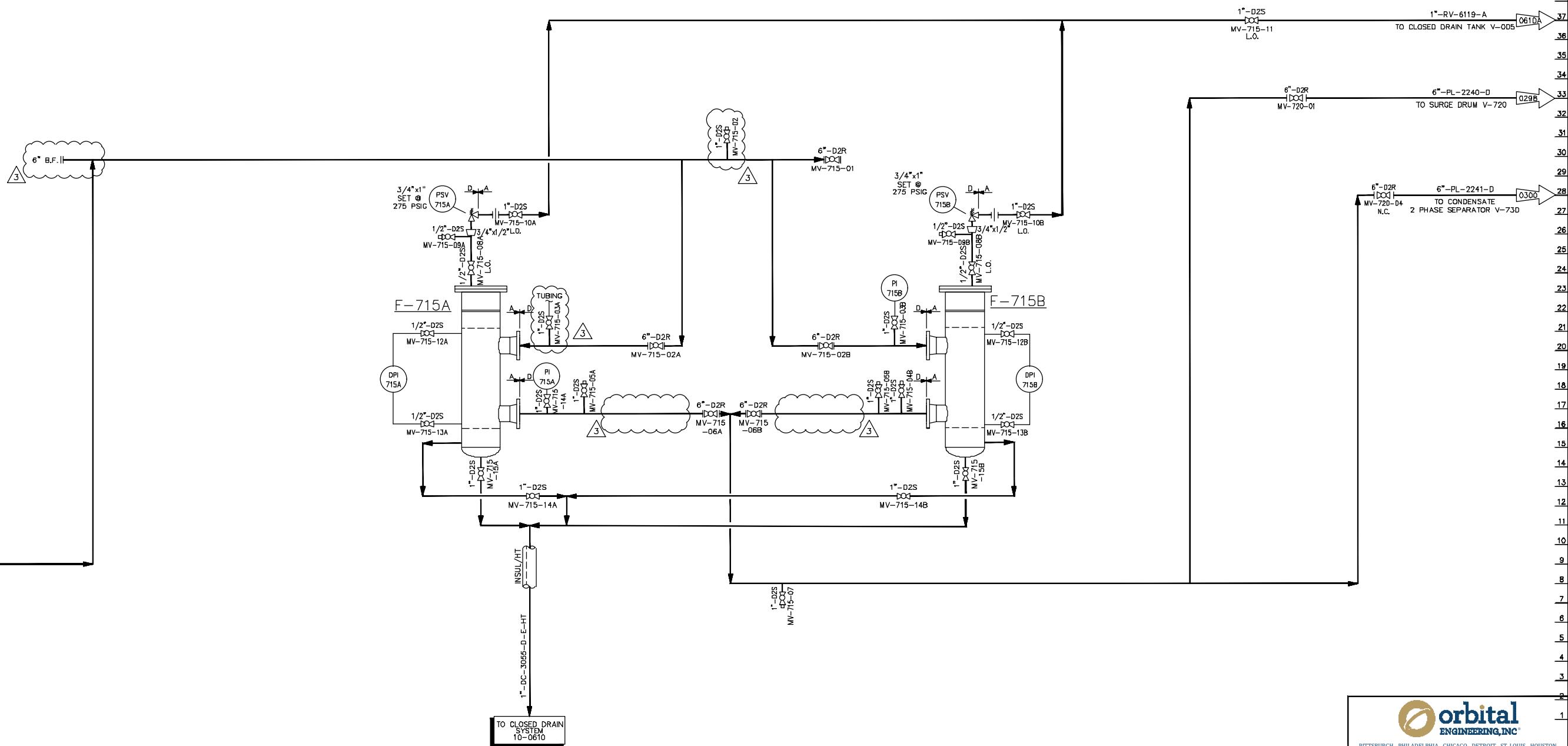


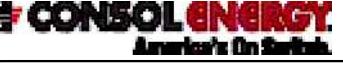
F-715 A & B
PARTICULATE FILTER
SEPARATOR

SEPARATOR
SIZE: 18" O.D. x 42.5" T/T
OPERATING: 230 PSIG
DESIGN: 275 PSIG @ 100°F
MDMT: -20°F @ 275 PSIG
SIGN CAP: 180 GPM @ 2.25 PSID CLEAN



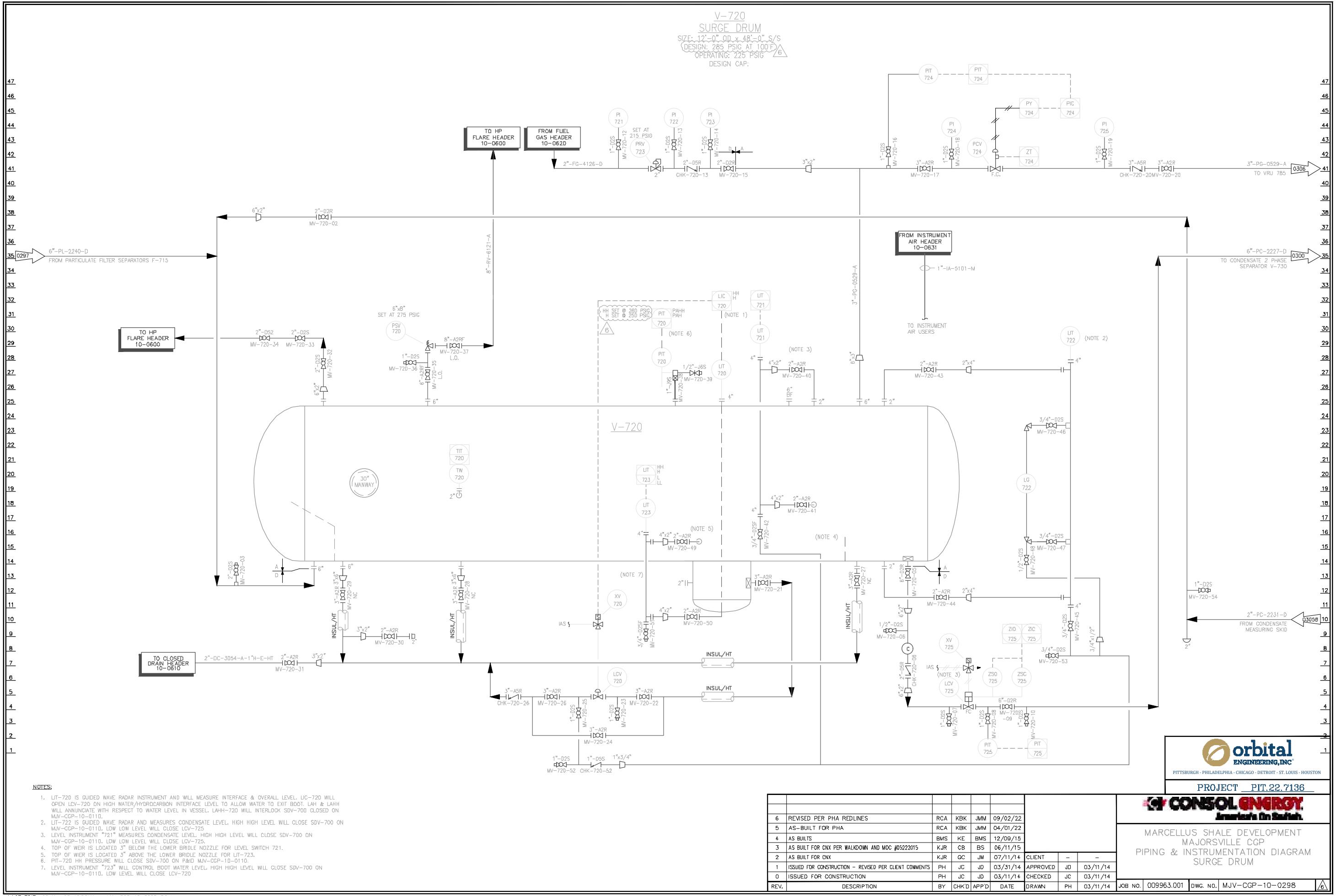
PITTSBURGH - PHILADELPHIA - CHICAGO - DETROIT - ST. LOUIS - HOUSTON

PROJECT PIT.22.7136



MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
PARTICULATE FILTER SEPARATORS

								PROJECT # P11.22.7136	
								 CONSOL ENERGY America's On-Site.	
								MARCELLUS SHALE DEVELOPMENT MAJORSVILLE CGP PIPING & INSTRUMENTATION DIAGRAM PARTICULATE FILTER SEPARATORS	
3	AS-BUILT FOR PHA		RCA	KBK	JMM	04/01/22			
2	MOC# 05242016		BMS	CB	BMS	09/06/16		CLIENT	-
1	AS-BUILT		CNH	KRE	BMS	08/24/15		APPROVED	JD 03/11/14
0	ISSUED FOR CONSTRUCTION		PH	JC	JD	03/11/14		CHECKED	JC 03/11/14
REV.	DESCRIPTION		BY	CHK'D	APP'D	DATE	DRAWN	PH	03/11/14
								JOB NO.	009963.001
								DWG. NO.	MJV-CGP-10-0297
									(3)



V-730 (ORIGINALLY V-101)

