

NOTES

1. SYMBOLOLOGY SETS TO BE REVISED TO CLIENT STANDARD
2. ISOLATION WITHIN BOILER PACKAGE
3. ISOLATION AT TERMINATION POINTS BY VENATOR
4. BOILER HMI/COMMON CONTROL SYSTEM
5. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 1
6. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 3
7. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 5
8. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 7
9. HORIZONTAL MAGNETIC FLOWMETER WITH 3" FLANGED RF PROCESS CONNECTION.
10. DRAWING PREVIOUSLY ISSUED AS 17202108-8110-25-1601 S1

Unchecked

HOLDS.

1. DELETED
2. LINE SIZE TO BE CONFIRMED BY VENDOR
3. DELETED
4. HAZOP ACTIONS PENDING APPROVAL MAY APPLY TO THIS DRAWING

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S2	16/4/18	ISSUED FOR CONSTRUCTION	SG	JW	JW
S1	27/3/19	ISSUED FOR CONSTRUCTION	SG	JW	JW
A1	18/10/18	ISSUED FOR DESIGN	AR	JW	JW
H1	21/9/18	ISSUED FOR HAZOP	JW	NS	JW
O1	2/8/18	PRELIMINARY	JW	NS	JW
REV	DATE	DESCRIPTION	DRN	CHK'D	APP'D



