

NGG BOP Welding Sheet										
Plant: CR3	Unit 3	Non-Safety Related / Non-Seismic					WO#: 1284340-41A / EC 68886			
IDENTIFICATION OF WELD	WELDER SYMBOL	PREHEAT					WPS	FILLER METAL	FINAL VT	
		°F	H	INIT/DATE	H	INIT/DATE			H*	INIT/DATE
1 CS to CS		50					01 3 04	ER70S-2 / E7018	X	
2A CS to CS		50					01 3 04	ER70S-2 / E7018	X	
3B CS to CS		50					01 3 04	ER70S-2 / E7018	X	
4A CS to CS		50					01 3 04	ER70S-2 / E7018	X	
5B CS to CS		50					01 3 04	ER70S-2 / E7018	X	
6A CS to CS		50					01 3 04	ER70S-2 / E7018	X	
7B CS to CS		50					01 3 04	ER70S-2 / E7018	X	
8A CS to CS		50					01 3 04	ER70S-2 / E7018	X	
9B CS to CS		50					01 3 04	ER70S-2 / E7018	X	
10A CS to CS		50					01 3 04	ER70S-2 / E7018	X	
11B CS to CS		50					01 3 04	ER70S-2 / E7018	X	
12A CS to CS		50					01 3 04	ER70S-2 / E7018	X	
13B CS to CS		50					01 3 04	ER70S-2 / E7018	X	
14A CS to CS		50					01 3 04	ER70S-2 / E7018	X	
15B CS to CS		50					01 3 04	ER70S-2 / E7018	X	
INSTRUCTIONS/REMARKS										
Installation Code: AWS D1.1; Weld per Corporate Welding Manual, NGGM-PM-0003.										
Tag No.: Chilled Water Piping Supports							*Asterisk in front of weld number indicates weld numbers that may be added by the Weld Engineer or Work Group Supervisor (WGS) via pen/ink mark-up to the weld map as needed during fabrication or installation.			
Drawing No.: EC Attachments Z26, Z51, & CR3-S577D										
Wel Map: 1284340-41A Sht. 1 thru 6										
Prep and fit-up fillet welds in accordance with WJD – 08										
butt welds in accordance with WJD – 02, and socket welds										
in accordance with WJD – 10										
VT per NDEP-601 with acceptance to VA-N02 for AWS D 1.1,										
and VA-N14 for ASME B31.1										
Contact QC or qualified inspector for final VT										
RELEASE FOR WELDING / DATE							Supervisor Review			
							Initial/Date			

