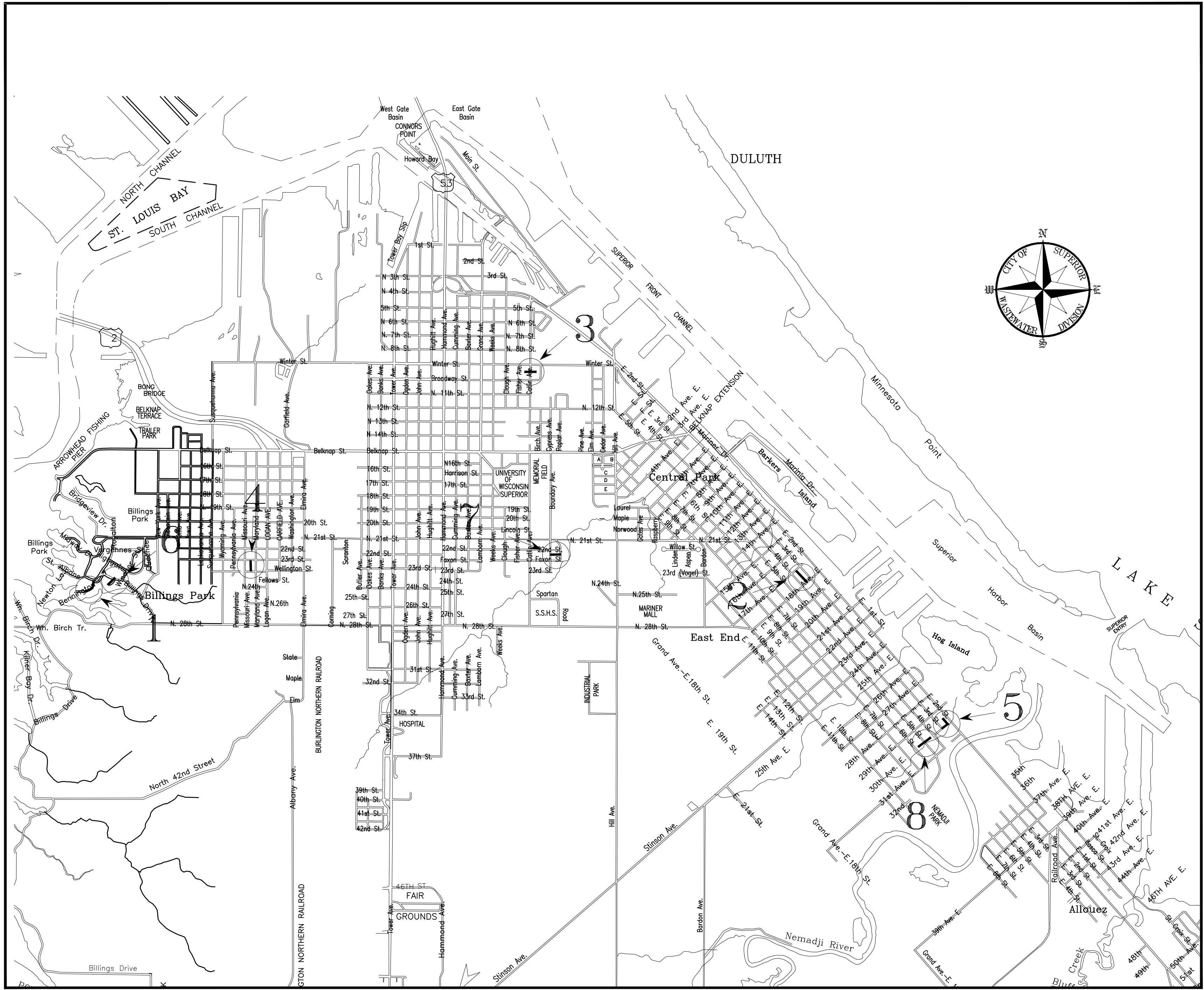


CITY OF SUPERIOR, WISCONSIN

RECORD DRAWING
NO CHANGES THIS SHEET

SEWER REPAIR PROJECT

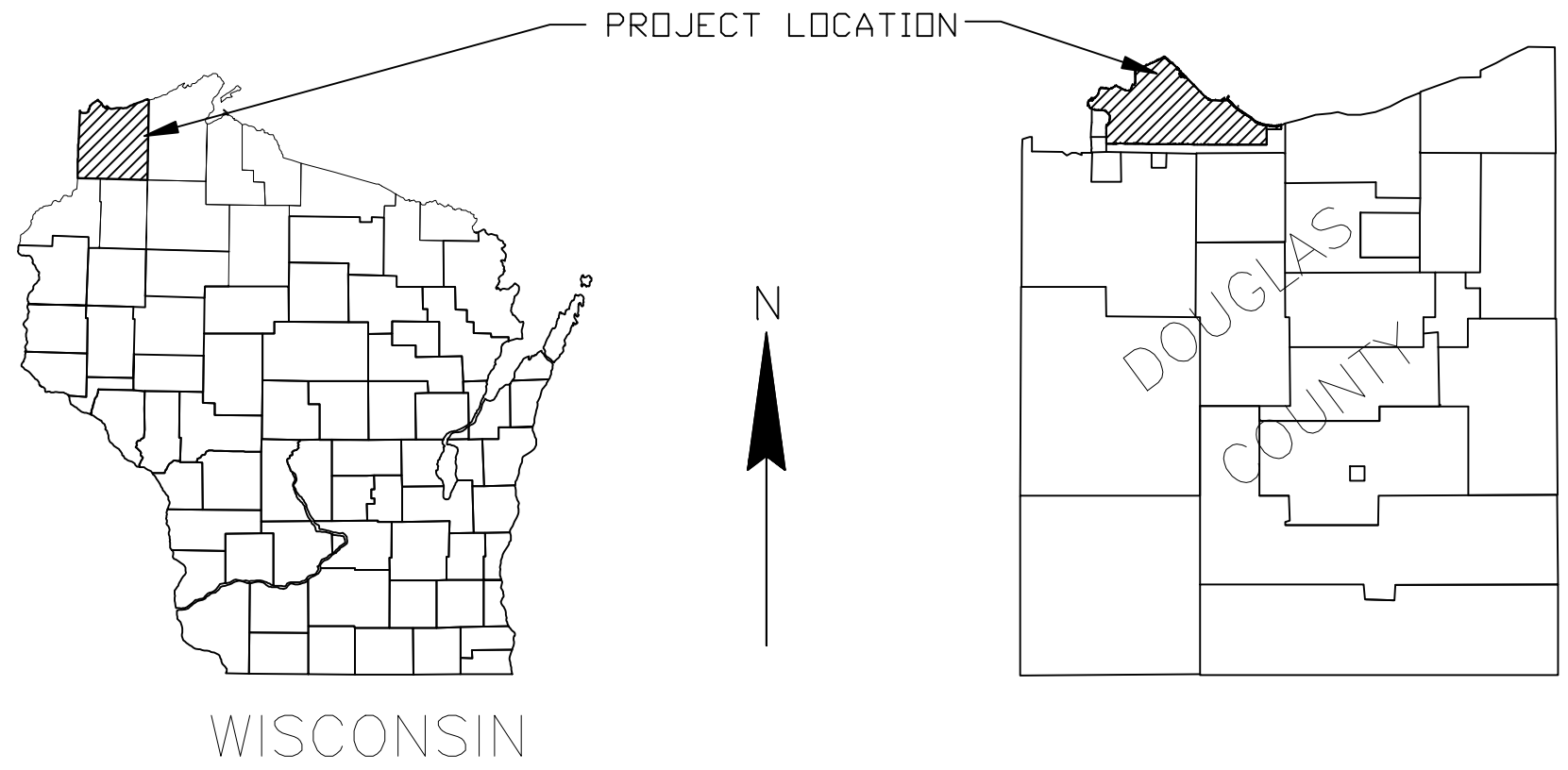


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REVISION DATE: 03/21/07

CITY OF SUPERIOR
LOCATION PLAN



WISCONSIN

1" = HORZ. FOR 22"x34" SHEETS
1" = VERT.



TITLE AND PROJECT
LOCATIONS

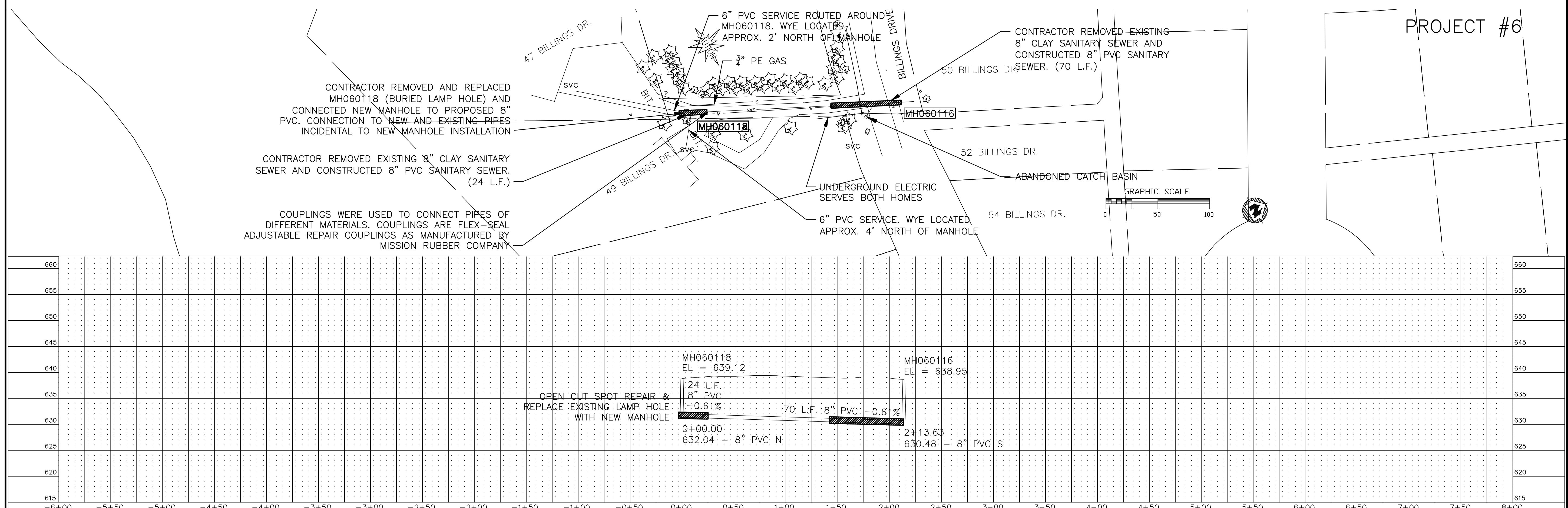
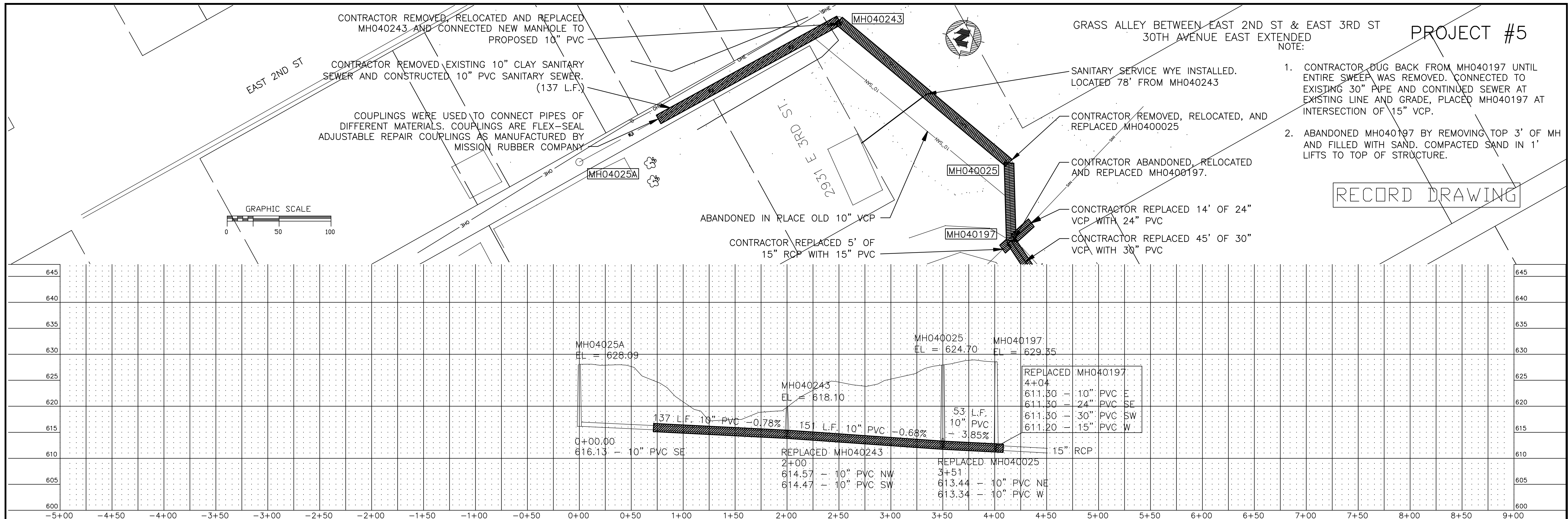
SUPERIOR SEWER REPAIR

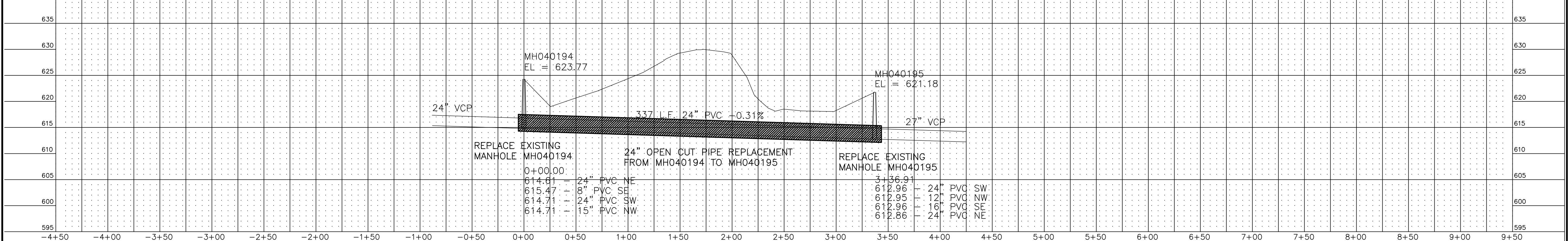
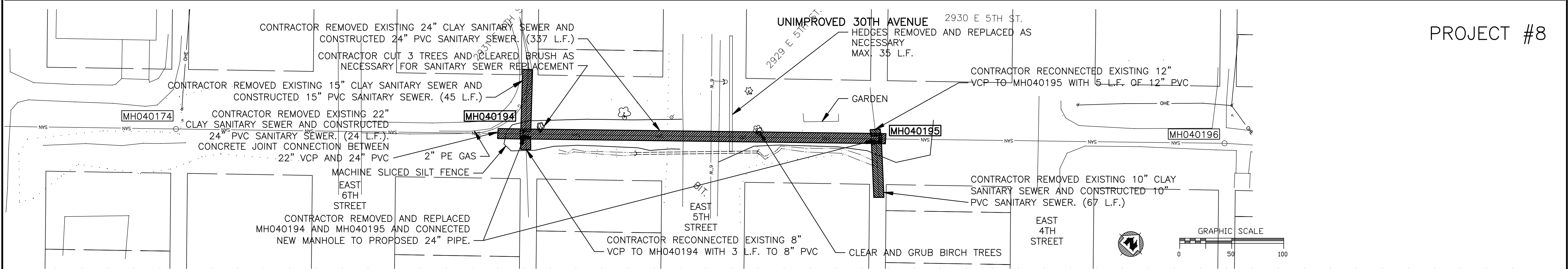
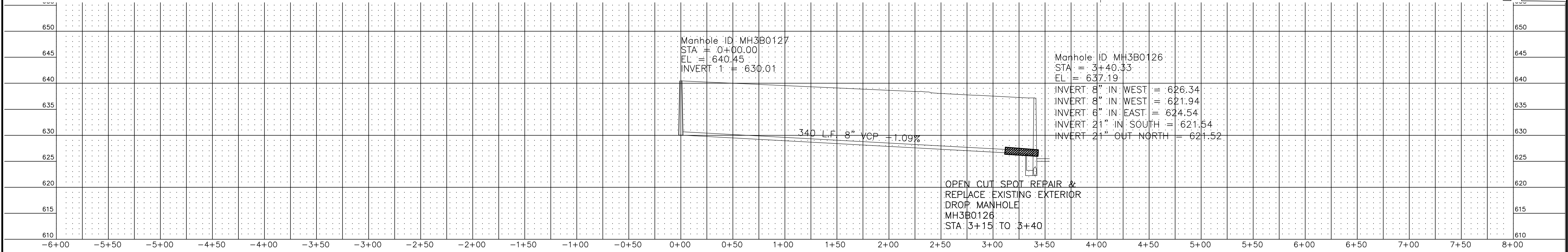
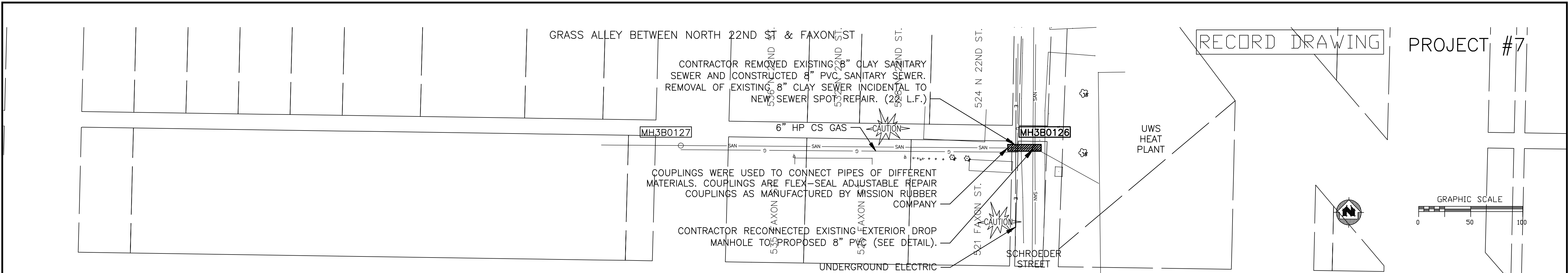
SUPERIOR, WISCONSIN

