

MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: R. O'BRIEN LIFE #: 24021 DATE: 8/7/15

TEST LOCATION: 7-10 SST FOE APPLICABLE DRAWING(S): PD-SST-UT-1500.DWG
SECTION
ATTACHMENT Y N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:
INTERIOR OF TBE (MUTCH A)

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:
~~100~~ 90 PSIG FOR PROCESS COMPRESSED AIR / 100 PSIG FOR GND

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

PRIMARY DI WATER SECONDARY DI WATER ALUMINUM DI WATER
PROCESS CHILLED WATER COMPRESSED AIR GASEOUS NITROGEN OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:

TEST GAUGE INFORMATION:

RANGE: 0-300 PSIG UNIT OF MEASUREMENT: PSIG
SERIAL NUMBER: M013005 CALIBRATION DUE DATE: 2/5/16

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

LEAK TEST FLUSH HYDROSTATIC PRESSURE TEST PNEUMATIC PRESSURE TEST
OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION: _____

MECHANICAL UTILITIES TEST REPORT - PAGE 2

LEAK TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TEST FLUID: CA FLUID TEMPERATURE AMBIENT °F FLUID PRESSURE: < 60 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL & BUBBLE (IF REQUIRED)

TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: J Stanisci DATE: 8/10/15

RECORD ACTUAL LEAK TEST DURATION HERE: 2 hrs

NO LEAKAGE PRESENT

SIGNATURE: [Signature]

FLUSH:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

FLUSH FLUID: _____ FLUID TEMPERATURE _____ °F FLUID PRESSURE: _____ PSIG

FLUSH DURATION: _____ MINUTES/HOURS (CIRCLE ONE)

FLUSH PARAMETERS: _____

(WRITE "N/A" IF NONE APPLY)

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: _____ DATE: _____

COMMENTS:

ACCEPTABLE

SIGNATURE: _____

PRESSURE TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TYPE: HYDROSTATIC PNEUMATIC TEST FLUID: AIR FLUID TEMPERATURE AMBIENT °F

SPECIFIED STARTING PRESSURE: 60 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 150 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 10/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 20 MINUTES (10 MINUTES MINIMUM)

MECHANICAL UTILITIES TEST REPORT - PAGE 3

PRESSURE TEST (CONTINUED):

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: J Stanisci DATE: 8/10/15

ENVIRONMENTAL FACTORS: TEMPERATURE _____ °F RELATIVE HUMIDITY _____ %

PRESSURE TEST DATA TO BE COMPLETED DURING TEST

SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
House	58 psi	130	130 psi
70	70	140	140
80	80	150	148
90	90		
100	100		
110	110		
120	120		

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: J Stanisci / 25108

WITNESS SIGNATURE/LIFE NUMBER: _____

OTHER:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

TEST FLUID: _____ FLUID TEMPERATURE _____ °F FLUID PRESSURE: _____ PSIG

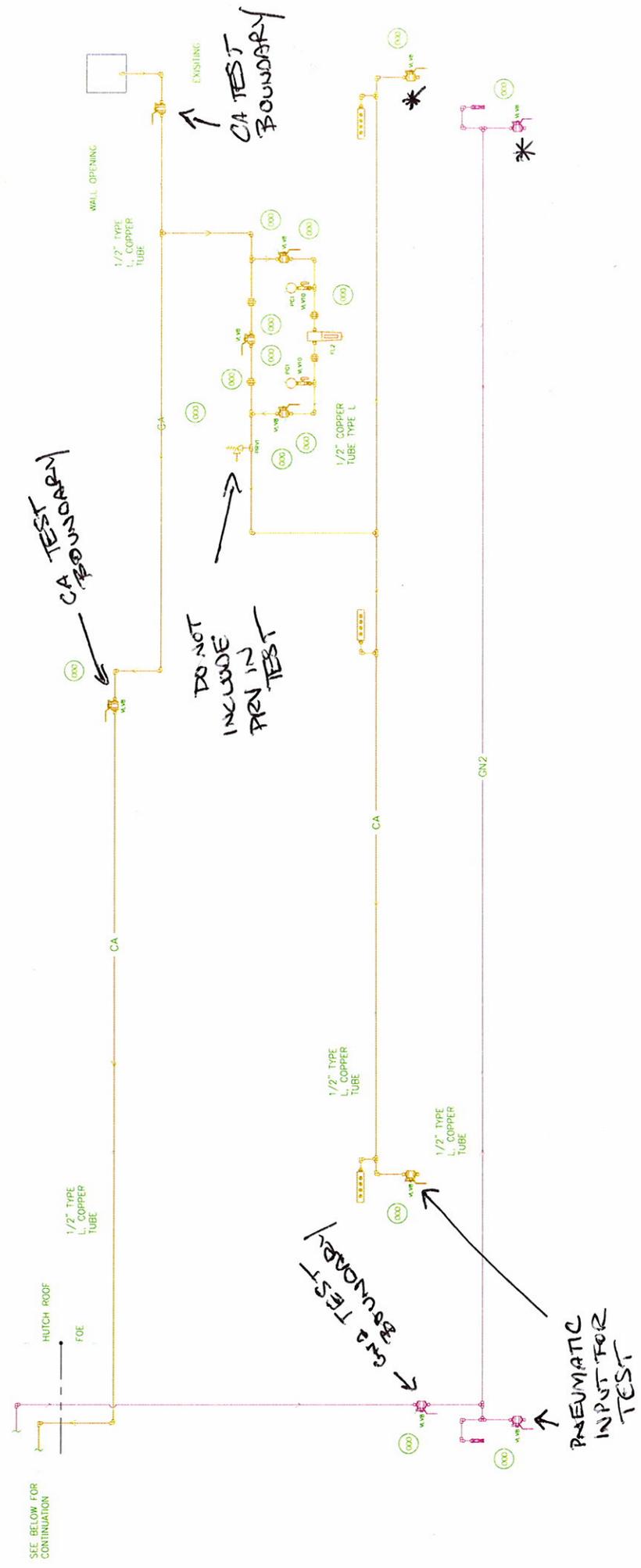
THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: _____ DATE: _____

