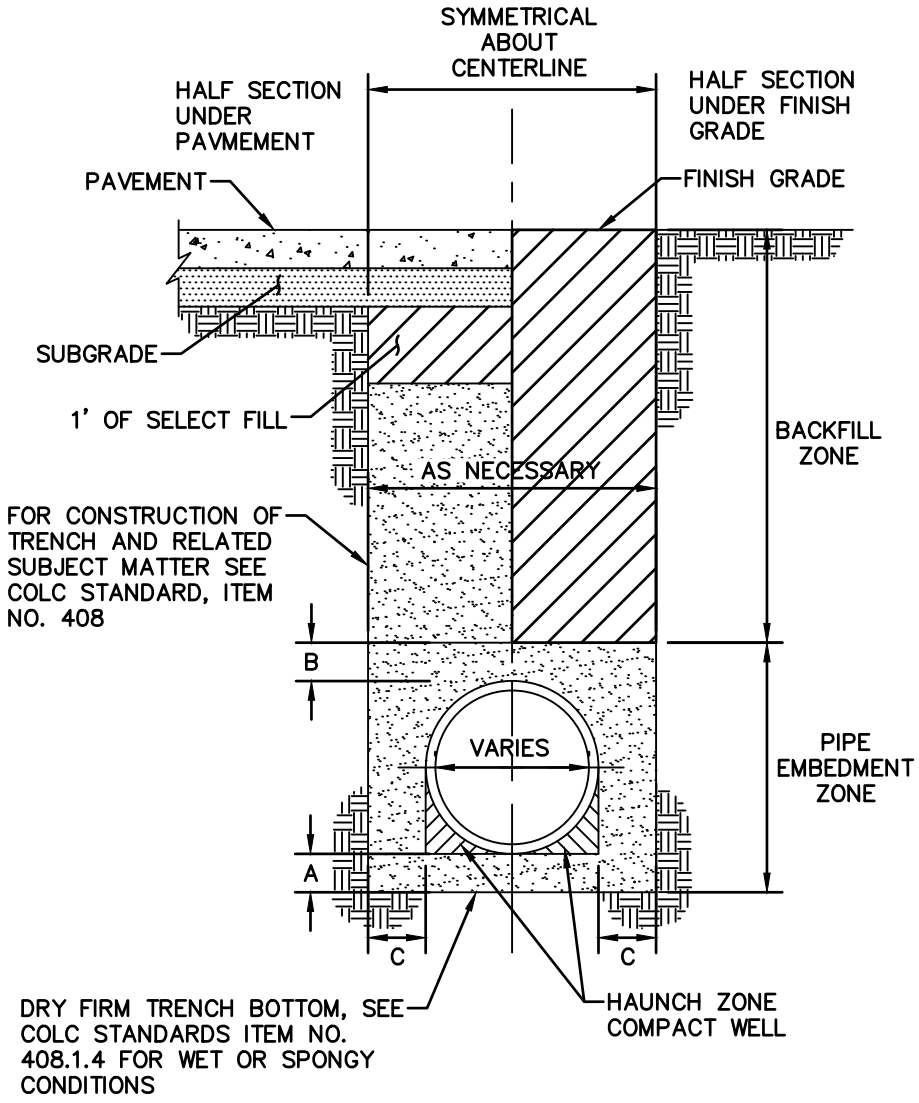
STANDARD CONSTRUCTION DETAIL

BOX CULVERT FOR WET STABLE TRENCH

SCALE: NTS

JUNE 2025

33 05 06 – 03



DIMENSIONAL REQUIREMENTS

PIPE SIZE	A	B	C
20" AND SMALLER	6"	1'	9"
21" THRU 48"	6"	1'	1'
54" THRU 66"	9"	1'	1' 3"
72" AND LARGER	1'	1' 6"	1' 3"

BACKFILL ZONE:

1. IN PAVED AREAS, USE CEMENT STABILIZED SAND, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY, TO WITHIN 1' OF SUBGRADE.
2. IN UNPAVED AREAS, USE SOIL EXCAVATED FROM TRENCH, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

PIPE EMBEDMENT ZONE:

1. FOR STORM AND SANITARY SEWERS, USE CEMENT STABILIZED SAND, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.
2. FOR WATER LINES AND SANITARY FORCE MAINS, USE SAND AS DESCRIBED IN THE COLC STANDARD, ITEM NO. 407.14.1. PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

SPECIAL NOTE:

ANY EXCAVATION WITHIN 3' OR LESS OF HIGHWAY PAVEMENT EDGE OR CITY STREET SHALL REQUIRE 1 1/2 SACK CEMENT STABILIZED BACKFILL UP TO ROAD BASE. COMPACTED IN 8" LIFTS WITH VIBRATORY PLATE.

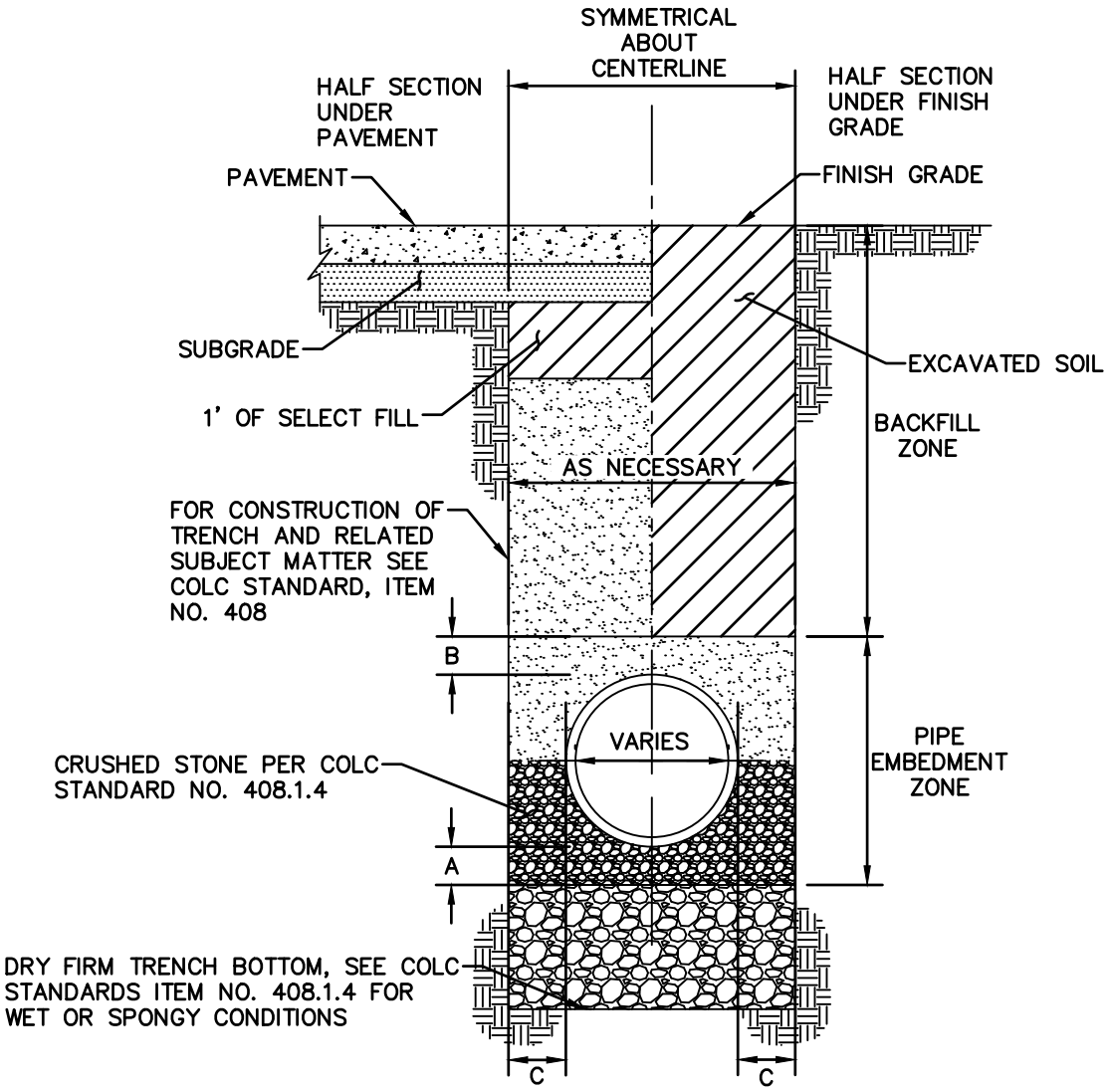
STANDARD CONSTRUCTION DETAIL

BEDDING AND BACKFILL FOR DRY STABLE TRENCH

SCALE: NTS

JUNE 2025

33 05 06 – 04



DIMENSIONAL REQUIREMENTS

PIPE SIZE	A	B	C
20" AND SMALLER	6"	1'	9"
21" THRU 48"	6"	1'	1'
54" THRU 66"	9"	1'	1' 3"
72" AND LARGER	1'	1' 6"	1' 3"

BACKFILL ZONE:

1. IN PAVED AREAS, USE CEMENT STABILIZED SAND, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY, TO WITHIN 1' OF SUBGRADE.
2. IN UNPAVED AREAS, USE SOIL EXCAVATED FROM TRENCH, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

PIPE EMBEDMENT ZONE:

1. PLACE FILTER FABRIC IN DRY TRENCH. FABRIC TO BE ARMCO TREVIRA S1115 OR APPROVED EQUAL.
2. EMBED PIPE IN 3/4"–1" WASHED LIMESTONE ROCK TO SPRING LINE.
3. FROM SPRING LINE USE 1 1/2 SACK CEMENT STABILIZED SAND, PLACE 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

SPECIAL NOTE:

ANY EXCAVATION WITHIN 3' OR LESS OF HIGHWAY PAVEMENT EDGE OR CITY STREET SHALL REQUIRE 1 1/2 SACK CEMENT STABILIZED BACKFILL UP TO ROAD BASE. COMPACTED IN 8" LIFTS WITH VIBRATORY PLATE.

