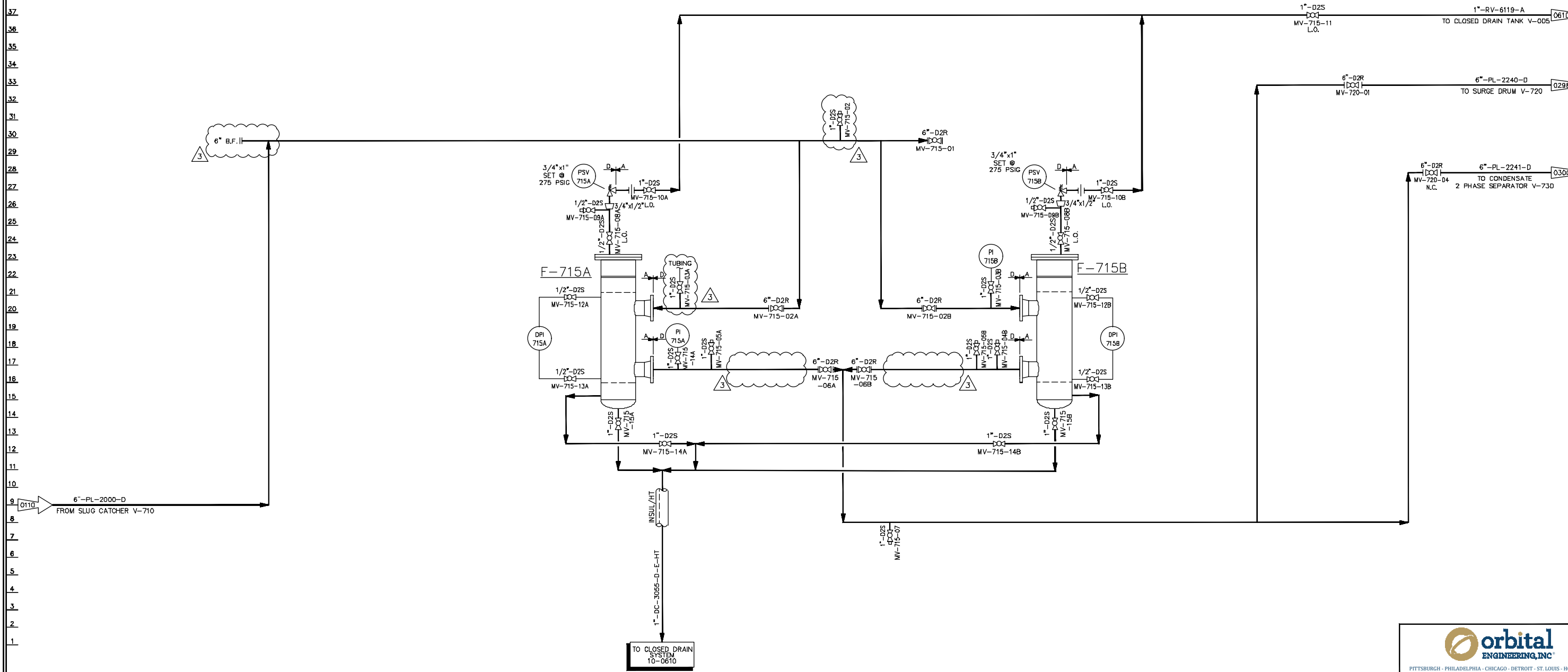


F-715 A & B
PARTICULATE FILTER
SEPARATOR

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

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PROJECT PIT.22.7136

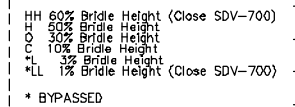


MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
PARTICULATE FILTER SEPARATORS

REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	PH	03/11/14
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

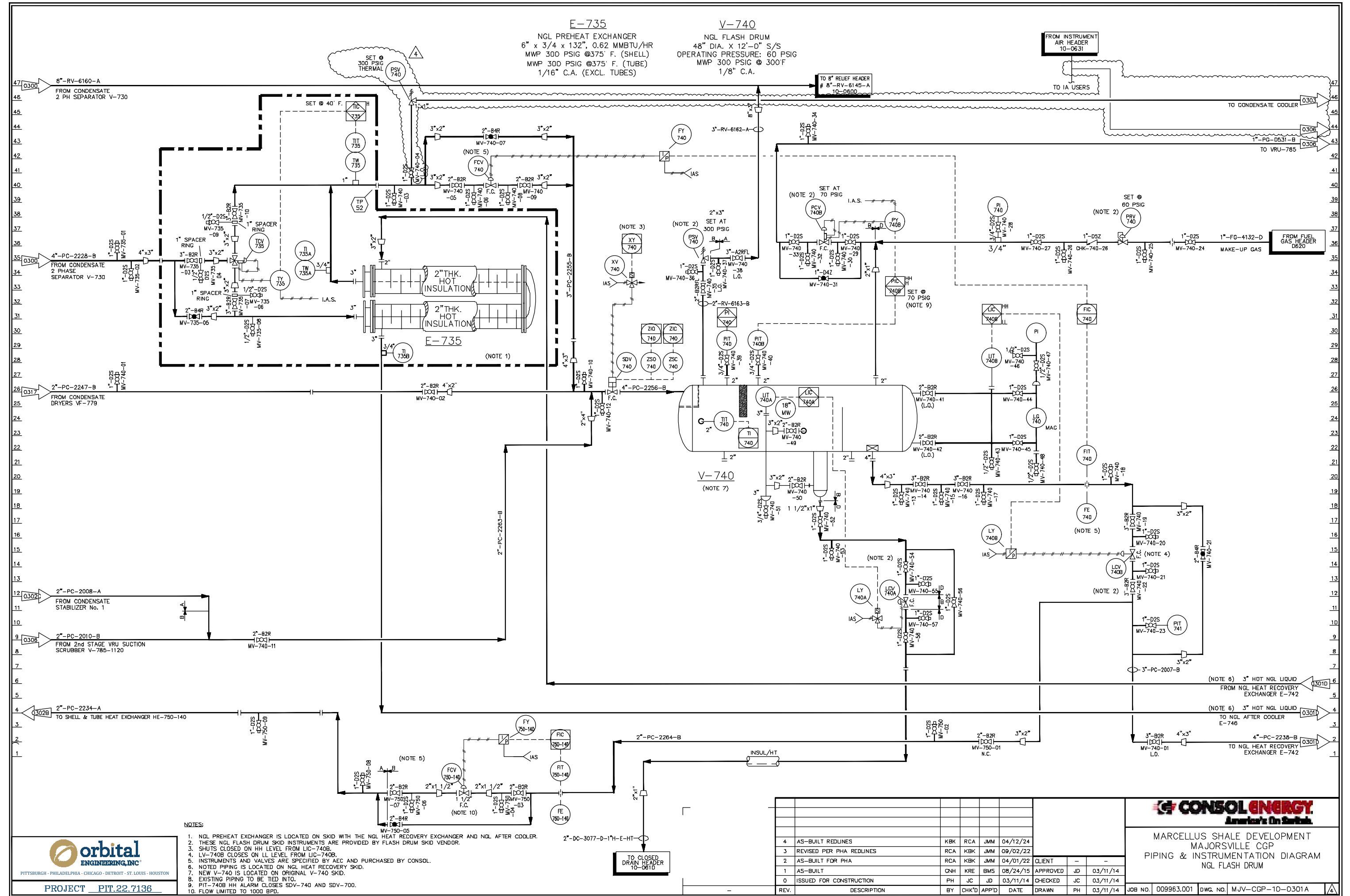
JOB NO. 009963.001 DWG. NO. MJV-CGP-10-0297

