

INDEX OF DETAILS

SANITARY SEWER

PAGE DETAIL

SS-1	Sanitary General Notes [1 of 3]
SS-2	Sanitary General Notes [2 of 3]
SS-3	Sanitary General Notes [3 of 3]
SS-4	Cast in Place Manhole
SS-5	Precast Manhole
SS-6	Manhole Base Channelization
SS-7	Manhole Wall Penetration
SS-8	Typical Sewer Service Connection
SS-9	Deep Sewer Service Connection
SS-10	Reference Post
SS-11	Cleanout
SS-12	Tracer Wire
SS-13	Tracer Wire Test Station
SS-14	Typical Trench Section
SS-15	Trench Section Pipe Insulation
SS-16	Pipe Bedding Detail
SS-17	Pipe Bedding
SS-18	Bore Casting Detail

GENERAL SANITARY SEWER NOTES:

1. ALL MATERIALS AND WORKMANSHIP FOR SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE LATEST KREMMLING SANITATION DISTRICT STANDARDS, CDPHE REQUIREMENTS AND ALL OTHER APPLICABLE AGENCIES.
2. ALL DIRECT BURY SEWER MAINS SHALL BE PVC, ASTM D-3034, OR SDR35, OR IN ACCORDANCE WITH THE KREMMLING SANITATION DISTRICTS SPECIFICATIONS.
3. SEWER LINES SHALL BE 10 FEET FROM WATER LINES EXCEPT WHEN CROSSING EACH OTHER. FOR SEWER LINES WHICH CROSS LESS THAN 1 ½ FEET VERTICALLY FROM WATER LINES, THE CLOSEST SANITARY SEWER JOINT SHALL BE A MINIMUM OF 6 FEET FROM THE CROSSING.
4. ALL MANHOLES SHALL BE WATER TIGHT PRECAST CONCRETE, A MINIMUM OF 48 INCH IN DIAMETER WITH CONCENTRIC CONE, 24 INCH CAST IRON RING (8" DEPTH) AND COVER, UNLESS OTHERWISE SPECIFIED. CONCRETE ADJUSTMENT RINGS SHALL BE USED FOR ADJUSTMENT TO MATCH FINAL PAVEMENT ELEVATIONS AND SET IN MASTIC TO OBTAIN A WATER TIGHT SEAL. CONCRETE ADJUSTMENT RINGS SHALL BE 4" MINIMUM IN DEPTH TO ELIMINATE MULTIPLE JOINTS.
5. SEWER RIM ELEVATIONS SHOWN ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS, THE CONTRACTOR SHALL FIELD VERIFY ELEVATIONS.
6. THE CONTRACTOR TO VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL TIE IN POINTS PRIOR TO CONSTRUCTION AND PROVIDE THE DATA TO THE DISTRICT ENGINEER.
7. SANITARY SEWER SERVICES SHALL BE SEWER WYES. SEWER SERVICE WYES FOR EACH UNIT SHALL BE STAKED BY A SURVEY CREW, AND FURNISHED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER "AS RECORD" LOCATION OF WYES.
8. PIPE BEDDING SHALL BE CLASS "B" AND SHALL CONFORM TO ASTM C-33 OR D-448 GRADATION NO. 6 OR NO. 67. SQUEEGEE BEDDING IS PREFERRED. BEDDING DEPTH SHALL BE 6" UNDER AND AROUND THE SIDES OF THE PIPE AND 12" OVER THE PIPE. CONSOLIDATION IN PIPE ZONE SHALL BE BY HAND TAMPING.
9. AT LEAST 5 DAYS PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING WILL BE HELD AT THE DISTRICT AND ATTENDED BY THE CONTRACTOR AND REPRESENTATIVES OF THE OTHER APPROVING AGENCIES. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE DISTRICT ENGINEER TO SCHEDULE THIS MEETING.
10. THE CONTRACTOR WILL IDENTIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR WILL REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL HAVE IN THEIR POSSESSION AT ALL TIMES ONE SIGNED COPY OF PLANS APPROVED BY THE KREMMLING SANITATION DISTRICT AND THE DISTRICT ENGINEER. THESE PLANS WILL ALSO INCLUDE ALL ADDENDUMS OR REVISIONS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE KREMMLING SANITATION DISTRICT AND THE DISTRICT ENGINEER.
12. ALL MANHOLES SHALL HAVE SHAPED INVERTS.
13. ALL SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE LATEST KREMMLING SANITATION DISTRICT STANDARDS PRIOR TO INITIAL ACCEPTANCE OR ANY CONNECTION TO AN EXISTING SEWER LINE. THE MAXIMUM "BELLY" ON LOW SPOTS IN THE NEW SEWER MAIN SHALL NOT EXCEED ¾ INCHES.

KREMMLING SANITATION DISTRICT
GENERAL SANITARY SEWER NOTES
SHEET 1 OF 3

SCALE: NONE

DETAIL: SS-1

14. PRIOR TO START OF WORK WHERE THE NEW SEWER MAIN IS TO BE INSTALLED INTO EXISTING DISTRICT SEWER SYSTEMS, THE NEAREST MANHOLE TO THE POINT OF TIE-IN SHALL BE PLUGGED WITH A PLUMBER'S PLUG ON THE INLET SIDE BY THE CONTRACTOR. THIS PLUG SHALL REMAIN IN PLACE UNTIL INITIAL ACCEPTANCE BY THE CLIENT'S ENGINEER. ITS PURPOSE SHALL BE TO PREVENT MUD, WATER OR OTHER MATERIALS FROM ENTERING THE LINE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PUMPING AND CLEANING THESE MANHOLES AND REMOVING THE PLUG WHEN SO INSTRUCTED BY THE DISTRICT'S ENGINEER.
15. PRIOR TO THE INITIAL ACCEPTANCE WALK-THROUGH, THE CONTRACTOR/DEVELOPER SHALL JET CLEAN THE ENTIRE SANITARY SEWER SYSTEM AND PUMP OUT AT THE PLUGGED MANHOLE. AFTER CLEANING THE SEWER MAIN, THE CONTRACTOR WILL DUMP CLEAN WATER DOWN THE SEWER MAIN PRIOR TO THE VIDEO INSPECTION. THE CONTRACTOR WILL PUMP OUT AND DISPOSE OF WATER AT AN APPROVED MANHOLE. CONTRACTOR WILL VIDEO THE SEWER LINES, FOR THE DISTRICT REVIEW BEFORE ACCEPTANCE BY THE DISTRICT'S ENGINEER. VIDEOS SHOULD BE SENT DIRECTLY TO THE DISTRICT VIA DROPBOX.
16. ABANDONING PROCEDURES:

 FOR SANITARY SEWER MAINS TO BE ABANDONED - PLACE MECHANICAL PLUG IN THE PIPE AND FILL 2' OF ABANDONED SEWER LINE WITH CONCRETE.

