

XERXES CORPORATION		DEADMAN BURIAL WATER AT GRADE		Murphy Oil - 25k Tank		10/22/19	
<b>TANK DATA</b>				<b>INSTALLATION</b>			
NOM. CAP. (GAL.)	25000	TOTAL COVER INCLUDING SOIL & TOP SLAB (FT)		3.25			
TYPE (SINGLEWALL=1;DW=3)	1	TOP SLAB THICKNESS (IN)		8.00			
DRY-1, WET-2	3	TOP SLAB LENGTH (FT)		53.00			
NOM. TANK DIA. (FT.)	10	TOP SLAB WIDTH (FT)		13.33			
PROD. STORED (GAL)	0	DEADMAN LNG (FT)		46.00			
SPEC. GRAV. USED	1.00	DEADMAN WID (IN)		18.00			
		DEADMAN THK (IN)		8.75			
		# OF 42" DIAMETER SUMPS		1			
<b>SAFETY FACTOR</b>				<b>1.24 :1</b>			
DOWN FORCE/UP FORCE =							
<b>TOTAL WEIGHTS</b>							
CONCRETE WEIGHT		50302.41 LBS.					
BACKFILL WEIGHT		212681.20 LBS.					
TANK WEIGHT		11800.00 LBS.					
PRODUCT WEIGHT		0.00 LBS.					
<b>TOTAL DOWN FORCE</b>		<b>274783.61 LBS.</b>					
<b>UP FORCES</b>							
TANK DISP. FORCE		221009.12 LBS.					
<b>TOTAL UP FORCE</b>		<b>221009.12 LBS.</b>					
<b>WORKSHEET</b>							
<b>TANK DATA</b>							
SHELL DIAMETER	10.00 FT.	ACTUAL CAP (GAL)	25432.00				
SHELL LENGTH	37.56 FT.	TANK WT (LBS.)	11800.00				
DOME PROJECTION	5.00 FT.	O.A.L. (FT.)	47.56				
MID POINT HEIGHT	7.58 FT.	NUMBER OF RIBS	29.00				
COLUMN HEIGHT	12.58 FT.	DOMES A (SQ FT)	78.54				
RIB VOLUME	2631.00 CU. IN.	DOMES VOL. (CU FT)	523.60				
<b>REINFORCED CONCRETE VOLUMES (CU. FT.)</b>							
TOP SLAB		470.99		DEADMEN		100.63	
<b>FORCE = VOL. X 88 LBS/CF</b>		41447.41		<b>FORCE (LBS) = VOL. X 88 LBS/CF</b>		8855.00	
<b>TOP SLAB &amp; DEADMEN FORCE</b>				<b>50302.41 LBS.</b>			
<b>BACKFILL VOLUMES (CU. FT.)</b>							
OVER TANK SHELL		1348.56		OVER DEADMEN		1543.56	
OVER TANK DOMES		333.79		END WEDGE		318.78	
<b>TOTAL WET VOLUME</b>		<b>3544.49</b>		<b>FORCE = VOL. X 60 LBS/CF</b>		<b>212681.20 LBS.</b>	
<b>BUOYANCY</b>							
SHELL VOLUME		2975.01 CU. FT.					
DOME VOLUME		523.60 CU. FT.					
RIB VOLUME		44.15 CU. FT.					
<b>TOTAL VOLUME</b>		<b>3542.77 CU. FT.</b>					
VOL. X 7.48 GAL/CU. FT.		26499.89 GALLONS					
<b>FORCE = GAL X 8.34 (LBS./GAL.)</b>		<b>221009.12 LBS.</b>					