PROJECT No: 17202108

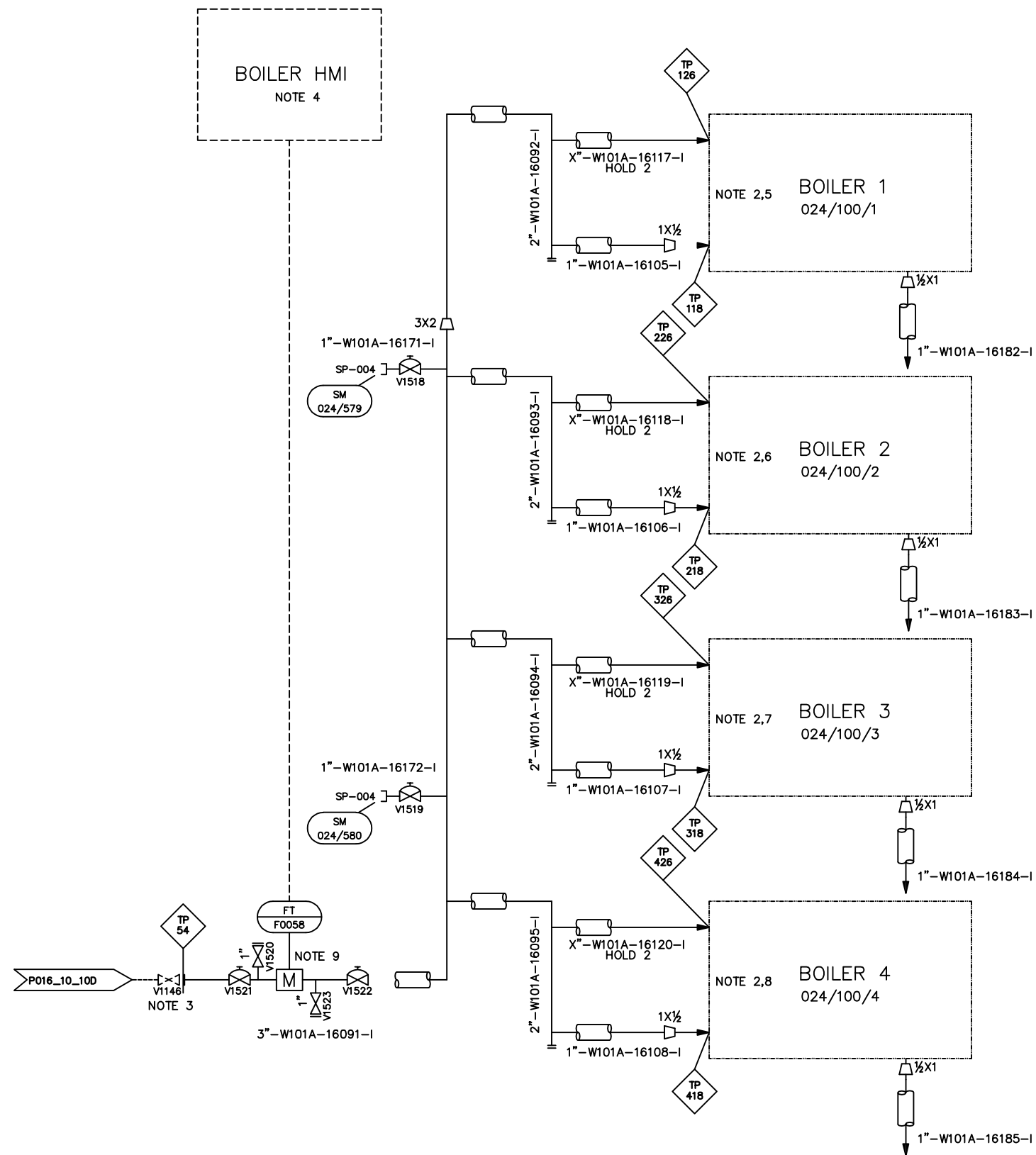
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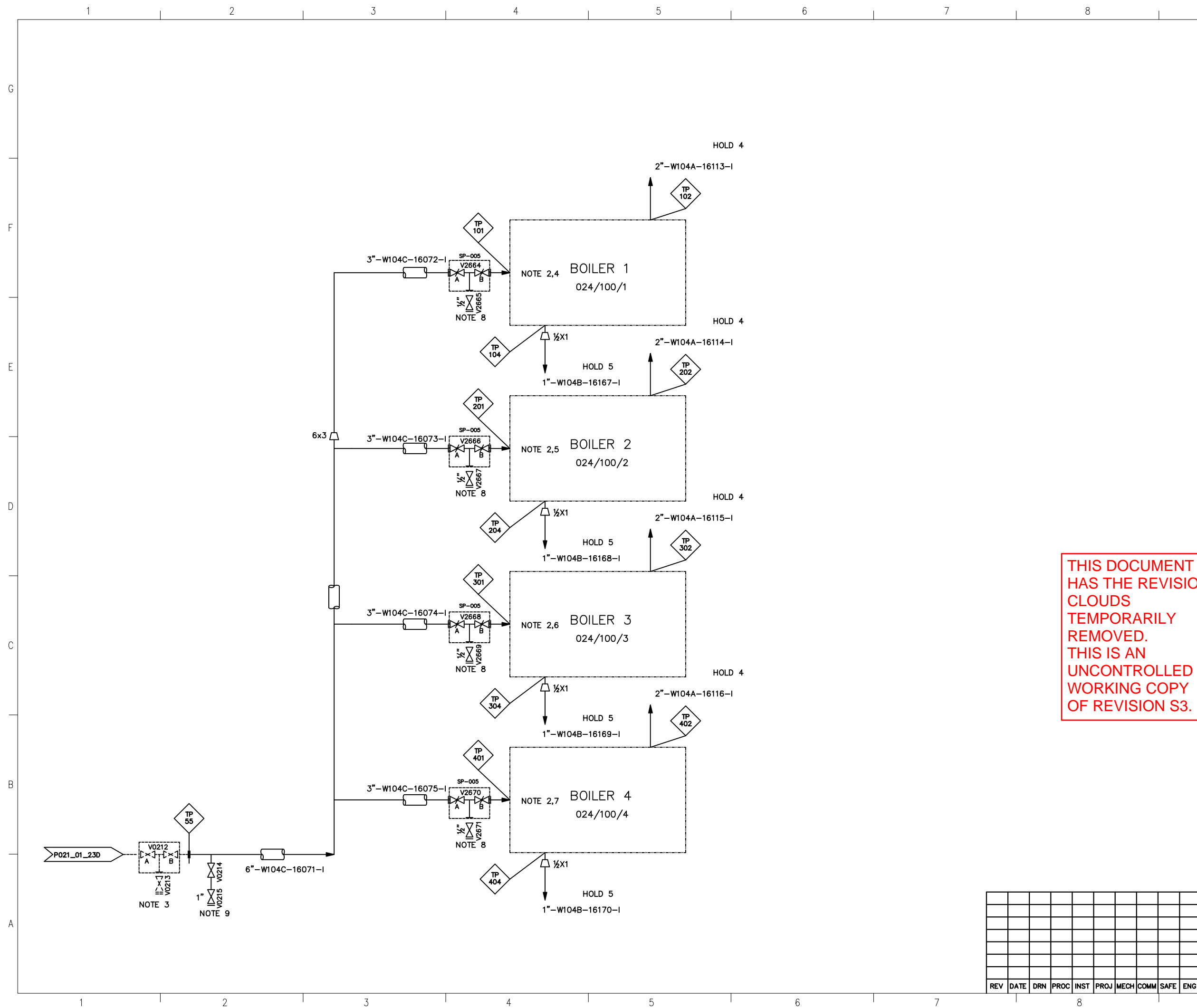


