

Received

DEC 22 2011

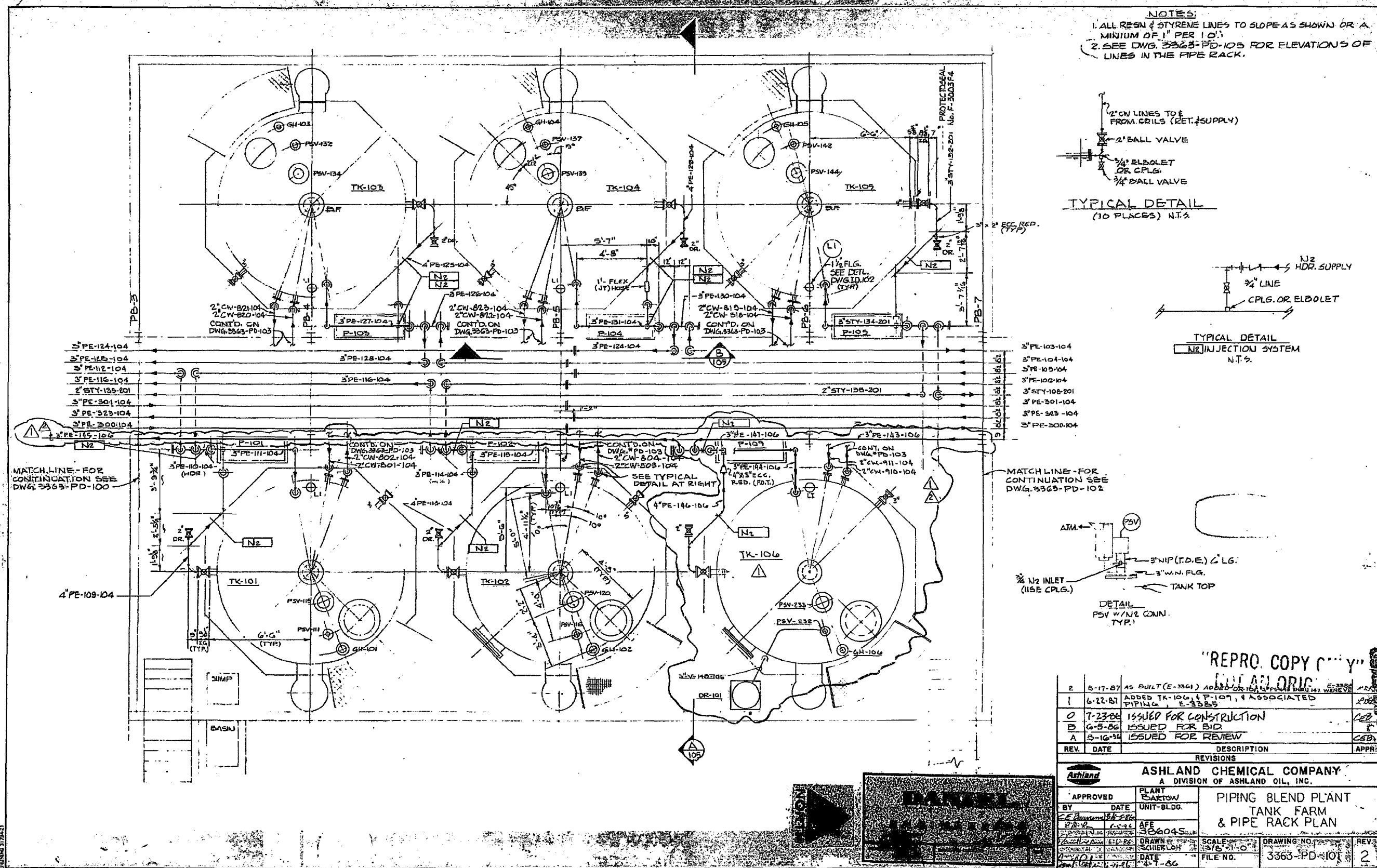
BSHW

Piping Layout Drawings

As referenced in Section B – Site Information, FDEP Comment 1

and

Section C – Operational Information, FDEP Comment 9

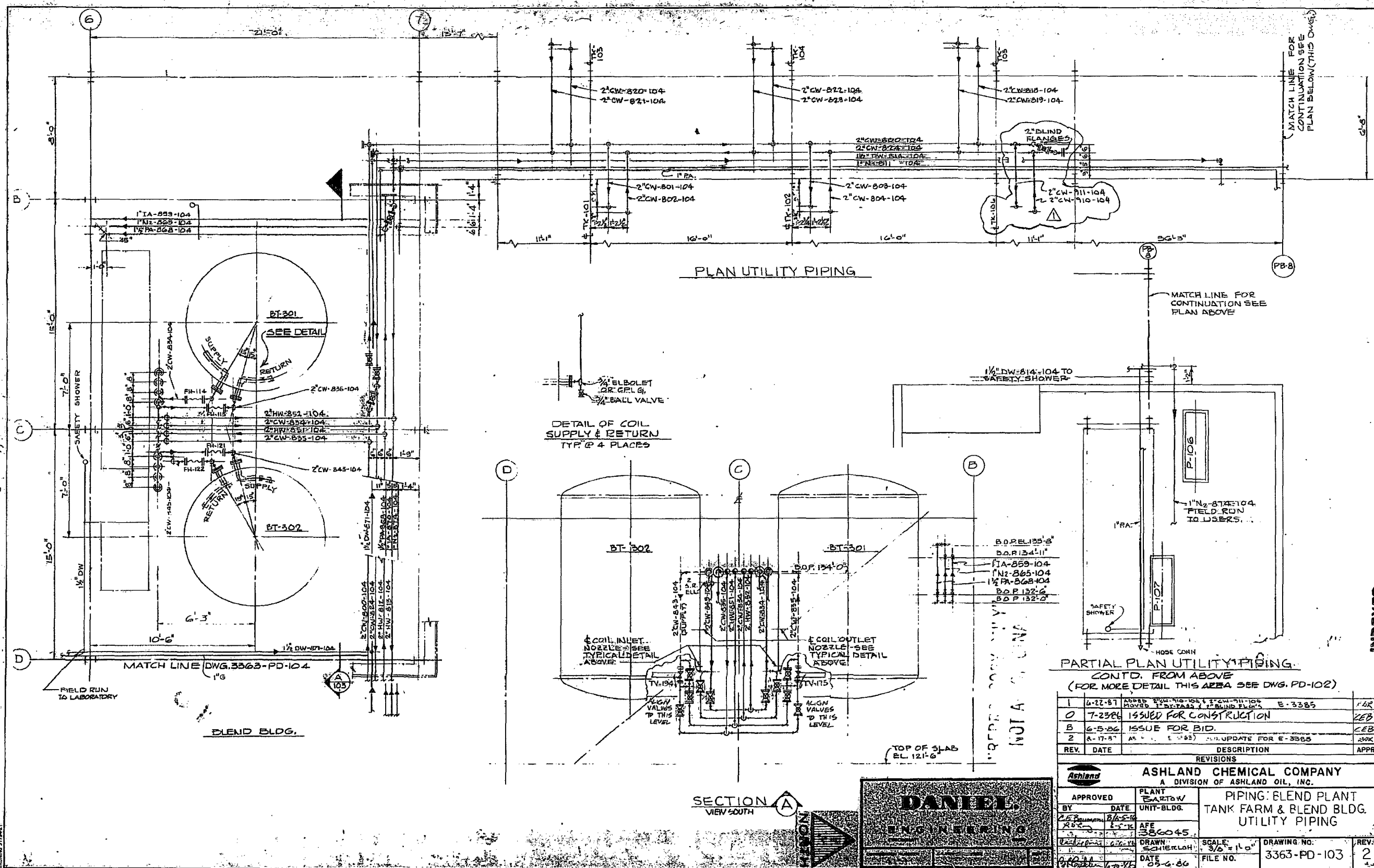


