

XERXES CORPORATION		DEADMAN BURIAL WATER AT GRADE		Murphy Oil - 25k Tank		10/22/19
TANK DATA		INSTALLATION				
NOM. CAP. (GAL.)	25000	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	1	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			
SAFETY FACTOR		# OF 42" DIAMETER SUMPS				
DOWN FORCE/UP FORCE =	1.24 : 1	EFFECTIVE DEADMEN WIDTH ON OUTSIDE (IN)	18			
		EFFECTIVE DEADMEN WIDTH ON INSIDE (IN)	14			
DOWN FORCES		TOTAL WEIGHTS				
CONCRETE WEIGHT	50302.41 LBS.	TOTAL DOWN FORCE	274783.61 LBS.			
BACKFILL WEIGHT	212681.20 LBS.					
TANK WEIGHT	11800.00 LBS.					
PRODUCT WEIGHT	0.00 LBS.					
UP FORCES		TOTAL UP FORCE				
TANK DISP. FORCE	221009.12 LBS.					
WORKSHEET		TANK DATA				
SHELL DIAMETER	10.00 FT.	ACTUAL CAP (GAL)	25432.00			
SHELL LENGTH	37.56 FT.	TANK WT. (LBS.)	11800.00			
DOM. 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.	DOM. A (SQ FT)	78.54			
RIB VOLUME	2631.00 CU. IN.	DOM. VOL. (CU FT)	523.60			
REINFORCED CONCRETE VOLUMES (CU. FT.)		DEADMEN				
TOP SLAB	470.99	DEADMEN	100.63			
FORCE = VOL. X 88 LBS/CF	41447.41	FORCE (LBS) = VOL. X 88 LBS/CF	8855.00			
BACKFILL VOLUMES (CU. FT.)		OVER DEADMEN				
OVER TANK SHELL	1348.56	OVER DEADMEN	1543.56			
OVER TANK DOMES	333.79	END WEDGE	318.78			
TOTAL WET VOLUME	3544.49	FORCE = VOL. X 60 LBS/CF	212681.20 LBS.			
BUOYANCY						
SHELL VOLUME	2975.01 CU. FT.					
DOM. VOLUME	523.60 CU. FT.					
RIB VOLUME	44.15 CU. FT.					
TOTAL VOLUME	3542.77 CU. FT.					
VOL. X 7.48 GAL/CU. FT.	26499.89 GALLONS					
FORCE = GAL X 8.34 (LBS./GAL.)	221009.12 LBS.					