TITLE:
**PIPING & INSTRUMENTATION DIAGRAM
 GREATHAM BOILER REPLACEMENT
 BOILERS - RAW WATER SYSTEM 16**

DRN	DATE	CHK'D	DATE	APP'D	DATE	SCALE	NTS	A1	
REV	DATE	DRN	PROC	INST	PROJ	MECH	COMM	SAFE	ENG

17202108-8110-25-1601 S2





NOTES

1. SYMBOLOGY SETS TO BE REVISED TO CLIENT STANDARD
2. ISOLATION WITHIN BOILER PACKAGE
3. ISOLATION AT TERMINATION POINTS BY VENATOR
4. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 1
5. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 3
6. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 5
7. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 7
8. ISOLATION VALVE IS MODULAR DOUBLE BUTTERFLY WITH 1/2" PROVE VALVE.
9. SAMPLE POINT 1" DOUBLE BLOCK ARRANGEMENT.
10. DRAWING PREVIOUSLY ISSUED AS 17202108-8110-25-2101 S1

Unchecked

HOLDS.

1. DELETED
2. DELETED
3. DELETED
4. ECONOMISER RV TAILPIPE LINE SIZE AND PIPE SPEC TBC.
5. ECONOMISER OUTLET DRAIN PIPE SPEC TBC.
6. HAZOP ACTIONS PENDING APPROVAL MAY APPLY TO THIS DRAWING.

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REV	DATE	DESCRIPTION	DRN	CHK'D	APP'D
S2	23/4/19	ISSUED FOR CONSTRUCTION	SG	JW	JW
S1	27/3/19	ISSUED FOR CONSTRUCTION	SG	JW	JW
A1	18/10/18	ISSUED FOR DESIGN	AR	JW	JW
H1	27/9/18	ISSUED FOR HAZOP	JW	NS	JW
O1	2/8/18	PRELIMINARY	JW	NS	JW

wood.

PROJECT No: 17202108

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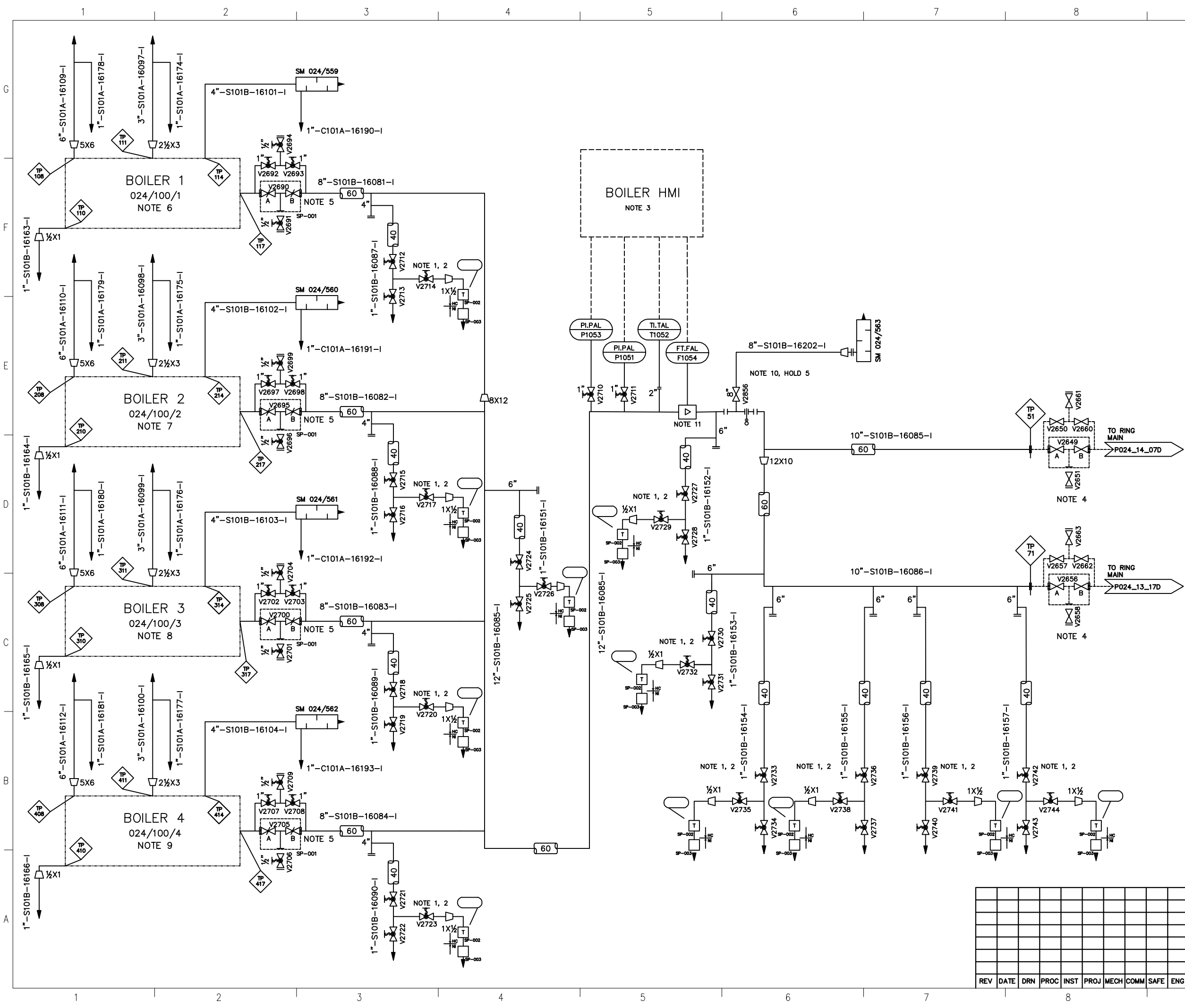
VENATOR

