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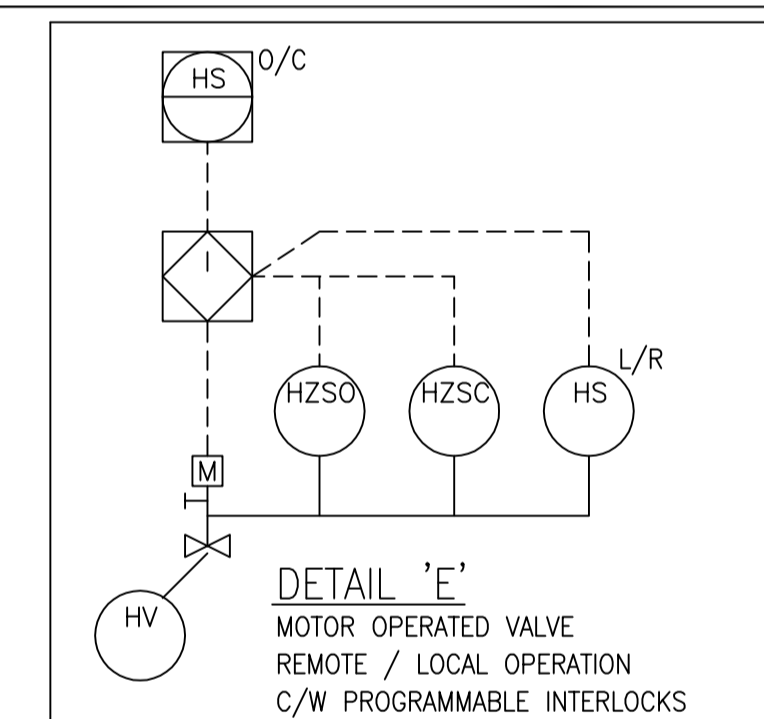
E-25006
SURFACE CONDENSER
 DESIGN DUTY: 215 MW
 DESIGN TEMP: - SHELLSIDE 150 °C
 - TUBESIDE 75 °C
 DESIGN PRESS: - SHELLSIDE 200 kPa(g)
 - TUBESIDE 800 kPa(g)
 INSULATION: NONE
 VESSEL TRIM: SAB/UAB

10	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV (MOC 11457)	GB	CC	LMF	KH	CV	-
9j	13 JUL 08	ISSUED FOR CONSTRUCTION (MOC 11457)	GB	KB	SL	KH	BB	-
9i	12 DEC 06	ISSUED FOR CONSTRUCTION (MOC 11457)	GB	KB	SL	KH	EM	-
REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
MOC 11457 - QUEST CCS PROJECT								REV 10

FOR MOC 11457 PROJECT USE ONLY
WORKING COPY OF MASTER DRAWING ASBUILT INFORMATION REQUIRED

- NOTES**
- ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBERS (IE: PG-250007).
 - FOR LEGENDS, SYMBOLS AND GENERAL NOTES SEE DRAWING 200.0000.000.041.001, 002, 005 & 006.
 - INTERCONNECTING DRAWING NUMBERS ARE SHOWN AS SHORTENED CONTINUATION OF THE P&ID NUMBER (IE: 285.0000.000.041.XXX).
 - PROVIDE PERMANENT STRAINER PER ESTG 3-1.03 APPENDIX A.
 - ONE PUMP IS PRIMARY AND THE OTHER TWO ARE ON AUTO STAND-BY. HIGH LEVEL WILL START STAND BY PUMPS.
 - BYPASS OF LV-008C IS FILL IN LINE FOR START UP. LIQUID LEVEL IN E-25006 HOT WELL IS MAINTAINED BY LC-008.
 - SPLIT RANGE BETWEEN LV-008A AND LV-008B.
 - LEVEL, PRESSURE, TEMPERATURE AND FLOW TRANSMITTERS AND TE'S SUPPLIED BY BANTREL EXCEPT WHEN INDICATED WITH VENDOR "ABB". TAG NUMBER.
 - FUTURE CONNECTION FOR STEAM SPARGING.
 - PIPED TO SAFE LOCATION.
 - LEVELS ARE FROM TURBINE CENTERLINE. TURBINE CENTERLINE ELEVATION IS +5000 mm FROM GRADE.
 - FOR FUTURE INSTALLATION OF ORIFICE PLATE AND SPACER AT THESE LOCATIONS.
 - FOR CHEMICAL INJECTION QUILL ASSEMBLY REFER TO DS-250-L-0001. LOCATE INJECTION QUILL IN VERTICAL POSITION AND PROVIDE STUB-IN REINFORCEMENT WITH GUSSETS.
 - FOR PUMP SEAL PLAN AND DRAINAGE DETAILS REFER TO AUXILIARY P&ID 250.0000.000.041.090.
 - PROVIDE SEPARATE INSTRUMENT AIR LATERALS.
 - AS PER P&ID AS-BUILT.
 - SPG PIPING SCOPE ADJACENT TO MOC PACKAGE 11457 DOES NOT CURRENTLY EXIST. VERIFY TIE-INS PRIOR TO INSTALLATION.
 - DELETED.

