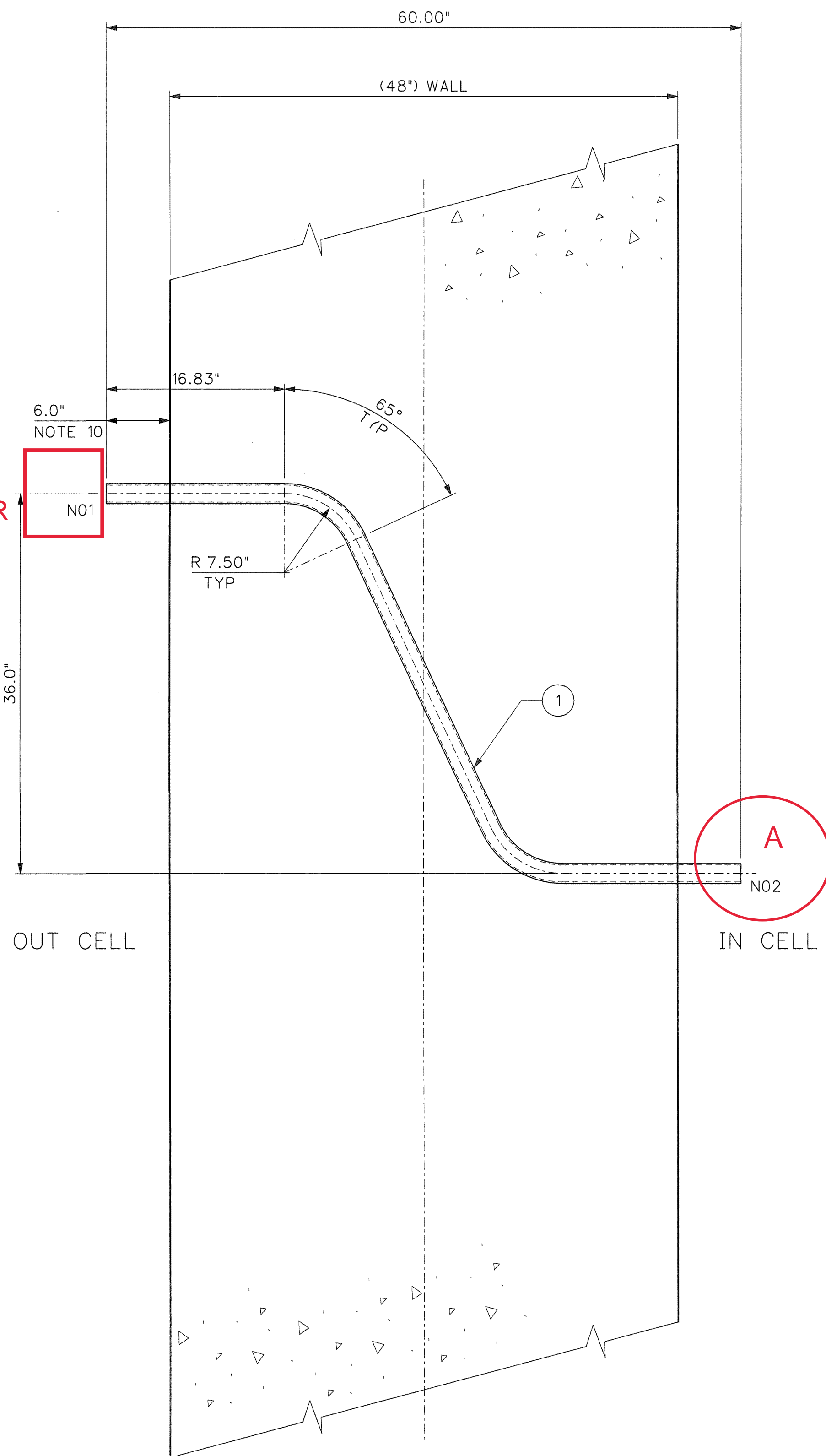


PARTS/MATERIAL LIST					
ITEM	QTY	DESCRIPTION	REFERENCE	QL	MATL
1	1	PIPE, 1 1/2" SCH. 40S	NOTE 6	Q	SS

NOTES:

