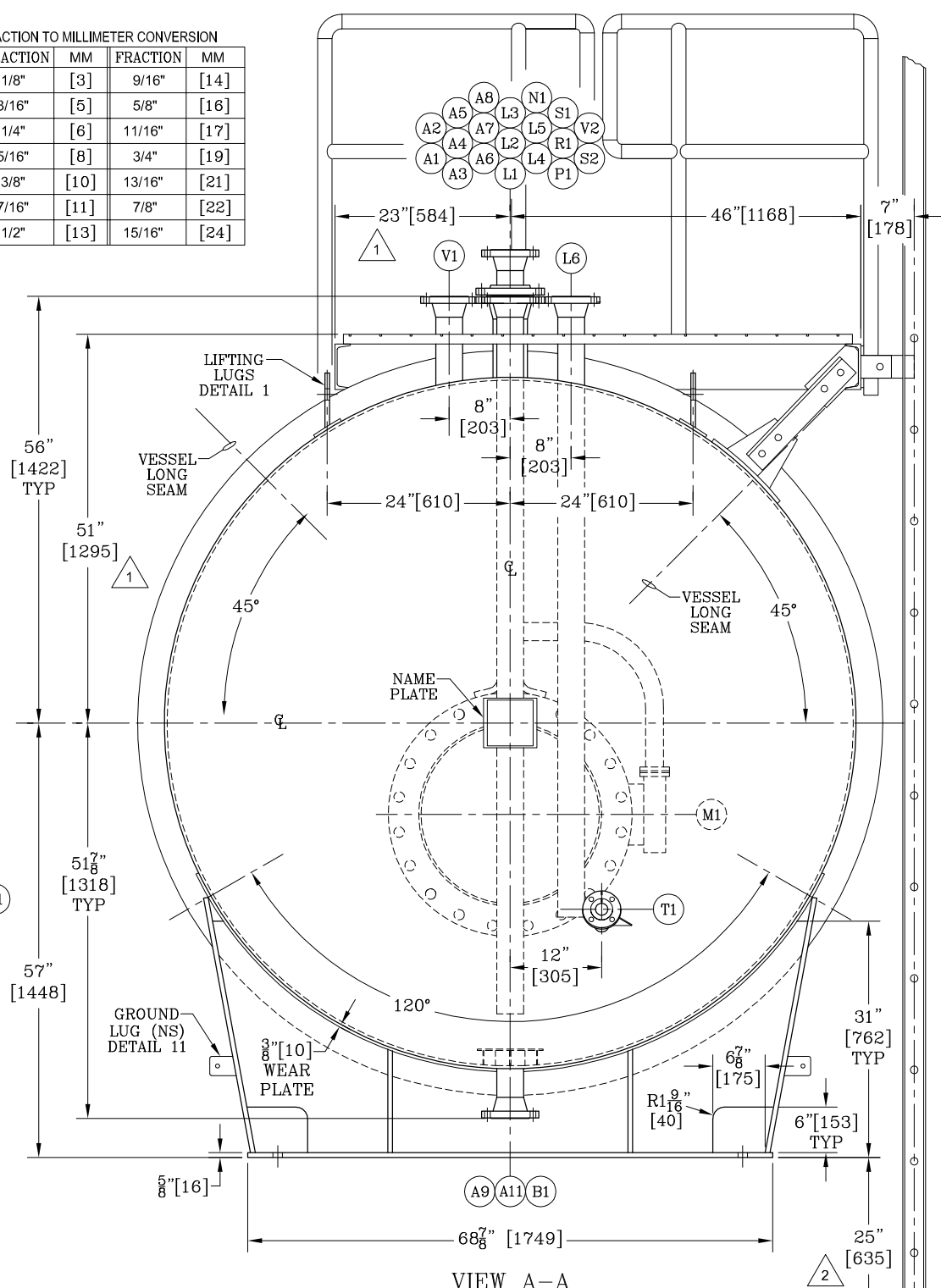


FRACTION TO MILLIMETER CONVERSION

FRACTION	MM	FRACTION	MM
1/8"	[3]	9/16"	[14]
3/16"	[5]	5/8"	[16]
1/4"	[6]	11/16"	[17]
5/16"	[8]	3/4"	[19]
3/8"	[10]	13/16"	[21]
7/16"	[11]	7/8"	[22]
1/2"	[13]	15/16"	[24]



NOZZLE SCHEDULE

REPADS	MARK	SIZE	SCH	NO.	DESCRIPTION	SERVICE	DETAIL	REPADS	MARK	SIZE	SCH	NO.	DESCRIPTION	SERVICE	DETAIL
	A1	3"	40S	1	150# ANSI RFWN FLG	LIQUID INLET DIP-PIPE	5		L2	4"	40S	1	150# ANSI RFWN W/RED. SO FLG	MOUNT FOR L1	12
	A2	4"	40S	1	150# ANSI RFWN W/RED. SO FLG	MOUNT FOR A1	5		L3,L5	3"	40S	2	150# ANSI RFWN FLG	LEVEL SWITCH- LOW	14
	A3	2"	40S	1	150# ANSI RFWN FLG	-	4		L4,L6	3"	40S	2	150# ANSI RFWN FLG	LEVEL SWITCH- HIGH	14
	A4	3"	40S	1	150# ANSI RFWN W/RED. SO FLG	MOUNT FOR A3	4		N1	1"	40S	1	150# ANSI RFWN FLG W/GUSSETS	NITROGEN INLET	2
	A5	3"	40S	1	150# ANSI RFWN FLG	-	5	28 1/2" OD x 3/8" THK	M1	24"	3/8"	1	150# ANSI RFWN FLG W/BF	MANWAY W/DAVIT	6.7
	A6	4"	40S	1	150# ANSI RFWN W/RED. SO FLG	MOUNT FOR A5	5		P1	1"	40S	1	150# ANSI RFWN FLG W/GUSSETS	PRESSURE CONTROL	2
	A7	3"	40S	1	150# ANSI RFWN FLG	LIQUID INLET DIP-PIPE	5		R1	1 1/2"	40S	1	150# ANSI RFWN FLG	EMERGENCY PRESSURE RELIEF	2
	A8	4"	40S	1	150# ANSI RFWN W/RED. SO FLG	MOUNT FOR A7	5		S1	2"	40S	1	150# ANSI RFWN FLG W/BF	SPARE	3
	A9	1 1/2"	40S	1	150# ANSI RFWN FLG	IN-TANK EDUCTOR	8		S2	3"	40S	1	150# ANSI RFWN FLG W/BF	SPARE	3
	A11	1 1/2"	40S	1	150# ANSI RFWN FLG	IN-TANK EDUCTOR	8		T1	1 1/2"	40S	1	150# ANSI RFWN FLG W/GUSSETS	TEMPERATURE INDICATION	15
	B1	3"	40S	1	150# ANSI RFWN FLG	LIQUID OUTLET	10		V1	3"	40S	1	150# ANSI RFWN FLG	VENT- OFF-GAS	3
	L1	3"	40S	1	150# ANSI RFWN FLG	LEVEL INDICATION STILLING WELL	12		V2	3"	40S	1	150# ANSI RFWN FLG	VENT- VAPOR EQUIL	3

LETHAL SERVICE

CERTIFIED

REFERENCE:
 CUST PO No: 4700985380
 ITEM No: V-1410
 PROJ No: 4142-00940
 SPEC Nos: V-1410, REV 1; 20.230.013, REV 2;
 20.230.030, REV 2; 20.230.036, R1; 25-0101-3
 CUST STDS: 25-0205-2; 25-0804-2; 25-0808; 25-0813;
 25-0901; 25-0902; 25-1010; 25-0108; 25-0303

DTV REF DWGS: 15515-06-2; 15515-06-3

DESTINATION: THEODORE, AL

DOMINION
 Tank & Vessel Company, Inc.
 1501 Valley Road, Richmond, VA 23222

90" ID acCH EMERGENCY QUENCH VESSEL V-1410
 EVONIK CORPORATION
 MOBILE ALABAMA PLANT
 ACA PROJECT

MARK	REVISION DESCRIPTION	BY	CHK'D	DATE	CERTIFIED	SCALE	JOB NO.	REV.
2	REVISE LADDER LENGTH	RTC	BT	11-3-15			293-06	
1	REVISE PLATFORM ELEV & SIZE	RTC	BT	10-25-15				
0	RELEASED FOR FABRICATION	RTC	BT	8-3-15				
B	REV PER CUSTOMER COMMENTS	RTC	BT	7-24-15				
A	REV PER CUSTOMER COMMENTS	RTC	BT	5-8-15				