SURVEY JMW
DRAWN SWD
DESIGN SWD
APPROVED ERS

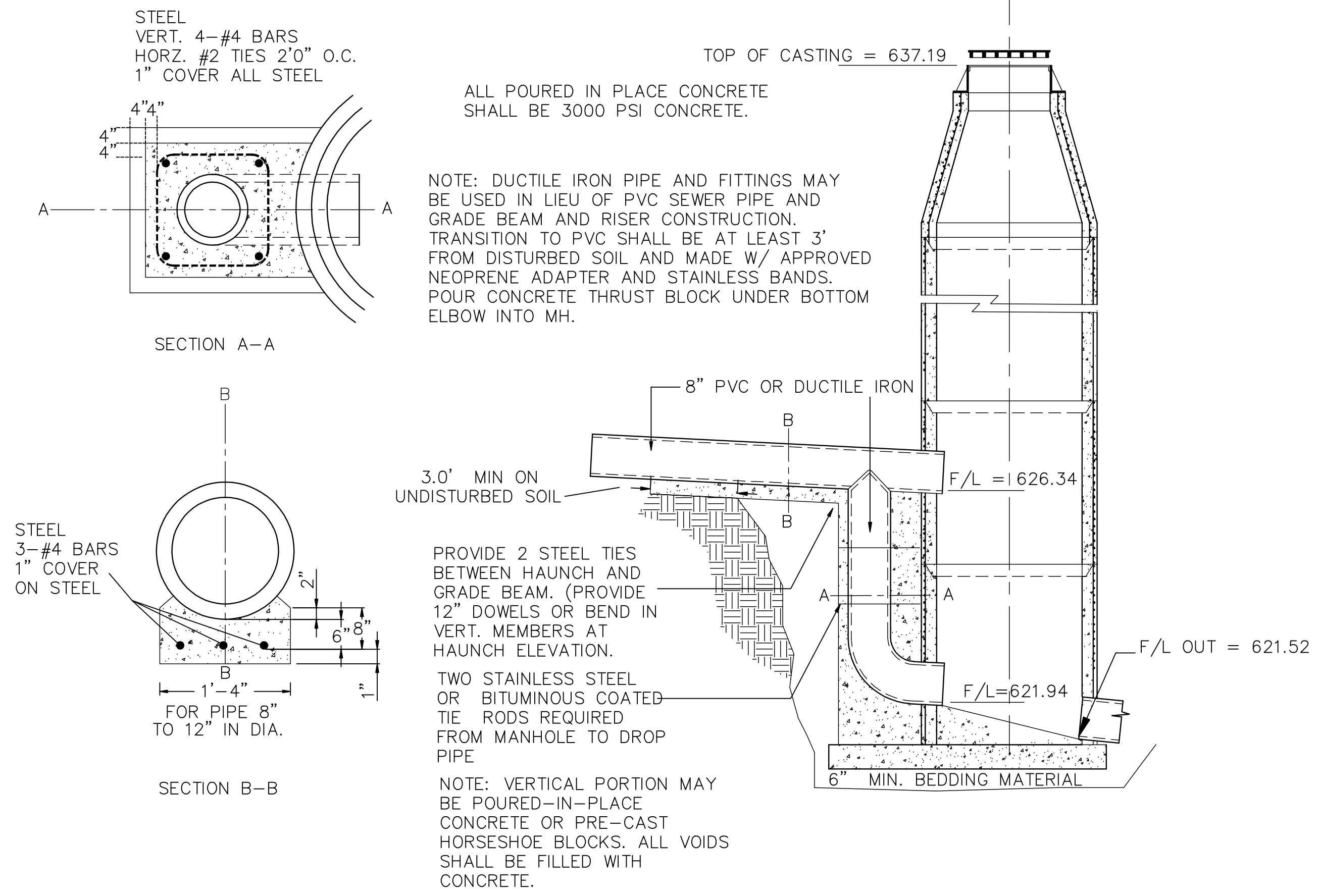
PLANS FOR
CONSTRUCTION
DATE: 05/08/06

SHEET
1
11

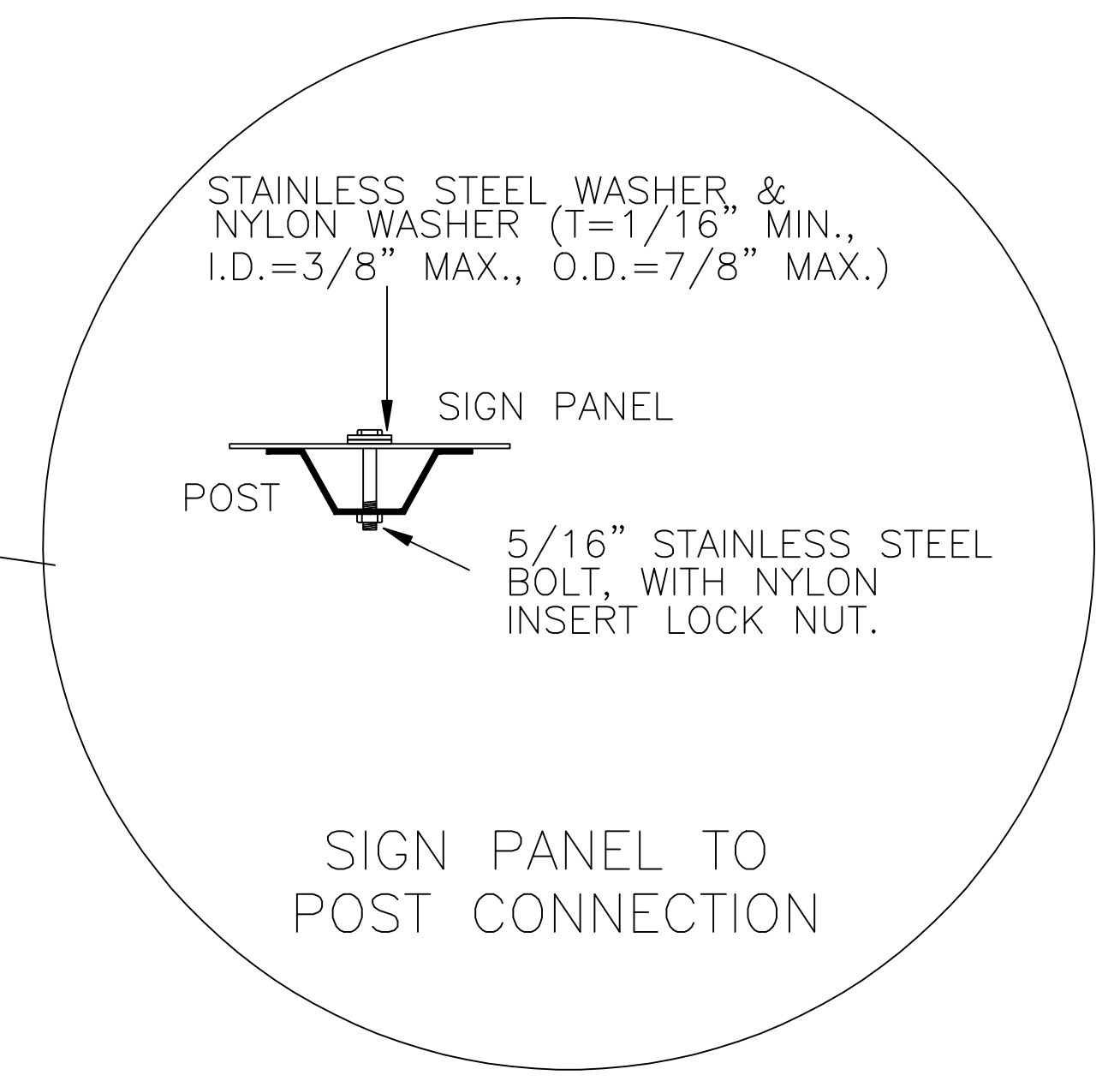
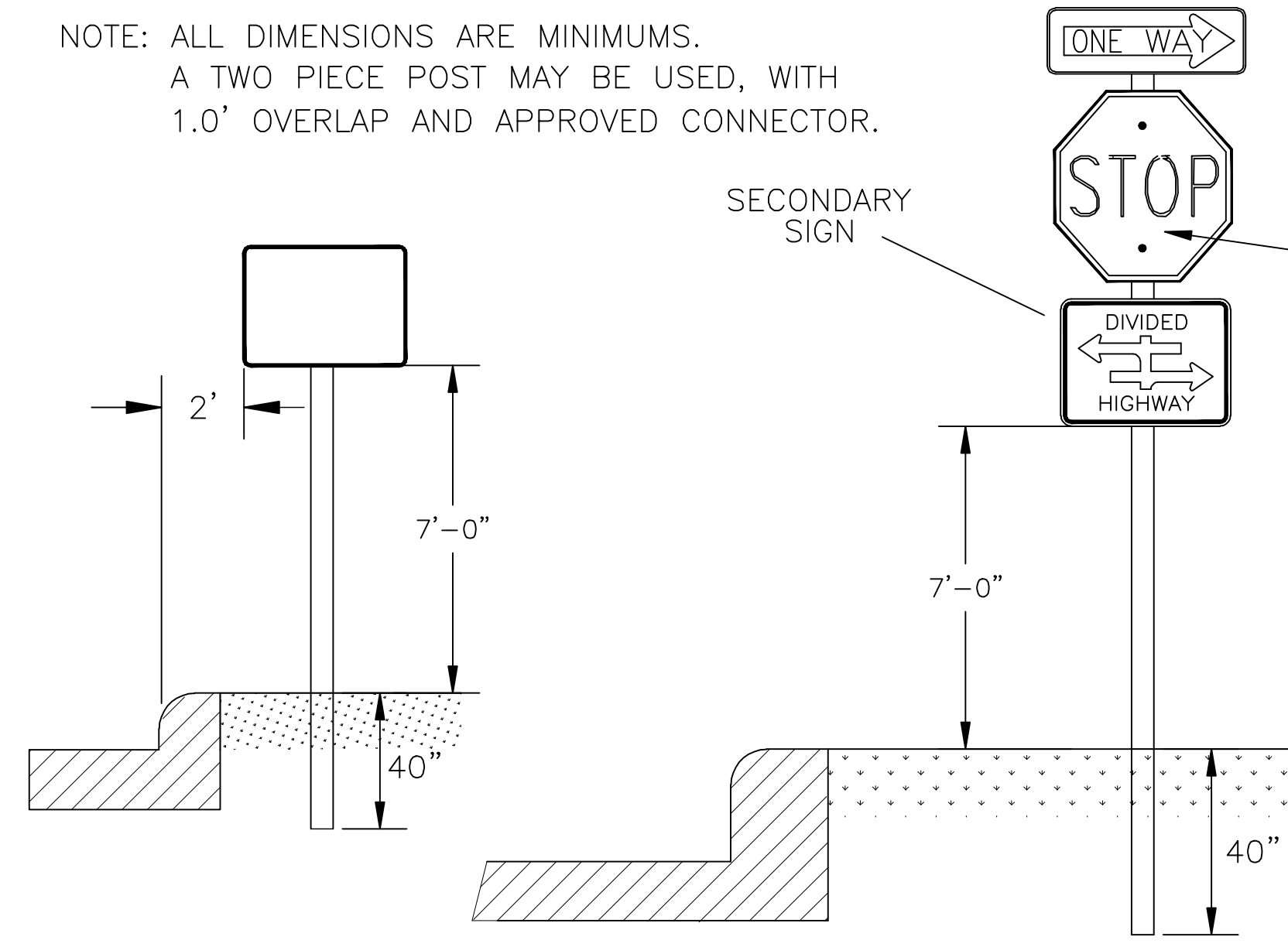




OUTSIDE DROP STRUCTURE FOR PROJECT #14



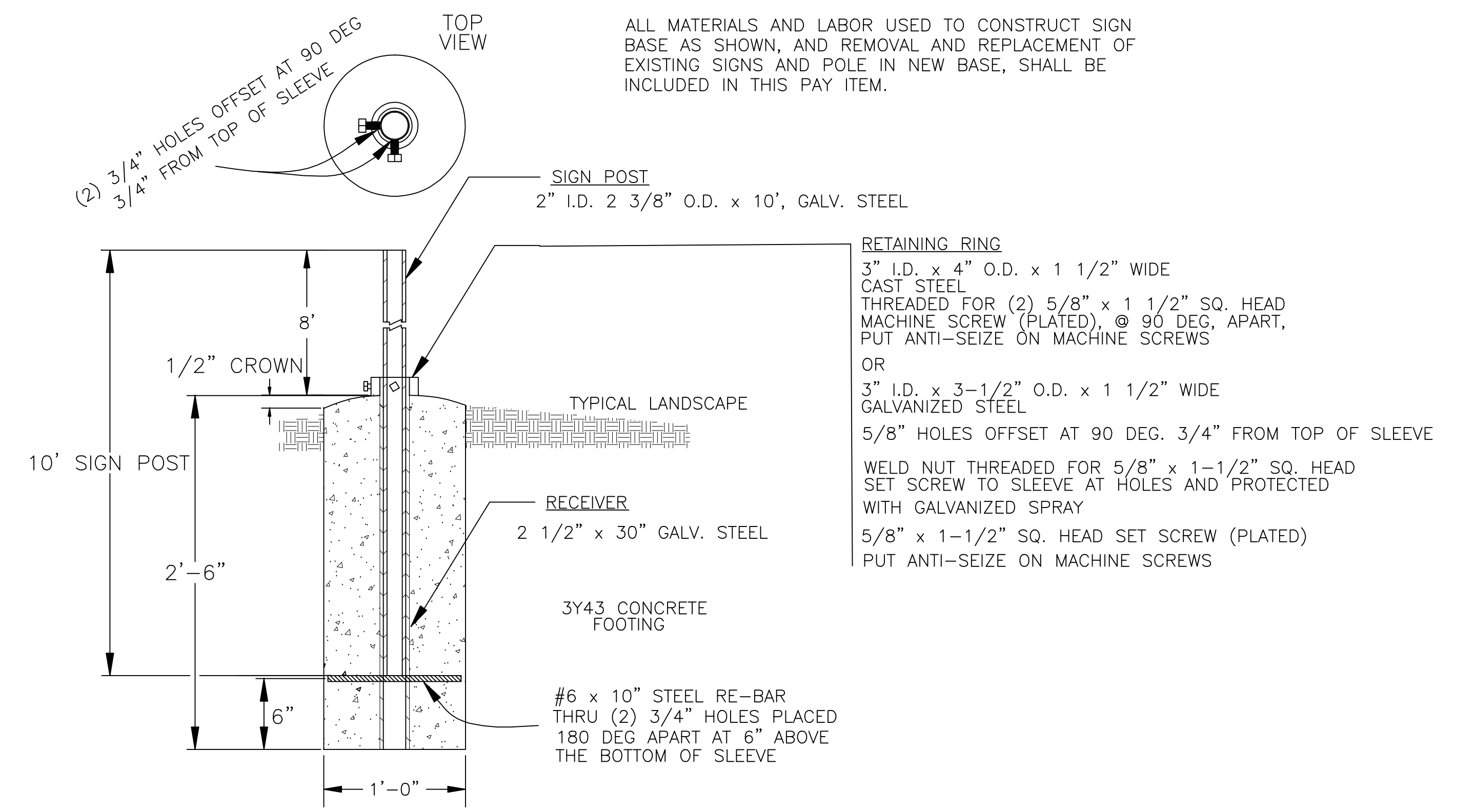
NOTE: ALL DIMENSIONS ARE MINIMUMS.
A TWO PIECE POST MAY BE USED, WITH 1.0' OVERLAP AND APPROVED CONNECTOR.