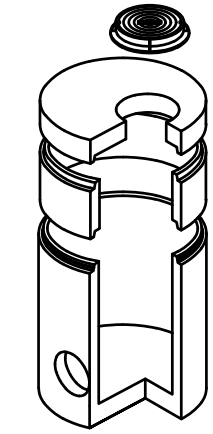
STANDARD CONSTRUCTION DETAIL

BEDDING AND BACKFILL IN UNSUITABLE SOILS

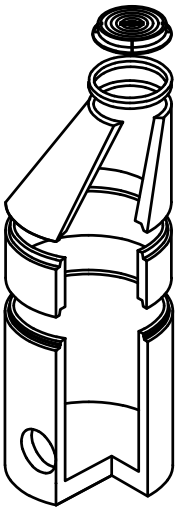
SCALE: NTS

JUNE 2025

33 05 06 – 05



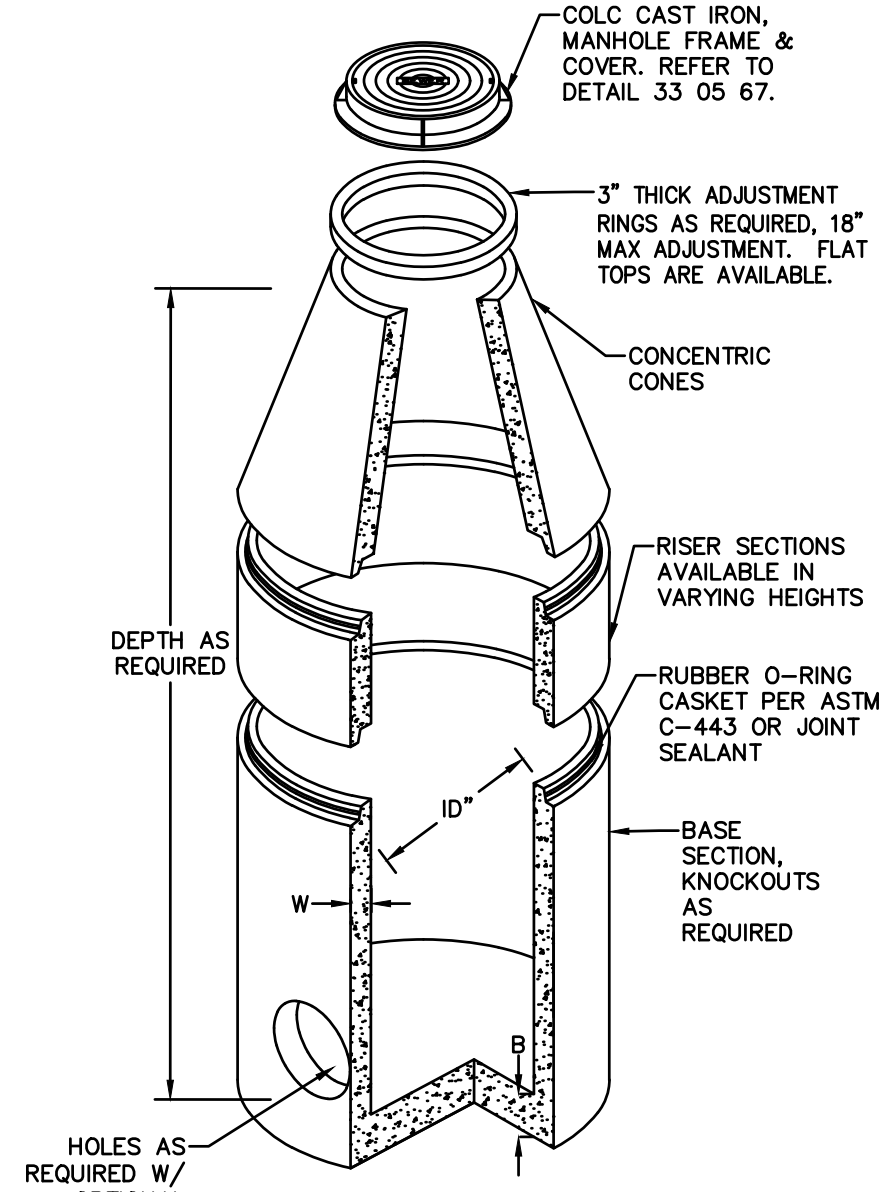
SHOWN W/ FLAT TOP



SHOWN W/ ECCENTRIC CONE

DIMENSIONS AND WEIGHTS			
I.D. SIZE (IN)	W (IN)	B* (IN)	RISER WT/LF (LB)
48	5	6"	868
60	6	6"	1300
72	7	6"	1811
84	8	6"	2350
96	9	6"	3090

* MIN. THICKNESS BELOW INVERT



SHOWN W/ CONCENTRIC CONE

OPTIONS

- EXTENDED LIP BASE
- COATINGS
- PIPE BOOTS
- BOTTOM
- INVERTS

SPECIFICATIONS:

CONCRETE:

CLASS 1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS.RATED FOR H-20 LOADING.

REINFORCEMENT:

STRUCTURAL REINFORCEMENT CONFORMING TO ASTM-C-478.

C.I. CASTING:

CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 30.

NOTES:

1. LIFTING AS REQUIRED
2. ALL JOINTS SHALL BE SEALED W/ RUBBER O-RING GASKET OR RAM-NEK JOINT SEALANT
3. REFER TO CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS BOOK ITEM 33 05 62 FOR MORE INFORMATION.
4. THIS IS A PRECAST INLET. USE OF CAST-IN-PLACE MUST BE APPROVED BY THE CITY ENGINEER, AND A DETAIL MUST BE PROVIDED.