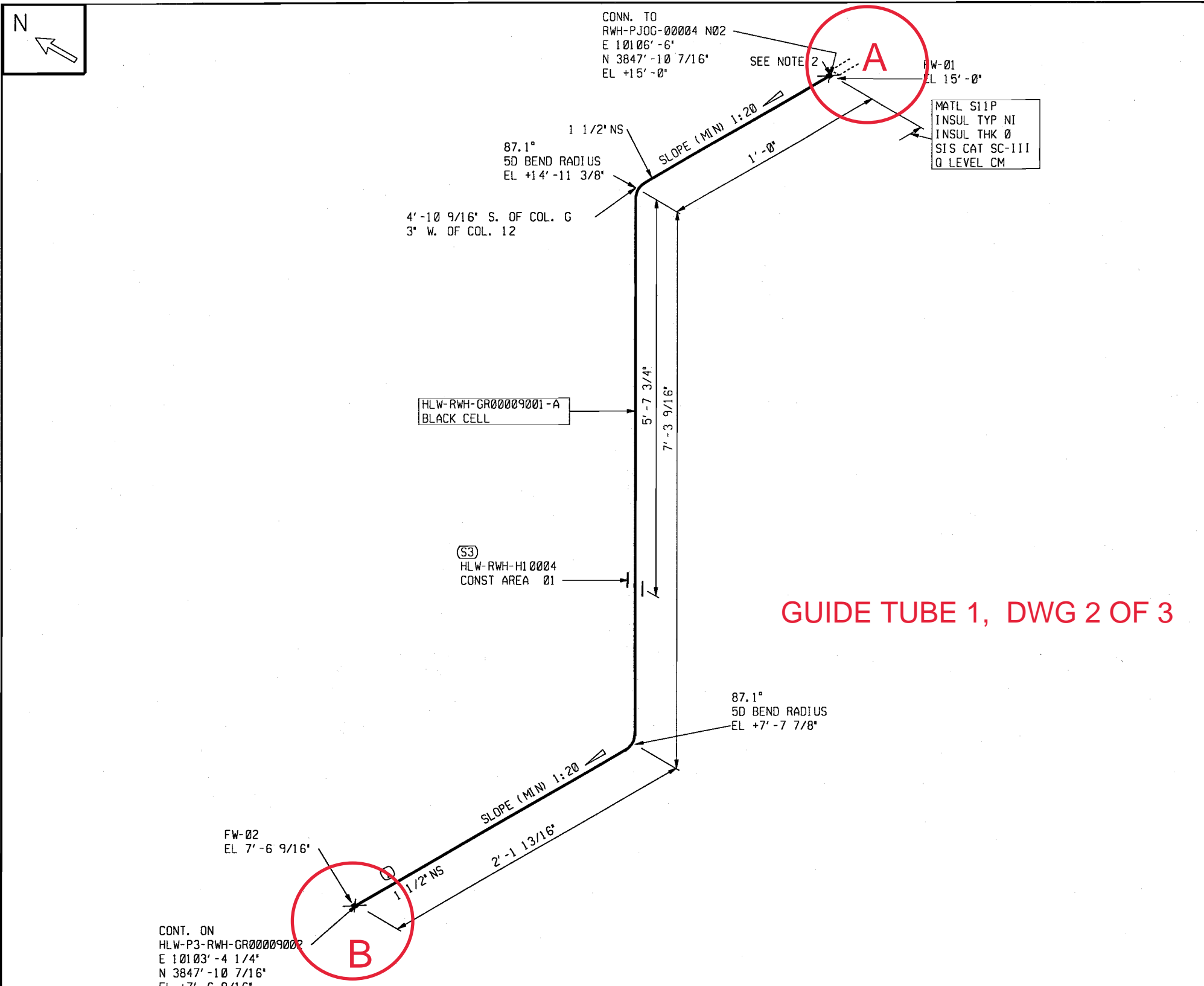
1. PIPING SHALL BE FABRICATED FROM A SINGLE CONTINUOUS LENGTH OF PIPE.
2. FABRICATION OF PIPING SHALL BE PER SPECIFICATION 24590-WTP-3PS-PS02-T0001.
3. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
4. THE Q FUNCTION OF THIS DRAWING IS THE MATERIAL AS INDICATED AND THE GEOMETRIC CONFIGURATION OF THE JOGGLE.
5. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.
6. FOR PIPE MATERIAL, REFER TO DATA SHEET REFERENCED BELOW.
7. FOR PENETRATION LOCATIONS REFER TO APPLICABLE CONCRETE FORMING DRAWINGS REFERENCED BELOW.
8. CONSTRUCTION AIDS ARE PERMITTED TO CONTACT PIPE ANYWHERE ALONG THE LENGTH.
9. EQUIPMENT INSTALLATION IS PER PROCEDURE 24590-WTP-GPP-CON-3601.
10. THIS DIMENSION MUST BE VERIFIED BY QUALITY CONTROL PRIOR TO CONCRETE PLACEMENT.
11. THE FOLLOWING CALCULATION WAS USED IN THE VERIFICATION OF THIS EQUIPMENT:
24590-HLW-P61C-P31T-00020.