ALL MATERIALS AND LABOR USED TO RELOCATE EXISTING SIGN AS SHOWN, SHALL BE INCLUDED IN THIS PAY ITEM:

STREET NAME SIGN FOOTING DETAIL

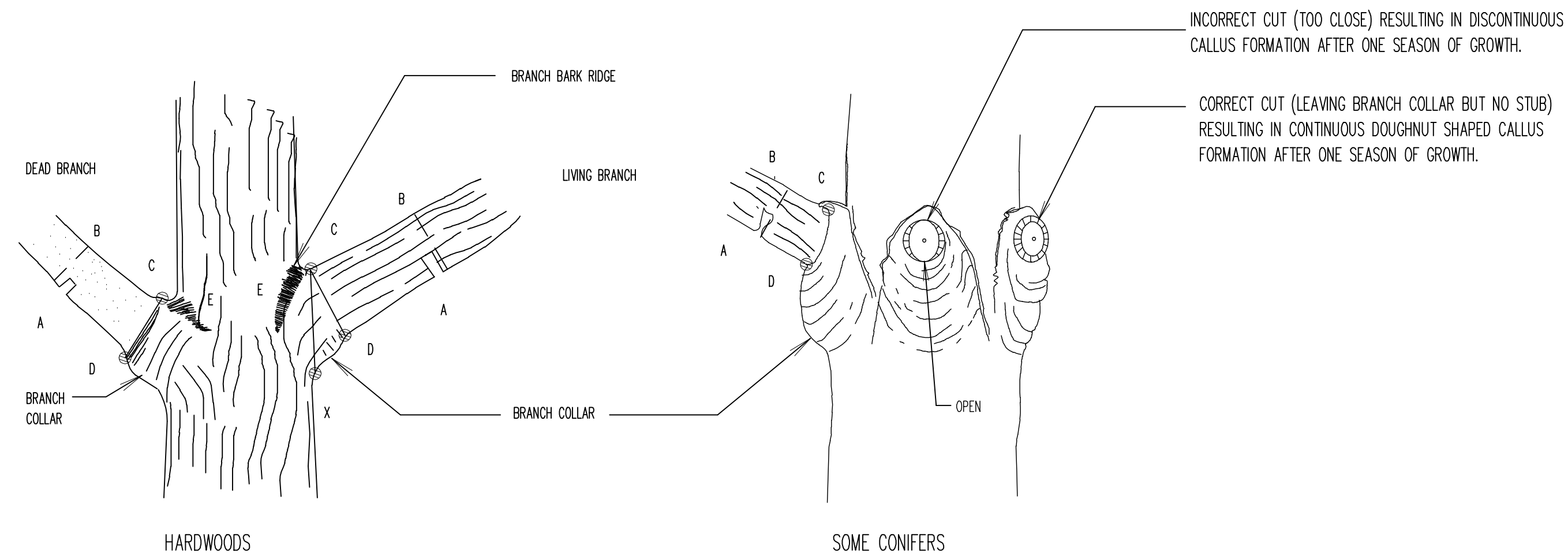
REMOVE AND REINSTALL SIGN, EACH



SIGN INSTALLATION DETAIL

REMOVE AND REINSTALL SIGN, EACH

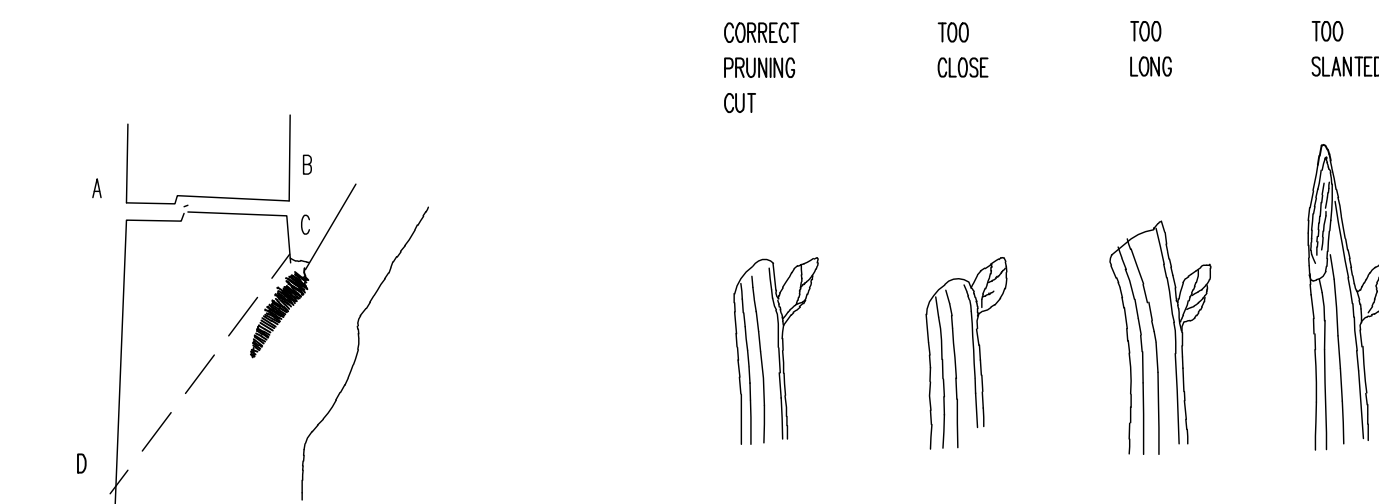
RECORD DRAWING
NO CHANGES THIS SHEET



FIRST CUT PART WAY THROUGH THE BRANCH AT POINT A. MAKE A SECOND CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A. MAKE THE FINAL CUT FROM POINT C TO D. IF D IS HARD TO FIND DROP A PLUMB LINE VERTICALLY DOWN TO POINT X. THE ANGLE XCD SHOULD BE APPROXIMATELY EQUAL TO XCE.

PRUNING NOTES:

1. LEAVE BRANCH COLLAR (C TO D)
2. DO NOT FLUSH CUT (C TO X)
3. DO NOT LEAVE STUBS (B TO A)
4. BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
5. PAINT OAK WOUNDS MADE IN APRIL, MAY, OR JUNE.



DROP CROTCH OR CUTTING BACK

DROP CROTCH PRUNING IS USED FOR REDUCING THE HEIGHT OR LENGTH OF MAIN STEMS OR BRANCHES BY CUTTING BACK TO A LARGE LATERAL BRANCH.

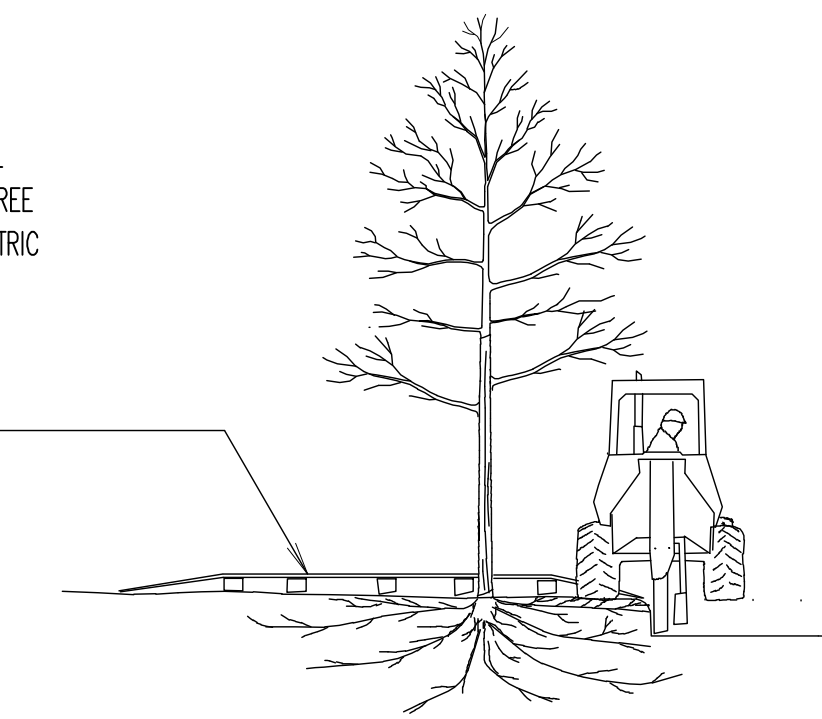
PRUNING SMALL BRANCHES

SMALLER BRANCHES SHOULD BE CUT JUST BEYOND A LATERAL BUD OR ANOTHER SMALL LATERAL BRANCH. THE IDEAL CUT SHOULD BE SHARP AND CLEAN, AND MADE ON A SLIGHT ANGLE.

NOTE:

REDUCE COMPACTION ON ROOT SYSTEMS WHERE IT OCCURS BY DRILLING 2 INCH DIAM. HOLES IN THE SOIL TO A DEPTH OF 20 INCHES. BEGIN 3 FEET FROM THE TREE TRUNK AND CONTINUE AT 2 FOOT INTERVALS IN CONCENTRIC RINGS OUT TO THE PROTECTION ZONE.

IF CONSTRUCTION VEHICLES MUST PASS OVER ROOT ZONES, CONSTRUCT ROOT SYSTEM BRIDGES WITH STEEL PLATE SUPPORTED ON WOOD TIMBERS PLACED RADIALLY TO THE TREE TRUNK.



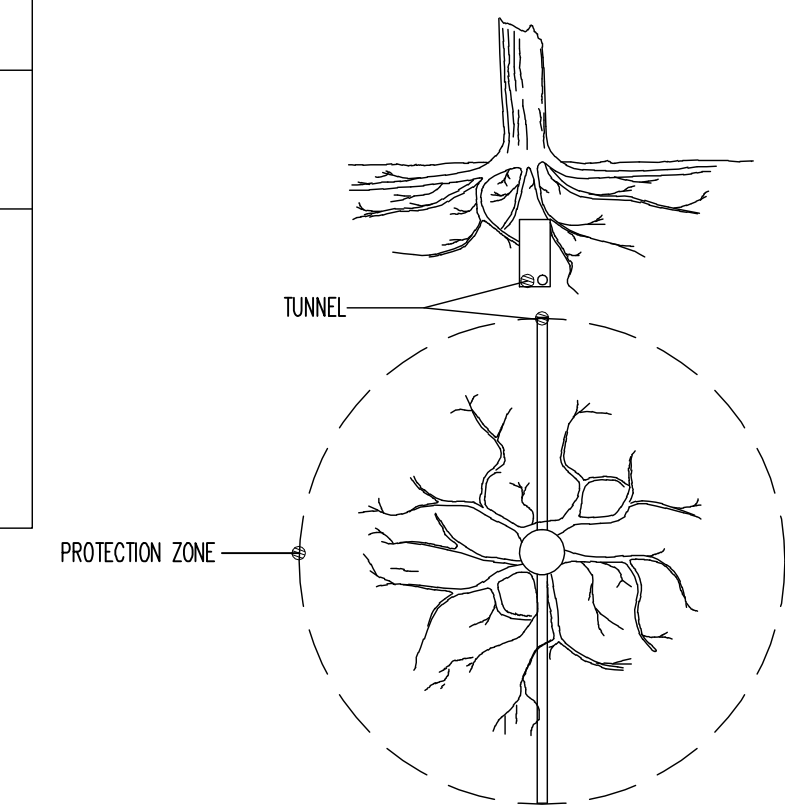
NOTE:

WATERING OF ROOT DAMAGED TREES WILL BE REQUIRED TO MAINTAIN ADEQUATE BUT NOT EXCESSIVE SOIL MOISTURE TO A DEPTH OF 20 INCHES WITHIN THE UNDISTURBED PORTION OF THE IMPACTED TREE DRIFLINE.

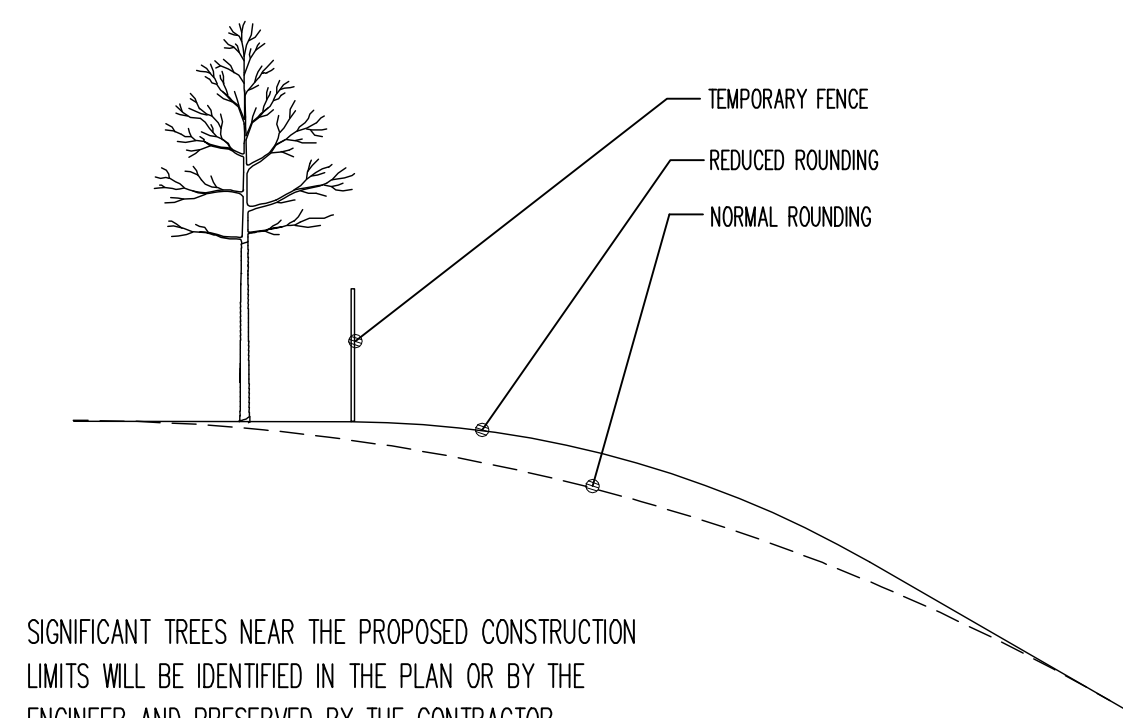
WHEN DESIGNATED IN THE PLAN OR WHEN DIRECTED BY THE ENGINEER, ALL TREE ROOTS AT THE CONSTRUCTION LIMITS SHALL BE CUT CLEANLY (TO THE MAXIMUM DEPTH NECESSARY FOR CONSTRUCTION) WITH A VIBRATORY PLOW OR OTHER APPROVED ROOT CUTTER PRIOR TO ANY EXCAVATION. ROOT ENDS EXPOSED BY EXCAVATION ACTIVITIES SHALL BE IMMEDIATELY COVERED WITH A 6 INCH LAYER OF ADJACENT SOIL, BACKFILL, REGRADE OR INSTALL RETAINING WALL AS DESIGNATED IN THE PLAN OR WHEN DIRECTED BY THE ENGINEER.

TREE PROTECTION ZONE	
TREE DIAMETER AT 4 FT. ABOVE GROUND	MINIMUM DISTANCE FROM FACE OF TREE TRUNK (FEET) *
0 IN - 2 IN	2.0
2 IN - 4 IN	4.0
4 IN - 9 IN	6.0
9 IN - 14 IN	10.0
14 IN - 20 IN	12.0
20 IN +	15.0

* WHEN UTILITY INSTALLATIONS MUST OCCUR WITHIN THE TREE PROTECTION ZONE DEFINED ABOVE, THE CONTRACTOR SHALL BORE (TUNNEL) UNDER ROOTS OF TREES THAT ARE TO BE PRESERVED. THE CONTRACTOR SHALL BORE AT A MINIMUM DEPTH OF 2 FEET BELOW THE GROUND SURFACE WITHIN THIS ZONE.



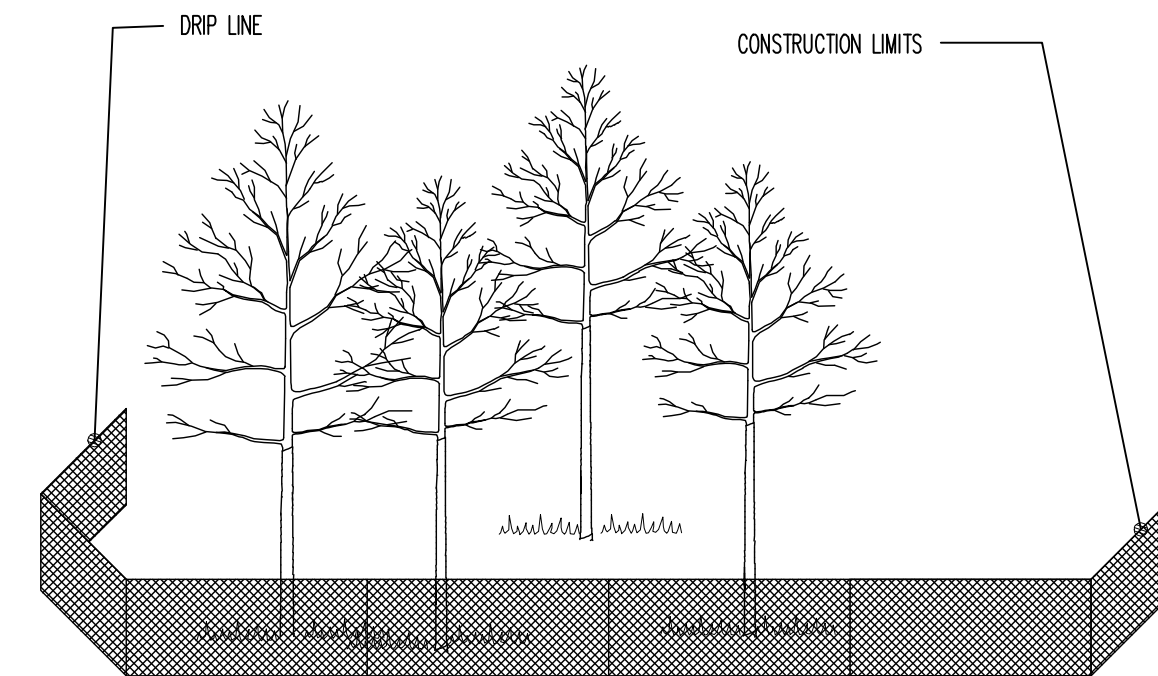
PRUNING DETAILS (Shigo Method)



SIGNIFICANT TREES NEAR THE PROPOSED CONSTRUCTION LIMITS WILL BE IDENTIFIED IN THE PLAN OR BY THE ENGINEER AND PRESERVED BY THE CONTRACTOR.