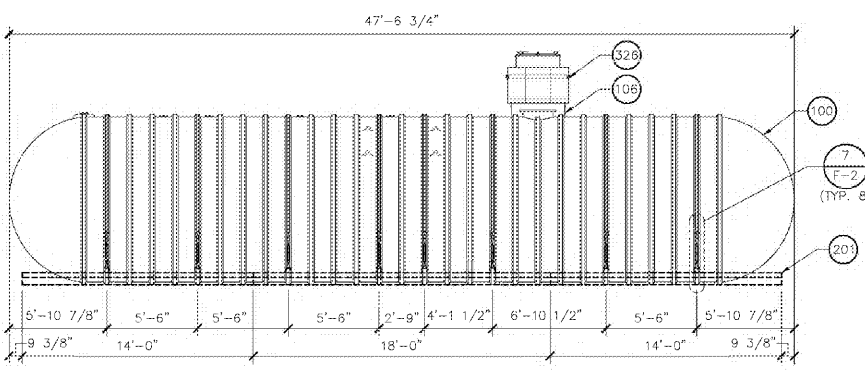
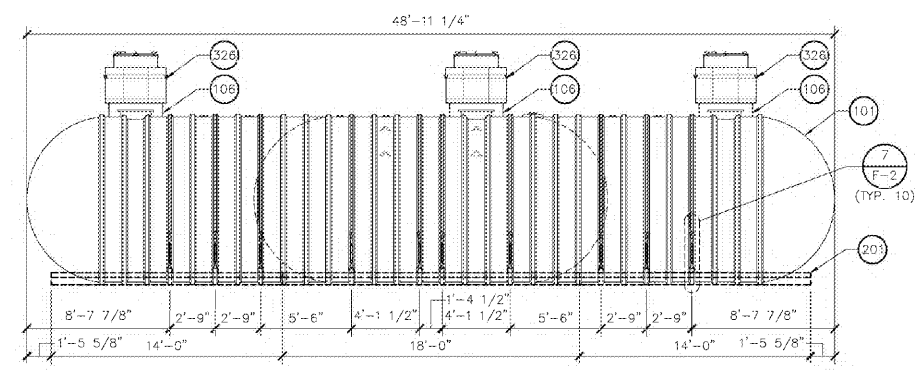
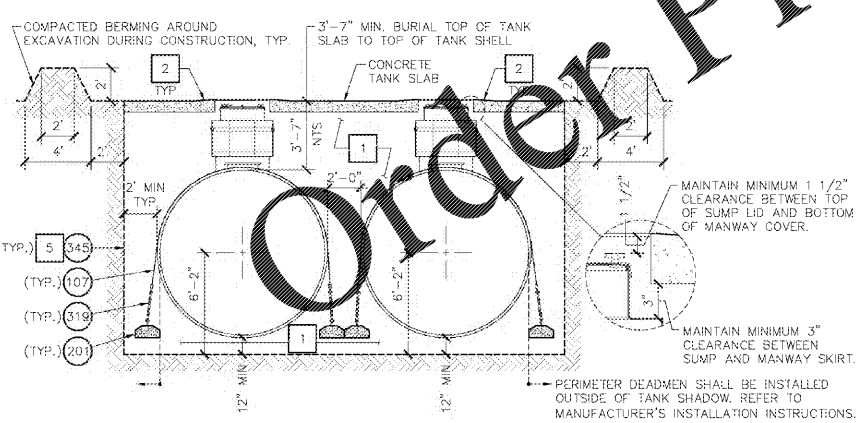
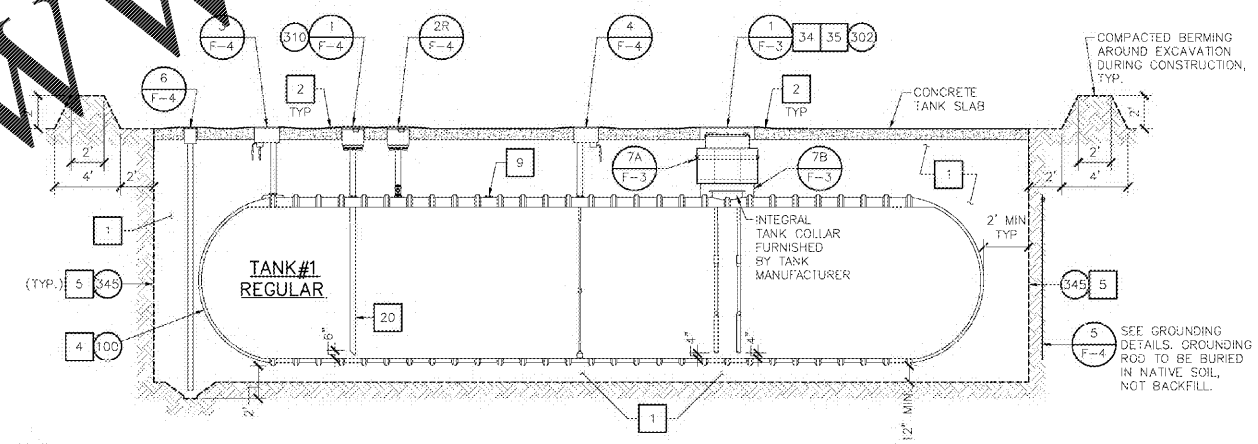
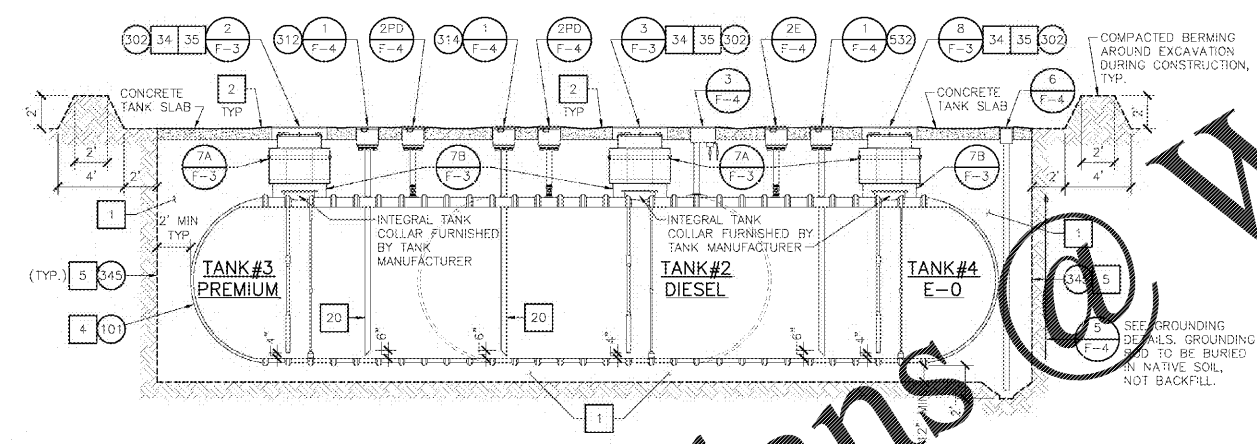
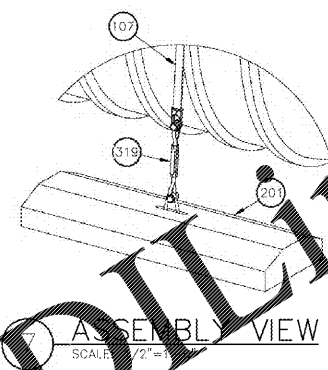
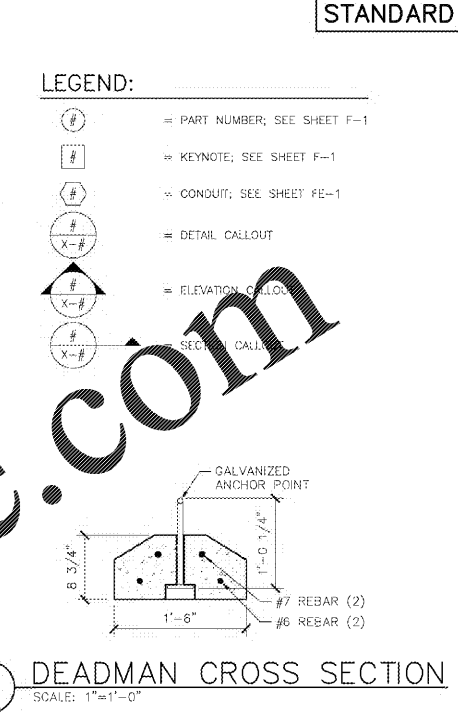
XERXES CORPORATION		DEADMAN BURIAL WATER AT GRADE		Murphy Oil - 8/10/8 Tank		10/22/19
TANK DATA		INSTALLATION				
NOM. CAP. (GAL.)	26000	TOTAL COVER INCLUDING SOIL & TOP SLAB (FT)	3.25			
TYPE (SINGLEWALL=1;DW=3)	3	TOP SLAB THICKNESS (IN)	8.00			
DRY-1; WET-2	1	TOP SLAB LENGTH (FT)	53.00			
NOM. TANK 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			
SAFETY FACTOR		# OF 42" DIAMETER SUMPS				
DOWN FORCE/UP FORCE =	1.20 : 1	EFFECTIVE DEADMEN WIDTH ON OUTSIDE (IN)	18			
		EFFECTIVE DEADMEN WIDTH ON INSIDE (IN)	14			
DOWN FORCES		TOTAL WEIGHTS				
CONCRETE WEIGHT	50302.41 LBS.	TOTAL DOWN FORCE	277223.03 LBS.			
BACKFILL WEIGHT	212220.62 LBS.					
TANK WEIGHT	14200.00 LBS.					
PRODUCT WEIGHT	0.00 LBS.					
UP FORCES		TOTAL UP FORCE				
TANK DISP. FORCE	230954.28 LBS.					
WORKSHEET		TANK DATA				
SHELL DIAMETER	10.00 FT.	ACTUAL CAP (GAL)	26223.00			