LEVEL TRANSMITTER



GUIDE TUBE 1, DWG 1 OF 3

COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED



GUIDE TUBE 1, DWG 2 OF 3

CONTAINS BLACK CELL PIPE

CM
QUALITY
LEVEL

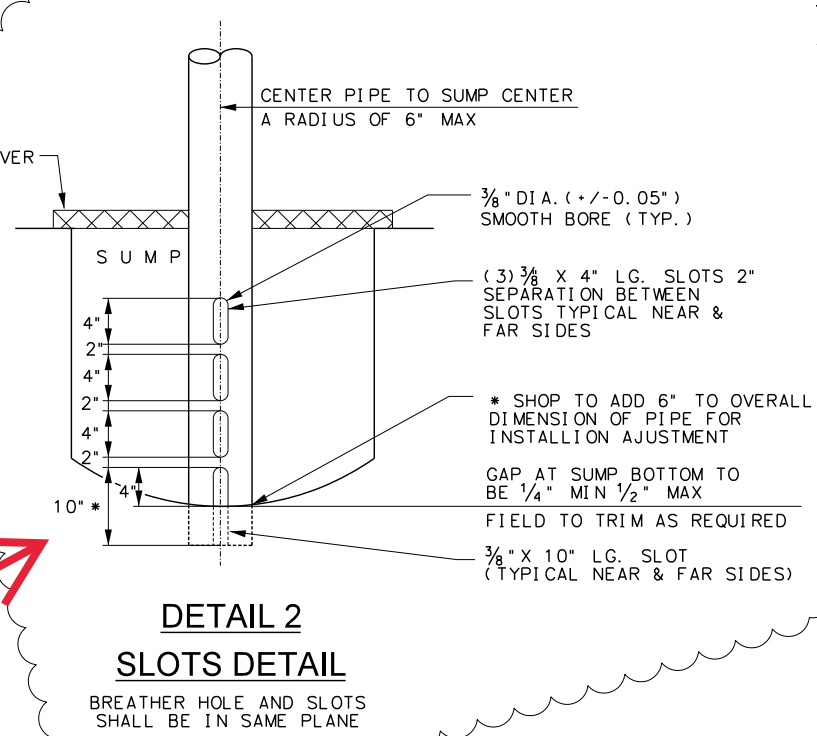
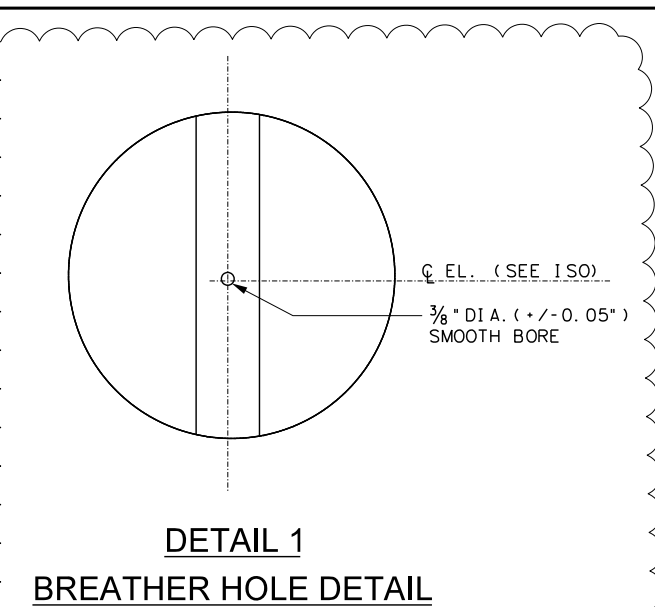
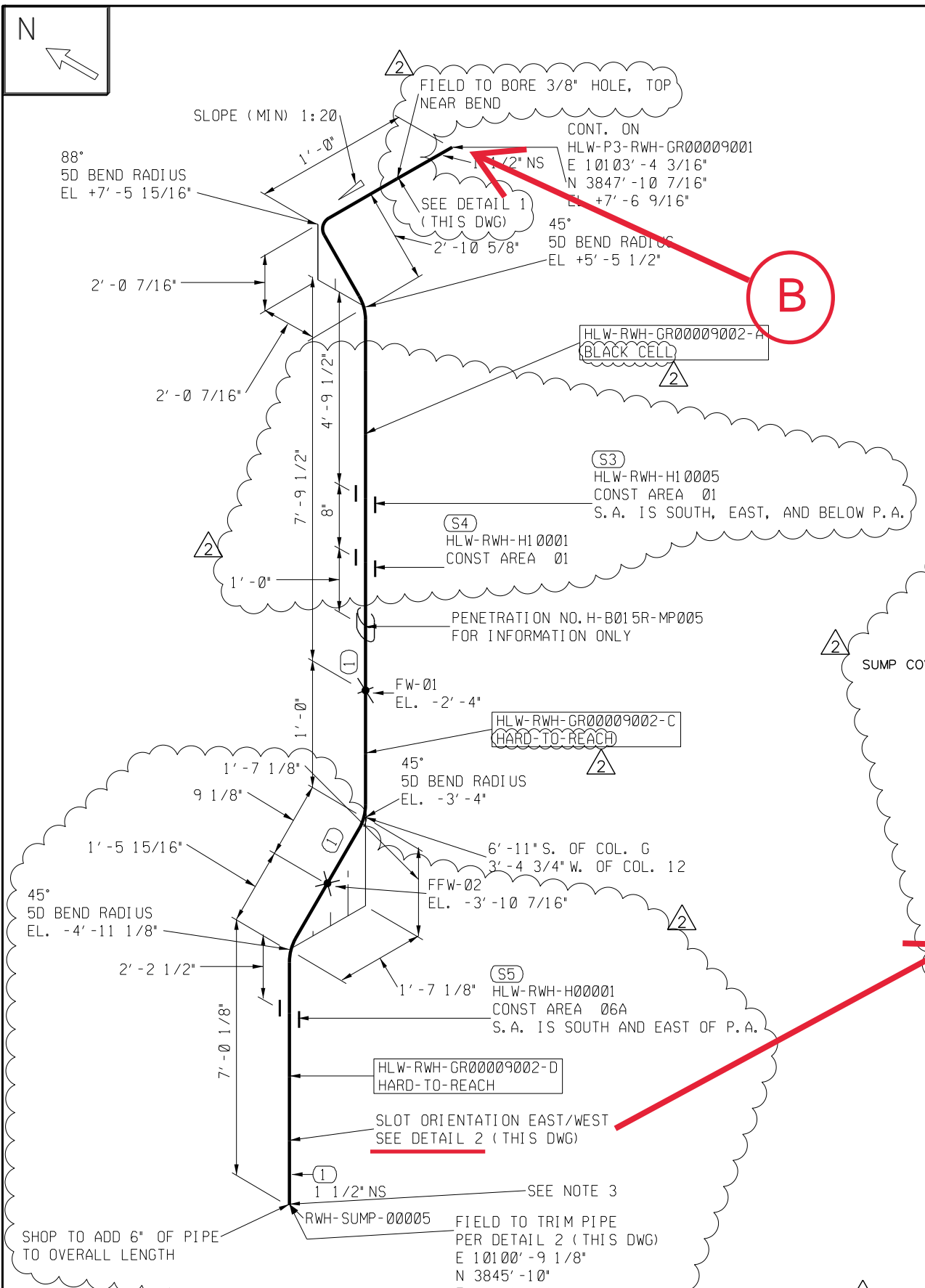
- NOTES:
- FOR GENERAL NOTES AND LEGEND SEE DWG. 24590-WTP-PO-50-00001001.
 - FOR RADAR WAVE GUIDE SPOOL INSTALLATION DETAILS SEE DWG 24590-WTP-J8-50-00001 THRU 24590-WTP-J8-50-00005

PAINT CODE	N/A	CONTENT APPLICABLE TO ALARA?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
INSULATION TYPE	NI	ADR NO.	24590-HLW-ADR-PL-03-004	REV. 2
INSULATION THK.	0	SEISMIC CAT.	SC-III	

SHOP MATERIALS				
PART NO	COMPONENT DESCRIPTION	N.S. (INCHES)	QTY	BECTEL STK CODE
PIPE				
1	PIPE, A312TP316/316L, SMLS, SCH40S, BBE	1 1/2	8'1"	PPPC080C0W0N
2	PIPE, A312TP316/316L, SMLS, SCH40S, BBE	1 1/2	1'11"	PPPC080C0W0N
FIELD MATERIALS				
PART NO	COMPONENT DESCRIPTION	N.S. (INCHES)	QTY	BECTEL STK CODE
SUPPORTS				
3	PIPE SUPT, HLW-RWH-HI0004		1	



COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED



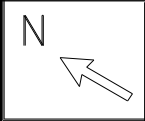
GUIDE TUBE 1, DWG 3 OF 3

- NOTES:
1. FOR GENERAL NOTES AND LEGEND SEE DWG. 24590-WTP-P0-50-00001001.
 2. DELETED.
 3. FOR WELD DETAIL SEE DWG 24590-WTP-J8-50-00001. FOR RADAR WAVE GUIDE DETAILS AND INSTALLATION SEE DWG 24590-WTP-J8-50-00001 THRU 24590-WTP-J8-50-00005.

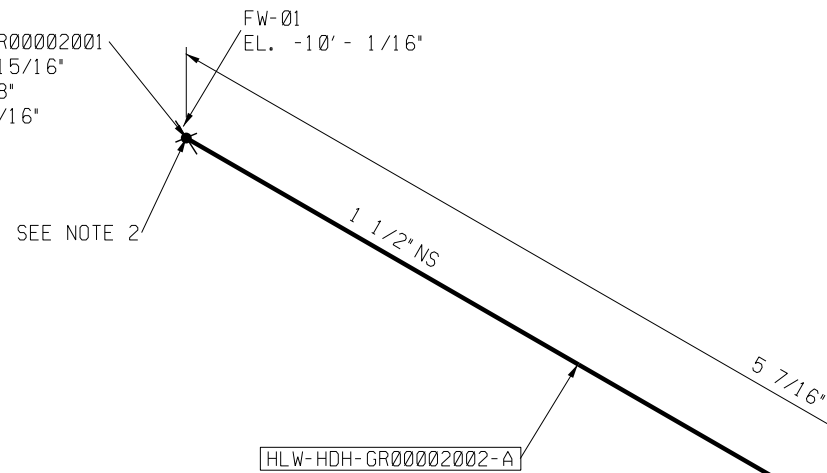
CONTAINS BLACK CELL PIPE		CM QUALITY LEVEL	
CONTAINS HARD-TO-REACH PIPE			
PAINT CODE	N/A	CONTENT APPLICABLE TO ALARA?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
INSULATION TYPE	NI	ADR NO.	SEE APPLICABLE P&ID REV. 2
INSULATION THK.	0	SEISMIC CAT.	SC-III

SHOP MATERIALS		N. S. (INCHES)	QTY	BECHTEL STK CODE
PIPE				
PART NO	COMPONENT DESCRIPTION			
1	PIPE, A312TP316/316L, SMLS, SCH40S, BBE	1 1/2	19' 3"	PPPC0B0G0W0N
2	PIPE, A312TP316/316L, SMLS, SCH40S, BBE	1 1/2	2' 6"	PPPC0B0G0W0N
FIELD MATERIALS				
SUPPORTS				
PART NO	COMPONENT DESCRIPTION	N. S. (INCHES)	QTY	BECHTEL STK CODE
3	PIPE SUPT, GU-A-1 1/2, FL-A-5G-12.0-12.0		1	
4	PIPE SUPT, HLW-RWH-H1 0001		1	
5	PIPE SUPT, GU-A-1 1/2, CC-A-2-18.0		1	

COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED



CONT. ON
HLW-P3-HDH-GR00002001
E 10227' -10 15/16"
N 3718' -4 5/8"
EL. -10' -0 1/16"



SEE NOTE 2

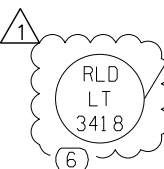
HLW-HDH-GR00002002-A

GUIDE TUBE 2, DWG 1 OF 2

1'-5 3/16" S. OF COL. 5
6'-4 15/16" E. OF COL. 18

OPERATOR W
OPEN LEVER NORTH
HDH-V-00147

E 10227' -10 15/16"
N 3717' -4 9/16"
EL. -10' -0 1/16"