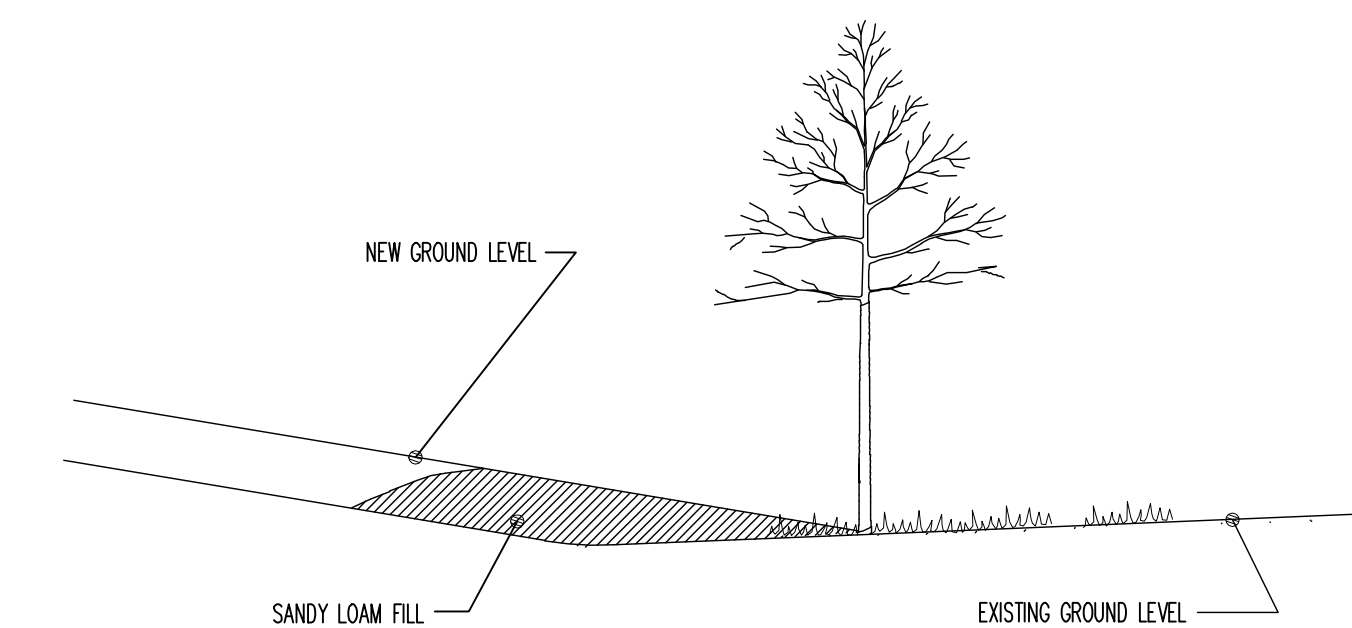
1. TEMPORARY FENCE SHALL BE PLACED
2. SLOPE ROUNDING SHALL BE REDUCED AS APPROVED BY THE ENGINEER WHERE ROOT ZONES WILL BE DISTURBED BY NORMAL SLOPE ROUNDING.
3. BACK SLOPE STEEPNESS SHALL BE VARIED AS APPROVED BY THE ENGINEER TO AVOID TREE LOSS OR UNNECESSARY ROOT DAMAGE.

SLOPE ROUNDING DETAIL



FURNISH AND INSTALL TEMPORARY FENCE AT THE TREES DRIFLINE OR CONSTRUCTION LIMITS AS SPECIFIED PRIOR TO ANY CONSTRUCTION. WHEN POSSIBLE PLACE FENCE 25 FEET BEYOND THE DRIP LINE.

TEMPORARY PROTECTION FENCE PLACEMENT DETAIL

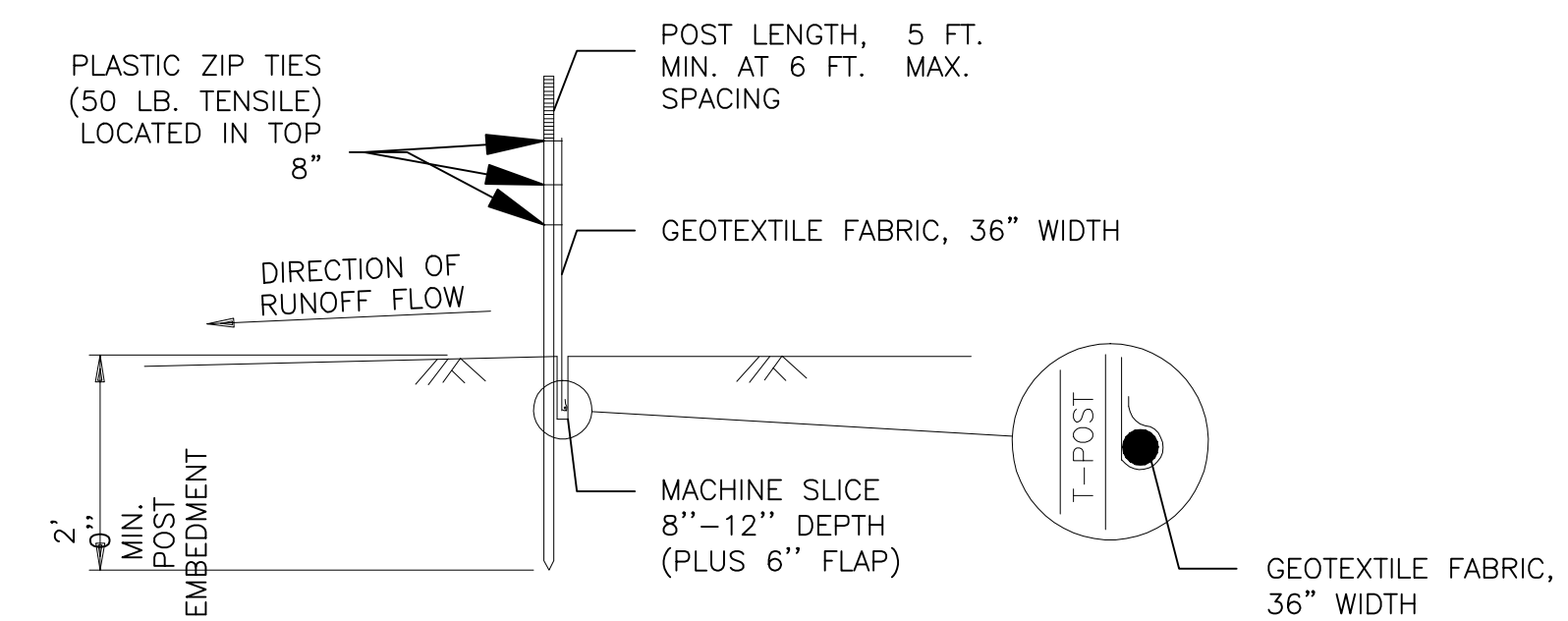


ANY FILL REQUIRED WITHIN THE DRIP LINE OF TREES SHALL BE A (COURSE SAND COMPONENT) SANDY LOAM TOPSOIL. EXCESSIVE FILL MAY REQUIRE INSTALLATION OF PERFORATED PIPE WITH AT LEAST ONE DAYLIGHTED END OPENING AS AN AERATION SYSTEM.

SANDY LOAM FILL DETAIL

EROSION CONTROL NOTES

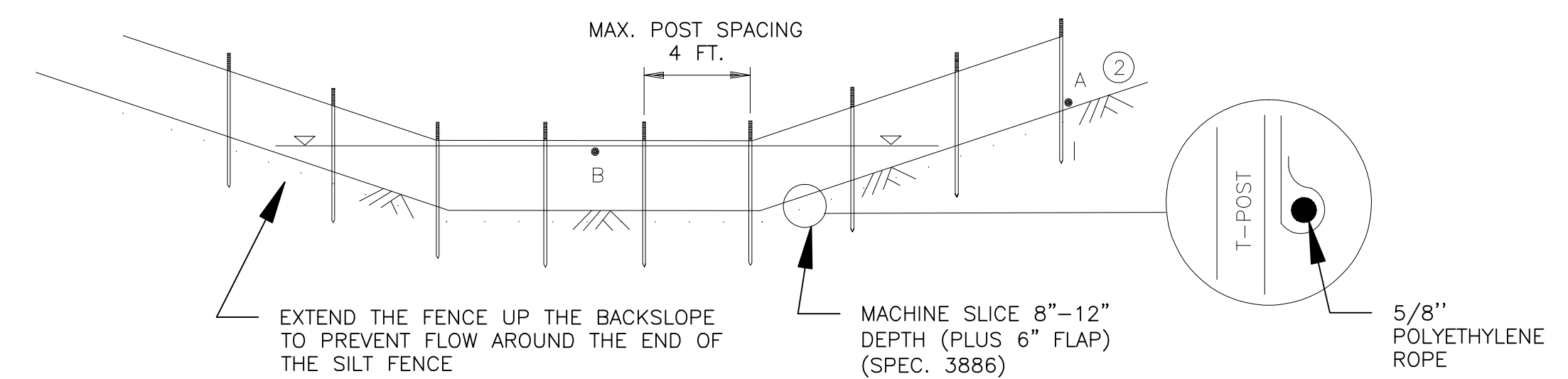
1. THIS INFORMATION IS ONLY ONE PART OF THE OVERALL EROSION CONTROL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY ALSO BE SHOWN ON THE PLAN SHEETS AND IN THE ACCOMPANYING SPECIFICATIONS.
2. THE AREA OF EROSIIVE LAND EXPOSED TO THE ELEMENTS BY GRUBBING, EXCAVATION, TRENCHING, BORROW AND FILL OPERATIONS AT ANY ONE TIME SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER AND THE DURATION OF SUCH EXPOSURE PRIOR TO FINAL TRIMMING, FINISHING, AND SEEDING OR APPLICATION OF TEMPORARY EROSION CONTROL MEASURES SHALL BE AS SHORT AS PRACTICABLE.
3. THE METHODS AND STRUCTURES USED TO CONTROL EROSION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE METHODS AND STRUCTURES INDICATED ON THE PLAN ARE THE MINIMUM REQUIREMENTS IN THE OPINION OF THE ENGINEER. CONTRACTOR SHALL IMPLEMENT AN APPROPRIATE MEANS OF CONTROLLING EROSION DURING HIS OPERATION AND UNTIL THE VEGETATION IS RE-ESTABLISHED. ADJUSTMENTS TO THE CONTROL SYSTEM SHALL BE MADE AS REQUIRED.
4. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY INSTALLED PRIOR TO ANY SOIL DISTURBANCE.
5. GRUBBING AND GRADING OPERATIONS SHALL BE PERFORMED IN PROPER SEQUENCE WITH OTHER WORK TO MINIMIZE EROSION.
6. CHANNELIZED RUNOFF FROM ADJACENT AREAS PASSING THROUGH THE SITE SHALL BE DIVERTED AROUND DISTURBED AREAS, IF PRACTICAL.
7. ALL TRENCH WATER SHALL BE DISCHARGED INTO A SETTLING BASIN OR A FILTERING DEVICE PRIOR TO RELEASE INTO STORM SEWER OR STREAM.
8. EXCAVATED MATERIAL SHALL BE TEMPORARILY PLACED ON THE UPHILL SIDE OF THE TRENCH EXCAVATION TO THE EXTENT PRACTICABLE.
9. THE CONTRACTOR SHALL TAKE ALL POSSIBLE PRECAUTIONS TO PREVENT SOILS FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SOILS REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING (NOT FLUSHING) BEFORE THE END OF EACH WORKDAY.
10. ALL DRAINAGE CULVERTS, STORM DRAIN INLETS, MANHOLES, OR ANY OTHER EXISTING STRUCTURES WHICH COULD BE DAMAGED BY SEDIMENTATION SHALL BE PROTECTED WITH HAY BALES, SEDIMENT CONTROL FENCE OR EQUIVALENT BARRIERS AS APPROVED BY THE ENGINEER. STORM INLETS CAN BE PROTECTED BY TEMPORARILY PLACING A SECTION OF SILT FENCE BETWEEN THE FRAME AND THE GRATE.
11. CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES DURING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL INSPECT SILT FENCE AND OTHER EROSION CONTROL MEASURES USED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. DEFICIENCIES SHALL BE IMMEDIATELY CORRECTED BY THE CONTRACTOR.



MACHINE SLICED SILT FENCE AT PERIMETER DETAIL

NO SCALE

TO PROTECT AREAS FROM SHEET FLOW
(SEE MNDOT SPEC. 3886)

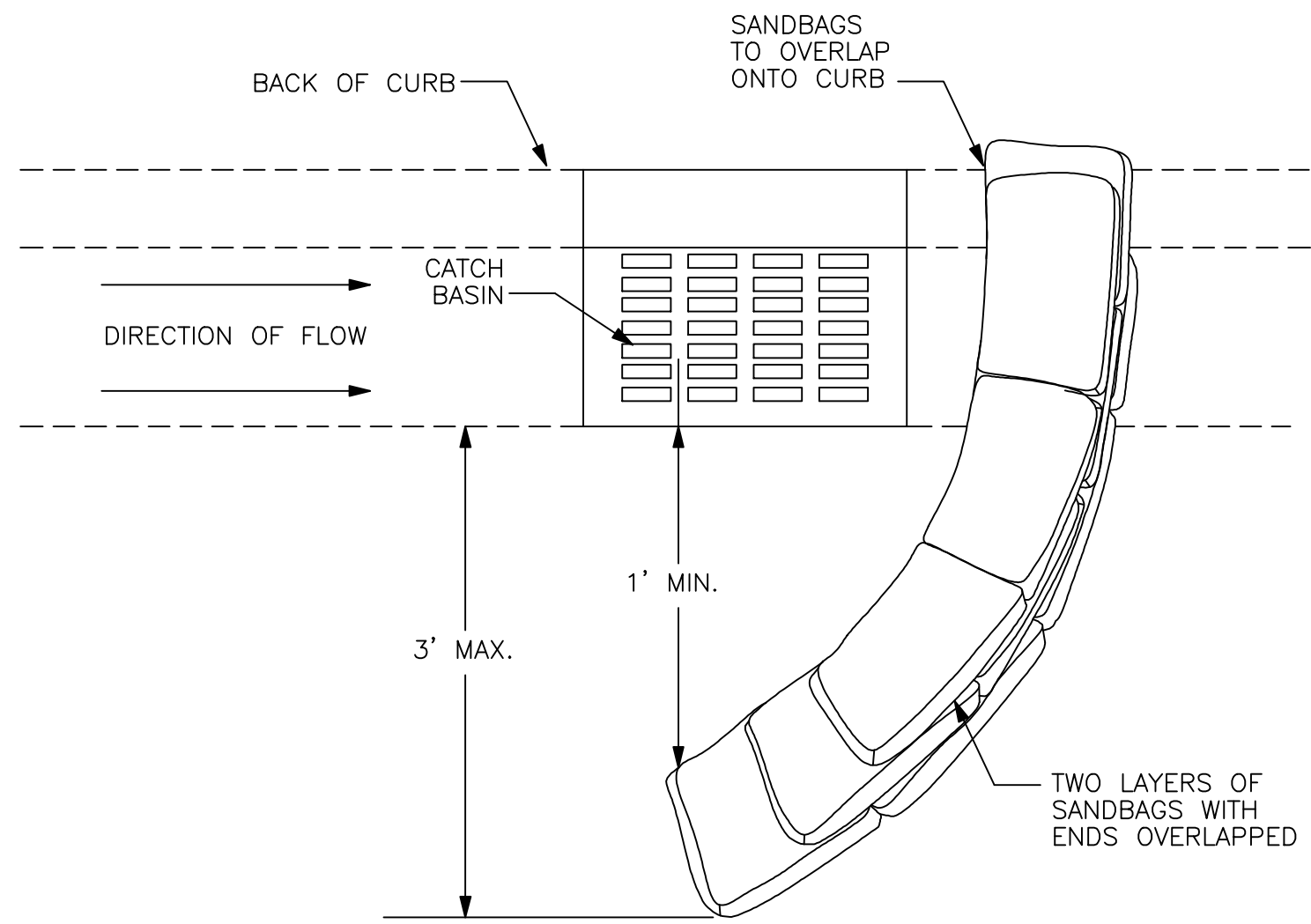


NOTES:

1. WHEN SEDIMENT BUILD UP REACHES 1.5 FT., THE SILT SHOULD BE REMOVED OR A SECOND SILT FENCE BUILT UPSTREAM FROM THE EXISTING ONE AT A SUITABLE DISTANCE.