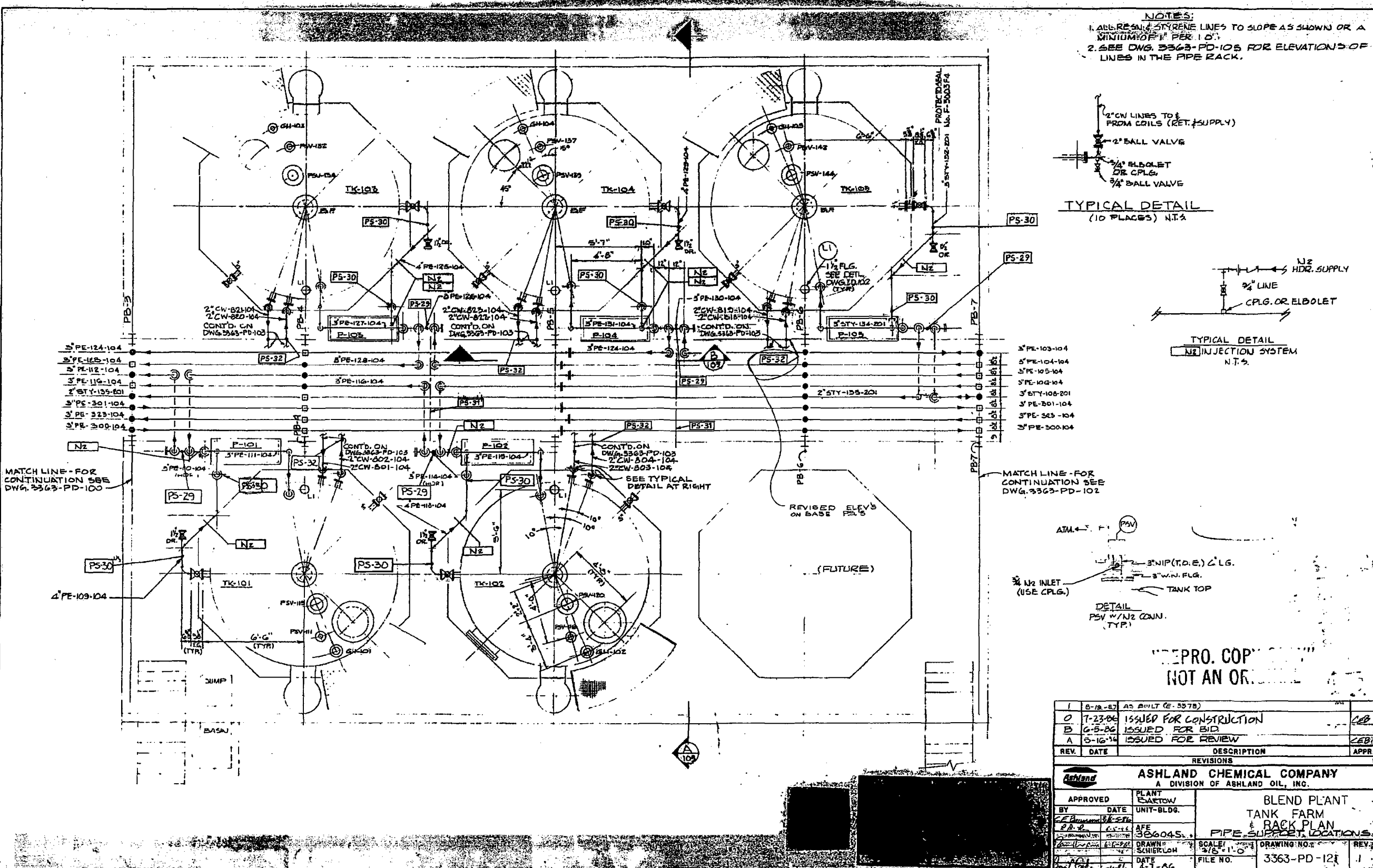
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1) ADDED ORIGIN

