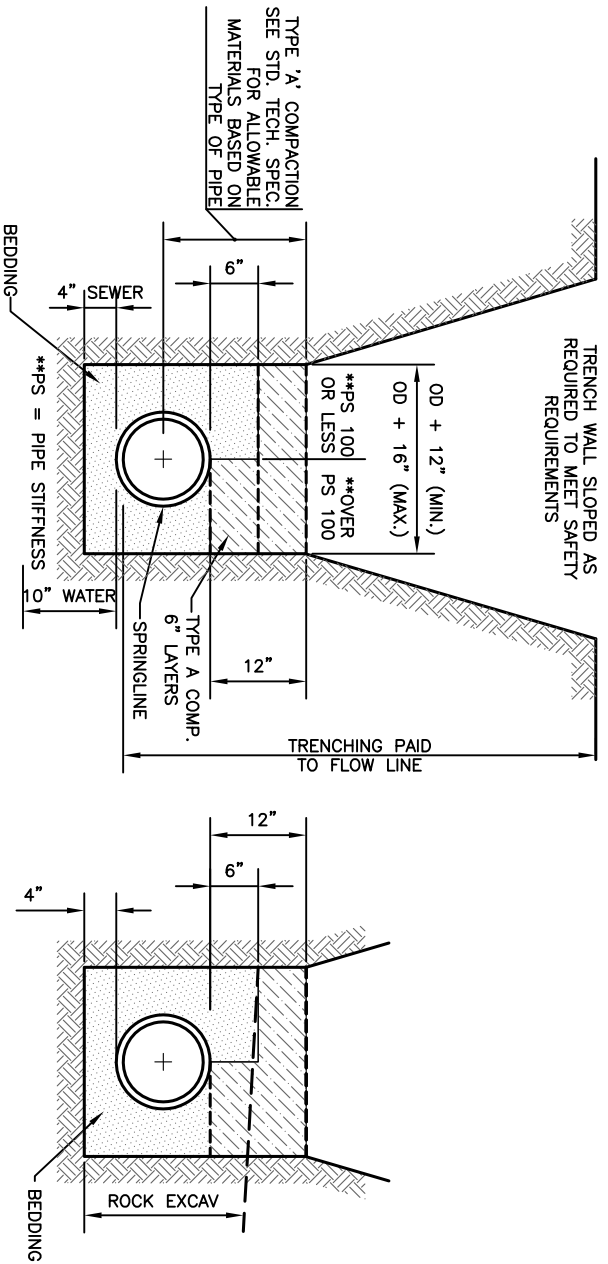


TRENCH WALL SLOPED AS REQUIRED TO MEET SAFETY REQUIREMENTS



TRENCHING DETAILS

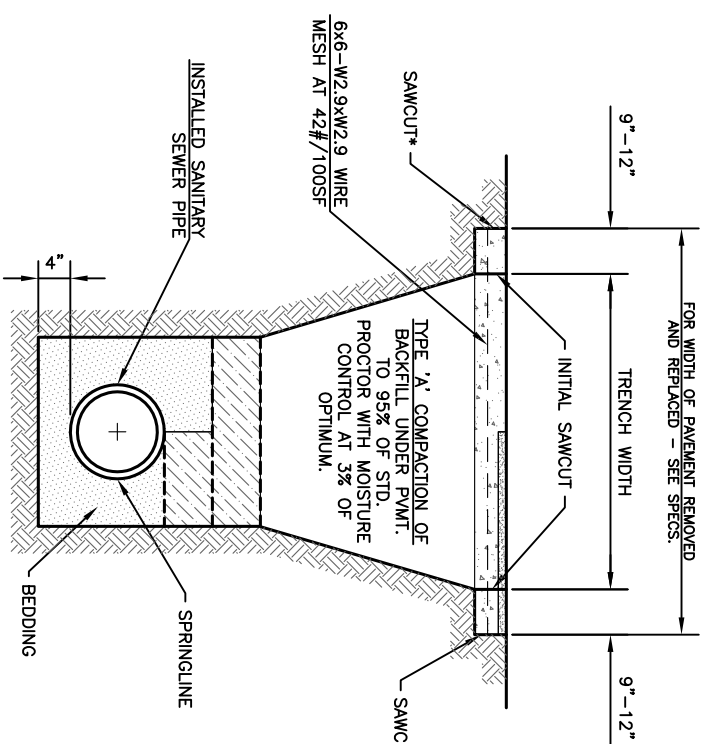
STANDARDS FOR SETTING LINE AND GRADE FOR SEWER & WATER CONSTRUCTION:

1. STAKES, SPIKES, SHINERS, OR CROSSES SET BY TRANSIT AT THE SURFACE ON AN OFFSET FROM THE SEWER CENTER LINE.
2. STAKES ARE TO BE SET IN THE TRENCH BOTTOM ON THE SEWER LINE AS THE ROUGH GRADE FOR SEWER IS COMPLETED.
3. ELEVATIONS GIVEN FOR THE FINISHED TRENCH GRADE AND SEWER INVERT, WHILE SEWER LAYING PROGRESSES.