MACHINE SLICED SILT FENCE AT DITCH DETAIL

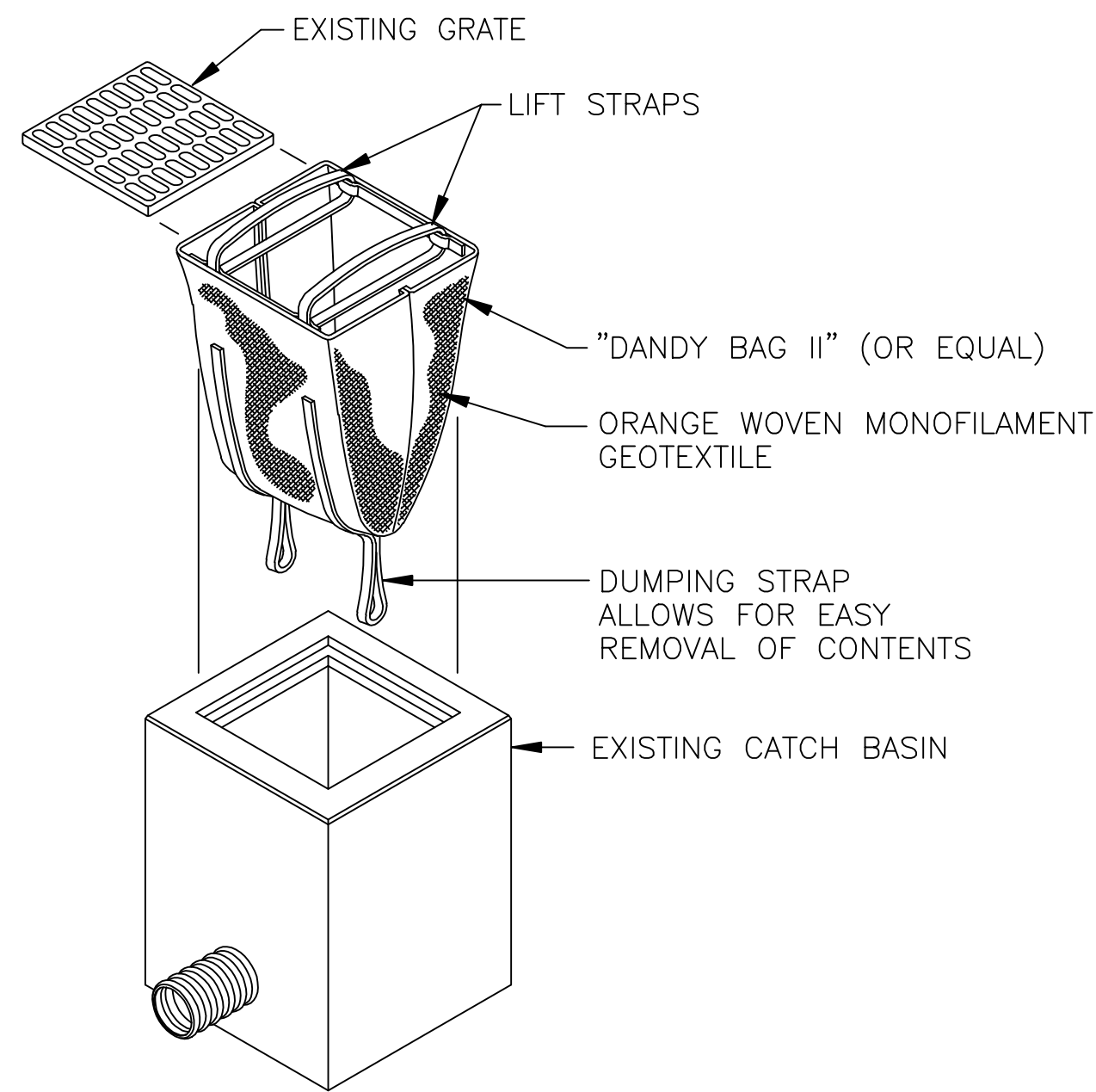
NO SCALE



GENERAL NOTES:

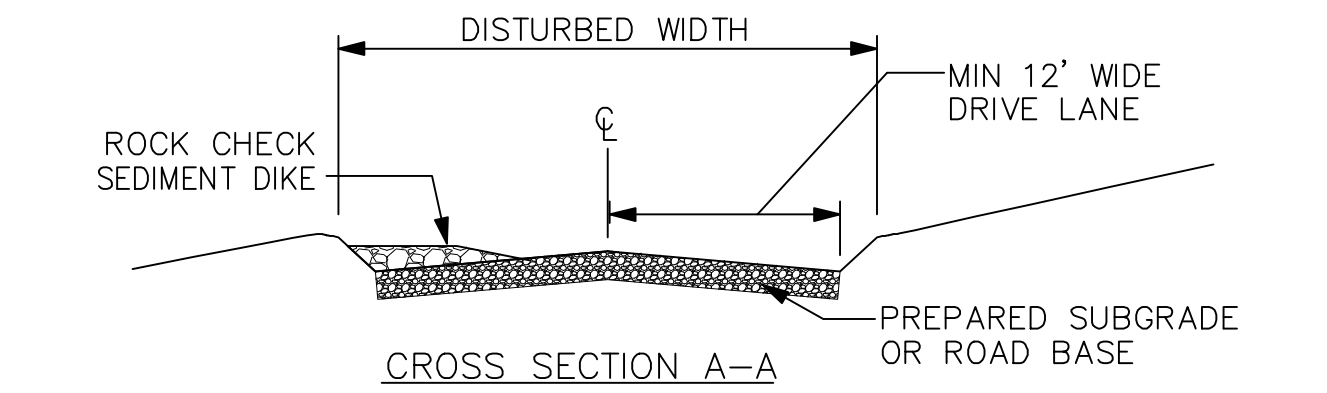
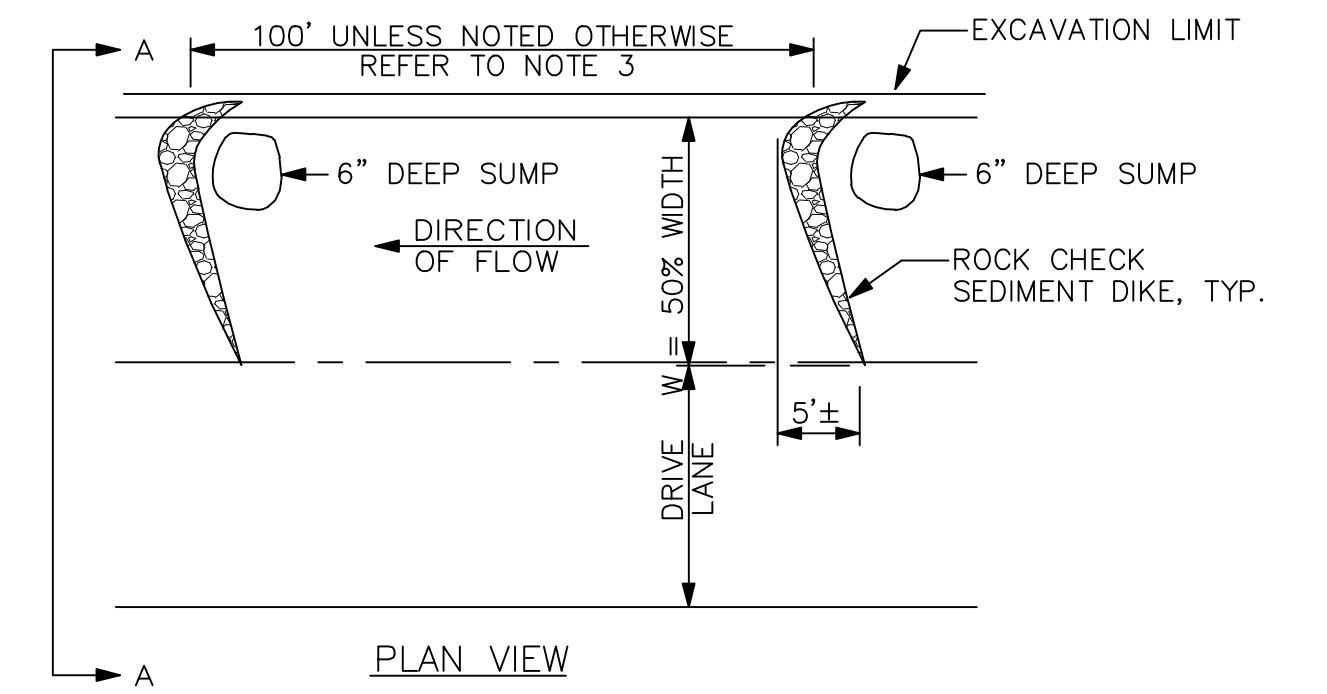
1. DETAIL OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

TEMPORARY DIVERSION DIKE
(SANDBAG TYPE) DETAIL
SCALE: NONE



MAINTENANCE REQUIRED: FOLLOWING EACH RUNOFF EVENT, MONITOR AND, IF NECESSARY, REMOVE ALL ACCUMULATED SEDIMENT & DEBRIS FROM THE UNIT AFTER THE HEIGHT OF THE ACCUMULATED MATERIAL REACHES 1/3 OF THE HEIGHT OF THE SEDIMENT BAG.

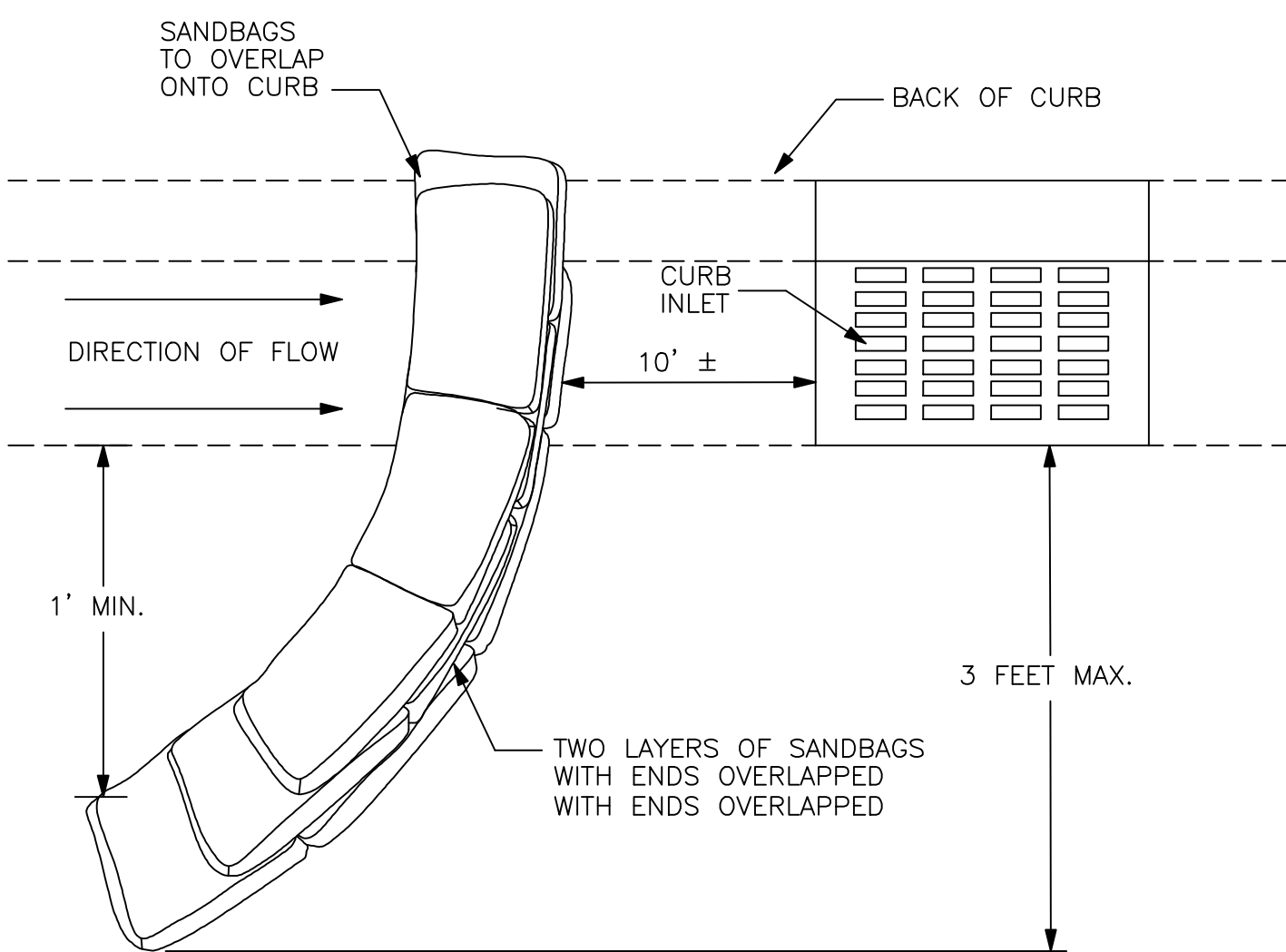
TYPE A
INLET PROTECTION
CATCH BASIN SEDIMENT BAG INSERT TYPE DETAIL
SCALE: NONE



GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. ROCK CHECK SHALL BE CONSTRUCTED WITH 2"-4" WASHED NON-CALCAREOUS AGGREGATE MATERIALS.
3. HEIGHT OF THE ROCK CHECK TO BE 6"-10" AT HIGHEST POINT
4. PROVIDE A 6" DEEP SUMP AT UPSTREAM SIDE OF CHECK FOR SEDIMENT STORAGE.

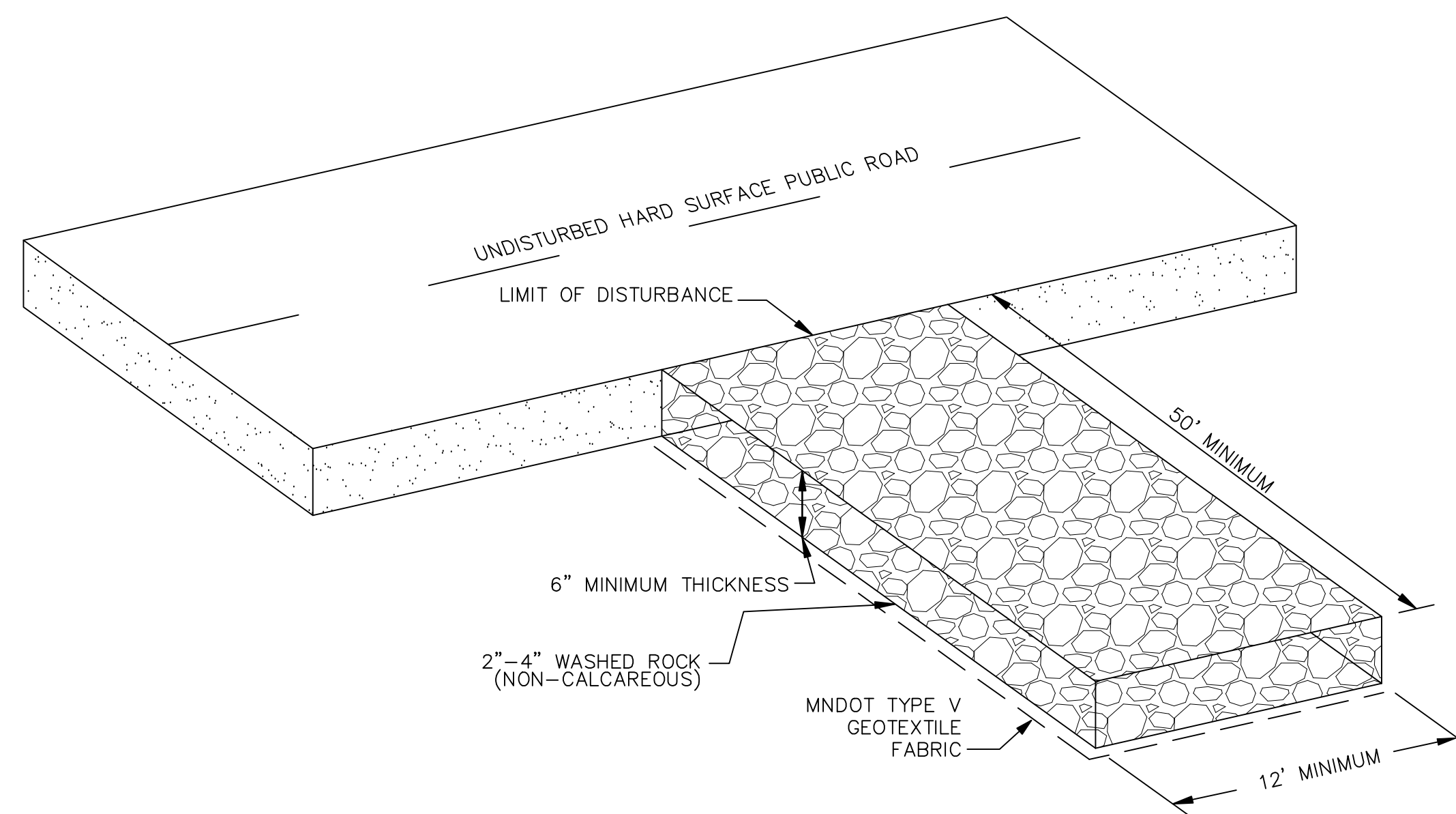
ROCK CHECK INSTALLATION UTILIZED FOR
ROUGH-CUT STREET CONTROL
SCALE: NONE



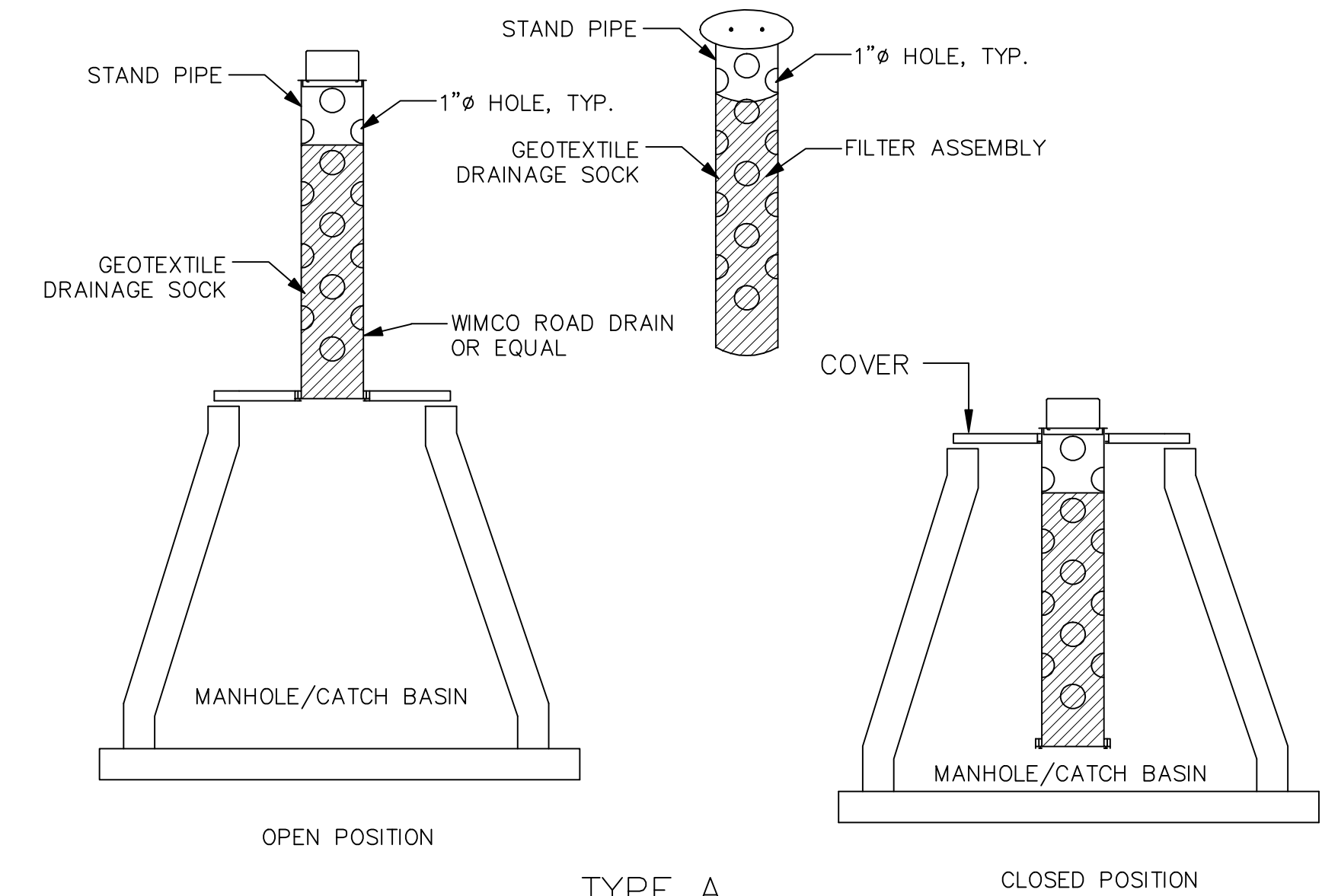
GENERAL NOTES:

1. DETAIL OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CURB INLET SEDIMENT BARRIER
(SANDBAG TYPE) DETAIL
SCALE: NONE



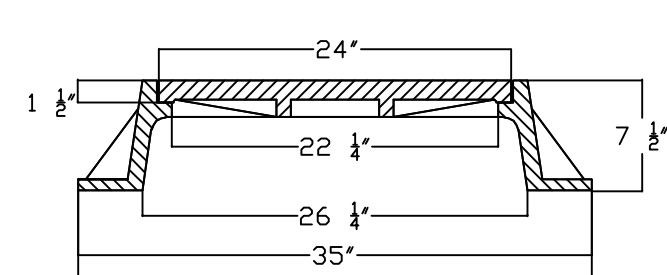
VEHICLE TRACKING PAD
SCALE: NONE



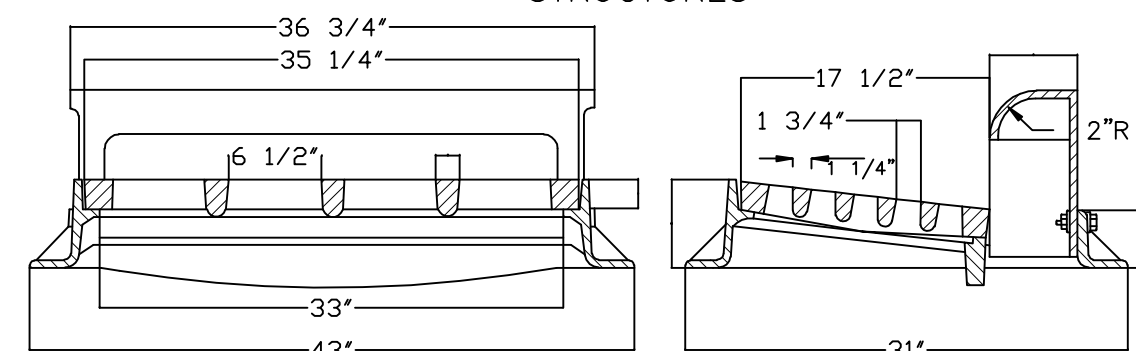
TYPE A
INLET PROTECTION
ROAD DRAIN TYPE DETAIL
SCALE: NONE

RECORD DRAWING
NO CHANGES THIS SHEET

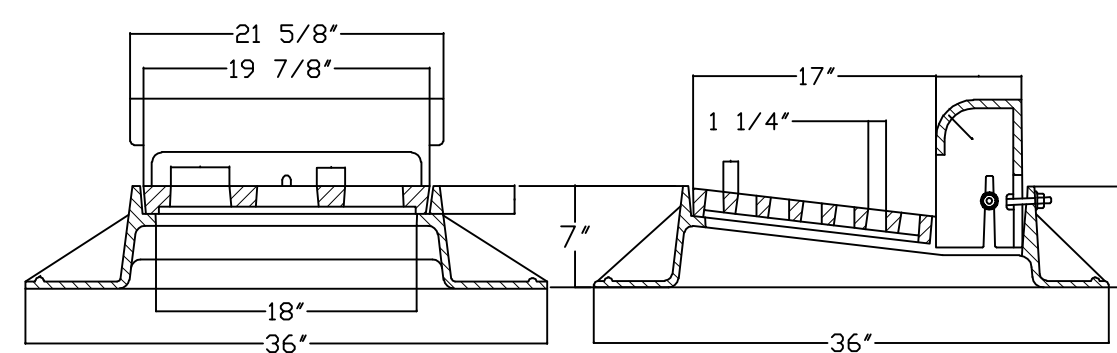
MANHOLE CASTING DIMENSIONS



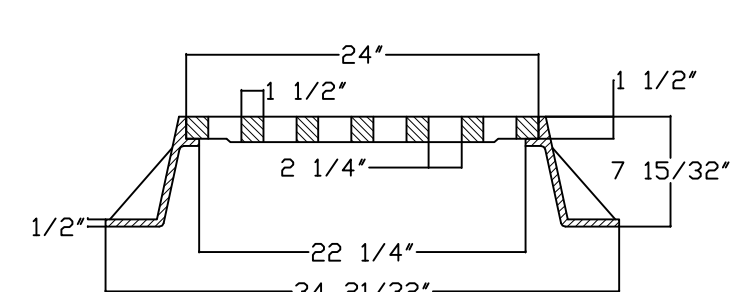
TYPICAL CURB INLET CASTING DIMENSIONS FOR RECTANGULAR STRUCTURES



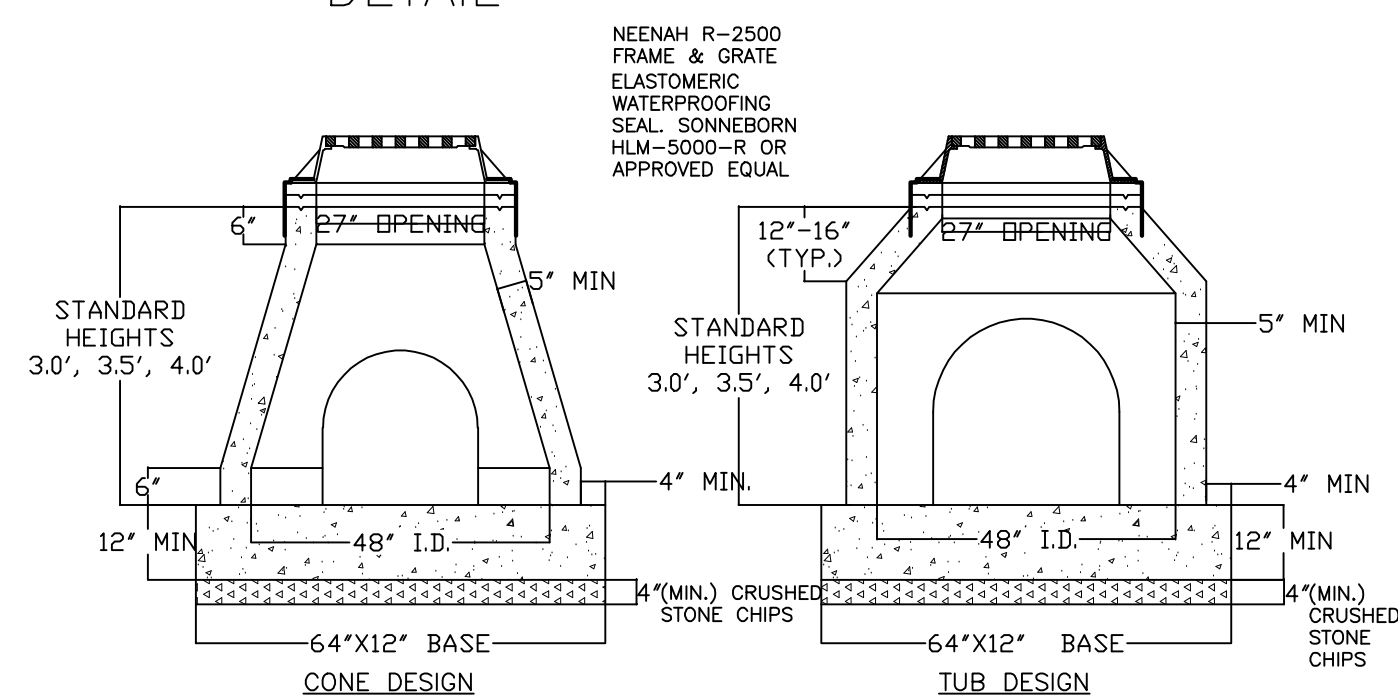
TYPICAL CURB INLET CASTING DIMENSIONS FOR CIRCULAR STRUCTURES



CASTING DIMENSIONS FOR GRATED MANHOLE COVERS AND CIRCULAR INLETS IN NON-CURB INSTALLATIONS



CATCH BASIN CONE DETAIL



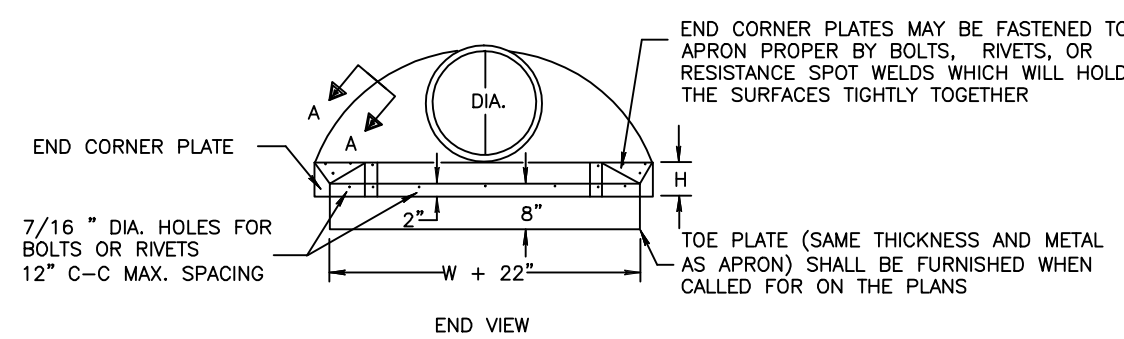
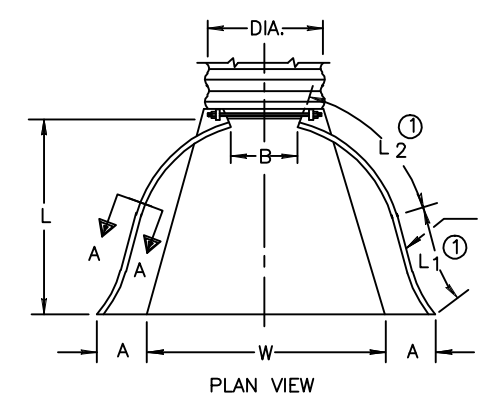
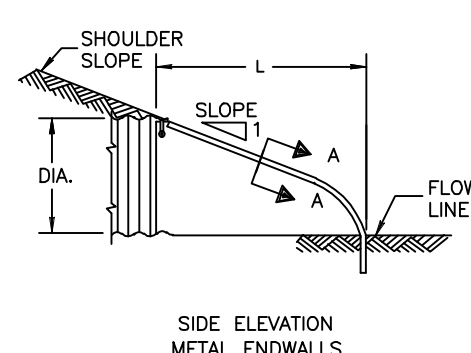
- NOTE:
1. PRECAST CATCH BASINS SHALL BE MANUFACTURED, REINFORCED, AND INSTALLED IN ACCORDANCE WITH SPECIFICATIONS FOR PRECAST MANHOLES.
2. THE BASE SHALL BE INTEGRAL, FORMED AND POURED ON SITE, OR FURNISHED AS A SEPERATE PRECAST SECTION.
3. INVERTS FOR BASINS FURNISHED WITH INTEGRAL BASES MAY BE PREFORMED OR POURED IN PLACE. THE INVERT SHALL BE POURED IN PLACE FOR POURED BASES AND FOR BASINS WITH SEPERATE PRECAST BASES.

DESIGN	HEIGHT	LARGEST ALLOWABLE PIPE SIZES		
		NUMBER OF OPENINGS		
		1 HOLE	2 HOLE	3 HOLE
CONE	3.0'	15" RCP @ 90°	15" RCP @ 90°	15" RCP @ 90°
CONE	3.5'	15" RCP	15" RCP @ 90°	15" RCP @ 90°
CONE	4.0'	21" RCP	18" RCP @ 90°	15" RCP @ 90°
TUB	3.0'	18" RCP	18" RCP @ 90°	18" RCP @ 90°
TUB	3.5'	21" RCP	18" RCP @ 90°	18" RCP @ 90°
TUB	4.0'	27" RCP	18" RCP @ 90°	18" RCP @ 90°

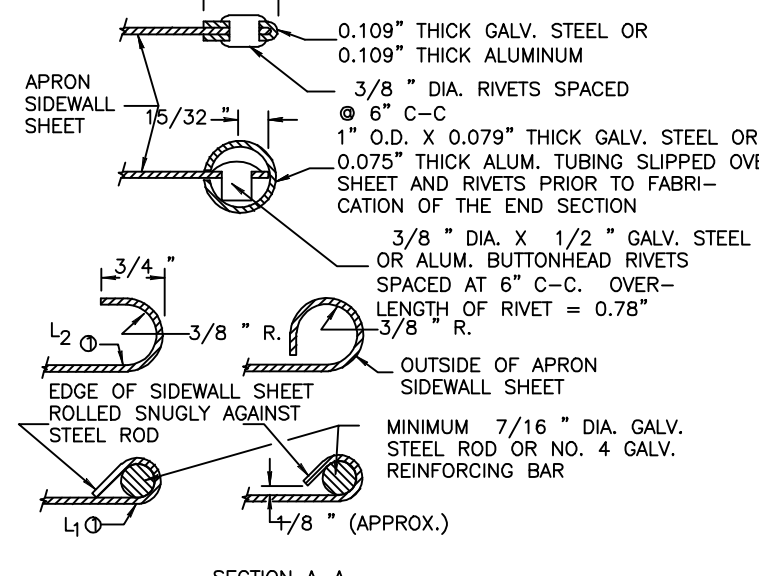
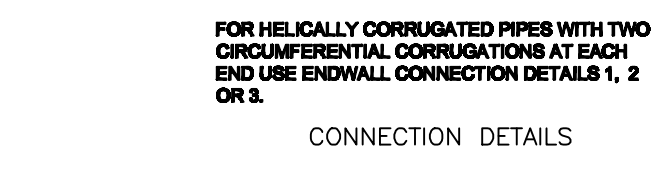
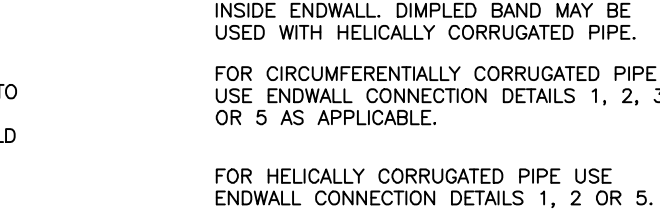
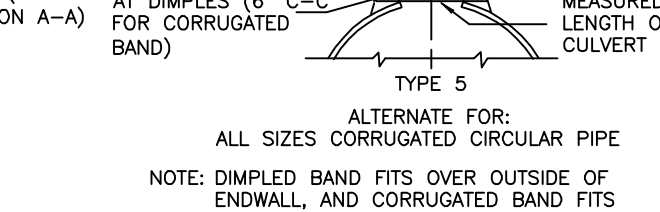
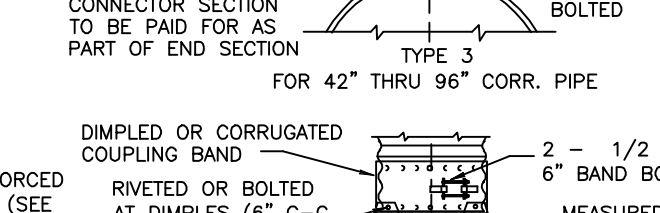
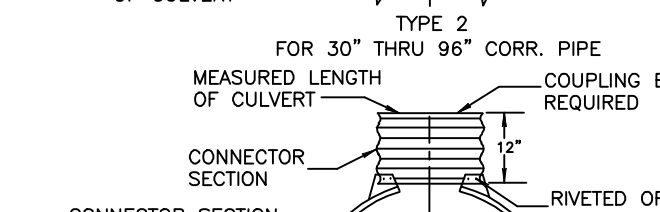
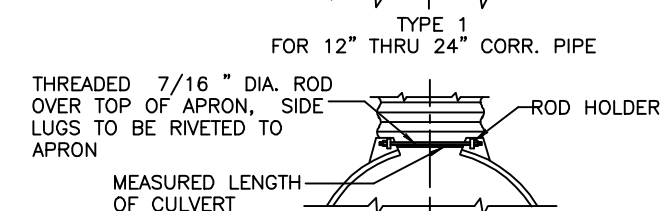
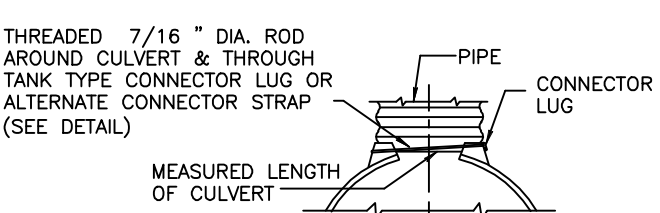
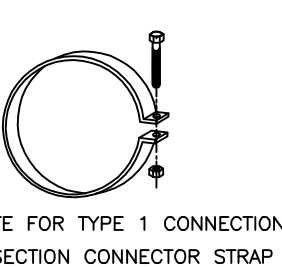
METAL APRON ENDWALLS

PIPE DIA. (IN.)	MIN. THICK (Inches)		DIMENSIONS (Inches)								APPROX. SLOPE	BODY
	STEEL	ALUM.	A (+1")	B (MAX.)	H (+1")	L (+1 1/2")	L1	L2	W (+2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2	1	Pc.
15	.064	.060	7	8	6	26	14	21 1/2	30	2 1/2	1	Pc.
18	.064	.060	8	10	6	31	15	26 1/2	36	2 1/2	1	Pc.
21	.064	.060	9	12	6	36	18	29 1/2	42	2 1/2	1	Pc.
24	.064	.075	10	13	6	41	18	37 1/2	48	2 1/2	1	Pc.
30	.079	.075	12	16	8	51	18	52 1/2	60	2 1/2	1	Pc.
36	.079	.105	14	19	9	60	24	59 1/2	72	2 1/2	2	Pc.
42	.109	.105	16	22	11	69	24	75 1/2	84	2 1/2	2	Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/2	3	Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/2	3	Pc.
60	.109*	.105*	18	33	12	87	—	—	114	2:1	3	Pc.
66	.109*	.105*	18	36	12	87	—	—	120	2:1	3	Pc.
72	.109*	.105*	18	39	12	87	—	—	126	2:1	3	Pc.
78	.109*	.105*	18	42	12	87	—	—	132	1 1/2:1	3	Pc.
84	.109*	.105*	18	45	12	87	—	—	138	1 1/2:1	3	Pc.
90	.109*	.105*	18	37	12	87	—	—	144	1 1/2:1	3	Pc.
96	.109*	.105*	18	35	12	87	—	—	150	1 1/2:1	3	Pc.