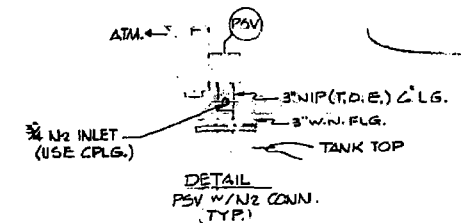
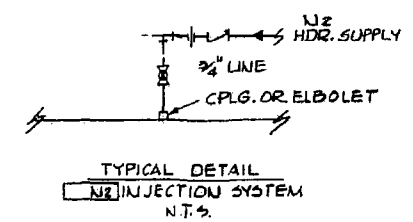
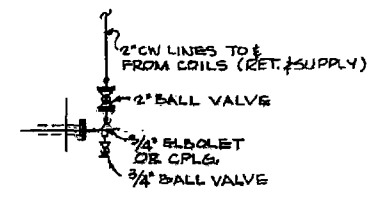
2	6-17-87	45 BUILT (E-3361) ADDED 1K-104, 1P-107, 1 ASSOCIATED PIPING	E-3388 147 WENEVE	REV 1
1	6-22-87	ADDED 1K-104, 1P-107, 1 ASSOCIATED PIPING	E-3389	REV 2
0	7-23-88	ISSUED FOR CONSTRUCTION		REV 3
B	6-5-86	ISSUED FOR BID		REV 4
A	5-16-86	ISSUED FOR REVIEW		REV 5
REV.	DATE	DESCRIPTION		APPR.

APPROVED		PLANT BARTOW	PIPING BLEND PLANT TANK FARM & PIPE RACK PLAN
BY	DATE	UNIT-BLOG.	
EE BARNARD	5-8-88	AFE	SCALE: 1" = 10'
RA-4	5-8-88	36045	
WALLACE	6-17-88	DRAWN SHERLOCK	
WALLACE	6-17-88	DATE 4-7-86	
WALLACE	7-26-88		DRAWING NO. 3363-PD-101
			REV 2





- NOTES:**
1. ALL REINFORCING STEEL LINES TO SLOPE AS SHOWN OR A MINIMUM OF 1" PER 10'.
 2. SEE DWG. 3363-PD-105 FOR ELEVATIONS OF LINES IN THE PIPE RACK.