15515-06-1 2

CERTIFIED BY **LATER**

CAROLINA INTEGRATED SOLUTIONS
157 Derrick Rd, Spartanburg, SC 29303

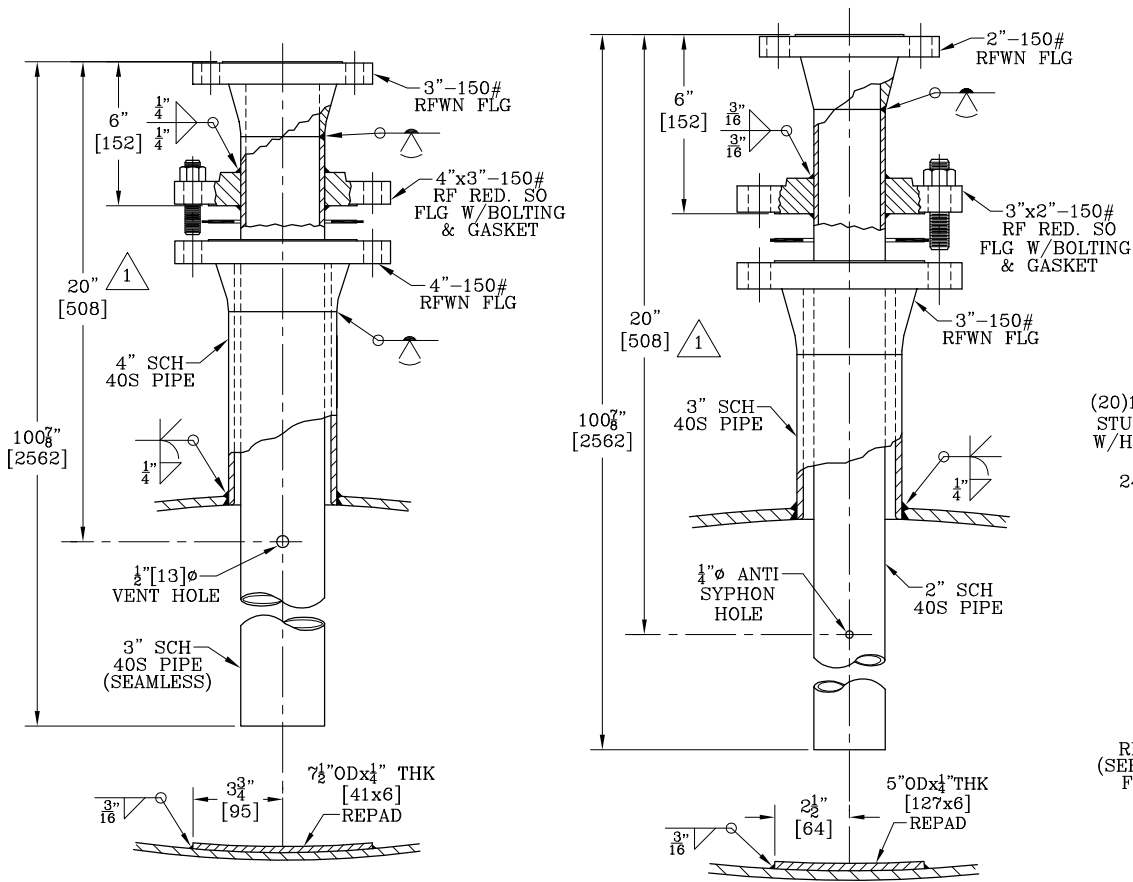
U-L
W
RT-1

SERIAL NO. 293-06 YR BUILT 2015

SHELL			
MAWP	45	psi @	338 °F
MDMT	-20	°F @	45 psi
MAEWP	-14.7	psi @	338 °F
JACKET			
MAWP		psi @	
MDMT		°F @	

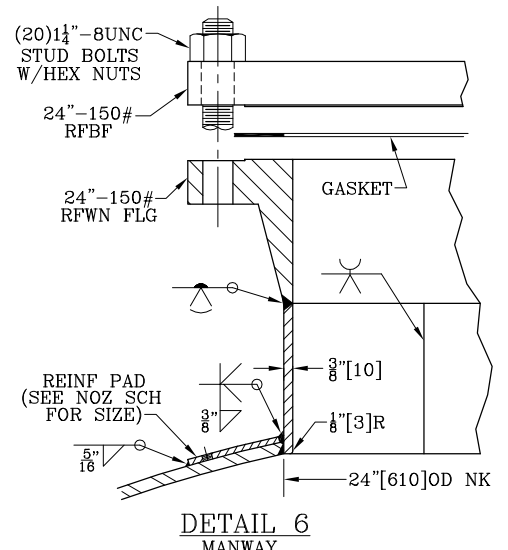
MAWP	3.1 BARG	PSIG @	170°C	°F
MDMT	-29°C	°F @	3.1 BARG	PSIG
MAEWP	-1.013 BARG	PSIG @	170°C	°F
JKT MAWP		PSIG @		°F
JKT MDMT		°F @		PSIG
INSPECTOR				
PLANT	MOBILE, ALABAMA			
WEIGHT	10,500 LBS			
MATERIAL	SA-240 316/316L			
P.O. No.	4700984380			
EQUIP No.	V-1410			
PROJ No.	4142-00940			

NAMEPLATE DETAIL



FRACTION TO MILLIMETER CONVERSION

FRACTION	MM	FRACTION	MM
1/8"	[3]	9/16"	[14]
3/16"	[5]	5/8"	[16]
1/4"	[6]	11/16"	[17]
5/16"	[8]	3/4"	[19]
3/8"	[10]	13/16"	[21]
7/16"	[11]	7/8"	[22]
1/2"	[13]	15/16"	[24]



- DESIGN DATA**
- DESIGN PRESS & TEMP- (-14.7) +45 PSIG @338°F [3.1 BARG @170°C]
 - OPERATING PRESS & TEMP- 16 PSIG @77°F [1.1 BARG @25°C]
 - CORROSION ALLOWANCE- NONE
 - SPECIFIC GRAVITY OF CONTENTS- 0.935 (61.98 lb/cf)
 - HYDROTEST- 60 PSIG [4.1 BARG] (USE WATER W/A CHLORIDE CONTENT<50 ppm).
 - FULL RADIOGRAPH REQUIRED.
 - WIND LOAD- PER IBC 2009; 140 MPH, I=1.15, EXP C, 10 FT ELEV
 - SEISMIC LOAD- PER IBC 2009; Ss=11%, S1=5.1%, I=1.5, CLASS D
 - VESSEL TO BE DESIGNED FOR LETHAL SERVICE.

- MATERIAL**
- | | |
|--------------------------------------|-------------------------------------|
| HEADS & SHELL- SA-240 316/316L | EXTERNAL ATTACH- SA-240 304/304L |
| NOZ NECKS- SA-312 TP 316/316L (SMLS) | LIFTING LUGS- SA-240 304/304L |
| FLANGES- SA-182 F 316/316L | SADDLE WEAR PL- SA-240 304/304L |
| MANWAY NECK- SA-240 316/316L | SADDLES- SA-36 |
| FITTINGS- SA-403 WP 316/316L | BOLTING- SA-193 B7/SA-194 2H (GALV) |
| INTERNAL ATTACH- SA-240 316/316L | GASKETS- SP WD CGI 316/GRAPHITE |
| REINF PADS- SA-240 316/316L | |

WELDING PROCEDURES

No.	PROCESS	ROD	NOTES	No.	PROCESS	ROD	NOTES
8-8-2	(GTAW)	ER308L	304 to 304	8-8-4	(GMAW)	ER316L	316 ROOT ONLY
8-8-3	(FCAW)	ER308LT1-1	304 to 304	8-8-5	(SAW)	ER316L	316 to 316
8-8-4	(GMAW)	ER308L	304 ROOT ONLY	8-8-2	(GTAW)	ER316L	304 to 316
8-8-5	(SAW)	ER308L	304 to 304	8-8-3	(FCAW)	ER316LT1-1	304 to 316
8-8-2	(GTAW)	ER316L	316 to 316	8-8-4	(GMAW)	ER316L	304/316 ROOT ONLY
8-8-3	(FCAW)	E316LT1-1	316 to 316	8-8-5	(SAW)	ER316L	304 to 316

- CONSTRUCTION NOTES**
- VESSEL TO BE DESIGNED & CONSTRUCTED PER ASME CODE, SEC VIII, DIV 1, 2013 EDITION; ALSO PER SPECS LISTED BELOW.
 - ASME CODE STAMP & NATIONAL BOARD REGISTRATION REQ'D.
 - FLANGE FACE FINISH= 125AA
 - NOZZLE BOLT HOLES TO STRADDLE 0-180° CENTERLINE OR ITS PARALLEL.
 - INSIDE NOZZLE PROJECTION= 0, UNLESS NOTED OTHERWISE.
 - NOZZLE "B1" TO BE GROUND FLUSH.
 - SHELL & HEAD JOINTS TO BE FULL PENETRATION BUTT JOINTS; NOZ NECK TO SHELL OR HEAD JOINTS TO BE FULL PENETRATION. ALL WELDS TO BE CONTINUOUS.
 - ALL WELDS TO BE PASTED PER EC PT&E SPEC 25-0205, PARAGRAPH 5.2. PICKLING PASTE MATERIAL TO BE METINOX 71E OR EQUIVALENT.
 - HOLD FOR AUTH ASME & CUSTOMER INSPECTORS AT: a) FIT-UP & COMPLETION OF BACKGOUGING; b) FIT-UP OF MANWAY; c) HYDROTEST.
 - INTERNAL WELDS TO BE REASONABLY SMOOTH, BUT NOT NECESSARILY RIPPLE FREE OR GROUND SMOOTH.
 - INSIDE SURFACE OF COMPLETED VESSEL TO BE FREE OF RUST, SCALE, SLAG, WELD FLUX, SPATTER, ARC BURNS, GOUGES, TOOL MARKS, OIL, GREASE, INK, PAINT, MILL MARKINGS, DISCOLORATION & GENERAL SHOP SOIL TO PROVIDE A MUTUALLY ACCEPTABLE WORKMANLIKE PRODUCT.
 - GASKET DIMENSIONS FOR CLASS 150# FLGS TO BE PER ANSI B16.5 TABLE E3. CB&T TO SUPPLY (3) SPARE GASKETS FOR M/W & ALL BLIND CONNECTIONS.
 - TEST GASKETS TO BE SAME DIMENSIONS & COMPRESSIBILITY AS SERVICE.
 - PRESSURE BOLTING SUPPLIED W/VESSEL TO BE USED FOR TESTING.
 - VES EXTERIOR: PICKLE & PASSIVATE WELDS PER NOTE 8; ACID WASH REMAINDER.
 - VES INTERIOR: PICKLE & PASSIVATE PER STD TS 25-0205-2. ANY WATER LEFT AFTER HYDROTEST TO BE REMOVED BY BLOWING AIR OR SWABBING.
 - HALF PIPE JACKET TO BE FABRICATED & TESTED PER TS 25-0811-2.
 - ALL NOZZLE REPADS TO HAVE 1/8" NPT WEEP HOLES @ LOW POINT; AIR-SOAP BUBBLE TEST @15 PSI. ALL OTHER EXT. PADS TO HAVE 1/4" VENT HOLES.
 - SEAL ALL MACH. FACES & THREADS W/PLASTIC PROTECTORS BEFORE SHIPPING. LUBRICATE ALL BOLT THREADS W/ANTI-SEIZE.
 - PAINT (C/S SADDLES ONLY)- BLAST TO SSPC-SP10 & PRIME W/MOBILE PAINTS 28-DH-50, 2-3.5 MILS DFT; INT. COAT W/40-DR-5, 4-6 MILS DFT; TOPCOAT W/MOTHANE 72 SERIES, 1.5-3 MILS (COLOR: WHITE) TO A TOTAL DFT OF 7.5-12.5 DFT, PER EVONIC SPEC 20.230.032. CONFORMANCE TO THICKNESS SPEC WILL BE MEASURED ACCORDING TO SSPC-PA2.
 - SPREADER BAR REQ'D WHEN LIFTING VESSEL; SHACKLE SIZE= 9 1/2 TON.
 - 2" INSULATION REQ'D (BY OTHERS).
 - VESSEL WEIGHTS: EMPTY= 10,500 lbs; FLOODED (WATER)= 51,000 lbs; OPERATING= 52,750 lbs.
 - CAPACITY: (MAX)= 4,980 gals; HEADS= 307 gals; SHELL= 4,372 gal.
 - (1) VESSEL REQ'D.