ISSUED FOR CONSTRUCTION
 21 Oct 2013



I & C: CTG 2001-08-17

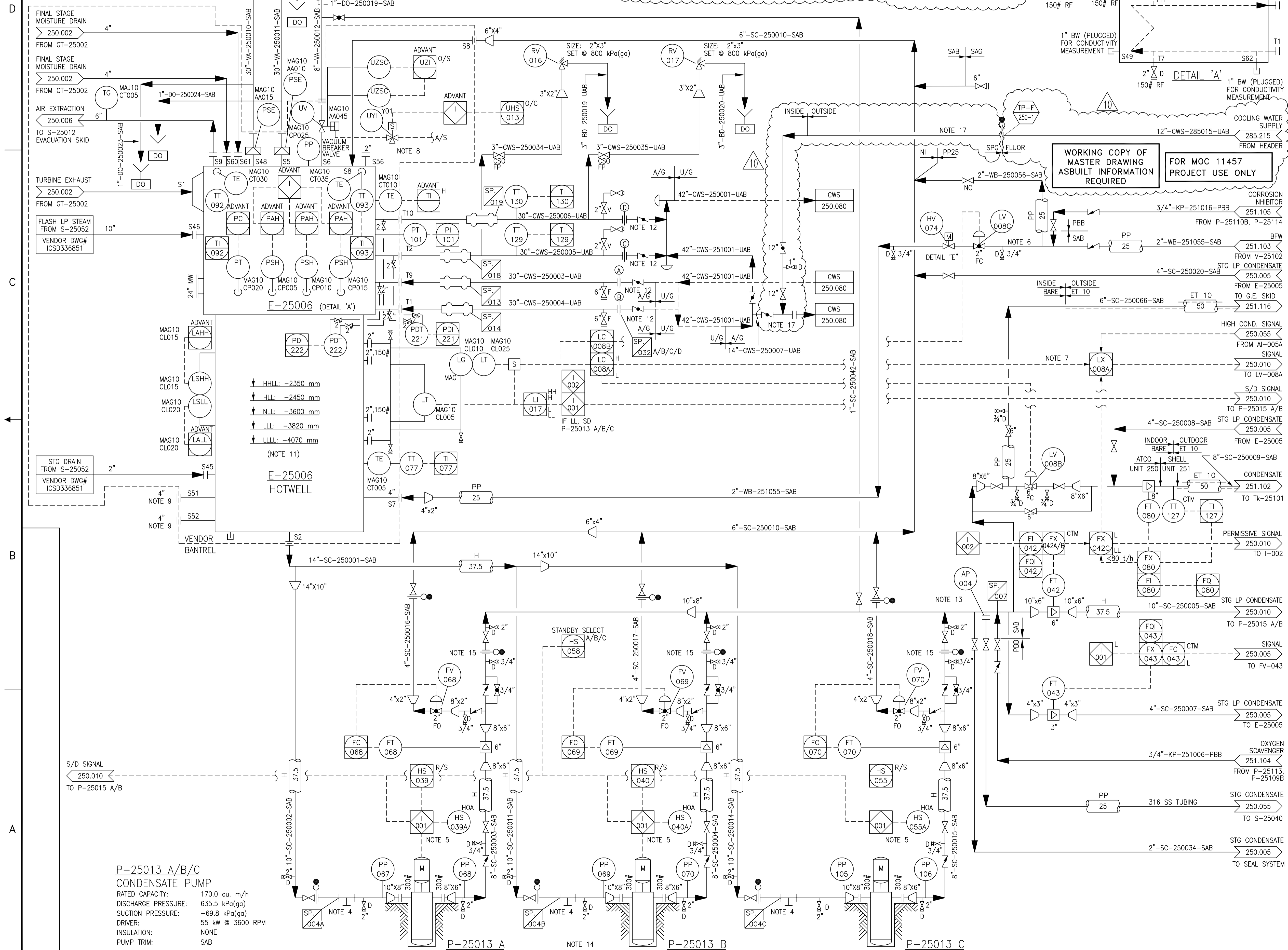
9	2010/11/18	CHANGE LIST 250.0000.000.041.009	DRS	RWM				
2	2002-02-27	ISSUED FOR AS-BUILT	JB	BY	-	SB		
1	2001-08-27	RE-ISSUED FOR CONSTRUCTION	MAC	DRG	JH	AC	VA	IM
0	2001-02-02	ISSUED FOR CONSTRUCTION	DG	ST	MK	BR	VA	IM
C	2000-11-06	ISSUED FOR DESIGN	AD	WK	LKA	AC	VA	IM
B	2000-09-28	ISSUED FOR APPROVAL	MVZ	WK	LKA	AC	VA	IM
A	2000-06-19	ISSUED FOR INFORMATION	AM	WK	BL	AC	VA	IM
REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP

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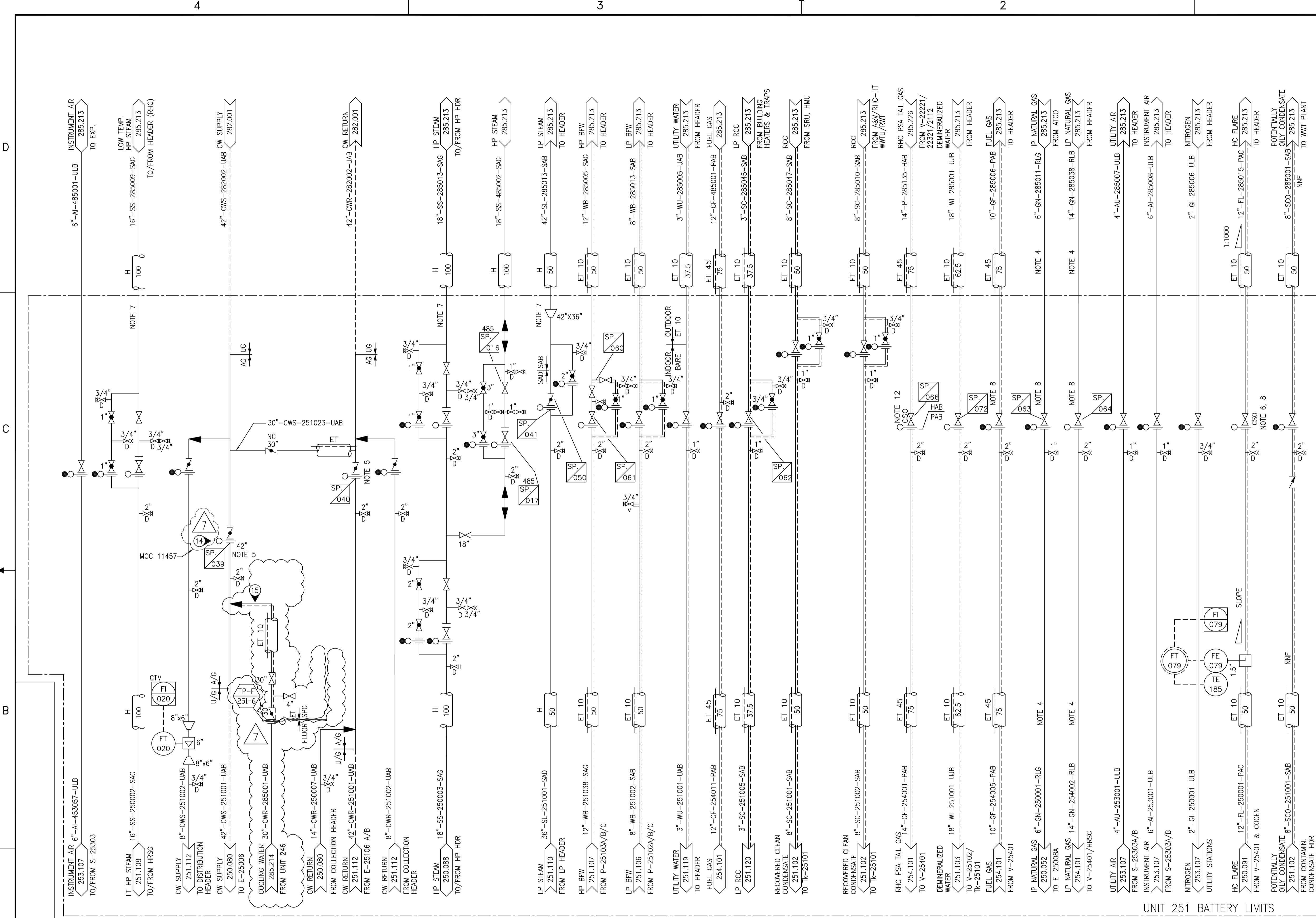
SHELL CANADA LTD.
ATHABASCA OIL SANDS
DOWNSTREAM PROJECT
 BANTREL CALGARY, ALBERTA Job No. 847

PIPING & INSTRUMENT FLOW DIAGRAM
UNIT 250-COGENERATION FACILITY
MAIN CONDENSATE PUMP SYSTEM

SCALE: NONE
 SHELL DWG NO.: 250.0000.000.041.009



P-25013 A/B/C
CONDENSATE PUMP
 RATED CAPACITY: 170.0 cu. m/h
 DISCHARGE PRESSURE: 635.5 kPa(ga)
 SUCTION PRESSURE: -69.8 kPa(ga)
 DRIVER: 55 kW @ 3600 RPM
 INSULATION: NONE
 PUMP TRIM: SAB