PAVEMENT PLACEMENT SCHEDULE

SCHEDULE TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

ORIGINAL SURFACE	NEW PAVEMENT
CONCRETE	8" REINFORCED CONCRETE 4,000psi
BRICK OVER CONCRETE	7" REINFORCED CONC. BASE 4,000psi PLUS ONE-COURSE RELAID BRICK.
ASPHALT	MATCH EXISTING PAVEMENT THICKNESS WITH A MINIMUM OF 6" HOT-MIX ASPHALTIC CONCRETE.
ASPHALT OVER CONCRETE	7" REINFORCED CONCRETE BASE 4000 psi PLUS 2" HOT MIX ASPHALTIC CONCRETE. 7" REINFORCED CONCRETE BASE SHALL BE JOINED TO ADJACENT PAVEMENT. SEE "FULL PANEL REPAIR & UTILITY CUTS FOR CONCRETE PAVEMENT" DETAIL AS SHOWN ON MISCELLANEOUS DETAILS I (DT-017). THE WEARING SURFACE WILL CONFORM TO CITY/COUNTY STANDARD SPECIFICATIONS.
BRICK OVER BRICK/SUBGRADE	7" HOT-MIX ASPHALTIC CONCRETE PLUS ONE-COURSE RE-LAID BRICK.

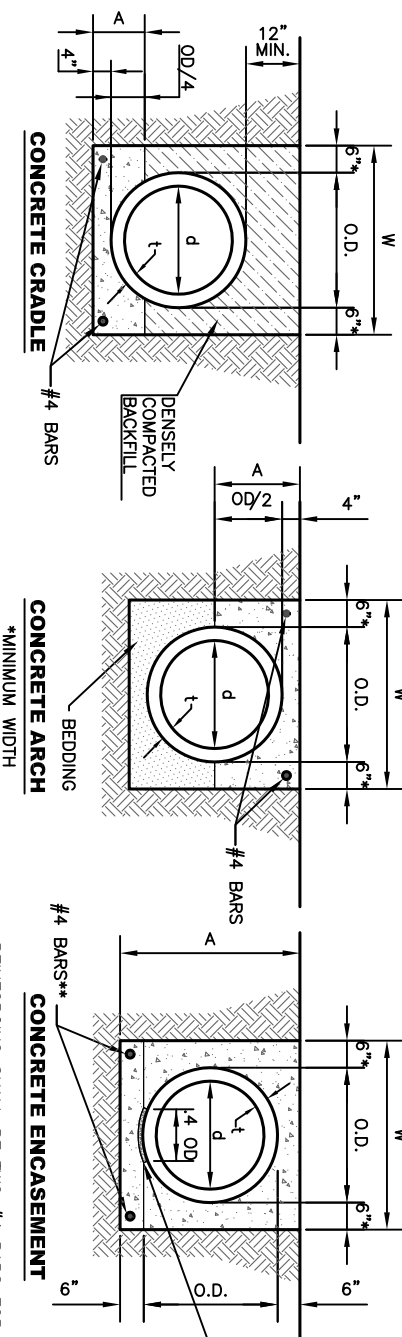


INSTALLATION OF SEWER UNDER EXISTING PAVEMENT

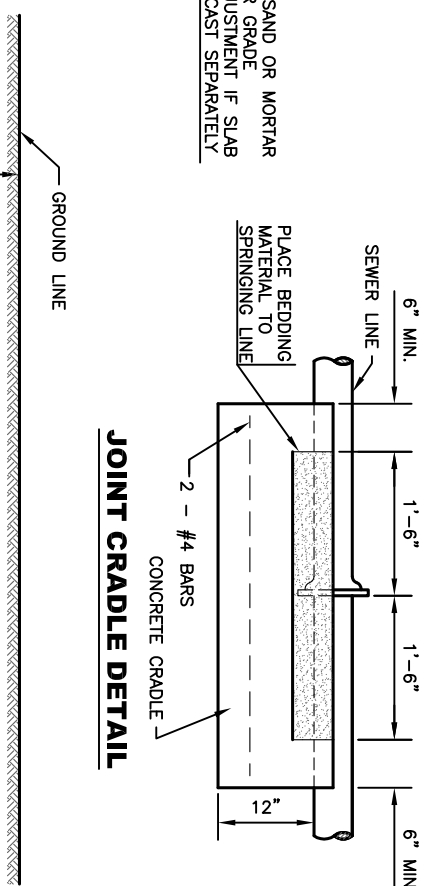
STANDARD METHODS FOR TRANSFERRING LINE AND GRADE TO SEWER TRENCH BOTTOM:

1. ELECTRONIC LASER EQUIPMENT-STAKING SHALL BE AT 25' INTERVALS FOR THE FIRST 100' AND EVERY 100' THEREAFTER UNTIL THE NEXT MANHOLE IS REACHED.
2. BATTER BOARDS AND BATTER BOARD SUPPORTS-STAKING SHALL BE EVERY 25'.

- NOTES:
1. THE TRENCH SHALL BE EXCAVATED TO 4" BELOW BOTTOM OF THE PIPE BARREL & BACKFILLED AS SHOWN ABOVE WITH AN APPROVED BEDDING MATERIAL.
 2. WHEN THE SEWER IS TO BE INSTALLED IN ROCK, THE TRENCH IS TO BE EXCAVATED TO A MINIMUM DEPTH OF 4" BELOW THE BOTTOM OF THE PIPE AND BACKFILLED IN 6" COMPACTED LAYERS WITH AN APPROVED BEDDING MATERIAL AS SHOWN. THE ROCK EXCAVATED TO BE PAID AS A SEPARATE BID ITEM. THE EMBEDMENT, IN ALL CASES, TO BE INCLUDED IN THE PRICE BID PER TRENCH, EXCAVATION, AND BACKFILL.



JOINT CRADLE DETAIL



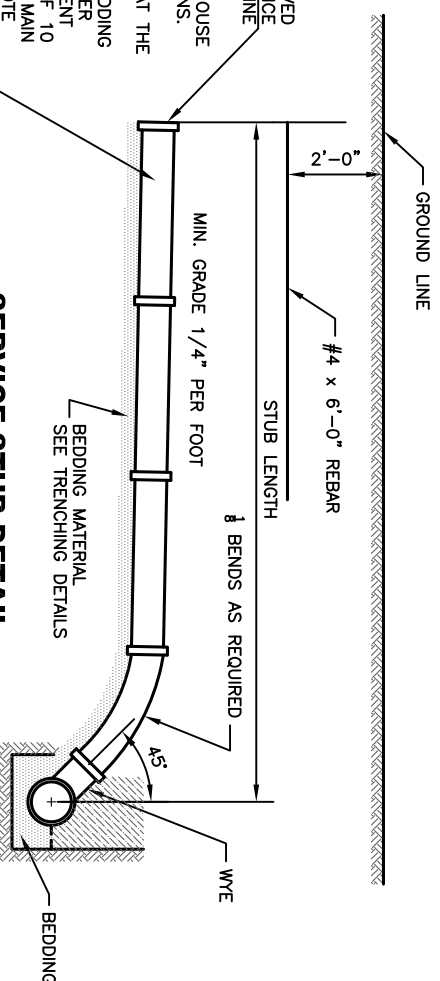
d	O.D.			t	W	CRADLE		ARCH		ENCASE.	
	IN.	IN.	IN.			IN.	IN.	IN.	IN.	IN.	IN.
8	9.50	.750	.24	6.4	.036	8.8	.039	21.5	.102	21.5	.102
10	11.75	.875	.24	6.9	.038	9.9	.047	23.8	.117	23.8	.117
12	14	1.00	.26	7.5	.043	11.0	.054	26.0	.134	26.0	.134
15	17.5	1.25	.29.5	8.4	.051	12.8	.066	29.5	.162	29.5	.162
18	21	1.50	.33	9.3	.061	14.5	.078	33.0	.191	33.0	.191
21	24.5	1.75	.36.5	10.1	.071	16.3	.093	36.5	.222	36.5	.222
24	28	2.00	.40	11.0	.085	18.0	.106	40.0	.256	40.0	.256
27	31.5	2.25	.43.5	11.9	.095	19.8	.121	43.5	.286	43.5	.286
30	35	2.50	.47	12.8	.106	21.5	.136	47.0	.321	47.0	.321
36	41.5	2.75	.53.5	14.4	.129	24.8	.167	53.5	.388	53.5	.388

NOTE: MAXIMUM PIPE INTRUSION INTO STRUCTURE IS 4". UNIQUE STRUCTURES MIGHT REQUIRE ADDITIONAL ANALYSIS. ENGINEER APPROVAL REQUIRED.