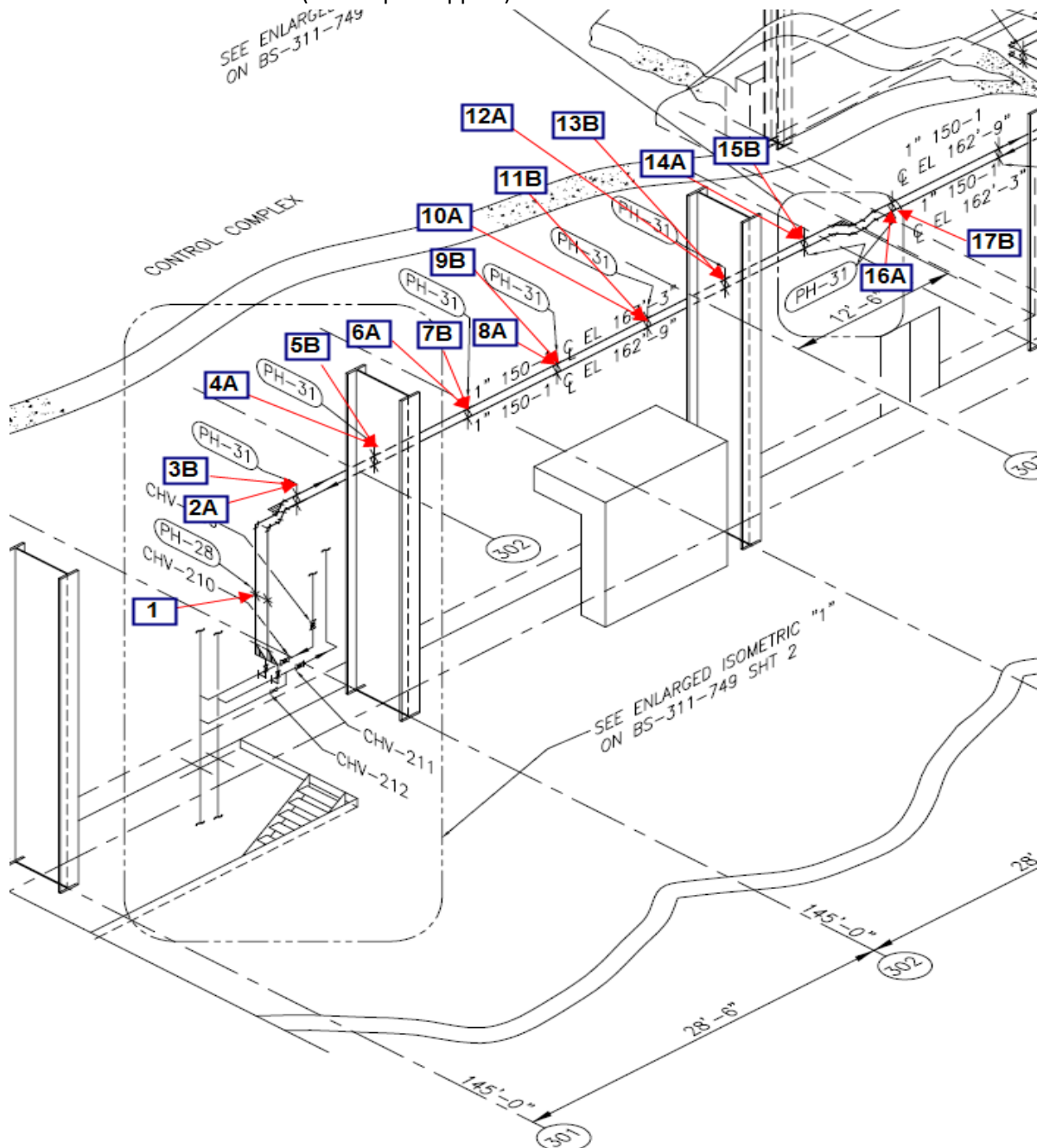
NGG BOP Continuation Sheet

Weld ID:						WO#: 1284340-41A / EC 68886				
IDENTIFICATION OF WELD	WELDER SYMBOL	PREHEAT					WPS	FILLER METAL	FINAL VT	
		°F	H	INIT/DATE	H	INIT/DATE			H*	INIT/DATE
16A CS to CS	50						01 3 04	ER70S-2 / E7018	X	
17B CS to CS	50						01 3 04	ER70S-2 / E7018	X	
18A CS to CS	50						01 3 04	ER70S-2 / E7018	X	
19B CS to CS	50						01 3 04	ER70S-2 / E7018	X	
20A CS to CS	50						01 3 04	ER70S-2 / E7018	X	
21B CS to CS	50						01 3 04	ER70S-2 / E7018	X	
22 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
23 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
24 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
25 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
26 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
27 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
28 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
29 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
30 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
31 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
32 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
33 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
34 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
35 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
36 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
37CS to CS	50						01 3 04	ER70S-2 / E7018	X	
38 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
39 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
40 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
41 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
42 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
43 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
44 CS to CS	50						01 3 04	ER70S-2 / E7018	X	
*45	50						01 3 04	ER70S-2 / E7018	X	
*46	50						01 3 04	ER70S-2 / E7018	X	
*47	50						01 3 04	ER70S-2 / E7018	X	
*48	50						01 3 04	ER70S-2 / E7018	X	
*49	50						01 3 04	ER70S-2 / E7018	X	