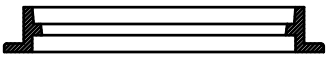
STANDARD CONSTRUCTION DETAIL

PRECAST CONCRETE MANHOLE

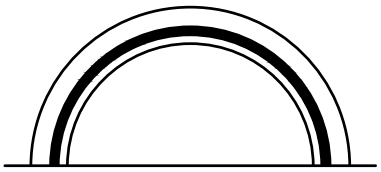
SCALE: NTS

JUNE 2025

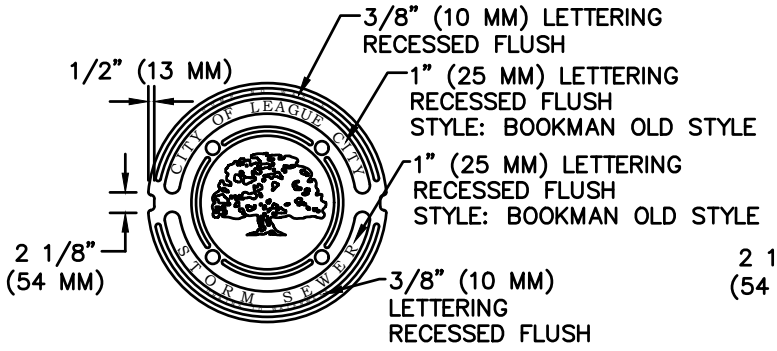
33 05 62



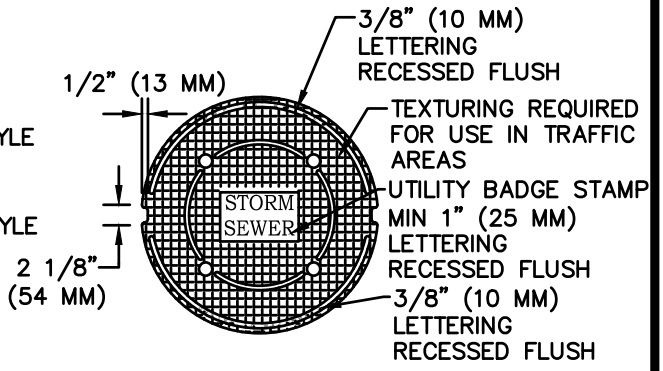
FRAME SECTION VIEW



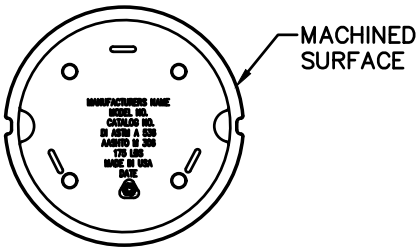
FRAME PLAN VIEW



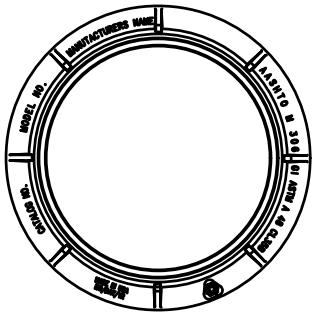
COVER PLAN VIEW



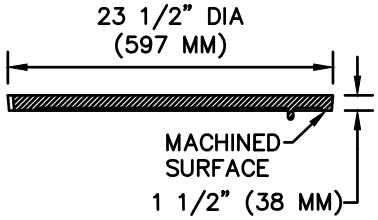
COVER PLAN VIEW FOR PRIVATE SYSTEM USE



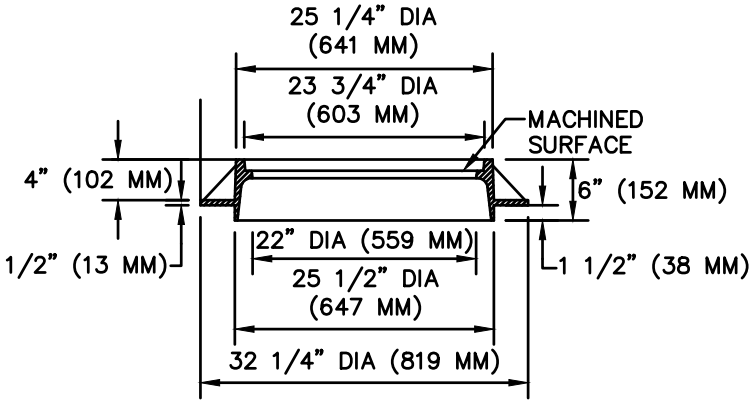
COVER BOTTOM VIEW



RING PLAN VIEW



COVER CROSS SECTION

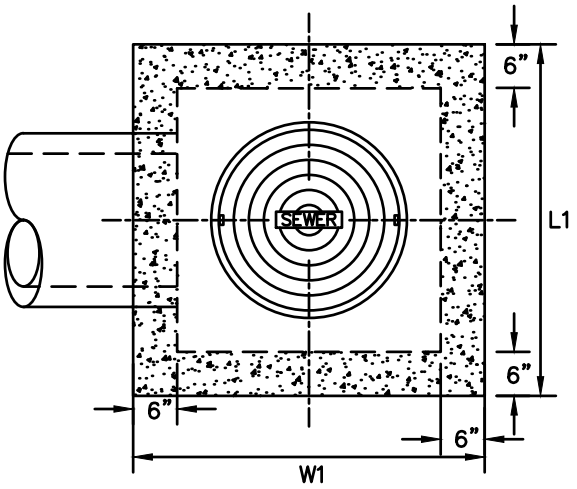


RING CROSS SECTION

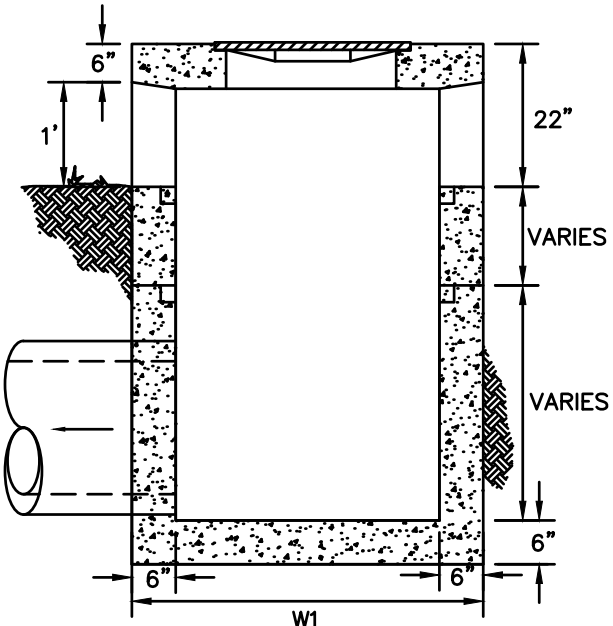
NOTES:

1. RING AND COVER MATERIAL SPECS: GRAY IRON ASTM A 48 CL35B, AND SHALL MEET ALL AASHTO M 306 PROOF-LOAD SPECIFICATIONS AND REQUIREMENTS.
2. FOR USE ON PUBLIC STORM SEWERS ONLY; FOR PRIVATE MAINS USE GENERIC COVES THAT MEET ABOVE SPECIFICATION.
3. REFER TO CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS BOOK ITEM 33 05 67 FOR MORE INFORMATION.

LC TX	STANDARD CONSTRUCTION DETAIL MANHOLE RING-FRAME AND COVER	SCALE: NTS JUNE 2025 33 05 67

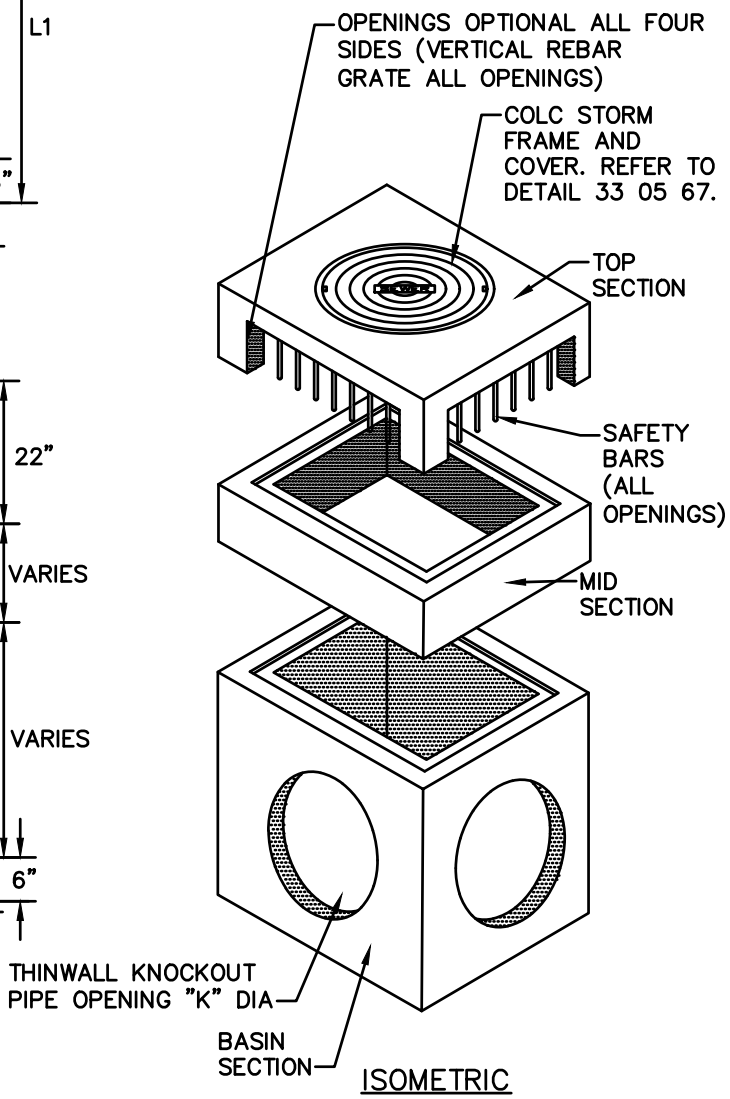


PLAN



SECTION

TYPE	L1	W1	K
E-3'	4'	4'	32"
E-4'	5'	5'	48"



ISOMETRIC

SPECIFICATIONS:

CONCRETE:

CLASS 1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH. RATED FOR H-20 LOADING.

REINFORCEMENT:

GRADE 60 REINFORCED. NO. 4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTING:

CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 30.

NOTES:

1. THIS IS A PRECAST INLET. USE OF CAST-IN-PLACE MUST BE APPROVED BY THE CITY ENGINEER, AND A DETAIL MUST BE PROVIDED.
2. CLEAN WATER CURB MARKER TO BE PLACED BY CONTRACTOR PER DETAIL AND SPECIFICATIONS AFTER INLET INSTALLATION. REFER TO DETAIL 33 42 33 – 05.