ENVIRONMENTAL FACTORS: TEMPERATURE _____ °F RELATIVE HUMIDITY _____ %

SPECIFIED		ACTUAL		%
SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	VARIANCE

ATTACHMENT TO TEST REPORT 8/7/15
 FOR CA & GN2 LEAK & PNEUMATIC PRESSURE TEST.
 PD-SST-UT-1500.DWG SECTION



*ALT. LOCATION

MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: R. O'BRIEN LIFE #: 24021 DATE: 9/11/15

TEST LOCATION: 7-10 SST FLOOR APPLICABLE DRAWING(S): PD-SST-UT-1500.DWG

ATTACHMENT Y N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:
GN2 & COMPRESSED AIR ON EXPERIMENTAL FLOOR

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:
90 PSIG FOR AIR / 100 PSIG FOR GN2

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

- PRIMARY DI WATER SECONDARY DI WATER ALUMINUM DI WATER
- PROCESS CHILLED WATER COMPRESSED AIR GASEOUS NITROGEN OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:

TEST GAUGE INFORMATION:

RANGE: 0-300 UNIT OF MEASUREMENT: PSIG
SERIAL NUMBER: MØ136Ø5 CALIBRATION DUE DATE: 2/5/16

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

- LEAK TEST FLUSH HYDROSTATIC PRESSURE TEST PNEUMATIC PRESSURE TEST
- OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION:

MECHANICAL UTILITIES TEST REPORT - PAGE 2

LEAK TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TEST FLUID: AIR FLUID TEMPERATURE AMBIENT°F FLUID PRESSURE: <60 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL W/ BUBBLES

TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: Jeff Carlson DATE: 9-12-15

RECORD ACTUAL LEAK TEST DURATION HERE: 4 hrs

NO LEAKAGE PRESENT SIGNATURE: [Signature]

FLUSH:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

FLUSH FLUID: _____ FLUID TEMPERATURE _____°F FLUID PRESSURE: _____ PSIG

FLUSH DURATION: _____ MINUTES/HOURS (CIRCLE ONE)

FLUSH PARAMETERS: _____ (WRITE "N/A" IF NONE APPLY)

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: _____ DATE: _____

COMMENTS:

ACCEPTABLE SIGNATURE: _____

PRESSURE TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TYPE: HYDROSTATIC PNEUMATIC TEST FLUID: AIR FLUID TEMPERATURE AMBIENT

SPECIFIED STARTING PRESSURE: 60 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 150 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 10/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 20 MINUTES (10 MINUTES MINIMUM)

MECHANICAL UTILITIES TEST REPORT - PAGE 3

PRESSURE TEST (CONTINUED):

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: JC

DATE: 9/11/15

ENVIRONMENTAL FACTORS: TEMPERATURE _____ °F RELATIVE HUMIDITY _____ %

PRESSURE TEST DATA TO BE COMPLETED DURING TEST

SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
60			
↓			
150			

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: [Signature]
 WITNESS SIGNATURE/LIFE NUMBER: [Signature]

OTHER:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

TEST FLUID: _____ FLUID TEMPERATURE _____ °F FLUID PRESSURE: _____ PSIG

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: _____ DATE: _____

ENVIRONMENTAL FACTORS: TEMPERATURE _____ °F RELATIVE HUMIDITY _____ %

SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	% VARIANCE

MECHANICAL UTILITIES TEST REPORT - PAGE 4

OTHER (CONTINUED):

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

NOTES:

Lined area for technician notes.

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

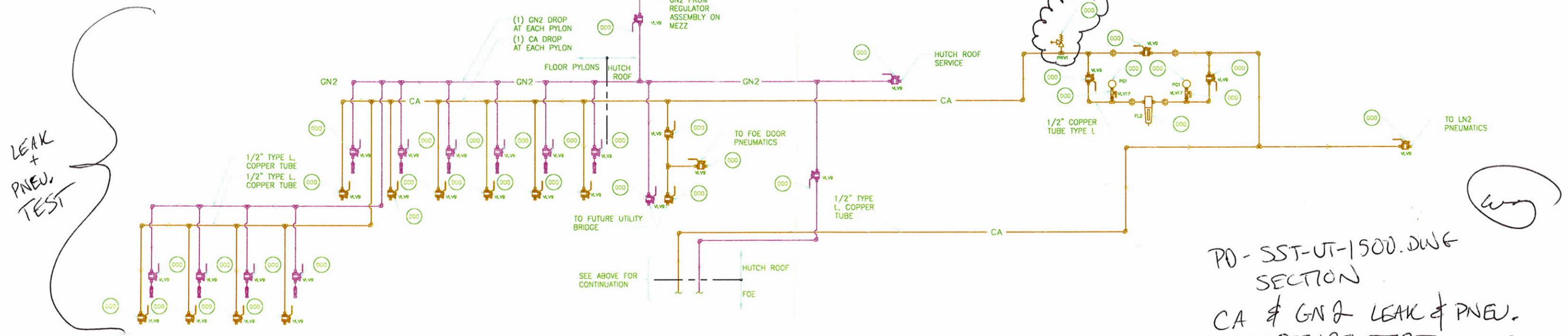
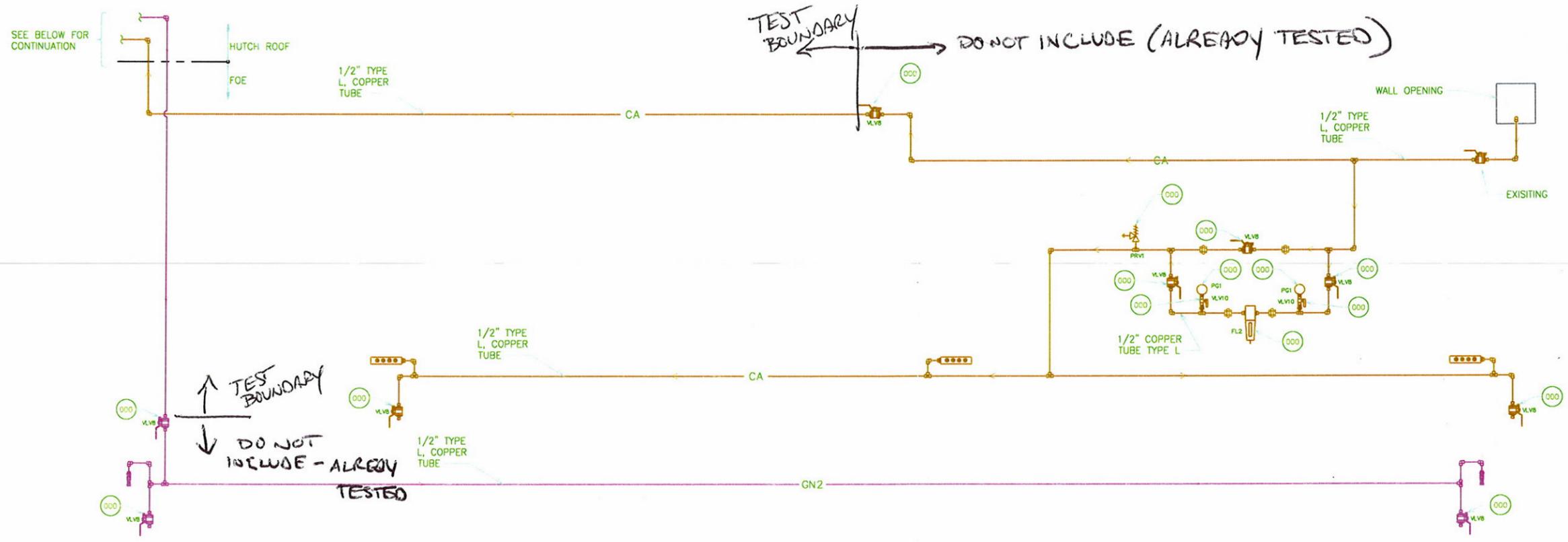
NOTES:

Lined area for engineer notes.

TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: _____

WITNESS SIGNATURE/LIFE NUMBER: _____



PD-SST-UT-1500.DWG
SECTION
CA & GN2 LEAK & PNEU.
PRESSURE TEST
ATTACHMENT 9/11/15

Utilities Test Report

Location: 7-10 FOE

Prepared by: R. O'BRIEN

Life # 24021

Date: 6/26/15

Applicable: Drawing(s): PD-SST-UT-1000.RVT

Specification(s)/Procedure(s): DI WATER SUPPLY & RETURN SYSTEM INSIDE
FOE HUTCH A

Branch/Component(s) located on: HPC LPC Alum Exp.
 Other → Specify _____

Operation(s) Conducted: Leak Test Flushing
Pressure Test → Hydrostatic Pneumatic
 Other Specify _____

Leak Test: Test Conducted by: Vincent Briguccia Test Date: 6-29-15
(print name)

Test Location: In Field/Position Other _____

Test Medium: Water Gas → Specify _____ Other → Specify _____

Test Parameters: Domestic Water Other HOUSE psig AMBIENT °F

No Leakage or Weepage Allowed.

Acceptable Non-Acceptable

Signature: [Signature] Signature: _____

Other _____

Signature _____

Witnesses (if applicable): _____

Flushing: Conducted by: Vincent Briguccia Date Conducted: 6-29-15
(print name)

Use clean water @ Temp. <100°F

Medium: Domestic Water Other → Specify _____

Flushing Duration: 20 minutes/hours (circle correct unit)

Acceptable Non-Acceptable: Explain: _____

Signature: [Signature] _____

Signature: _____

Witnesses (if applicable): _____

MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: R. O'BRIEN LIFE #: 24021 DATE: 8/13/15

TEST LOCATION: 7-10 SST APPLICABLE DRAWING(S): PD-SST-UT-1500.DWG

ATTACHMENT Y / N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:

DI WATER PIPING ON EXP. FLOOR

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:

150 PSIG

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

PRIMARY DI WATER SECONDARY DI WATER ALUMINUM DI WATER

PROCESS CHILLED WATER COMPRESSED AIR GASEOUS NITROGEN OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:

PIPING SYSTEM FOR PYLONS, NOT INCLUDING THE DIFFERENTIAL PRESSURE TRANSMITTERS. SEE ATTACHMENT FOR BOUNDARIES OF TESTS - ALSO, DO NOT INCLUDE SYSTEM PRESSURE GAGES OR TRANSMITTERS.

TEST GAUGE INFORMATION:

RANGE: 0 - 3000 UNIT OF MEASUREMENT: PSIG

SERIAL NUMBER: WINCHESTER 9181 CALIBRATION DUE DATE: 7/21/2016

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

LEAK TEST FLUSH HYDROSTATIC PRESSURE TEST PNEUMATIC PRESSURE TEST

OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION: _____

MECHANICAL UTILITIES TEST REPORT - PAGE 2

LEAK TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TEST FLUID: AIR FLUID TEMPERATURE AMBIENT °F FLUID PRESSURE: < 60 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL + BUBBLES (IF REQUIRED)

TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: P. Rivera DATE: 10-23-15

RECORD ACTUAL LEAK TEST DURATION HERE: _____

NO LEAKAGE PRESENT SIGNATURE: P. Rivera

FLUSH:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

FLUSH FLUID: WATER FLUID TEMPERATURE AMBIENT °F FLUID PRESSURE: HOUSE PSIG

FLUSH DURATION: 20 MINUTES/HOURS (CIRCLE ONE)

FLUSH PARAMETERS: N/A (WRITE "N/A" IF NONE APPLY)

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: P. Rivera DATE: 10/23/15

COMMENTS: _____

ACCEPTABLE SIGNATURE: Pete Rivera

PRESSURE TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TYPE: HYDROSTATIC PNEUMATIC TEST FLUID: WATER FLUID TEMPERATURE AMBIENT °F

SPECIFIED STARTING PRESSURE: 75 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 225 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 25 / 10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 10 MINUTES (10 MINUTES MINIMUM)

MECHANICAL UTILITIES TEST REPORT - PAGE 3

PRESSURE TEST (CONTINUED):

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: R. P. Pina DATE: 10-23

ENVIRONMENTAL FACTORS: TEMPERATURE N/A °F RELATIVE HUMIDITY N/A %

PRESSURE TEST DATA TO BE COMPLETED DURING TEST

SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
75	75		
100	100		
125	125		
150	150		
175	175		
200	200		
225	225		