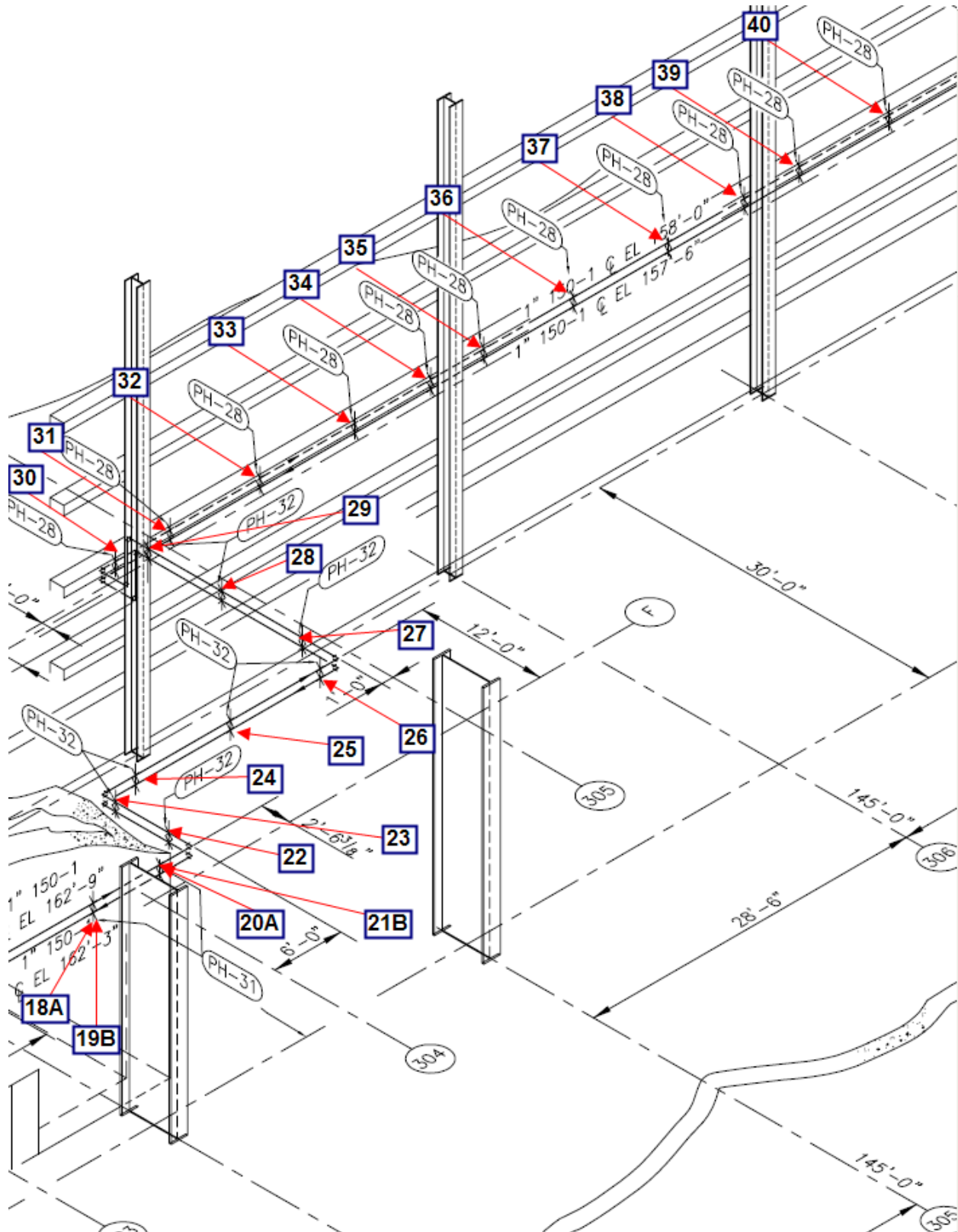
Weld Map 1284340-41A Sheet 1 of 6

NOTE: Typical weld locations have been identified per hanger type. Reference the following Typical Weld Identification Drawings throughout installation for the associated hanger:

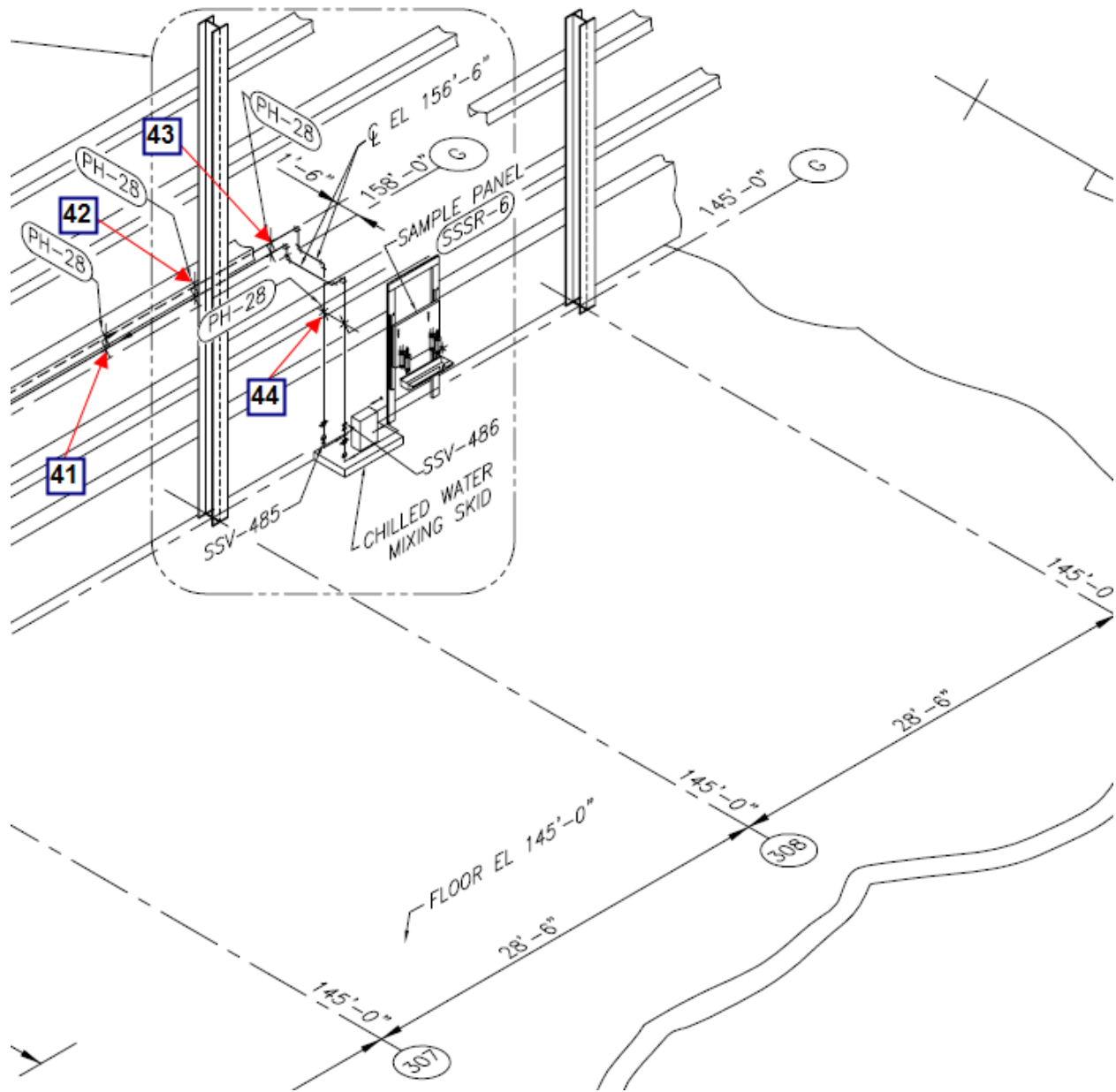
- **PH-28:** Typical Weld Identification Drawing. Note that this weld will either attach angle to a base plate or to existing structural steel. (1 weld per support)
- **PH-31:** Typical Weld Identification Drawing. Note that the "A" weld will attach the angle to the base plate and the "B" weld will attach the angle to angle back to back. (2 welds per support)
- **PH-32:** Typical Weld Identification Drawing. Note that this weld will attach angle to existing structural steel. (1 weld per support)



Weld Map 1284340-41A Sheet 2 of 6



Weld Map 1284340-41A Sheet 3 of 6



Weld Map 1284340-41A Sheet 4.0 of 6

PH-28

Typical Weld Identification Detail.

NOTES FOR TYPICAL SUPPORTS PH-18 THROUGH PH-28

1. ALLOWABLE LOADS SHOWN APPLY TO THE SUPPORT STRUCTURE, AND ARE FOR THE TOTAL LOAD DUE TO MULTIPLE PIPES. PIPE ATTACHMENTS (CLAMPS, U-BOLTS) MUST BE CONSIDERED INDIVIDUALLY. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ASSURE THAT THE ATTACHMENTS ARE ADEQUATE FOR THE DESIGN LOAD.
2. THIS SUPPORT MAY BE USED WITH MULTIPLE PIPES ATTACHED.
3. THIS SUPPORT MAY BE ROTATED AS REQUIRED AND ATTACHED TO WALLS, CEILINGS, OR FLOORS. ATTACHMENTS TO BASEPLATES MAY NOT BE ROTATED FROM THE ORIENTATION SHOWN (OTHER THAN ALLOWABLE TOLERANCES PER MP-132).
4. MINIMUM DISTANCE FROM END OR SIDE OF UNISTRUT CLAMPS TO END OF UNISTRUT MEMBERS IS $\frac{1}{4}$ ". IF NO CLAMP IS SPECIFIED, ANY OF THE FOLLOWING CLAMPS MAY BE USED:

NOMINAL PIPE SIZE	ACCEPTABLE CLAMPS	
$\frac{3}{8}$ "	---	N1109 NH
$\frac{1}{2}$ "	N2558-05	N1111 NH
$\frac{3}{4}$ "	N2558-07	N1112 NH
1"	N2558-10	N1113 NH
$1\frac{1}{4}$ "	N2558-12	N1114 NH
$1\frac{1}{2}$ "	N2558-15	M1115 NH
2"	N2558-20	N1117 NH
$2\frac{1}{2}$ "	N2558-25	N1118 NH
3"	N2558-30	N1119 NH
4"	N2558-30	N1121 NH

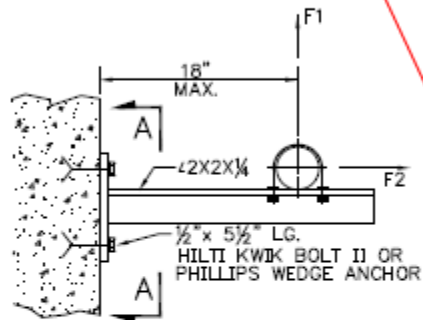
5. P-SERIES UNISTRUT PARTS MAY BE SUBSTITUTED FOR N-SERIES, AS LONG AS THE SAFETY CLASSIFICATION OF THE PARTS IS APPROPRIATE FOR THE SUPPORT.
6. MINIMUM CENTER TO CENTER DISTANCE AND EDGE DISTANCE FOR ROD AND U-BOLT HOLES IS 1". ROD AND U-BOLT HOLES TO BE DRILLED $\frac{1}{16}$ " OVERSIZE.
7. U-BOLTS SHALL BE INSTALLED "LOOSE FIT" UNLESS OTHERWISE NOTED (REFERENCE: CR3-M195-D, SHT. 2 SECTION 8.1). IF U-BOLT ROD DIAMETER IS NOT SPECIFIED, ANY OF THE FOLLOWING ARE ACCEPTABLE:

NOMINAL PIPE SIZE	U-BOLT ROD DIAMETER
$\frac{1}{2}$ "	$\frac{1}{4}$ ", $\frac{3}{8}$ "
$\frac{3}{4}$ "	$\frac{1}{4}$ ", $\frac{3}{8}$ "
1"	$\frac{1}{4}$ ", $\frac{3}{8}$ "
$1\frac{1}{4}$ "	$\frac{3}{8}$ "
$1\frac{1}{2}$ "	$\frac{3}{8}$ "
2"	$\frac{3}{8}$ "
$2\frac{1}{2}$ "	$\frac{1}{2}$ "
3"	$\frac{1}{2}$ "
4"	$\frac{1}{2}$ "

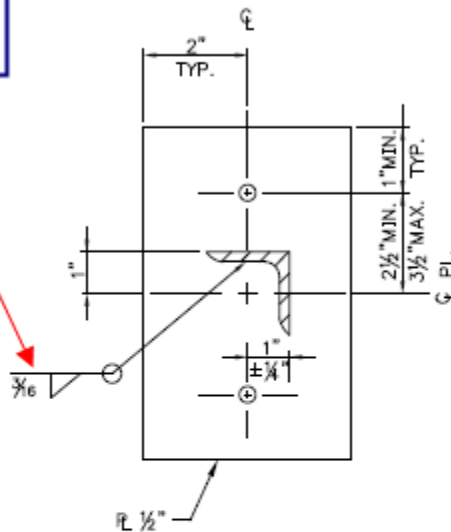
8. BASEPLATE AND ANCHORS MAY BE OMITTED AND SUPPORT WELDED DIRECTLY TO EXISTING STRUCTURAL STEEL.

Weld Map 1284340-41A Sheet 4.1 of 6

Typical Weld for all PH-28 supports. See applicable NOTES 1,2,3,6,7,8.