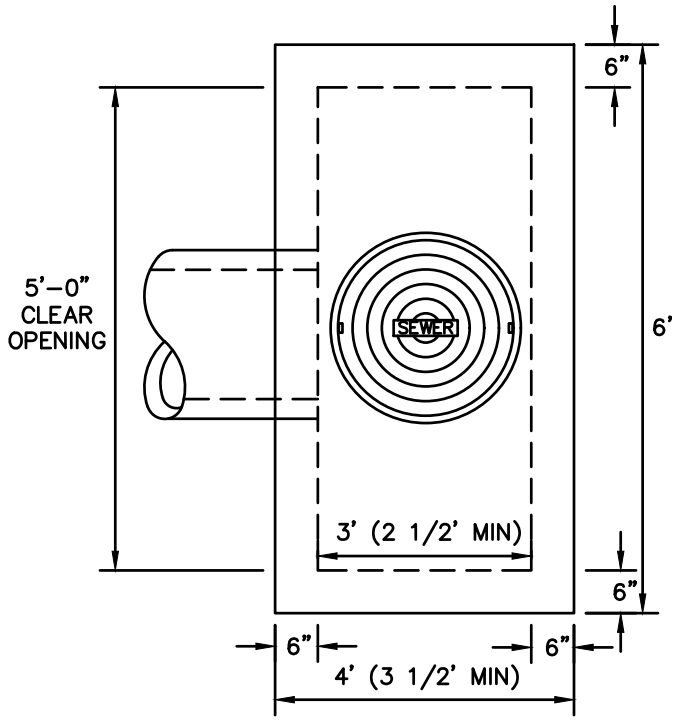
STANDARD CONSTRUCTION DETAIL

TYPE E INLET (PRECAST)

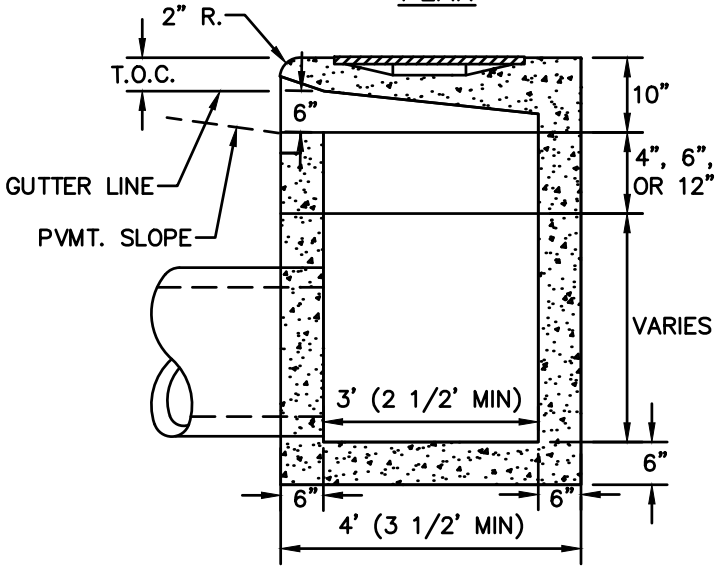
SCALE: NTS

JUNE 2025

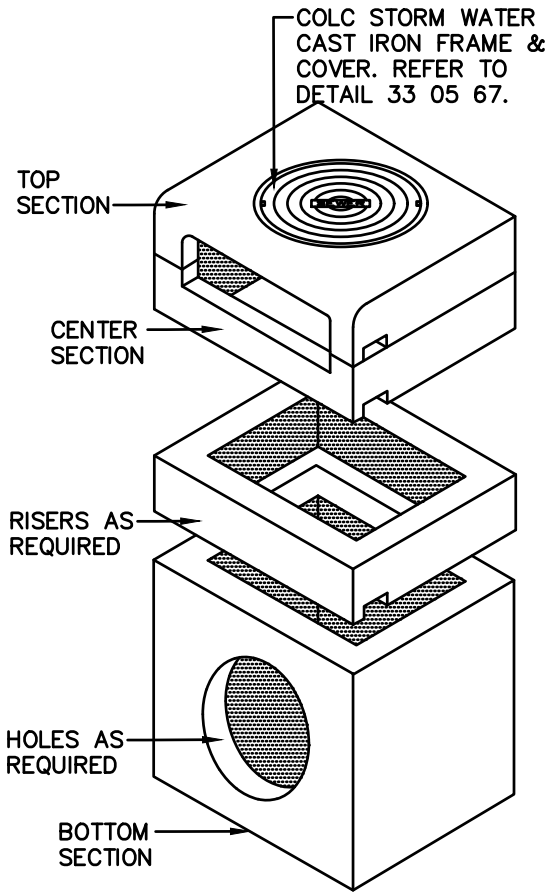
33 42 31



PLAN



SECTION



ISOMETRIC

SPECIFICATIONS:

CONCRETE:

CLASS 1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH. RATED FOR H-20 LOADING.

REINFORCEMENT:

GRADE 60 REINFORCED. NO. 4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTING:

CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 30.

NOTES:

1. THIS IS A PRECAST INLET. USE OF CAST-IN-PLACE MUST BE APPROVED BY THE CITY ENGINEER, AND A DETAIL MUST BE PROVIDED.
2. CLEAN WATER CURB MARKER TO BE PLACED BY CONTRACTOR PER DETAIL AND SPECIFICATIONS AFTER INLET INSTALLATION. REFER TO DETAIL 33 42 33 – 05.

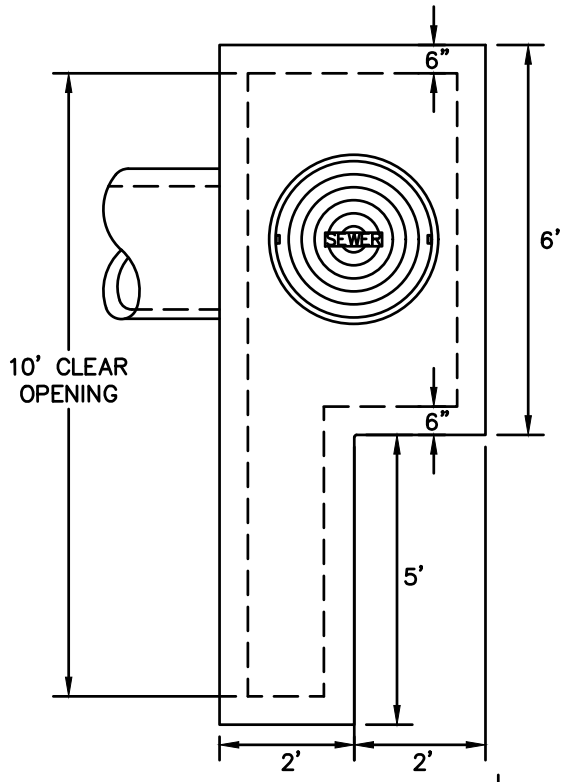
STANDARD CONSTRUCTION DETAIL

TYPE C (H-2) CURB INLET (PRECAST)

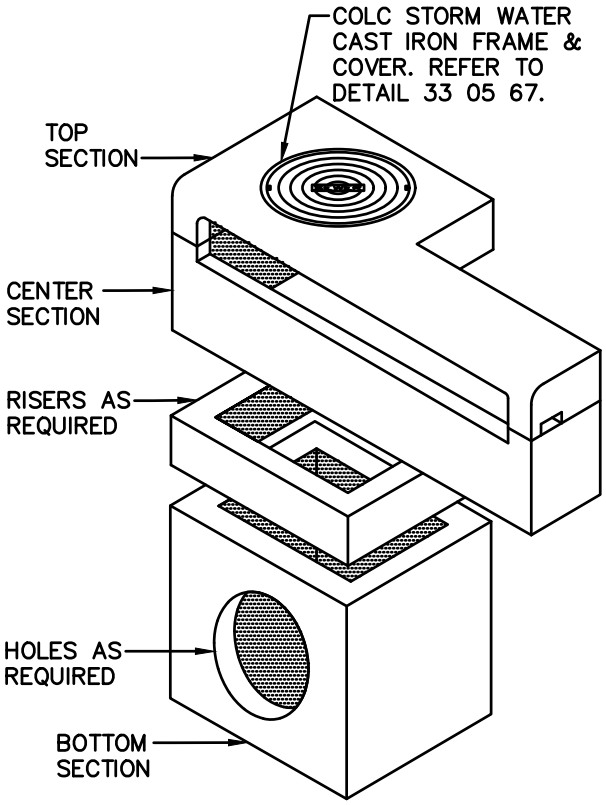
SCALE: NTS

JUNE 2025

33 42 33 – 01



PLAN



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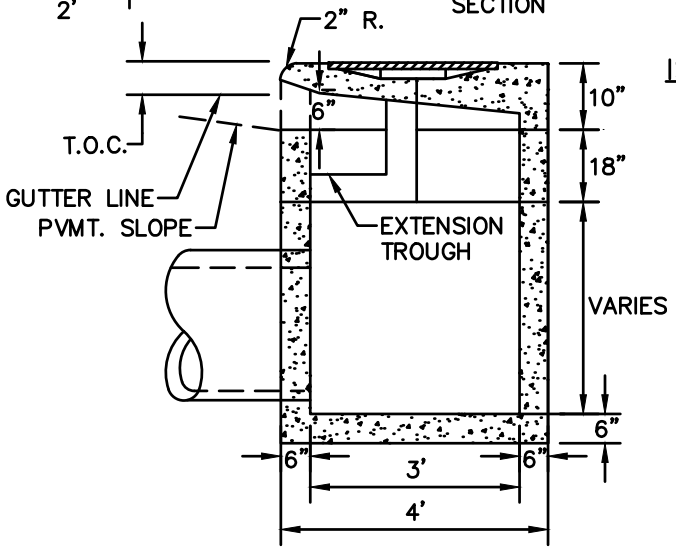


SECTION

SPECIFICATIONS:

CONCRETE:

CLASS 1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH. RATED FOR H-20 LOADING.

REINFORCEMENT:

GRADE 60 REINFORCED. NO. 4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTING:

CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 30.

NOTES:

1. THIS IS A PRECAST INLET. USE OF CAST-IN-PLACE MUST BE APPROVED BY THE CITY ENGINEER, AND A DETAIL MUST BE PROVIDED.
2. EXTENSION MAY BE ON EITHER SIDE OF THE BOX.
3. CLEAN WATER CURB MARKER TO BE PLACED BY CONTRACTOR PER DETAIL AND SPECIFICATIONS AFTER INLET INSTALLATION. REFER TO DETAIL 33 42 33 – 05.