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: R. P. Pina 25649

WITNESS SIGNATURE/LIFE NUMBER: [Signature] 22429

OTHER:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

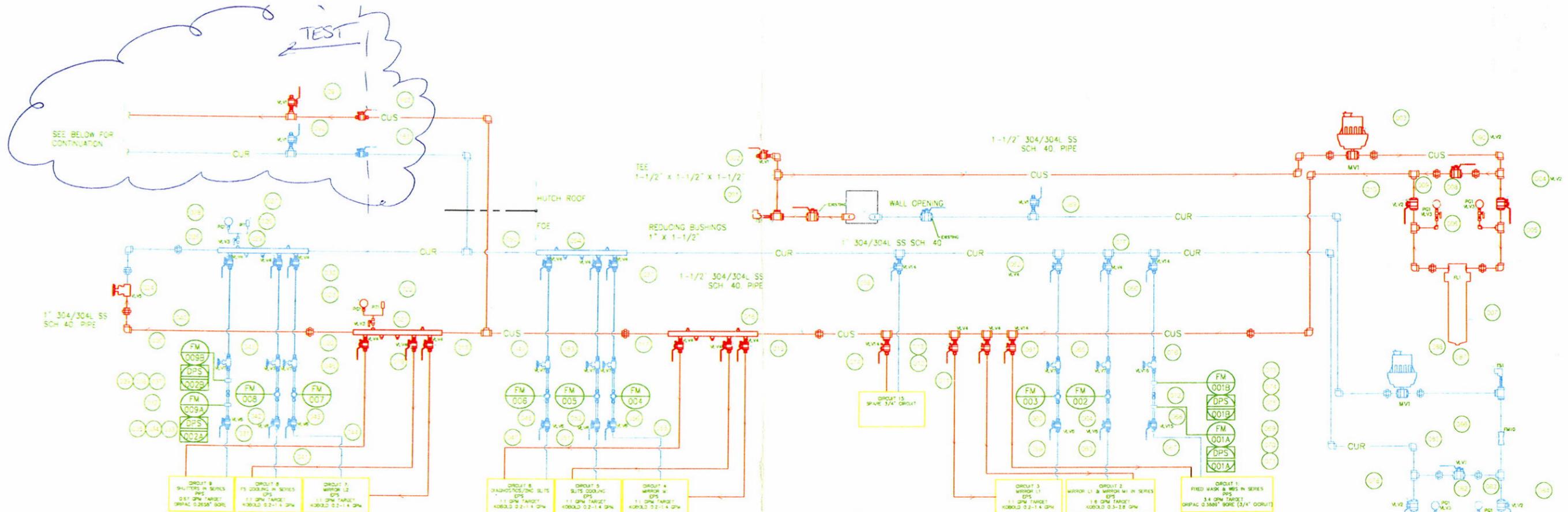
TEST FLUID: _____ FLUID TEMPERATURE _____ °F FLUID PRESSURE: _____ PSIG

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: _____ DATE: _____

ENVIRONMENTAL FACTORS: TEMPERATURE _____ °F RELATIVE HUMIDITY _____ %

SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	% VARIANCE



CIRCUIT 9
SHUTTERS IN SERIES
PPS
0.51 GPM TARGET
ORIPAC 0.2658" BORE

CIRCUIT 8
FV COOLING IN SERIES
EPS
1.1 GPM TARGET
KOBOLD 0.2-1.4 GPM

CIRCUIT 7
WIPROX L2
EPS
1.1 GPM TARGET
KOBOLD 0.2-1.4 GPM

CIRCUIT 6
DIAGNOSTIC/DC SLITS
EPS
1.1 GPM TARGET
KOBOLD 0.2-1.4 GPM

CIRCUIT 5
SLITS COOLING
EPS
1.1 GPM TARGET
KOBOLD 0.2-1.4 GPM

CIRCUIT 4
WIPROX M
EPS
1.1 GPM TARGET
KOBOLD 0.2-1.4 GPM

CIRCUIT 3
WIPROX L1
EPS
1.1 GPM TARGET
KOBOLD 0.2-1.4 GPM

CIRCUIT 2
WIPROX L1 & WIPROX M IN SERIES
EPS
1.8 GPM TARGET
KOBOLD 0.3-2.8 GPM

CIRCUIT 1
FIXED MASK & WBS IN SERIES
PPS
3.4 GPM TARGET
ORIPAC 0.3067" BORE (3/4" OD/RT)

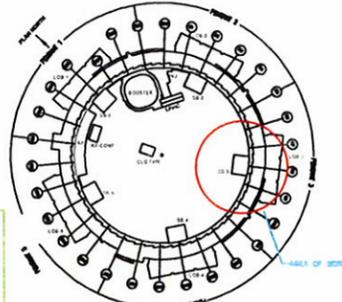
CIRCUIT 14
M3
EPS
0.5 GPM TARGET
KOBOLD 0.2-1.4 GPM