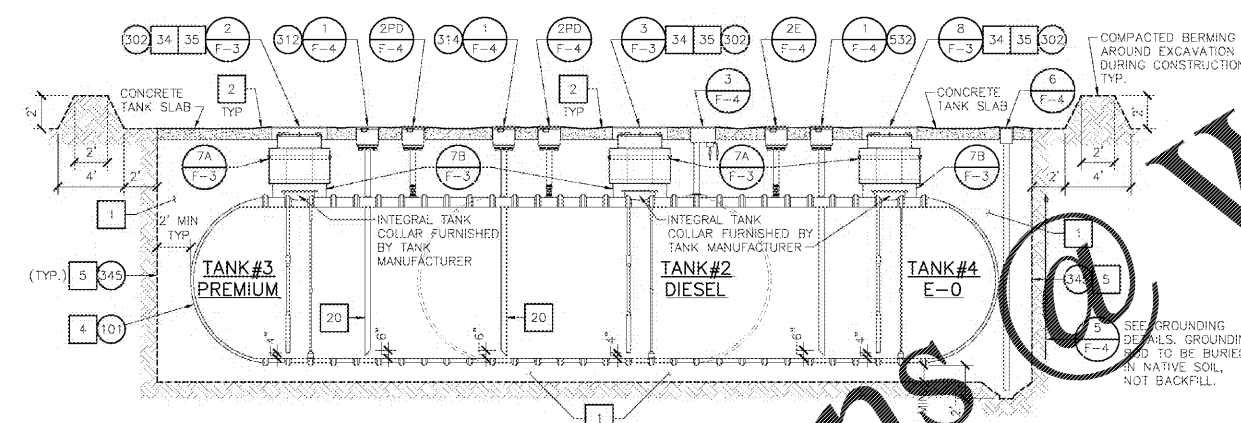
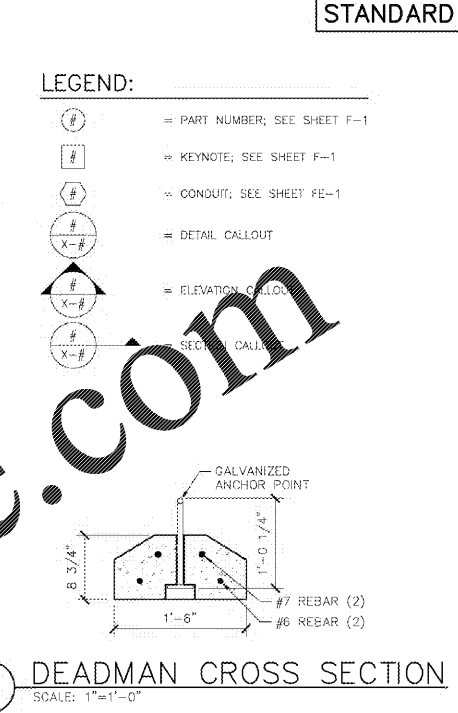
XERXES CORPORATION		DEADMAN BURIAL WATER AT GRADE		Murphy Oil - 8/10/8 Tank		10/22/19	
<b>TANK DATA</b>				<b>INSTALLATION</b>			
NOM. CAP. (GAL.)	26000	TOTAL COVER INCLUDING SOIL & TOP SLAB (FT)		3.25			
TYPE (SINGLEWALL=1;DW=3)	3	TOP SLAB THICKNESS (IN)		8.00			
DRY-1, WET-2	16	TOP SLAB LENGTH (FT)		53.00			
NOM. TANK DIA. (FT.)	10	TOP SLAB WIDTH (FT)		13.33			
PROD. STORED (GAL)	0	DEADMAN LNG (FT)		46.00			
SPEC. GRAV. USED	1.00	DEADMAN WID (IN)		18.00			
		DEADMAN THK (IN)		8.75			
		# OF 42" DIAMETER SUMPS		3			
<b>SAFETY FACTOR</b>				<b>1.20 :1</b>			
DOWN FORCE/UP FORCE =							
<b>TOTAL WEIGHTS</b>							
CONCRETE WEIGHT		50302.41 LBS.					
BACKFILL WEIGHT		212220.62 LBS.					
TANK WEIGHT		14200.00 LBS.					
PRODUCT WEIGHT		0.00 LBS.					
<b>TOTAL DOWN FORCE</b>		<b>272223.03 LBS.</b>					
<b>UP FORCES</b>							
TANK DISP. FORCE		230954.28 LBS.					
<b>TOTAL UP FORCE</b>		<b>230954.28 LBS.</b>					
<b>WORKSHEET</b>							
<b>TANK DATA</b>							