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&ID

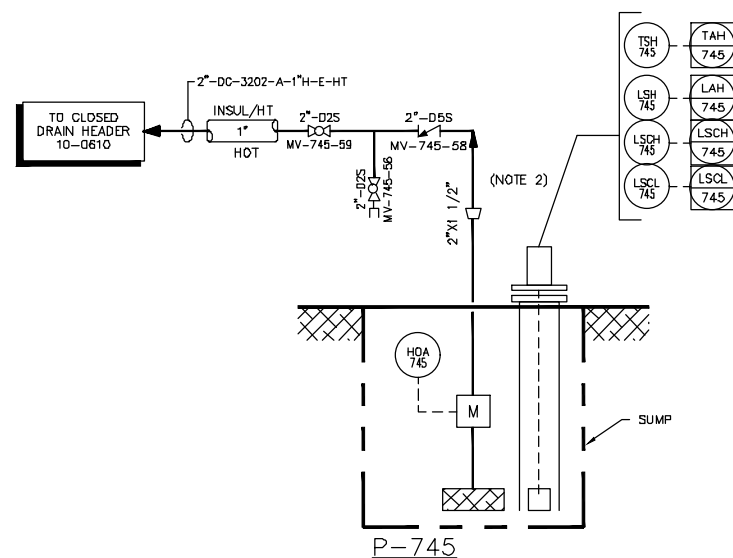


CONSOL ENERGY
America's On-Site Energy

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	CUSTOMER	-	-
2	AS-BUILT	CNH	KRE	BMS	08/24/15			
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



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



5	REVISED PER PHA REDLINES	RCA	KBK	JMM	09/02/22			
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	EJ	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

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

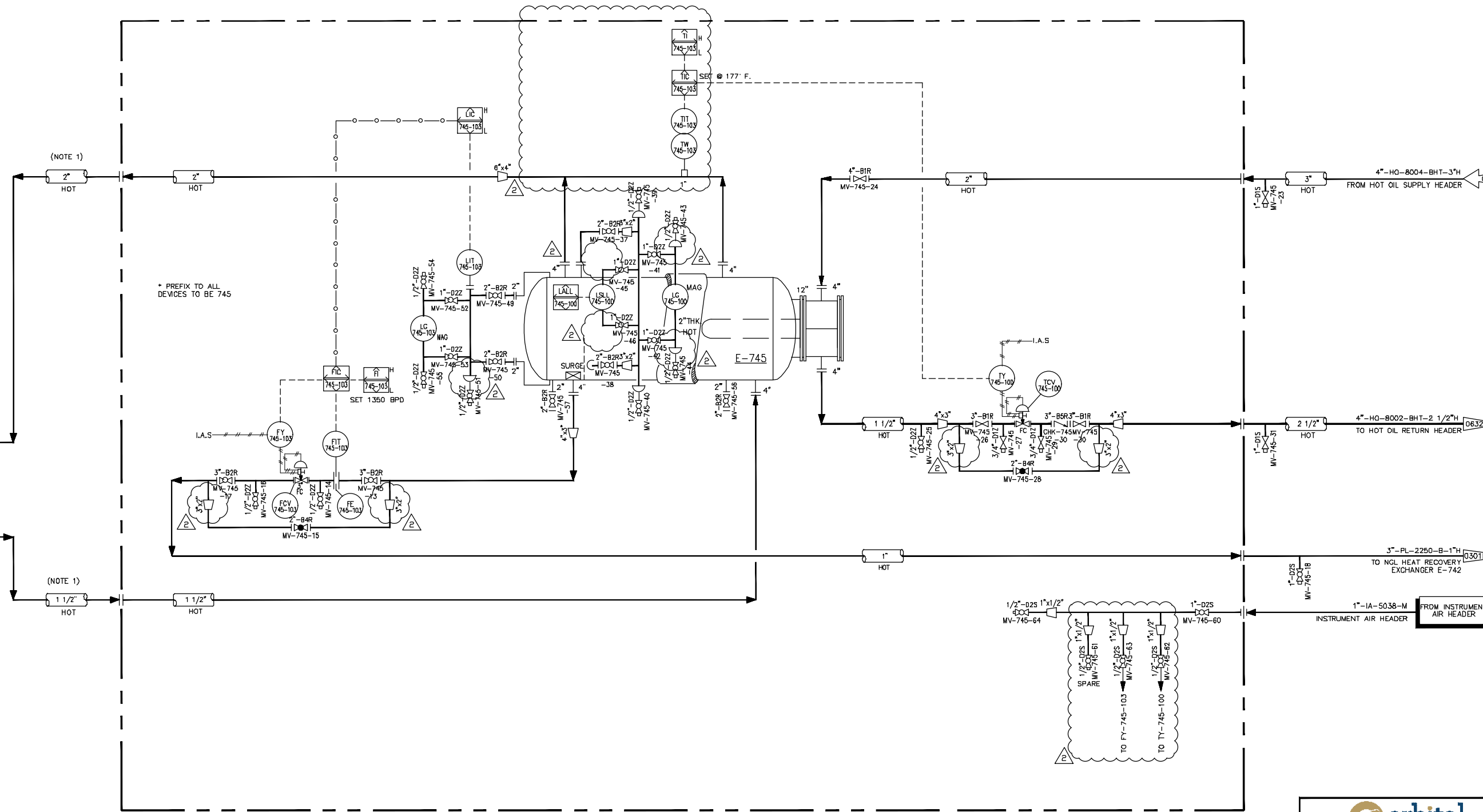
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LAST EDIT: 23 Mar 23 10:51AM MJV-CGP-10-0301C-R2.dwg