CIRCUIT 13
M3 & PWS
PPS
1.0 GPM TARGET
ORIPAC 0.3127" BORE

CIRCUIT 12
OPERATING
EPS
0.5-1.0 GPM TARGET
KOBOLD 0.2-1.4 GPM

CIRCUIT 11
WIPROX
EPS
0.5-1.0 GPM TARGET
KOBOLD 0.2-1.4 GPM

CIRCUIT	FLOW METER TAG NUMBER	ORIPAC PLATE (PPS) FLOW METER BORE DIM	KOBOLD (EPS) FLOW RANGE	DESIGN FLOW	CIRCUIT NAME	FLOW METER SERIAL NUMBER	TRANSMITTER SERIAL NUMBER
15	15A	0.3067	N/A	3.4	FIXED MASK & WBS	15010	AT 102112016
18	18A	0.3067	N/A	3.4	FIXED MASK & WBS	15010	150101016
2	2A	N/A	0.2-2.0	1.0	WIPROX L1 & WIPROX M IN SERIES	15010	N/A
3	3A	N/A	0.2-2.0	1.1	WIPROX L1	15010	N/A
4	4A	N/A	0.2-2.0	1.1	WIPROX M	15010	N/A
5	5A	N/A	0.2-2.0	1.1	WIPROX L1	15010	N/A
6	6A	N/A	0.2-2.0	1.1	DIAG. IN-SLITS	15010	N/A
7	7A	N/A	0.2-2.0	1.1	WIPROX L2	15010	N/A
8	8A	N/A	0.2-2.0	1.1	PPS IN SERIES	15010	N/A
9	9A	0.2658	N/A	0.51	SHUTTERS IN SERIES	15010	AT 102112016
10	10A	N/A	N/A	18.75	WIPROX RETURN	15010	N/A
11	11A	N/A	0.2-2.0	0.1-1.0	WIPROX	15010	N/A
12	12A	N/A	0.2-2.0	0.1-1.0	COOLING	15010	N/A
13	13A	N/A	0.2-2.0	1.1	DIAG. IN-SLITS	15010	N/A
14	14A	N/A	0.2-2.0	1.1	WIPROX	15010	N/A
15	15A	0.3067	N/A	3.4	FIXED MASK & WBS	15010	EP 0100000
16	16A	0.3067	N/A	3.4	FIXED MASK & WBS	15010	150101016
17	17A	N/A	0.2-2.0	0.5	PRECISION SLIT	15010	N/A
18	18A	N/A	0.2-2.0	0.5	PRECISION SLIT	15010	N/A



- NOTES:
- SEE SHEET 2 FOR QNZ AND CA FLOW DIAGRAMS.
 - SEE SHEET 3 FOR PWS&R FLOW DIAGRAM, TAG LEGEND AND FORMAT, AND PIPE IDENTIFICATION LEGENDS.
 - SEE SHEET 4 FOR BNL EQUIPMENT TAG IDS.
 - SEE SHEET 5 FOR EQUIPMENT SCHEDULE.
 - SEE PWS-UT-1000 & 2000 FOR 3D REVIT MODEL INSTALLATION GUIDE.

UNRELEASED - 08/13/2015
TO BE USED FOR TEST BOUNDARIES.

W 8/13/15

MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: O'BRIEN LIFE #: 24021 DATE: 12/5/17

TEST LOCATION: 7-10 SST APPLICABLE DRAWING(S): ATTACHMENT
ATTACHMENT Y / N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:
HIGH CAPACITY COMPRESSED AIR DISTRIBUTION SYSTEM

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:
125 PSIG

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

- PRIMARY DI WATER SECONDARY DI WATER ALUMINUM DI WATER
- PROCESS CHILLED WATER COMPRESSED AIR GASEOUS NITROGEN OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:
HIGH CAPACITY AIR

TEST GAUGE INFORMATION:

RANGE: 0-300 PSIG UNIT OF MEASUREMENT: PSIG
SERIAL NUMBER: E483236 CALIBRATION DUE DATE: 10/25/18

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

- LEAK TEST FLUSH HYDROSTATIC PRESSURE TEST PNEUMATIC PRESSURE TEST
- OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION:

MECHANICAL UTILITIES TEST REPORT - PAGE 2

LEAK TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TEST FLUID: AIR FLUID TEMPERATURE AMBIENT °F FLUID PRESSURE: ≤ 50 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL DECAY TEST

TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: MS DATE: 12-14-17

RECORD ACTUAL LEAK TEST DURATION HERE: 1 hour

NO LEAKAGE PRESENT SIGNATURE: [Signature]

FLUSH:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

FLUSH FLUID: _____ FLUID TEMPERATURE _____ °F FLUID PRESSURE: _____ PSIG

FLUSH DURATION: _____ MINUTES/HOURS (CIRCLE ONE)

FLUSH PARAMETERS: _____ (WRITE "N/A" IF NONE APPLY)

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: _____ DATE: _____

COMMENTS: _____

ACCEPTABLE SIGNATURE: [Signature]

PRESSURE TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TYPE: HYDROSTATIC PNEUMATIC TEST FLUID: _____ FLUID TEMPERATURE _____ °F

SPECIFIED STARTING PRESSURE: 50 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 150 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 10/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 10 MINUTES (10 MINUTES MINIMUM)

MECHANICAL UTILITIES TEST REPORT - PAGE 3

PRESSURE TEST (CONTINUED):

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: MD DATE: 12-14-17

ENVIRONMENTAL FACTORS (OPTIONAL): TEMPERATURE _____ °F RELATIVE HUMIDITY _____ %

PRESSURE TEST DATA TO BE COMPLETED DURING TEST			
SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
50	50	120	120
60	60	130	130
70	70	140	140
80	80		
90	90		
100	100		
110	110		