CONDENSATE 2 PHAS

SEPARATOR

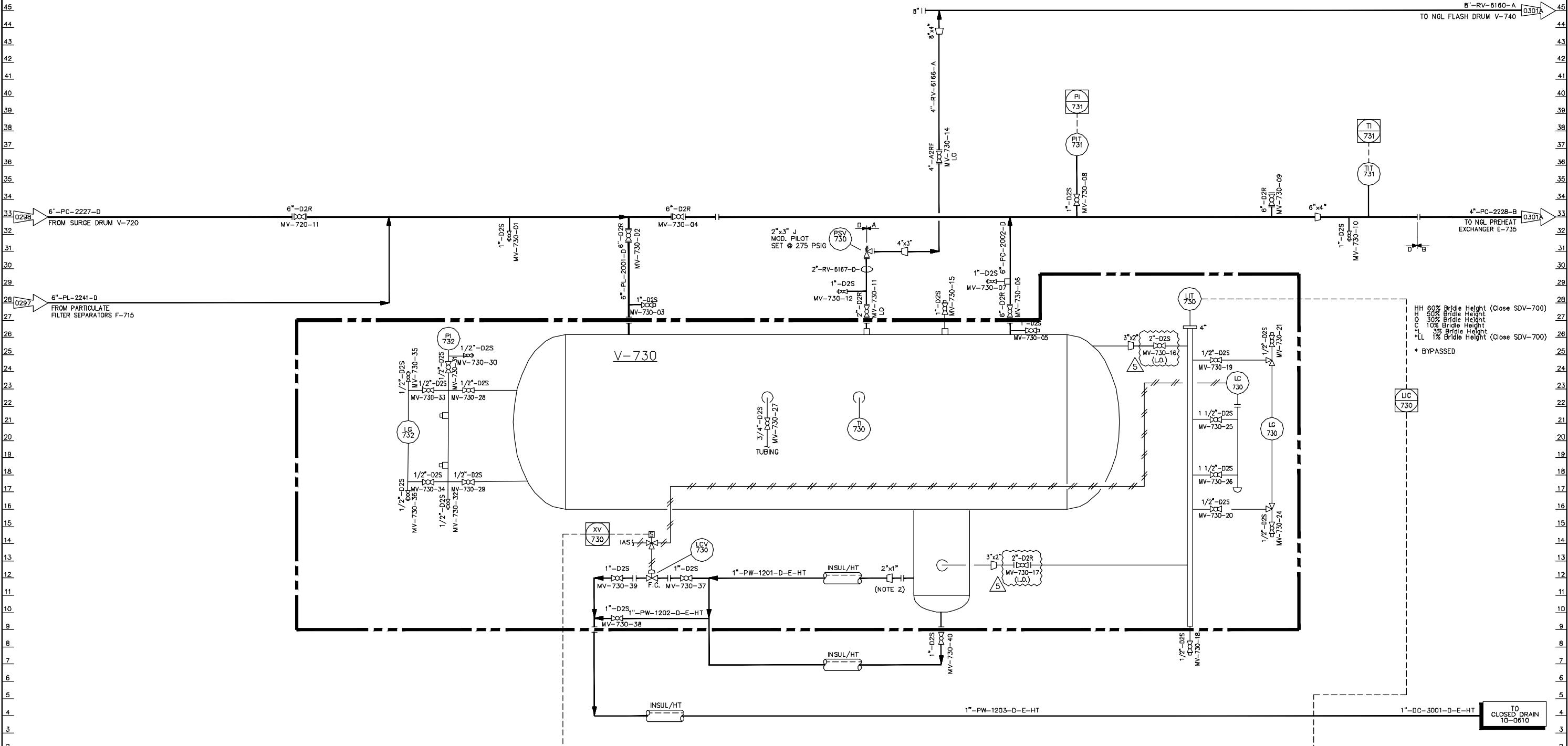
SIZE: 36" I.D. x 143" T/T

DESIGN: 1440 PSIG @ 0/100°F

OPERATING: 225 PSIG @ 90°F
DESIGN CAP: 5000 BPD

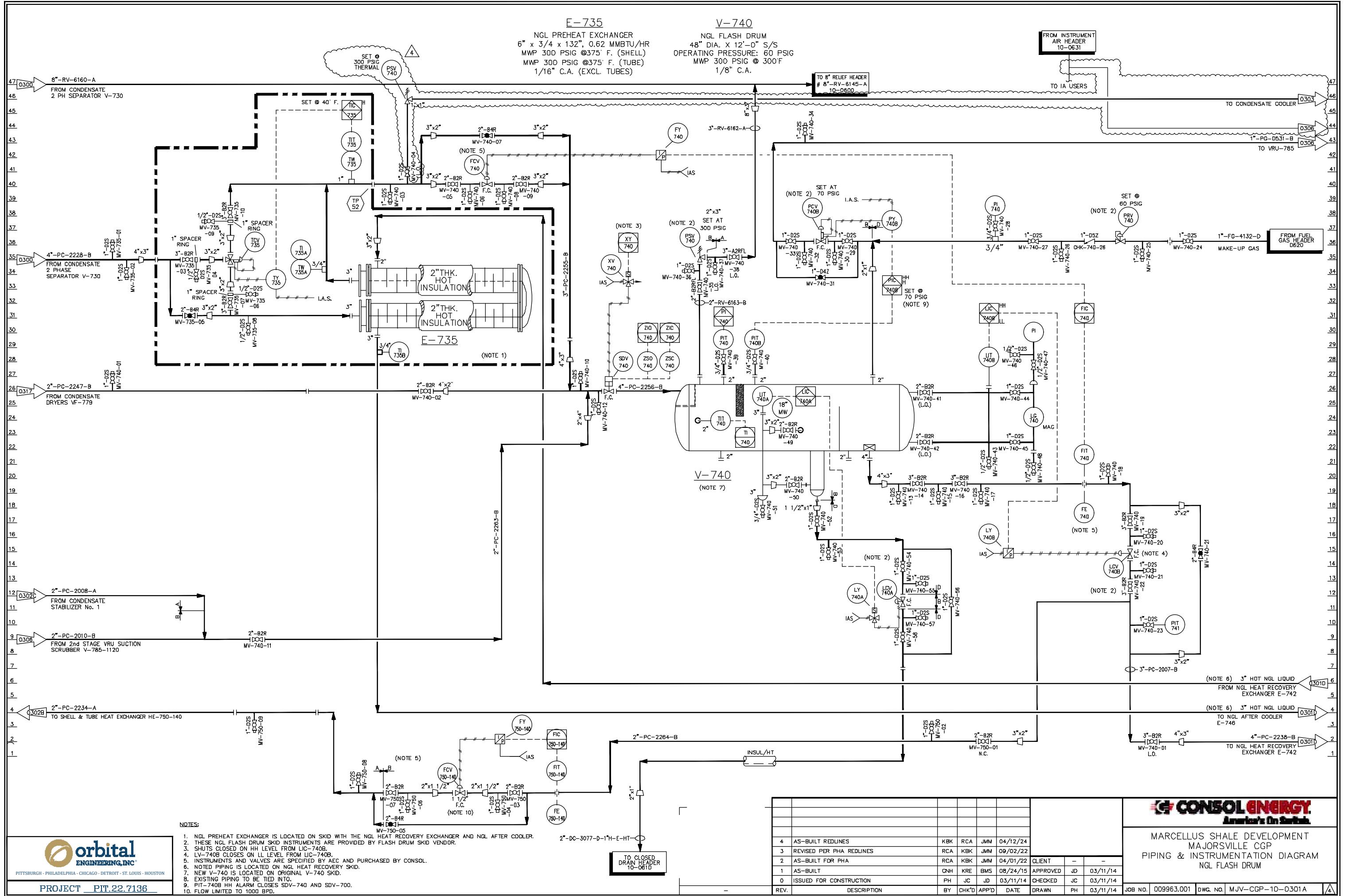
REF SCHULTZ #: 11-1146-1P&I

THE UNIVERSITY OF TORONTO LIBRARIES
UNIVERSITY OF TORONTO LIBRARY



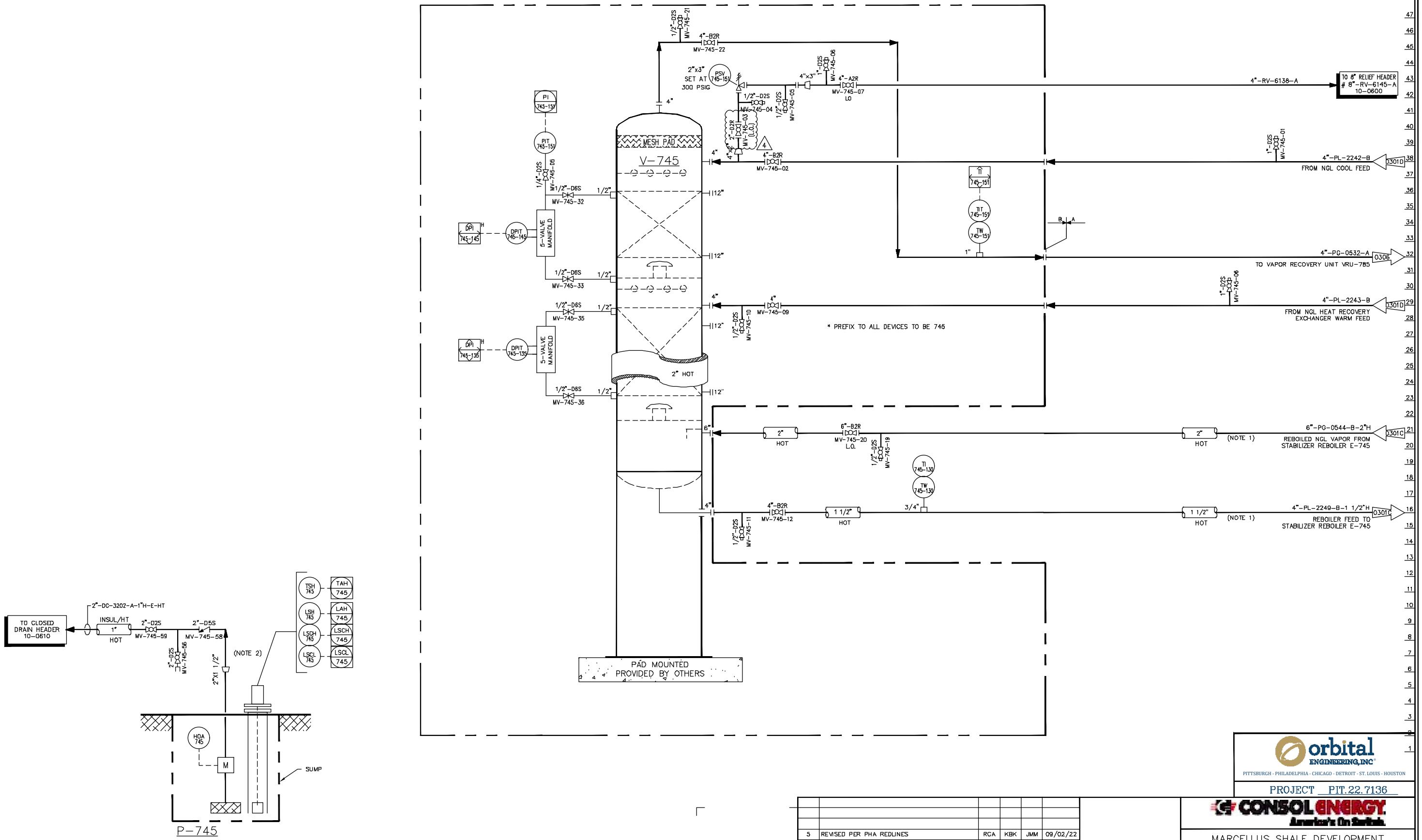
PROJECT PIT 22 7136

5	REVISED PER PHA REDLINES	RCA	KBK	JMM	09/02/22				
4	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22				
3	AS-BUILT	BMS	KE	BMS	12/08/15				
2	AS-BUILT	CNH	KRE	BMS	08/24/15	CLIENT	-	-	
1	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14	APPROVED	-	-	
0	CNX AS-BUILTS	PH	BS	AZ	06/21/13	CHECKED	-	-	
REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	LAF	02/09/12	JOB NO. 009963.001 DWG. NO. MJV-CGP-10-0300