SHELL DIAMETER	10.00 FT.	ACTUAL CAP (GAL)	26223.00				
SHELL LENGTH	38.94 FT.	TANK WT (LBS.)	14200.00				
DOME PROJECTION	5.00 FT.	O.A.L. (FT.)	48.94				
MID POINT HEIGHT	7.58 FT.	NUMBER OF RIBS	30.00				
COLUMN HEIGHT	12.58 FT.	DOMES A (SQ FT)	78.54				
RIB VOLUME	2631.00 CU. IN.	DOMES VOL. (CU FT)	523.60				
<b>REINFORCED CONCRETE VOLUMES (CU. FT.)</b>							
TOP SLAB		470.99		DEADMEN		100.63	
<b>FORCE = VOL. X 88 LBS/CF</b>		41447.41		<b>FORCE (LBS) = VOL. X 88 LBS/CF</b>		8855.00	
<b>TOP SLAB &amp; DEADMEN FORCE</b>				<b>50302.41 LBS.</b>			
<b>BACKFILL VOLUMES (CU. FT.)</b>							
OVER TANK SHELL		1349.22		OVER DEADMEN		1543.56	
OVER TANK DOMES		333.79		END WEDGE		318.78	
<b>TOTAL WET VOLUME</b>		<b>3545.34</b>		<b>FORCE = VOL. X 60 LBS/CF</b>		<b>212720.62 LBS.</b>	
<b>BUOYANCY</b>							
SHELL VOLUME		3132.91 CU. FT.					
DOME VOLUME		523.60 CU. FT.					
RIB VOLUME		45.68 CU. FT.					
<b>TOTAL VOLUME</b>		<b>3702.19 CU. FT.</b>					
VOL. X 7.48 GAL/CU. FT.		27692.36 GALLONS					
<b>FORCE = GAL X 8.34 (LBS./GAL.)</b>		<b>230954.28 LBS.</b>					