- NOTES**
- ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBERS (IE; PG-25007).
 - FOR LEGENDS, SYMBOLS AND GENERAL NOTES SEE DRAWING 200.0000.000.041.001, 002, 005 & 006.
 - INTERCONNECTING DRAWING NUMBERS ARE SHOWN AS A SHORTENED CONTINUATION OF THE P&ID NUMBER (IE; 285.0000.000.041.XXX).
 - ELECTRIC HEAT TRACE FOR BOOTS AND LOW POINT DRAINS ONLY.
 - VALVE STATION TO BE PROTECTED BY BOLLARDS.
 - B/L VALVE TO BE IN HORIZONTAL POSITION.
 - PROVIDE ADEQUATE TRAPS AND DRAINS.
 - SHUT OFF TIGHTNESS TO EXCEED API 598.
 - FOR FIRE WATER LINES, SEE DWG. NO.: 250.0000.000.041.057.
 - LOCATE VALVE APPROXIMATELY 1.5 m FROM BUILDING.
 - DELETED
 - PATH FROM RHC PSA'S TO V-25401 MUST BE CSO DUE TO UNDERSIZED RV'S IN RHC.
 - BATTERY LIMIT ISOLATION AT UNIT 246 B/L.
 - 42NPS BATTERY LIMIT VALVE TO BE PARTIALLY CLOSED, MANUALLY, TO ALLOW FLOW BALANCING INSIDE QUEST UNIT 246.
 - SPG PIPING SCOPE ADJACENT TO MOC PACKAGE 11457 DOES NOT CURRENTLY EXIST. VERIFY TIE-INS PRIOR TO INSTALLATION.

MOC 11457

1:1000

NOTE 6, 8

ISSUED FOR CONSTRUCTION
21 Oct 2013

MASTER DRAWING
AS BUILT
INFORMATION REQUIRED

I & C: T. GRUSENDORF 2002-01-28

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
6	2012-09-30	CHANGE LIST 251.0000.000.041.101	AS	EMD				
5	2007-11-20	CHANGE LIST 251.0000.000.041.101	XC	NC	PR	AJ		
3	2002-09-27	ISSUED FOR AS-BUILT	JB	BY	SB			
2	2002-01-28	RE-ISSUED FOR CONSTRUCTION	AM	KW	PM	JM		
1	2001-08-01	RE-ISSUED FOR CONSTRUCTION	DC	MS	DRG	AC		
0	2001-02-01	ISSUED FOR CONSTRUCTION	JUS	ST	JH			
B	2000-10-31	ISSUED FOR DESIGN	DS	DC	LKA	BK		
A	2000-09-19	ISSUED FOR APPROVAL	MVZ	FJ	LKA	BK		

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PERMIT NUMBER: P 3913
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DOWNSTREAM PROJECT

BANTREL CALGARY, ALBERTA Job No. 757

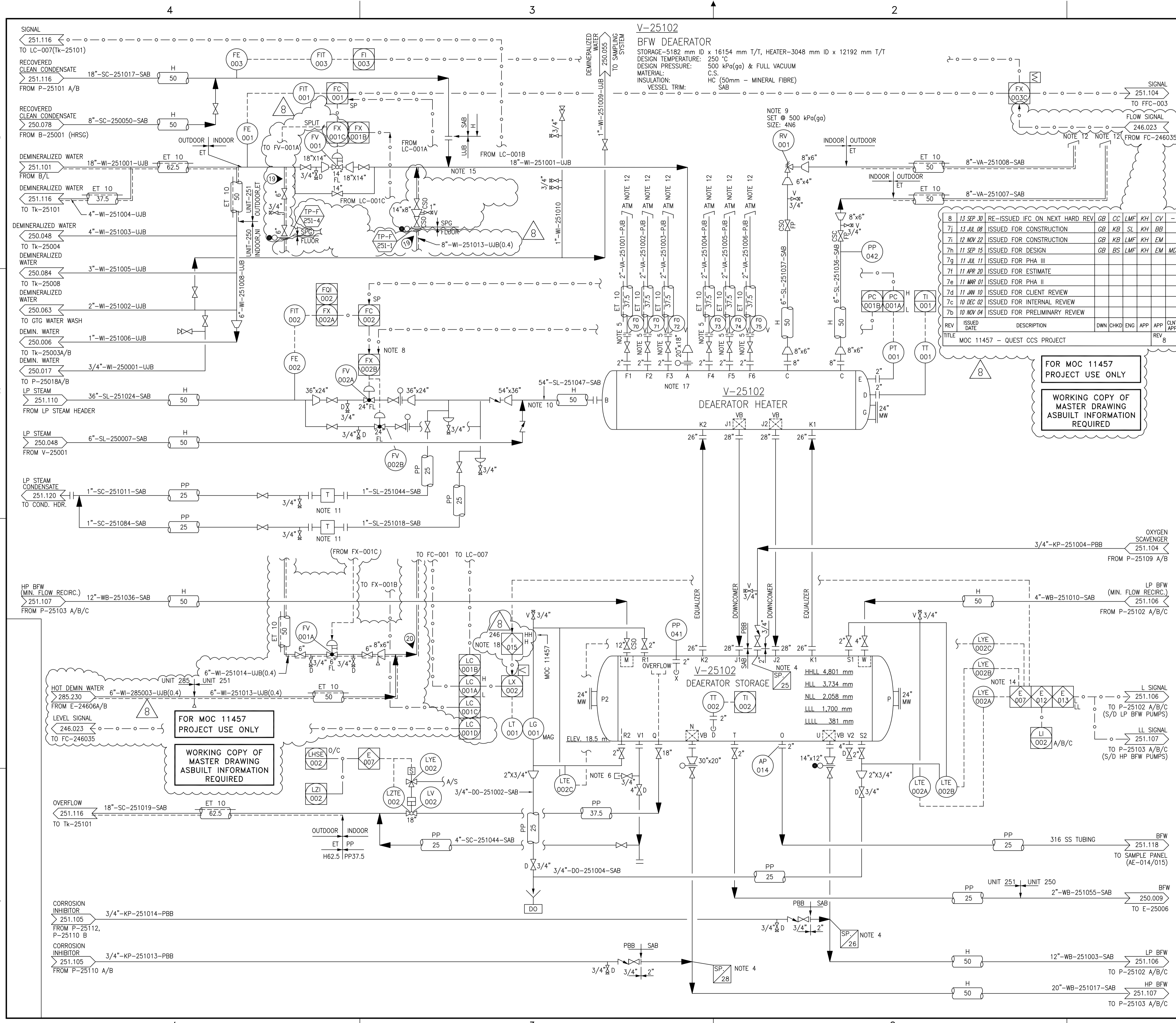
PIPING & INSTRUMENT FLOW DIAGRAM
UNIT 251- UTILITY PLANT
BATTERY LIMITS
QUEST TIE-INS

SCALE: NONE
SHELL DWG NO.: 251.0000.000.041.101

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
7	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
6i	12 NOV 15	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	
6h	11 SEP 15	ISSUED FOR DESIGN	GB	BS	LMF	KH	EM	MD
6g	11 JUL 11	ISSUED FOR PHA III						
6f	11 APR 20	ISSUED FOR ESTIMATE						
6e	11 MAR 01	ISSUED FOR PHA II						
6d	11 JAN 10	ISSUED FOR CLIENT REVIEW						
6c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						
6b	10 NOV 04	ISSUED FOR PRELIMINARY REVIEW						
TITLE	MOC 11457 - QUEST CCS PROJECT						REV 7	

FOR MOC 11457
PROJECT USE ONLY

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REQUIRED



V-25102 BFW DEAERATOR
 STORAGE-5182 mm ID x 16154 mm T/T, HEATER-3048 mm ID x 12192 mm T/T
 DESIGN TEMPERATURE: 250 °C
 DESIGN PRESSURE: 500 kPa(ga) & FULL VACUUM
 MATERIAL: C.S.
 INSULATION: HC (50mm - MINERAL FIBRE)
 VESSEL TRIM: SAB