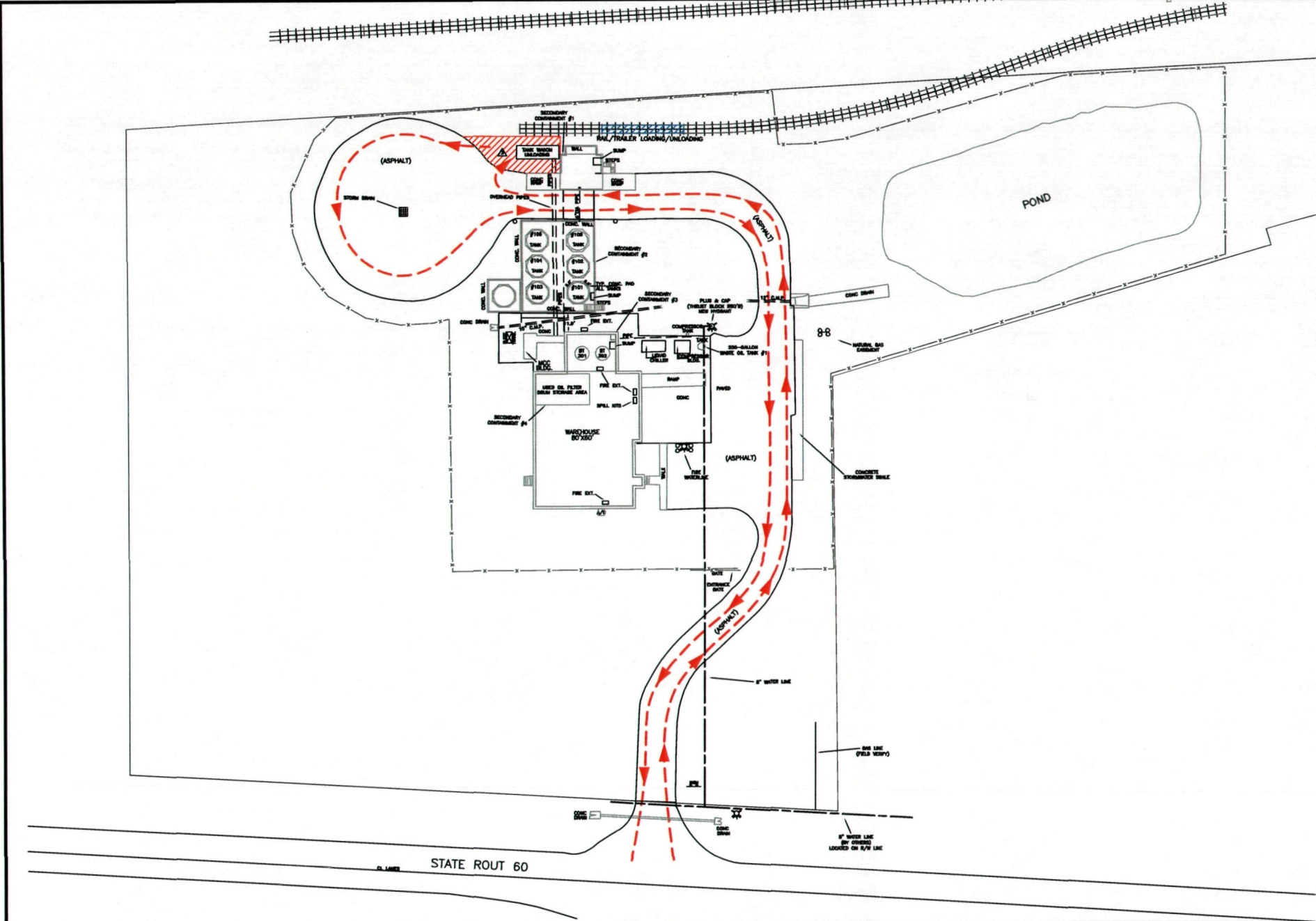
"REPRO. COPY"
NOT AN ORIGINAL

1	8-18-87	AS BUILT (E-3378)	
0	7-23-86	ISSUED FOR CONSTRUCTION	CEB
B	6-5-86	ISSUED FOR BID	CEB
A	5-16-86	ISSUED FOR REVIEW	CEB
REV.	DATE	DESCRIPTION	APPR.
ASHLAND CHEMICAL COMPANY A DIVISION OF ASHLAND OIL, INC.			
APPROVED BY: [Signature] DATE: 6-5-86		PLANT CARTON UNIT-BLDG. AFE 386045	
DRAWN: SCHIERLOH DATE: 4-1-86		SCALE: 3/8" = 1'-0" DRAWING NO.: 3363-PD-121 FILE NO.:	

301-00-PD-0010

Revised Figure 1 (Renamed as Figure 2)

As referenced in Section B – Site Information, FDEP Comment 2



TANK ID#	CONTENTS	DIAMETER (FEET)	CAPACITY (GALLONS)	LOCATION
TK-101	USED OIL	12	24,000	SECONDARY CONTAINMENT
TK-102	USED OIL	12	24,000	DOUBLE-WALLED TANK
TK-103	USED OIL	12	24,000	DOUBLE-WALLED TANK
TK-104	USED OIL	12	24,000	DOUBLE-WALLED TANK
TK-105	USED OIL	12	24,000	DOUBLE-WALLED TANK
TK-106	USED OIL	12	24,000	DOUBLE-WALLED TANK
#1	USED OIL	N/A	220	DOUBLE-WALLED TANK
BT-301	NOT IN USE	9	5,600	SECONDARY CONTAINMENT STRUCTURE #3
BT-302	NOT IN USE	9	5,600	SECONDARY CONTAINMENT STRUCTURE #3
RAIL CAR	USED OIL	9.9	20,000	BULK LOADING/UNLOADING AREA

SECONDARY CONTAINMENT STRUCTURES	WALL HEIGHT (INCHES)
1	30
2	32
3	17
4	2

January Environmental Services, Inc.
 1750 West Main Street
 Bartow, Florida

EPA Registry ID: 110001739021
 Source: Ashland Chemical, Inc.