TITLE:
**PIPING & INSTRUMENTATION DIAGRAM
 GREATHAM BOILER REPLACEMENT
 BOILERS - BOILER FEED WATER SYSTEM 21**

REV	DATE	DRN	PROC	INST	PROJ	MECH	COMM	SAFE	ENG

DRN	CHK'D	APP'D	SCALE	NTS	A1
DATE	DATE	DATE	DATE	DATE	DATE

17202108-8110-25-2101 S2



NOTES

1. SYMBOLY SETS TO BE REVISED TO CLIENT STANDARD
2. ISOLATION REQUIREMENTS FROM TRAP LINES TO BE DB TO ALLOW ISOLATION FOR MAINTENANCE OF INDIVIDUAL TRAP LINES
3. INSTRUMENT OUTPUT TO BOILER VENDOR HMI
4. ISOLATION AT TERMINATION POINTS BY VENATOR.
5. VALVE IS A SPECIAL DOUBLE BLOCK AND BLEED QUARTER TURN OPERATED BUTTERFLY ISOLATION VALVE IN A SINGLE UNIT.
6. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 1
7. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 3
8. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 5
9. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 7
10. COMMISSIONING VENT TO BE REPLACED WITH SPOOL AFTER COMMISSIONING.
11. HORIZONTAL VORTEX FLOWMETER WITH 12" FLANGED RF PROCESS CONNECTION.
12. DRAWING PREVIOUSLY ISSUED AS 17202101-8110-25-2401 A1

Unchecked

HOLDS.

1. DELETED
2. DELETED
3. DELETED
4. DELETED
5. LOCATION AND ARRANGEMENT OF COMMISSIONING VENT TO BE CONFIRMED.
6. HAZOP ACTIONS PENDING APPROVAL MAY APPLY TO THIS DRAWING.

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REV	DATE	DESCRIPTION	DRN	CHK'D	APP'D
S2	28/4/19	ISSUED FOR CONSTRUCTION	SG	JW	JW
S1	27/3/19	ISSUED FOR CONSTRUCTION	SG	JW	JW
A1	18/10/18	ISSUED FOR DESIGN	AR	JW	JW
H1	27/8/18	ISSUED FOR HAZOP	JW	NS	JW
O1	2/8/18	PRELIMINARY	JW	NS	JW