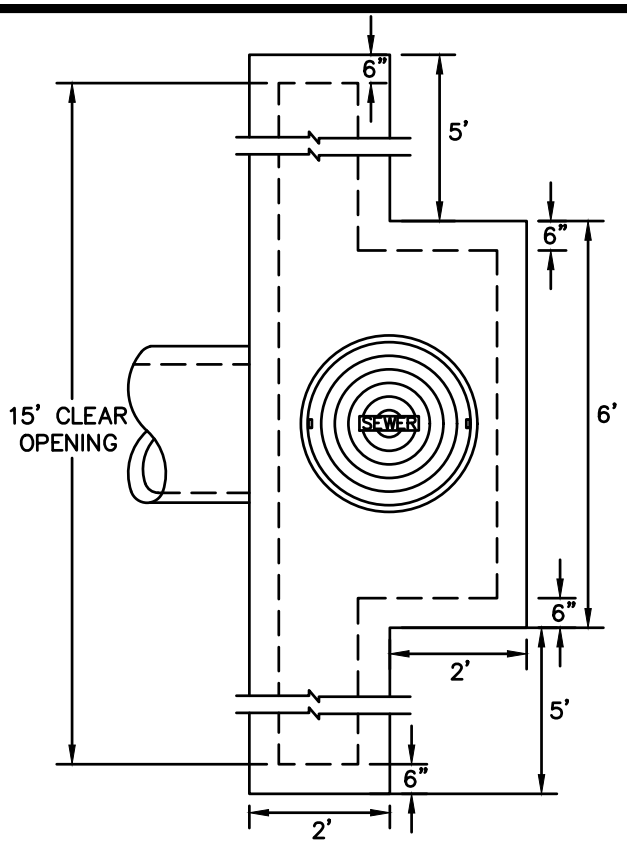
STANDARD CONSTRUCTION DETAIL

TYPE C-1 CURB INLET (PRECAST)

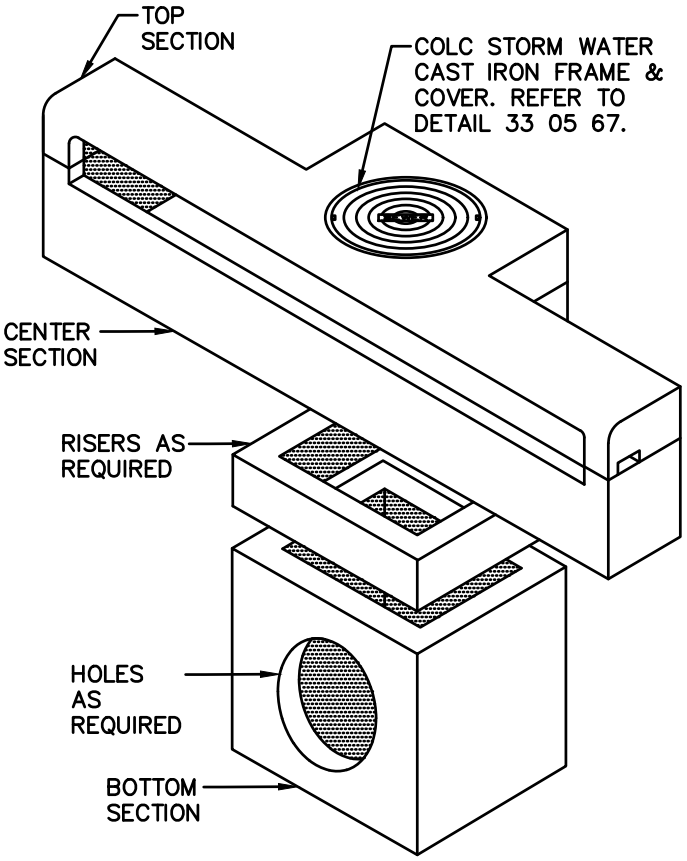
SCALE: NTS

JUNE 2025

33 42 33 – 02



PLAN



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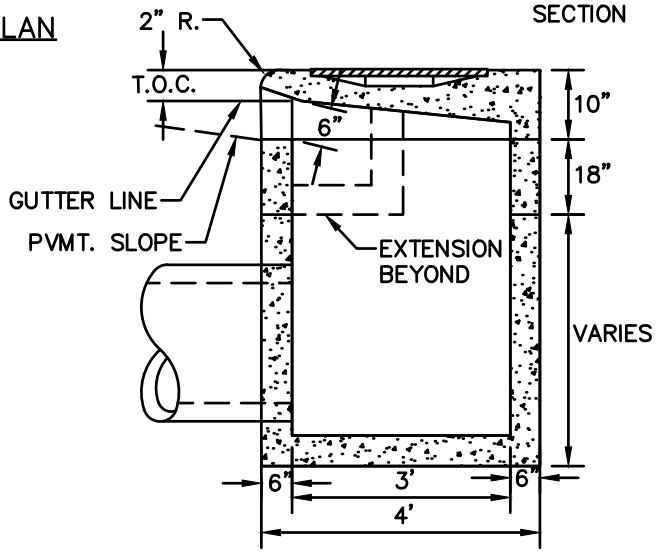


SECTION

SPECIFICATIONS:

CONCRETE:

CLASS 1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH. RATED FOR H–20 LOADING.

REINFORCEMENT:

GRADE 60 REINFORCED. NO. 4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTING:

CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48–76 CLASS 30.

NOTES:

1. THIS IS A PRECAST INLET. USE OF CAST–IN–PLACE MUST BE APPROVED BY THE CITY ENGINEER, AND A DETAIL MUST BE PROVIDED.
2. CLEAN WATER CURB MARKER TO BE PLACED BY CONTRACTOR PER DETAIL AND SPECIFICATIONS AFTER INLET INSTALLATION. REFER TO DETAIL 33 42 33 – 05.

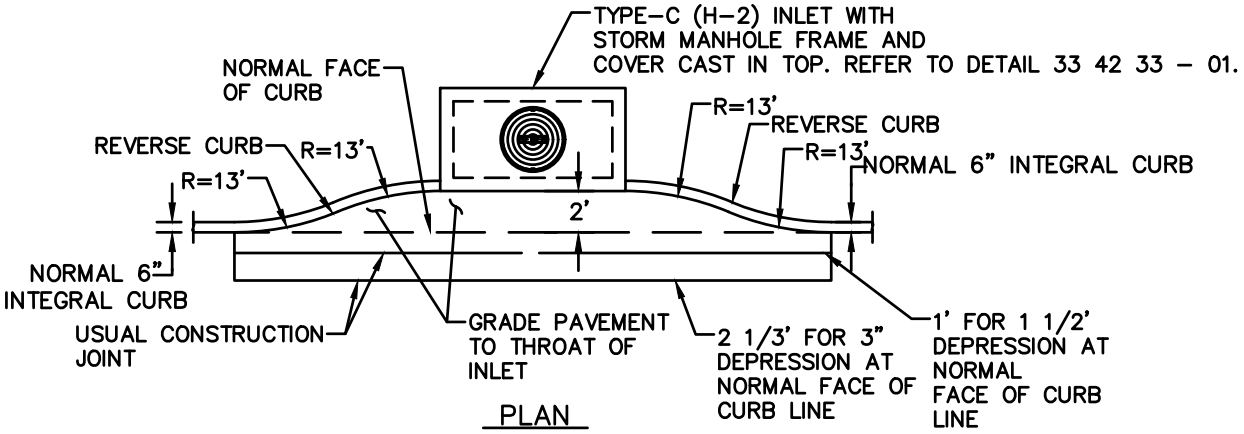
STANDARD CONSTRUCTION DETAIL

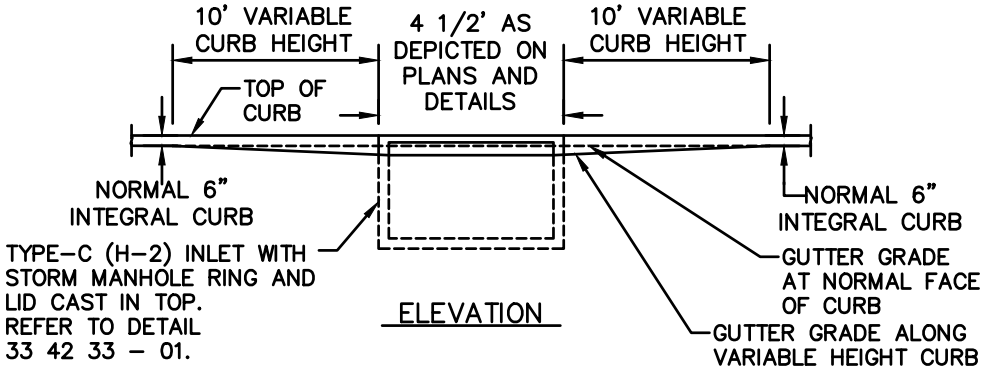
TYPE C–2 CURB INLET (PRECAST)