*EXCEPT CENTER PANEL: SEE GENERAL NOTES



1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" x 1/2" BAND BOLT AND NUT



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

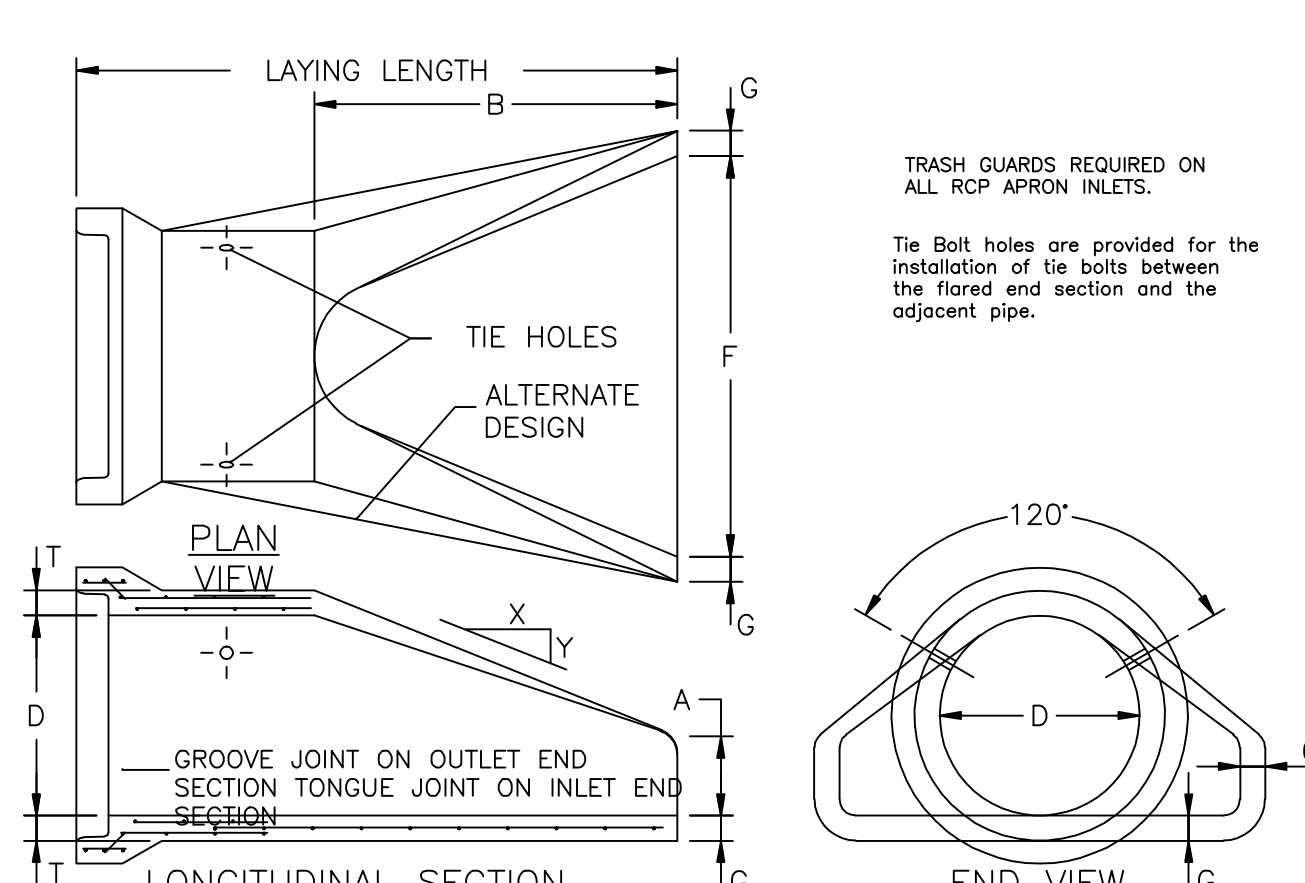
CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 80" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.188" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 80" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.151" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP BEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 80" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL BEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

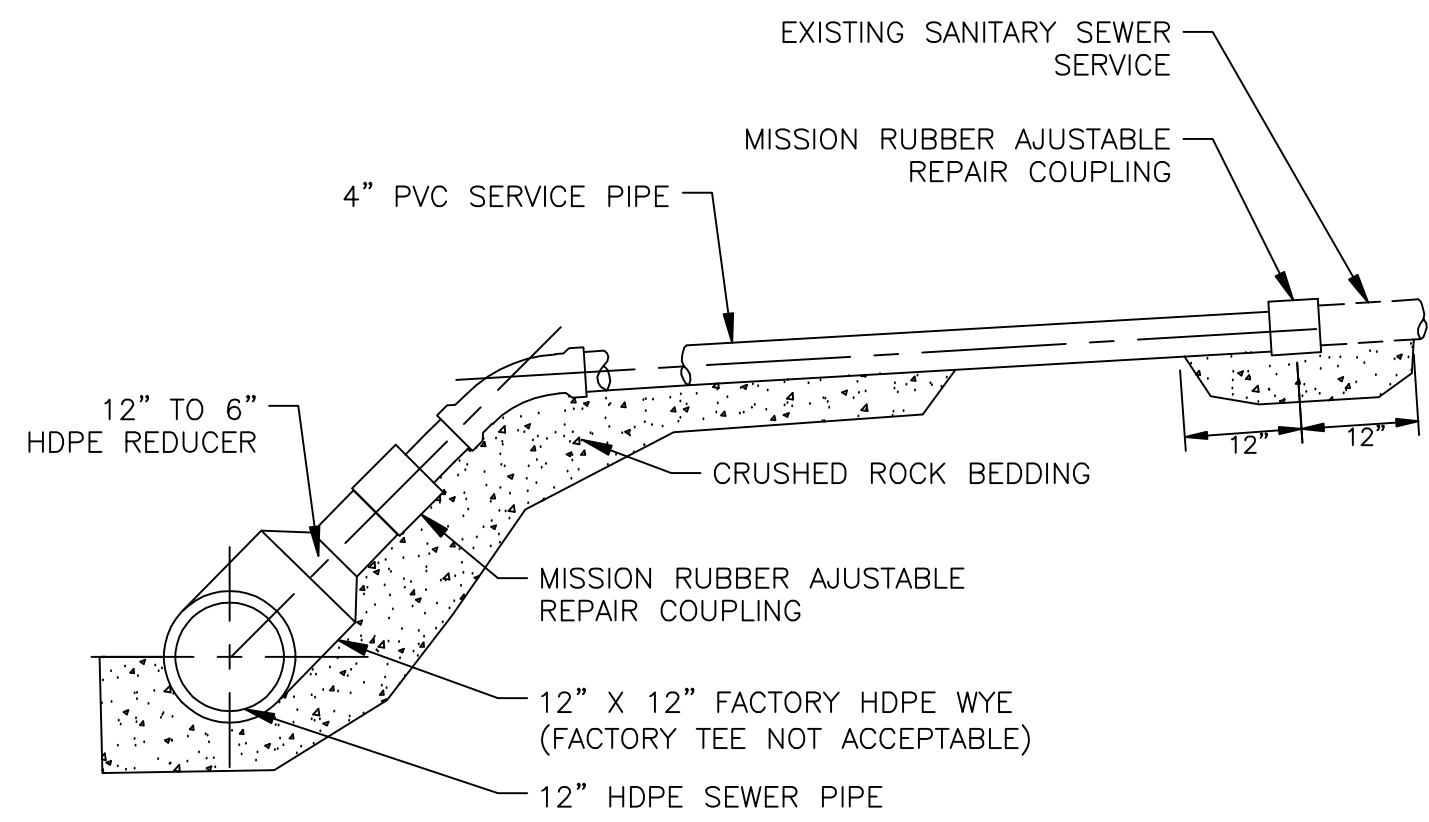
RCP APRON



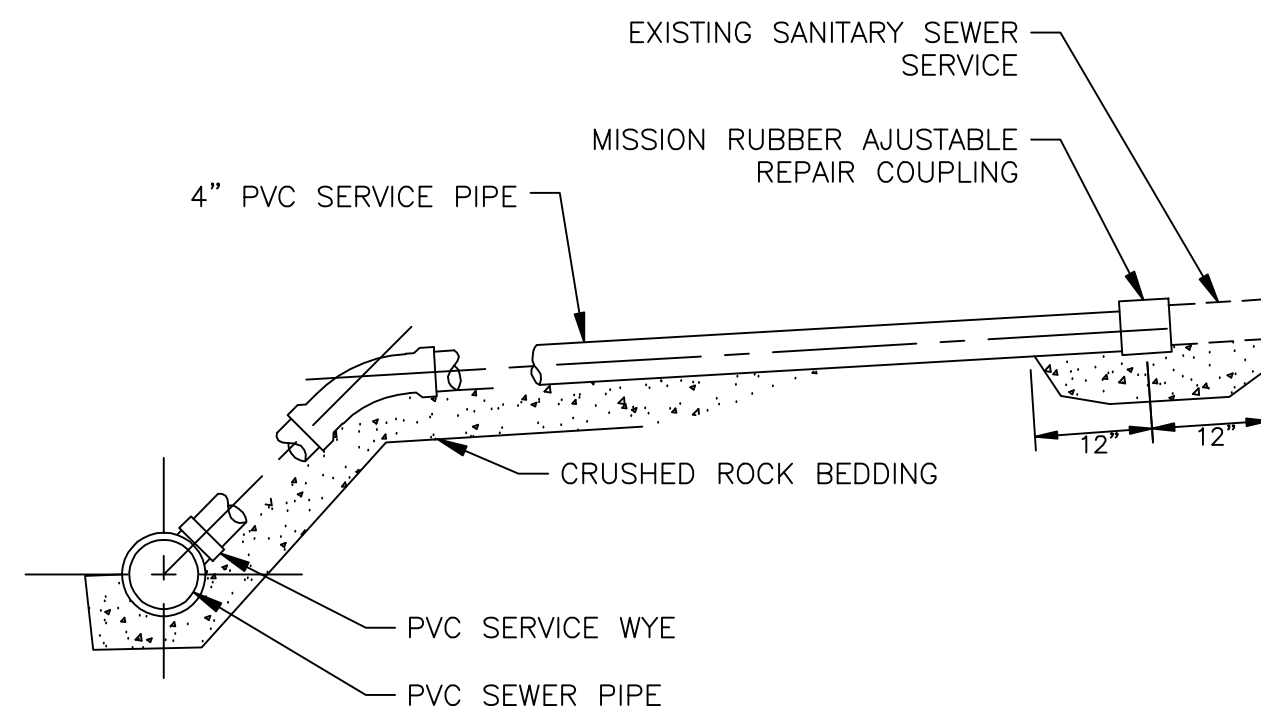
PIPE DIAMETER D INCHES	LAYING LENGTH INCHES	SLOPE	T INCHES	APRON DIMENSIONS (INCHES)				WEIGHT PER SECTION LBS.
				A	B	F	G	
12	6'-0"	6'-0" 2.4 to 1	2	4	24	2	530	
15	6'-0"	6'-0" 2.4 to 1	2 1/4	6	27	30	2 1/4	740
18	6'-0"	6'-0" 2.3 to 1	2 1/2	9	27	36	2 1/2	990
21	6'-0"	6'-0" 2.4 to 1	2 3/4	9	36	42	2 3/4	1280
24	6'-0"	6'-0" 2.5 to 1	3	9 1/2	43 1/2	48	3	1520
27	6'-0"	6'-0" 2.5 to 1	3 1/4	10 1/2	49 1/2	54	3 1/4	1930
30	6'-0"	6'-0" 2.5 to 1	3 1/2	12	54	60	3 1/2	2190
33	6'-6"	6'-6" 2.5 to 1	3 3/4	13 1/2	58 1/2	66	3 3/4	2550
36	8'-2"	7'-10" 2.5 to 1	4	15	63	72	4	4100
42	8'-2 1/2"	9'-1 1/2" 2.5 to 1	4 1/2	21	63	78	4 1/2	5380
48	8'-2 1/2"	9'-1 1/2" 2.5 to 1	5	24	72	84	5	6550
54	8'-2 1/2"	9'-1 1/2" 2.0 to 1	5 1/2	27	65	90	5 1/2	8240
60	8'-3"	7'-10" 1.9 to 1	6	35	60	96	5	8730
66	8'-3"	7'-10" 1.7 to 1	6 1/2	30	72	102	5 1/2	10710
72	8'-3"	7'-10" 1.9 to 1	7	36	78	108	6	12520
78	9'-3"	8'-10" 1.8 to 1	7 1/2	36	90	114	6 1/2	14770
84	9'-3"	8'-10" 1.25 to 1	8	36	90 1/2	120	6 1/2	18160
90	9'-3"	8'-10" 1.25 to 1	8 1/2	41	87 1/2	132	6 1/2	20900

End section is manufactured in accordance with applicable portions of ASTM Specifications C76.

NOT TO SCALE

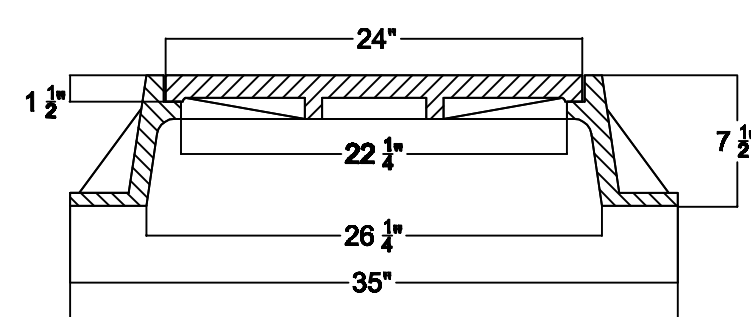


HDPE MAIN - SANITARY SEWER SERVICE DETAIL
NOT TO SCALE

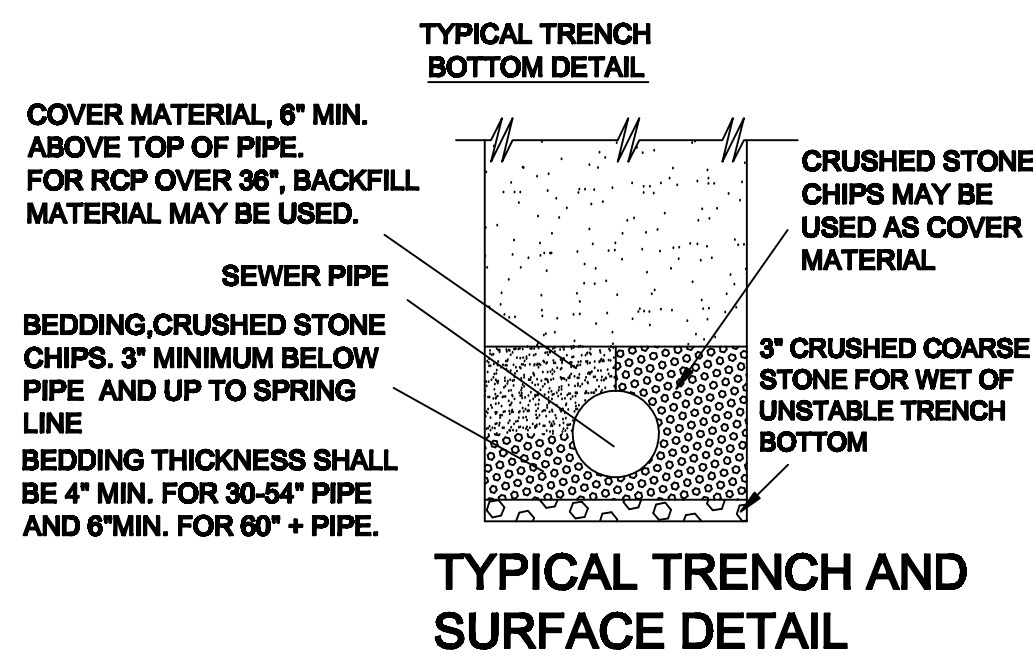


PVC MAIN - SANITARY SEWER SERVICE DETAIL
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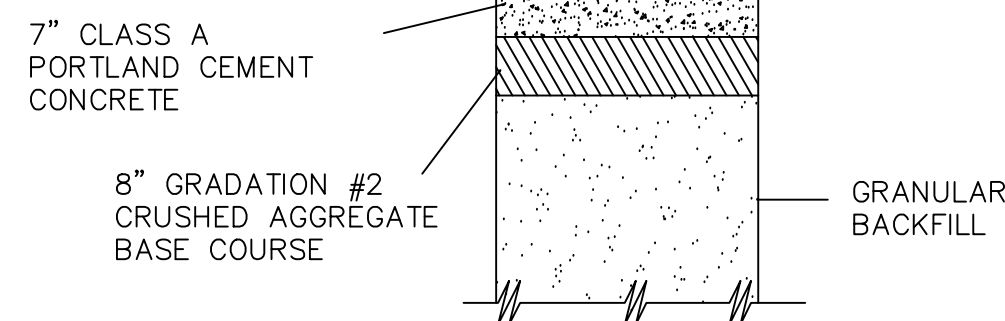
MANHOLE CASTING DIMENSIONS