PLAN OR ELEVATION



SECTION A-A

TYPICAL PH-28
APPLICABLE NOTES: 1,2,3,6,7,8

- ① F1 = 200 LBS
F2 = 200 LBS
F3 = 0 LBS
- ② F1 = 150 LBS
F2 = 150 LBS
F3 = 150 LBS

CALCULATION S96-0140

Weld Map 1284340-41A Sheet 5 of 6

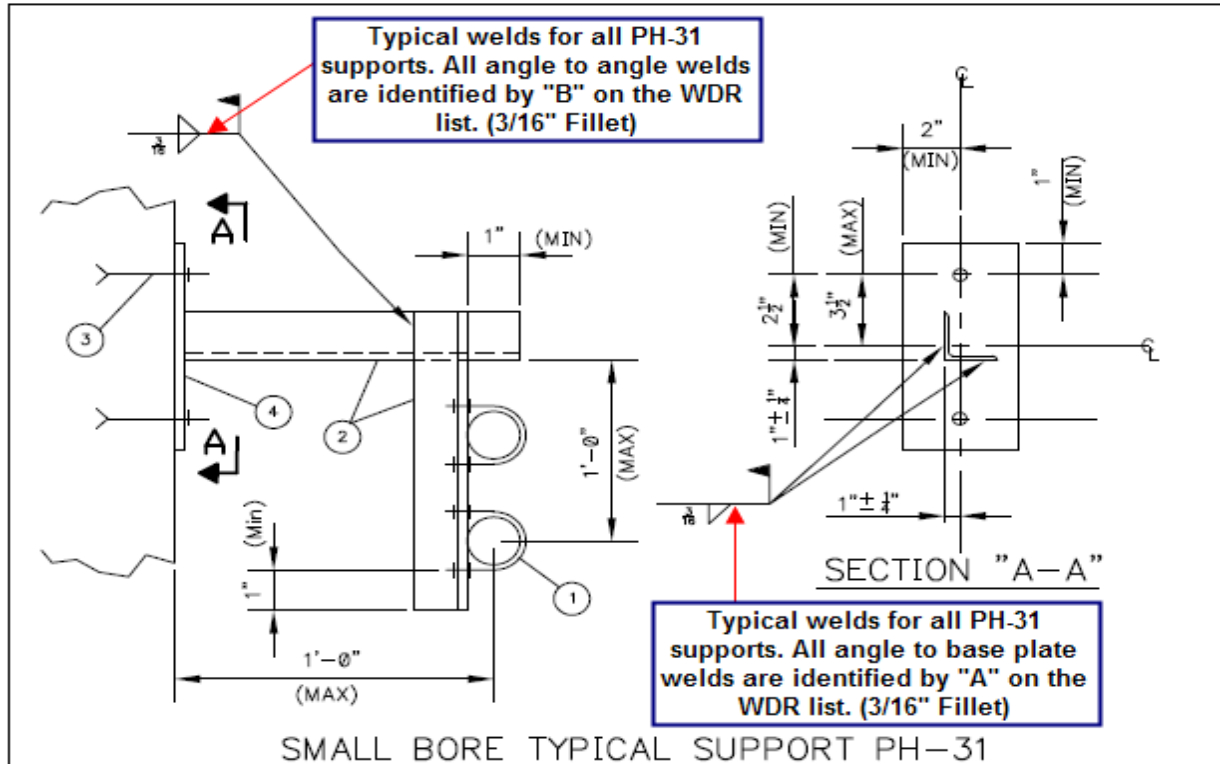
PH-31

Typical Weld Identification Detail.

PCHG-DESG.

EC 68886

PROGRESS ENERGY FLORIDA
NUCLEAR ENGINEERING DEPARTMENT



NOTES:

- FIGURE NUMBERS INDICATED IN B.O.M. ARE BERGEN POWER. ANY EQUAL ITEM IS SUITABLE FOR INSTALLATION.
- U-BOLT HOLES TO BE DRILLED $\frac{1}{8}$ " OVERSIZE.
- MAX DESIGN LOAD = 186 lbs
- REFER TO CALCULATION S10-0042.