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
8	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
7i	13 JUL 08	ISSUED FOR CONSTRUCTION	GB	KB	SL	KH	BB	-
7j	12 NOV 22	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
7h	11 SEP 15	ISSUED FOR DESIGN	GB	BS	LMF	KH	EM	MD
7g	11 JUL 11	ISSUED FOR PHA III						
7f	11 APR 20	ISSUED FOR ESTIMATE						
7e	11 MAR 01	ISSUED FOR PHA II						
7d	11 JAN 10	ISSUED FOR CLIENT REVIEW						
7c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						
7b	10 NOV 04	ISSUED FOR PRELIMINARY REVIEW						
TITLE		MOC 11457 - QUEST CCS PROJECT						

- NOTES**
- ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBERS (IE; PG-25007).
 - FOR LEGENDS, SYMBOLS AND GENERAL NOTES SEE DRAWING 200.0000.000.041.001, 002, 005 & 006.
 - INTERCONNECTING DRAWING NUMBERS ARE SHOWN AS SHORTENED CONTINUATION P&ID NUMBER (IE; 285.0000.000.041.XXX).
 - FOR CHEMICAL INJECTION QUILL ASSEMBLY REFER TO DS-251-L-001/002/004. LOCATE INJECTION QUILL IN VERTICAL POSITION AND PROVIDE STUB-IN REINFORCEMENT WITH GUSSETS.
 - ORIFICE PLATE SUPPLIED BY DEAERATOR VENDOR. A HORIZONTAL VENT RUN SHOULD BE STRAIGHT AND SLOPE BACK DOWN TOWARD THE D/A.
 - SAMPLE CONNECTION.
 - DELETED.
 - PC-001/FC-002 FORCED TO PRESSURE CONTROL WHEN TAKEN OUT CASCADE MODE.
 - SET PRESSURE ALSO LIMITS SHUT OFF HEAD OF HP BFW PUMPS.
 - MAINTAIN 6.0 m CLEAR LENGTH UPSTREAM OF HEATER FOR FUTURE SKYVALVE CONTINGENCY.
 - DETAILS OF THE DRIP LEG HOOK-UP AND STEAM TRAP PER ESTG 3-1.01, APPENDIX A (STEAM TRAP BY PIPING).
 - VENT TO SAFE LOCATION.
 - DELETED.
 - HH AND LL TRIPS ON 2003 VOTING. TRIP LP BFW PUMPS AT LLL, TRIP HP BFW PUMPS AT LLLL.
 - PROVIDE MIN 5XNPS STRAIGHT LINE BETWEEN MIX POINT AND DEAERATOR NOZZLE "A".
 - PROVIDE INDIVIDUAL INSTRUMENT AIR LATERALS FOR FV-001 AND FV-002.
 - NOZZLES "A" & "F" TO BE C.S. WITH S.S. LINERS INSTALLED AFTER PMWT.
 - SEE DRAWING 246.0000.000.041.023 FOR INTERLOCK ACTIONS.
 - SPG TO PROVIDE INSULATION AND EHT TO THEIR TIE-IN SCOPE.
 - MIXPOINT : HOT DEMIN WATER + COLD DEMIN WATER. Δ IS 62 °C. MIXING TEE IS NOT REQUIRED.
 - BLIND VENT TO BE SUPPLIED BY SPG.
 - SPG PIPING SCOPE ADJACENT TO MOC PACKAGE 11457 DOES NOT CURRENTLY EXIST. VERIFY TIE-INS PRIOR TO INSTALLATION.

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
7	2002/09/07	CHANGE LIST 251.0000.000.041.103	JAM	MK				
6	2005-01-05	CHANGE LIST 251.0000.000.041.103	TF					
2	2002-08-27	ISSUED FOR AS-BUILT	JB	BY				
1	2001-08-10	RE-ISSUED FOR CONSTRUCTION	DC	MP	NK	AC		
0	2001-02-02	ISSUED FOR CONSTRUCTION	DC	LV	NK			
B	2001/11/03	ISSUED FOR DESIGN	MVZ	LKA	BK			
A	2000-09-19	ISSUED FOR APPROVAL	MAC	LKA	BK			

I & C: CTG 2001-08-02

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
7	2002/09/07	CHANGE LIST 251.0000.000.041.103	JAM	MK				
6	2005-01-05	CHANGE LIST 251.0000.000.041.103	TF					
2	2002-08-27	ISSUED FOR AS-BUILT	JB	BY				
1	2001-08-10	RE-ISSUED FOR CONSTRUCTION	DC	MP	NK	AC		
0	2001-02-02	ISSUED FOR CONSTRUCTION	DC	LV	NK			
B	2001/11/03	ISSUED FOR DESIGN	MVZ	LKA	BK			
A	2000-09-19	ISSUED FOR APPROVAL	MAC	LKA	BK			

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 The Association of Professional Engineers, Geologists and Geophysicists of Alberta

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 DOWNSTREAM PROJECT

BANTREL CALGARY, ALBERTA Job No. 757

PIPING & INSTRUMENT FLOW DIAGRAM
 UNIT 251 - UTILITY PLANT
 DEAERATOR SYSTEM
 QUEST TIE-INS

SCALE: NONE
 SHELL DWG NO.: 251.0000.000.041.103

4

3

2

1

D

D

C

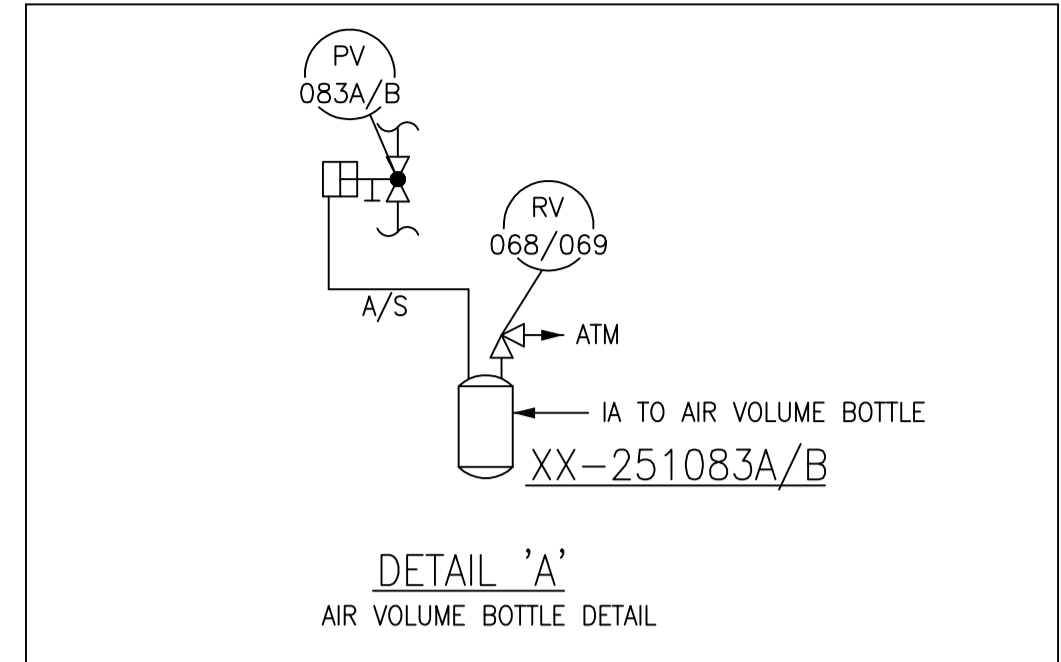
C

B

B

A

A



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8	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
7	12 NOV 22	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
		ISSUED	DWN	CHKD	ENG	APP	CLNT APP	REV 8