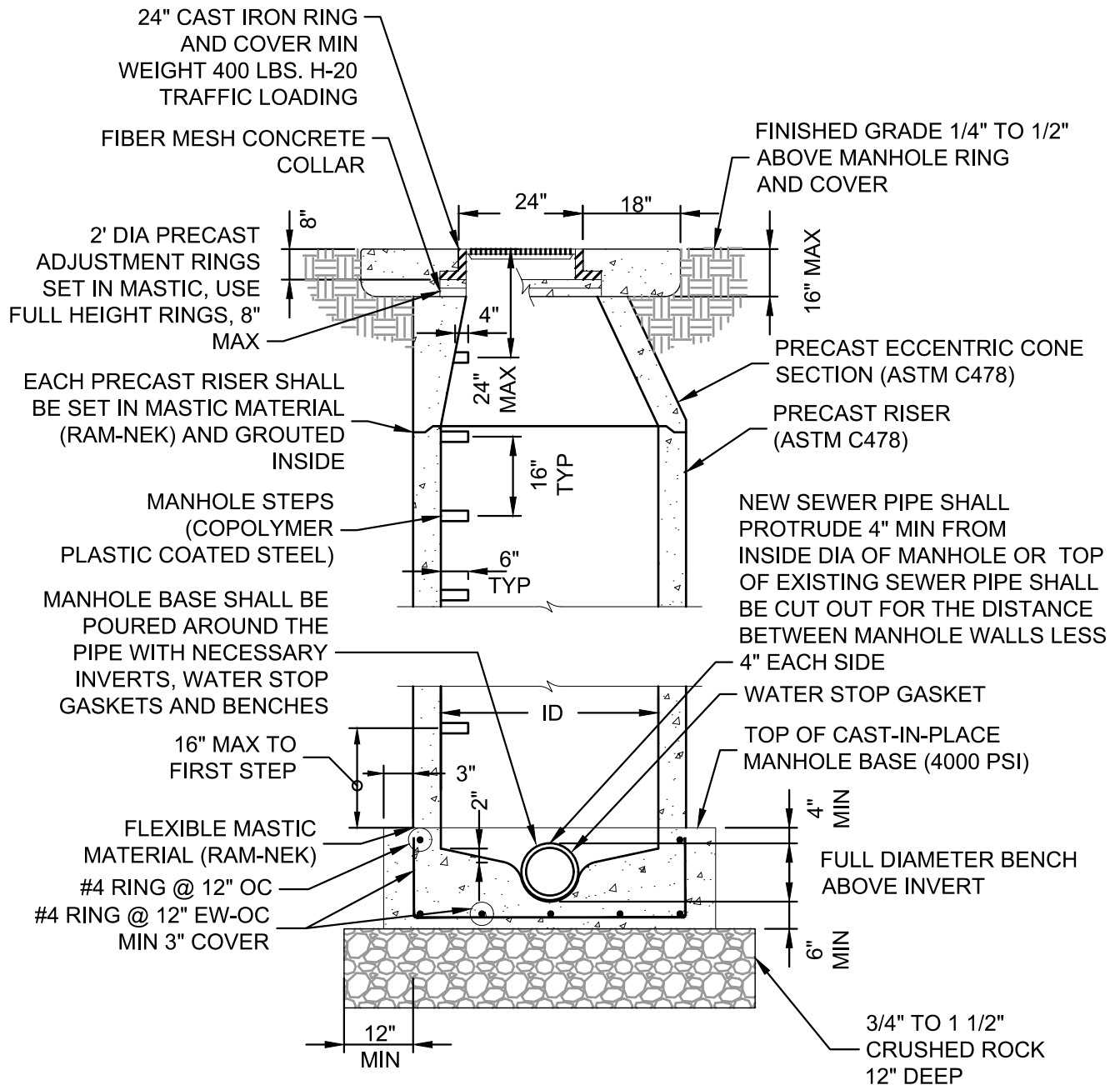
 FOR SANITARY SEWER MANHOLES TO BE ABANDONED - FILL LOWER 1/3 OF MANHOLE WITH CLSM AND REMAINDER OF MANHOLE WITH SQUEEGEE. IF THE CHIMNEY LENGTH IS LESS THAN 18", REMOVE CONE SECTION AS WELL. IN BOTH CASES, REMOVE THE CAST IRON COVER, RING AND CONCRETE ADJUSTMENT RINGS PROCEDURE TO BE DETERMINED BY THE DISTRICT PRIOR TO CONSTRUCTION.
17. MAXADAPTER PIPE COUPLINGS WILL BE REQUIRED FOR MAINLINE PIPE AND LATERAL SERVICES.
18. DURAN RELINER WILL BE REQUIRED FOR INSIDE DROP MANHOLES. STAINLESS STEEL BOLTS WILL BE REQUIRED.
19. ALL BARREL SECTIONS OF MANHOLES SHALL BE GROUTED INSIDE AT JOINTS.
20. IF SEWAGE BYPASS PUMPING IS NECESSARY, A PUMPING PLAN SHALL BE SUBMITTED AND APPROVED BY THE DISTRICT'S ENGINEER, THE CONTRACTOR WILL SUPPLY AND MONITOR THE PUMP DURING THE ENTIRE PUMPING PERIOD. A BACK-UP PUMP WILL BE ONSITE FOR USE IF NECESSARY. BYPASS HOSE SHALL BE PROTECTED FROM TRAFFIC DAMAGE USING APPROVED APPARATUS. FOR ALL SEWAGE BYPASS PUMPING. THE CONTRACTOR WILL HAVE CONTINUOUS ON SITE MONITORING OF PUMPING OPERATIONS.
21. SHOULD TRENCH DEWATERING BECOME NECESSARY, THE CONTRACTOR WILL OBTAIN ALL REQUIRED PERMITS AND SUPPLY THE PUMPS REQUIRED TO COMPLETE THE WORK.

21. THE OPENING OR CHANNEL IN THE MH MUST BE NO LESS THAN THE DIAMETER OF THE PIPE, AND NO LESS THAN THE MH DIAMETER MINUS 4 INCHES IN LENGTH TO ACCOMMODATE EQUIPMENT NECESSARY TO MAINTAIN THE SEWER LINE.
22. ALL MANHOLE AND SANITARY SEWER MAIN TESTING SHALL BE WITNESSED BY A REPRESENTATIVE OF THE DISTRICT. A MINIMUM OF 24 HOURS ADVANCED NOTICE IS REQUIRED PRIOR TO TESTING.
23. ALL MANHOLE/VAULT EXTERIOR JOINTS SHALL BE WRAPPED IN 12-INCH WIDE CONSEAL CS 212 OR APPROVED EQUIVALENT.
24. MANHOLE/VAULT BARREL SECTIONS WILL REQUIRE AN EXTERIOR COATING OF TNEMEC SERIES 46-465 OR APPROVED EQUIVALENT IF GROUNDWATER IS ENCOUNTERED IN THE TRENCH.
25. ALL PRECAST CONCRETE SHALL BE 4,000 PSI MINIMUM STRENGTH.

KREMMLING SANITATION DISTRICT
GENERAL SANITARY SEWER NOTES
SHEET 3 OF 3

SCALE: NONE

DETAIL: SS-3



MANHOLE ID:
 ID = 4' FOR SEWER MAIN DIAMETERS < 15"
 ID = 5' FOR SEWER MAIN DIAMETERS 15"-36"
 ID = 6' FOR SEWER MAIN DIAMETERS 42"-48"

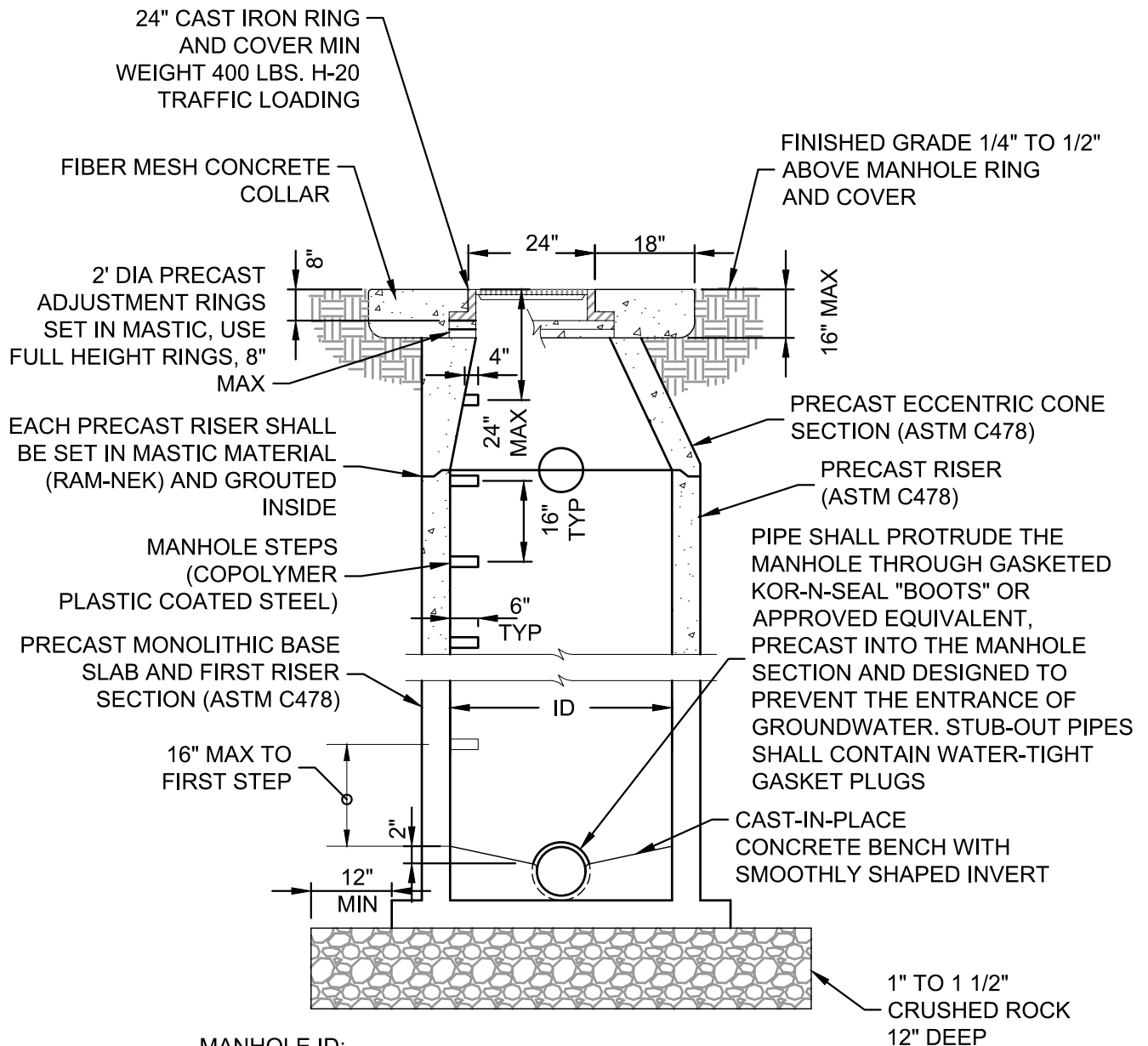
NOTE:

1. MANHOLE/Vault EXTERIOR JOINTS SHALL BE WRAPPED IN 12" WIDE CONSEAL JOINT WRAP CS 212.
2. MANHOLE/Vault BARREL SECTIONS WILL REQUIRE AN EXTERIOR COATING OF TNE MEC SERIES 46-465 OR APPROVED EQUIVALENT IF GROUNDWATER IS ENCOUNTERED IN THE TRENCH.