- Legend:**
- FIRE HYDRANT
 - UTILITY POLE
 - FENCE
 - PROPERTY LINE
 - SURFACE WATER FLOW
 - TRUCK ROUTE
 - 24,000-GALLON TANKS
 - 5,600-GALLON TANKS
 - TRUCK UNLOADING AREA
 - RAIL CAR LOADING AREA



ENGINEERING CERTIFICATION				RENEWAL DATE:	
NO.	REVISION	DATE	BY	APPR.	
COMPLETED BY:	DATE:	APPROVED BY:	DATE:	SHEET NO:	
E. DARE	05/19/11	W. GRANT	05/19/11	Sheet 2 of 2	

ENERCON
 12906 TAMPA OAKS BLVD, SUITE 131
 TEMPLE TERRACE, FLORIDA 33637
 WWW.ENERCON.COM (813)-962-1800

Figure 2
 Facility Site Layout

Project No: ENMISC2229

Revised Secondary Tank Calculations

As referenced in Appendix F: FDEP Comments 1, 2, and 3; Secondary Containment
Calculations

and

General Comments: FDEP Comment 4, Appendix C

Secondary Containment Structure #1 (Covered Bulk Loading/Unloading Ramp)

- 1) **Minimum volume needed for secondary containment structure:**
= Volume of single largest tank + 10% of Secondary Containment Structure's Volume to allow for precipitation accumulation
= 6,800 gallons x 0.1337 cubic feet/gallon + (.10 x 507 square feet x .25 feet)
= 921.8 cubic feet

Notes: If spill occurs sump pump can be activated and spill components can be pumped into Secondary Containment #2.

- 2) **Total containment area:**
= Area of Secondary Containment Structure #1
= 26.7 feet x 19 feet
= 507 square feet
- 3) **Total area of tanks within secondary containment structure (less the single largest tank):**
= The AST used in the single 6,800-gallon transport trailer during unloading/loading operation
= 0 square feet
= 0 square feet
- 4) **Available secondary containment area:**
= Total containment area (2) - Total area of tanks (3)
= 507 square feet - 0 square feet
= 507 square feet
- 5) **Available secondary containment volume:**
= Secondary containment area (4) x Minimum height of wall (i.e. 3 inches or 0.25 feet) + Secondary Containment Structure #2 volume (Containments are connected via underground piping Containment #1 pumps into Containment #2)
= (507 square feet x 0.25 feet) + 6,498 cubic feet
= 6,624 cubic feet (i.e. 49,550 gallons)
- 6) **The Secondary Containment Safety Factor:**
Available secondary containment volume (5) of 6,624 cubic feet is greater than the minimum secondary containment volume (1) required of 921.8 cubic feet which equates to a Safety Factor of 7.18 (see note below).

Note: A Safety Factor of 1.0 equates to the secondary containment structure's capacity to completely contain a spill from the single largest tank. Any number greater than 1.0 is an additional level of safety beyond the minimal requirement.

Secondary Containment Structure #2 (24,000 Gallon Tank Farm)

- 1) **Minimum volume needed for Secondary Containment Structure:**
= Volume of single largest tank + 10% of Secondary Containment Structure's Volume to allow for precipitation accumulation
= (24,000 gallons x 0.1337 cubic feet/gallon) + (0.10 x 2,406.8 square feet x 2.7 feet)
= 3,209 cubic feet + 649.8 cubic feet
= 3859 cubic feet
- 2) **Total Secondary Containment Structure's area:**
= 43.5 feet x 55.3 feet
= 2,406.8 square feet
- 3) **Total area of tanks within secondary containment structure (less the single largest tank):**
= $\Pi \times (\frac{1}{2} \text{ diameter of each tank in feet} \Rightarrow 12, 12, 12, 12, 12)^2$
= $\Pi \times (6^2 + 6^2 + 6^2 + 6^2 + 6^2)$ square feet
= $\Pi \times 180$ square feet
= 565.2 square feet
4. **Available Secondary Containment Structure's area:**
= Total containment area (2) - Total area of tanks (3)
= 2,406.8 square feet - 565.2 square feet
= 1841.2 square feet
- 5) **Available Secondary Containment Structure's volume:**
= Secondary Containment Structure's area (4) x Minimum height of dike or berm or wall
= 1841.2 square feet x 2.7 feet
= 4,971.2 cubic feet (i.e. 37,187 gallons)
- 6) **The Secondary Containment Safety Factor:**
Available Secondary Containment Structure's volume (5) of 4,971.2 cubic feet is greater than the minimum secondary containment volume (1) required of 3,859 cubic feet which has a Safety Factor of 1.28 (see note below).

