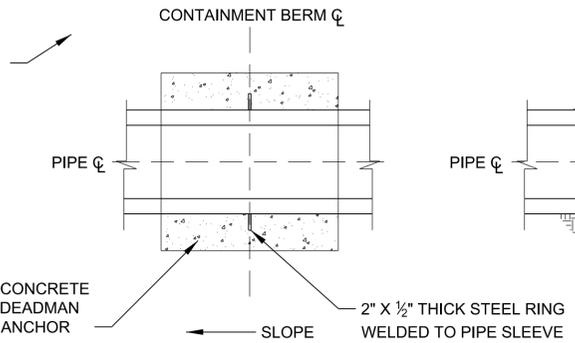
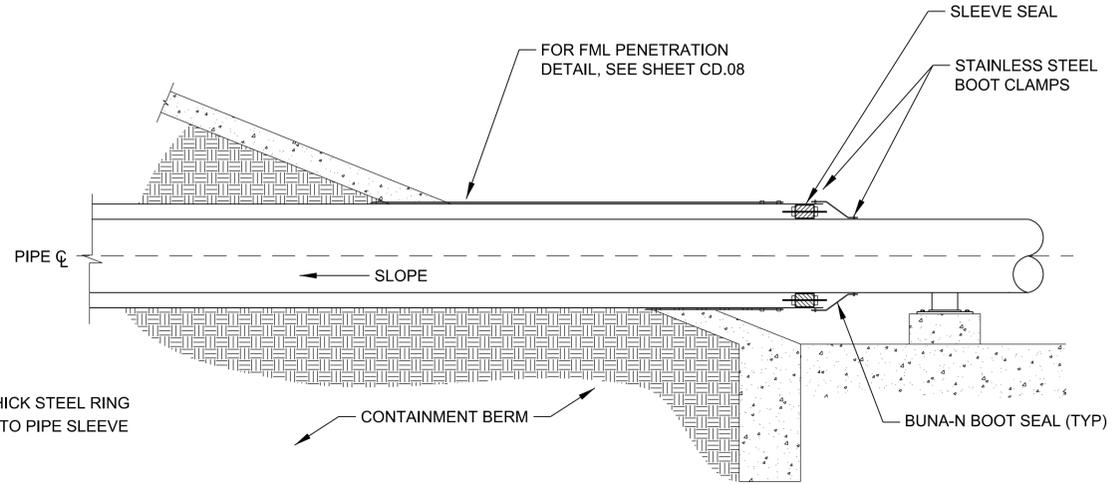


**BERM DIKE WALL PENETRATION DETAIL (EXTERIOR)**  
SCALE: NONE



**BERM DIKE WALL PENETRATION DETAIL (CENTER)**  
SCALE: NONE



**BERM DIKE WALL PENETRATION DETAIL (INTERIOR)**  
SCALE: NONE

**DESIGNER NOTES:**

1. PIPE SUPPORT TYPES AND LOCATIONS SHALL BE CALCULATED BY PIPE STRESS ANALYSIS AND HYDRAULIC TRANSIENT CALCULATIONS. PIPE SUPPORT SHOWN IN THIS DETAIL IS FOR INFORMATION ONLY. CHANGE THE SUPPORT TYPE AS NECESSARY BASED UPON CALCULATION RESULTS.
2. SEE CHART FOR CARRIER AND SLEEVE PIPE DIMENSION COMBINATIONS FOR MECHANICALLY ADJUSTABLE SEGMENTED ELASTOMERIC SEAL. CONFIRM DIMENSIONS WITH SELECTED MECHANICALLY ADJUSTABLE SEGMENTED ELASTOMERIC SEAL MANUFACTURER BEFORE SELECTING SLEEVE PIPE SIZE.
3. FOR CONTAINMENT BERM AND FML PENETRATION INFORMATION, SEE CIVIL SHEETS.
4. SUPPORT CARRIER PIPE IN SLEEVE WITH NON-CONDUCTIVE SUPPORTS SPACED A MAXIMUM OF 10' APART.
5. SLOPE SLEEVE PIPING TO ALLOW FOR DRAINAGE THROUGH SLEEVE DRAIN.

<b>CARRIER PIPE SIZE (IN)</b>	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	42	48	54
<b>CASING PIPE SIZE (IN)</b>	6	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	48	54	60

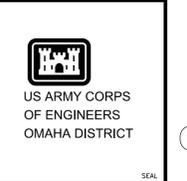
**DESIGNER NOTES:**

1. DETERMINE FORCES ACTING UPON PIPING PASSING THROUGH DIKE BERM TO DETERMINE WHETHER OR NOT A CONCRETE DEADMAN ANCHOR IS REQUIRED AND, IF SO, ITS SIZE TO COUNTERACT FORCES. IF IT IS NOT REQUIRED, THEN DELETE FROM DETAIL.
2. SLOPE SLEEVE PIPING TO ALLOW FOR DRAINAGE THROUGH SLEEVE DRAIN.
3. CONCRETE DEADMAN ANCHOR (IF REQUIRED) SHALL BE CENTERED ON THE CONTAINMENT BERM.
4. ENSURE THAT THE CONCRETE DEADMAN ANCHOR (IF REQUIRED) DOES NOT INTERFERE WITH PIPE SUPPORT STRUCTURES.

UNCLASSIFIED//FOR OFFICIAL USE ONLY

UNCLASSIFIED//FOR OFFICIAL USE ONLY

DATE	
DESCRIPTION	
DATE	
DESCRIPTION	



APPROVED  
FOR COMMANDER NAFAC  
ACTIVITY  
SATISFACTORY TO  
DES CCH | DRW CCH | CHK CRM  
SUBMITTED BY:  
DATE: APRIL 2015

NAVAL FACILITIES ENGINEERING COMMAND - ATLANTIC  
DOD STANDARD DESIGN AW78-24-27  
**FUEL TANKS WITH FIXED ROOFS ABOVEGROUND VERTICAL STEEL BERM DIKE WALL PENETRATION**

SCALE: AS NOTED
PROJECT NO.: XXXXX
CONSTR. CONTR. NO. XXXXX
NAVFAC DRAWING NO. XXXXX
SHEET 20 OF 57
<b>CD.10</b>