E-745
STABILIZER REBOILER
48" DIA. X 30'-0" S/S 3.16 MM Btu/h
MWP 300 PSIG @300' F.
1/16" C.A.
2" HOT INSULATION.



PROJECT PIT.22.7136

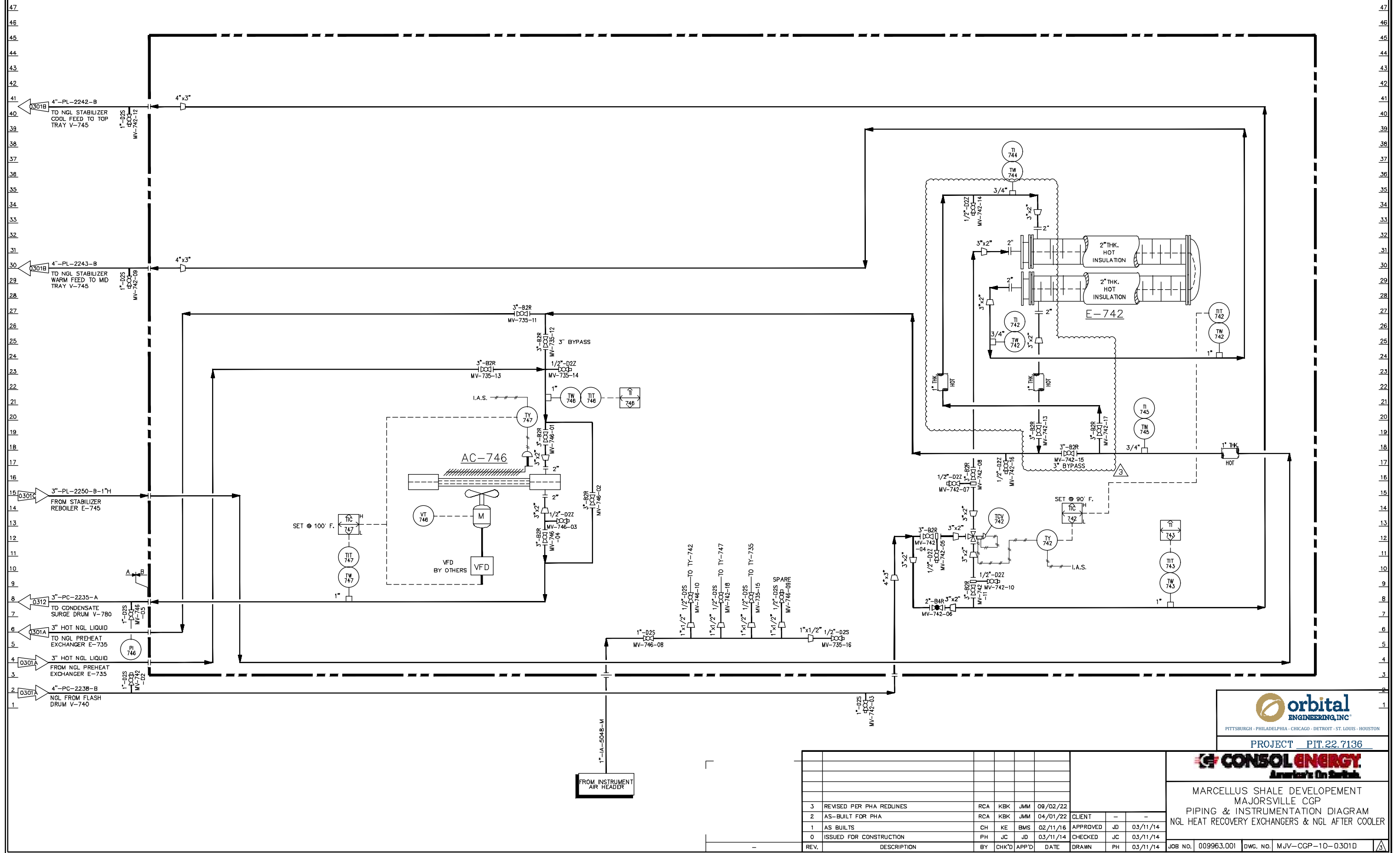


MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
STABILIZER REBOILER

REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	PH	03/11/14
2	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22	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