P-745
SUBMERSIBLE SUMP PUM

V-745
NGL STABILIZER
55'-0" S/S TWO (2) 20' SECTIONS
.W.P.: 300 PSIG @ 375° F
2" H



NOTES:

1. VENDOR SUPPLIED PIPING.
2. HIGH LEVEL WILL TURN ON SUMP PUMP, LOW LEVEL WILL TURN OFF SUMP PUMP.

REVISIONS							DRAWN BY: [Signature]			APPROVED BY: [Signature]			DATE DRAWN: 03/11/14			DATE APPROVED: 03/11/14			PAGES: 5		
							RCA	KBK	JMM	03/02/22											
5	REVISED PER PHA REDLINES																				
4	AS-BUILT FOR PHA						RCA	KBK	JMM	04/01/22											
3	REVISED FOR MOC # 08282015						BMS	CB	BMS	09/18/15											
2	AS-BUILT						CNH	KRE	BMS	08/24/15		CLIENT	-	-	-						
1	IFC - REVISED PER HAZOP RECOMMENDATIONS						SS	EH	JC	04/18/14		APPROVED	JD	03/11/14							
0	ISSUED FOR CONSTRUCTION						PH	JC	JD	03/11/14		CHECKED	JC	03/11/14							
REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	PH	03/11/14		JOB NO.	009963.001		DWG. NO.	MJV-CCP-10-0301B		5					

The logo for Orbital Engineering, Inc. features a stylized orange 'o' icon followed by the company name 'orbital' in a lowercase, sans-serif font, and 'ENGINEERING, INC.' in a smaller, uppercase, sans-serif font below it.

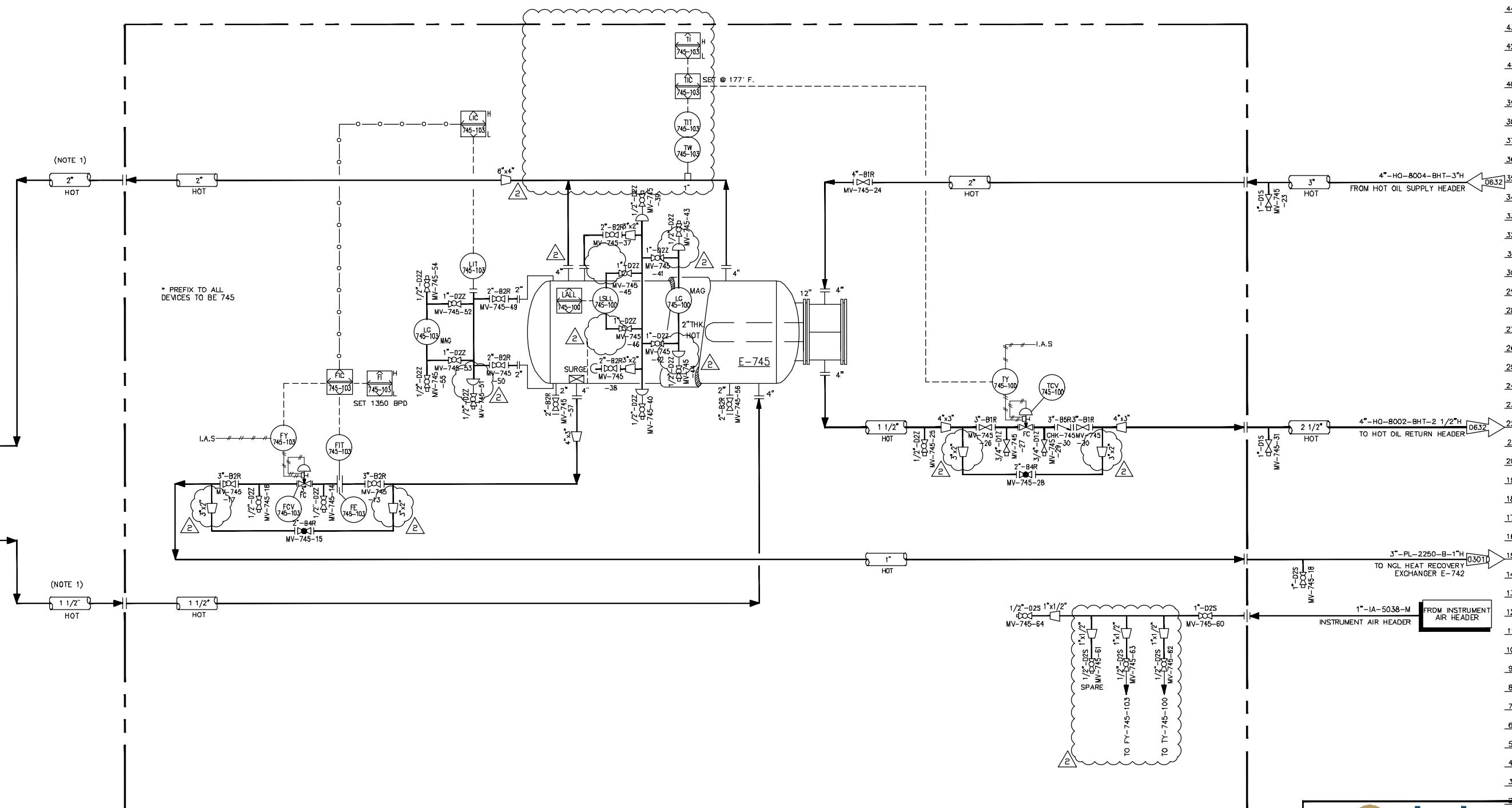
PROJECT PIT.22.7136

CONSOL ENERGY
America's On Schedule

MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
NGL STABILIZER TOWER

E-745

STABILIZER REBOILER
48" DIA. X 30'-0" S/S 3.16 MM Btu/
MWP 300 PSIG @300° F.
1/16" C.A.
2" HOT INSULATION.

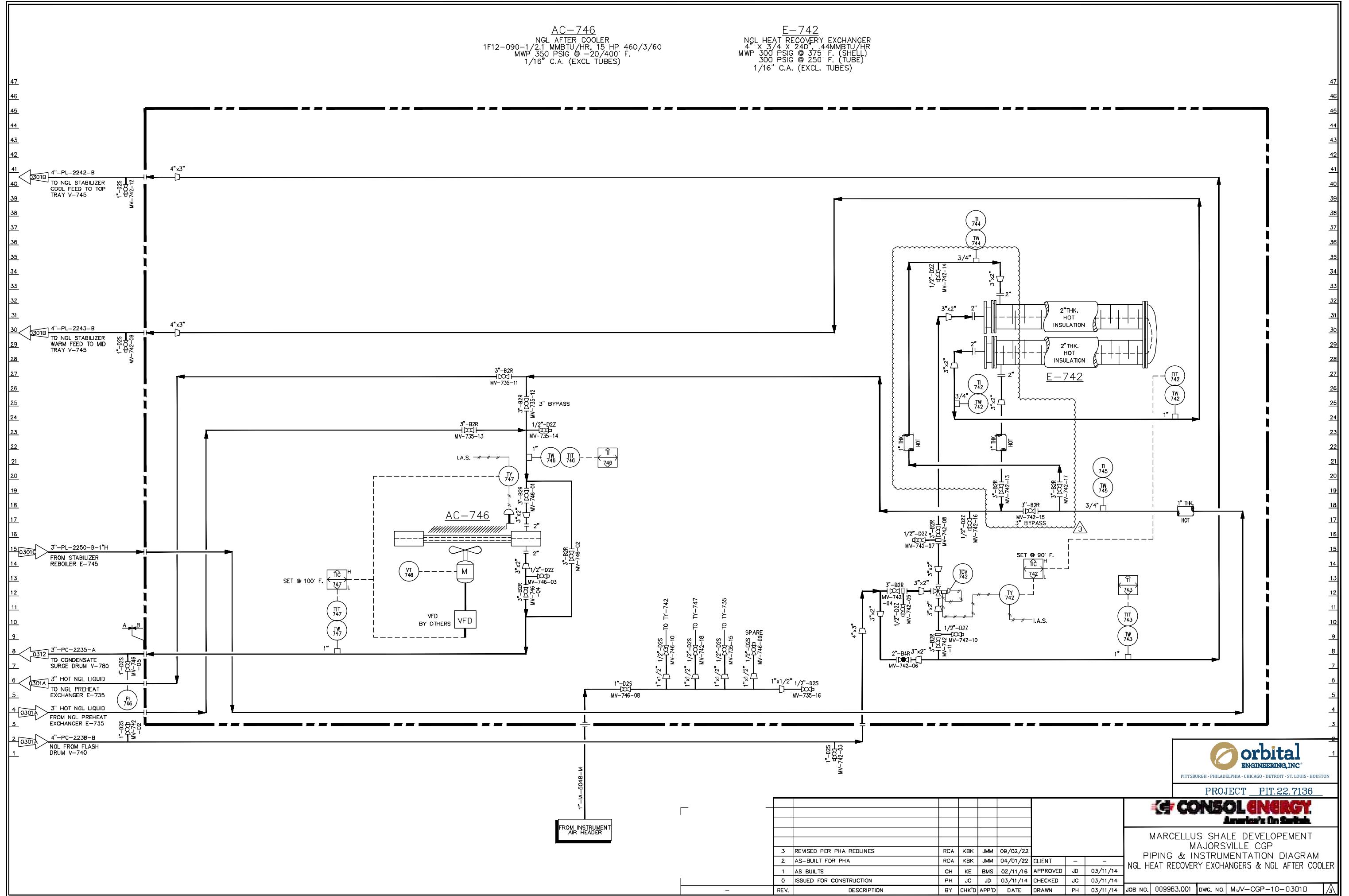


PITTSBURGH - PHILADELPHIA - CHICAGO - DETROIT - ST. LOUIS - HOUSTON

PROJECT PIT.22.7136

CONSOL ENERGY
AmeriGas

MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
STABILIZER REBOILER



orbital
ENGINEERING, INC.[®]