Note: A Safety Factor of 1.0 equates to the secondary containment structure's capacity to completely contain a spill from the single largest tank with an additional 10% for rainwater. Any number greater than 1.0 is an additional level of safety beyond the minimal requirement.

Secondary Containment Structure #3 (Blending Tanks)

- 1) **Minimum volume needed for Secondary Containment Structure:**
= Volume of single largest tank + 10% of Secondary Containment Structure's Volume to allow for precipitation accumulation
= (5,600 gallons x 0.1337 cubic feet/gallon) + (0.10 x 759 square feet x 1.42 feet)
= 748.7 cubic feet + 107.8 cubic feet
= 856.5 cubic feet
- 2) **Total Secondary Containment Structure's area:**
= 33 feet x 23 feet
= 759 square feet
- 3) **Total area of tanks within secondary containment structure (less the single largest tank):**
= $\Pi \times (\frac{1}{2} \text{ diameter of each tank in feet} \Rightarrow 9)^2$
= $\Pi \times (4.5^2)$ square feet
= 63.6 square feet
- 4) **Available Secondary Containment Structure's area:**
= Total containment area (2) - Total area of tanks (3)
= 759 square feet - 127 square feet
= 695.4 square feet
- 5) **Available Secondary Containment Structure's volume:**
= Secondary Containment Structure's area (4) x Minimum height of dike or berm or wall
= 695.4 square feet x 1.42 feet
= 987.5 cubic feet (i.e. 6,732 gallons)
- 6) **Available Containment Capacity including Tertiary Containment Structure #3:**
= Secondary Containment Structure's volume (5) + Secondary Containment Structure #2 volume (Containments are connected via underground piping Containment #3 pumps into Containment #2)
= 987.5 cubic feet + 6498 cubic feet
= 7,485.5 cubic feet (i.e. 55,995 gallons)
- 7) **The Secondary Containment Safety Factor:**
Available Secondary Containment Structure's volume (6) of 7,485.5 cubic feet is greater than the minimum secondary containment volume (1) required of 856.5 cubic feet which has a Safety Factor of 8.73 (see note below).

Note: A Safety Factor of 1.0 equates to the secondary containment structure's capacity to completely contain a spill from the single largest tank with an additional 10% for rainwater. Any number greater than 1.0 is an additional level of safety beyond the minimal requirement.

Secondary Containment Structure #4 (Warehouse Drum and Bin Storage)

- 1) **Minimum volume needed for Secondary Containment Structure:**

= Volume of single largest tank + 10% of Secondary Containment Structure's Volume to allow for precipitation accumulation
= (55 gallons x 0.1337 cubic feet/gallon) + (0.10 x 594 square feet x .167 feet)
= 7.35 cubic feet + 9.91 cubic feet
= 17.26 cubic feet

2) Total Secondary Containment Structure's area:

= 27 feet x 22 feet
= 594 square feet

3) Total area of tanks within secondary containment structure (less the single largest tank):

= $\Pi \times (\frac{1}{2} \text{ diameter of each drum in feet} \Rightarrow 1.95)^2 \times 158 \text{ Drums}$
= $\Pi \times (.975^2) \text{ square feet}$
= 471 square feet

Notes: Calculations based on area filled with a maximum of 158 55-gallon drums. Number of drums will vary in containment area.

4) Available Secondary Containment Structure's area:

= Total containment area (2) - Total area of tanks (3)
= 594 square feet - 471 square feet
= 123 square feet

5) Available Secondary Containment Structure's volume and capacity:

= Secondary Containment Structure's area (4) x Minimum height of dike or berm or wall
= 594 square feet x .167 feet
= 99.2 cubic feet (i.e. 742 gallons)

6) The Secondary Containment Safety Factor:

Available Secondary Containment Structure's volume (5) of 99.2 cubic feet is greater than the minimum secondary containment volume (1) required of 17.26 cubic feet which has a Safety Factor of 5.74 (see note below).

Note: A Safety Factor of 1.0 equates to the secondary containment structure's capacity to completely contain a spill from the single largest tank with an additional 10% for rainwater. Any number greater than 1.0 is an additional level of safety beyond the minimal requirement.