KREMMLING SANITATION DISTRICT
 SANITARY SEWER MANHOLE
 CAST IN PLACE (CIP)

SCALE: NONE

DETAIL: SS-4



MANHOLE ID:
 ID = 4' FOR SEWER MAIN DIAMETERS < 15"
 ID = 5' FOR SEWER MAIN DIAMETERS 15"-36"
 ID = 6' FOR SEWER MAIN DIAMETERS 42"-48"

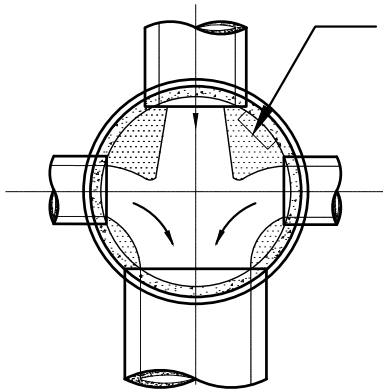
NOTES:

1. MANHOLE/VAULT EXTERIOR JOINTS SHALL BE WRAPPED IN 12" WIDE CONSEAL JOINT WRAP CS 212.
2. MANHOLE/VAULT BARREL SECTIONS WILL REQUIRE AN EXTERIOR COATING OF TNE MEC SERIES 46-465 OR APPROVED EQUIVALENT IF GROUNDWATER IS ENCOUNTERED IN THE TRENCH.

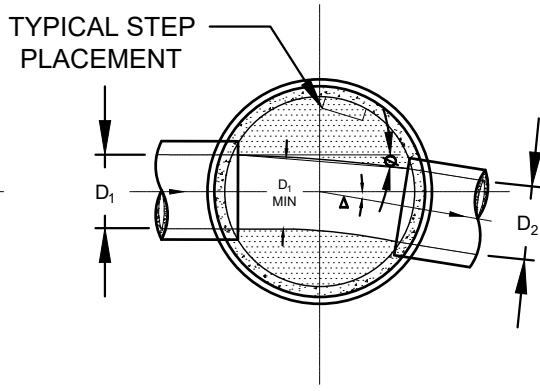
KREMMLING SANITATION DISTRICT SANITARY SEWER MANHOLE (PRECAST BASE)	
SCALE: NONE	DETAIL: SS-5

CHANNELIZATION NOTES:

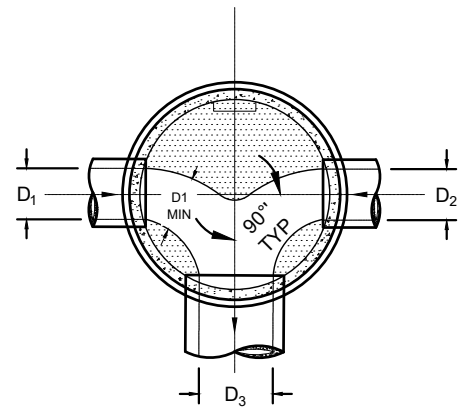
1. DETAILS SHOWN ARE TYPICAL ONLY FOR INSTALLATIONS WITH ALL INVERTS AT SAME RELATIVE ELEVATION.
2. FOR EXCESSIVE ELEVATION DIFFERENCE BETWEEN INVERTS, ETC. SPECIAL BASE/CHANNEL DETAILS SHALL BE SHOWN ON PLANS.
3. CHANNELIZATION DETAILS & STEP PLACEMENT TYPICAL FOR BOTH STORM AND SANITARY SEWER MH'S.
4. THE MINIMUM VERTICAL DROP THRU MANHOLE BASE SHALL BE 0.10 FOOT FOR STORM SEWERS AND 0.2 FOOT FOR SANITARY SEWER.
5. FOR SANITARY SEWER, VERTICAL DROPS IN EXCESS OF 18" REQUIRE AN INSIDE DROP.



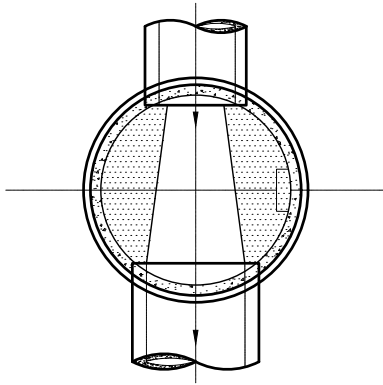
THROUGH PIPE - TWO LATERAL



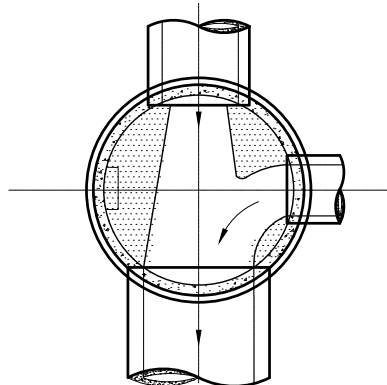
SLIGHT ANGLE
 $\theta \leq 15^\circ$
 $\Delta \geq 30^\circ$



