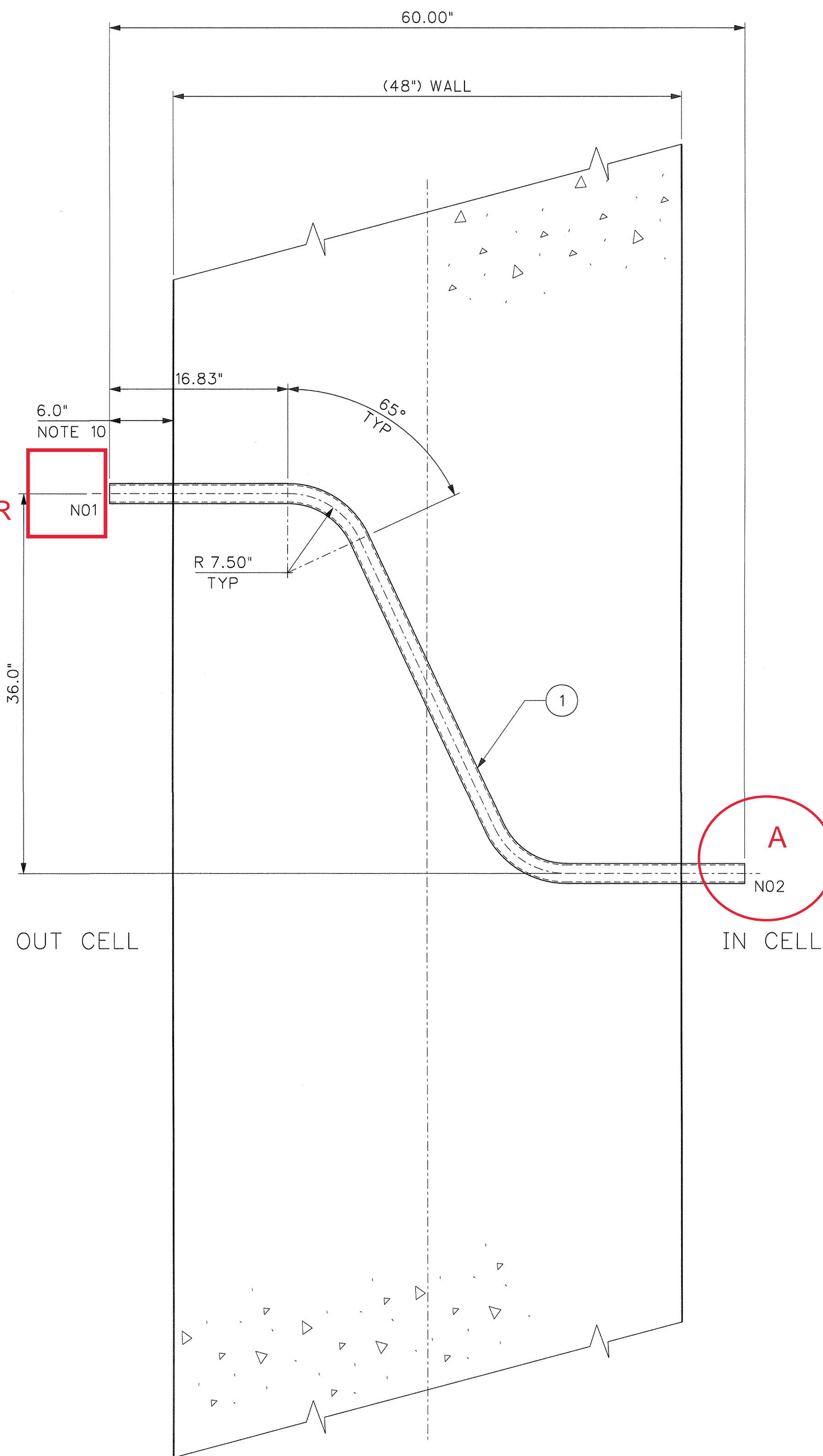


PARTS/MATERIAL LIST					
ITEM	QTY	DESCRIPTION	REFERENCE	QL	MATL
1	1	PIPE, 1 1/2" SCH. 40S	NOTE 6	Q	SS

NOTES:

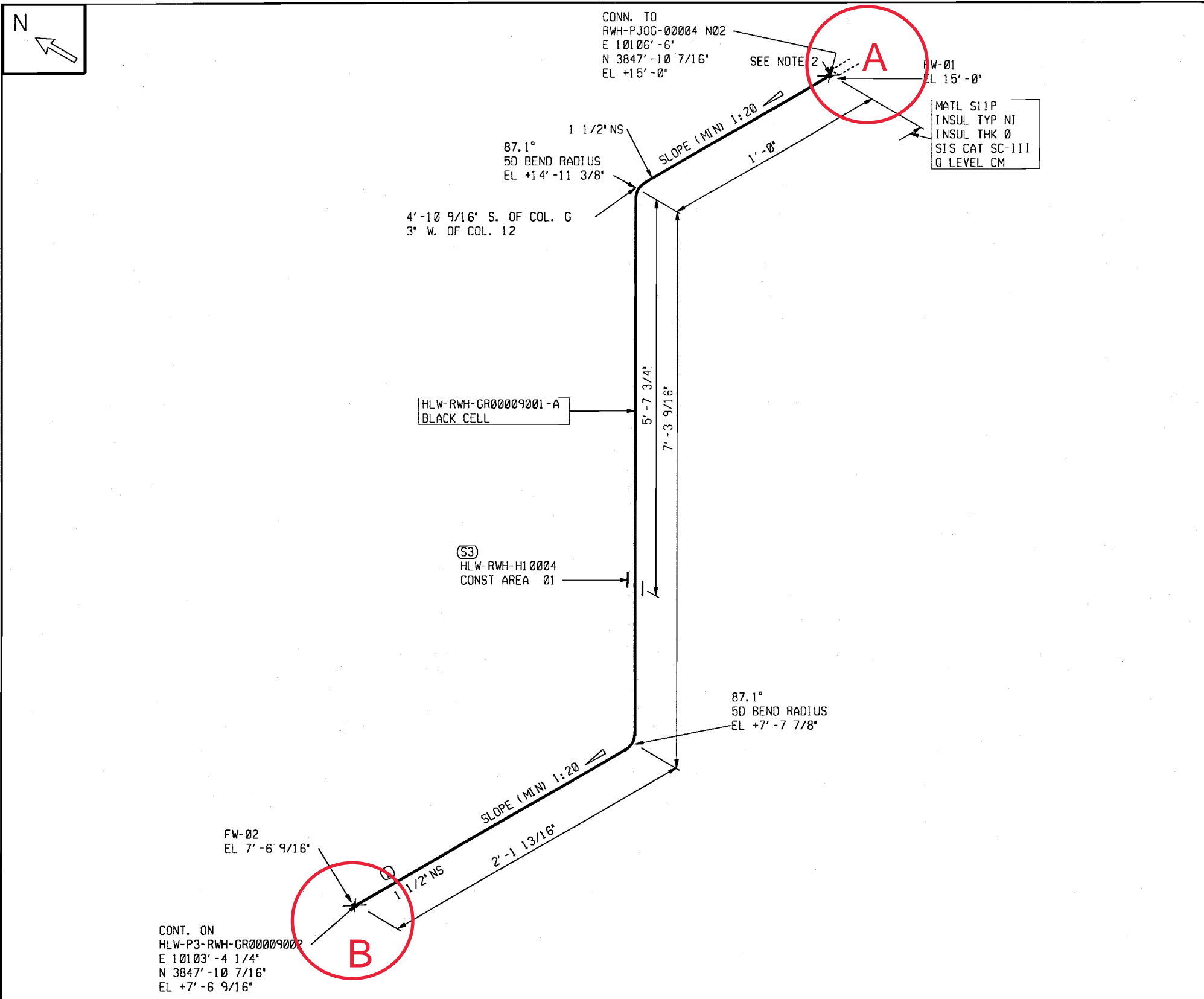
1. PIPING SHALL BE FABRICATED FROM A SINGLE CONTINUOUS LENGTH OF PIPE.
2. FABRICATION OF PIPING SHALL BE PER SPECIFICATION 24590-WTP-3PS-PS02-T0001.
3. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
4. THE Q FUNCTION OF THIS DRAWING IS THE MATERIAL AS INDICATED AND THE GEOMETRIC CONFIGURATION OF 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



ELEVATION
WALL SECTION

COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED



SHOP MATERIALS			
PART NO	COMPONENT DESCRIPTION	N.S. (INCHES)	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)	BECTEL STK CODE
SUPPORTS			
3	PIPE SUPT, HLW-RWH-HI0004		1