JOB NO. 009963.001 DWG. NO. MJV-CGP-10-0301C

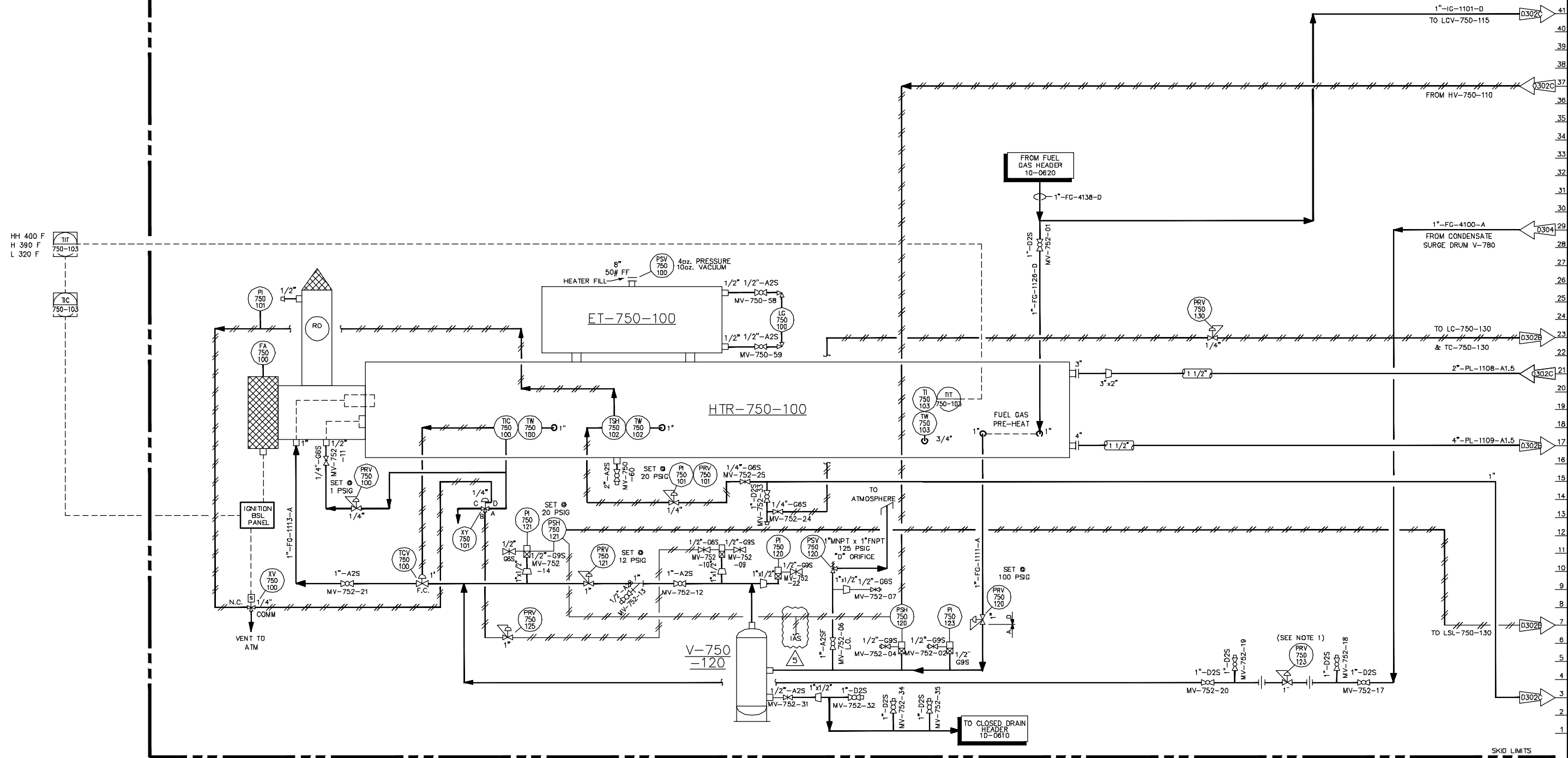
E-742
NGL HEAT RECOVERY EXCHANGER
4" X 3/4" X 240" 44MMBTU/HR
MWP 300 PSIG @ 375° F. (SHELL)
300 PSIG @ 250° F. (TUBE)
1/16" C.A. (EXCL. TUBES)



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 EXTERAN P&ID # HANO-481041000-00 REV. 0.



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

PROJECT PIT.22.7136

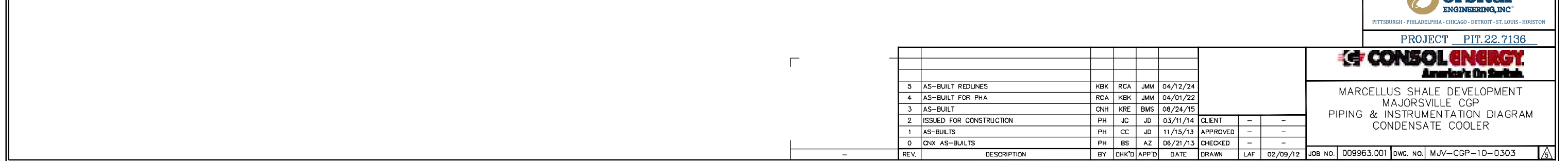
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REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	DATE
5	AS-BUILT REDLINES	KBK	RCA	JMM	04/12/24		
4	REVISED PER PHA REDLINES	RCA	KBK	JMM	09/02/22		
3	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22		
2	AS-BUILT DRAWING	RG	KE	BS	2/15/16		
1	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14		
0	AS-BUILTS	PH	CC	JD	11/15/13		






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

JOB NO. D09963-001 DWG. NO. MJV-CGP-10-0302A



5	AS-BUILT REDLINES	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
1	AS-BUILTS	PH	CC	JD	11/15/13
0	CNX AS-BUILTS	PH	BS	AZ	06/21/13
REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE

 orbital ENGINEERING, INC. [®]				1
PITTSBURGH - PHILADELPHIA - CHICAGO - DETROIT - ST. LOUIS - HOUSTON				
<u>PROJECT</u> <u>PIT.22.7136</u>				
 CONSOL ENERGY <i>American's On Shale</i>				
MARCELLUS SHALE DEVELOPMENT MAJORSVILLE CGP PIPING & INSTRUMENTATION DIAGRAM CONDENSATE COOLER				
JOB NO. 009963.001	Dwg. No. M.J.V.-CGP-10-0303			