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: [Signature] 25537

WITNESS SIGNATURE/LIFE NUMBER: [Signature] 18981

OTHER:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

TEST FLUID: _____ FLUID TEMPERATURE _____ °F FLUID PRESSURE: _____ PSIG

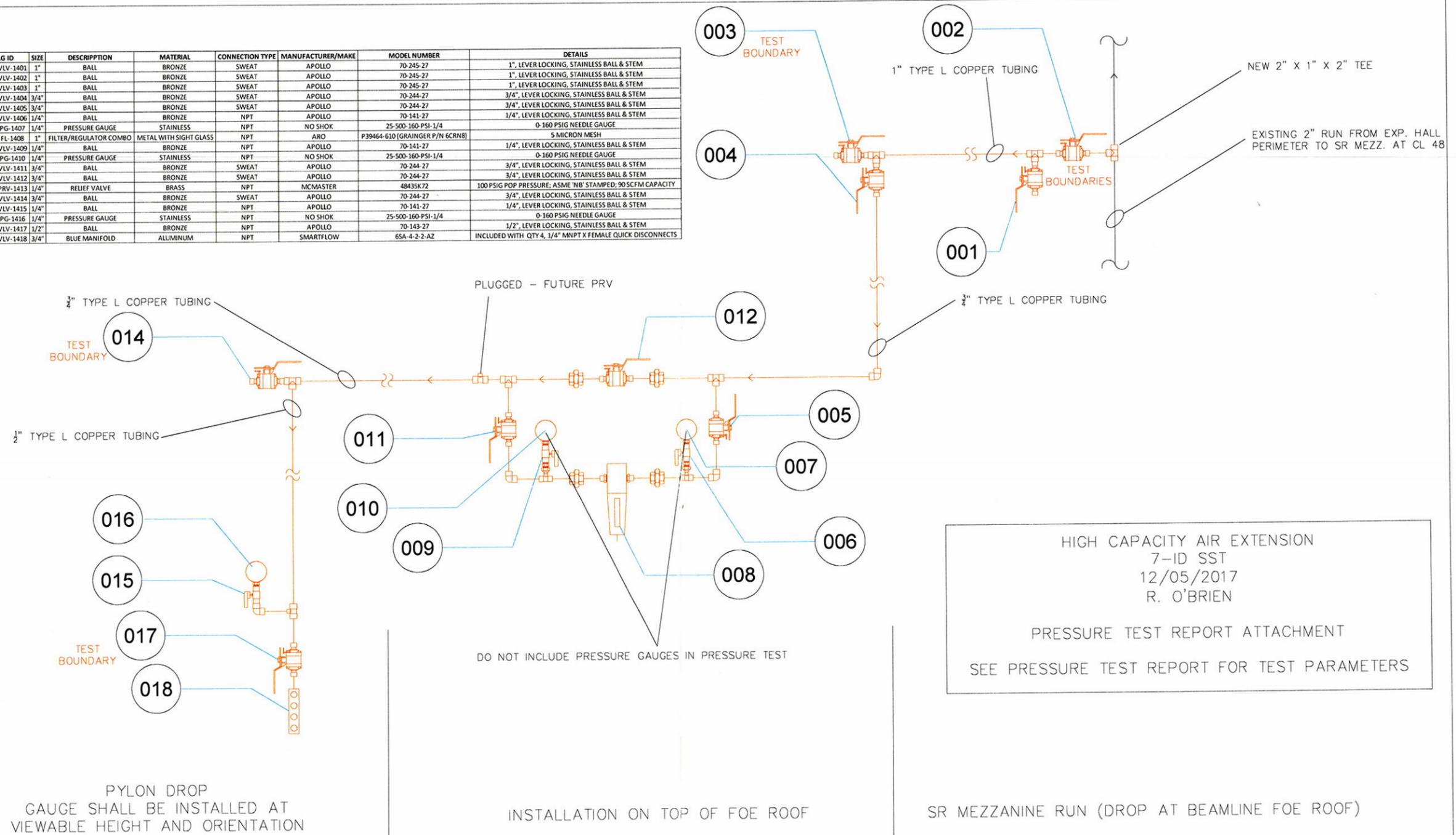
THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: _____ DATE: _____

ENVIRONMENTAL FACTORS (OPTIONAL): TEMPERATURE _____ °F RELATIVE HUMIDITY _____ %

SPECIFIED		ACTUAL		%
SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	VARIANCE

DRAWING ID	BNL TAG ID	SIZE	DESCRIPTION	MATERIAL	CONNECTION TYPE	MANUFACTURER/MAKE	MODEL NUMBER	DETAILS
1	7IDR-HCA-VLV-1401	1"	BALL	BRONZE	SWEAT	APOLLO	70-245-27	1", LEVER LOCKING, STAINLESS BALL & STEM
2	7IDR-HCA-VLV-1402	1"	BALL	BRONZE	SWEAT	APOLLO	70-245-27	1", LEVER LOCKING, STAINLESS BALL & STEM
3	7IDR-HCA-VLV-1403	1"	BALL	BRONZE	SWEAT	APOLLO	70-245-27	1", LEVER LOCKING, STAINLESS BALL & STEM
4	7IDR-HCA-VLV-1404	3/4"	BALL	BRONZE	SWEAT	APOLLO	70-244-27	3/4", LEVER LOCKING, STAINLESS BALL & STEM
5	7IDR-HCA-VLV-1405	3/4"	BALL	BRONZE	SWEAT	APOLLO	70-244-27	3/4", LEVER LOCKING, STAINLESS BALL & STEM
6	7IDR-HCA-VLV-1406	1/4"	BALL	BRONZE	SWEAT	APOLLO	70-141-27	1/4", LEVER LOCKING, STAINLESS BALL & STEM
7	7IDR-HCA-PG-1407	1/4"	PRESSURE GAUGE	STAINLESS	NPT	NO SHOK	25-500-160-PSI-1/4	0-160 PSIG NEEDLE GAUGE
8	7IDR-HCA-FL-1408	1"	FILTER/REGULATOR COMBO	METAL WITH SIGHT GLASS	NPT	ARO	P39464-610 (GRAINGER P/N 6CRN8)	5 MICRON MESH
9	7IDR-HCA-VLV-1409	1/4"	BALL	BRONZE	NPT	APOLLO	70-141-27	1/4", LEVER LOCKING, STAINLESS BALL & STEM
10	7IDR-HCA-PG-1410	1/4"	PRESSURE GAUGE	STAINLESS	NPT	NO SHOK	25-500-160-PSI-1/4	0-160 PSIG NEEDLE GAUGE
11	7IDR-HCA-VLV-1411	3/4"	BALL	BRONZE	SWEAT	APOLLO	70-244-27	3/4", LEVER LOCKING, STAINLESS BALL & STEM
12	7IDR-HCA-VLV-1412	3/4"	BALL	BRONZE	SWEAT	APOLLO	70-244-27	3/4", LEVER LOCKING, STAINLESS BALL & STEM
13	7IDR-HCA-PRV-1413	1/4"	RELIEF VALVE	BRASS	NPT	MCMMASTER	48435K72	100 PSIG POP PRESSURE; ASME 'NB' STAMPED; 90 SCFM CAPACITY
14	7IDR-HCA-VLV-1414	3/4"	BALL	BRONZE	SWEAT	APOLLO	70-244-27	3/4", LEVER LOCKING, STAINLESS BALL & STEM
15	7IDF-HCA-VLV-1415	1/4"	BALL	BRONZE	NPT	APOLLO	70-141-27	1/4", LEVER LOCKING, STAINLESS BALL & STEM
16	7IDF-HCA-PG-1416	1/4"	PRESSURE GAUGE	STAINLESS	NPT	NO SHOK	25-500-160-PSI-1/4	0-160 PSIG NEEDLE GAUGE
17	7IDF-HCA-VLV-1417	1/2"	BALL	BRONZE	NPT	APOLLO	70-143-27	1/2", LEVER LOCKING, STAINLESS BALL & STEM
18	7IDF-HCA-VLV-1418	3/4"	BLUE MANIFOLD	ALUMINUM	NPT	SMARTFLOW	6SA-4-2-2-AZ	INCLUDED WITH QTY 4, 1/4" MNPT X FEMALE QUICK DISCONNECTS