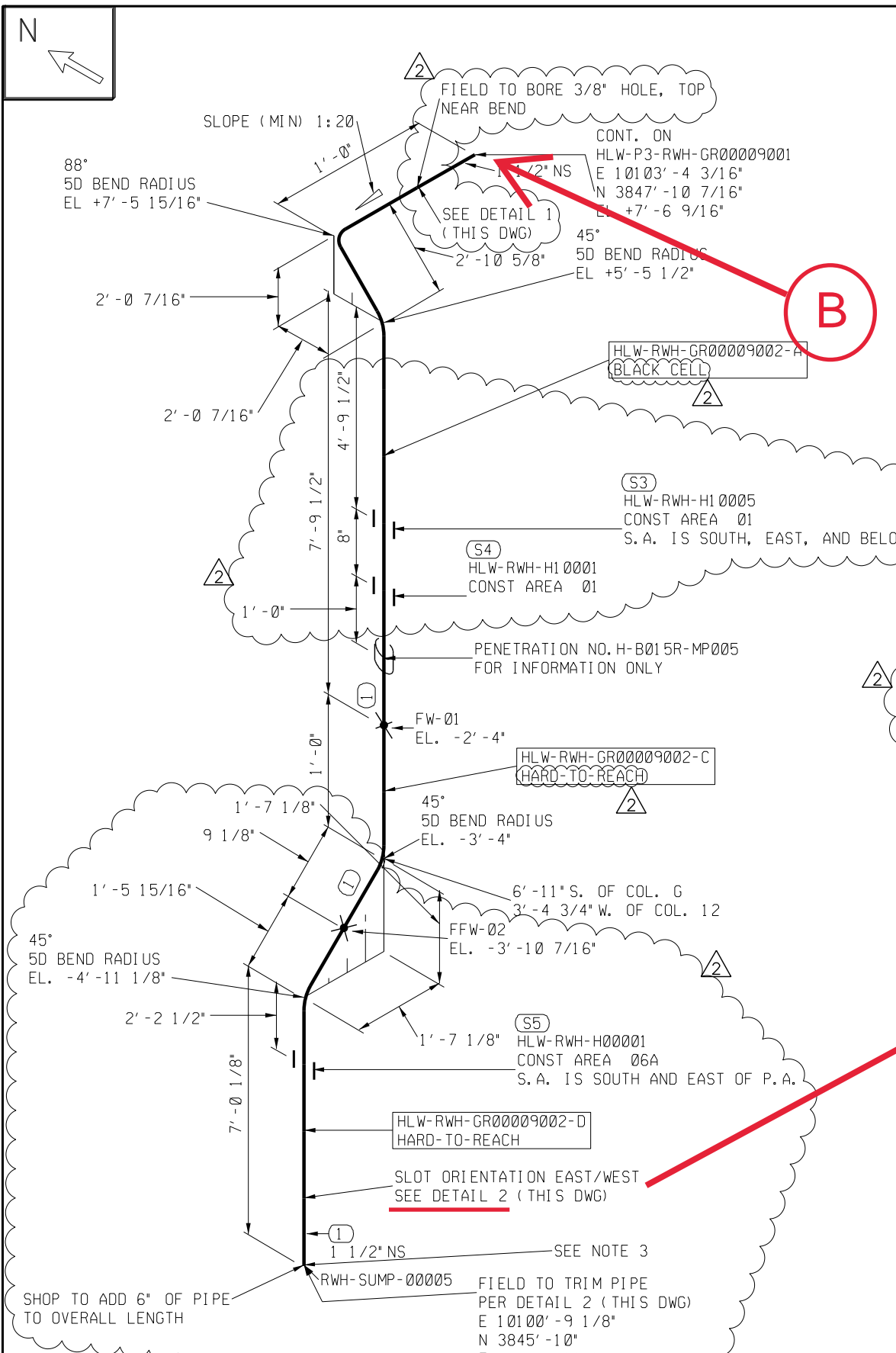
CONTAINS BLACK CELL PIPE

CM
QUALITY
LEVEL

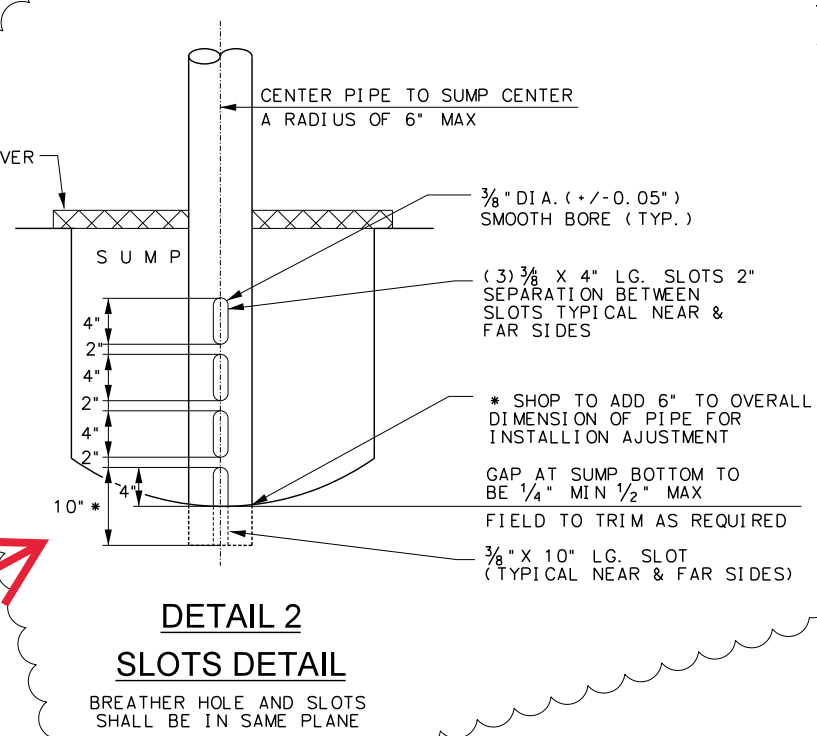
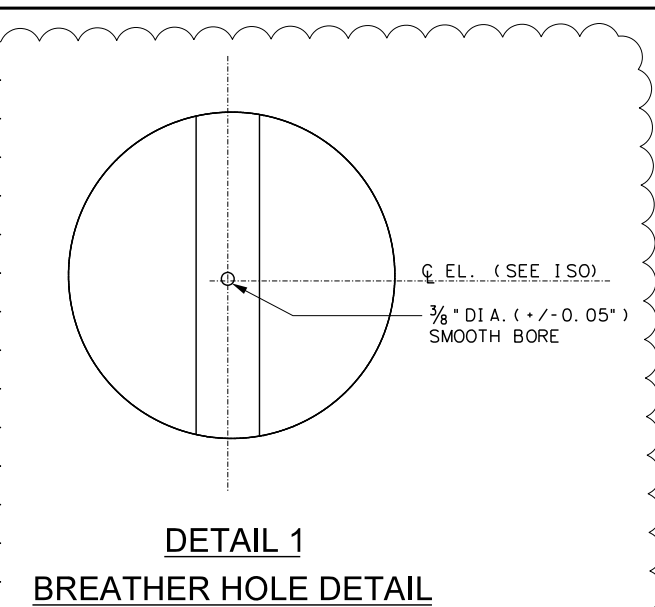
PAINT CODE	N/A	CONTENT APPLICABLE TO ALARA?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
INSULATION TYPE	NI	ADR NO.	24590-HLW-ADR-PL-03-004	REV. 2
INSULATION THK.	0	SEISMIC CAT.	SC-III	



COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED



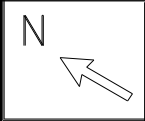
- NOTES:
1. FOR GENERAL NOTES AND LEGEND SEE DWG. 24590-WTP-P0-50-00001001.
 2. DELETED.
 3. FOR WELD DETAIL SEE DWG 24590-WTP-J8-50-00001. FOR RADAR WAVE GUIDE DETAILS AND INSTALLATION SEE DWG 24590-WTP-J8-50-00001 THRU 24590-WTP-J8-50-00005.



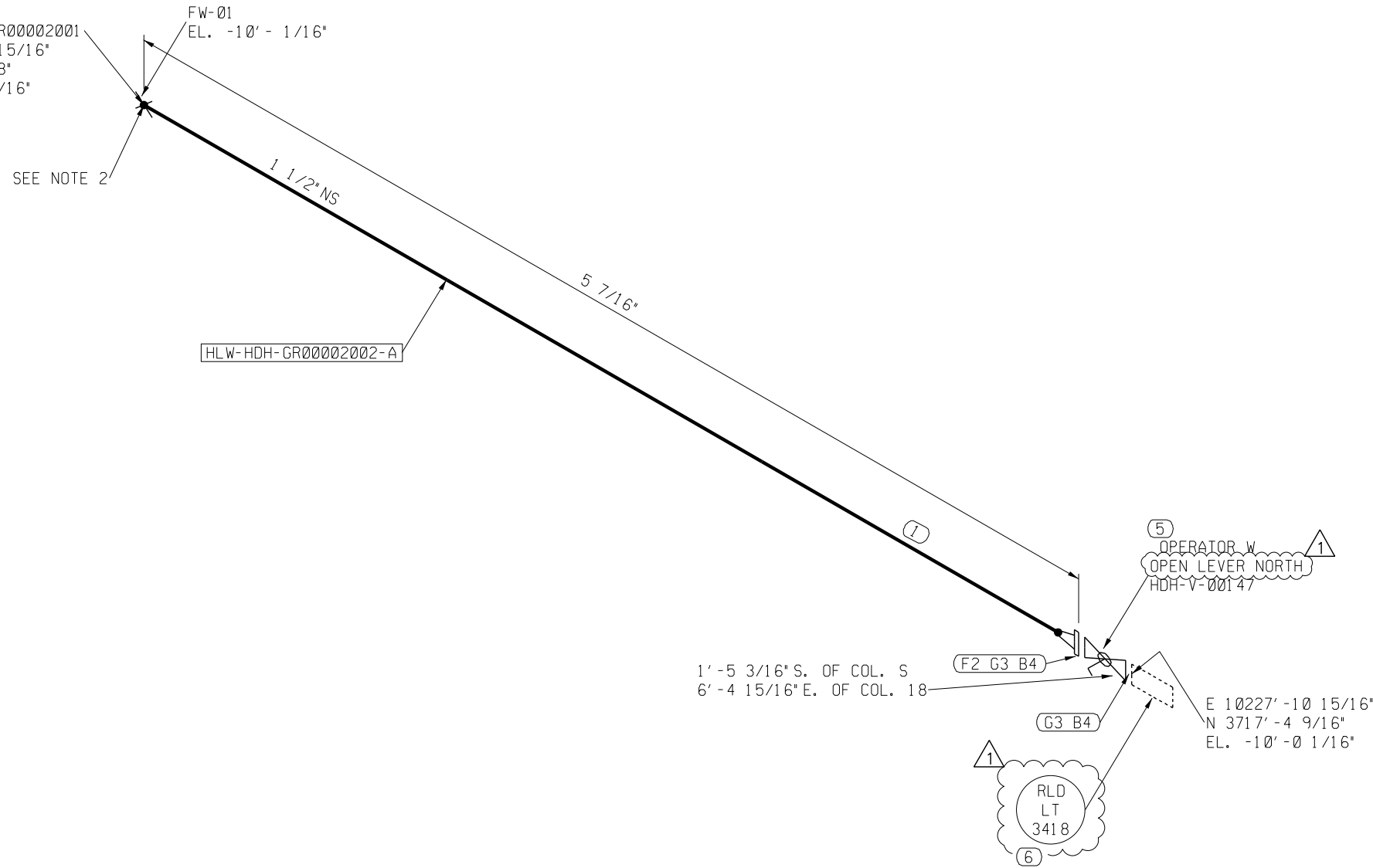
SHOP MATERIALS		N. S. (INCHES)	QTY	BECHTEL STK CODE
PIPE				
PART NO	COMPONENT DESCRIPTION			
1	PIPE, A312TP316/316L, SMLS, SCH40S, BBE	1 1/2	19' 3"	PPPC0B0G0W0N
2	PIPE, A312TP316/316L, SMLS, SCH40S, BBE	1 1/2	2' 6"	PPPC0B0G0W0N
FIELD MATERIALS				
PART NO	COMPONENT DESCRIPTION	N. S. (INCHES)	QTY	BECHTEL STK CODE
SUPPORTS				
3	PIPE SUPT, GU-A-1 1/2, FL-A-5G-12.0-12.0		1	
4	PIPE SUPT, HLW-RWH-H10001		1	
5	PIPE SUPT, GU-A-1 1/2, CC-A-2-18.0		1	