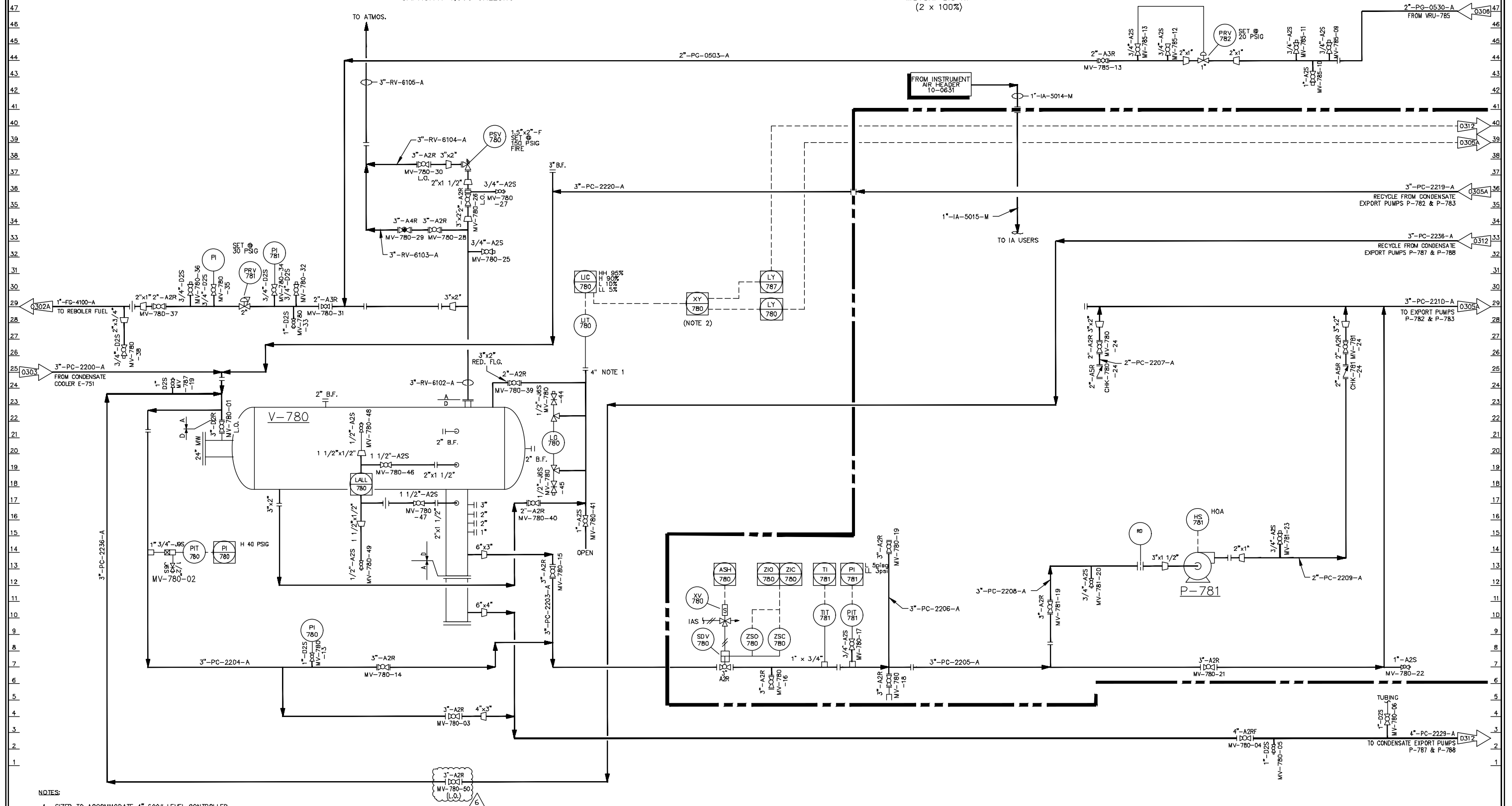
CONDENSATE EXPORT SKID

V-780
CONDENSATE SURGE DRUM

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

P-781
CONDENSATE BOOSTER PUMPS

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



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.



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PROJECT PIT.22.7136

LAST EDIT: 23 Mar 23 10:47AM MJV-CGP-10-0304-RB.dwg

REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	LAF	02/09/12	JOB NO.	009963.001	DWG. NO.	MJV-CGP-10-0304
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							
1	ISSUED FOR CONSTRUCTION - VRU & TANKS	SS	CG	JD	11/07/13							
0	CNX AS-BUILTS	PH	BS	AZ	06/21/13							