### TANK ANCHORING NOTES

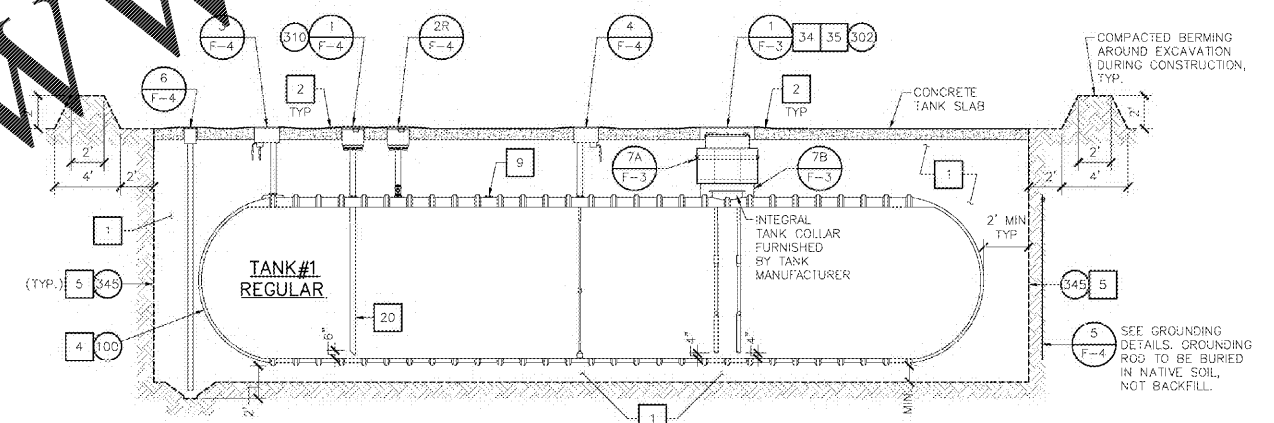
- WHEN ANCHORING BELOW GRADE, EXTREME CARE MUST BE TAKEN TO ASSURE WORKMEN SAFETY. SLOPING AND SHORING SHALL COMPLY WITH OSHA CONSTRUCTION INDUSTRY STANDARDS 29 CFR PART 1926 SUBPART P, OSHA STANDARDS-EXCAVATIONS: FINAL RULE OCT. 1 89. HARD HATS SHALL BE WORN BY ALL WORKMEN OPERATING IN EXCAVATING OR WHERE OVERHEAD WORK IS IN PROGRESS.
- TANK ANCHORING IS REQUIRED FOR ALL PROJECTS.
- EACH TANK REQUIRES (3) MANUFACTURER SUPPLIED DEADMEN ON EACH SIDE. DEADMEN ARE NOT DIVIDED INTO SMALLER SECTIONS THAN SHOWN. ALL DEADMEN MUST BE INSTALLED PLUMB, LEVEL AND PARALLEL TO THEIR RESPECTIVE TANK.
- STRAPS ARE TO BE LOCATED AS INDICATED ON THE DRAWINGS. EIGHT (8) HOLD DOWN STRAPS ARE REQUIRED FOR THE 25,000 GALLON TANK. TEN (10) HOLD DOWN STRAPS ARE REQUIRED FOR THE SPLIT 25,000 GALLON TANK. IF STRAP LOCATIONS ON ACTUAL TANKS VARY FROM THESE DETAILS, CONSULT WITH XERXES.
- REFER TO TANK MANUFACTURER'S INSTALLATION MANUAL AND OPERATING GUIDELINES FOR THE CONNECTION OF MANUFACTURER SUPPLIED TURNBUCKLES TO DEADMAN ANCHOR POINTS AND MANUFACTURER SUPPLIED HOLD DOWN STRAPS.
- BALLAST TANKS WITH CLEAN, POTABLE WATER TO CAPACITY. DO NOT LEAVE UNFILLED TANKS UNATTENDED DURING CONSTRUCTION.
- USE ONLY MANUFACTURER SUPPLIED ANCHOR STRAPS.
- ANCHORING DESIGN AS PER PEI RP-100 APPENDIX A.

### GENERAL NOTES:

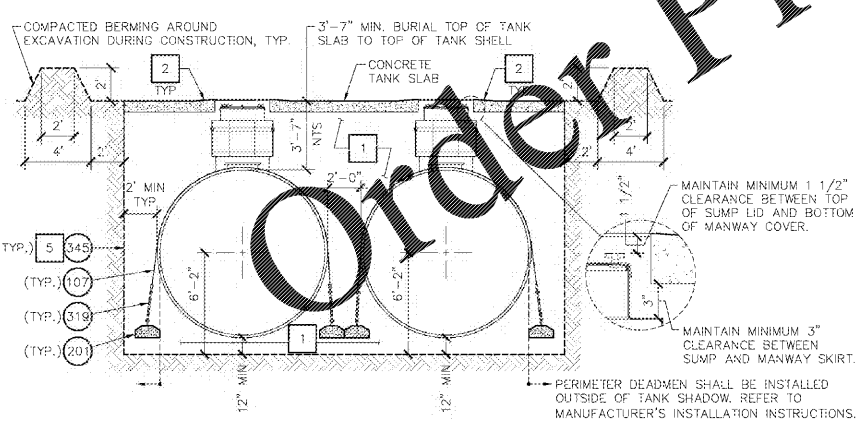
- GAUGE (STRIKER) PLATES ARE LOCATED UNDER ALL OPENINGS PER TANK MANUFACTURER.
- SUPPLY AND INSTALL SUMP/TIE SEALANT ON ALL TANK AND DISPENSER SUMPS. ALL SUPPLY LINES AND CONDUIT PENETRATIONS ARE TO BE COATED. ALL APPLICATORS MUST BE TRAINED AND CERTIFIED BY THE SUPPLIER.
- ALL SUMP PENETRATIONS NEED TO BE AT RIGHT ANGLES TO THE SUMP.