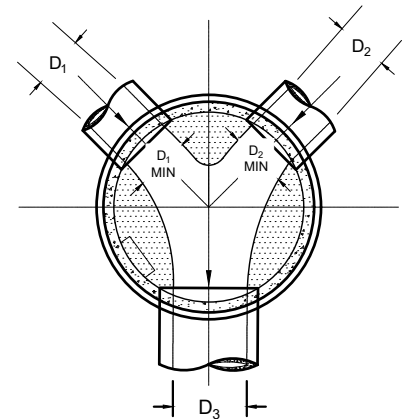
OPPOSED LATERALS



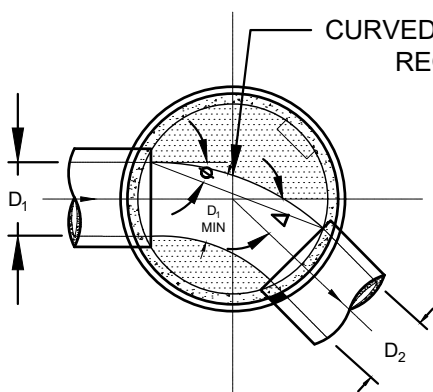
THROUGH PIPE



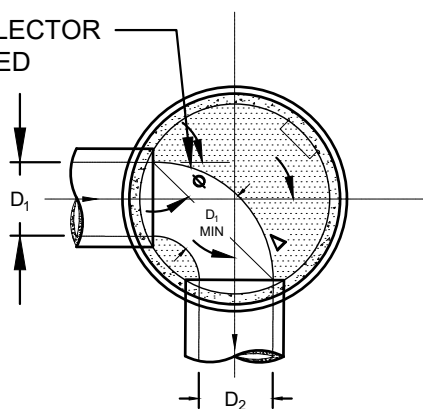
THROUGH PIPE - ONE LATERAL



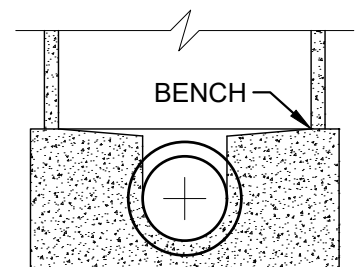
ANGLED LATERALS



INTERMEDIATE ANGLE
 $\theta \leq \Delta/2$
 $30^\circ < \Delta < 90^\circ$



SHARP ANGLE
 $\theta = 45^\circ$
 $\Delta < 90^\circ$

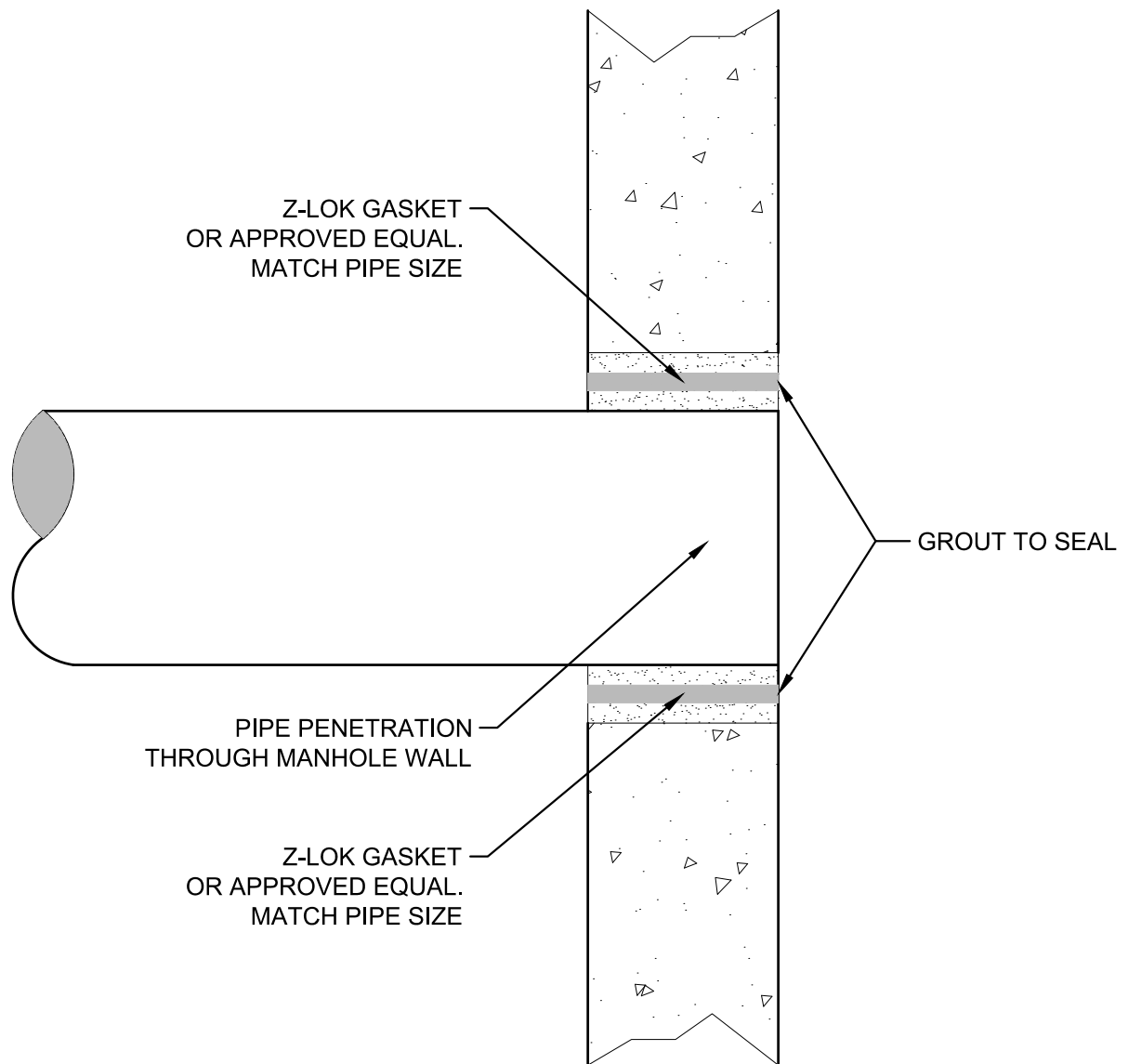


IDEAL MH CHANNEL SECTION

KREMMLING SANITATION DISTRICT
 TYPICAL MANHOLE BASE
 CHANNELIZATION

SCALE: NONE

DETAIL: SS-6



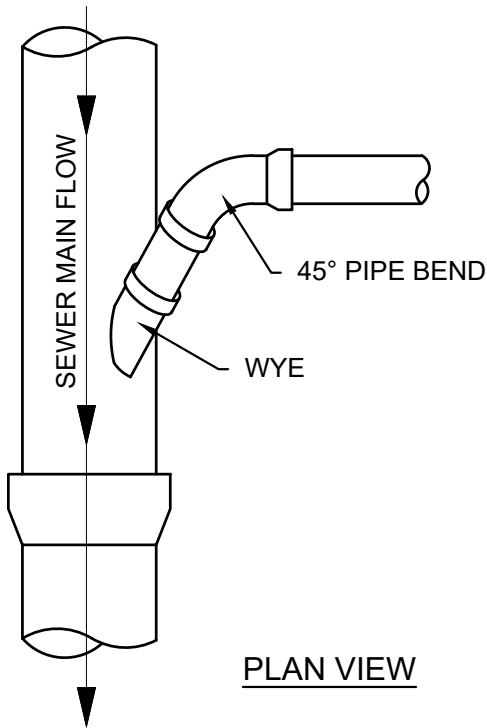
NOTES:

1. FOR FIELD CORED PENETRATIONS, LINK SEAL IS REQUIRED.

KREMMLING SANITATION DISTRICT
MANHOLE WALL
PENETRATION DETAIL

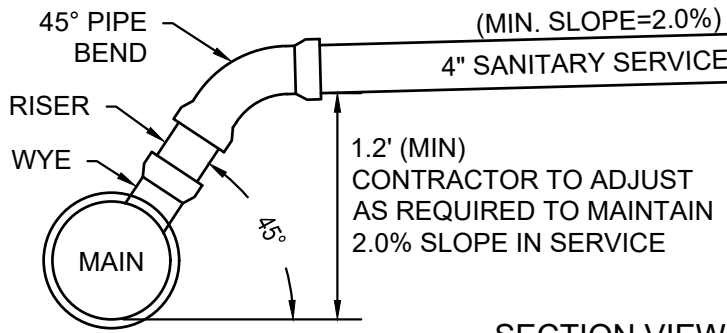
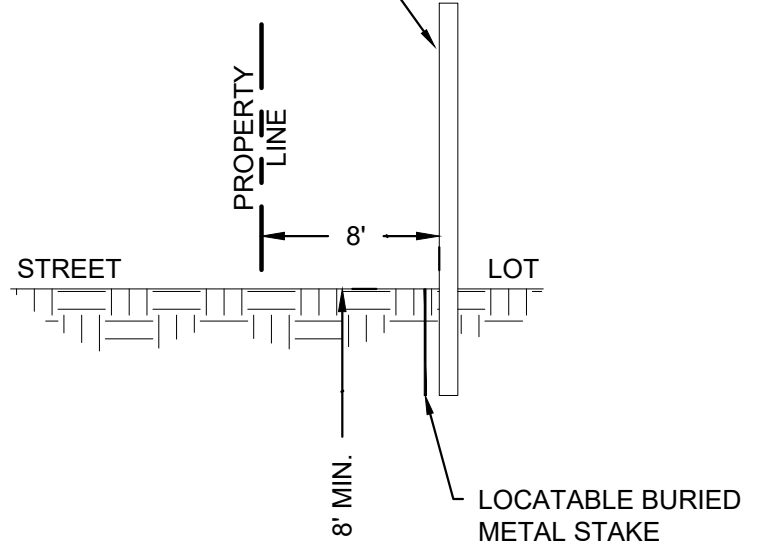
SCALE: NONE

DETAIL: SS-7



PLAN VIEW

2"X4" MARKER POST SET
4' DEEP, 6' ABOVE GROUND,
PAINTED GREEN



SECTION VIEW

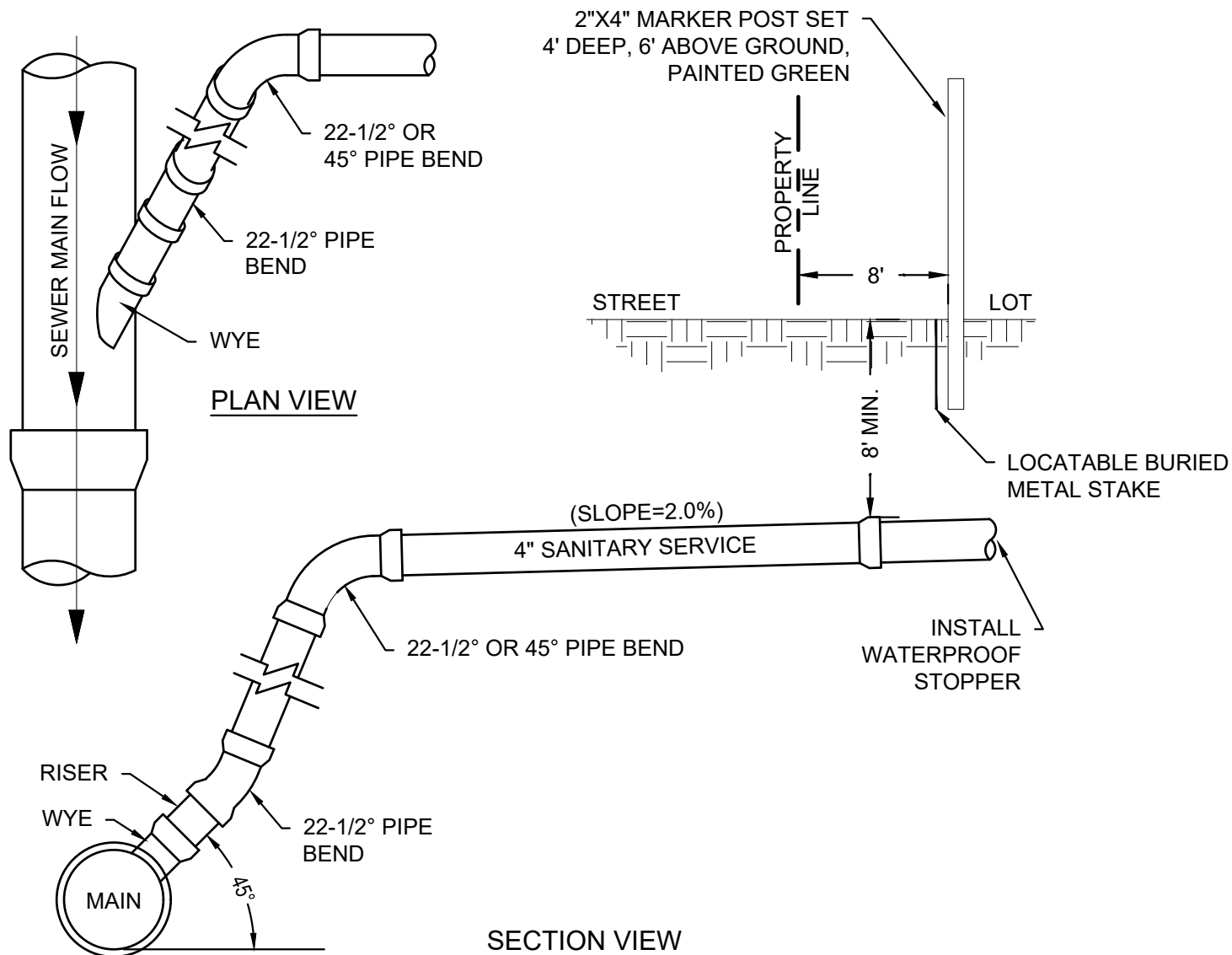
NOTES:

1. SANITARY SEWER SERVICE TAPS SHALL BE LOCATED ON THE MAIN AT THE 2 O'CLOCK OR 10 O'CLOCK POSITION.
2. SANITARY SEWER SERVICE TAPS SHALL NOT BE MADE WITHIN 3 FEET OF A PIPE JOINT OR 5 FEET FROM EDGE OF MANHOLE BASE.
3. DEPTH OF BURY OF SANITARY SEWER SERVICE LINE AT ROW WILL BE AT THE DISCRETION OF THE DISTRICT AND TO BE DETERMINED ON A PROJECT BASIS AND DISCUSSED AT THE PRE-DESIGN MEETING.
4. MINIMUM DISTANCE BETWEEN TWO 45° BENDS IS 3 FEET.
5. SEWER SERVICE CONNECTIONS SHALL BE MADE USING "WYE" FITTINGS UNLESS OTHERWISE APPROVED BY DISTRICT ENGINEER.
6. RISER SEGMENT SHALL BE EXTENDED AS NEEDED TO MAINTAIN THE 4" SANITARY SERVICE AT A SLOPE OF 2%-8%.