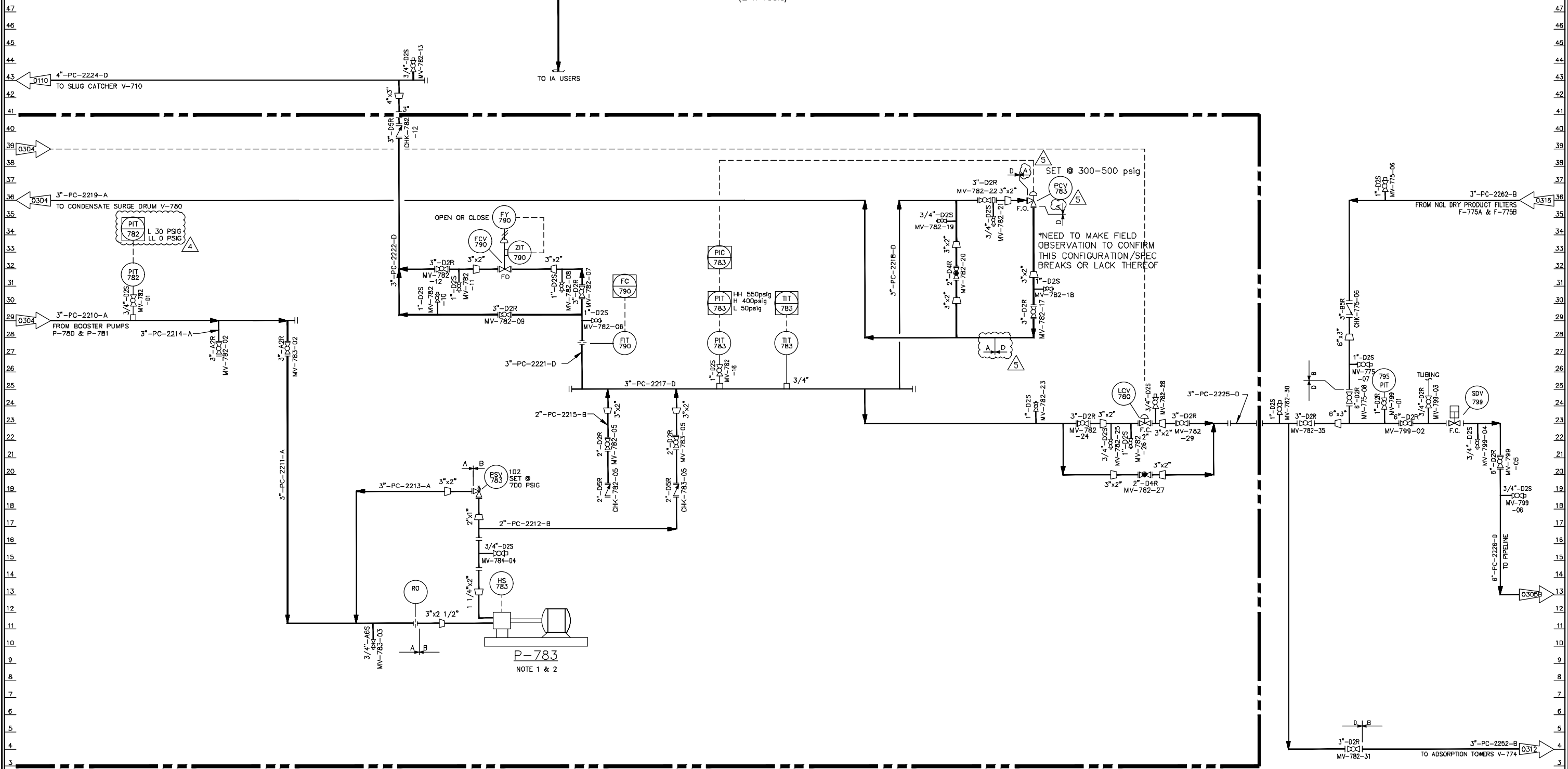
MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
CONDENSATE SURGE DRUM &
CONDENSATE BOOSTER PUMPS

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%)

FROM INSTRUMENT
AIR HEADER
10-0631

TO IA USERS



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



PROJECT PIT.22.7136



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

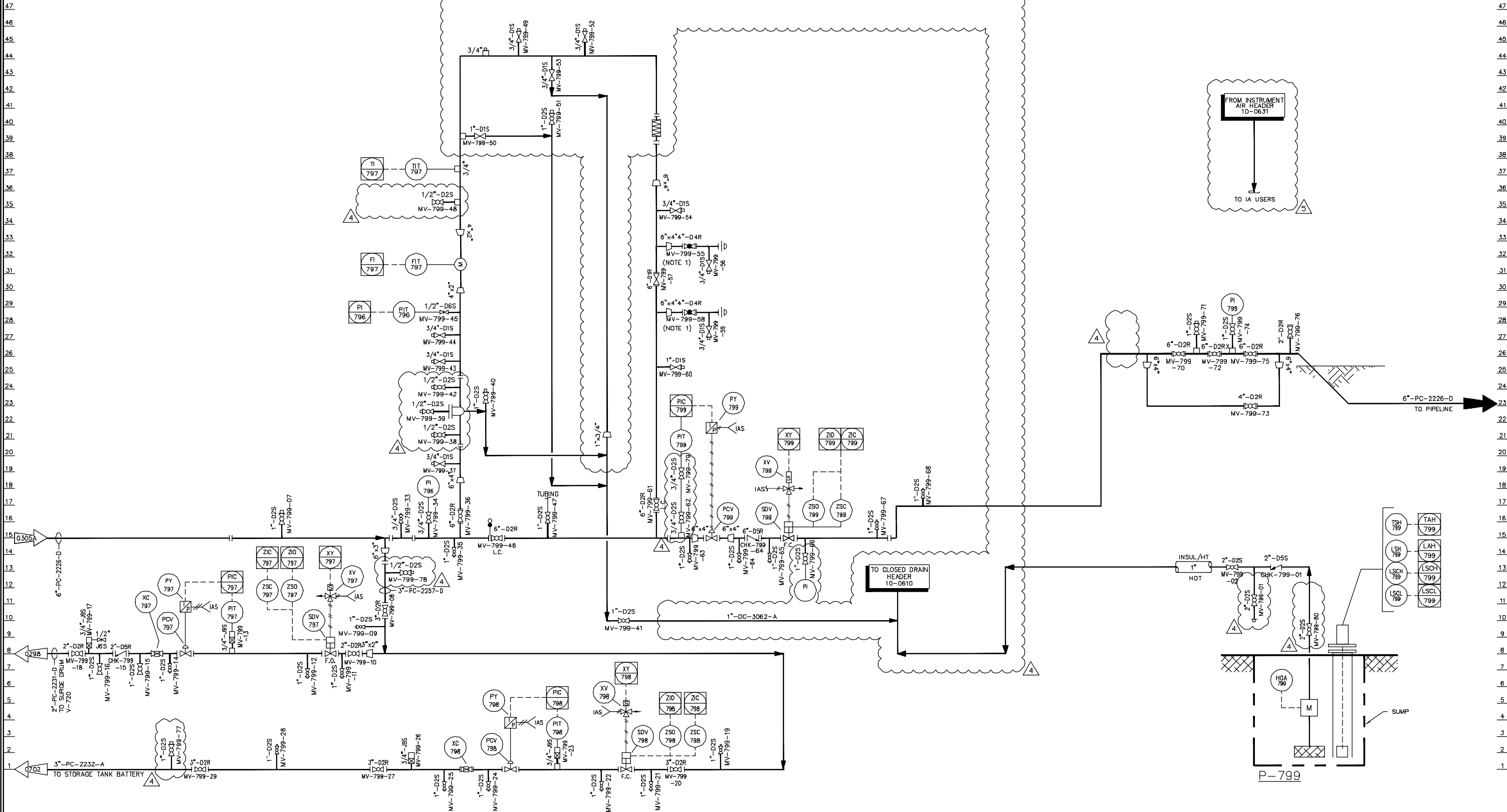
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5	AS-BUILT REDLINES	KBK	RCA	JMM	04/12/24							
4	REVISED PER PHA REDLINES	RCA	KBK	JMM	09/02/22							
3	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22							
2	AS BUILTS	BMS	KE	BMS	12/10/15							
1	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14							
0	CNX AS-BUILTS	PH	BS	AZ	06/21/13							