PROJECT PIT.22.7136

**MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
TIPPING & INSTRUMENTATION DIAGRAM
EAT RECOVERY EXCHANGERS & NGL AFTER COOLER**

ET-750-100

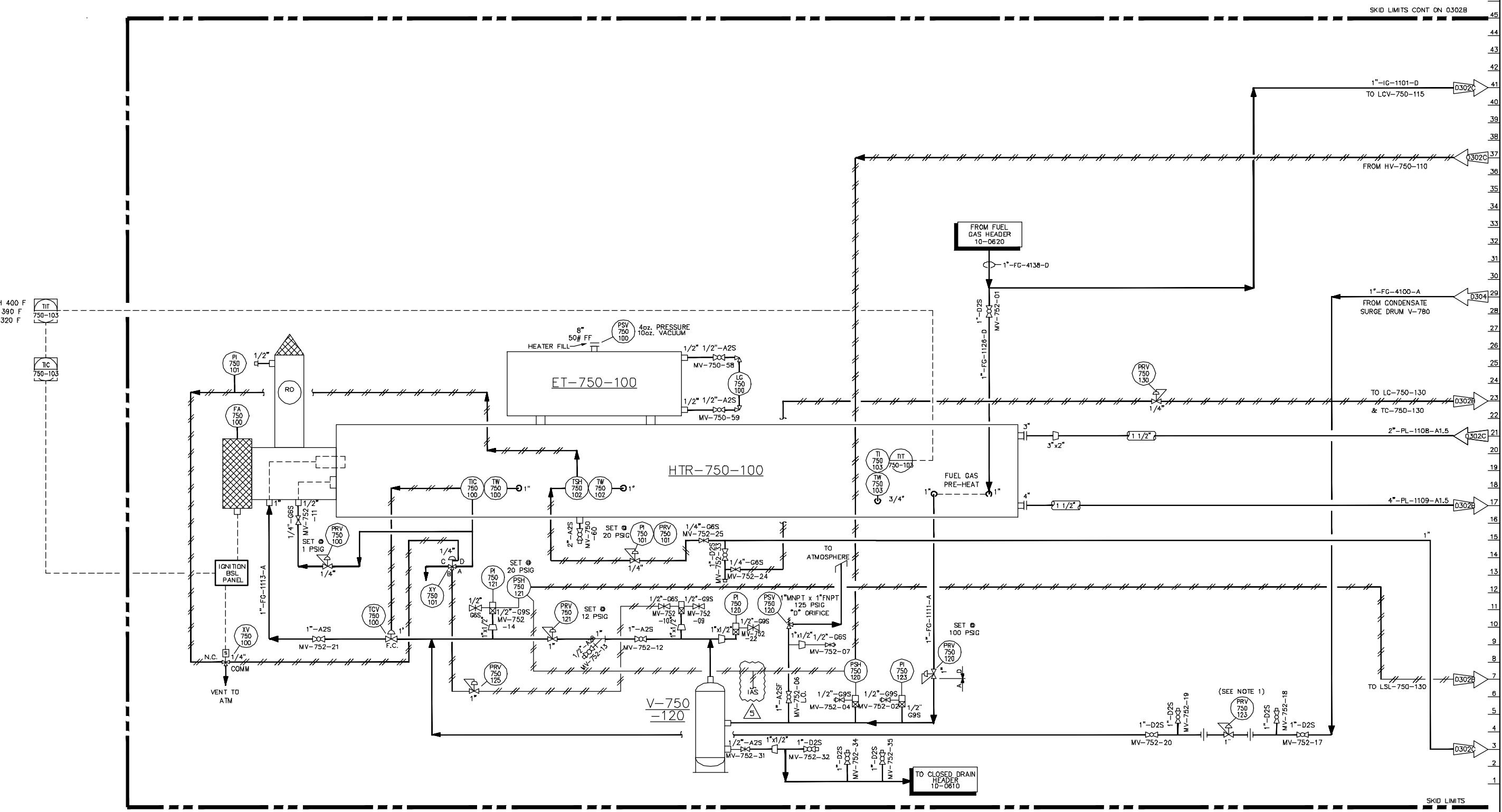
EXPANSION TANK
16" OD X 5'-0" S/S
DESIGN PRESSURE: ATMOS.
DESIGN TEMPERATURE: XXX

HTR-750-100

INDIRECT HEATER
INTERNAL: ATMOS. @ XXX
36" OD X 14'-0" L
N/A
C.A.: 0
N.D.E. TESTING: RT-?
5 LATERALS WITH 2" XH COILS
4 PASSES EACH LAT (TOTAL 20 PASSES)

V-750-120

FUEL GAS SCRUBBER
INTERNAL: PRESSINT @ TEMPINT
OD X LENGTH
CODE
C.A.: CORROSION
N.D.E. TESTING: XRAY
RATED TO 250 PSIG



NOTES:
1. FISHER 627 REGULATOR, 3/8" ORIFICE, 15-40 PSIG RANGE, SET @ 20 PSIG MAX.
2. AUDUBON ENGINEERING DRAFTED THIS P&ID BASED ON EXTERIAN P&ID # HAN0-481041000-00 REV. 0.



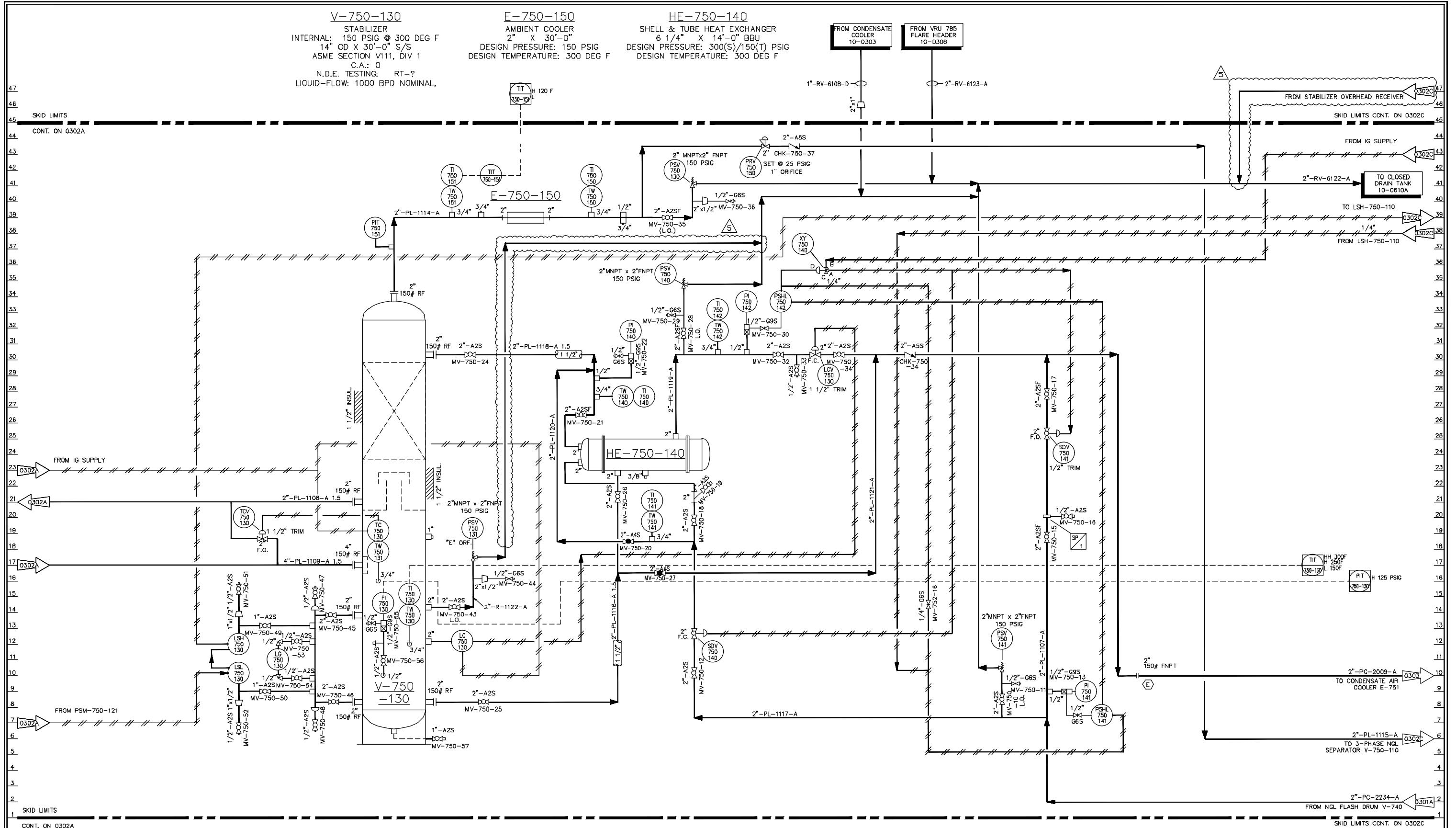
PROJECT PIT.22.7136

LAST EDIT: 10 Apr 24 2:28PM MJV-CGP-10-0302A-R5.dwg

REV.	DESCRIPTION	BY	CHK'D APP'D	DATE	DRAWN	CLIENT	-	-
5	AS-BUILT REDLINES	KBK	RCA	JMM	04/12/24			
4	REVISED PER PHA REDLINES	RCA	KBK	JMM	09/02/22			
3	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22			
2	AS-BUILT DRAWING	RG	KE	BS	2/15/16	CLIENT	-	-
1	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14	APPROVED	-	-
0	AS-BUILTS	PH	CC	JD	11/15/13	CHECKED	-	-
						JOB NO. 009963-001	DWG. NO. MJV-CGP-10-0302A	5

CONSOL ENERGY
America's Oil Standard

 MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
CONDENSATE STABILIZER (REBOILER)



NOTES:

- CONDENSATE STABILIZER 750 ACTS AS BACKUP TO CONDENSATE STABILIZER 745. STARTUP PROVISIONS ARE REQUIRED. MINIMUM FLOW IS 500 BPD.