KREMMLING SANITATION DISTRICT
SANITARY SEWER WYE BRANCH CONNECTION
FOR MAIN DEPTH LESS THAN 12 FEET

SCALE: NONE

DETAIL: SS-8



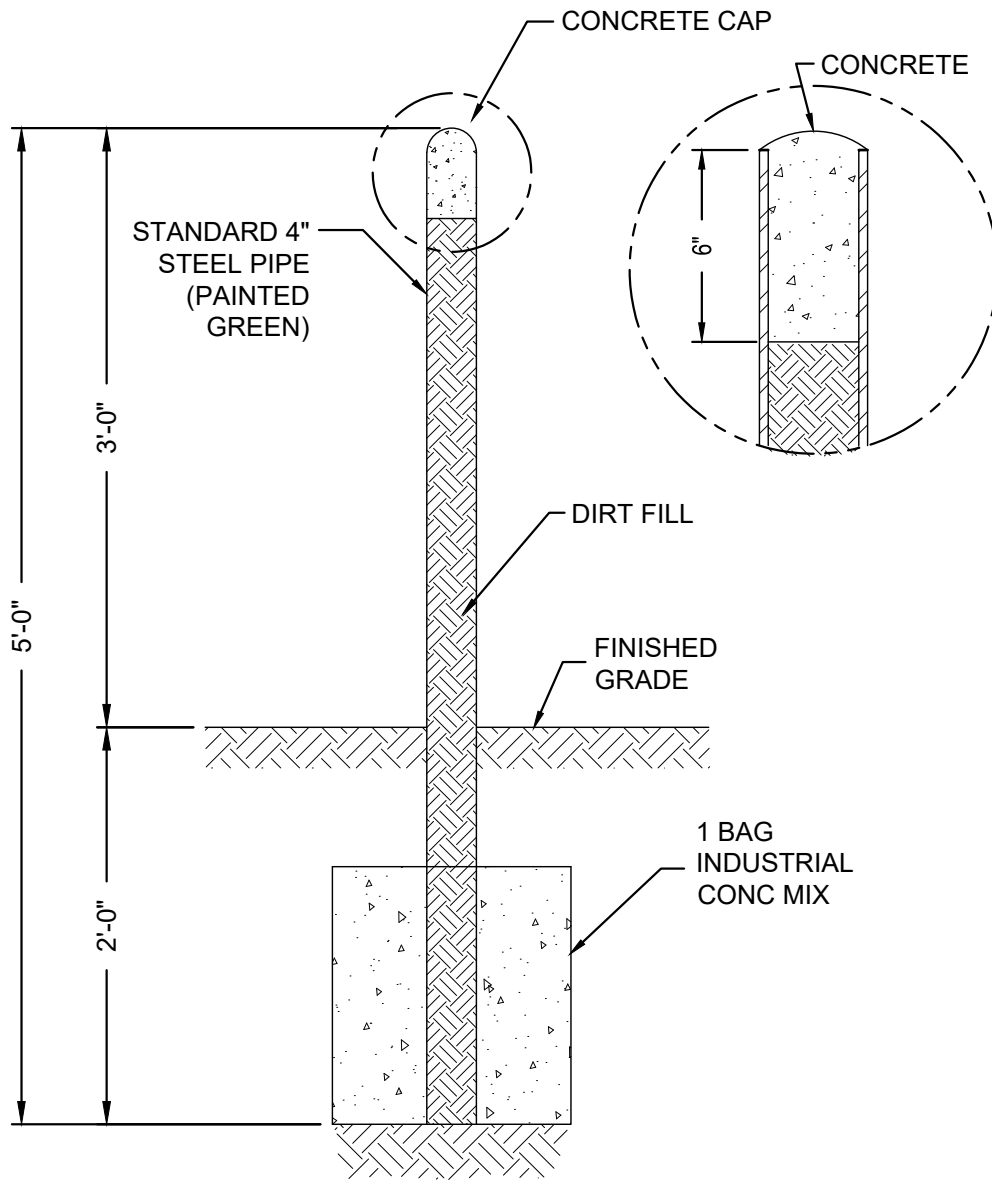
NOTES:

1. SANITARY SEWER SERVICE TAPS SHALL BE LOCATED ON THE MAIN AT THE 2 O'CLOCK OR 10 O'CLOCK POSITION.
2. SANITARY SEWER SERVICE TAPS SHALL NOT BE MADE WITHIN 3 FEET OF A PIPE JOINT OR 5 FEET FROM EDGE OF MANHOLE BASE.
3. DEPTH OF BURY OF SANITARY SEWER SERVICE LINE AT ROW WILL BE AT THE DISCRETION OF THE DISTRICT AND TO BE DETERMINED ON A PROJECT BASIS AND DISCUSSED AT THE PRE-DESIGN MEETING.
4. MINIMUM DISTANCE BETWEEN TWO 45° BENDS IS 3 FEET.
5. SEWER SERVICE CONNECTIONS SHALL BE MADE USING "WYE" FITTINGS UNLESS OTHERWISE APPROVED BY DISTRICT ENGINEER.
6. RISER SEGMENT SHALL BE EXTENDED AS NEEDED TO MAINTAIN THE 4" SANITARY SERVICE AT A SLOPE OF 2%-8%.

KREMMLING SANITATION DISTRICT
SANITARY SEWER WYE BRANCH CONNECTION
FOR MAIN DEPTH GREATER THAN 12 FEET

SCALE: NONE

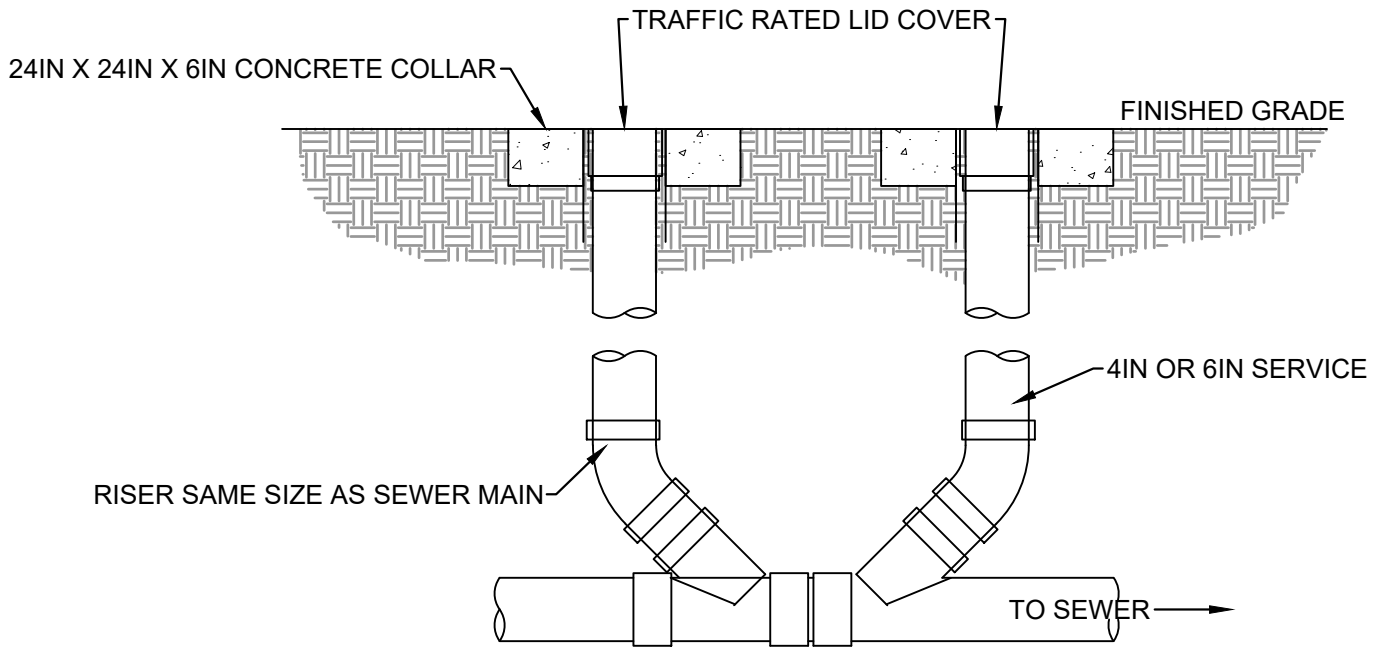
DETAIL: SS-9



NOTES:

THE DISTRICT MARKER POST STANDARD IS FLEXIBLE CARSONITE, COLOR-CODED BY UTILITY. THE DISTRICT SHALL BE CONTACTED TO DETERMINE WHERE, AND UNDER WHAT CONDITIONS, STEEL MARKER POSTS WILL BE REQUIRED IN LIEU OF CARSONITE.