CONDENSATE MEASUREMENT SKID

ELITE MICROMOTION CORIOLIS METER
SIZE 2-INCH ANSI 600

BASKETT STRAINER
SIZE 3-INCH ANSI 600
MAWP = 1480 PSIG @ 100 DEGREES F
1480 PSIG @ 20 DEGREES F

KOMAX STATIC MIXER
SIZE 3-INCH ANSI 600



NOTES:

1. ORBIT VALVE.



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PROJECT PIT.22.7136

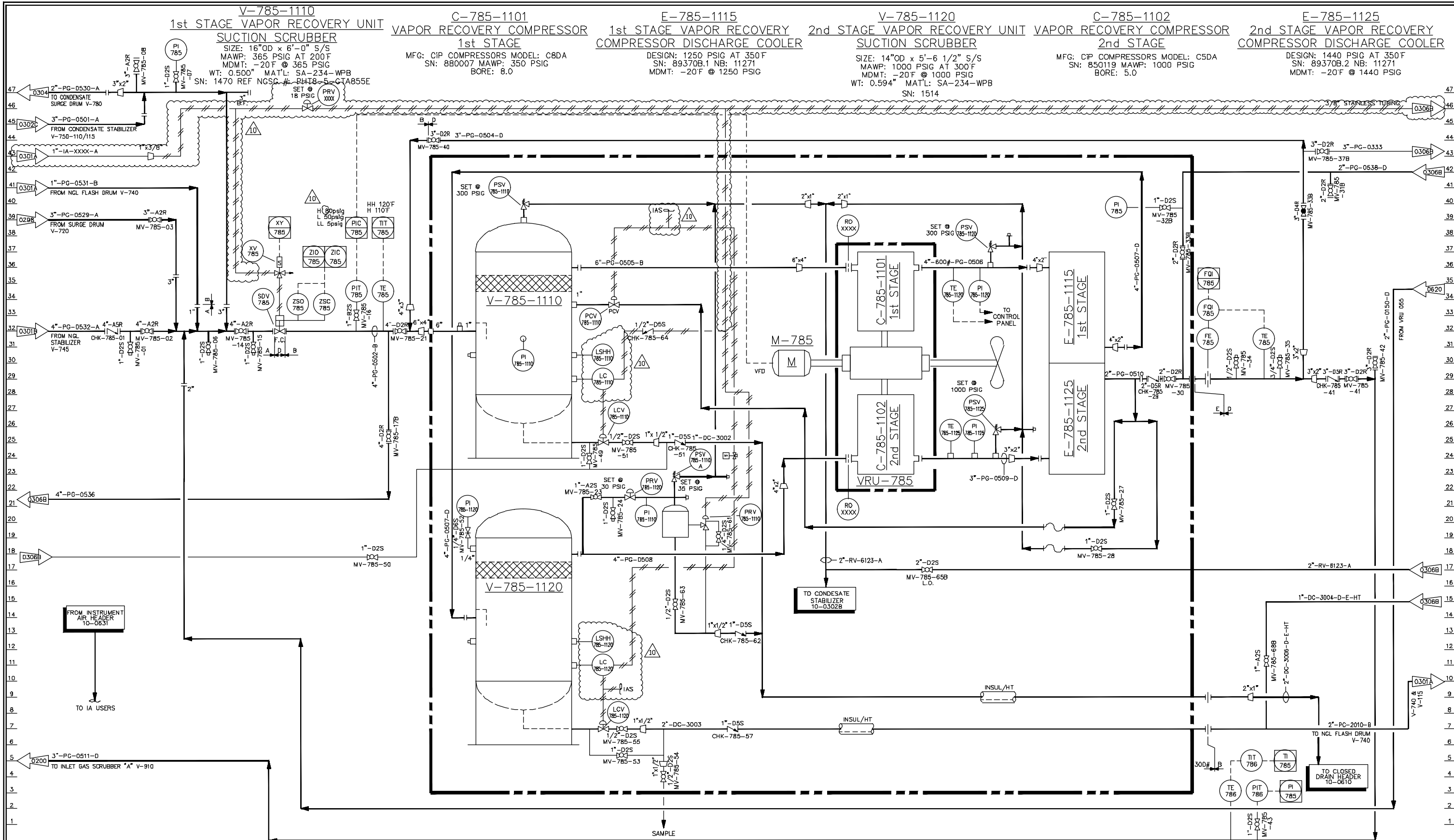
REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	AD
4	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22		
3	MOC #05172017	BMS	CB	BMS	7/12/17		
2	AS-BUILT DRAWING	RG	KE	BS	2/17/16		
1	REMOVED PRESSURE CONTROLLER SETPOINTS	SS	EH	JC	04/18/14		
0	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14		

CLIENT	—	—
APPROVED	JD	03/11/14
CHECKED	JC	03/11/14
DRAWN	AD	09/19/12



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

JOB NO. 009963.001 DWG. NO. MJV-CGP-10-0305B



NOTES:

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



PROJECT PIT.22.7136

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

VRU-785

10	AS-BUILT REDLINES	KBK	RCA	JMM	04/12/24
9	REVISED PER PHA REDLINES	RCA	KBK	JMM	08/02/22
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	04/06/15
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