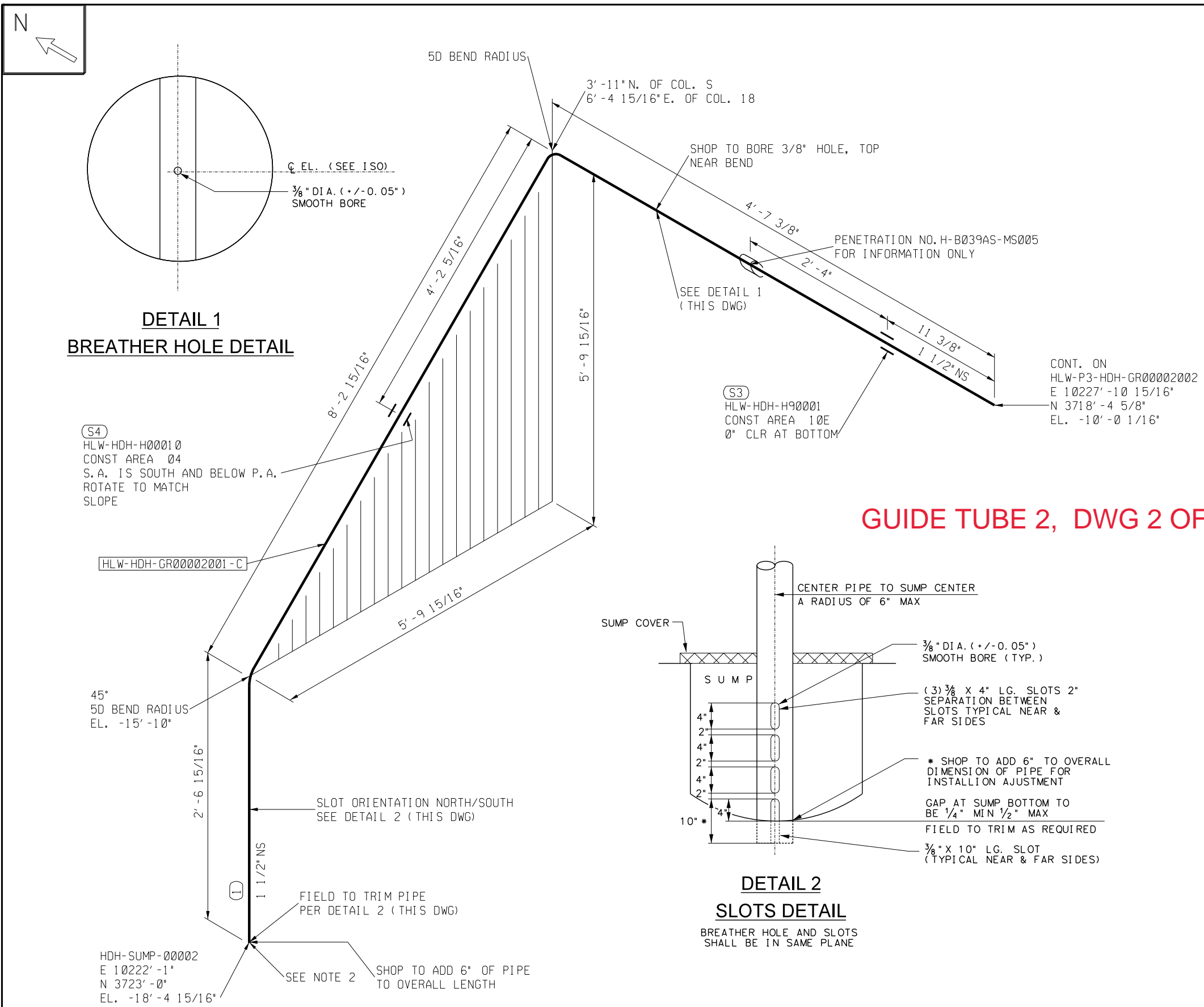
NOTES:

1. FOR GENERAL NOTES AND LEGEND SEE DWG. 24590-WTP-P0-50-00001001.
2. FOR WELD DETAIL SEE DWG 24590-WTP-J8-50-00001. FOR RADAR WAVE GUIDE DETAILS AND INSTALLATION SEE DWG 24590-WTP-J8-50-00001 THRU 24590-WTP-J8-50-00005.

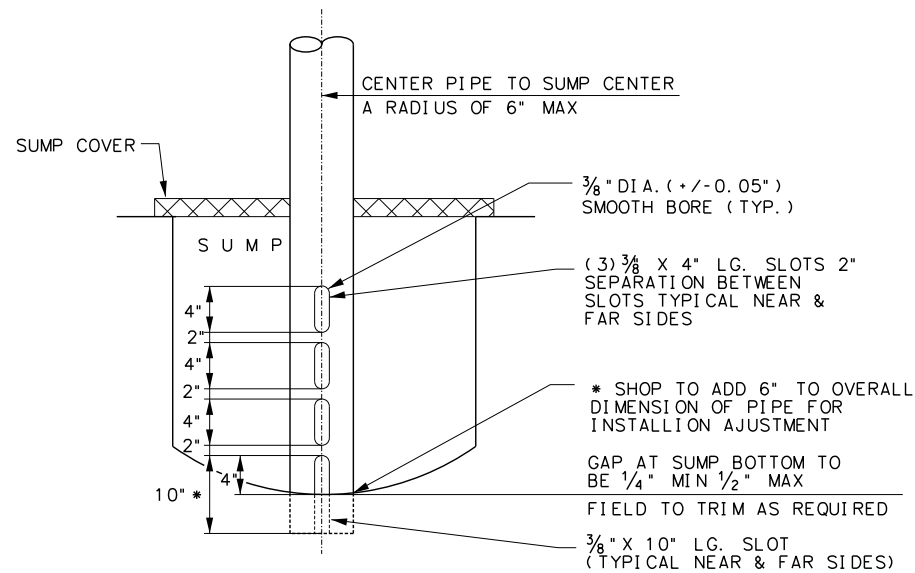
CONTENTS OF THIS DOCUMENT
ARE DANGEROUS WASTE
PERMIT AFFECTING

PAINT CODE	N/A	CONTENT APPLICABLE TO ALARA? <input checked="" type="checkbox"/> YES <input type="checkbox"/>
INSULATION TYPE	NI	ADR NO. SEE APPLICABLE P&ID REV.
INSULATION THK.	0	SEISMIC CAT. S

SHOP MATERIALS		ISSUED BY RPP-WTP PDC		
PART NO	COMPONENT DESCRIPTION	N. S. (INCHES)	QTY	BECHTEL STK CODE
<u>PIPE</u>				
1	PIPE, A312TP316/316L, SMLS, SCH40S, BBE	1 1/2	0' 3"	PPPC0B0G0X0N
<u>FLANGES</u>				
2	FLGWN, A182-F316/316L, CL150, SCH40S, RF, STDF, B16.5	1 1/2	1	PFFWX71G5Y04
<u>FIELD MATERIALS</u>				
PART NO	COMPONENT DESCRIPTION	N. S. (INCHES)	QTY	BECHTEL STK CODE
<u>GASKETS</u>				
1	3 GASKET, FLATR, FG-316 INS, 1/16", CL150, B16.21, B16.5	1 1/2	2	PGGC3T100D03
<u>BOLTS</u>				
4	0.5 X 2.75 BOLT, STDBLT, A193B8-2/8	1/2	8	FBBS5Y000003
<u>VALVES / IN-LINE ITEMS</u>				
5	VALVE - BALL, A351 GR CF8M, CL 150, RF, SCH 40S BORE	1 1/2	1	PVVB1610000F
<u>INSTRUMENTS / SPECIALTY ITEMS</u>				
1	6 RLD-LT-3418	1 1/2	1	N/A