MOC 11457 - QUEST CCS PROJECT

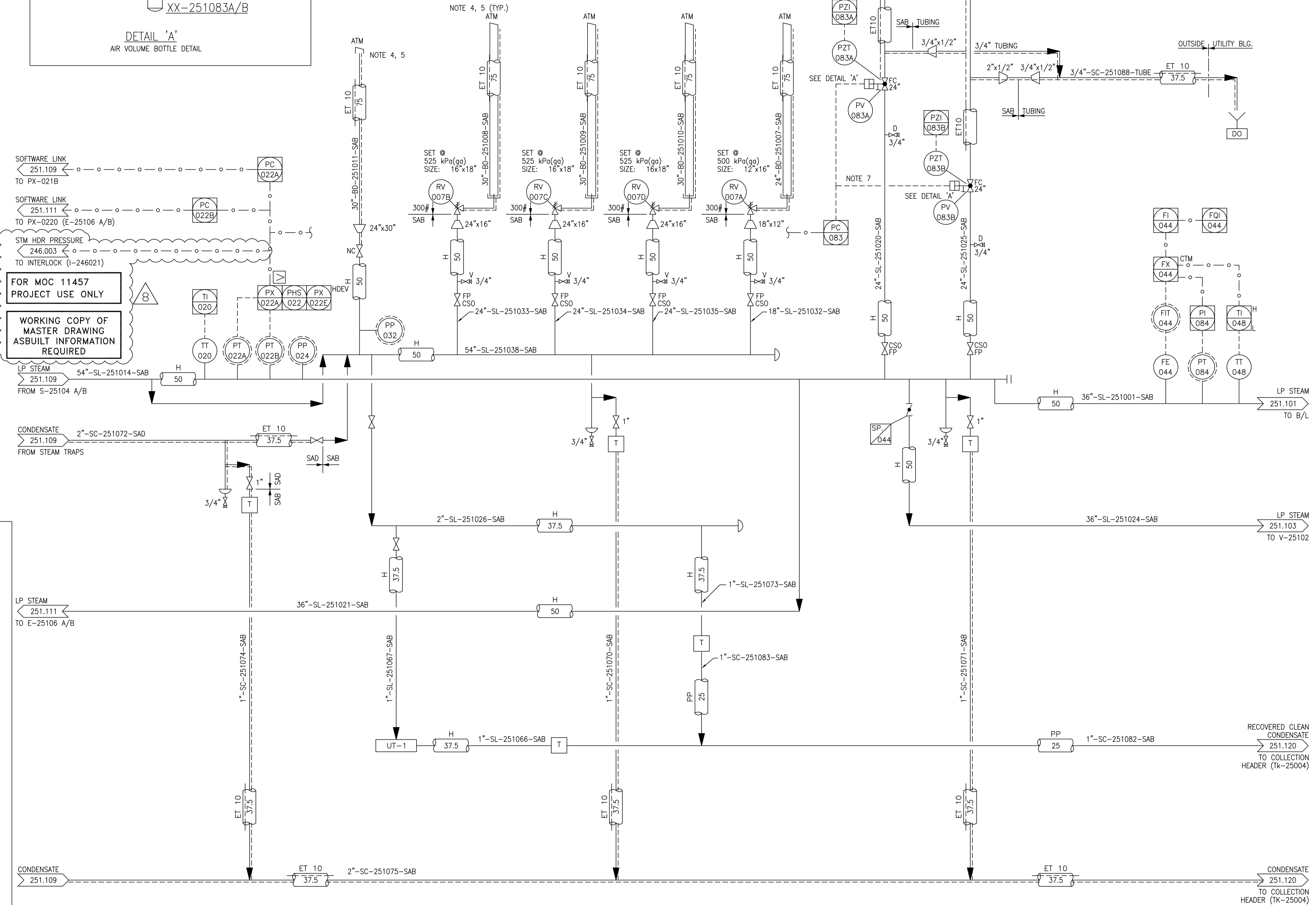
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S-25101A STEAM VENT SILENCER
 DESIGN FLOW RATE: 120,000 kg/hr (MAX)
 DESIGN RATE PRESS: 375 kPa(g)
 DESIGN OUTLET PRESS: 101 kPa(g)
 DESIGN TEMP: 160°C
 MATERIAL: CS

S-25101B STEAM VENT SILENCER
 DESIGN FLOW RATE: 120,000 kg/hr (MAX)
 DESIGN RATE PRESS: 375 kPa(g)
 DESIGN OUTLET PRESS: 101 kPa(g)
 DESIGN TEMP: 160°C
 MATERIAL: CS

- NOTES**
- ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBERS (IE; PG-251007), UNLESS OTHERWISE SHOWN.
 - FOR LEGENDS, SYMBOLS AND GENERAL NOTES SEE DRAWING 200.0000.000.041.001, 002, 005 & 006.
 - INTERCONNECTING DRAWING NUMBERS ARE SHOWN AS A SHORTENED CONTINUATION P&ID NUMBER (IE; 285.0000.000.041.XXX).
 - VENT TO SAFE LOCATION.
 - PROVIDE 10mm DRAIN HOLE AT LOW POINT OF PIPE.
 - THIS P&ID WAS PREVIOUSLY ISSUED AS 250.0000.000.041.036 REV. A. THIS DRAWING IS REVISED AS SHOWN AND PREVIOUS DOCUMENT SIMULTANEOUSLY ISSUED FOR CANCELLATION.
 - PV-251083A/B ARE SPLIT RANGED.
 - INSULATE (50 H) AND ELCTRIC TRACE (ET 10) FROM FLANGE D/S OF PV083A/B TO 150mm ABOVE THE BOTTOM TAN LINE OF THE SILENCER.



ISSUED FOR CONSTRUCTION
 21 Oct 2013

MASTER DRAWING
 AS BUILT
 INFORMATION REQUIRED

I & C: T. GRUSENDORF 2002-01-28

7	2001-10-10	CHANGE LIST 251.0000.000.041.110	KT	QA	-	-	-	-
3	2002-09-27	ISSUED FOR AS-BUILT	JB	BY	SB			
2	2002-01-28	RE-ISSUED FOR CONSTRUCTION	AM	KW	PM	JM		
1	2001-07-05	RE-ISSUED FOR CONSTRUCTION	MAC	NK	LKA	AC	VA	BK
0	2001-02-01	ISSUED FOR CONSTRUCTION	DG	LV	AK	AC	VA	BK
B	2000-11-02	ISSUED FOR DESIGN	MAC	BY	LKA	AC	VA	BK
A	2000-09-19	ISSUED FOR APPROVAL	AM	BY	LKA	AC	VA	BK