SHELL LENGTH	38.94 FT.	TANK WT. (LBS.)	14200.00			
DOM. 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.	DOM. A (SQ FT)	78.54			
RIB VOLUME	2631.00 CU. IN.	DOM. VOL. (CU FT)	523.60			
REINFORCED CONCRETE VOLUMES (CU. FT.)		DEADMEN				
TOP SLAB	470.99	DEADMEN	100.63			
FORCE = VOL. X 88 LBS/CF	41447.41	FORCE (LBS) = VOL. X 88 LBS/CF	8855.00			
BACKFILL VOLUMES (CU. FT.)		OVER DEADMEN				
OVER TANK SHELL	1349.22	OVER DEADMEN	1543.56			
OVER TANK DOMES	333.79	END WEDGE	318.78			
TOTAL WET VOLUME	3545.34	FORCE = VOL. X 60 LBS/CF	212720.62 LBS.			
BUOYANCY						
SHELL VOLUME	3132.91 CU. FT.					
DOM. VOLUME	523.60 CU. FT.					
RIB VOLUME	45.68 CU. FT.					
TOTAL VOLUME	3702.19 CU. FT.					
VOL. X 7.48 GAL/CU. FT.	27692.36 GALLONS					
FORCE = GAL X 8.34 (LBS./GAL.)	230954.28 LBS.					

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.



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**

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galloway.com

MURPHY EXPRESS

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

1"=1'

H:\Murphy Oil Tank & Piping\SC - Lexington EXP (8/30) - (HWY 1) - Mod\0075\Final\08 Mod\0075_F2.dwg Eric Pashman - 6/6/2020 1:40 AM