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

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"



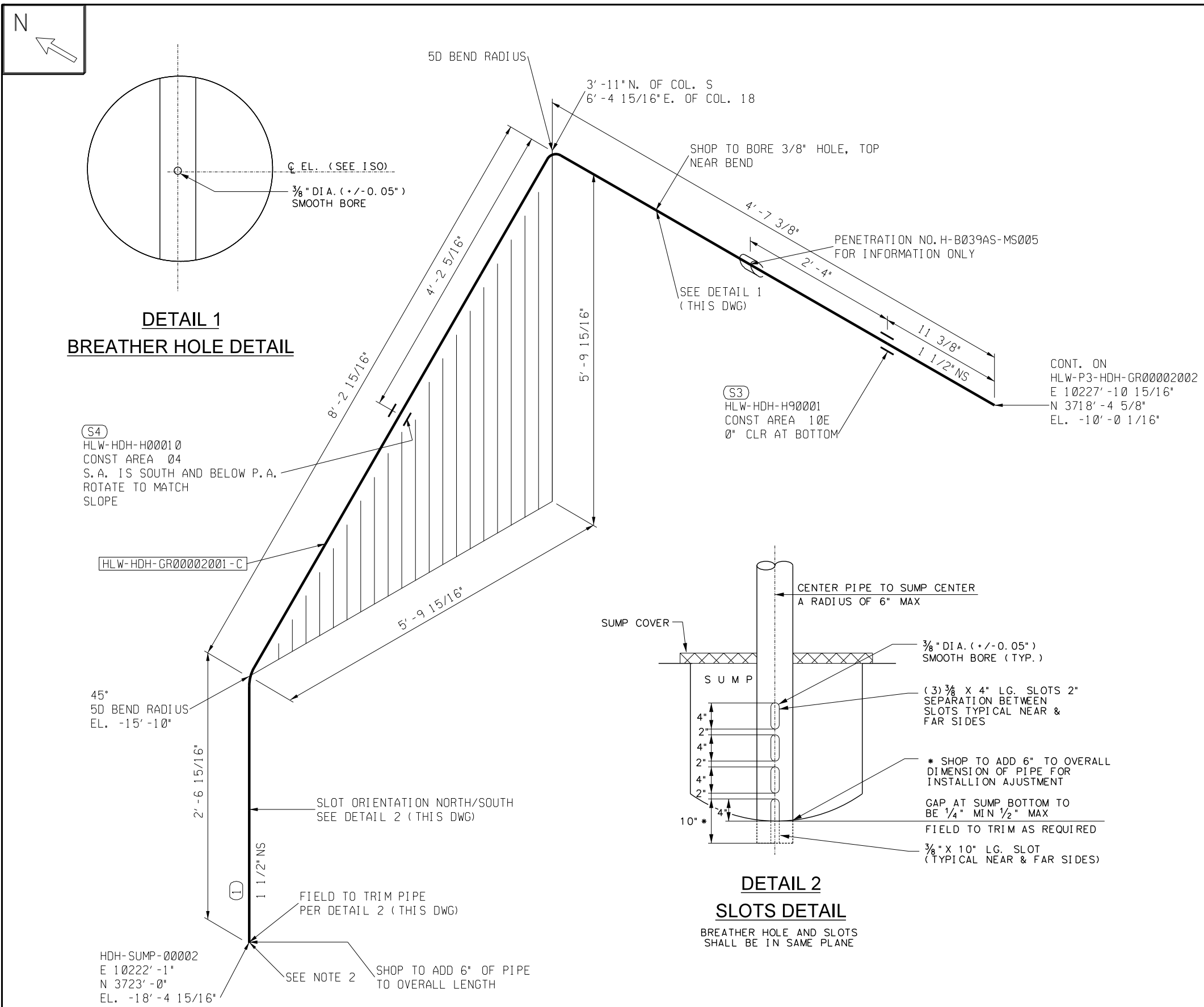
SHOP MATERIALS		ISSUED BY RPP-WTP PDC		
PART NO	COMPONENT DESCRIPTION	N. S. (INCHES)	QTY	BECHTEL STK CODE
<u>PIPE</u>				
1	PIPE, A312TP316/316L, SMLS, SCH40S, BBE	1 1/2	0' 3"	PPPC0B0G0X0N
<u>FLANGES</u>				
2	FLGWN, A182-F316/316L, CL150, SCH40S, RF, STDFF, B16.5	1 1/2	1	PFFWX71G5Y04
<u>FIELD MATERIALS</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	① 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