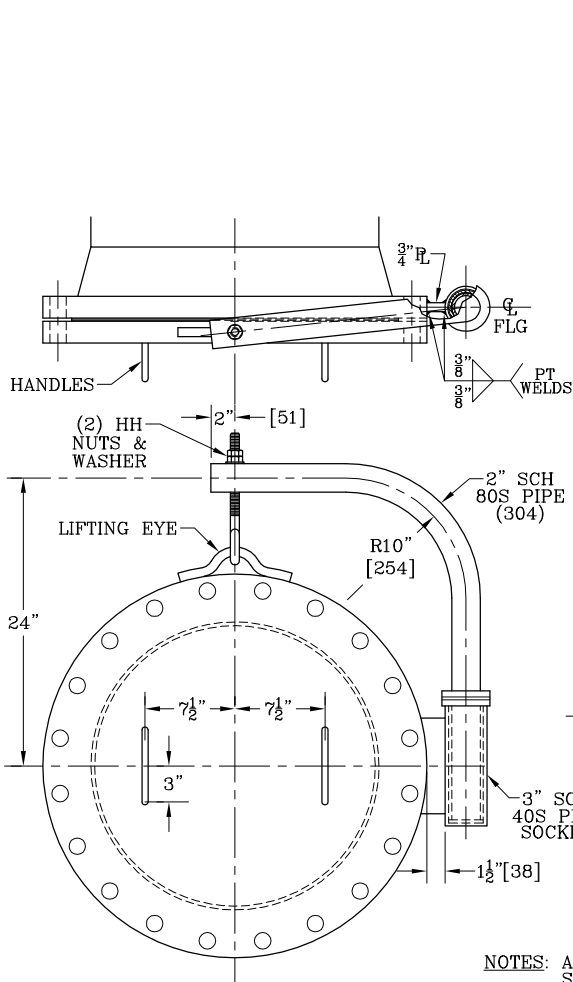
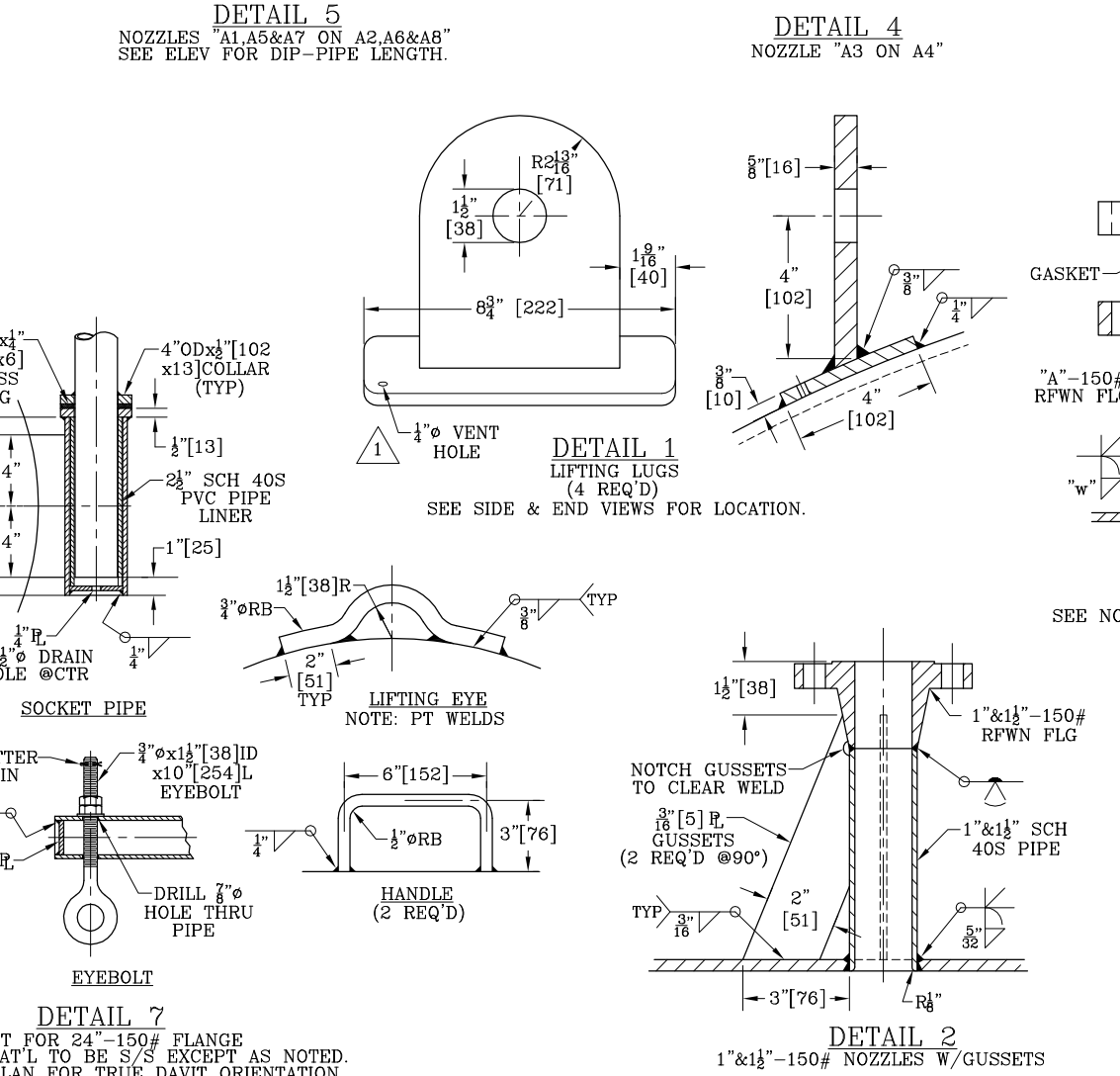


TABLE 3

NOM PIPE SIZE "A"	WELD SIZE "w"	STUD BOLTS NO.	STUD BOLTS SIZE
2"	5/32	4	5/8"-11UNC
3"	7/32	4	5/8"-11UNC

CERTIFIED

LETHAL SERVICE

DESTINATION: THEODORE, AL

MARK	REVISION DESCRIPTION	BY	CHK'D	DATE	CERTIFIED
1	ADD VENT HOLE LOCS; ADD NOTE 18	RTC	BT	11-3-15	
0	RELEASED FOR FABRICATION	RTC	BT	8-3-15	
B	REV PER CUSTOMER COMMENTS	RTC	BT	7-24-15	
A	REV PER CUSTOMER COMMENTS	RTC	BT	5-8-15	

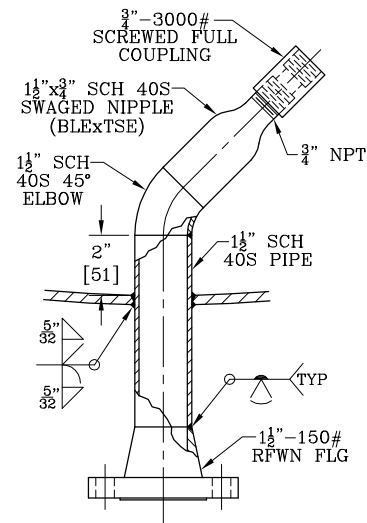
DRAWN RTC 2-16-15
CHECKED BT 2-26-15

JOB NO. 293-06
SCALE 15515-06-2 1

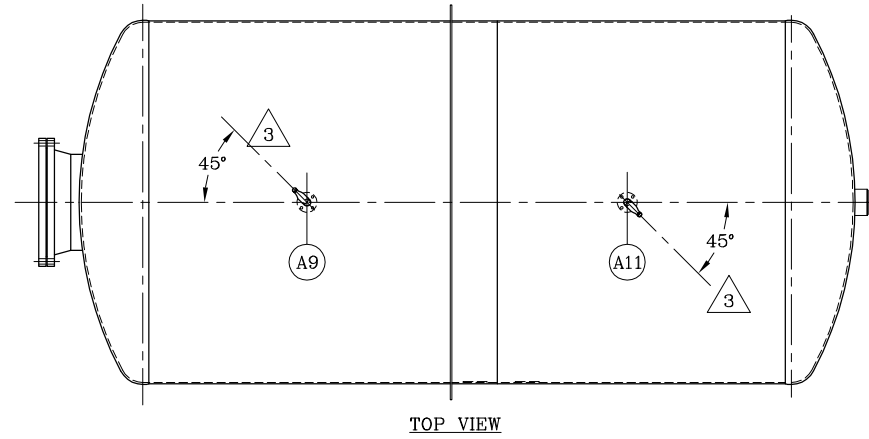
REFERENCE:
CUST PO No: 4700985380
ITEM No: V-1410
PROJ No: 4142-00940
SPEC Nos: V-1410, REV 1; 20.230.013, REV 2;
20.230.030, REV 2; 20.230.036, R1; 25-0101-3
CUST STDS: 25-0205-2; 25-0804-2; 25-0808; 25-0813;
25-0901; 25-0902; 25-1010; 25-0108; 25-0303