KREMMLING SANITATION DISTRICT REFERENCE POST TYPICAL DETAIL	
SCALE: NONE	DETAIL: SS-10



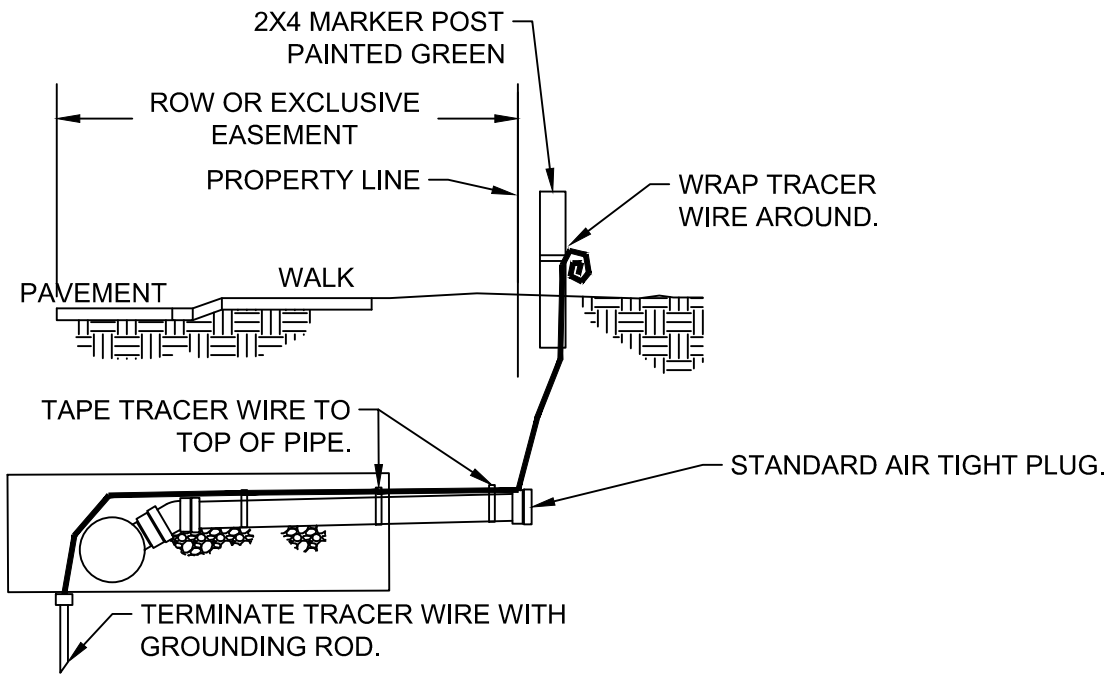
NOTES:

1. DOUBLE CLEANOUT REQUIRED EVERY 100' OF SERVICE LINE.
2. CLEANOUTS AT THE HOME MUST MEET BUILDING CODE REQUIREMENTS.

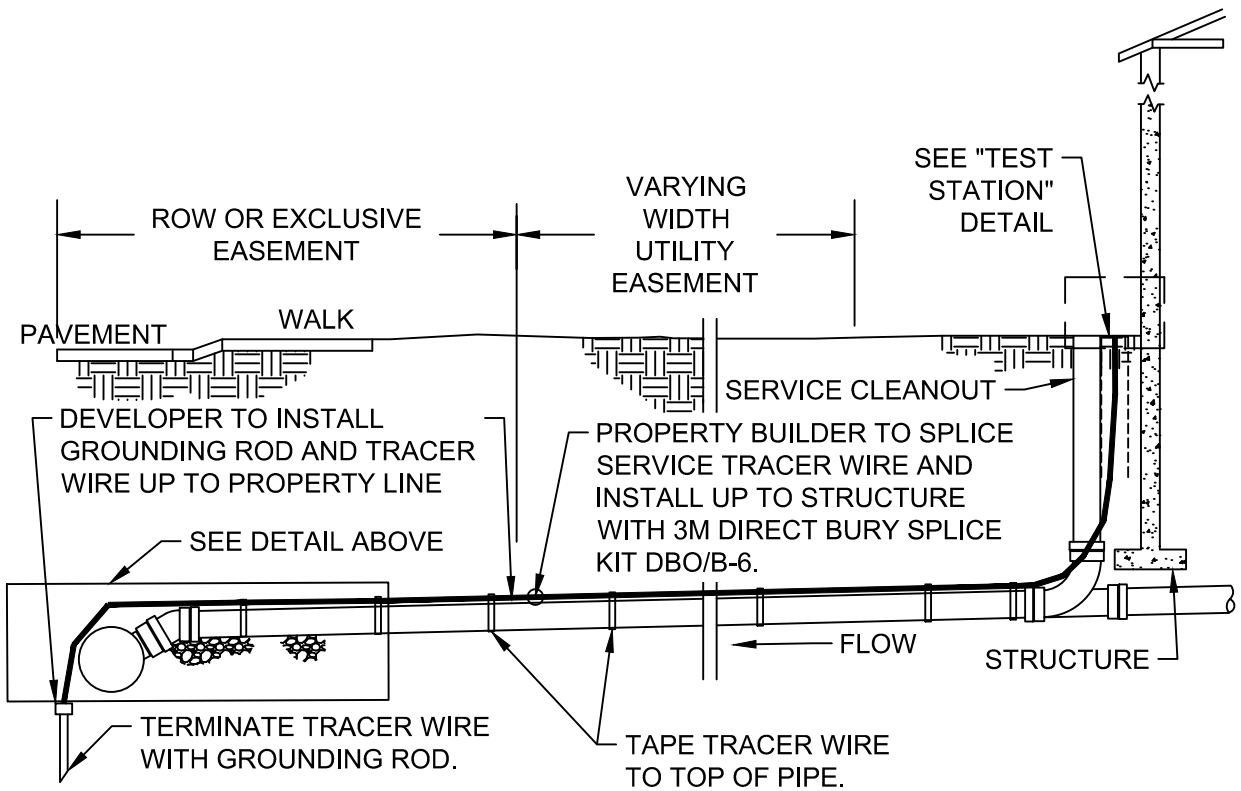
KREMMLING SANITATION DISTRICT
 TYPICAL DOUBLE SWEEP CLEANOUT

SCALE: NONE

DETAIL: SS-11

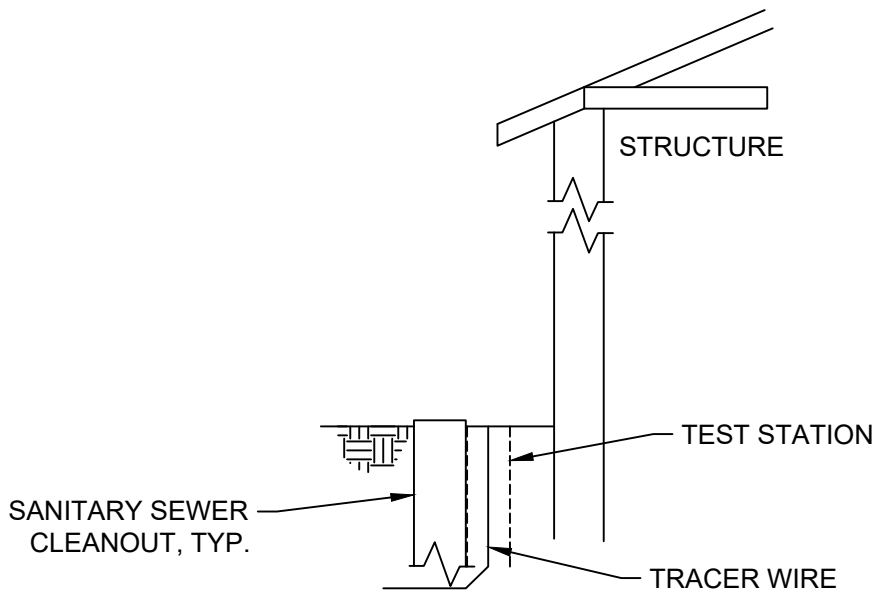


TRACER WIRE INSTALLATION - NEW CONSTRUCTION



TRACER WIRE INSTALLATION ELEVATION VIEW

KREMMLING SANITATION DISTRICT SANITARY SEWER TRACER WIRE DETAIL	
SCALE: NONE	DETAIL: SS-12

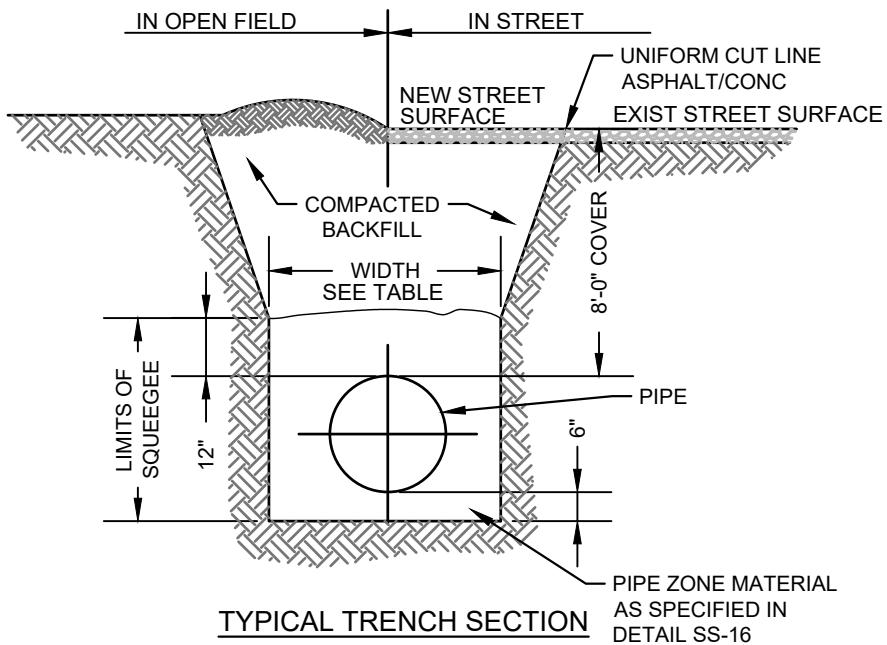


TEST STATION AT STRUCTURE

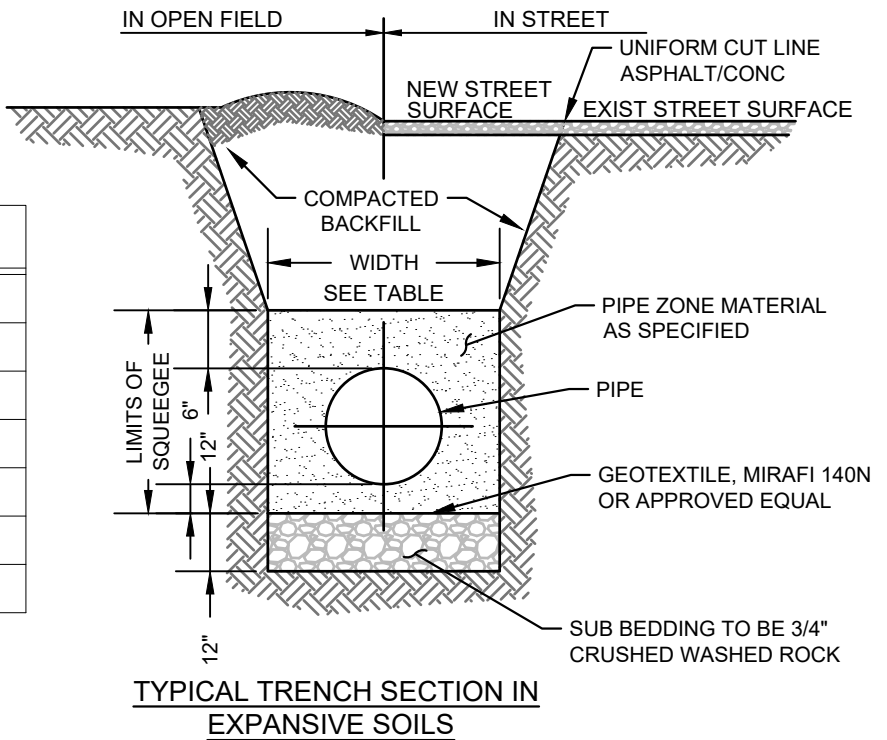
NOTES:

1. DEVELOPER TO INSTALL TRACER WIRE FROM SS MAIN TO THE TEST STATION BOX ON THE EDGE OF ROW. TEST STATION FOR NEW DEVELOPMENT SHALL BE A COIL OF 2 FT (LINEAR) TRACER WIRE, SECURED TO THE SERVICE STUB MARKER POST.
2. PROPERTY BUILDER LINE AND INSTALL UP TO STRUCTURE, TERMINATING AT THE SS SERVICE CLEANOUT WITH A SNAKE PIT LITE DUTY TEST STATION WITH SINGLE TERMINAL LID, MANUFACTURER COPPERHEAD, OR APPROVED EQUAL.
3. THE TEST STATION SHALL BE CONNECTED TO THE CLEANOUT AT THE SAME ELEVATION WITH SEVERAL WRAPS OF HIGH STRENGTH PIPE WRAP TAPE.

KREMMLING SANITATION DISTRICT SANITARY SEWER TRACER WIRE TEST STATION DETAIL	
SCALE: NONE	DETAIL: SS-13



PIPE ZONE MATERIAL AS SPECIFIED IN DETAIL SS-16

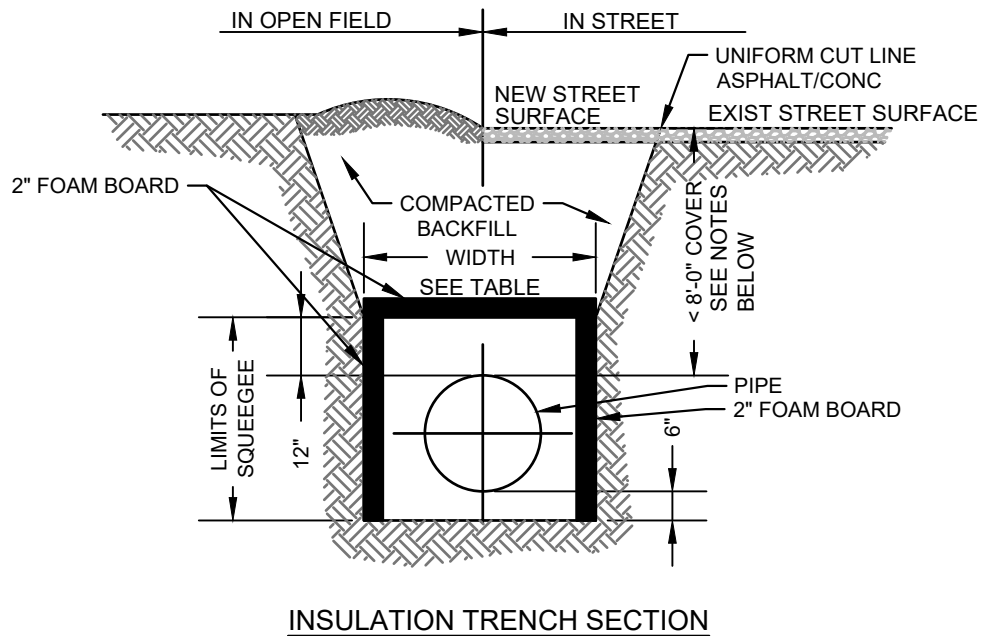


PIPE Ø	MIN WIDTH	MAX WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"
24"	4'-0"	5'-0"

NOTES:

1. MIN COVER TO BE 8.0' BELOW GRADE. SEE DETAIL 15 FOR SHALLOWER LINES.
2. TRENCH WALLS TO BE SUPPORTED AS REQUIRED BY OSHA.
3. PIPE SHALL BE BEDDED WITH SQUEEGEE FROM 6" BELOW THE BOTTOM OF THE PIPE TO 12" ABOVE THE TOP OF THE PIPE.
4. COMPACTION SHALL BE PER SPECIFICATION.

KREMMLING SANITATION DISTRICT TYPICAL TRENCH SECTION PIPE PROTECTION	
SCALE: NONE	DETAIL: SS-14



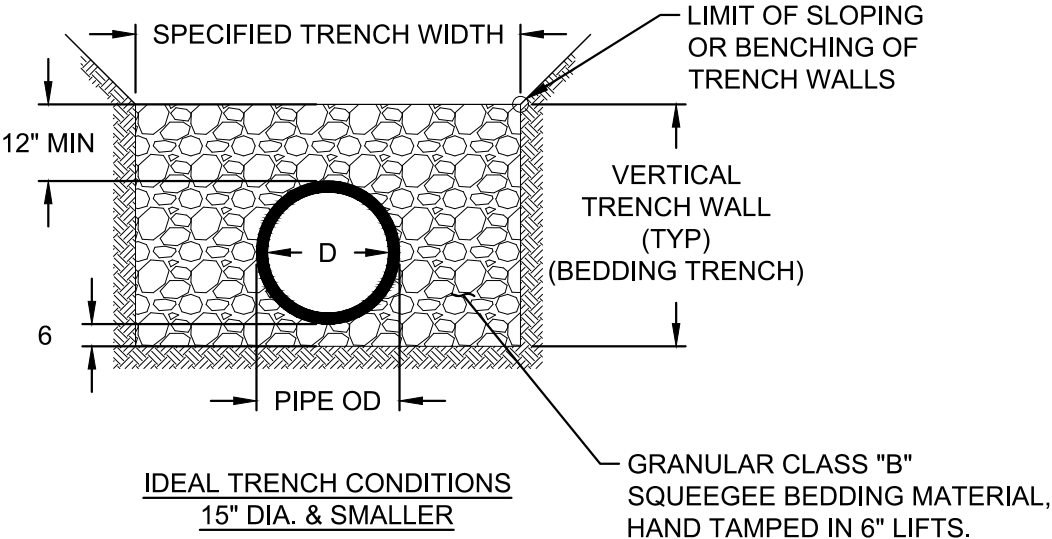
NOTES:

1. MIN COVER TO BE 8.0' BELOW GRADE.
2. 2" FOAM INSULATION BOARD SHALL BE USED FOR ANY DEPTHS SHALLOWER THAN 8' BURY DEPTH TO TOP OF PIPE.
3. 2" FOAM BOARD EQUALS 1' OF COVER.
4. FOAM BOARD SHALL EXTEND THE FULL WIDTH OF THE BEDDING AREA AND THE TRENCH SIDE WALLS
5. FOAM BOARD SHALL BE OVERLAPPED BY A MINIMUM OF 6".

