

NOTES:

1. THE STEEL CASING SHALL BE INSTALLED BY MEANS OF JACKING OR DRY BORING, EXCEPT WHERE SPECIFICALLY NOTED ON THE PLANS TO BE INSTALLED BY OPEN TRENCH CONSTRUCTION.
2. CASING DIAMETER SHALL BE A MINIMUM OF 4 INCHES GREATER THAN THE OUTSIDE BELL DIAMETER, AND SEWER PIPE CASING SHALL NOT BE LESS THAN 30 INCHES IN DIAMETER UNLESS SPECIFICALLY NOTED.
3. MINIMUM CASING THICKNESS SPECIFIED IN "TABLE A" IS REQUIRED FOR STEEL CASING IN PLACE, AND DOES NOT ACCOUNT FOR CONSTRUCTION LOADS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STRUCTURAL SUFFICIENCY OF THE CASING DURING CONSTRUCTION, AND ALSO THE METHOD OF INSTALLATION.
4. GRAVITY SEWER PIPELINES AND PRESSURE PIPELINES SHALL BE SUPPORTED ON PIPE SKIDS SUBJECT TO THE APPROVAL OF THE ENGINEER.
5. ALL SKIDS ARE TO BE SQUARE IN CROSS SECTION AND MAY BE MADE FROM REDWOOD, #2 OR BETTER DOUGLAS FIR, SOUND MATERIAL, TO BE WALMANIZED OR CREOSOTED (REDWOOD NEED NOT BE TREATED).
6. SKIDS SHALL BE ATTACHED TO PIPE BY STRAPPING WITH A STANDARD STRAPPING MACHINE TO HOLD SKIDS IN PLACE DURING PULLING OPERATIONS. USE STAINLESS STEEL BANDS, OR METHOD OF "CLEATING" SKIDS TOGETHER, AS APPROVED.
7. FLEXIBLE PIPE (PVC, ABS, ETC.) SHALL HAVE SPACER GUIDE ALONG ON THE TOP TO PREVENT PIPE FROM FLOATING. PIPE WITHIN CASING TO BE BONDED TOGETHER AT THE JOINTS FOR AN INTEGRAL UNIT PER MANUFACTURER'S RECOMMENDATIONS. TWO (2) APPROVED FLEXIBLE COUPLINGS SHALL BE USED AT EACH END OF CASING PER SB-63.
8. NOTICE AS REQUIRED BY THE DISTRICT SHALL BE GIVEN PRIOR TO CONSTRUCTION, FOR THE DISTRICT INSPECTION OF CASING PIPE AND CARRIER PIPE INSTALLATION. THE AS BUILT LOCATION AND GRADE OF CASING PIPE SHALL BE APPROVED BY THE DISTRICT PRIOR TO INSTALLATION OF THE CARRIER PIPE. DEPARTURES FROM PLANNED LOCATION OR GRADE OF THE CASING PIPE SHALL REQUIRE A FIELD SURVEY FOR CARRIER PIPE REDESIGN IF FEASIBLE, OR ABANDONMENT IN FAVOR OF A NEW INSTALLATION.
9. THE TOTAL ANNULAR SPACE SHALL BE GROUTED PER EMWD SPEC. SECT. 03604, UNLESS OTHERWISE SPECIFIED ON THE CONSTRUCTION DRAWINGS.
10. WOODEN SKIDS CAN BE REPLACED WITH ADVANCE PRODUCTS & SYSTEMS, INC. (APS) CASING SPACERS, MODEL SSI OR APPROVED EQUAL. THESE SPACERS SHALL BE INSTALLED 6 FEET ON CENTER.
11. IN LIEU OF MORTAR GROUTED BRICKS (TO SEAL STEEL CASING ENDS), ADVANCE PRODUCTS & SYSTEMS, INC. (APS) MOLDED END SEALS CAN BE USED, MODEL AM OR APPROVED EQUAL.

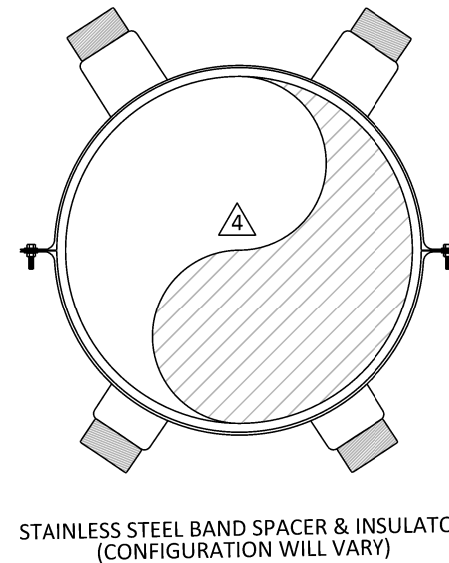


TABLE "A"			
CASING O.D. "D"	STREETS & HWYS THICKNESS "T" MIN		RAILROADS
DIAMETER (INCHES)	UP TO 150' LENGTH	OVER 150' LENGTH	STEEL THICKNESS "T" (MINIMUM)
4'-10" ID	1/4"	1/4"	4"-12":1/4"
12"-16" OD	1/4"	1/4"	14"-16":9/32"
18"-20" OD	1/4"	1/4"	18":5/16" 20":11/32"
22" OD	1/4"	1/4"	3/8"
24" OD	1/4"	1/4"	13/32"
26" OD	1/4"	1/4"	7/16"
28" OD	1/4"	1/4"	15/32"
30" OD	3/8"	1/2"	15/32"
32" OD	3/8"	1/2"	1/2"
34"-36" OD	3/8"	1/2"	17/32"
38" OD	3/8"	1/2"	9/16"
40" OD	1/2"	3/4"	9/16"
42" OD	1/2"	3/4"	9/16"
48"-60" OD	1/2"	3/4"	AS REQUIRED
62"-72" OD	3/4"	3/4"	AS REQUIRED

REVISIONS			
NO.	DATE	INITIAL	DESCRIPTION
4	6/28/19	GS	UPDATED TITLE BLOCK, FONT, LOGO, ADDED MOLDED END SEAL AND CASING SPACER
3	4/14/10	RE	REVISED NOTE
2	8/29/03	CM	REVISED NOTES & ADDED TOP SKID
1	1/22/99	GR	REDRAWN WITH CADD ON MYLAR

APPROVALS			
NO.	DATE	INITIAL	DATE
DESIGN		JUS	3/21/72
CONSTRUCTION		BLM	
INSPECTION			
OPERATIONS		CAG	
SUBMITTED		LAM	6/29/72



EASTERN MUNICIPAL WATER DISTRICT
STANDARD DRAWING

**PIPE CASING
 SEWER MAIN PIPELINE**

REFERENCES:
 FILE I.D.: \kauai\eng\std dwgs\SB-49.dgn

SCALE: NONE
 DRAWN BY: McM

RECOMMENDED _____
 DIRECTOR OF ENGINEERING DATE

APPROVED Doyle F. Boen
 ASSISTANT GENERAL MANAGER DATE

SB-49