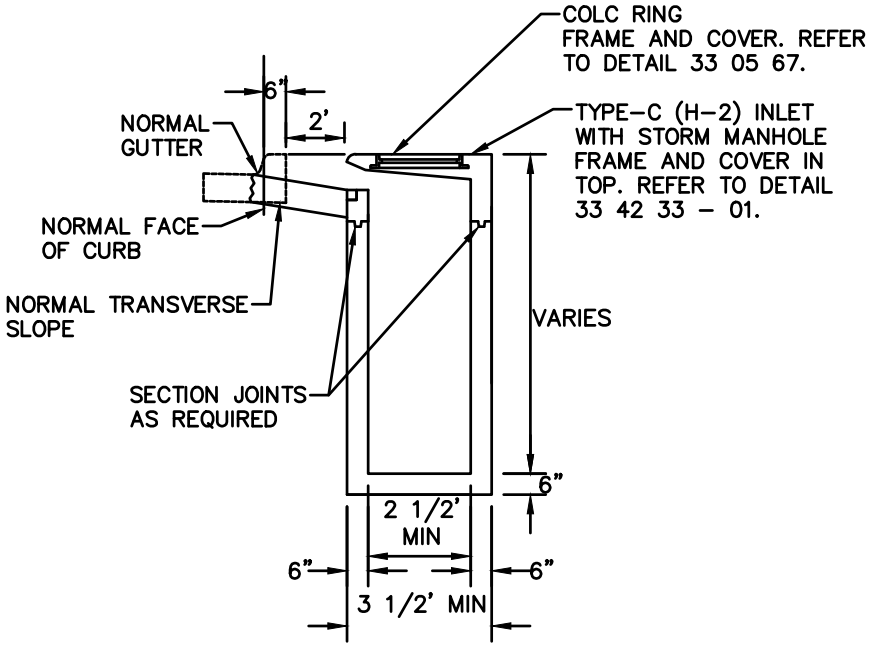
SCALE: NTS

JUNE 2025

33 42 33 – 03



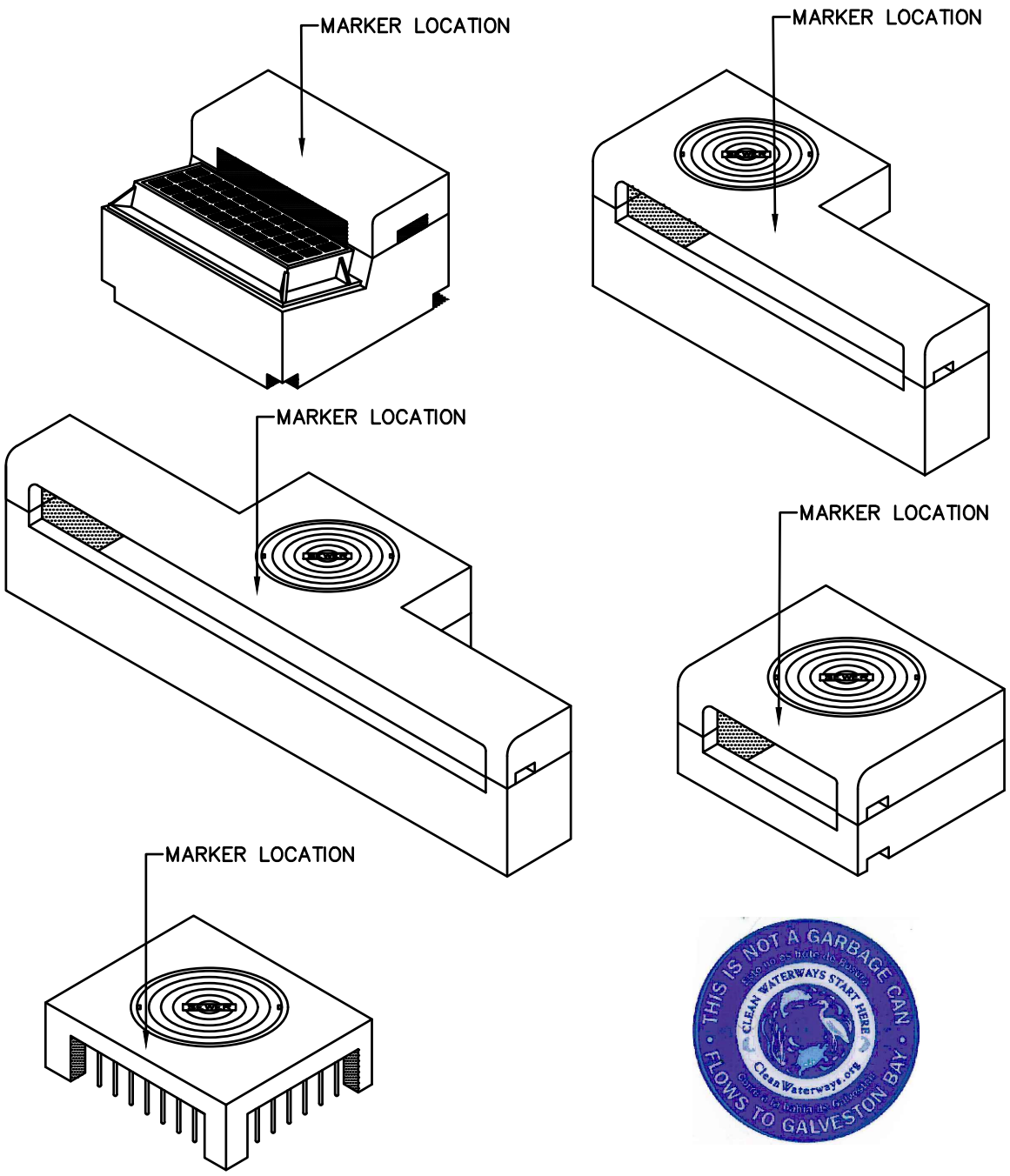




NOTES:

1. RECESSED CURB INLETS ARE REQUIRED ON COLLECTOR AND ARTERIAL STREETS.
2. CLEAN WATER CURB MARKER TO BE PLACED BY CONTRACTOR PER DETAIL AND SPECIFICATIONS AFTER INLET INSTALLATION. REFER TO DETAIL 33 42 33 – 05.
3. THIS IS A PRECAST INLET. USE OF CAST–IN–PLACE MUST BE APPROVED BY THE CITY ENGINEER, AND A DETAIL MUST BE PROVIDED.

LC TX	STANDARD CONSTRUCTION DETAIL RECESSED CURB	SCALE: NTS JUNE 2025 33 42 33 – 04



NOTES:

1. EPOXY CLEAN WATER CLEAR CHOICE LOGO CURB MARKER ON INLETS PER LOCATION SHOWN.
2. OBTAIN CURB MARKERS AND ADHESIVE FROM CLEAN WATER CLEAR CHOICE S.W.I.M. PROGRAM
3. CLEAR WATER MARKERS SHALL BE PLACED ON CONCRETE SURFACE ONLY.