HIGH CAPACITY AIR EXTENSION
 7-ID SST
 12/05/2017
 R. O'BRIEN
 PRESSURE TEST REPORT ATTACHMENT
 SEE PRESSURE TEST REPORT FOR TEST PARAMETERS

PYLON DROP
 GAUGE SHALL BE INSTALLED AT
 VIEWABLE HEIGHT AND ORIENTATION

INSTALLATION ON TOP OF FOE ROOF

SR MEZZANINE RUN (DROP AT BEAMLIN FOE ROOF)

DO NOT INCLUDE PRESSURE GAUGES IN PRESSURE TEST

MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: R. O'BRIEN LIFE #: 24021 DATE: 9/17/2015

TEST LOCATION: 7-10 SST APPLICABLE DRAWING(S): PO-SST-VT-1500.DWG

ATTACHMENT Y N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:
PROCESS CHILLED WATER

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:
75 PSIG

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

- PRIMARY DI WATER SECONDARY DI WATER ALUMINUM DI WATER
- PROCESS CHILLED WATER COMPRESSED AIR GASEOUS NITROGEN OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:

TEST GAUGE INFORMATION:

RANGE: 0-3000 UNIT OF MEASUREMENT: PSIG
SERIAL NUMBER: 9181 WINCHESTER CALIBRATION DUE DATE: 7/21/2016

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

- LEAK TEST FLUSH HYDROSTATIC PRESSURE TEST PNEUMATIC PRESSURE TEST
- OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION:

MECHANICAL UTILITIES TEST REPORT - PAGE 2

LEAK TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TEST FLUID: AIR FLUID TEMPERATURE AMB. °F FLUID PRESSURE: 560 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL & BUBBLER

TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: V. Briguccia DATE: 1-11-16

RECORD ACTUAL LEAK TEST DURATION HERE: _____

NO LEAKAGE PRESENT

SIGNATURE: V. Briguccia

FLUSH:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

FLUSH FLUID: WATER FLUID TEMPERATURE AMB. °F FLUID PRESSURE: HOUSE PSIG

FLUSH DURATION: 20 MINUTES (CIRCLE ONE)

FLUSH PARAMETERS: N/A

(WRITE "N/A" IF NONE APPLY)

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: V. Briguccia DATE: 1-11-16

COMMENTS:

ACCEPTABLE

SIGNATURE: V. Briguccia

PRESSURE TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TYPE: HYDROSTATIC PNEUMATIC TEST FLUID: _____ FLUID TEMPERATURE _____ °F

SPECIFIED STARTING PRESSURE: 75 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 150 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 25/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 10 MINUTES (10 MINUTES MINIMUM)

MECHANICAL UTILITIES TEST REPORT - PAGE 3

PRESSURE TEST (CONTINUED):

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: V. Briguglia DATE: 1-11-16

ENVIRONMENTAL FACTORS: TEMPERATURE N/A °F RELATIVE HUMIDITY N/A %

PRESSURE TEST DATA TO BE COMPLETED DURING TEST			
SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
75	75		
95	95		
115	115		
135	135		
150	150		