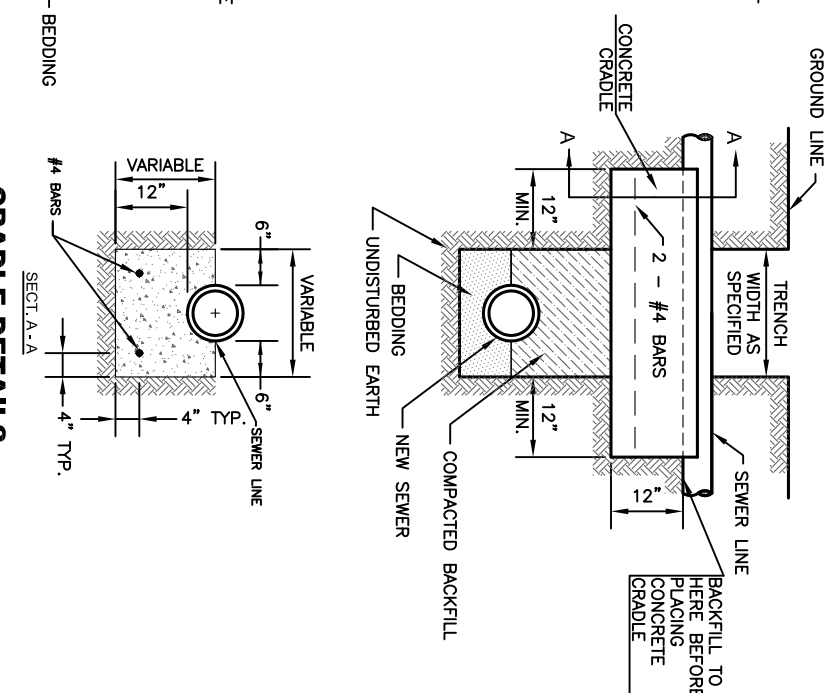
**REINFORCING SHALL BE TWO #4 BARS FOR PIPE UP TO 8" DIA; FOUR #4 BARS FOR 10" THROUGH 24" DIA; AND AS APPROVED BY THE ENGINEER FOR LARGER THAN 24" DIA.

MAXIMUM DEPTH AT PLUG LOCATION SHALL BE 14' BELOW TOP OF HOUSE FOUNDATION. LENGTH AND ELEVATION SHALL BE AS SHOWN ON PLANS. LINES SHALL BE PLACED AT RIGHT ANGLES FROM MAIN. ALIGNMENT CHANGES MUST BE MADE BY THE USE OF 1/8 BENDS CONNECTED AT THE WYE. UNIT PRICE BID PER LINEAL FOOT FOR SERVICE STUDS SHALL INCLUDE - TRENCHING, LAYING, BACKFILLING, PIPE, FITTINGS, AND BEDDING MATERIAL. AT POINTS WHERE SEWERS CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON, PLASTIC PIPE WITH SOLVENT WELDED JOINTS, OR PIPE ENCASED IN CONCRETE FOR A DISTANCE OF 10 FEET IN EACH DIRECTION FROM THE CROSSING UNLESS THE WATER MAIN IS AT LEAST 2 FEET ABOVE THE SEWER. FOR SIZING DATA SEE NOTE ELSEWHERE, THIS SHEET. ALSO SEE "SANITARY SEWER CAP" DETAIL ON MISCELLANEOUS DETAILS II (DT-018).

SERVICE STUB DETAIL



CRADLE DETAILS



SANITARY SEWER DETAILS

DATE: _____

SHEET: _____

PROJ.: _____

SCHEDULE FOR CONCRETE CRADLE, CONCRETE ARCH AND CONCRETE ENCASUREMENT FOR SANITARY SEWERS

NOTE: MIN. 2500 PSI CONCRETE USED FOR CRADLING.

NO.	DATE:	REVISION	BY:	APP'D.
4	June 2018	Added maximum pipe intrusion note	DHS	JH
3	March 2013	Mod. Pmtl. Piece, Sch. & Bedding Amt.	DHS	SB
2	Feb. 2008	Mod. Cradle & Arch and Pmtl. Piece Sch. DHS	DHS	SB
1	Dec. 2004	Mod. Sary. Note	DHS	JH

DRAWN BY: *lm/Enc*

APPRO'D BY: *Cherry-Meyer*

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ENGINEERING

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STANDARD DETAILS

SANITARY SEWER DETAILS