CLIENT	-	-
APPROVED	-	-
CHECKED	-	-
DRAWN	LAF	02/09/12



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

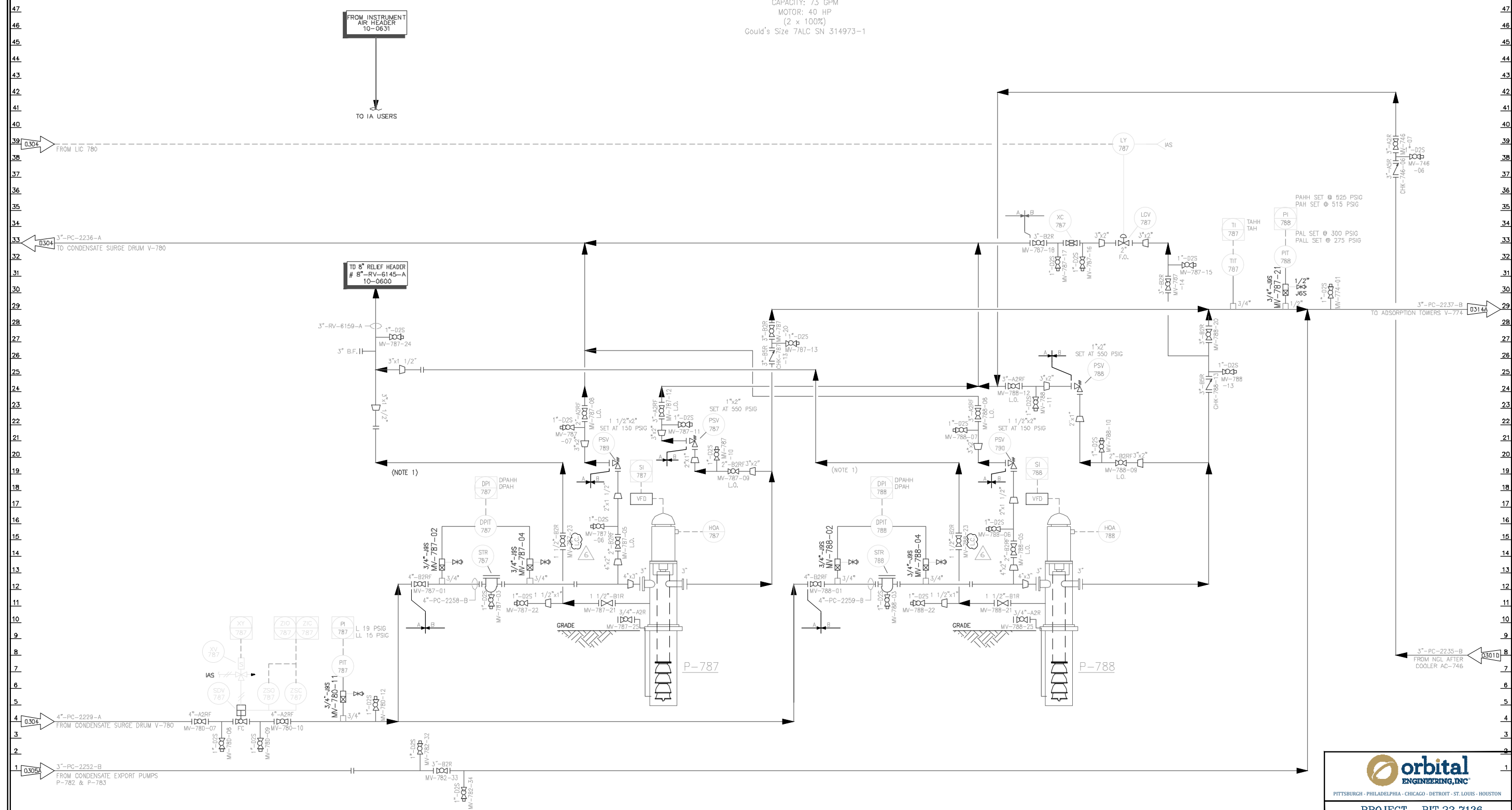
JOB NO. 009963.001 DWG. NO. MJV-CGP-10-0306



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[illegible]

P-787 & P-788
CONDENSATE EXPORT PUMPS No. 2
DESIGN (SUCTION): 150 PSIG @ 150' F
DESIGN (DISCHARGE): 721.5 PSIG @ 150' F
DISCHARGE PRESSURE: 485 PSIG
CAPACITY: 73 GPM
MOTOR: 40 HP
(2 x 100%)
Gould's Size 7ALC SN 314973-1



- NOTES:
- ANTI-CAVITATION VENT LINE SHOULD BE ROUTED SO THAT NO LIQUID POCKETS EXIST.
 - ALL INSTRUMENTS AND VALVES ON THIS P&ID ARE SPECIFIED BY AEC AND PURCHASED BY CONSOL.
 - THE VFDs FOR PUMPS P-787 AND P-788 WILL BE PROGRAMMED TO RAMP UP THE PUMPS TO FULL SPEED AT STARTUP.
 - SDV-787 MUST BE OPEN (ZSD-787 ACTIVE) TO START PUMP, P-787 OR P-788.



PROJECT PIT.22.7136



MARCELLUS SHALE DEVELOPMENT
MAJORSVILLE CGP
PIPING & INSTRUMENTATION DIAGRAM
CONDENSATE EXPORT PUMPS No. 2

REV.	DESCRIPTION	BY	CHK'D	APP'D	DATE	DRAWN	PH	03/11/14
6	AS-BUILT REDLINES	KBK	RCA	JMM	04/12/24			
5	REVISED PER PHA REDLINES	RCA	KBK	JMM	09/02/22			
4	AS-BUILT FOR PHA	RCA	KBK	JMM	04/01/22			
3	REVISED FOR PUMP P-787 & P-788 DATA	AZ	AZ		10/29/18			
2	REVISED FOR MOC 06302015A	CNH	KRE	BMS	08/25/15			
1	REVISED FOR MOC 10162014	KJR	KC	CB	04/08/15			
0	ISSUED FOR CONSTRUCTION	PH	JC	JD	03/11/14			

CLIENT	-	-
APPROVED	JD	03/11/14
CHECKED	JC	03/11/14

JOB NO.	Q09963.001	DWG. NO.	MJV-CGP-10-0312	DATE	03/11/14
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