LC TX

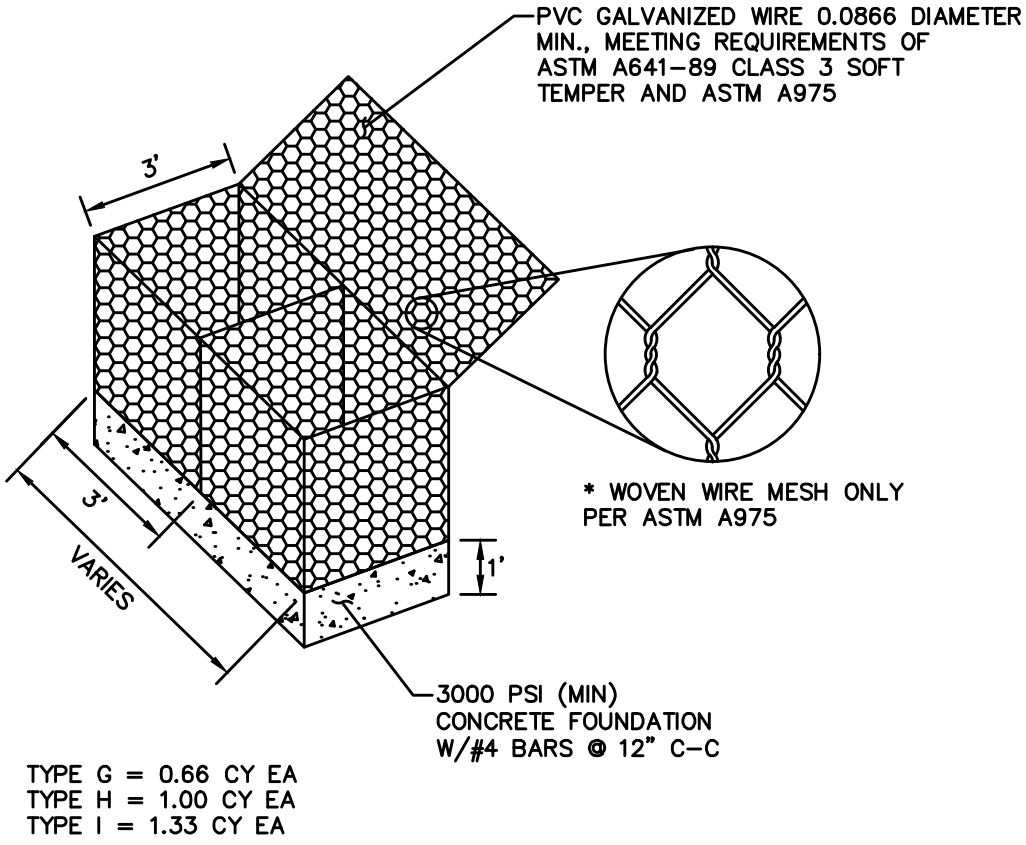
STANDARD CONSTRUCTION DETAIL

CLEAN WATER INLET CURB MARKER

SCALE: NTS

JUNE 2025

33 42 33 – 05



TYPE G = 0.66 CY EA
TYPE H = 1.00 CY EA
TYPE I = 1.33 CY EA

NOTE:
1. 5"-8" STANDARD ROCK SIZE
2. TOP OF GABION =
3. TOP OF CONCRETE FOUNDATION =

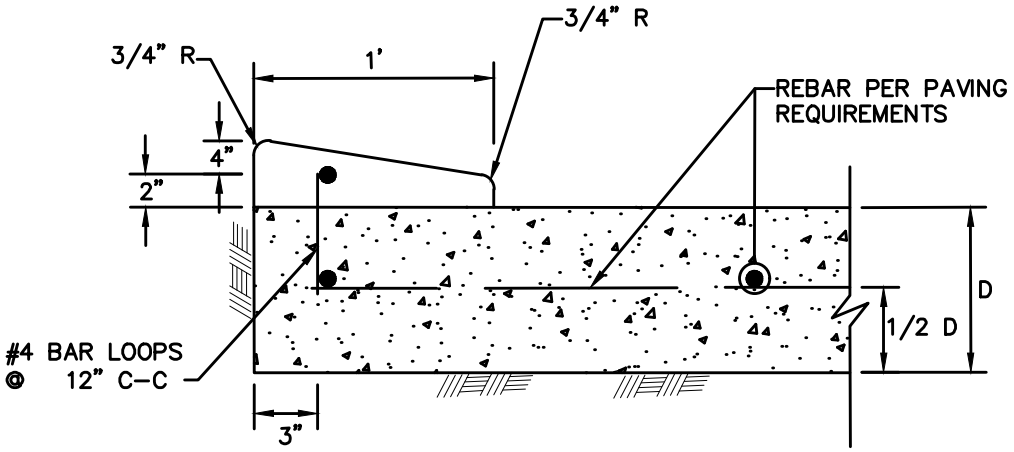
STANDARD MAINTENANCE DETAIL

GABION WALL

SCALE: NTS

JUNE 2025

31 25 14



NOTES:

1. 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS, AND NON-RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6-INCH CONCRETE CURB OR 4-INCH X 12-INCH CONCRETE CURB AS NOTED ON PLANS.
2. TRANSITIONS FROM 6-INCH CONCRETE CURB TO 4-INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10-FOOT TRANSITION CURB IS NOT POURED MONOLITHICALLY WITH THE PAVEMENT THEN REINFORCING STEEL AS SHOWN IN TYPICAL DETAIL 4-INCH X 12-INCH TRANSITION CURB TO BE INSTALLED.
3. PAVEMENT THICKNESS "D" SHALL COMPLY WITH THE TABLE ON DETAIL 32 13 13 – 01. ENGINEER TO PROVIDE GEOTECHNICAL ANALYSIS FOR SPECIFIC PROJECT AND SHALL ENSURE PAVEMENT SECTION MEET THE REQUIREMENTS.

LC TX

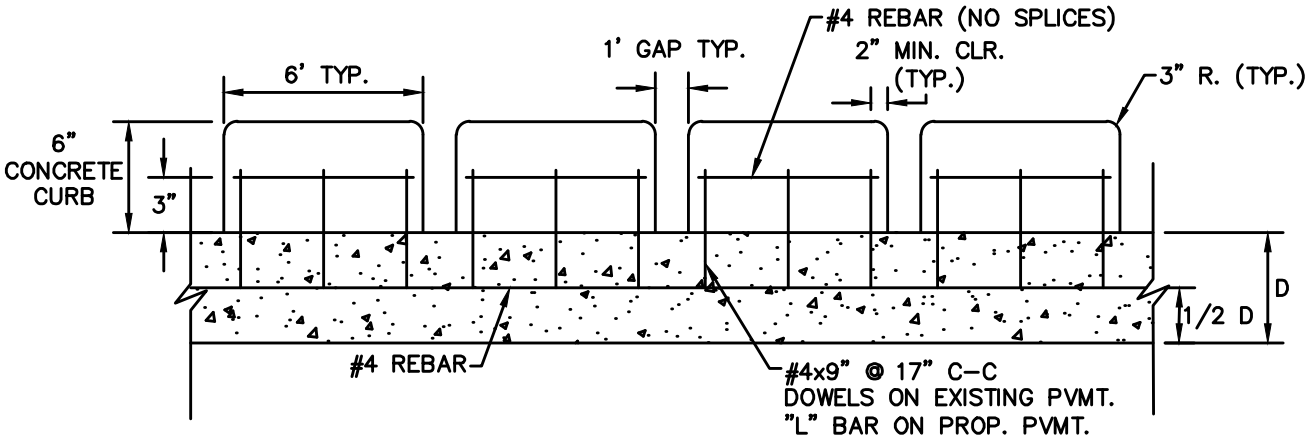
STANDARD MAINTENANCE DETAIL

ROLLOVER CURB

SCALE: NTS

JUNE 2025

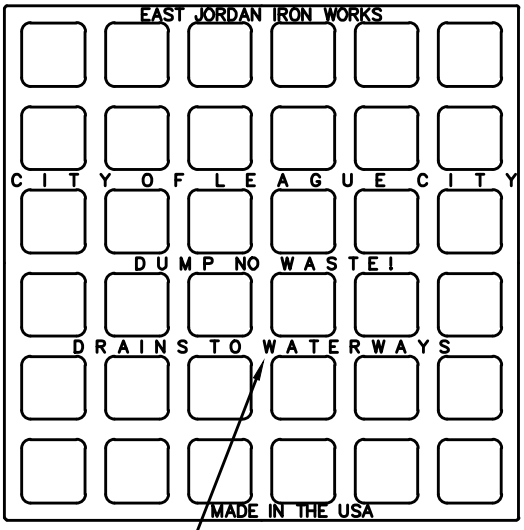
32 16 00 – 01



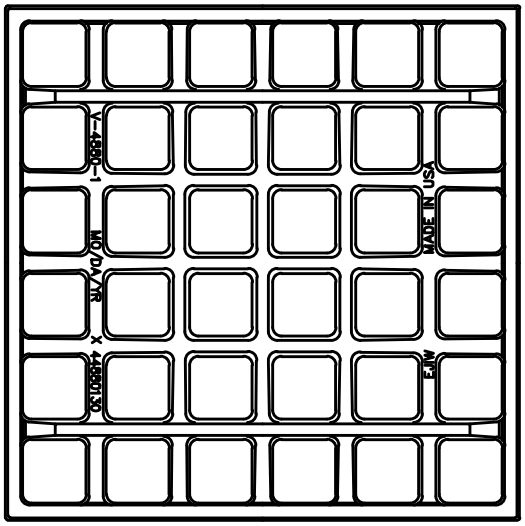
NOTE:

1. PAVEMENT THICKNESS "D" SHALL COMPLY WITH THE TABLE ON DETAIL 32 13 13 – 01. ENGINEER TO PROVIDE GEOTECHNICAL ANALYSIS FOR SPECIFIC PROJECT AND SHALL ENSURE PAVEMENT SECTION MEET THE REQUIREMENTS.

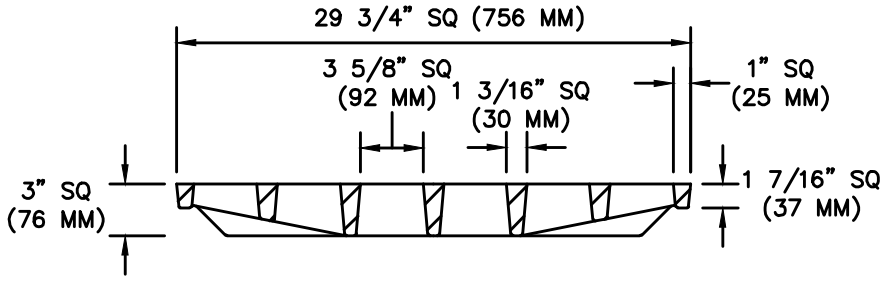
LC TX	STANDARD MAINTENANCE DETAIL SLOTTED CURB DETAIL	SCALE: NTS JUNE 2025 32 16 00 – 02



LETTERING TO BE 5/8" (16 MM) HIGH, (RAISED)