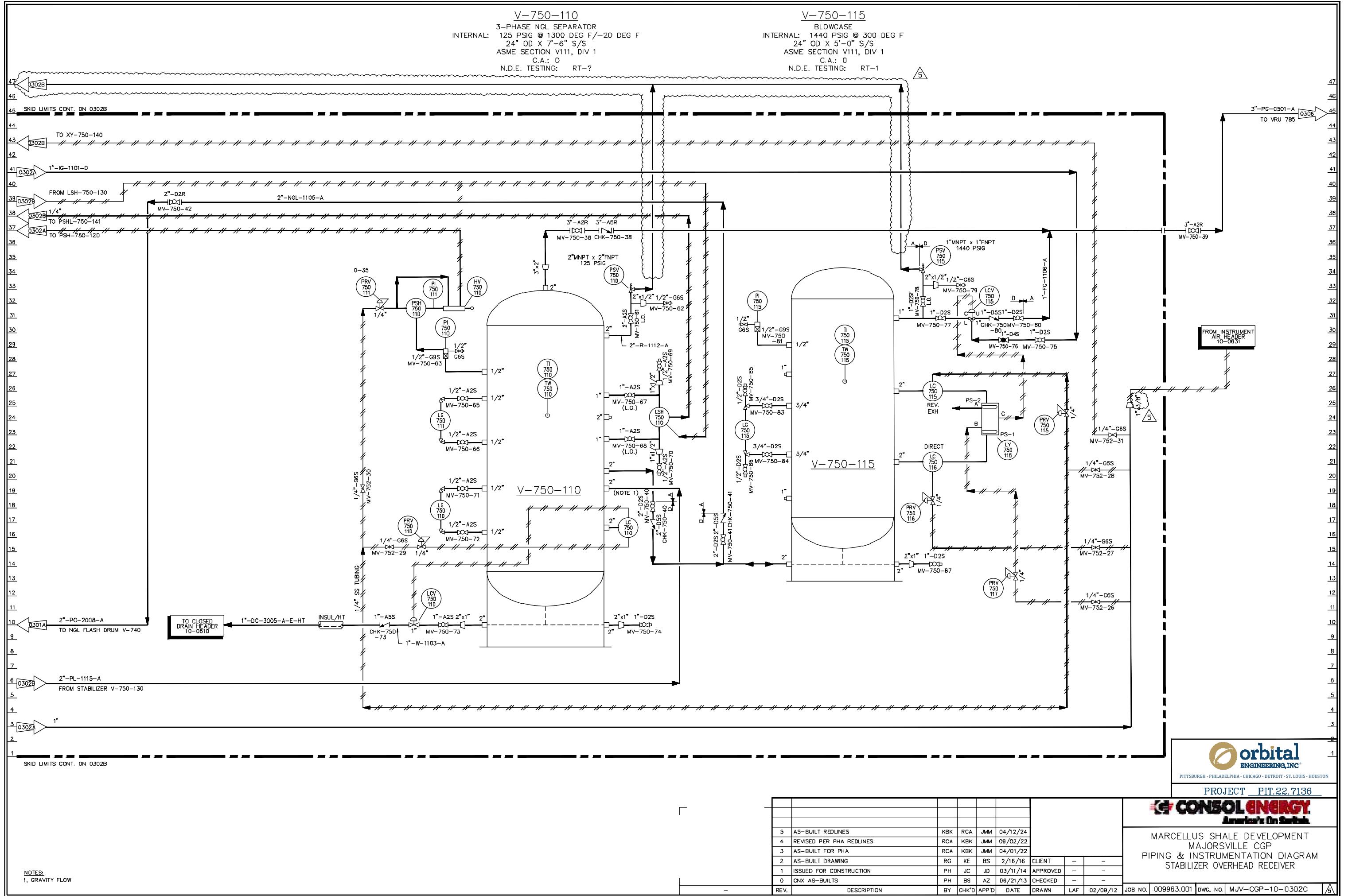
PROJECT PIT.22.7136

LAST EDIT: 10 Apr 24 2:29PM MJV-CGP-10-0302B-R5.dwg

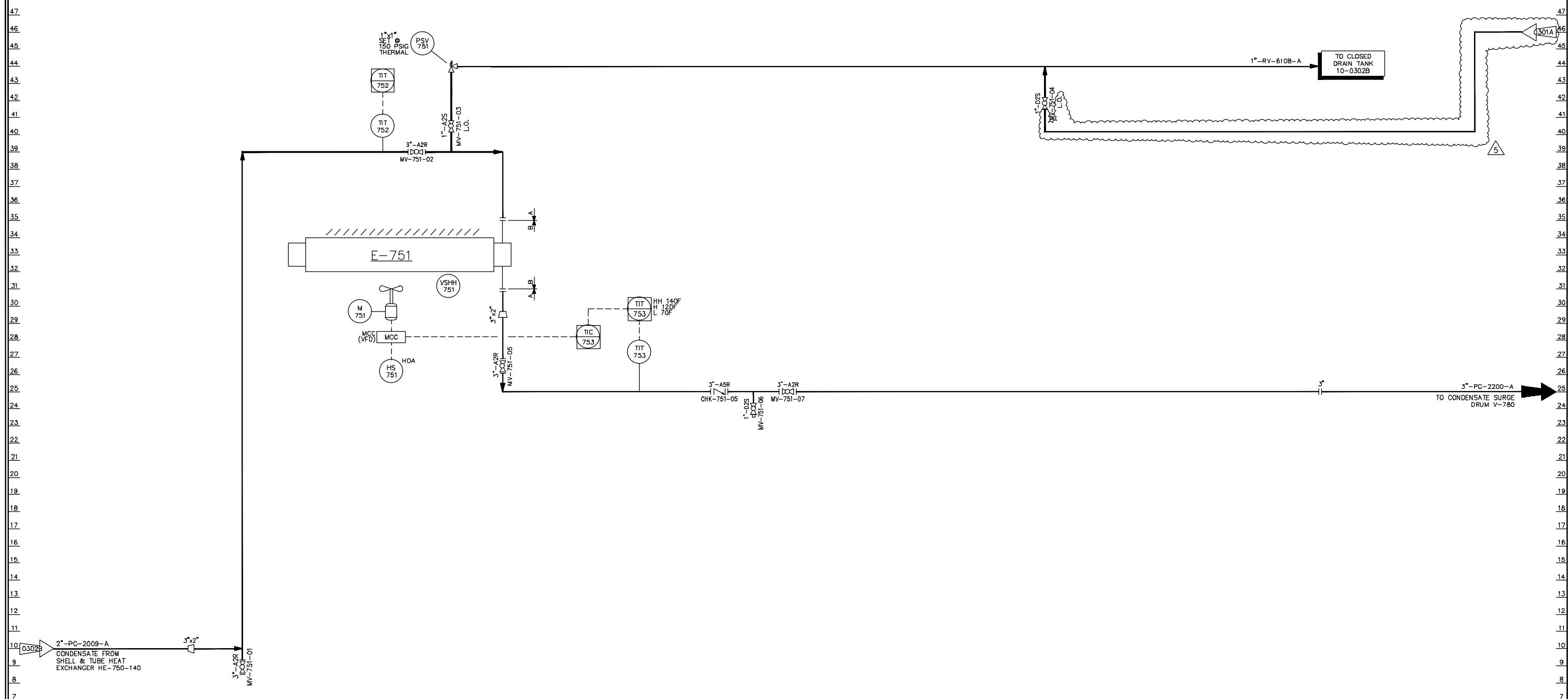
CONSOL ENERGY
America On Site

MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
CONDENSATE STABILIZER (TOWER)

REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	BY	JD	APPROVED	DATE	CHECKED	DATE	JOB NO.	DWG. NO.	MJV-CGP-10-0302B	
5	AS-BUILT REDLINES	KBK	RCA	JNM	04/12/24											
4	REVISED PER PHA REDLINES	RCA	KBK	JNM	09/02/22											
3	AS-BUILT FOR PHA	RCA	KBK	JNM	04/01/22											
2	AS-BUILT DRAWING	RG	KE	BS	2/16/16	CLIENT	-	-								
1	ISSUED FOR CONSTRUCTION	PH	JG	JD	03/11/14	APPROVED	-	-								
0	AS-BUILTS	PH	CC	JD	11/15/13	CHECKED	-	-								
	REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	BY	JD	APPROVED	DATE	CHECKED	DATE	JOB NO.	DWG. NO.	MJV-CGP-10-0302B