KREMMLING SANITATION DISTRICT TYPICAL TRENCH SECTION PIPE MAINLINE & SERVICE LINE INSULATION	
SCALE: NONE	DETAIL: SS-15

MIN DEPTH OF BEDDING MAT'L BELOW BOTTOM OF PIPE	
18" & SMALLER	6"
21" TO 36"	6"

- NOTES:**
1. BELL HOLES SHALL BE EXCAVATED AT ALL BELL AND SPIGOT JOINTS.
 2. BEDDING TRENCH BACKFILL TO BE COMPACTED TO 90% DENSITY, AASHTO T-180 IN OPEN AREAS AND 95% DENSITY AASHTO T-99 IN ALL PUBLIC R.O.W.



CLASS "B" BEDDING MATERIAL SHALL CONSIST OF A WELL GRADED MIXTURE OF MINERAL AGGREGATE. THE AGGREGATE SHALL BE SQUEEGEE WITH A MAXIMUM AMOUNT OF FINES PASSING A NO 200 SCREEN NOT TO EXCEED 5% BY WEIGHT. THE AGGREGATE SHALL COMPLY WITH ASTM C-33 OR ASTM D-448, GRADATION #6 OR #67. IF THE EXCAVATION FOR BEDDING IS BELOW THE WATER TABLE, THE SUB-BEDDING MATERIAL SHALL CONSIST OF 3/4-INCH TO 1-1/2-INCH CRUSHED ROCK.

KREMMLING SANITATION DISTRICT SANITARY SEWER PIPE BEDDING DETAIL	
SCALE: NONE	DETAIL: SS-16

PIPE BEDDING:

(A) INSTALLATION OF BEDDING AND PIPE: AFTER COMPLETION OF THE TRENCH EXCAVATION AND PROPER PREPARATION OF THE FOUNDATION, SIX INCHES (6") OF BEDDING MATERIAL SHALL BE PLACED ON THE TRENCH BOTTOM FOR SUPPORT UNDER THE PIPE. BELL HOLES SHALL BE DUG DEEP ENOUGH TO PROVIDE A MINIMUM OF TWO INCHES (2") OF CLEARANCE BETWEEN THE BELL AND BEDDING MATERIAL. ALL PIPE SHALL BE INSTALLED IN SUCH A MANNER TO INSURE FULL SUPPORT OF THE PIPE BARREL OVER ITS ENTIRE LENGTH. AFTER THE PIPE IS ADJUSTED FOR LINE AND GRADE, AND THE JOINT IS MADE, THE BEDDING MATERIAL SHALL BE CAREFULLY PLACED AND TAMPED UNDER THE HAUNCHES OF THE PIPE AND IN THE PREVIOUSLY DUG BELL HOLES.

TAMPING IS HEREIN DEFINED AS THE ACT OF PLACING APPROVED BEDDING MATERIAL UNDER THE HAUNCHES OF THE PIPE, PAYING PARTICULAR ATTENTION TO VOIDS, BELL HOLES, AND SLING HOLES. THE PURPOSE OF TAMPING IS TO ENSURE UNIFORM SUPPORT FOR THE PIPE.

THE LIMITS OF BEDDING SHALL BE SIX INCHES (6") BELOW THE BOTTOM OF THE PIPE TO TWELVE INCHES (12") ABOVE THE TOP OF THE PIPE. APPROVED BACKFILL MAY THEN BE INSTALLED TO THE GROUNDLINE.

COMPACTION OF BEDDING IS NOT REQUIRED. THE ONLY REQUIREMENT IS SUFFICIENT TAMPING TO ACHIEVE UNIFORM SUPPORT UNDER THE PIPE. SEE DETAIL W-7 OF THE STANDARD DRAWINGS FOR A TYPICAL TRENCH CROSS SECTION.

(B) BEDDING MATERIAL: THE BEDDING MATERIAL SHALL BE CLEAN WELL-GRADED SAND OR SQUEEGEE SAND AND SHALL CONFORM TO THE FOLLOWING LIMITS WHEN TESTING BY MEANS OF LABORATORY SIEVES:

WELL-GRADED SAND

<u>SIEVE SIZE</u>	<u>TOTAL PERCENT PASSING BY WEIGHT</u>
3/8 INCH	100
NO.4	95-100
NO.8	80-100
NO.16	50-85
NO.30	25-60
NO.50	10-30
NO.100	2-10
NO.200	0

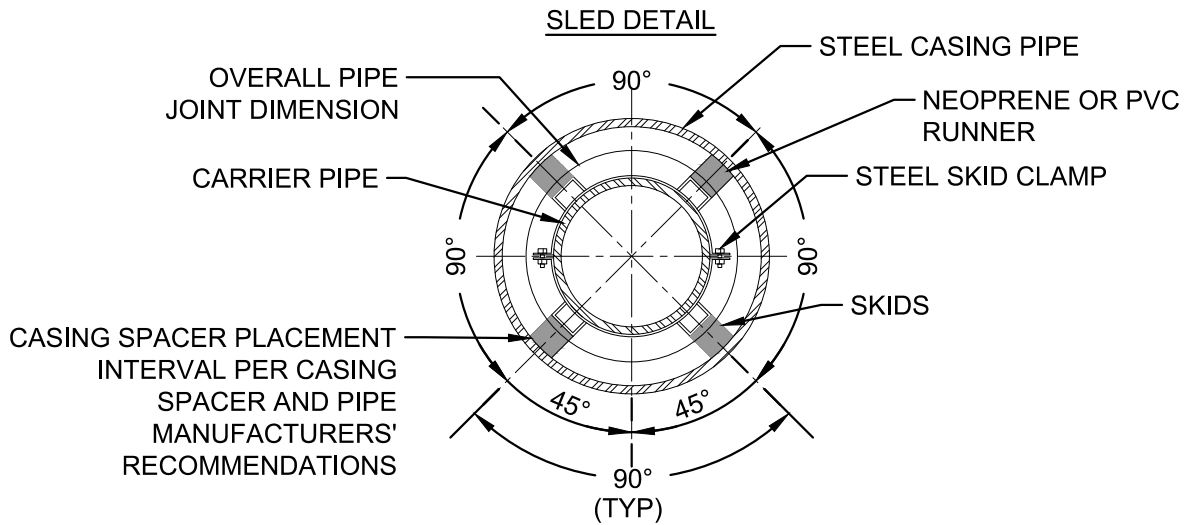
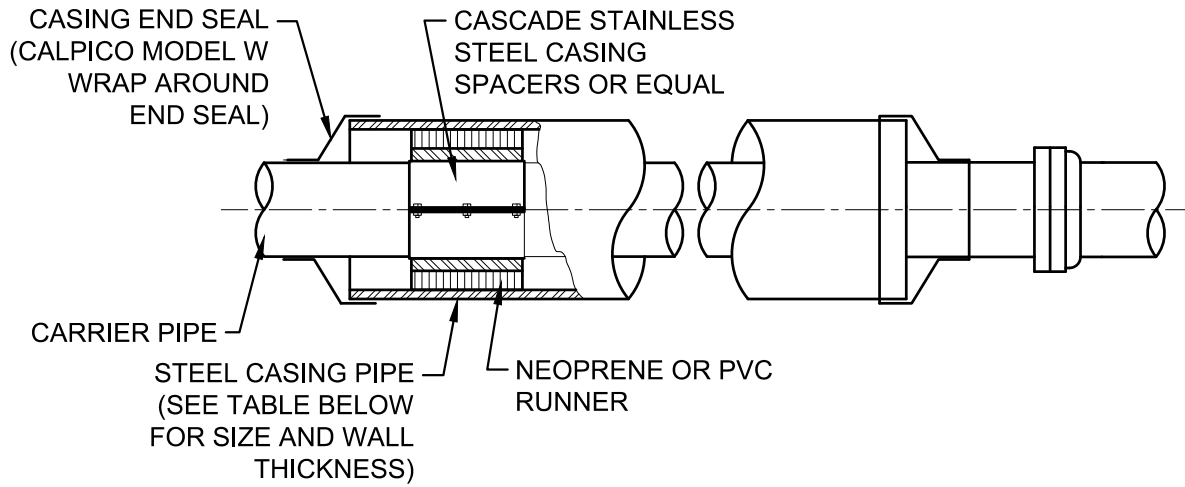
SQUEEGEE SAND

<u>SIEVE SIZE</u>	<u>TOTAL PERCENT PASSING BY WEIGHT</u>
3/8 INCH	100
NO.100	0-5

KREMMLING SANITATION DISTRICT
PIPE BEDDING

SCALE: NONE

DETAIL: SS-17



PIPE CASING DETAIL

CARRIER PIPE NOMINAL ϕ	CASING PIPE	
	MIN OD	MIN WALL THICKNESS
4"	12"	0.25"
6"	16"	0.3125"
8"	18"	0.3125"
12"	24"	0.375"
18"	30"	0.500"
20"	36"	0.5625"
24"	36"	0.5625"

KREMMLING SANITATION DISTRICT
BORE CASING DETAIL

SCALE: NONE

DETAIL: SS-18