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 DOWNSTREAM PROJECT

BANTREL CALGARY, ALBERTA Job No. 757

PIPING & INSTRUMENT FLOW DIAGRAM
 UNIT 251 - UTILITY PLANT
 LP STEAM HEADER SYSTEM

SCALE: NONE
 SHELL DWG NO.: 251.0000.000.041.110

4

3

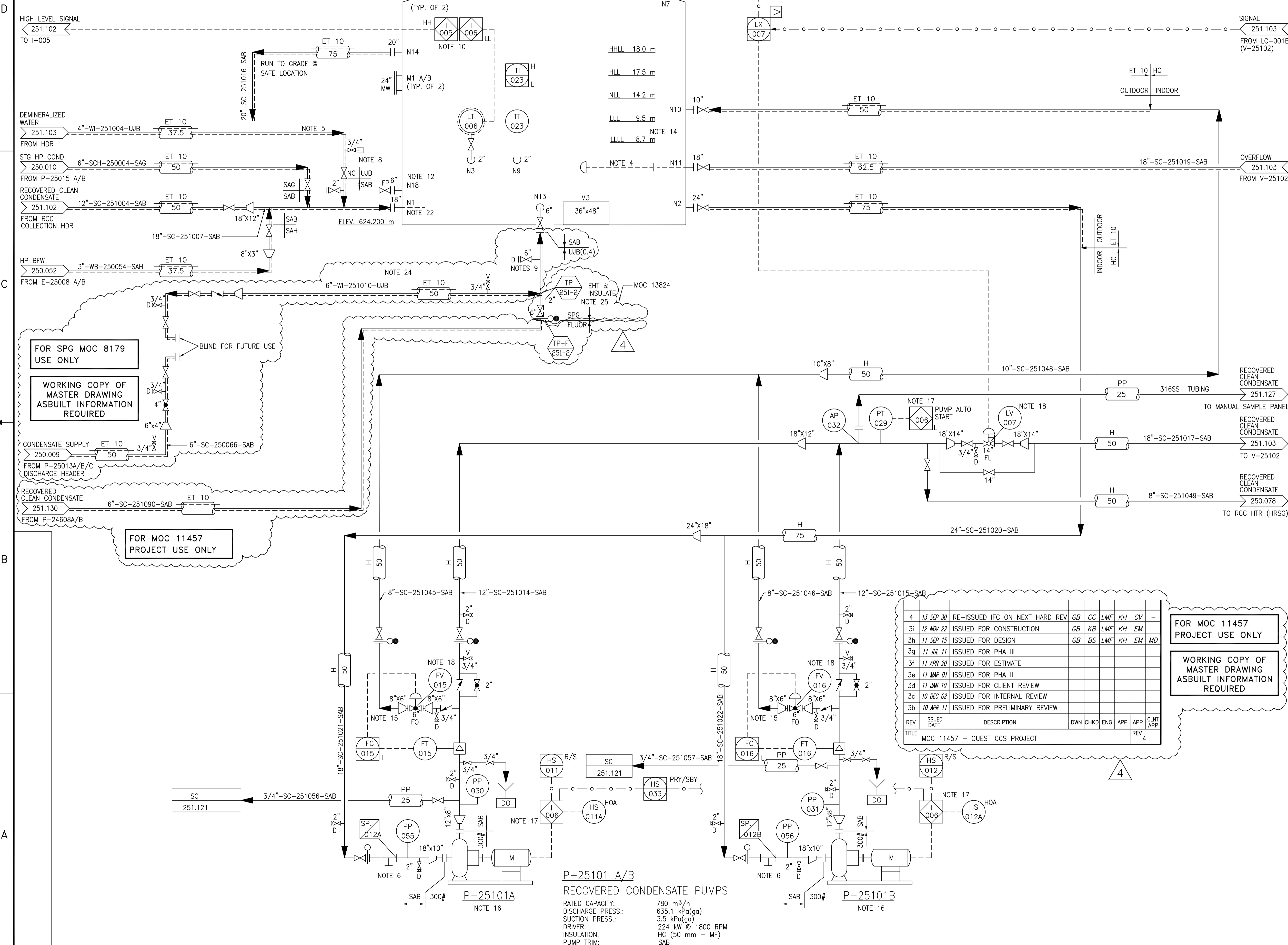
2

1

251.0000.000.041.110.DWG

Tk-25101
RECOVERED CONDENSATE TANK

21,000 mm ID x 19,500 mm High (MAX)
 NOMINAL CAPACITY: 6,754 m³ NOTE 11
 DESIGN PRESS.: ±0.25 kPa(ga)
 DESIGN TEMP.: 127 °C
 INTERNALS: INTERNAL LINING - PIPING AS SHOWN
 TANK TRIM: SAB
 INSULATION: HC (50 mm - MF, SHELL ONLY)



- NOTES**
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 - FOR LEGENDS, SYMBOLS AND GENERAL NOTES, SEE DRAWING 200.0000.000.041.001, 002, 005 & 006.
 - INTERCONNECTING DRAWING NUMBERS ARE SHOWN AS A SHORTENED CONTINUATION P&ID NUMBER (IE; 251.0000.000.041.XXX).
 - SLOTTED PIPE DIFFUSER (DETAILS PER TANK MECHANICAL DESIGN).
 - START-UP TIE-IN FROM DEMINERALIZED WATER HEADER.
 - PROVIDE PERMANENT STRAINER PER ESTG 3-1.03 APPENDIX A.
 - DELETED.
 - SAMPLE CONNECTION.
 - TANK LOW POINT DRAIN. (FLEX HOSE TO DITCH).
 - DUMP INCOMING CONDENSATE FLOW FROM HMU LINE ON HH LEVEL. TRIP P-25101 A/B ON LL LEVEL.
 - Tk-25101 WORKING CAPACITY IS 2770 m³, BASED ON ALARM POINTS HLL & LLL.
 - SPARE NOZZLE PROVIDED FOR FUTURE STEAM HEATING CONNECTION.
 - DELETED.
 - LLLL BASED ON NPSH-R FOR SELECTED PUMPS P-25101 A/B (NPSH-R AT RATED FLOW 6.2m).
 - PROVIDE MIN. 5X NPS STRAIGHT LINE DOWNSTREAM OF FV-015/016.
 - FOR PUMP SEAL PLAN AND DRAINAGE DETAILS REFER TO AUXILIARY P&ID NO.: 251.0000.000.041.121, DETAIL "B".
 - PROVIDE SPARE PUMP AUTO START AT LOW PRESSURE.
 - PROVIDE INDIVIDUAL INSTRUMENT AIR LATERALS FOR LV-007, FV-015 AND FV-016.
 - DELETED
 - ROOF MANHOLE WITH EMERGENCY TANK VENT/HATCH. (TYPICAL OF FIVE)
 - ROOF MUSHROOM VENT (NORMAL VENT).
 - INTERNAL 45° ELBOW (DETAILS PER TANK MECHANICAL DESIGN).
 - AS BUILT INFO REQUIRED, AND NOZZLE N13 TO BE SHOWN AS NORMALLY OPEN.
 - DRAWING IS NOT "AS-BUILT" AND MAY BE DIFFERENT THAN IS CURRENTLY SHOWN.
 - SPG PIPING SCOPE ADJACENT TO MOC PACKAGE 11457 DOES NOT CURRENTLY EXIST. VERIFY TIE-INS PRIOR TO INSTALLATION.