DOMINION
Tank & Vessel Company, Inc.
1501 Valley Road, Richmond, VA 23222

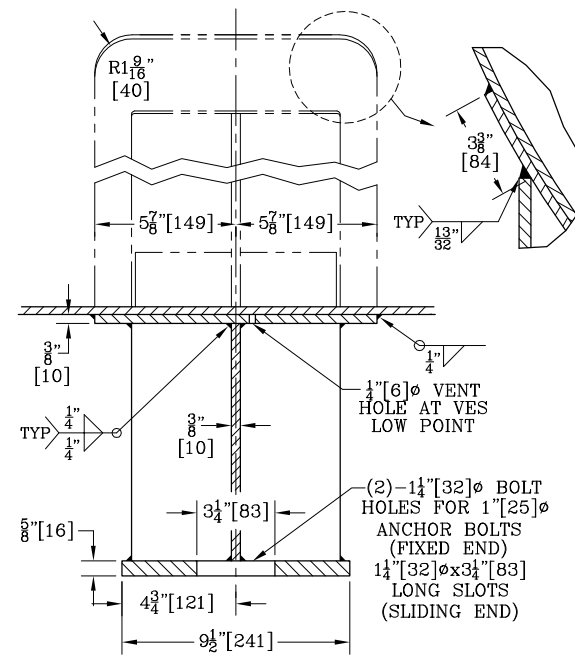
90"ID AcCH EMERGENCY QUENCH VESSEL V-1410
EVONIK CORPORATION
MOBILE ALABAMA PLANT
ACA PROJECT



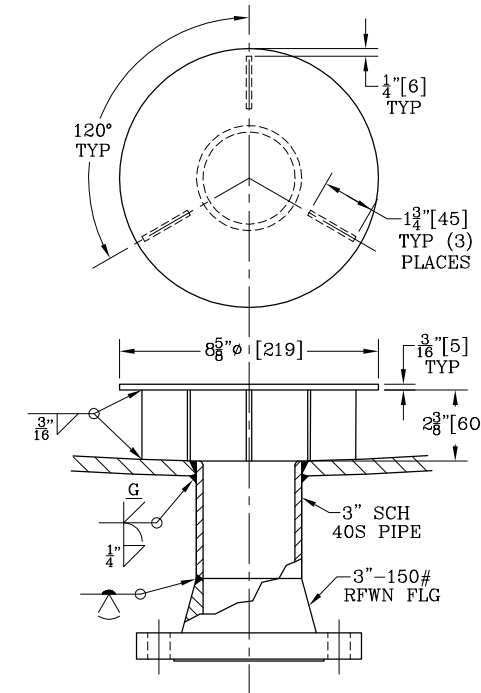
DETAIL 8
NOZZLES "A9&A11"
SEE TOP VIEW FOR NIPPLE
ORIENTATION.



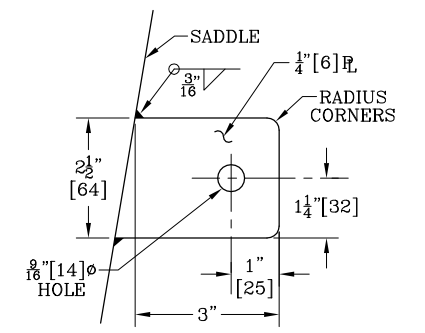
TOP VIEW



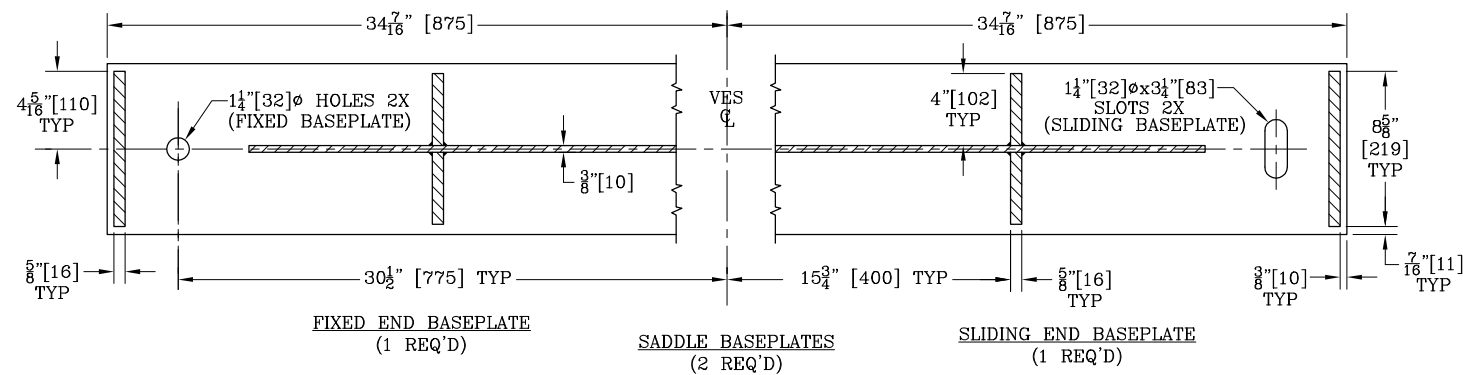
DETAIL 9
SUPPORT SADDLES
(2 REQ'D)
SEE SIDE VIEW FOR LOCATION.
SEE BASEPLATE DETAIL.



DETAIL 10
VORTEX BREAKER
@NOZZLE "B1"



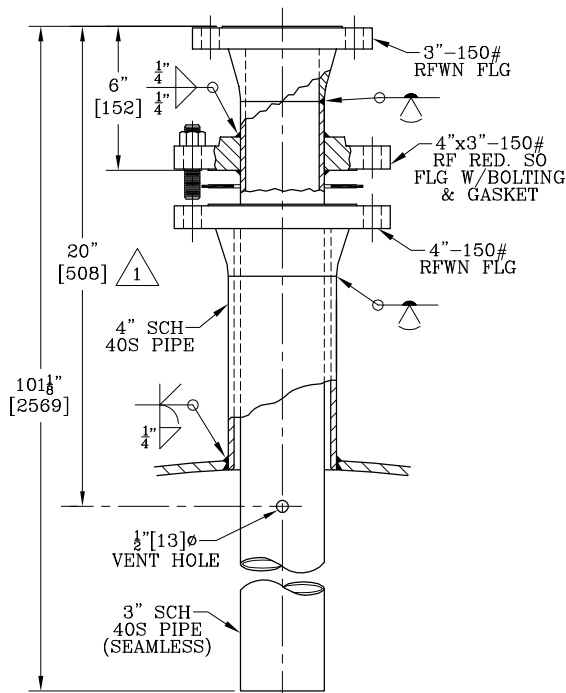
DETAIL 11
GROUNDING LUGS
(2 REQ'D)
SEE SIDE & VIEW A-A
FOR LOCATION.



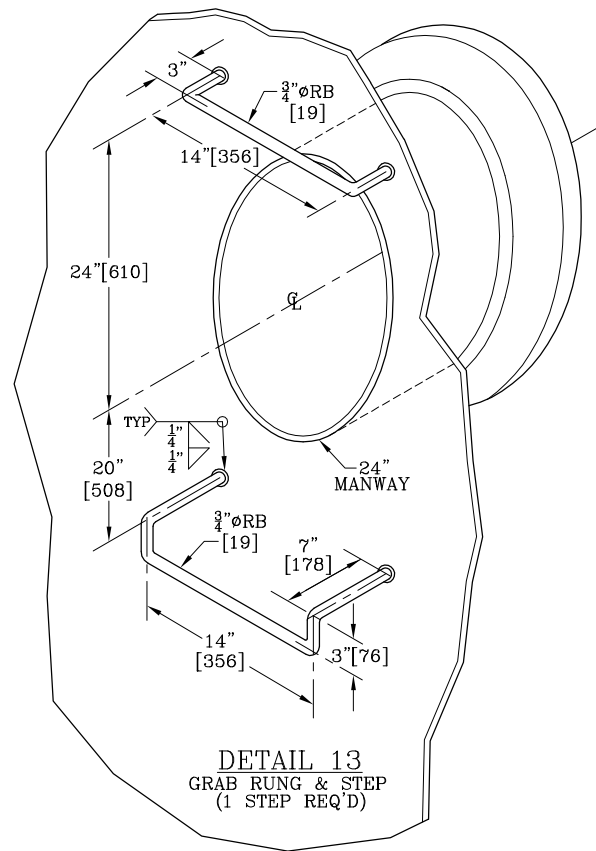
FIXED END BASEPLATE
(1 REQ'D)

SADDLE BASEPLATES
(2 REQ'D)

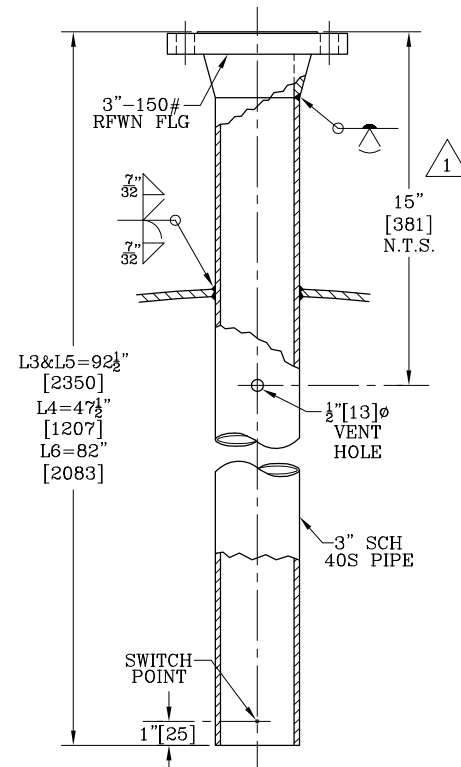
SLIDING END BASEPLATE
(1 REQ'D)



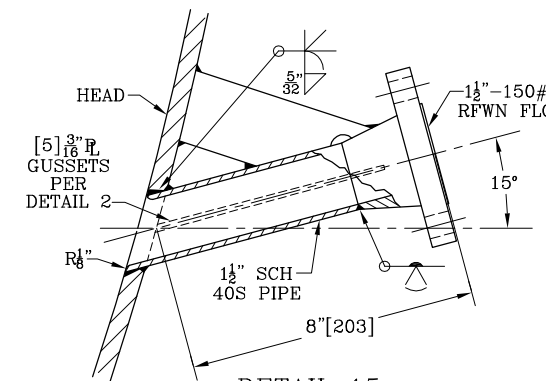
DETAIL 12
NOZZLE "L1 ON L2"



DETAIL 13
GRAB RUNG & STEP
(1 STEP REQ'D)



DETAIL 14
NOZZLES "L3,L4,L5&L6"



DETAIL 15
NOZZLE "T1"