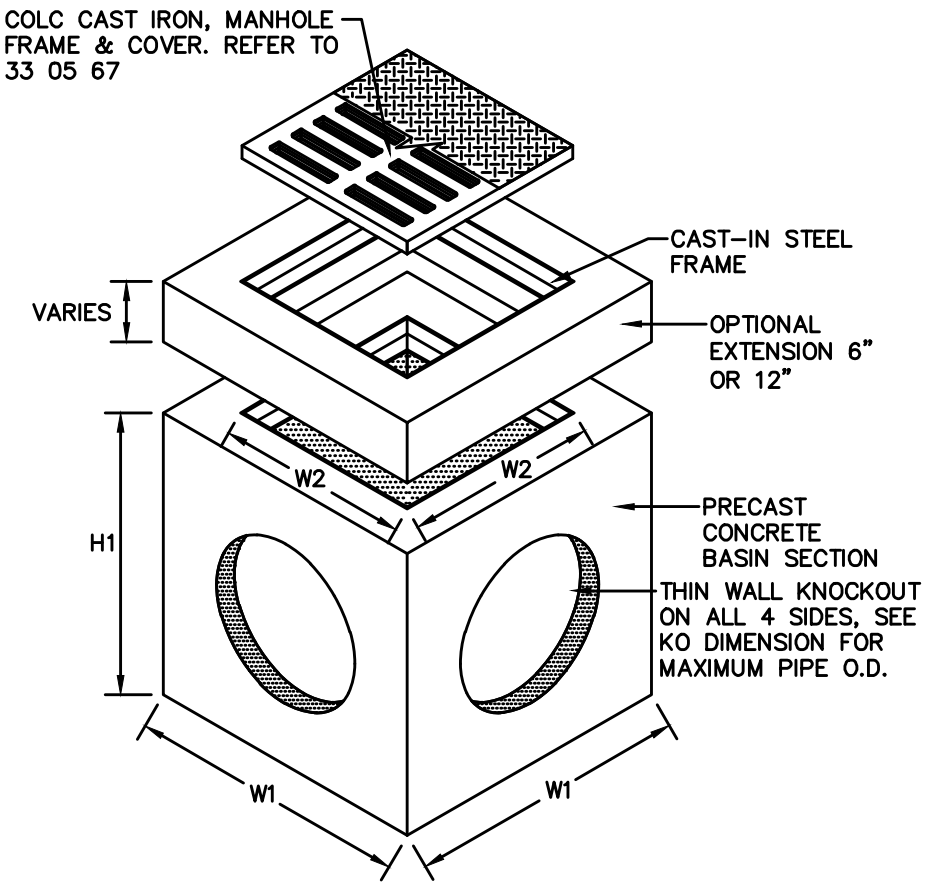


BOTTOM VIEW OF GRATE

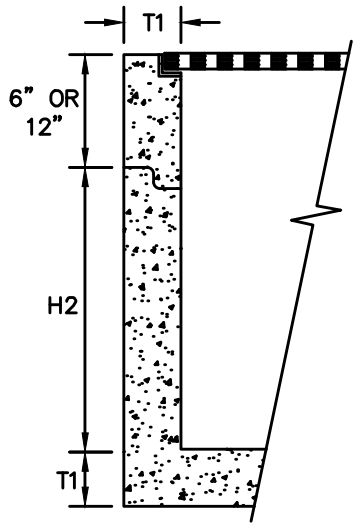


GRATE SECTION

LC TX	STANDARD MAINTENANCE DETAIL GRATE SECTION	SCALE: NTS JUNE 2025 33 42 30 – 03



ISOMETRIC



PARTIAL SECTION

MODEL #		DIMENSIONS						
CATCH BASIN	JUNCTION BOX[2]	W1	W2	H1	H2	T1	KO	GRATE SIZE
CB12[1]	JB12	15"	10"	21"	18"	2"	10"	12"x12"x1"
CB14	JB14	20"	14"	28"	24"	4"	12"	14"x14"x1i"
CB18	JB18	24"	16"	34"	30"	4"	15"	18"x18"x1i"
CB20	JB20	26"	18"	34"	30"	4"	17"	20"x20"x1i"
CB24	JB24	32"	22"	41"	36"	5"	22"	24"x24"x2"
CB27	JB27	37"	25"	42"	36"	6"	24"	27"x27"x2"
CB30	JB30	42"	30"	42"	36"	6"	30"	32"x32"x2"
CB36	JB36	48"	36"	42"	36"	6"	32"	38"x38"x2"

1. CB12 CATCH BASIN IS RATED FOR PEDESTRIAN LOADING. ALL OTHERS ARE TRAFFIC DUTY.
2. ALL JUNCTION BOXES ARE STANDARD PEDESTRIAN DUTY OR OPTIONAL TRAFFIC DUTY.
3. ALL JUNCTION BOXES AND CATCH BASINS ARE PRECAST STRUCTURES. USE OF CAST-IN-PLACE REQUIRES APPROVAL FROM THE CITY ENGINEER.

SPECIFICATIONS:

CONCRETE:

CLASS 1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH.

REINFORCEMENT:

GRADE 60 REINFORCED. STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTING:

CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 35.

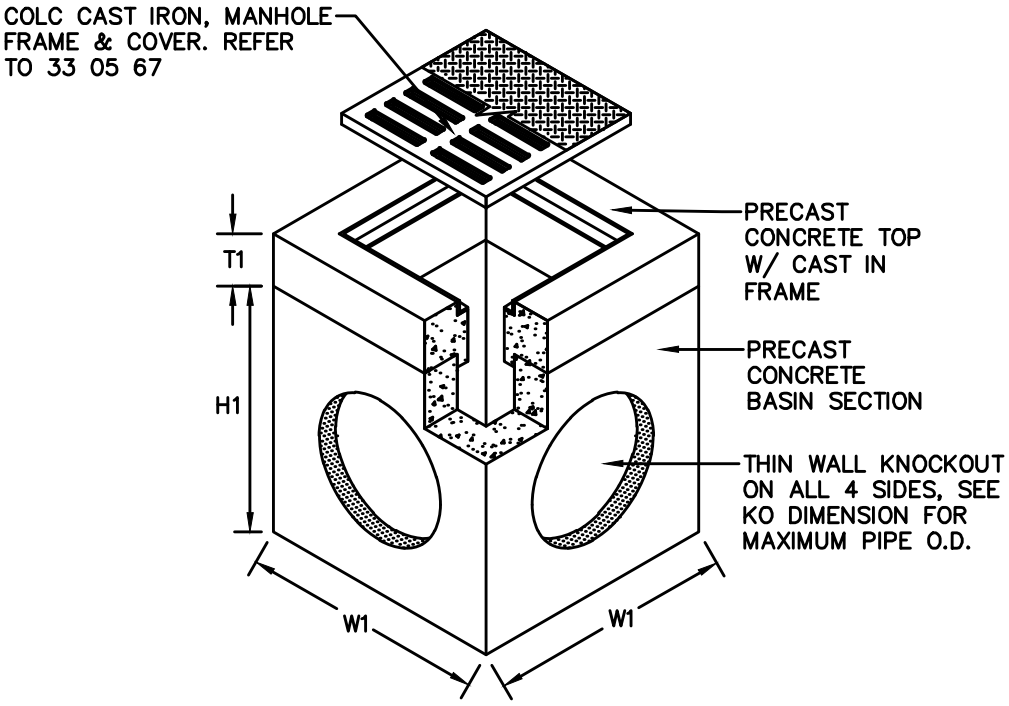
STANDARD MAINTENANCE DETAIL

CATCH BASIN JUNCTION BOX 12 INCH – 36 INCH (PRECAST)

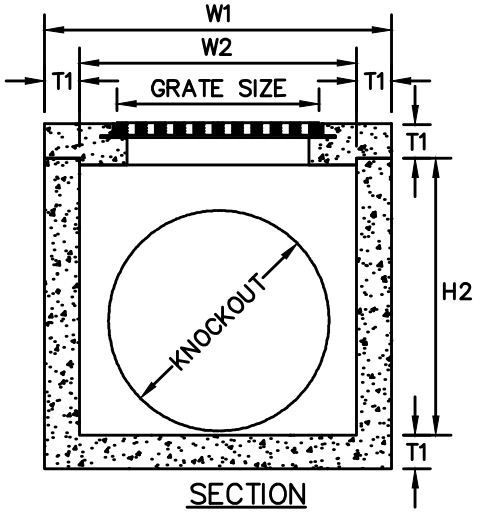
SCALE: NTS

JUNE 2025

33 42 30 – 01



ISOMETRIC



SECTION

MODEL #		DIMENSIONS						
CATCH BASIN	JUNCTION BOX[1]	W1	W2	H1	H2	T1	KO	GRATE/COVER SIZE
CB48	JB48	60"	48"	54"	48"	6"	48"	38"x38"x2"
CB60	JB60	72"	60"	66"	60"	6"	60"	38"x38"x2"
CB72	JB72	84"	72"	78"	72"	6"	72"	38"x38"x2"
CB84	JB84	96"	83"	78"	72"	6"	84"	38"x38"x2"

1. ALL JUNCTION BOXES ARE STANDARD PEDESTRIAN DUTY OR OPTIONAL TRAFFIC DUTY.

SPECIFICATIONS:

CONCRETE:

CLASS 1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH.

REINFORCEMENT:

GRADE 60 REINFORCED. STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTING:

CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48–76 CLASS 35.

NOTES:

1. RISER AVAILABLE IN 6" DEPTHS
2. ALL JUNCTION BOXES AND CATCH BASINS ARE PRECAST STRUCTURES. USE OF CAST–N–PLACE REQUIRES APPROVAL FROM CITY ENGINEER.

LC TX

STANDARD MAINTENANCE DETAIL

CATCH BASIN JUNTION BOX 48 INCH – 84 INCH (PRECAST)

SCALE: NTS

JUNE 2025

33 42 30 – 02