MASTER DRAWING
AS BUILT
INFORMATION REQUIRED

ISSUED FOR CONSTRUCTION
21 Oct 2013

I & C: CTG 2001-06-14

FOR MOC 11457 PROJECT USE ONLY

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
4	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
3i	12 NOV 22	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
3h	11 SEP 15	ISSUED FOR DESIGN	GB	BS	LMF	KH	EM	MD
3g	11 JUL 11	ISSUED FOR PHA III						
3f	11 APR 20	ISSUED FOR ESTIMATE						
3e	11 MAR 01	ISSUED FOR PHA II						
3d	11 JAN 10	ISSUED FOR CLIENT REVIEW						
3c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						
3b	10 APR 11	ISSUED FOR PRELIMINARY REVIEW						

TITLE: MOC 11457 - QUEST CCS PROJECT

P-25101 A/B
RECOVERED CONDENSATE PUMPS

RATED CAPACITY: 780 m³/h
 DISCHARGE PRESS.: 635.1 kPa(ga)
 SUCTION PRESS.: 3.5 kPa(ga)
 DRIVER: 224 kW @ 1800 RPM
 INSULATION: HC (50 mm - MF)
 PUMP TRIM: SAB

"THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DOCUMENT HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."

BANTREL Inc.
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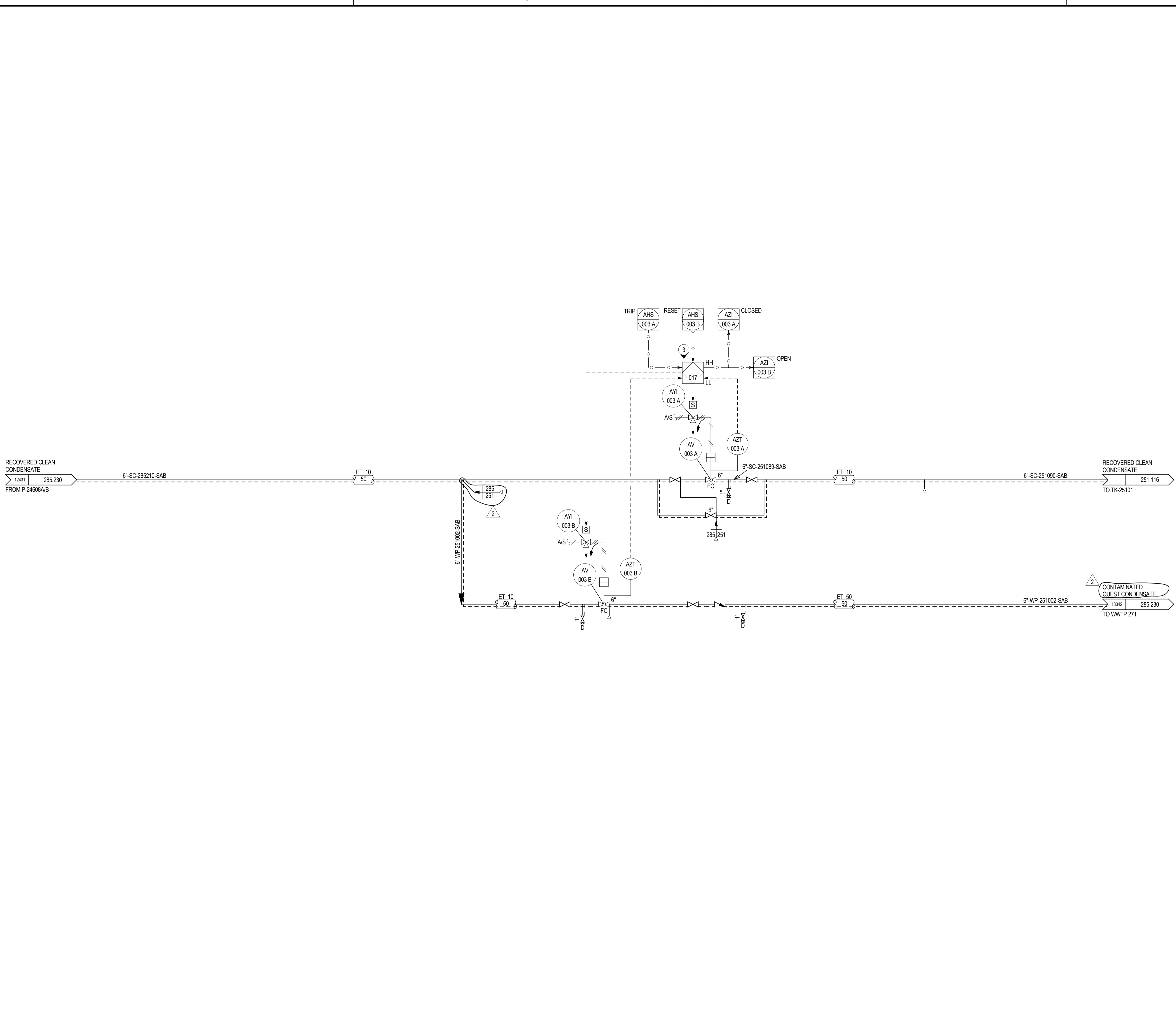
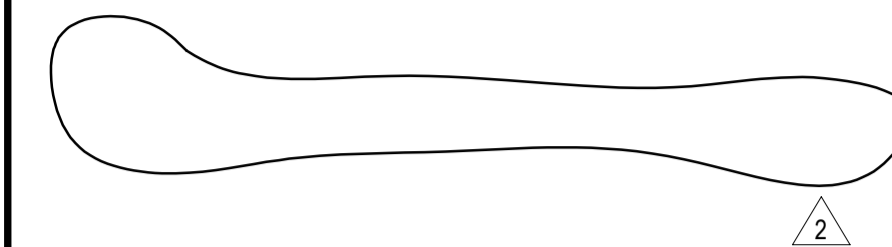
BANTREL Inc. CALGARY, ALBERTA Job No. 757

PIPING & INSTRUMENT FLOW DIAGRAM
UNIT 251-UTILITY PLANT
RECOVERED CLEAN CONDENSATE SYSTEM
(SHEET 2 OF 2) QUEST TIE-INS

SCALE: NONE
SHELL DWG NO.: 251.0000.000.041.116


NOTES:

- 1. SEE DRAWINGS 200.0000.000.041.007 THRU 016 FOR SYMBOL IDENTIFICATION GENERAL NOTES & CONNECTION DETAILS.
- 2. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "251" UNLESS OTHERWISE STATED.
- 3. FOR INTERLOCK ACTIONS, REFER TO UNIT 246 CAUSE & EFFECT DRAWING 246.0000.000.047.601. FOR ASSOCIATED ANALYZERS, REFER TO DRAWING 246.0000.000.041.021.