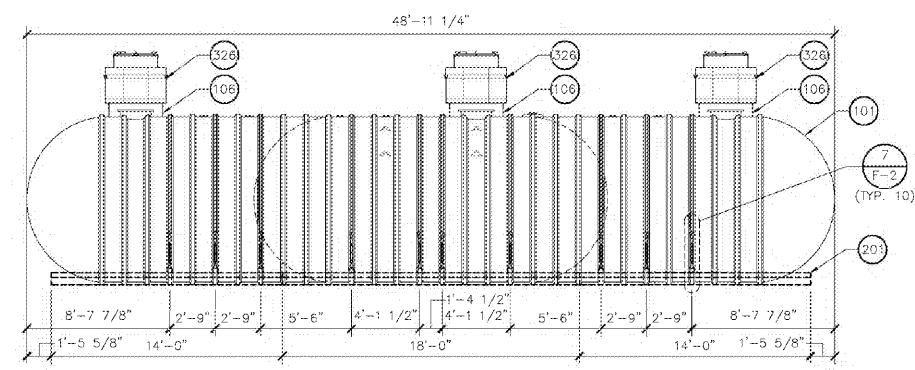
5 DOUBLE WALL SPLIT COMPARTMENT TANK INSTALLATION-SIDE VIEW  
SCALE: 3/16"=1'-0"



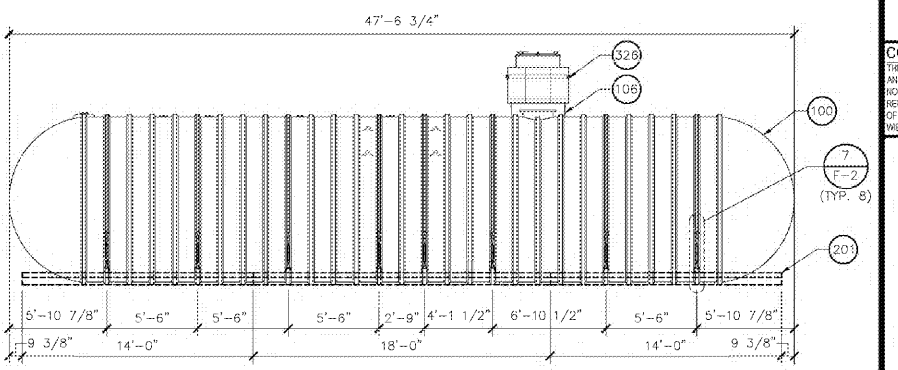
4 DOUBLE WALL SINGLE COMPARTMENT TANK INSTALLATION-SIDE VIEW  
SCALE: 3/16"=1'-0"



3 XERXES SIDE BY SIDE DOUBLE WALL TANK END VIEW  
SCALE: 3/16"=1'-0"



2 XERXES 8,000 GAL/10,000 GAL/8,000 GAL DOUBLE WALL SPLIT COMPARTMENT TANK  
SCALE: 3/16"=1'-0"



1 XERXES 25,000 GAL DOUBLE WALL SINGLE COMPARTMENT TANK  
SCALE: 3/16"=1'-0"

**STANDARD**

**F-2**

WAYNE

OCTOBER 2019  
STANDARDS

**TANK INSTALLATION AND ANCHORING DETAILS**

DATE: JUNE, 2020 FILE: NAME: 08-MUR000151-F-2 DATE: \_\_\_\_\_  
SCALE: AS NOTED NO. REVISION: \_\_\_\_\_

**NWC OAK DRIVE & HIGHWAY 1  
LEXINGTON SOUTH CAROLINA**

6162 S. Wilson Drive Suite 200  
903 770 8848  
galloway.com

**MURPHY EXPRESS**

**MURPHY OIL U.S.A. INC.**  
200 EAST PEACH STREET  
EL DORADO, ARKANSAS 71730

1"=10'

H:\Murphy Oil Tank & Piping\SC - Lexington EXP (8/30) - (HWY 1) - Mod\0719\Final\08 Mod\0719\_F2.dwg Eric Pashman - 6/6/2020 1:40 AM