E-751
CONDENSATE COOLER
 DESIGN: 400 PSIG @ 300°F
 MOTOR: 15 HP



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PROJECT PIT.22.7136

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America On Site

MARCELLUS SHALE DEVELOPMENT
 MAJORSVILLE CGP
 PIPING & INSTRUMENTATION DIAGRAM
 CONDENSATE COOLER

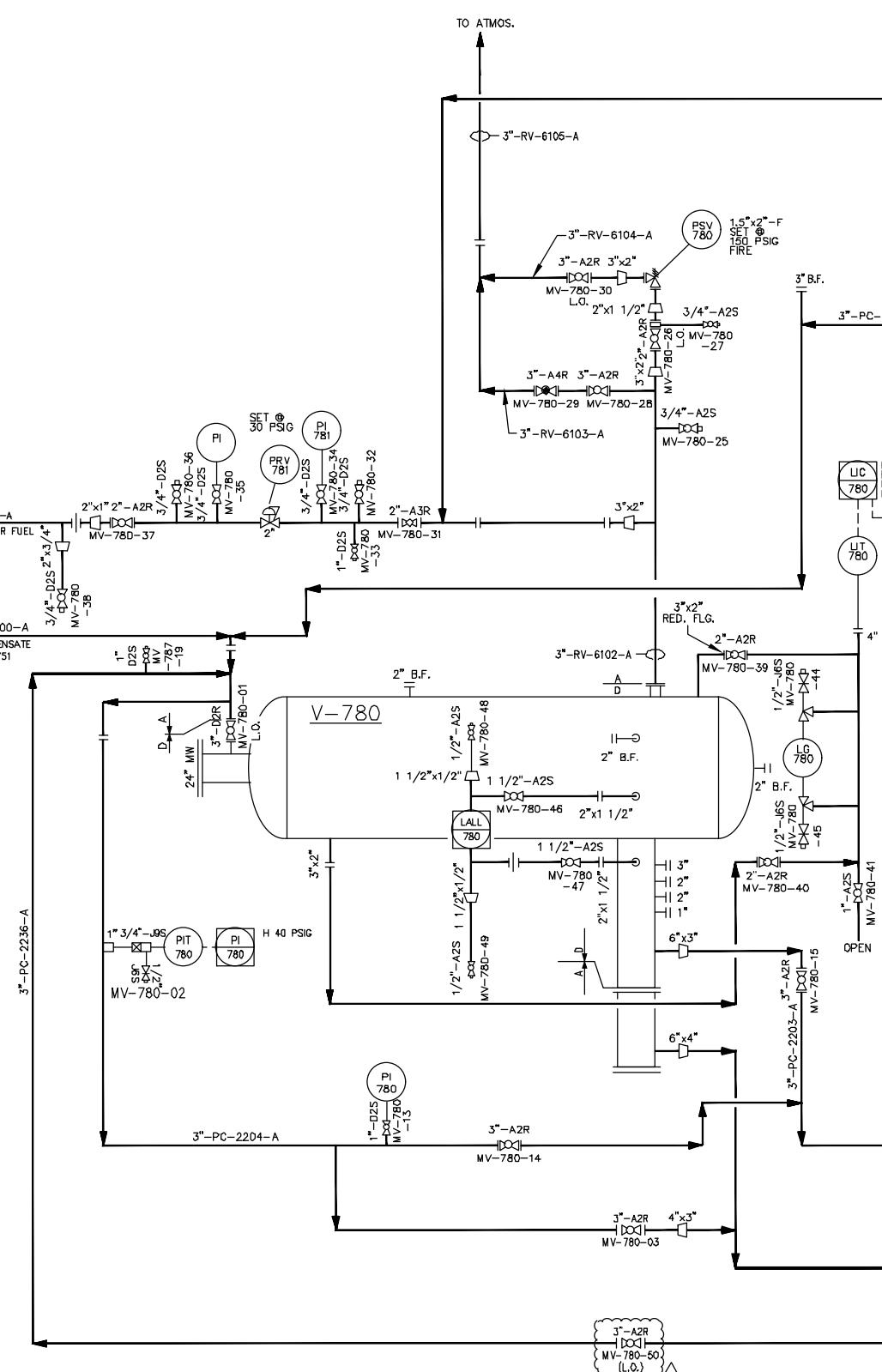
REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	LAF	02/09/12	JOB NO.	009963.001	DWG. NO.	MJV-CGP-10-0303	6
5	AS-BUILT REDINES	KBK	RCA	JMM	04/12/24								
4	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22								
3	AS-BUILT	CNH	KRE	BMS	08/24/15								
2	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14	CLIENT	-	-					
1	AS-BUILTS	PH	CC	JD	11/15/13	APPROVED	-	-					
0	CNX AS-BUILTS	PH	BS	AZ	06/21/13	CHECKED	-	-					

CONDENSATE EXPORT SKID

V-780

CONDENSATE SURGE DRUM

SIZE: 42" I.D. x 16'-0" S/S
DESIGN PRESSURE: 900 PSIG @ 150F/-20F
DESIGN PRESSURE: 0 PSIA @ 300F
OPERATING PRESSURE: 25 PSIG @ 115F
CAPACITY: 1,000 GALLONS



- NOTES:
1. SIZED TO ACCOMMODATE 4" 600# LEVEL CONTROLLER.
 2. XY-780 IS DESIGNED TO ALLOW THE OUTPUT OF LIC-780 TO BE SWITCHED TO EITHER LY-780 OR LY-787 DEPENDING ON THE PUMPS IN SERVICE.

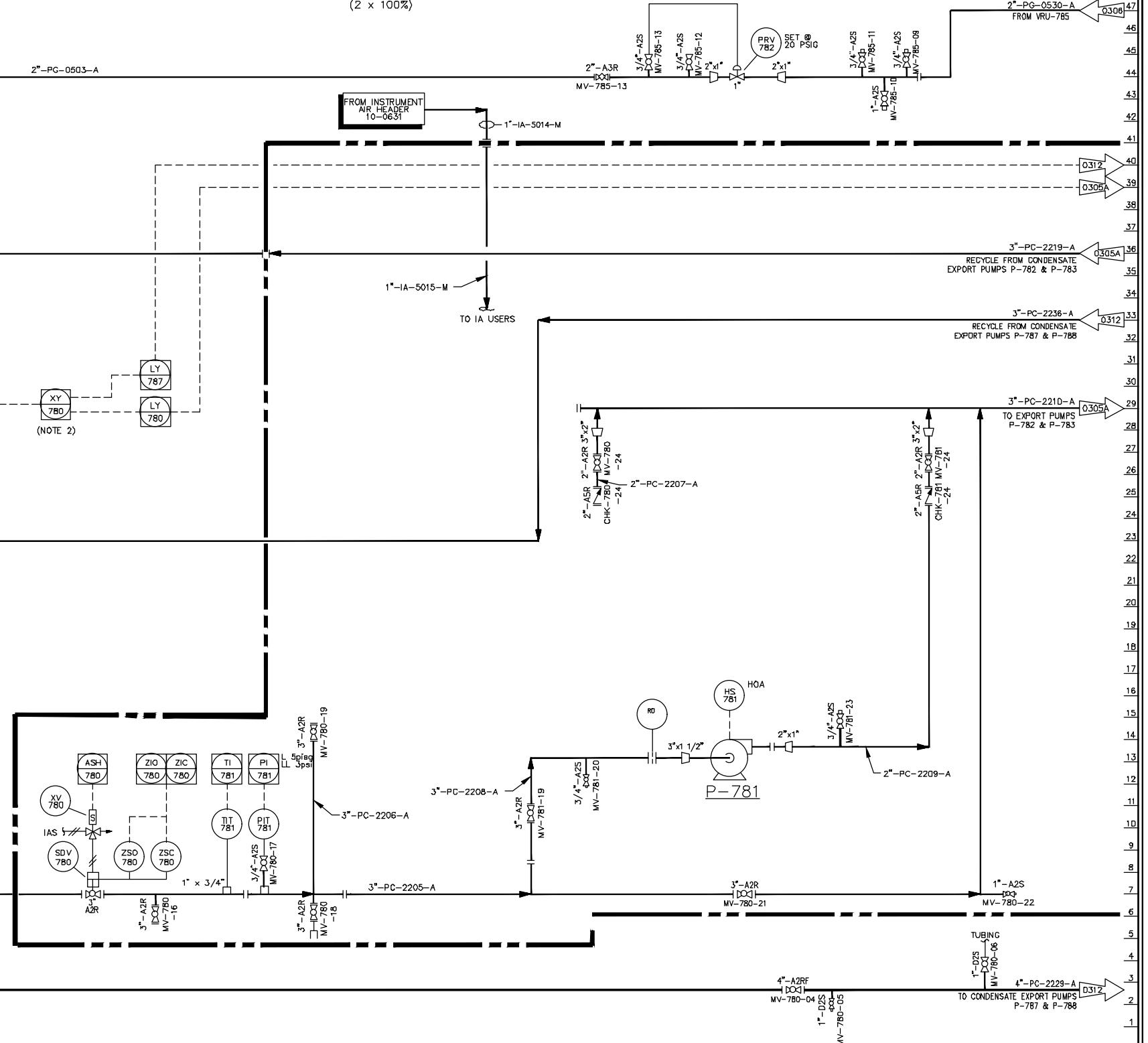


PROJECT PIT.22.7136

P-781

CONDENSATE BOOSTER PUMPS

DESIGN PRESSURE: 232 PSIG @ 392F
OPERATING PRESSURE (S/D): 8.4 PSIG/20.4 PSIG
OPERATING TEMPERATURE: 115F
CAPACITY: 30 GPM
MOTOR: 3.0 HP
(2 x 100%)