FRACTION TO MILLIMETER CONVERSION

FRACTION	MM	FRACTION	MM
1/8"	[3]	9/16"	[14]
3/16"	[5]	5/8"	[16]
1/4"	[6]	11/16"	[17]
5/16"	[8]	3/4"	[19]
3/8"	[10]	13/16"	[21]
7/16"	[11]	7/8"	[22]
1/2"	[13]	15/16"	[24]

CERTIFIED

LETHAL SERVICE

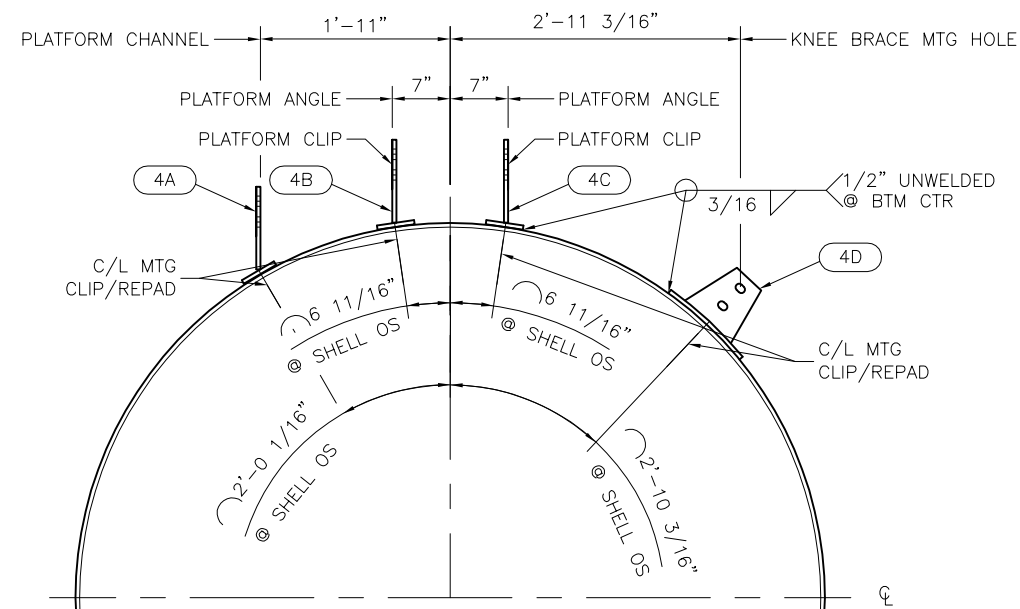
DTV MAIN DWG: 15515-06-1
DESTINATION: THEODORE, AL

REFERENCE:
CUST PO No: 4700985380
ITEM No: V-1410
PROJ No: 4142-00940
SPEC Nos: V-1410, REV 1; 20.230.013, REV 2;
20.230.030, REV 2; 20.230.036, R1; 25-0101-3
CUST STDS: 25-0205-2; 25-0804-2; 25-0808; 25-0813;
25-0901; 25-0902; 25-1010; 25-0108; 25-0303

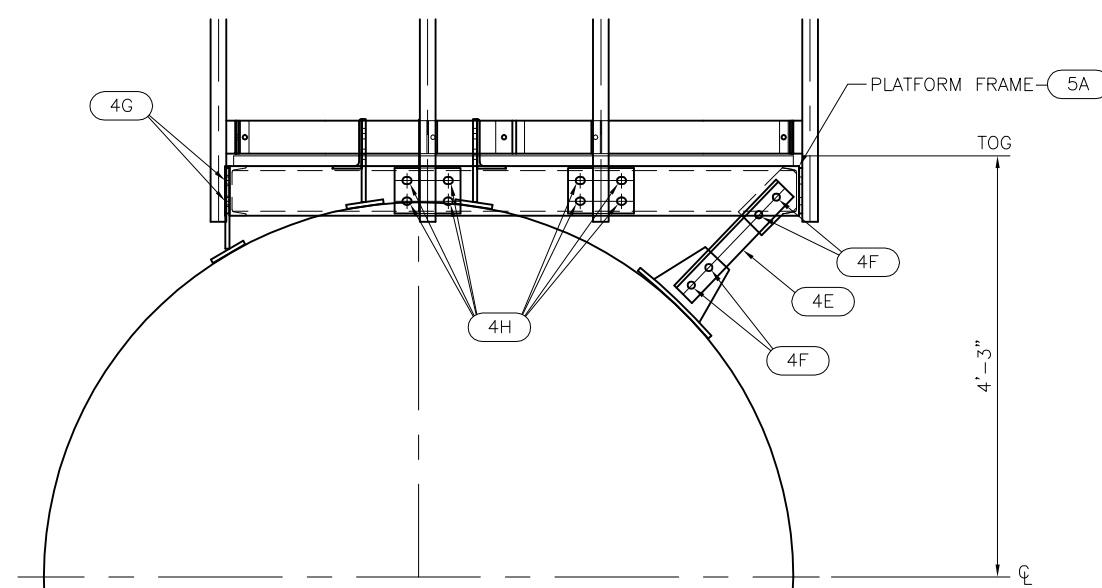
MARK	REVISION DESCRIPTION	BY	CHK'D	DATE	CHECKED	DATE	SCALE
3	REORIENT A9&A11 IN TOP VIEW	RTC	BT	1-15-16			
2	REORIENT A9&A11 IN TOP VIEW	RTC	BT	12-8-15			
1	ADD VENT HOLE LOC DTLS 12&14	RTC	BT	10-30-15			
0	RELEASED FOR FABRICATION	RTC	BT	8-13-15			
B	REV PER CUSTOMER COMMENTS	RTC	BT	7-24-15			

90"ID AcCH EMERGENCY QUENCH VESSEL V-1410
EVONIK CORPORATION
MOBILE ALABAMA PLANT
ACA PROJECT

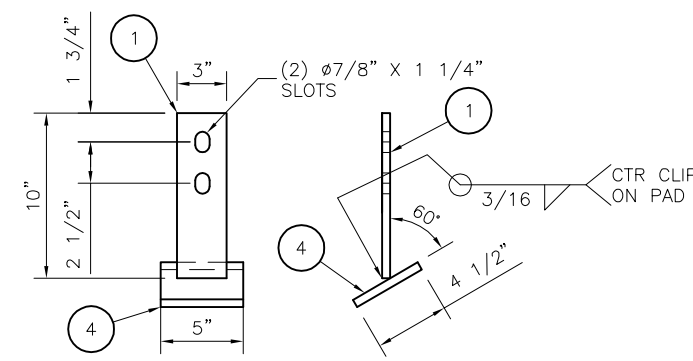
DRAWN RTC 5-8-15
CHECKED BT 4-8-15
JOB NO. 293-06
15515-06-3 3