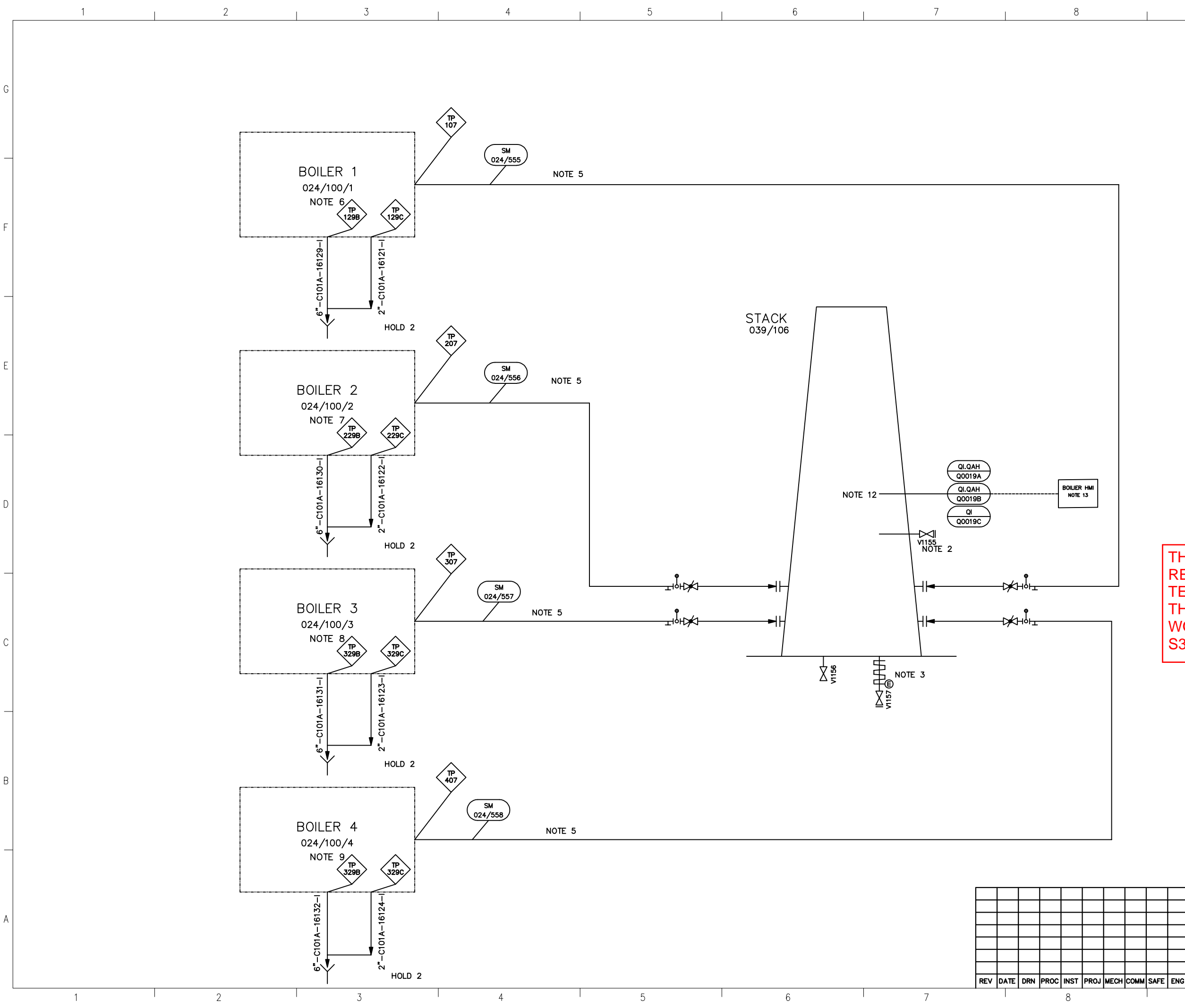
PROJECT No: 17202108
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TITLE:
**PIPING & INSTRUMENTATION DIAGRAM
 GREATHAM BOILER REPLACEMENT
 BOILERS - HP STEAM SYSTEM 24**