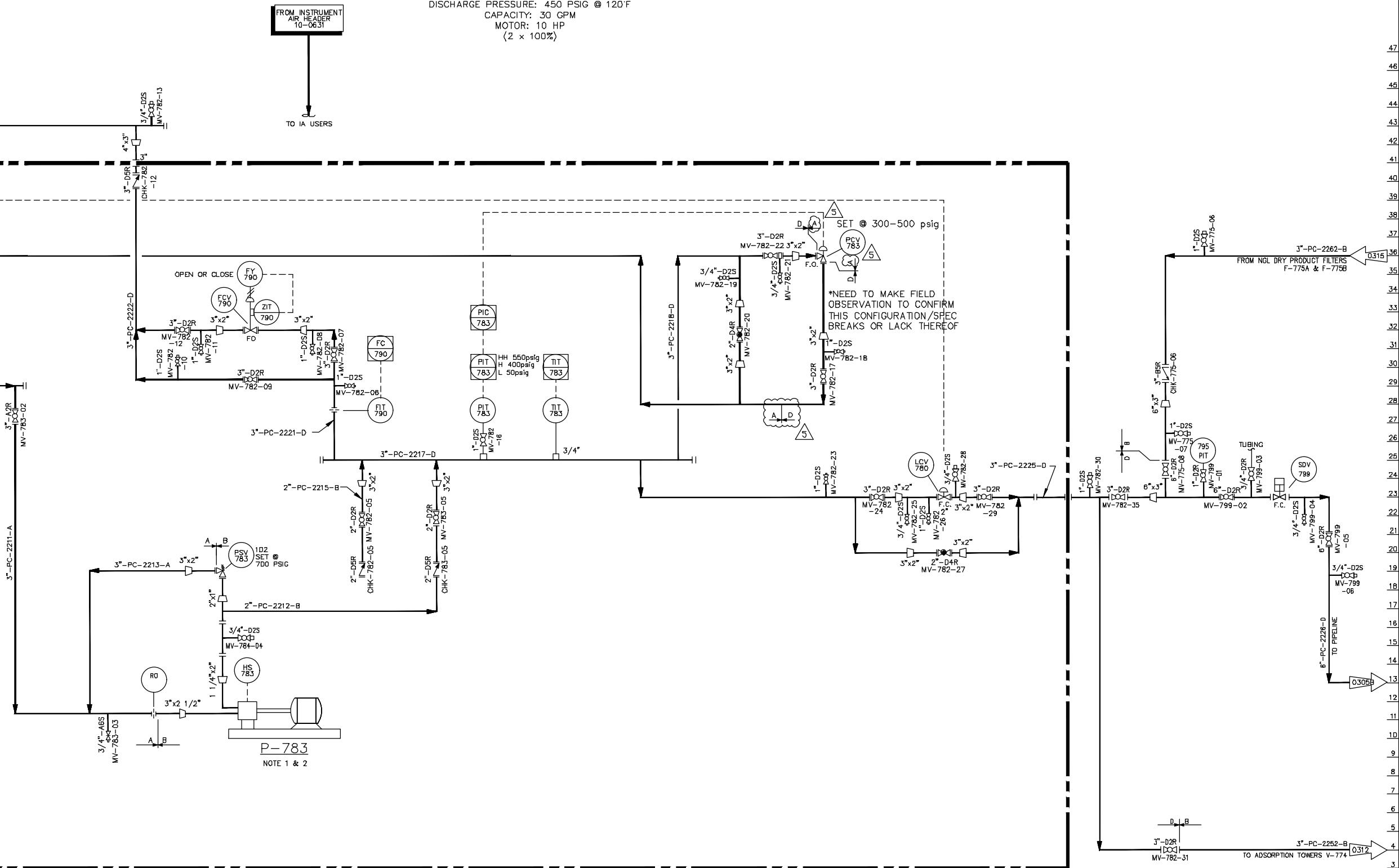


REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	LAF	02/09/12	JOB NO.	009963.001	DWG. NO.	MJV-CGP-10-D304
6	REVISED PER PHA REDLINES	RCA	KBK	JMM	09/02/22							
5	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22							
4	AS-BUILT	CNH	KRE	BMS	08/25/15							
3	REV FOR MOC 09242014	KJR	KC	CB	04/08/15							
2	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14	CLIENT	-	-				
1	ISSUED FOR CONSTRUCTION - VRU & TANKS	SS	CC	JD	11/07/13	APPROVED	-	-				
0	CNX AS-BUILTS	PH	BS	AZ	06/21/13	CHECKED	-	-				

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America On Site

MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
CONDENSATE SURGE DRUM &
CONDENSATE BOOSTER PUMPS

P-783
CONDENSATE EXPORT PUMPS
DESIGN PRESSURE: 1200 PSIG @ 250°F
DISCHARGE PRESSURE: 450 PSIG @ 120°F
CAPACITY: 30 GPM
MOTOR: 10 HP
(2 x 100%)



NOTES:
1. 2 1/2" NPT INLET AND 1 1/4" NPT OUTLET.
2. POSITIVE DISPLACEMENT PUMP.

REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	LAF	02/09/12	JOB NO.	009963.001	DWG. NO.	MJV-CGP-1D-D305A
5	AS-BUILT REDUNES	KBK	RCA	JMM	04/12/24							
4	REVISED PER PHA REDUNES	RCA	KBK	JMM	09/02/22							
3	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22							
2	AS BUILTS	BMS	KE	BMS	12/10/15	CLIENT	-	-				
1	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14	APPROVED	-	-				
0	CNX AS-BUILTS	PH	BS	AZ	06/21/13	CHECKED	-	-				

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PROJECT PIT.22.7136

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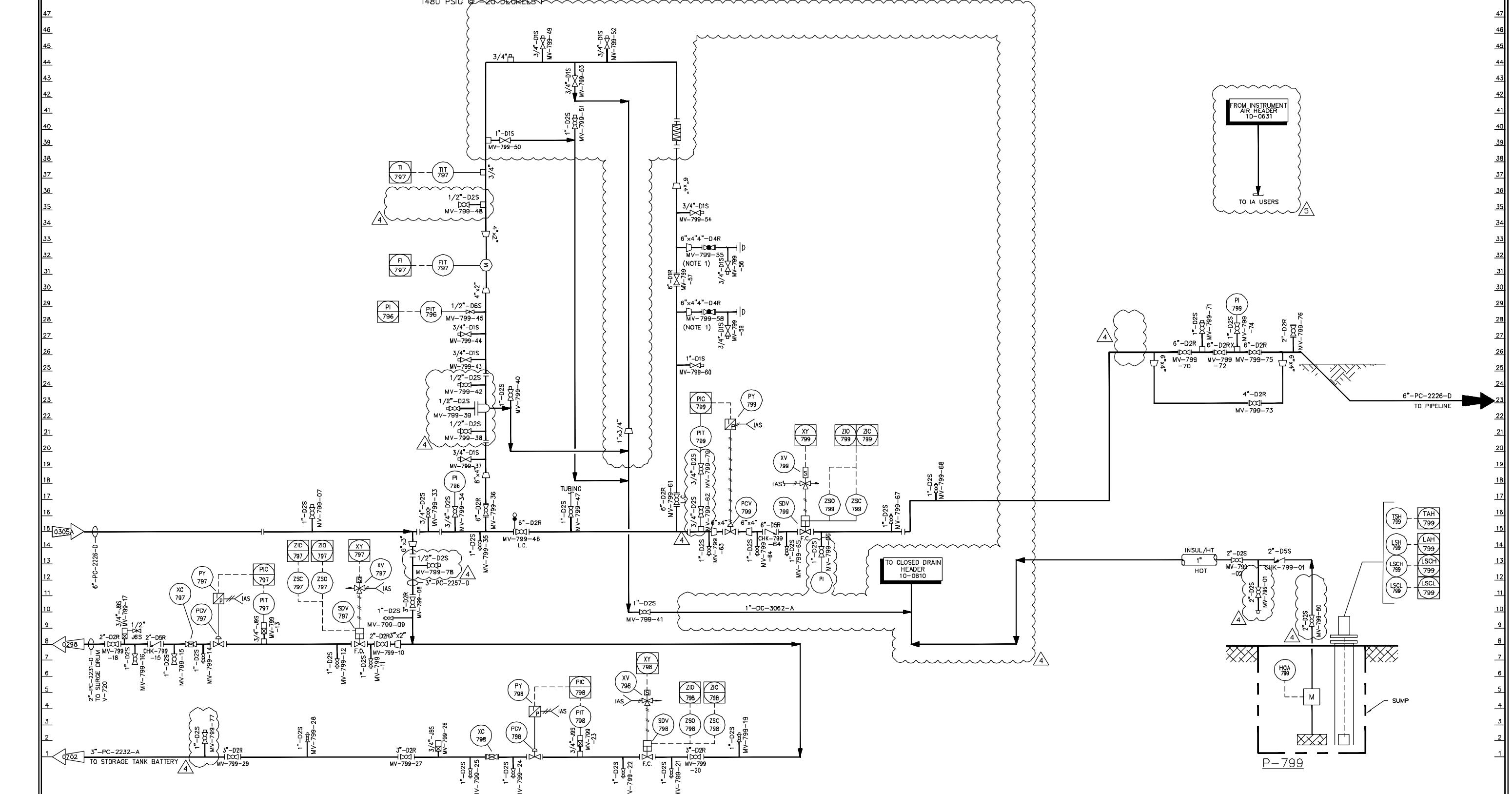
MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
CONDENSATE EXPORT PUMPS

CONDENSATE MEASUREMENT SKID

ELITE MICROMOTION CORIOLIS METER
SIZE 2-INCH ANSI 600

BASKET STRAINER
SIZE 3-INCH ANSI 600
MAWP = 1480 PSIG @ 100 DEGREES F
1480 PSIG @ ~26-DEGREES F

KOMAX STATIC MIXER
SIZE 3-INCH ANSI 600



NOTES:
1. ORBIT VALVE.