FLUOR
IFC – Issued for Construction
Jul 30, 2013

2	07/08/13	ISSUED FOR CONSTRUCTION	GB	KB	KH	SL	-	-	-	BB	-
1	10/31/12	ISSUED FOR CONSTRUCTION	GB	KB	KH	SL	-	-	-	EM	-
0	09/15/11	ISSUED FOR DESIGN	GB	SJ	KH	LMF				EM	MD
G	07/11/11	ISSUED FOR PHA III									
F	04/20/11	ISSUED FOR ESTIMATE									
REV	DATE	DESCRIPTION	BY	CKD	PRS	CS	PDP	MC	APE	PEM	CLIENT APP



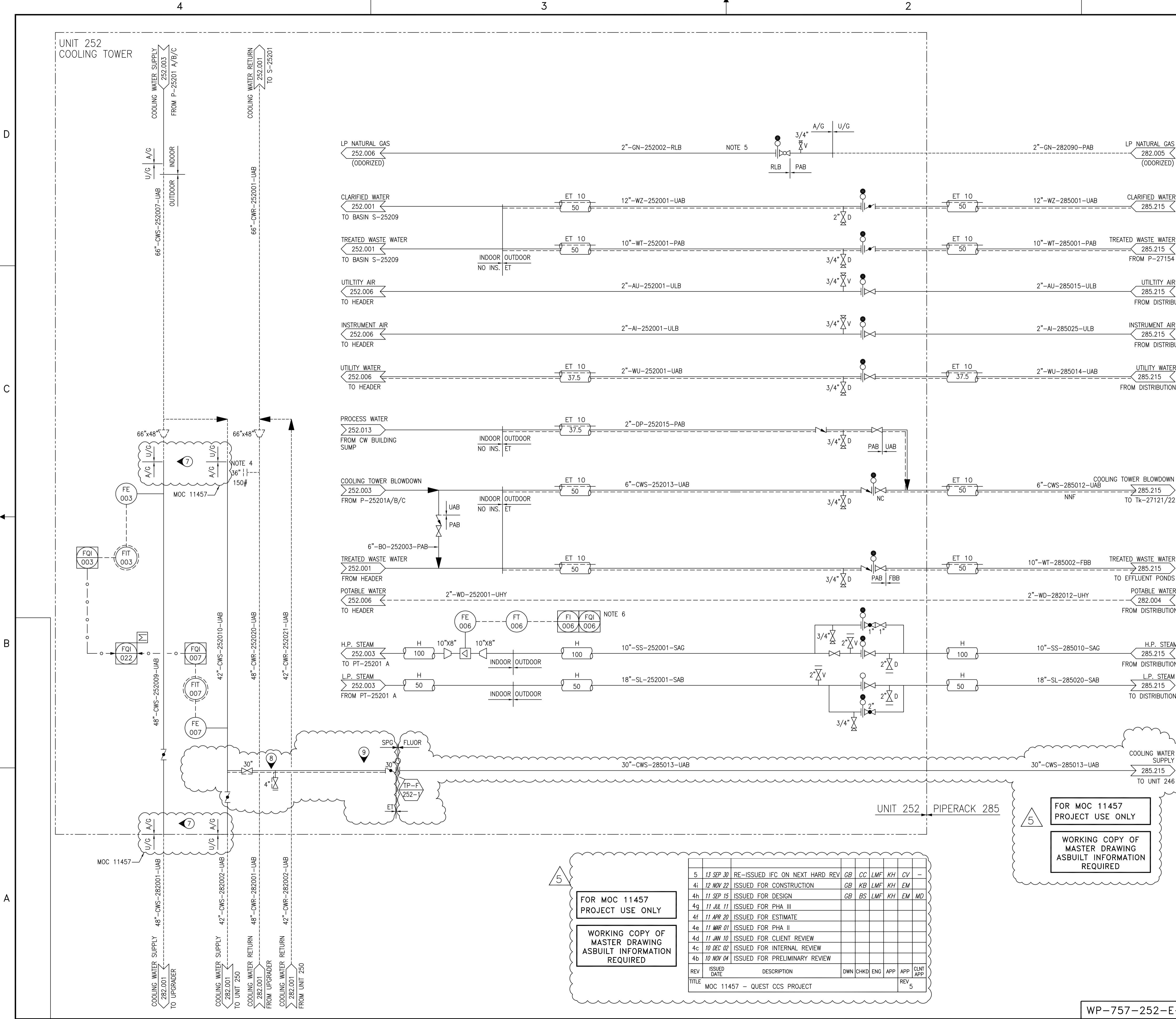
SHELL CANADA
QUEST CCS PROJECT

FLUOR[®]

PIPING AND INSTRUMENT DIAGRAM
QUEST CCS PROJECT
UNIT 251 - UTILITY PLANT
QUEST RECOVERED CLEAN CONDENSATE SYSTEM

SCALE: NONE
 SHELL DWG NO.: 251.0000.000.041.130
 REV. 2

UNIT 252
COOLING TOWER



- NOTES**
- INTERCONNECTING DRAWING NUMBERS ARE A SHORTENED CONTINUATION P&ID NUMBER.
 - FOR LEGEND, SYMBOLS, AND GENERAL NOTES SEE DWG 200.0000.000.041.001, 002, 005 & 006.
 - ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBERS (EX. LT-252XXX).
 - CONNECTION FOR FOLDING PLUGGER TO BE USED DURING CT RINSE CYCLE.
 - INSULATION FLANGE KIT.
 - INCORPORATE H.P. STEAM HEADER PRESSURE AND TEMPERATURE FOR FLOW COMPENSATION CALCULATION OF FT-252006.
 - AS BUILT INFO REQUIRED.
 - SPG TO PROVIDE INSULATION AND EHT FOR THEIR TIE-IN SCOPE.
 - SPG SCOPE ADJACENT TO MOC PACKAGE 11457 DOES NOT CURRENTLY EXIST. VERIFY TIE-INS PRIOR TO INSTALLATION.

DETAILS

REFERENCE DRAWINGS

ISSUED FOR CONSTRUCTION
21 Oct 2013

CONTROL SYSTEMS: C. POON 2001-08-02

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
5	2002-09-27	ISSUED FOR AS-BUILT	MK	BY	-	SB		
2	2001-08-04	RE-ISSUED FOR CONSTRUCTION	DG	VP	CK	AC	JK	MD
1	2001-04-12	RE-ISSUED FOR CONSTRUCTION	DG	AS	BWP	AC	JK	MD
0	2000-11-15	ISSUED FOR CONSTRUCTION	AD	BWP	SB	AC	DWC	DAD
E	2000-07-13	ISSUED FOR DESIGN - POST HAZOP	MZ	BWP	SB	DGD	BK	DD
D	2000-03-30	RE-ISSUED FOR APPROVAL	JS	BP	SB	DD	BK	
C	1999-12-09	ISSUED FOR APPROVAL	ABS	KL	SB	KV	BK	
B	1999-06-18	ISSUED FOR ESTIMATE	NS	SB	KV	KL	BK	
A	2003-02-20	CHANGE LIST 252.0000.000.041.005	MXS	PPL				GS

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SHELL CANADA LTD.
ATHABASCA OIL SANDS
DOWNSTREAM PROJECT

BANTREL CALGARY, ALBERTA Job No. 757

PLANT 252
PIPING & INSTRUMENT FLOW DIAGRAM
COOLING TOWER BATTERY LIMIT
QUEST TIE-INS

SCALE: NONE
SHELL DWG NO.: 252.0000.000.041.005
REV. 4

FOR MOC 11457 PROJECT USE ONLY

WORKING COPY OF MASTER DRAWING ASBUILT INFORMATION REQUIRED

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
5	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
4i	12 NOV 22	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	
4h	11 SEP 15	ISSUED FOR DESIGN	GB	BS	LMF	KH	EM	MD
4g	11 JUL 11	ISSUED FOR PHA III						
4f	11 APR 20	ISSUED FOR PHA II						
4e	11 MAR 01	ISSUED FOR PHA I						
4d	11 JAN 10	ISSUED FOR CLIENT REVIEW						
4c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						
4b	10 NOV 04	ISSUED FOR PRELIMINARY REVIEW						

TITLE: MOC 11457 - QUEST CCS PROJECT
REV: 5

FOR MOC 11457 PROJECT USE ONLY

WORKING COPY OF MASTER DRAWING ASBUILT INFORMATION REQUIRED

WP-757-252-E-02