NOTES:

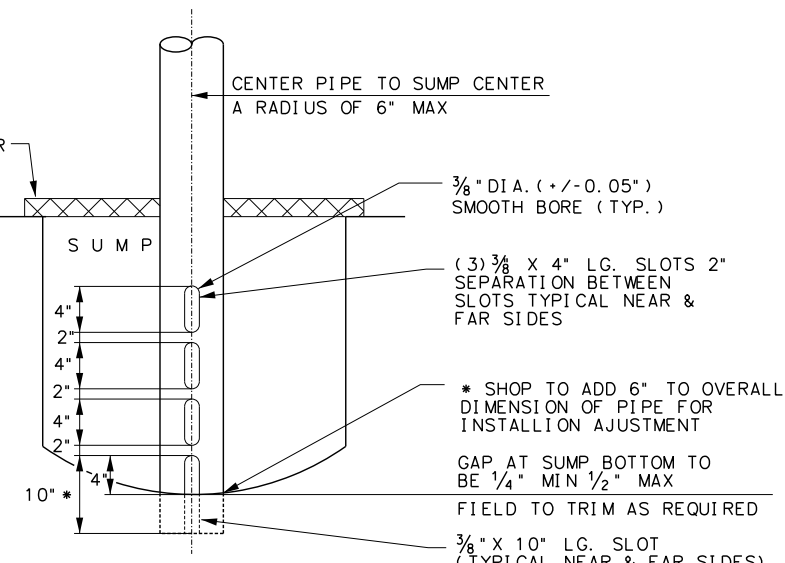
- FOR GENERAL NOTES AND LEGEND SEE DWG. 24590-WTP-P0-50-00001001.
- FOR WELD DETAIL SEE DWG 24590-WTP-J8-50-00001. FOR RADAR WAVE GUIDE DETAILS AND INSTALLATION SEE DWG 24590-WTP-J8-50-00001 THRU 24590-WTP-J8-50-00005.

①
 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



**DETAIL 1
BREATHER HOLE DETAIL**



**DETAIL 2
SLOTS DETAIL**

BREATHER HOLE AND SLOTS SHALL BE IN SAME PLANE

SHOP MATERIALS				
PART NO	COMPONENT DESCRIPTION	N. S. (INCHES)	QTY	BECHTEL STK CODE
PIPE				
1	PIPE, A312TP316/316L, SMLS, SCH40S, BBE	1 1/2	13' 8"	PPPC0B0G0X0N
2	PIPE, A312TP316/316L, 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	

(S4)
HLW-HDH-H0001 0
CONST AREA 04
S.A. 1S SOUTH AND BELOW P.A.
ROTATE TO MATCH
SLOPE

HLW-HDH-GR00002001-C

(S3)
HLW-HDH-H90001
CONST AREA 10E
0" CLR AT BOTTOM

CONT. ON
HLW-P3-HDH-GR00002002
E 10227'-10 15/16"
N 3718'-4 5/8"
EL. -10'-0 1/16"

HDH-SUMP-00002
E 10222'-1"
N 3723'-0"
EL. -18'-4 15/16"