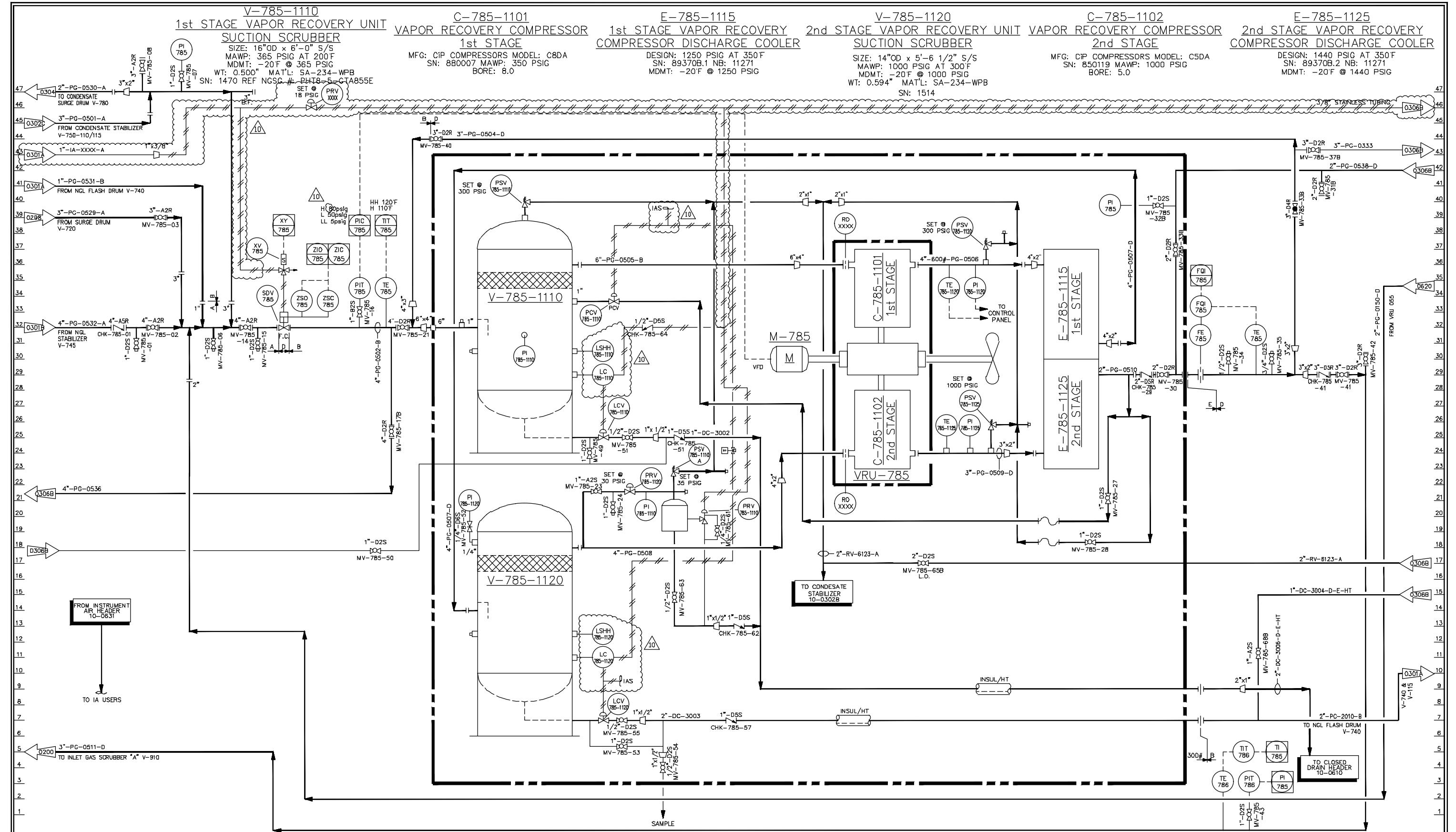
PROJECT PIT.22.7136

LAST EDIT: 23 Mar 23 10:46AM MJV-CGP-10-0305B-R4.dwg

4	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22
3	MOC #05172017	BMS	CB	BMS	7/12/17
2	AS-BUILT DRAWING	RG	KE	BS	2/17/16
1	REMOVED PRESSURE CONTROLLER SETPOINTS	SS	EH	JC	04/18/14
0	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14
		BY	CHK'D	APP'D	DATE
	REV.	DESCRIPTION		DRAWN	AD 09/19/12
				JOB NO.	009963.001
				DWG. NO.	MJV-CGP-10-D305B

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America On Site

MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
CONDENSATE MEASUREMENT SKID



NOTES:

1. THESE INSTRUMENTS AND VALVES ARE SPECIFIED BY AEC AND PURCHASED BY CONSOL.

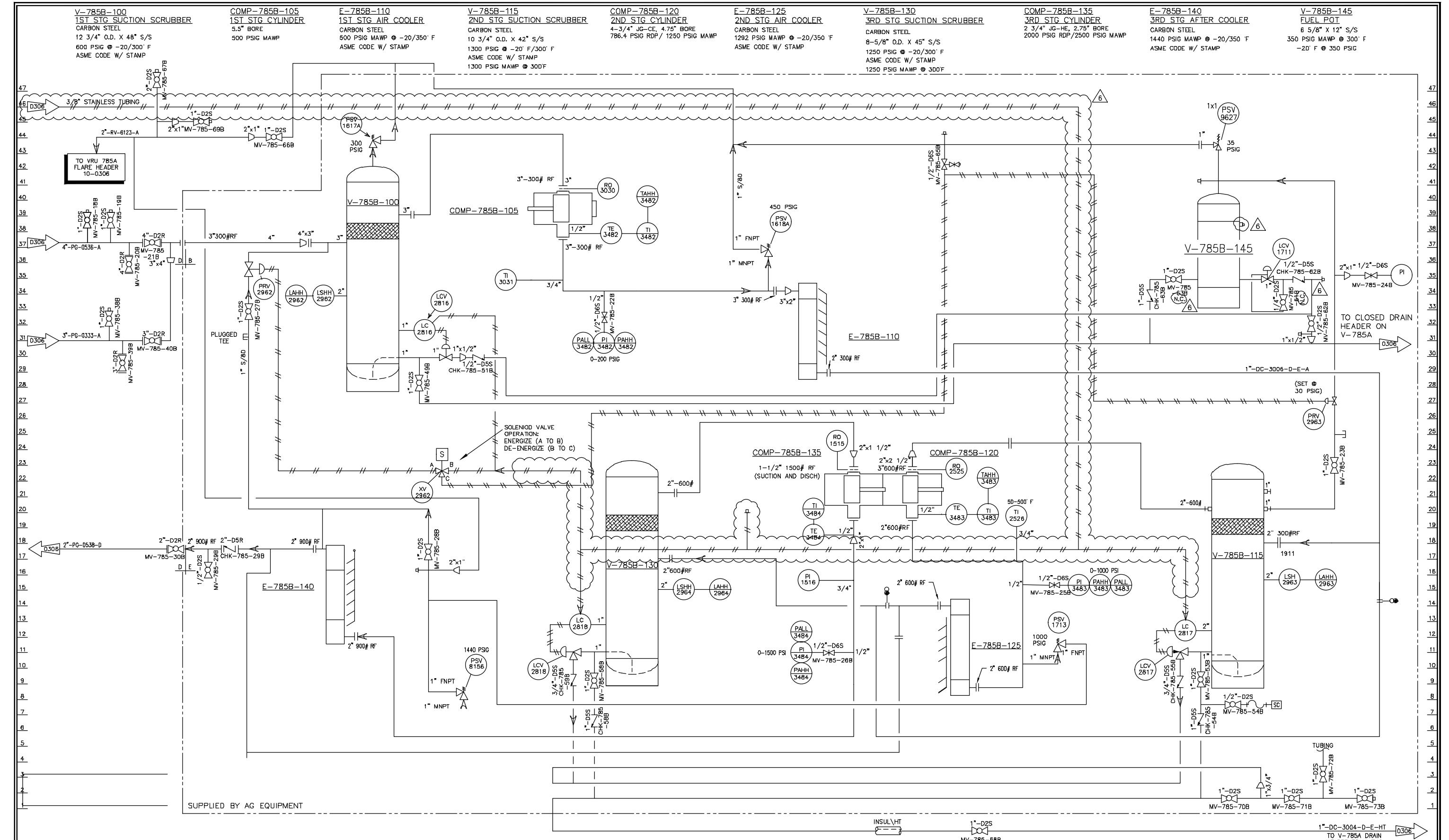


M-785
DRIVE MOTOR
MFG: BALDOR, RELIANCE 3-PHASE CONT. DUTY
150 HP; 165 AMP; 1785 RPM; 460 V; 60 Hz; SF=1.15
PF: 88.5; SN S9082690-001
V-785-1130
DAY TANK
CAPACITY: 30 GAL

10	AS-BUILT REDLINES	KBK	RCA	JMM	04/12/24
9	REVISED PER PHA REDLINES	RCA	KBK	JMM	09/02/22
8	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22
7	ADDITION OF VRU-785C	BMS	CB	BMS	04/12/17
6	AS BUILTS	BMS	KE	BMS	11/10/15
5	REVISED FOR M.O.C. 07012015	KR	KC	CB	07/20/15
4	REVISED FOR M.O.C. 10012014	KR	KC	KC	04/05/15
3	AS BUILT	KK	BM	BS	04/01/15
2	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14
1	ISSUED FOR CONSTRUCTION - VRU & TANKS	SS	CC	JD	11/07/13
0	CNX AS-BUILTS	PH	BS	AZ	06/21/13
	REV.	DESCRIPTION	BY	CHK'D APP'D	DATE
			BY	CHK'D APP'D	DATE
			REV.	DESCRIPTION	DRAWN
			BY	CHK'D APP'D	LAF
			REV.	DESCRIPTION	DRAWN
			BY	CHK'D APP'D	02/09/12
			REV.	DESCRIPTION	JOB NO.
			BY	CHK'D APP'D	009963.001
			REV.	DESCRIPTION	DWG. NO.
			BY	CHK'D APP'D	MJV-CGP-10-0306

CONSOL ENERGY
America On Site

MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
VAPOR RECOVERY UNIT



REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	BY	JOB NO.	DWG. NO.
6	AS-BUILT REDLINES	KBK	RCA	JMM	04/12/24				
5	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22				
4	ADDITION OF VRU-785C	BMS	CB	BMS	05/11/17				
3	AS-BUILTS	BMS	BMS	CB	09/07/16				
2	AS-BUILT	CNH	KRE	BMS	08/25/15				
1	REVISED FOR M.O.C. 10011214	KR	KC	KC	04/06/15	APPROVED	-	-	
0	AS BUILT	KK	BM	BS	04/01/15	CHECKED	-	-	
								JOB NO. 009963.001	DWG. NO. MJV-CGP-10-0306B

CONSOL ENERGY
An Energy Company

MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
VAPOR RECOVERY UNIT

V-786C DOES NOT EXIST



PITTSBURGH - PHILADELPHIA - CHICAGO - DETROIT - ST. LOUIS - HOUSTON

PROJECT PIT.22.7136

LAST EDIT: 23 Mar 23 11:53AM MJV-CGP-10-0306C-R1.dwg

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American Energy

MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
VAPOR RECOVERY UNIT

REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	—	—	CLIENT	—	—
									RCA	KBK	JMM
1	AS-BUILT FOR PHA				04/01/22	APPROVED	—	—			
0	ISSUED FOR CONSTRUCTION	BMS	BMS	BMS	4/25/17	CHECKED	—	—			

A