REV	DATE	DRN	PROC	INST	PROJ	MECH	COMM	SAFE	ENG

DRN	CHK'D	APP'D	SCALE	NTS	A1
DATE	DATE	DATE			



NOTES

1. SYMBOLOGY SETS TO BE REVISED TO CLIENT STANDARD
2. STACK TO BE PROVIDED WITH CEMS AND MANUAL EMISSION MONITORING PORT
3. LINER DRAIN VALVE
4. BLOWDOWN DRAIN TO LOCAL TRENCH
5. DUCTWORK INSULATION TO BE PP CLASS
6. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 1
7. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 3
8. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 5
9. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 7
10. DELETED
11. DRAWING PREVIOUSLY ISSUED AS 17202801-8110-25-3901 S1
12. CEMS MULTIVARIABLE SAMPLE PROBE C/W FLOW, PRESSURE AND TEMPERATURE MEASUREMENT. SAMPLE EXTRACTION TO LOCAL CEMS SHELTER. CEMS INCLUDES EA MCERTS DATA ACQUISITION REPORTING PC AND SOFTWARE (NOT SHOWN ON P&ID).
13. QA0019A (NO_x), QA0019B (CO) & QA0019 (COMMON FAULT) OUTPUT TO BOILER VENDOR HMI TO INDICATE AND ALARM.

Unchecked

HOLDS.

1. DELETED
2. DRAIN LOCATIONS DRAWING REFERENCE TO BE CONFIRMED
3. DELETED
4. DELETED
5. DELETED
6. DELETED
7. DELETED
8. HAZOP ACTIONS PENDING APPROVAL MAY APPLY TO THIS DRAWING.

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S2	24/4/19	ISSUED FOR CONSTRUCTION	SG	JW	JW
S1	27/3/18	ISSUED FOR CONSTRUCTION	SG	JW	JW
A1	18/10/18	ISSUED FOR DESIGN	AR	JW	JW
H1	21/9/18	ISSUED FOR HAZOP	JW	NS	JW
O1	2/8/18	PRELIMINARY	JW	NS	JW
REV	DATE	DESCRIPTION	DRN	CHK'D	APP'D



PROJECT No: 17202108
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TITLE:
**PIPING & INSTRUMENTATION DIAGRAM
 GREATHAM BOILER REPLACEMENT
 BOILERS - EFFLUENTS SYSTEM 39**

DRN	CHK'D	APP'D	SCALE	A1
DATE	DATE	DATE	NTS	
SITE	AREA	DRG.No	REV	
		17202108-8110-25-3901	S2	

REV	DATE	DRN	PROC	INST	PROJ	MECH	COMM	SAFE	ENG
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NOTES

1. DELETED
2. DELETED
3. ISOLATION AT TERMINATION POINTS BY INSTRUMENTS
4. INSTRUMENT AIR MANIFOLD (12 CONNECTIONS)
5. DRAWING PREVIOUSLY ISSUED AS 17202108-8110-25-2901 S1

Unchecked

HOLDS.

1. DELETED
2. DELETED
3. HAZOP ACTIONS PENDING APPROVAL MAY APPLY TO THIS DRAWING.

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S2	23/4/19	ISSUED FOR CONSTRUCTION	SG	JW	JW
S1	27/3/19	ISSUED FOR CONSTRUCTION	SG	JW	JW
A1	18/10/18	ISSUED FOR DESIGN	AR	JW	JW
H1	21/9/18	ISSUED FOR HAZOP	JW	NS	JW
O1	2/8/18	PRELIMINARY	JW	NS	JW
REV	DATE	DESCRIPTION	DRN	CHK'D	APP'D

wood.