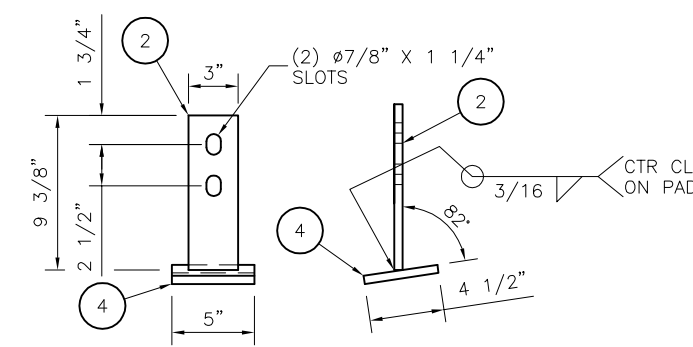
TYPICAL PLATFORM/KNEE BRACE MTG SUPPORT



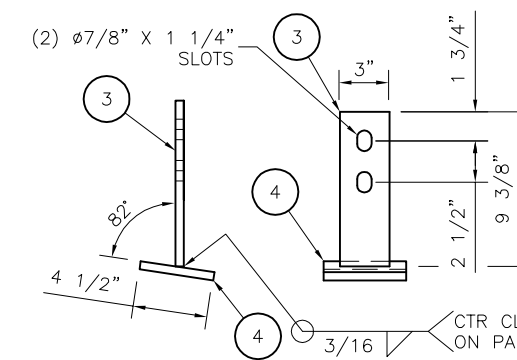
TYPICAL PLATFORM/HANDRAIL MTG DETAIL



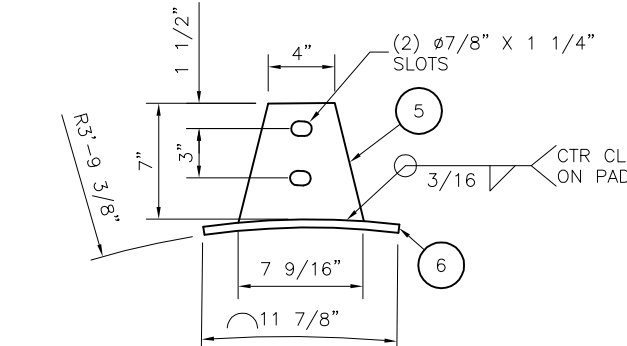
4A - PLATFORM MTG CLIP



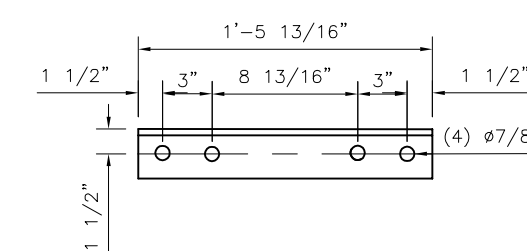
4B - PLATFORM MTG CLIP



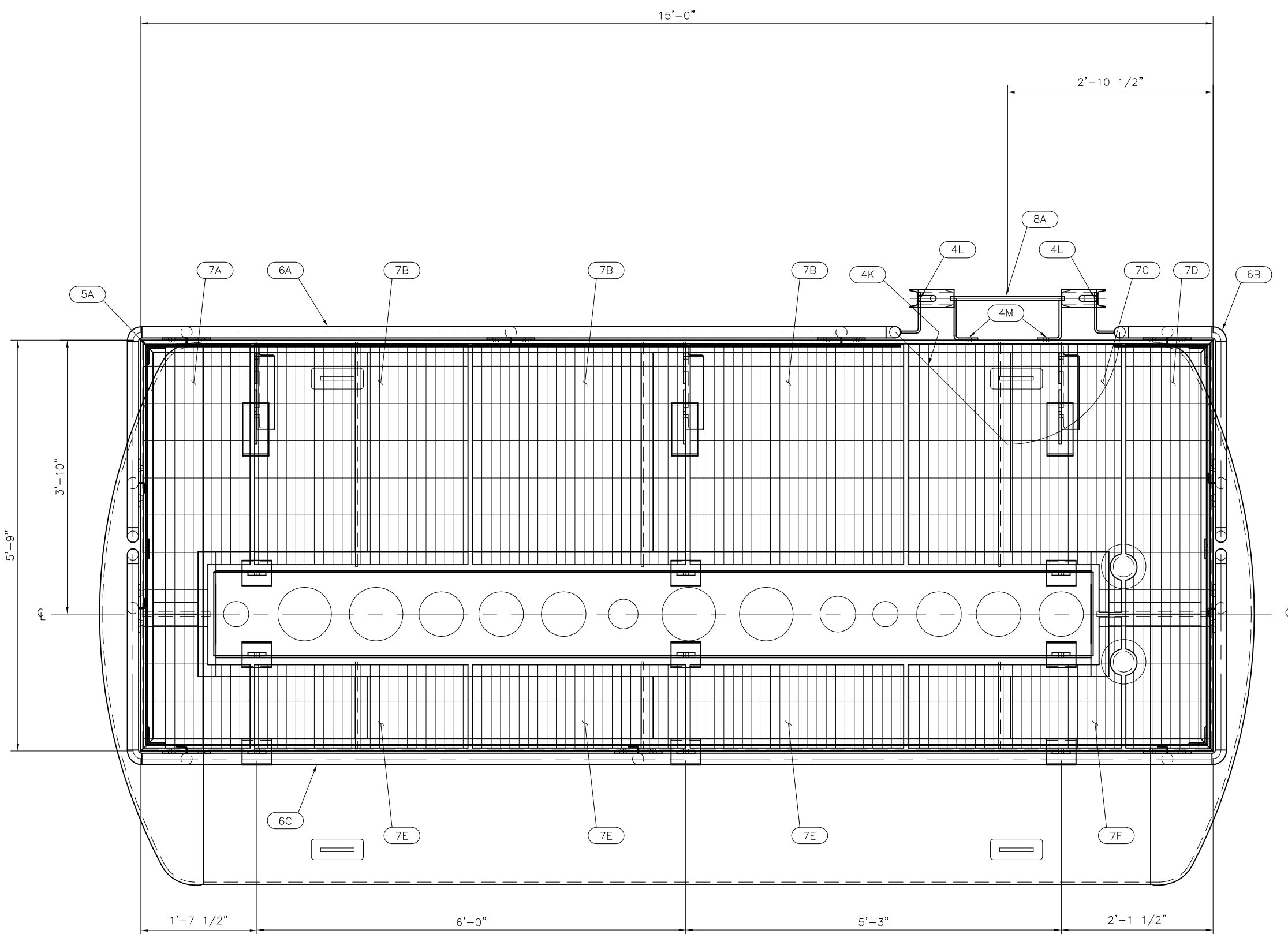
4C - PLATFORM MTG CLIP



4D - PLATFORM KNEE BRACE MTG CLIP



4E - KNEE BRACE



PLATFORM PLAN

BILL OF MATERIALS						
QUAN	Pc	MK	DESCRIPTION	MAT'L	SOURCE NO.	WEIGHT
3	4A		PLATFORM MTG CLIP			
3	4-1		PL 1/2" X 3" X 10"	SA-240-304	-	14
3	4-4		PL 1/2" X 4 1/2" X 5"	SA-240-304	-	10
3	4B		PLATFORM MTG CLIP			
3	4-2		PL 1/2" X 3" X 9 3/8"	SA-240-304	-	13
3	4-4		PL 1/2" X 4 1/2" X 5"	SA-240-304	-	10
3	4C		PLATFORM MTG CLIP			
3	4-3		PL 1/2" X 3" X 9 3/8"	SA-240-304	-	13
3	4-4		PL 1/2" X 4 1/2" X 5"	SA-240-304	-	10
3	4D		KNEE BRACE MTG CLIP			
3	4-5		PL 1/2" X 7" X 7 9/16"	SA-240-304	-	24
3	4-6		PL 1/2" X 4 1/2" X 11 7/8" (ROLLED)	SA-240-304	-	24
3	4E		L 3" X 3" X 3/8" X 1'-5 13/16"	SA-36	-	32
12	4F		Ø3/4" x 2" LG BOLTS W/NUT & FLAT WASHER	A325 GALV	-	7
18	4C		Ø3/4" x 2" LG BOLTS W/NUT	A325 GALV	-	9
48	4H		Ø5/8" X 1 3/4" LG HEAVY HEX BOLTS W/NUT	A325 GALV	-	16
56	4J		G CLAMPS (4 OR 8 CLAMPS PER PANEL)	CS (GALV)	-	18
1	4K		FABENCO No A71-36	PC SAFETY YELLOW	-	34
2	4L		Ø1/2" X 1 1/2" LG HEAVY HEX BOLTS W/NUT	A325 GALV	-	1
2	4M		Ø3/4" x 2" LG BOLTS W/NUT	A325 GALV	-	1

NOTE:
1. HOT DIP GALV. CARBON STEEL PLATFORM KNEE BRACE PER ASTM A-123.

CERTIFIED

REV	DATE	DESCRIPTION	BY
O	11-04-15	RELEASED FOR FABRICATION	DJP
A	10-21-15	CUSTOMER REVIEW	DJP

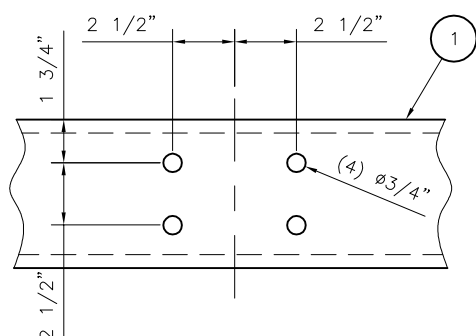
REVISIONS	
 100 Southwest Dr., Spartanburg, SC 29303	
CUSTOMER	EVONIK (NEW MOBILE, AL)
OWNER	EVONIK (NEW MOBILE, AL)
VESSEL NO.	V-1410
STRUCTURE IDENTIFICATION	
90" ID AcCh EMERGENCY QUENCH VESSEL	
CONTENTS THIS SHEET	
PLATFORM PLAN/DETAILS	
DRAWN BY:	DJP
CHECKED BY:	ELW
DATE:	10-15-15
APP'D BY:	
CONTRACT NO.:	293-06
APP'D. BY CHIEF ENG.:	
APP'D. BY Q.C. MGR.:	
SHEET: 04	
PLOT DISTRIBUTION LIST	
PREP	VIEWERS
FITERS	MARKERS
SHIPPING	REF PRINT
QC	FIELD Supt
FIELD FOREMAN	

4

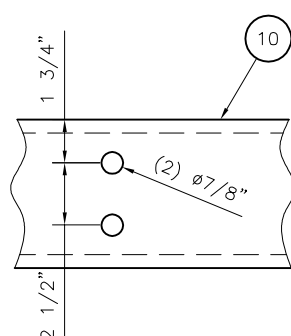
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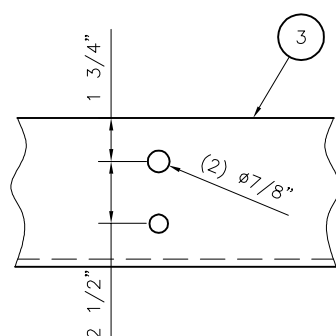
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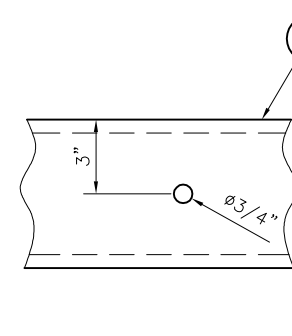
DETAIL 1
HANDRAILING MTG HOLES