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: V. Briguglia 25646

WITNESS SIGNATURE/LIFE NUMBER: [Signature] 22429

OTHER:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

TEST FLUID: _____ FLUID TEMPERATURE _____ °F FLUID PRESSURE: _____ PSIG

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: _____ DATE: _____

ENVIRONMENTAL FACTORS: TEMPERATURE _____ °F RELATIVE HUMIDITY _____ %

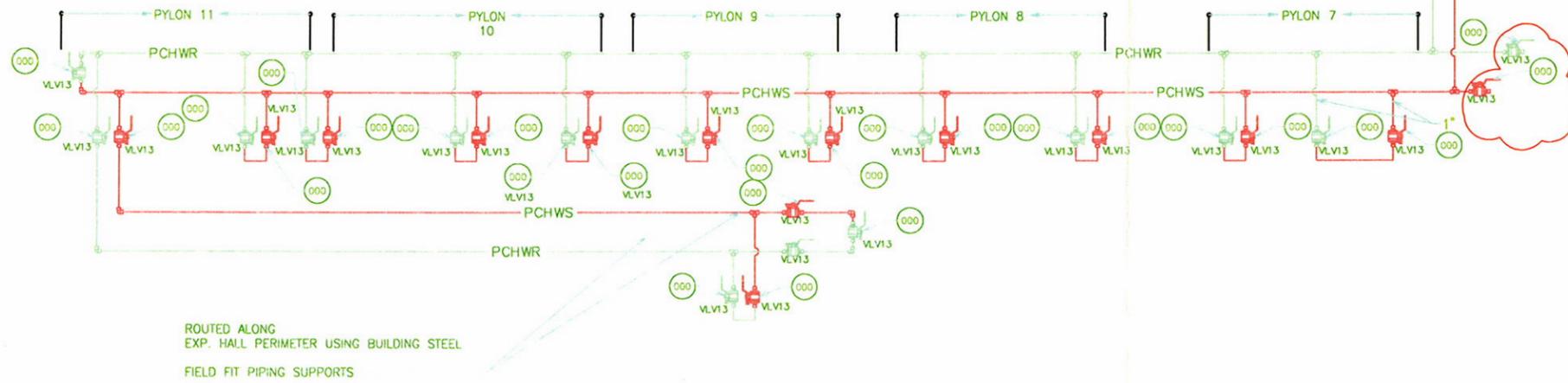
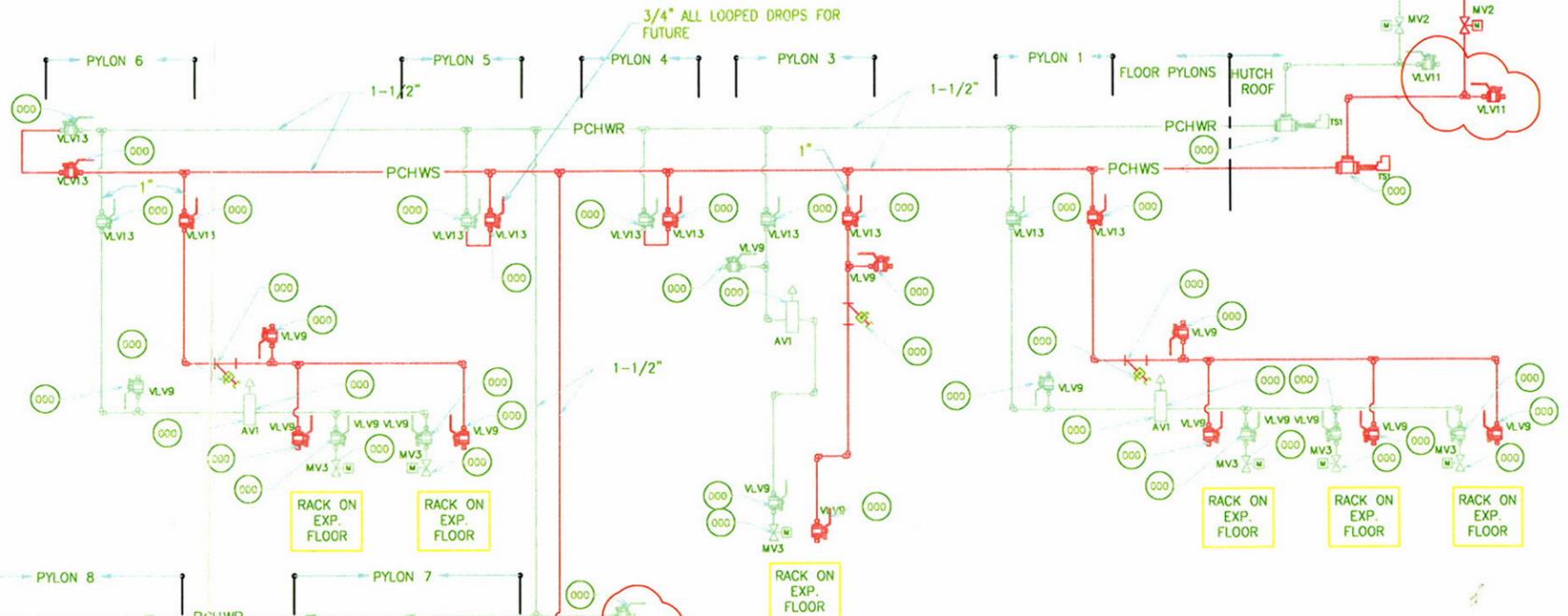
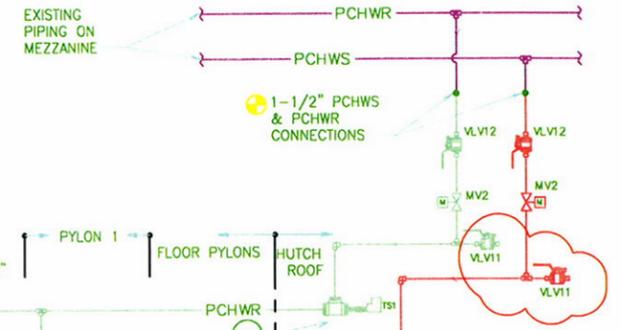
SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	% VARIANCE

09/17/2015
7ID SST

PROCESS CHILLED WATER LEAK, FLUSH, & PRESSURE TEST SHEET ATTACHMENT

R. O'BRIEN

SUGGESTED FILL / VENT POINTS



ROUTED ALONG
EXP. HALL PERIMETER USING BUILDING STEEL
FIELD FIT PIPING SUPPORTS

RACK ON EXP. FLOOR

TAG FORMAT

10IDA-PCHWS-VLV-1001

- 4-DIGIT SEQUENTIAL NUMBER STARTING AT 1001
- DEVICE TAG ABBREVIATION (SEE LEGEND)
- SYSTEM ABBREVIATION (SEE LEGEND)
- HUTCH DESIGNATION
- 4-DIGIT BEAMLINE IDENTIFICATION



LAST THREE DIGITS OF DEVICE ID

PIPE IDENTIFICATION LABEL FORMAT - USE SBMS FOR INSTALLATION DETAILS

SYSTEM	LABEL TEXT	LABEL FIELD COLOR	COLOR OF LETTERS
COMPRESSED AIR	COMPRESSED AIR	BLUE	WHITE
PROCESS CHILLED WATER	PROCESS CHILLED WATER SUPPLY PROCESS CHILLED WATER RETURN	GREEN	WHITE
DEIONIZED WATER (CU SYSTEM)	COPPER DI SUP COPPER DI RET	GREEN	WHITE
GASEOUS NITROGEN	GASEOUS NITROGEN	PURPLE	WHITE

TAG LEGEND

BEAMLINE LOCATION	
BEAMLINE NO.	1BM/1ID THROUGH 30BM/30ID
HUTCH DESIGNATION	
A	HUTCH A (FOE)
B	HUTCH B
C	HUTCH C
D	HUTCH D
F	FLOOR MOUNTED
R	HUTCH ROOF MOUNTED
DEVICE TYPE	
ABBREVIATION	DEVICE
AV	AIR VENT
DPS	DIFFERENTIAL PRESSURE SENSOR
FL	FILTER
FM	FLOW METER
PG	PRESSURE GAUGE
PRG	PRESSURE REGULATOR
PRV	PRESSURE RELIEF VALVE
MV	MOTORIZED VALVE
PT	PRESSURE TRANSMITTER
TS	TEMPERATURE SENSOR
VLV	MANUAL VALVE
SYSTEM DESIGNATION	
ABBREVIATION	SYSTEM
CA	COMPRESSED AIR
PCHWS	PROCESS CHILLED WATER SUPPLY
PCHWR	PROCESS CHILLED WATER RETURN
CUS	COPPER SKID DE-IONIZED WATER SUPPLY
CUR	COPPER SKID DE-IONIZED WATER RETURN
GN2	GASEOUS NITROGEN
LN2	LIQUID NITROGEN