SEE NOTE 2 SHOP TO ADD 6" OF PIPE TO OVERALL LENGTH

- 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	

COMPUTER GENERATED - MANUAL CHANGES NOT PERMITTED

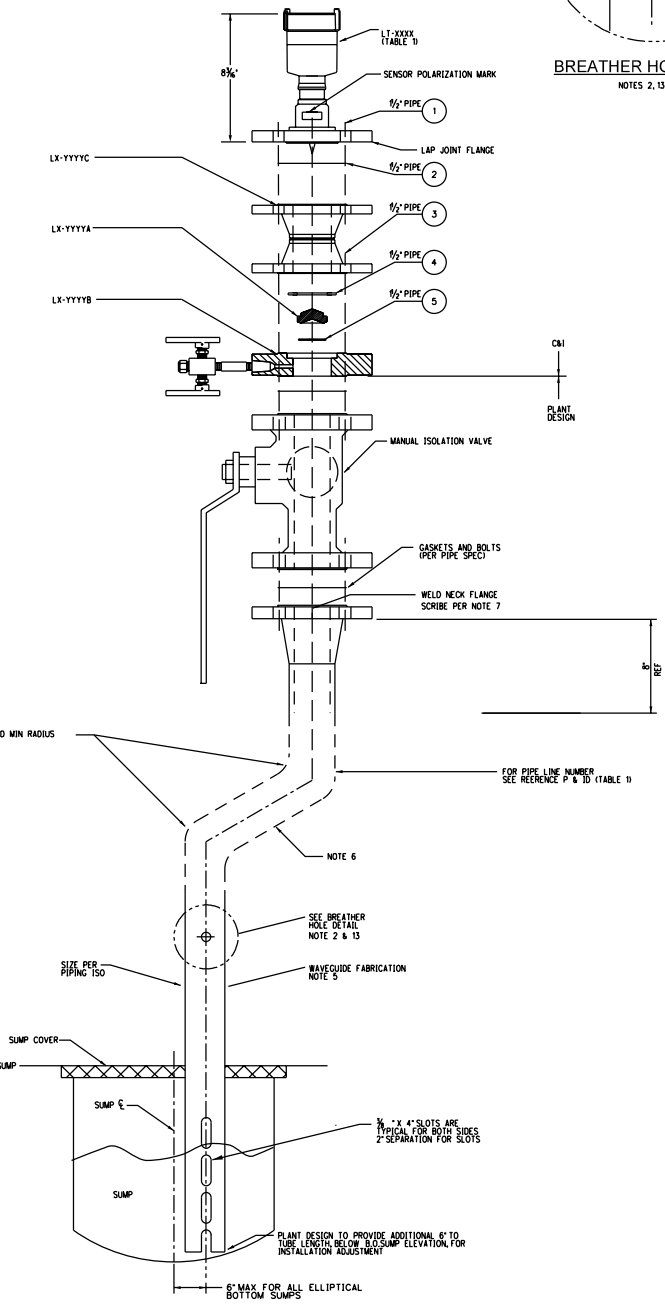
H
G
F
E
D
C
B
A

NOTES:

PARTIAL PLAN VIEW

BREATHER HOLE DETAIL

STILLING WELL SLOTS DETAIL



PARTS/MATERIAL LIST

ITEM(QTY)	DESCRIPTION	REFERENCE	QTY	MATL
1 4	1/2" x 3" BOLT, STDBOLT, A193	FB855Y000004	0	SS
2 1	1 1/2" ID 150 RF RUBBER GSKT 1/2" THK	PGCC00000603	CM	RBR
3 4	1/2" x 5" BOLT, STDBOLT, A193	FB855Y00000F	0	SS
4 1	1 1/2" GASKET 3/8L SS, CLASS 150, SPIRAL WOUND WITH 1/2" SS RING	PGCC20009003	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	FB855Y00000V	0	SS
7 1	3" ID 150 RF RUBBER GSKT 1/2" THK	PGCC00000506	CM	RBR
8 4	3/4" x 5" BOLT, STDBOLT, A193	FB855Y000016	0	SS
9 1	3" GASKET 3/8L SS, CLASS 150, SPIRAL WOUND WITH 1/2" SS RING	PGCC20009006	0	SS
10 1	O-RING FOR 3"	JXXX00000002	CM	RBR

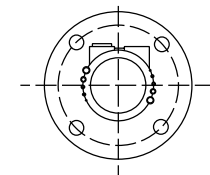
WAVEGUIDE TUBE GUIDELINES AND RECOMMENDATIONS*