GUIDE TUBE 2, DWG 2 OF 2



SHOP MATERIALS				
PART NO	COMPONENT DESCRIPTION	N. S. (INCHES)	QTY	BECHTEL STK CODE
PIPE				
1	PIPE, A312P316/316L, SMLS, SCH40S, BBE	1 1/2	13' 8"	PPPC0B0G0X0N
2	PIPE, A312P316/316L, SMLS, SCH40S, BBE	1 1/2	1' 6"	PPPC0B0G0X0N
FIELD MATERIALS				
PART NO	COMPONENT DESCRIPTION	N. S. (INCHES)	QTY	BECHTEL STK CODE
SUPPORTS				
3	PIPE SUPT, HLW-HDH-H90001, NO MATERIAL REQUIRED		1	
4	PIPE SUPT, GU-E-1 1/2, AW-A-1 1/2-S, CC-A-2-18.0		1	

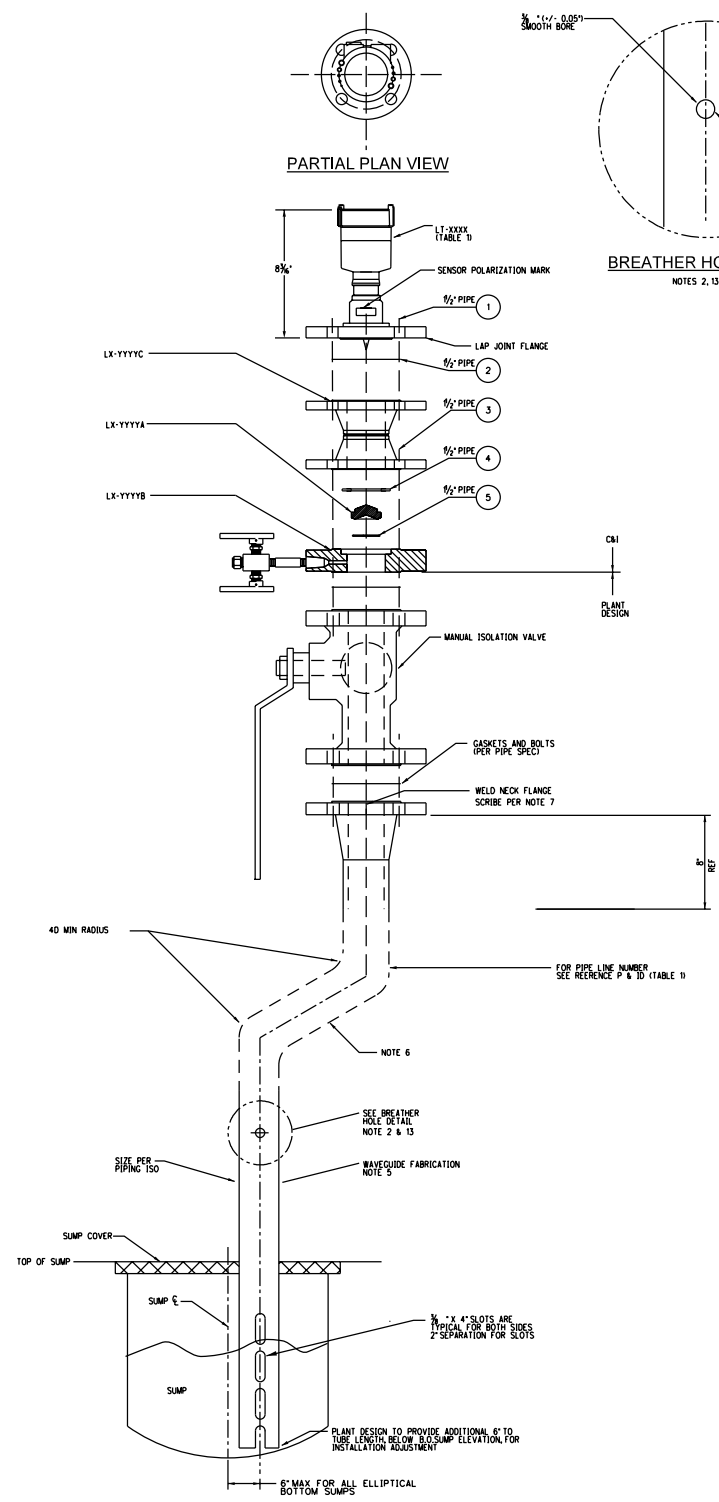
COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

- NOTES:
- FOR GENERAL NOTES AND LEGEND SEE DWG. 24590-WTP-PO-50-00001001.
 - FOR WELD DETAIL SEE DWG 24590-WTP-J8-50-00001.FOR RADAR WAVE GUIDE DETAILS AND INSTALLATION SEE DWG 24590-WTP-J8-50-00001 THRU 24590-WTP-J8-50-00005.

CONTENTS OF THIS DOCUMENT
ARE DANGEROUS WASTE
PERMIT AFFECTING

PAINT CODE	N/A	CONTENT
INSULATION TYPE	NI	ADR NO.
INSULATION THK.	0	

H
G
F
E
D
C
B
A



PARTIAL PLAN VIEW

BREATHER HOLE DETAIL
NOTES 2, 13 & 14

STILLING WELL SLOTS DETAIL
NOTES 10, 14, & 15

PARTS/MATERIAL LIST

ITEM QTY	DESCRIPTION	REFERENCE	QTY MATL
1 4	1/2" x 3" BOLT, STDBOLT, A193	F8855000004	0 SS
2 1	1 1/2" ID 90° RUBBER GSKT 1/2" THK	PGCC00000603	CM RBR
3 4	1/2" x 5" BOLT, STDBOLT, A193	F885500000F	0 SS
4 1	1 1/2" GASKET 3/8L SS, CLASS 150, SPIRAL WOUND WITH 1/2" SS RING	PGCC2W100903	0 SS
5 1	O-RING, 1 1/2" ID x 1 1/4" OD x 1/4" THK, PARKER 2-132 OR EQUAL	JXXX00000001	CM RBR
6 4	3/4" x 3" BOLT, STDBOLT, A193	F885500000V	0 SS
7 1	3" ID 90° RUBBER GSKT 1/2" THK	PGCC00000906	CM RBR
8 4	3/4" x 5" BOLT, STDBOLT, A193	F8855000016	0 SS
9 1	3" GASKET 3/8L SS, CLASS 150, SPIRAL WOUND WITH 1/2" SS RING	PGCC2W100906	0 SS
10 1	O-RING FOR 3"	JXXX00000002	CM RBR