PROJECT No: 17202108

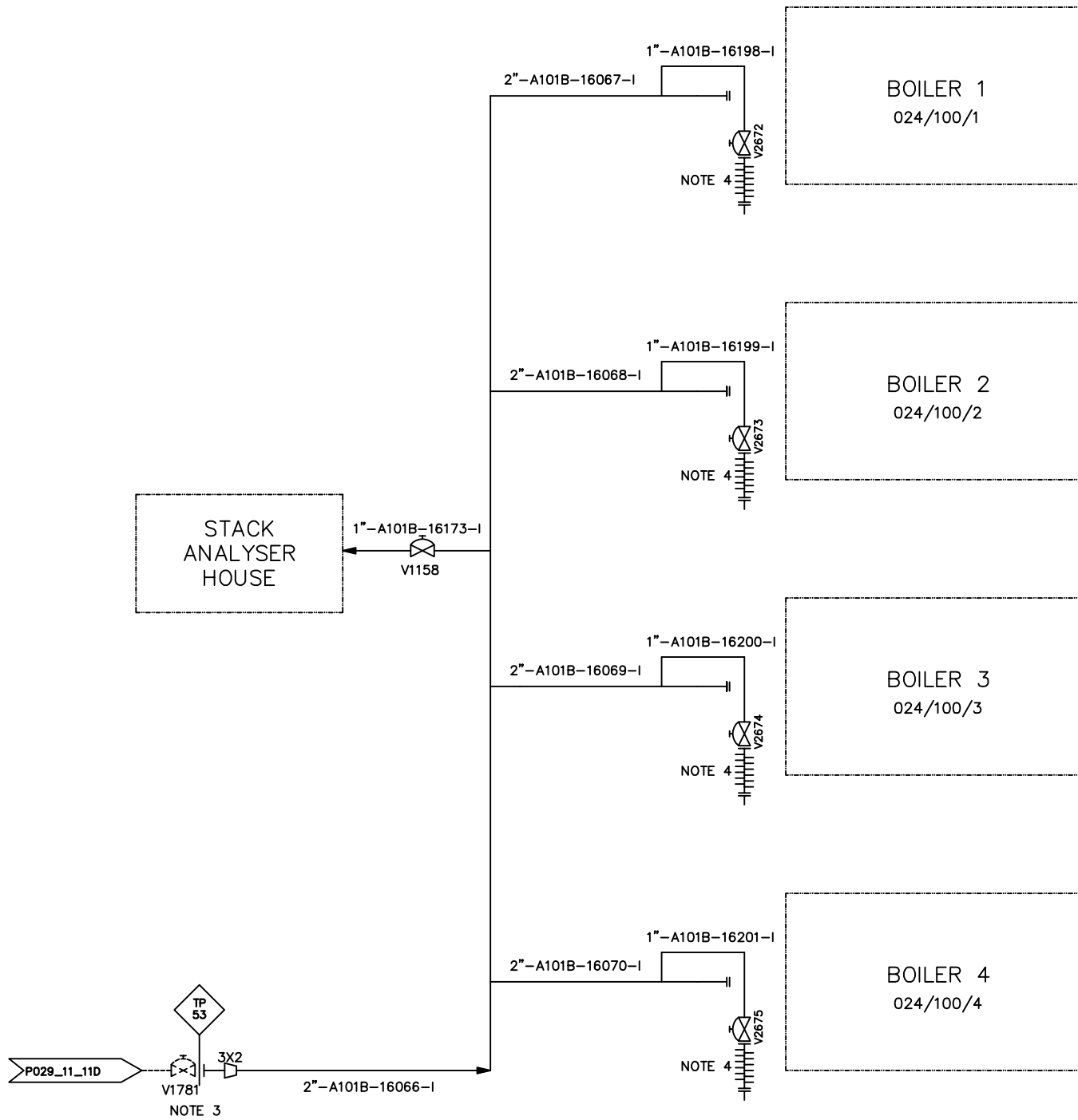
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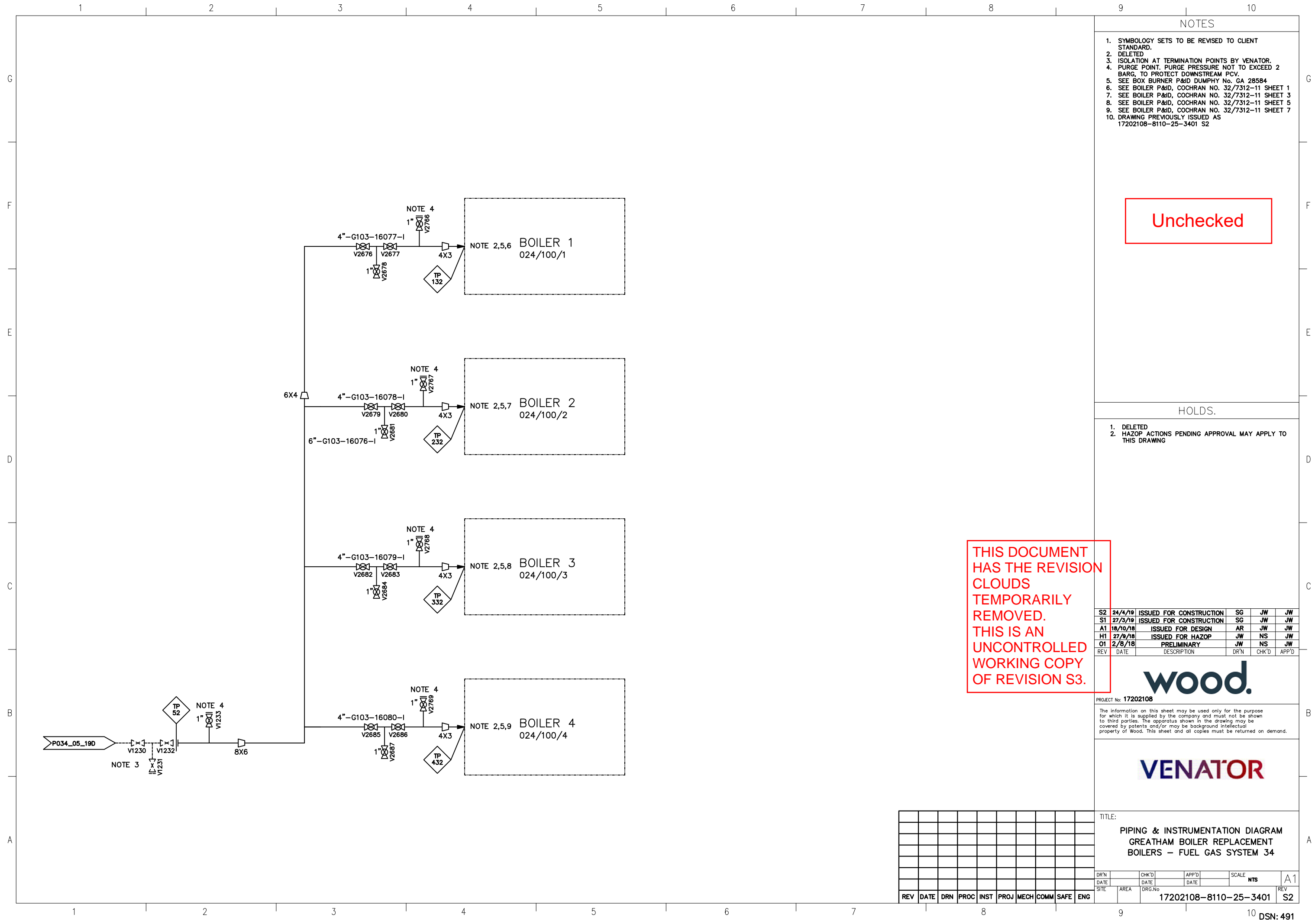
VENATOR