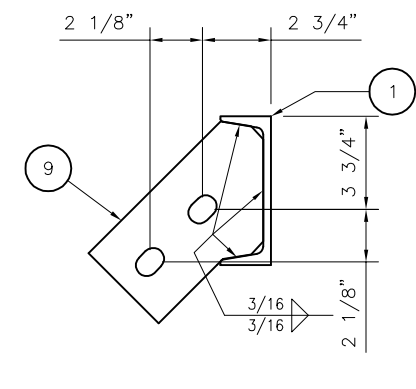
DETAIL 2
PLATFORM MTG HOLES



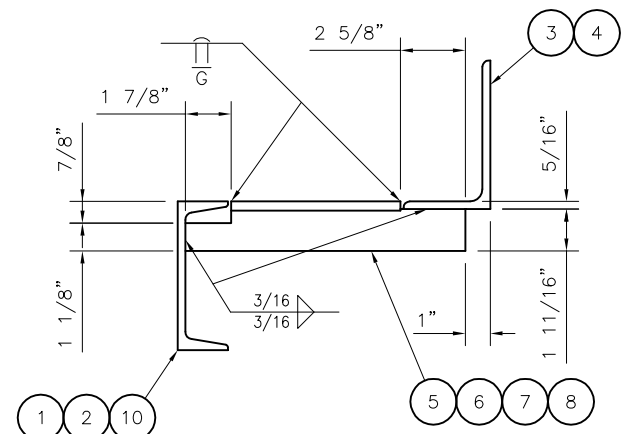
DETAIL 3
PLATFORM MTG HOLES



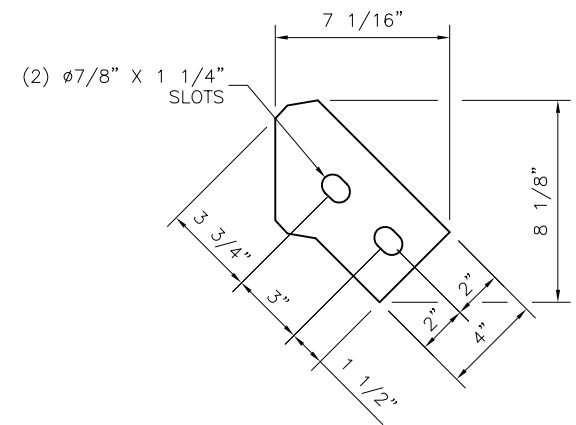
DETAIL 4
LADDER MTG HOLE



SECTION A



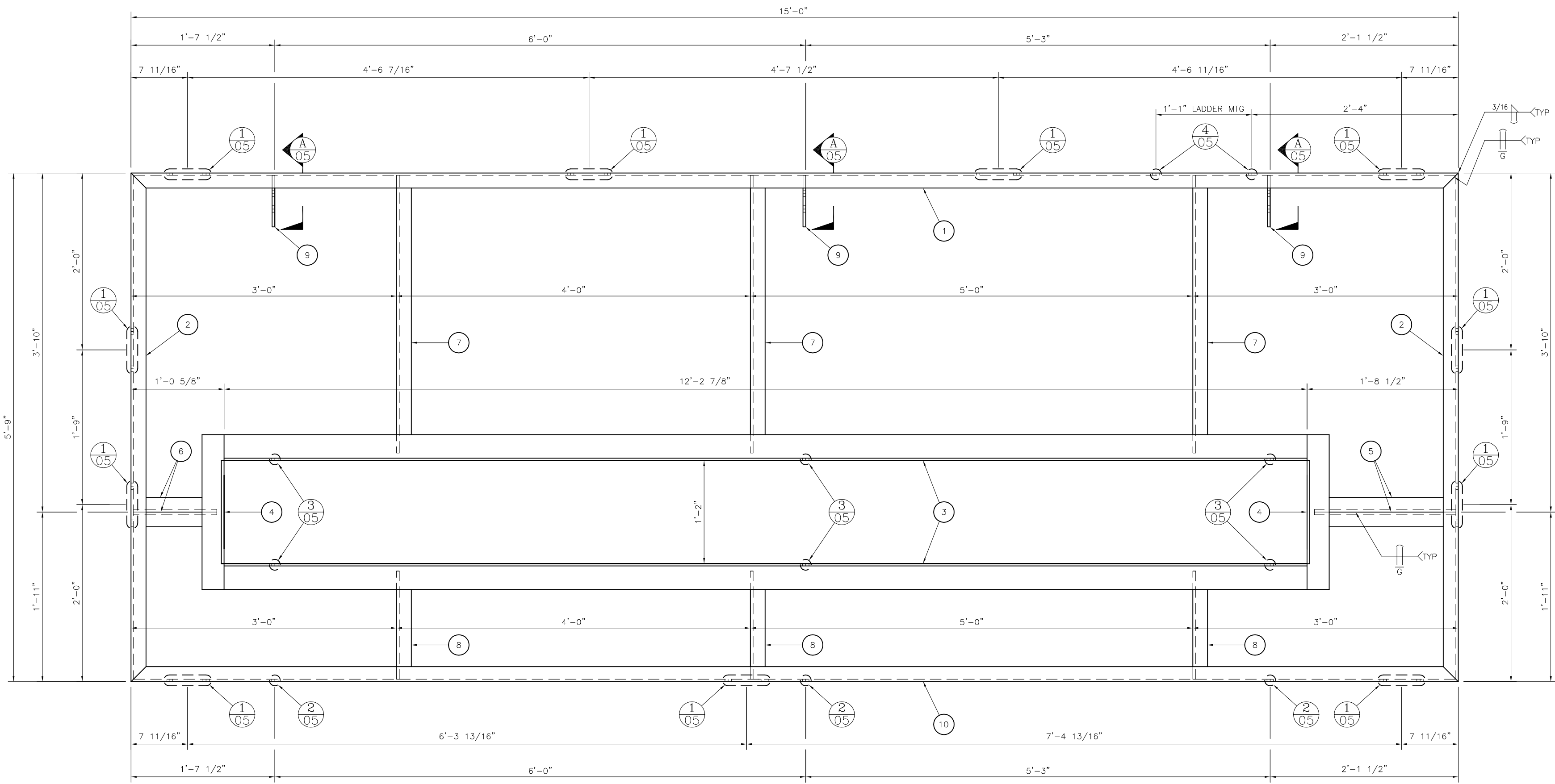
TYPICAL ANGLE COPE



9 - PLATFORM MTG CLIP

BILL OF MATERIALS						
QUAN	Pc	MK	DESCRIPTION	MAT'L	SOURCE NO.	WEIGHT
1	5A		PLATFORM ASSEMBLY			
1	5-1		C6 X 13 X 15'-0"	SA-36	-	195
2	5-2		C6 X 13 X 5'-9"	SA-36	-	150
2	5-3		L 6" X 3 1/2" X 5/16" X 12'-2 7/8"	SA-36	-	239
2	5-4		L 6" X 3 1/2" X 5/16" X 1'-9"	SA-36	-	34
2	5-5		L 2" X 2" X 3/8" X 1'-7 3/16"	SA-36	-	15
2	5-6		L 2" X 2" X 3/8" X 11 5/16"	SA-36	-	9
3	5-7		L 2" X 2" X 3/8" X 3'-1 11/16"	SA-36	-	43
3	5-8		L 2" X 2" X 3/8" X 1'-2 11/16"	SA-36	-	17
3	5-9		PL 3/8" X 7 1/16" X 8 1/8"	SA-36	-	18
1	5-10		C6 X 13 X 15'-0"	SA-36	-	195

NOTE:
1. HOT DIP GALV. CARBON STEEL PLATFORM ASSEMBLY PER ASTM A-123.
2. WRAP AND SEAL ALL WELDS PRIOR TO GALVANIZING.



5A - PLATFORM ASSEMBLY

CERTIFIED

REV	DATE	DESCRIPTION	BY
0	11-04-15	RELEASED FOR FABRICATION	DJP
A	10-21-15	CUSTOMER REVIEW	DJP

REVISIONS			
 100 Southwest Dr., Spartanburg, SC 29303			
CUSTOMER	EVONIK (NEW MOBILE, AL)		
OWNER	EVONIK (NEW MOBILE, AL)		
VESSEL NO.	V-1410		
STRUCTURE IDENTIFICATION			
90" ID AcCh EMERGENCY QUENCH VESSEL			
CONTENTS THIS SHEET			
PLATFORM DETAILS			
DRAWN BY:	CHECKED BY:	DATE:	APP'D BY:
DJP	ELW	10-15-15	
APP'D. BY CHIEF ENG.	APP'D. BY Q.C. MGR.		
			CONTRACT NO. 293-06
			SHEET: 05
PLST DISTRIBUTION LIST			
PREP	FITERS	MARKERS	SHIPPING
REP PRINT	QS	FIELD SUPT	FIELD FOREMAN

4

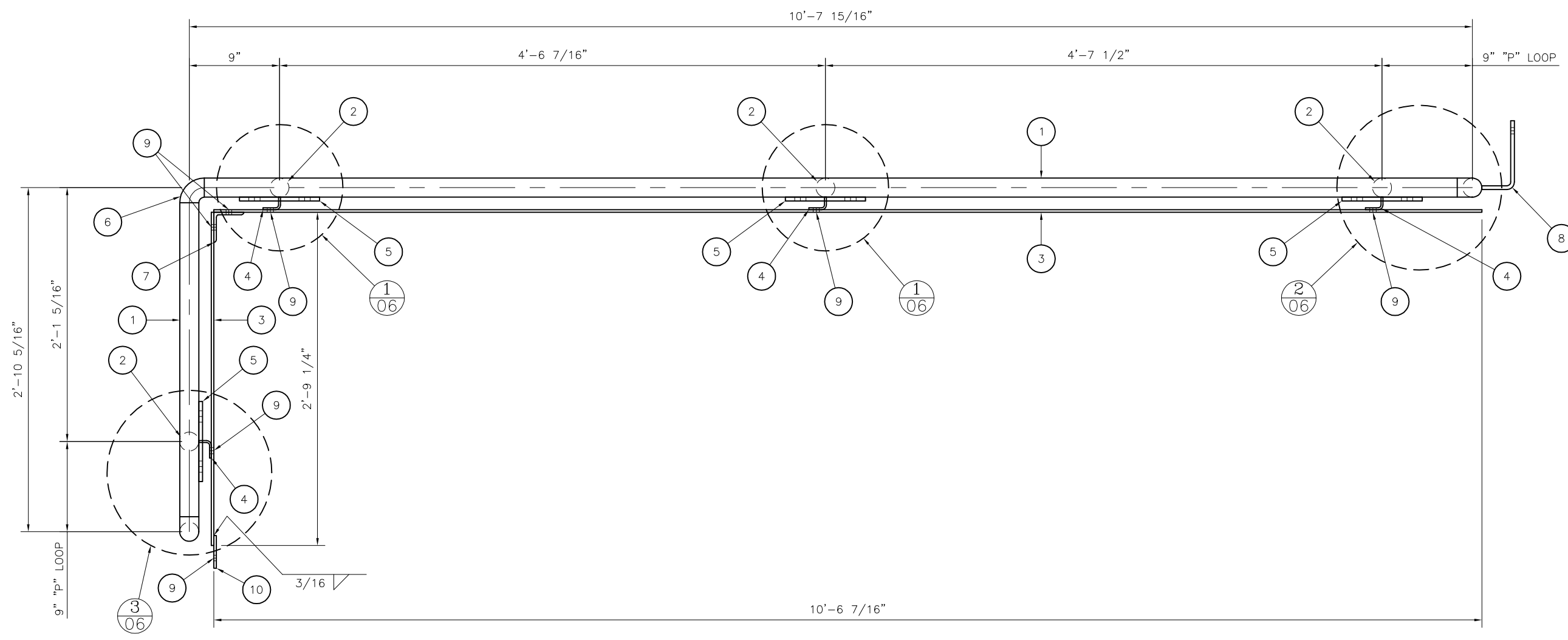
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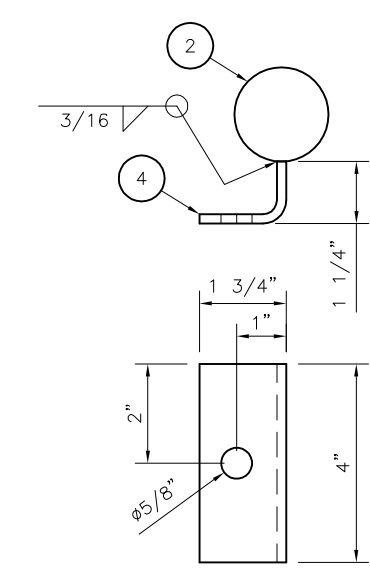
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BILL OF MATERIALS						
QUAN	Pc	MK	DESCRIPTION	MAT'L	SOURCE NO.	WEIGHT
1	6A		HANDRAILING ASSEMBLY			
1	6-1		PIPE 1 1/2" SCH 40 X 28'-0" LF (HANDRAIL, MIDRAIL & P LOOP)	A-500 GRB	-	76
4	6-2		PIPE 1 1/2" SCH 40 X 4'-1" (HANDRAIL POST)	A-500 GRB	-	44
1	6-3		FB 4" X 1/4" X 14'-0" LF (TOE PL)	SA-36	-	48
4	6-4		PL 3/16" X 2 5/8" X 4" (BENT)	SA-36	-	2
4	6-5		PL 3/8" X 5 1/2" X 8"	SA-36	-	19
6	6-6		ELBOW 1 1/2" SCH 40 90 DEGREE S.R.	SA-234 WPB	-	3
1	6-7		L 3" X 3" X 1/4" X 4"	SA-36	-	2
1	6-8		PL 3/8" X 1 7/8" X 9 3/8" (BENT)	SA-36	-	2
7	6-9		Ø1/2" X 1 1/4" HEX BOLTS W/NUT	A325 GALV	-	1
1	6-10		PL 1/4" X 3 1/4" X 4"	SA-36	-	1