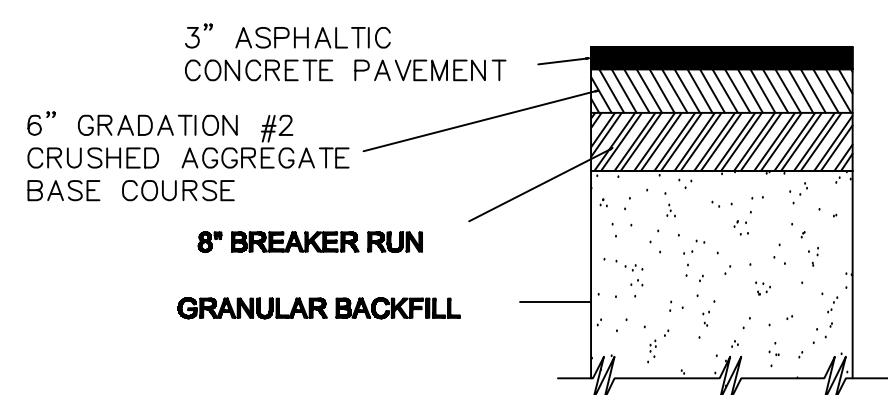
SANITARY SEWER SERVICE DETAIL
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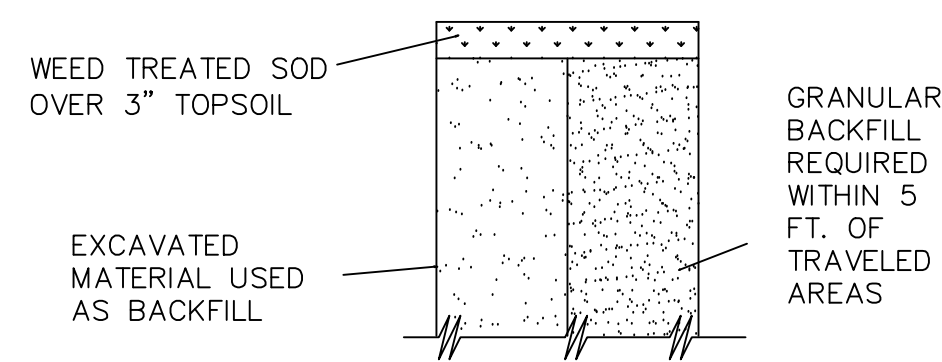
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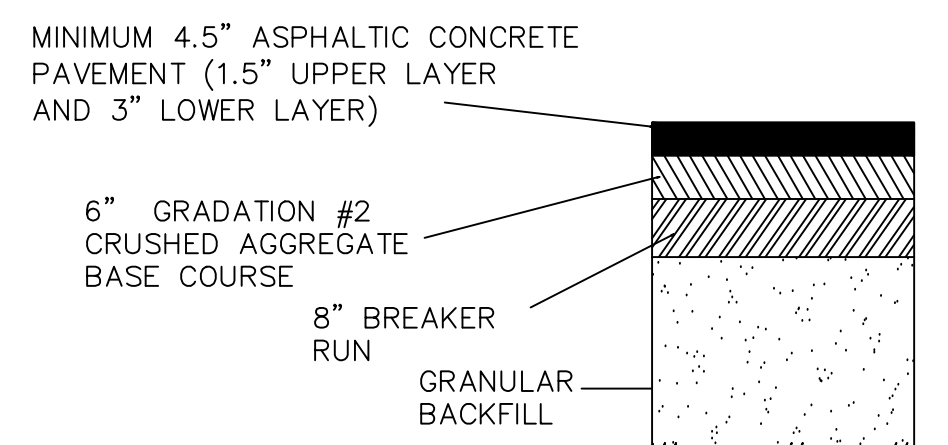
CONCRETE CEMENT APRON & SIDEWALK REPLACEMENT SURFACE DETAIL
NOT TO SCALE



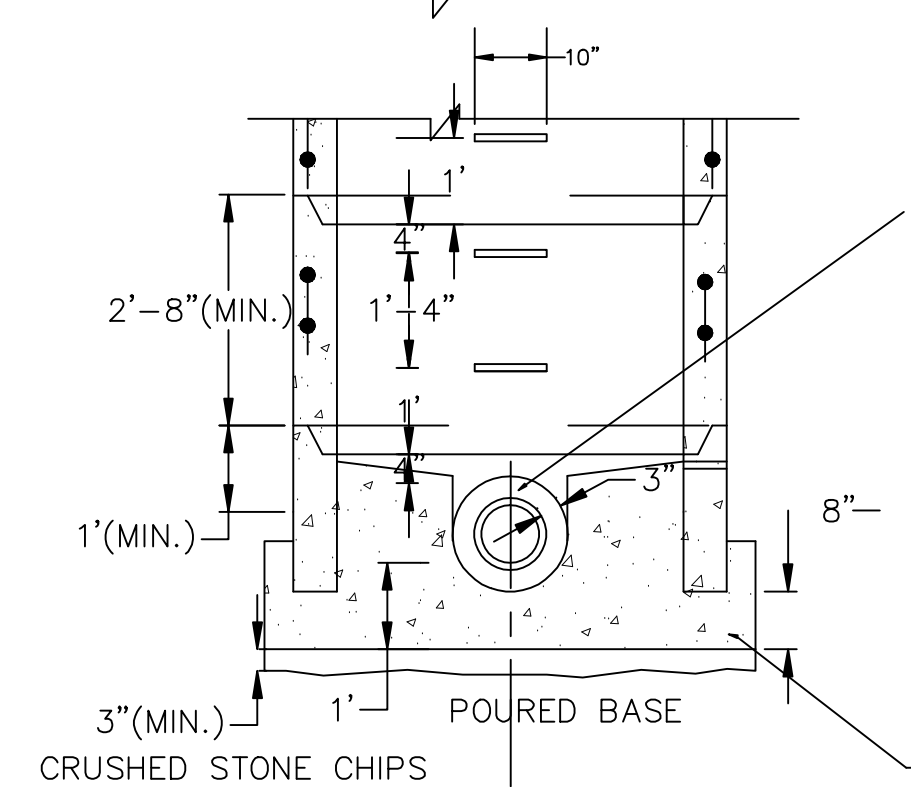
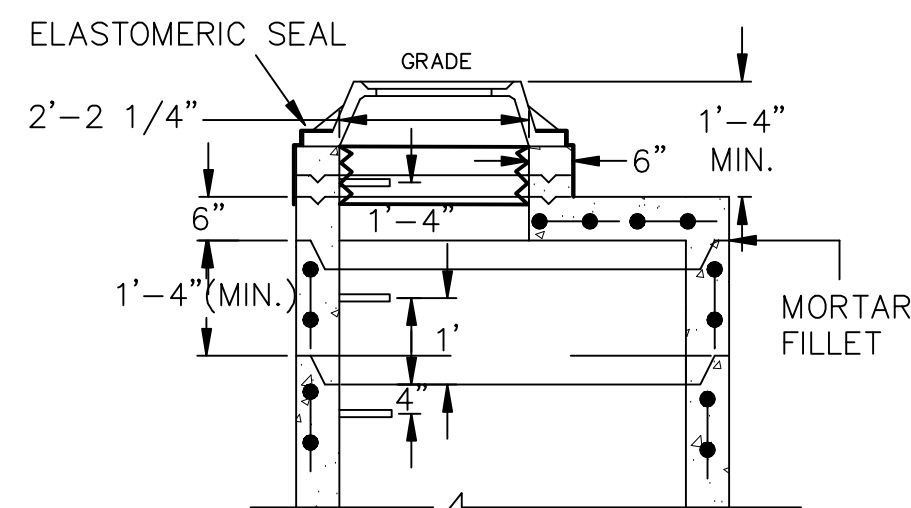
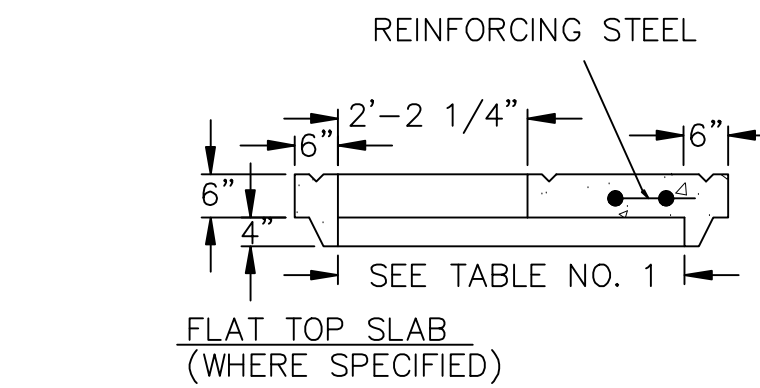
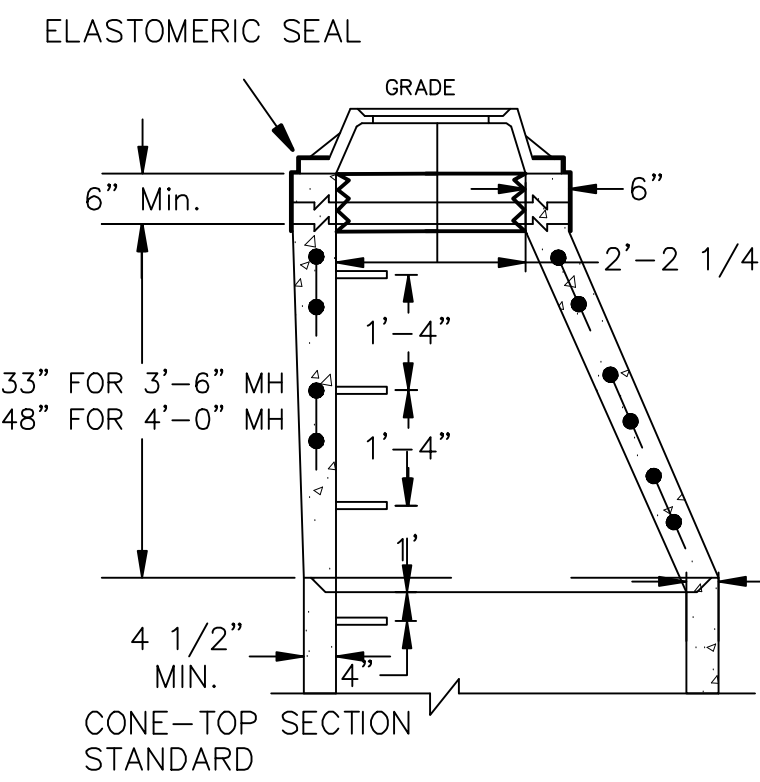
ASPHALT ALLEY & DRIVEWAY SURFACE DETAIL
NOT TO SCALE



LAWN REPLACEMENT DETAIL
NOT TO SCALE



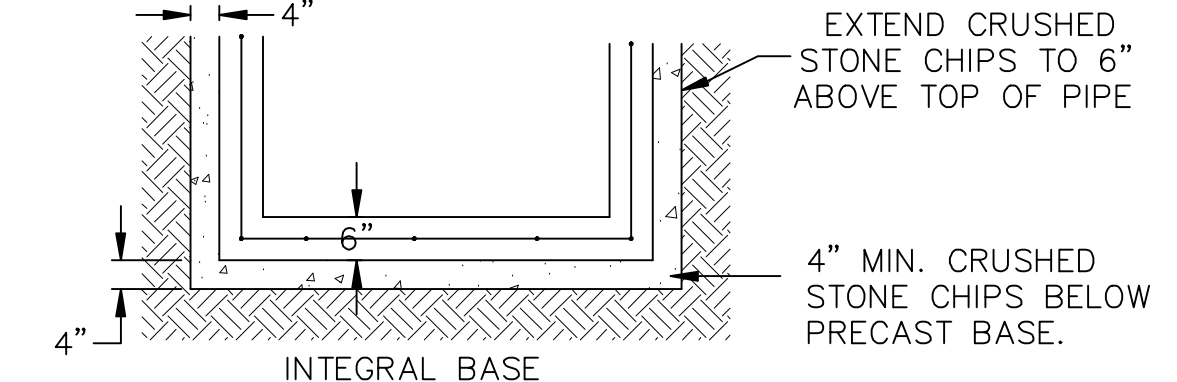
ASPHALT ROADWAY SURFACE DETAIL
NOT TO SCALE



PIPE DIA	MANHOLE DIA	WALL THICKNESS
8" THRU 30"	4'-0"	5"
36"	5'-0"	6"
42"	6'-0"	7"

PRECAST MANHOLE
NOT TO SCALE

TYPE I FRAME/CHIMNEY JOINT REQUIRED ON ALL SANITARY MANHOLES UNLESS OTHERWISE SPECIFIED. SONNEBORN HLM-5000-R ELASTOMERIC WATERPROOFING SEALER APPLIED TO EXTERIOR AND CRETEX INTERIOR CHIMNEY SEAL OR APPROVED EQUAL.



FLAT TOP SLAB MAY ONLY BE USED FOR 5'-0" AND 6'0" DIA. MANHOLES AND WITH PERMISSION OF PROJECT ENGINEER OR WHERE SHOWN ON THE PLANS.

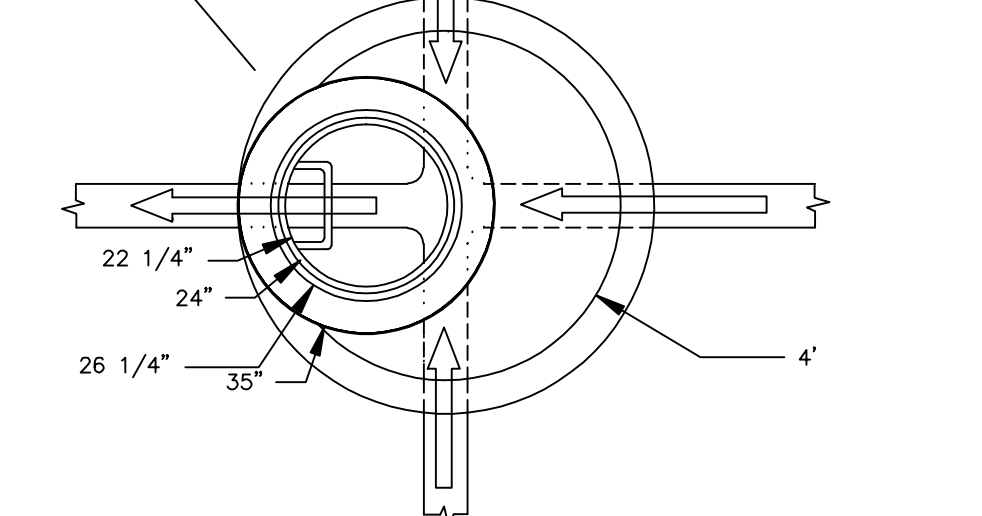
ADJUST FRAME TO GRADE WITH BRICK OR CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY, RINGS SHALL BE GROOVED TO RECEIVE STEP. THE CHIMNEY SHALL BE CONSTRUCTED SO THAT AS FEW ADJUSTING RINGS AS POSSIBLE SHALL BE USED TO BRING MANHOLE TO GRADE.

CONCRETE AND STEEL REINFORCEMENT SHALL CONFORM TO DESIGNATION C-478 REQUIREMENTS OF ASTM SPECIFICATIONS.

JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING BUTYL RUBBER GASKETS. ALL JOINTS SHALL CONFORM TO ASTM-C443 VARIATIONS IN DIAMETER, DEFECTIVE OR DAMAGED ENDS, OR OTHER CONDITIONS WHICH, IN THE OPINION OF THE PROJECT ENGINEER, PREVENT MAKING A SATISFACTORY JOINT SHALL BE CONSIDERED CAUSE FOR REJECTION.

AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ INCH PER LINEAL FOOT.

THE STEPS, FRAME, AND COVER SHALL BE CENTERED OVER THE DISCHARGE PIPE.



SPACE BETWEEN PIPE AND PRECAST MANHOLE WALL TO BE FILLED WITH BRICK MORTARED IN PLACE EXCEPT THAT AN APPROVED FLEXIBLE WATERTIGHT PIPE TO MANHOLE SEAL IS REQUIRED FOR ALL FLEXIBLE SANITARY SEWER CONNECTIONS. THE ANNULAR SPACE BETWEEN THE PIPE AND MANHOLE WALL SHALL BE FILLED WITH FLEXIBLE BUTYL RUBBER GASKET MATERIAL BELOW SURFACE OF BENCH SPRINGLINE.

3" MIN. CRUSHED STONE CHIPS UNDER CONCRETE BASE.

PRECAST BASE RISER SECTION WITH A SEPERATE PRECAST BASE SLAB SHALL NOT BE CONSIDERED GENERALLY ACCEPTABLE UNDER THIS SPECIFICATION.

THE FLOW CHANNEL THROUGH MANHOLES SHALL BE MADE TO CONFORM TO THE SHAPE AND SLOPE OF THE SEWERS AND SHALL EXTEND VERTICALLY FROM THE SPRINGLINE TO THE CROWN OF THE DISCHARGE PIPE.

**BENCH SLOPE { STORM MANHOLE 1" PER FOOT
SANITARY MANHOLE 2" PER FOOT
CLASS "D" CONCRETE, 12" MIN. BELOW BOTTOM OF PIPE**

RECORD DRAWING
NO CHANGES THIS SHEET