WAVEGUIDE TUBE GUIDELINES AND RECOMMENDATIONS¹

WAVEGUIDE PIPE SIZE	1 1/2 IN	3 IN
MAXIMUM WAVEGUIDE LENGTH ¹	84 FT	107 FT
MIN BEND RADIUS	4D (6IN)	4D (12IN)
COMBINED IN-PLANE AND OUT-OF-PLANE BENDS	8	
MAX OUT-OF-PLANE BENDS ²	3 IN A 5 TOTAL BEND DESIGN	
MAX BEND ANGLE	90 DEGREES	

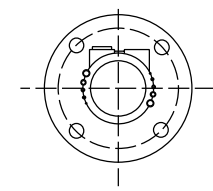
1. WAVEGUIDE LENGTH INCLUDES THE STILLING WELL LENGTH.

NOTES:

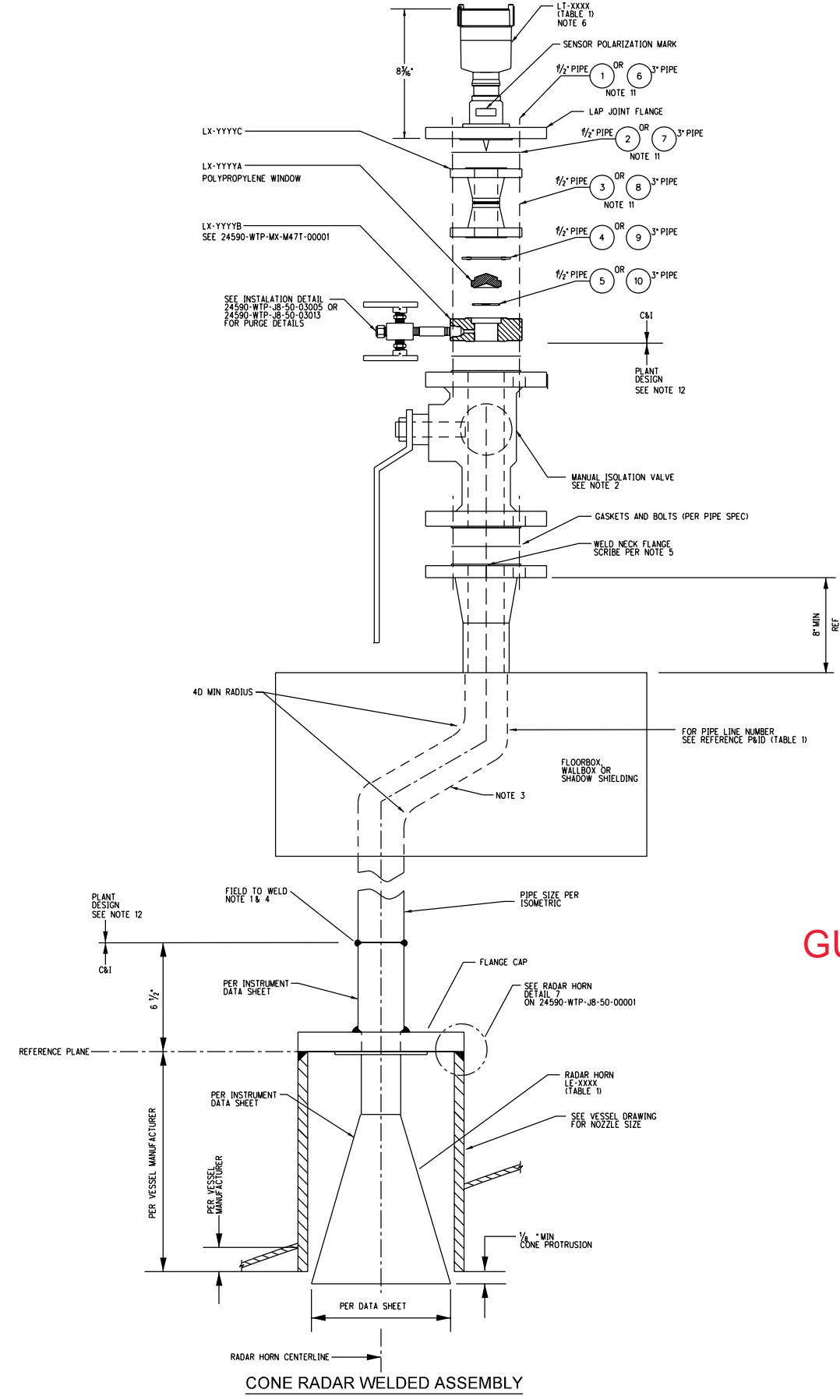
GUIDE TUBE TO SUMP WITH STILLING WELL

RADIOACTIVE
RADAR SUMP ASSEMBLY

NOTES:



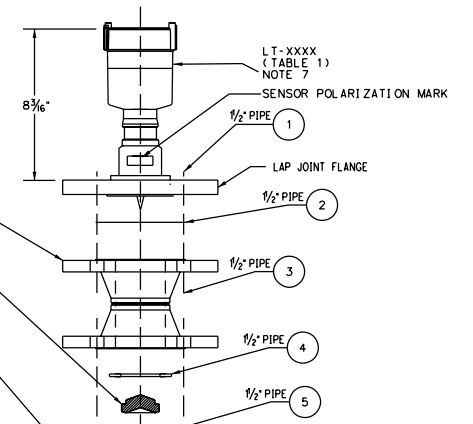
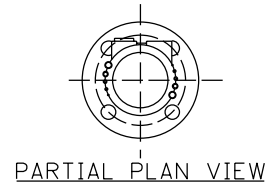
PARTIAL PLAN VIEW



ITEM	QTY	DESCRIPTION	REFERENCE	QL	MATL
1	4	0.5" X 3" BOLT, STDBOLT, A193	FBS5Y000004	Q	SS
2	1	1.5" 150 RF RUBBER GSKT 1/2" THK	PGCC00000603	CM	RBR
3	4	0.5" X 5" BOLT, STDBOLT, A193	FBS5Y00000F	Q	SS
4	1	1.5" GASKET, 316L SS, CLASS 150, SPIRAL WOUND WITH 1/4" SS RING	PGCC2W000903	Q	SS
5	1	O-RING, 1 1/2" ID x 1 1/4" OD x 3/16" THK, PARKER 2-132 OR EQUAL	FBS5Y00000F	CM	RBR
6	4	0.625" X 3" BOLT, STDBOLT, A193	FBS5Y00000V	Q	SS
7	1	1" 150 RF RUBBER GSKT 1/2" THK	PGCC00000606	CM	RBR
8	4	0.625" X 5" BOLT, STDBOLT, A193	FBS5Y000016	Q	SS
9	1	3" GASKET, 316L SS, CLASS 150, SPIRAL WOUND WITH 1/4" SS RING	PGCC2W000906	Q	SS
10	1	O-RING FOR 3"	FBS5Y000016	CM	RBR

WAVEGUIDE TUBE GUIDELINES AND RECOMMENDATIONS ¹	
WAVEGUIDE PIPE SIZE	1-1/2 IN
MAXIMUM WAVEGUIDE LENGTH ²	84 FT
THRU-AIR RANGE	20 FT FOR 6" CONE 40 FT FOR 10" CONE
MIN BEND RADIUS	4D (6IN)
COMBINED IN-PLANE AND OUT-OF-PLANE BENDS ³	8
MAX OUT-OF-PLANE BENDS ³	2 IN A 5 TOTAL BEND DESIGN 3 IN A 4 TOTAL BEND DESIGN
MAX BEND ANGLE	90 DEGREES

GUIDE TUBE TO VESSEL WITH CONE



PIPE SIZE	STOCK CODE
1/2"	JL10CMWIN12

LX-YYYYC
SEE 24590-WTP-MX-M471-00003

LX-YYYYA

LX-YYYYB

C&I
PLANT DESIGN

MANUAL ISOLATION VALVE

FLEXITALLIC GASKET
(PER PIPE SPEC)

4D MIN RADIUS

8" REF

FLOORBOX,
WALLBOX OR
SHADOW SHIELDING

PER PIPING ISO

FIELD TO WELD

PLANT DESIGN
SEE NOTE 12
VESSEL VENDOR

SEE VENDOR VESSEL DWG.

RADAR STANDPIPE

GUIDE PER VENDOR
VESSEL DRAWING

RADAR STANDPIPE WELDED ASSEMBLY

WAVEGUIDE TUBE GUIDELINES AND RECOMMENDATIONS ¹		
WAVEGUIDE PIPE SIZE	1-1/2 IN	3 IN
MAXIMUM WAVEGUIDE LENGTH ²	84 FT	107 FT
MIN BEND RADIUS	4D (16IN)	4D (12IN)
COMBINED IN-PLANE AND OUT-OF-PLANE BENDS ³	8	
MAX OUT-OF-PLANE BENDS ³	3 IN A 5 TOTAL BEND DESIGN	
MAX BEND ANGLE	90 DEGREES	

1. INFORMATION PROVIDED HERE IS SUMMARIZED FROM SUPPLIER INFORMATION CONTAINED IN CCN 323968
 2. WAVEGUIDE LENGTH INCLUDES THE STILLING WELL LENGTH.
 3. OUT-OF-PLANE BENDS, ESPECIALLY 90 DEG, SHOULD BE LOCATED NO CLOSER THAN 6FT ABOVE THE 100% LEVEL OF THE TANK AND SHOULD BE LOCATED AS CLOSE TO THE SENSOR END OF THE WAVEGUIDE AS POSSIBLE.

PARTS/MATERIAL LIST					
ITEM	QTY	DESCRIPTION	REFERENCE	QL	MATL
1	4	0.5" X 3" BOLT, STDBOLT, A193	FB855Y000004	Q	SS
2	1	1.5" 150 RF RUBBER GSKT 1/2" THK	PGCC00000603	CM	RBR
3	4	0.5" X 5" BOLT, STDBOLT, A193	FB855Y00000F	Q	SS
4	1	1.5" GASKET, 316L SS, CLASS 150, SPIRAL WOUND WITH 1/4" SS RING	PGCC2W000903	Q	SS
5	1	O-RING, 1 1/2" ID X 1 1/2" OD X 1/2" THK, PARKER 2-132 OR EQUAL	FB855Y00000F	CM	RBR
6	4	0.625" X 3" BOLT, STDBOLT, A193	FB855Y00000V	Q	SS
7	1	3" 150 RF RUBBER GSKT 1/2" THK	PGCC00000606	CM	RBR
8	4	0.625" X 5" BOLT, STDBOLT, A193	FB855Y000016	Q	SS
9	1	3" GASKET, 316L SS, CLASS 150, SPIRAL WOUND WITH 1/4" SS RING	PGCC2W000906	Q	SS
10	1	O-RING FOR 3"	FB855Y000016	CM	RBR

GUIDE TUBE TO VESSEL WITH STILLING WELL