ITEM	QTY	DESCRIPTION	MATL
1	2	FIG. 283. U-BOLT (SIZE TO BE DETERMINED BY PIPE SIZE).	CS
2	2	ANGLE 2X2X1/4 X (LENGTH TO BE DETERMINED IN FIELD).	A36
3	2	1/2" HLT1 KWIK BOLT 3 W/ MIN 3 1/2" EMBED, 5 1/2" LONG.	CS
4	1	PLATE 1/2 X 4 X 0'-9".	A36

REVISIONS			SYSTEM:			DRAWN BY: RLS	
NO.	DESCRIPTION	BY	MARK		SEISMIC CL	DATE:	7/14/10
0	INITIAL ISSUE	RLS	REFERENCE DRAWINGS:			CHECKED:	B. LAWRY
						APPROVED:	G. JACKSON
						SCALE:	N/A
						PROJECT : CRYSTAL RIVER #3	

ATTACHMENT Z51R0

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Weld Map 1284340-41A Sheet 6 of 6

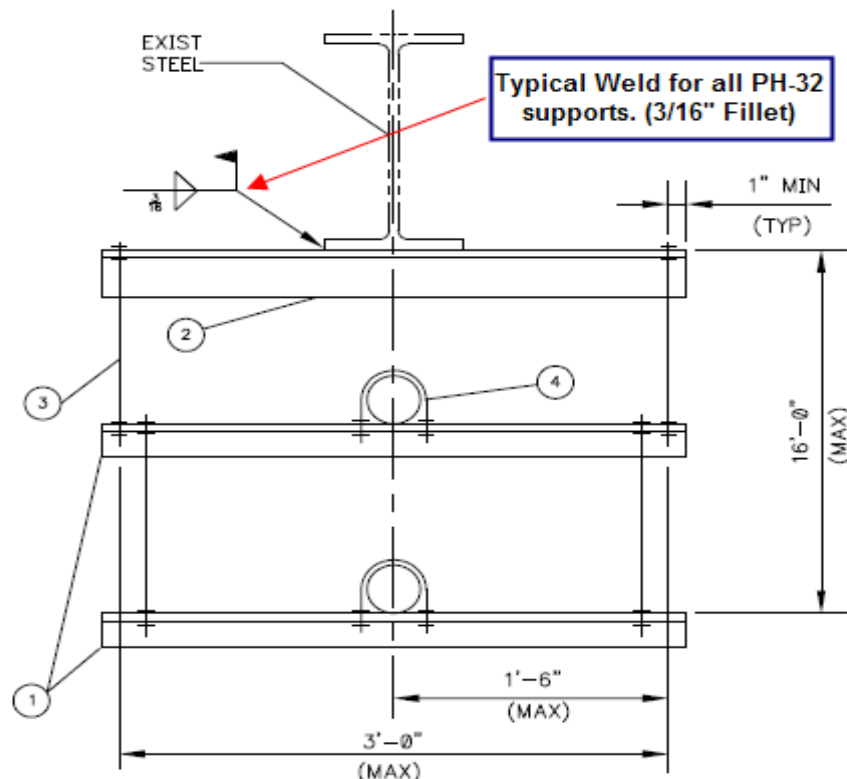
PH-32

Typical Weld Identification Detail.

PCHG-DESG.

EC 68886

PROGRESS ENERGY FLORIDA
NUCLEAR ENGINEERING DEPARTMENT



SMALL BORE TYPICAL SUPPORT PH-32

NOTES:

- FIGURE NUMBERS INDICATED IN B.O.M. ARE BERGEN POWER. ANY EQUAL ITEM IS SUITABLE FOR INSTALLATION.
- HOLES FOR RODS IN ANGLES TO BE $\frac{7}{16}$ "
- MAX DESIGN LOAD = 500 lbs
- REFER TO CALCULATION S10-0042.

ITEM	QTY	DESCRIPTION	MATL
1	2	ANGLE 2X2X1/4 X 3'-3" LONG (MAX)	A36
2	1	ANGLE 3X3X1/4 X 3'-3" LONG (MAX)	A36
3	4	FIG. 133, 3/8 # X (TO BE DETERMINED) LONG THREADED HANGER ROD.	CS
4	2	FIG. 283, U-BOLT (SIZE TO BE DETERMINED BY PIPE SIZE).	CS

REVISIONS			SYSTEM: CONDENSATE			DRAWN BY: RLS	
NO.	DESCRIPTION	BY	MARK	PH-32	SEISMIC CL	3	DATE: 7/14/10
0	INITIAL ISSUE	RLS	REFERENCE DRAWINGS:			CHECKED: B. LAWRY	
			E-304-104			APPROVED: G. JACKSON	
			S-502-002			SCALE: N/A	
			PROJECT : CRYSTAL RIVER #3			PH-32	0 REV