TITLE:
**PIPING & INSTRUMENTATION DIAGRAM
GREATHAM BOILER REPLACEMENT
BOILERS – INSTRUMENT AIR SYSTEM 29**

DRN	CHK'D	APP'D	SCALE	A1
DATE	DATE	DATE	NTS	
SITE	AREA	DRG.No	17202108-8110-25-2901	REV S2

REV	DATE	DRN	PROC	INST	PROJ	MECH	COMM	SAFE	ENG





NOTES

1. SYMBOLOGY SETS TO BE REVISED TO CLIENT STANDARD.
2. DELETED
3. ISOLATION AT TERMINATION POINTS BY VENATOR.
4. PURGE POINT. PURGE PRESSURE NOT TO EXCEED 2 BARG. TO PROTECT DOWNSTREAM PCV.
5. SEE BOX BURNER P&ID DUMPHY No. GA 28584
6. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 1
7. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 3
8. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 5
9. SEE BOILER P&ID, COCHRAN NO. 32/7312-11 SHEET 7
10. DRAWING PREVIOUSLY ISSUED AS 17202108-8110-25-3401 S2

Unchecked

HOLDS.

1. DELETED
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S1	27/3/19	ISSUED FOR CONSTRUCTION	SG	JW	JW
A1	18/10/18	ISSUED FOR DESIGN	AR	JW	JW
H1	27/9/18	ISSUED FOR HAZOP	JW	NS	JW
O1	2/8/18	PRELIMINARY	JW	NS	JW
REV	DATE	DESCRIPTION	DRN	CHK'D	APP'D



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TITLE:
**PIPING & INSTRUMENTATION DIAGRAM
 GREATHAM BOILER REPLACEMENT
 BOILERS – FUEL GAS SYSTEM 34**

DRN	CHK'D	APP'D	SCALE	A1
DATE	DATE	DATE	NTS	
SITE	AREA	DRG.No	17202108-8110-25-3401	REV S2
REV	DATE	DRN	PROC	INST
			PROJ	MECH
			COMM	SAFE
			ENG	