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	

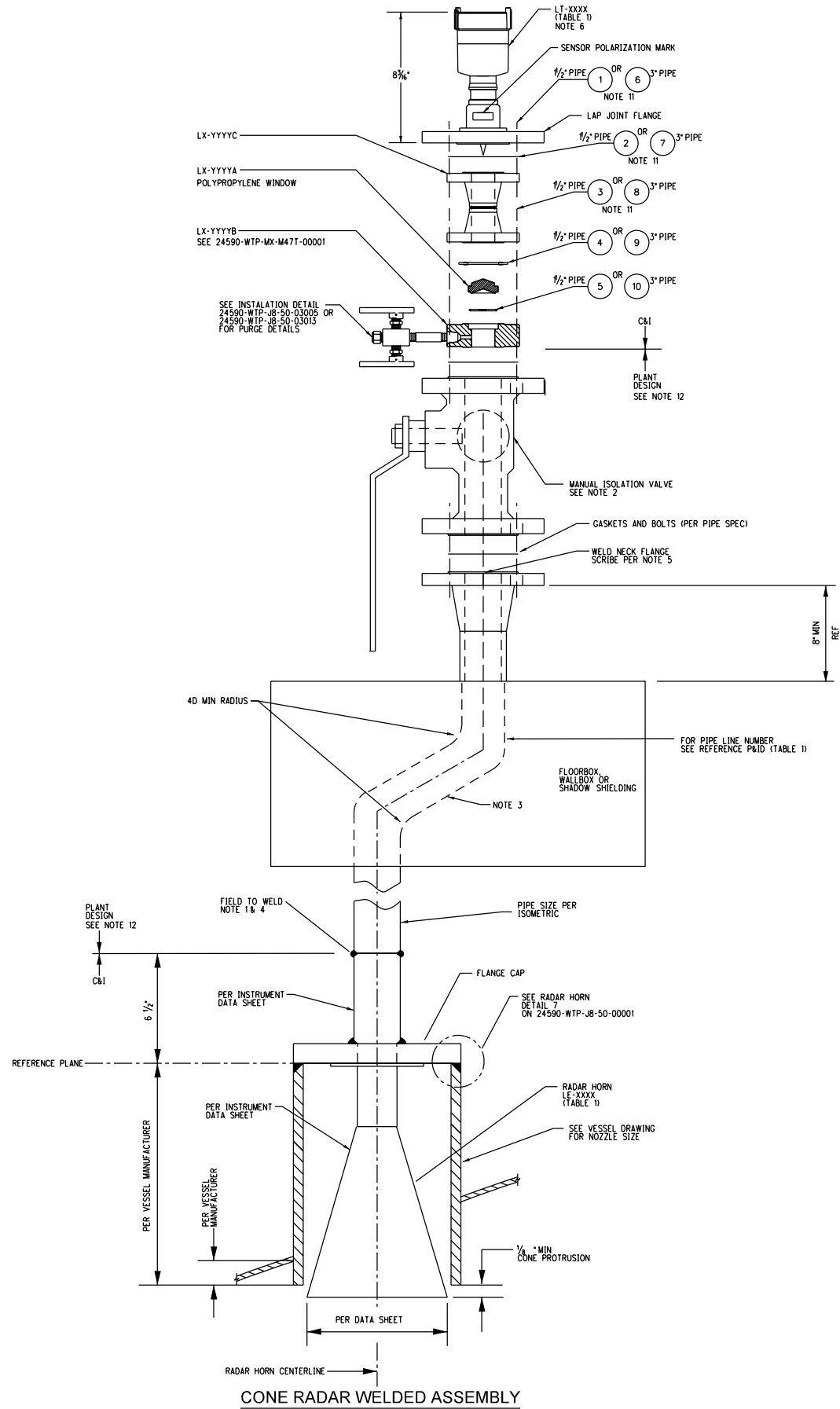
1. WAVEGUIDE LENGTH INCLUDES THE STILLING WELL LENGTH.

RADIOACTIVE RADAR SUMP ASSEMBLY

NOTES:

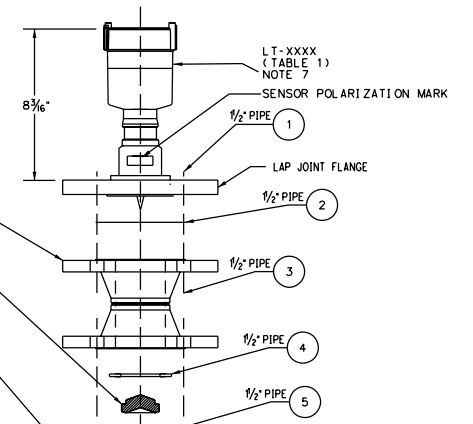
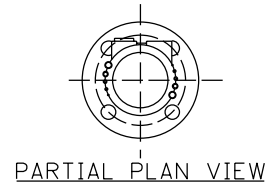


PARTIAL PLAN VIEW



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	FBS5Y000000F	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	FBS5Y000000F	CM	RBR
6	4	0.625" X 3" BOLT, STDBOLT, A193	FBS5Y000000V	Q	SS
7	1	1" 150 RF RUBBER GSKT 1/2" THK	PGCC00000606	CM	RBR
8	4	0.625" X 5" BOLT, STDBOLT, A193	FBS5Y0000016	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"	FBS5Y0000016	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	40 (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



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

PLANT DESIGN
SEE NOTE 12

FIELD TO WELD

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 (6IN)	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