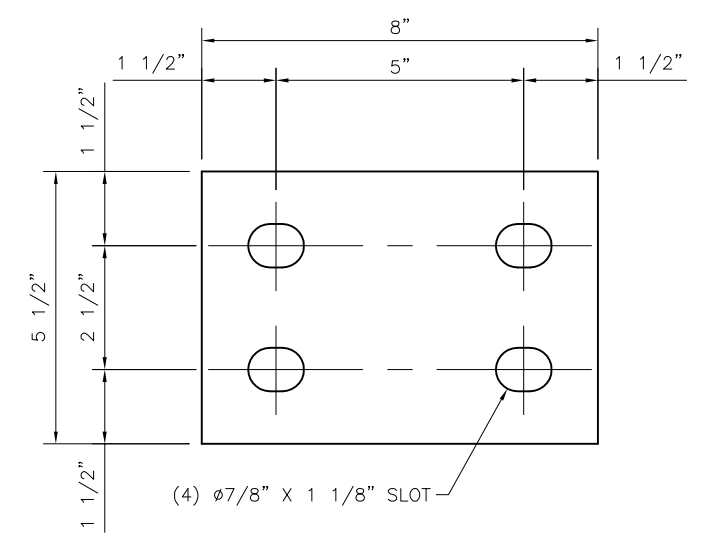
NOTE:
 1. HOT DIP GALV. CARBON STEEL HANDRAILING ASSEMBLIES PER ASTM A-123.
 2. WRAP AND SEAL ALL WELDS PRIOR TO GALVANIZING.
 3. PROVIDE VENT HOLES IN HANDRAIL PRIOR TO GALVANIZING.



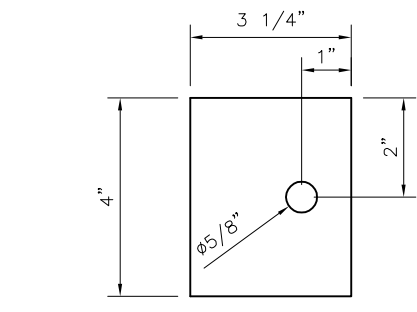
6A - HANDRAILING SECTION



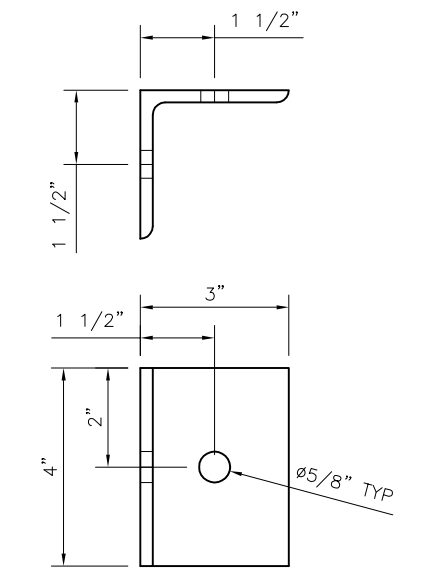
4 - KICK PLATE MTG CLIP



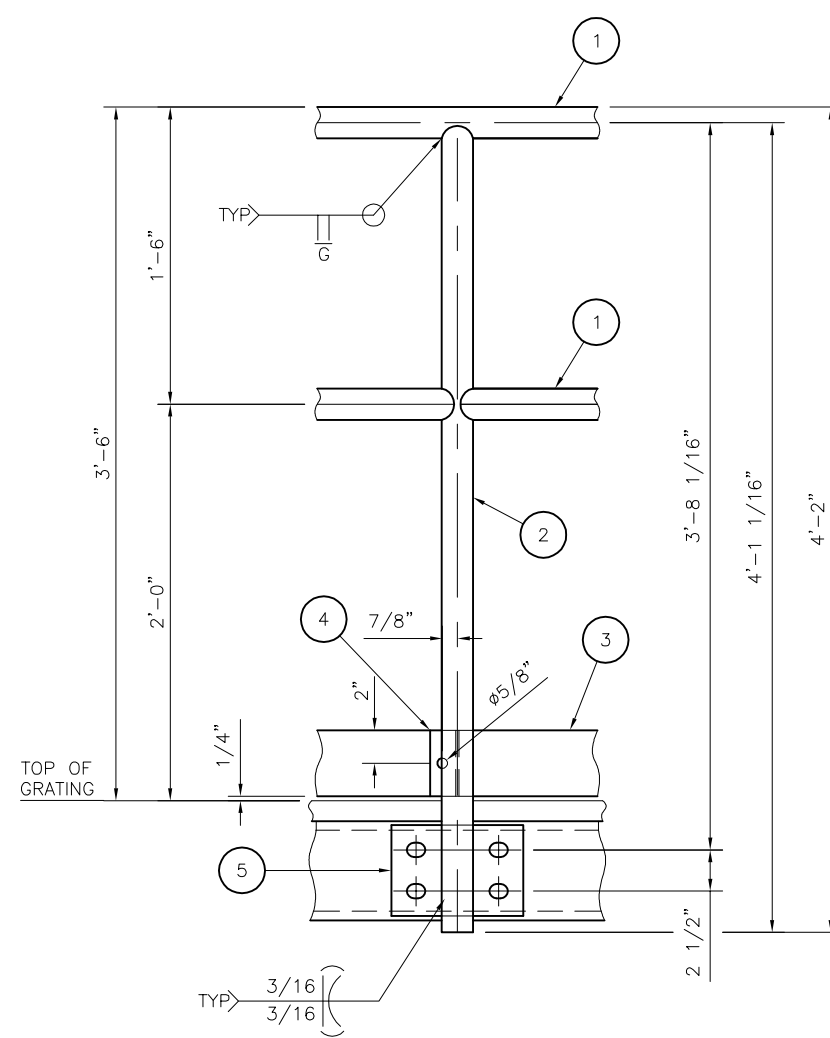
5 - HANDRAILING MTG PLATE



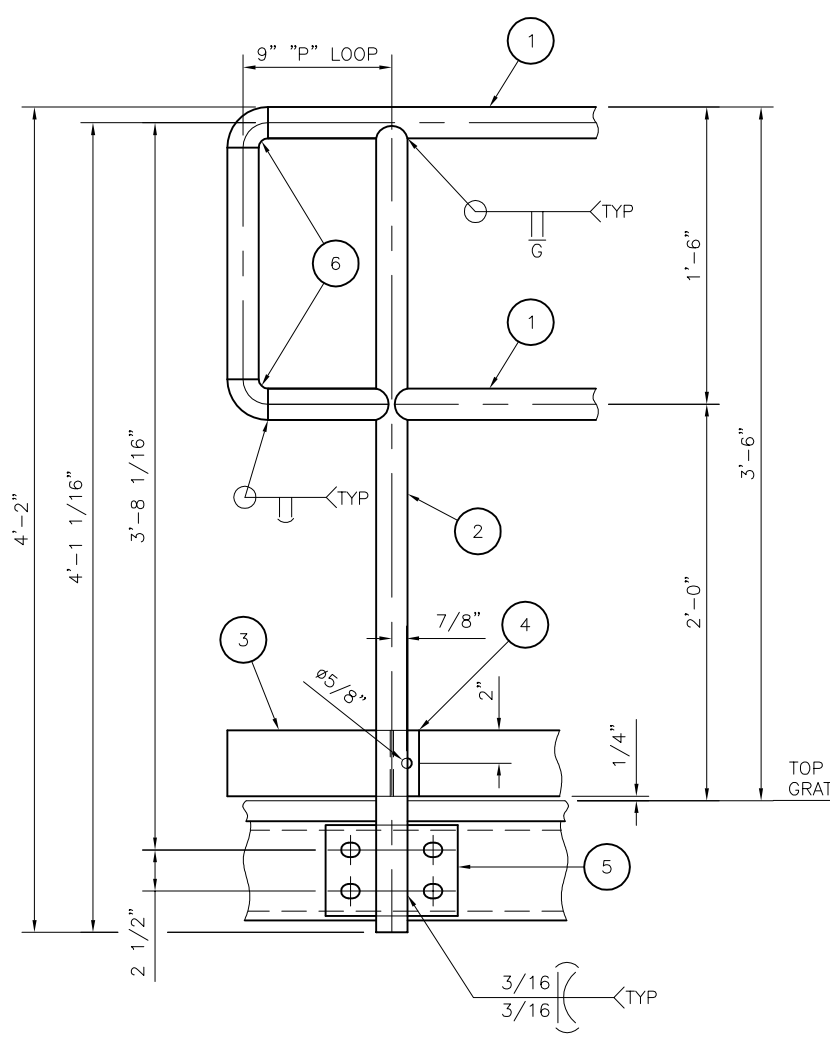
10 - KICK PLATE MTG PLATE



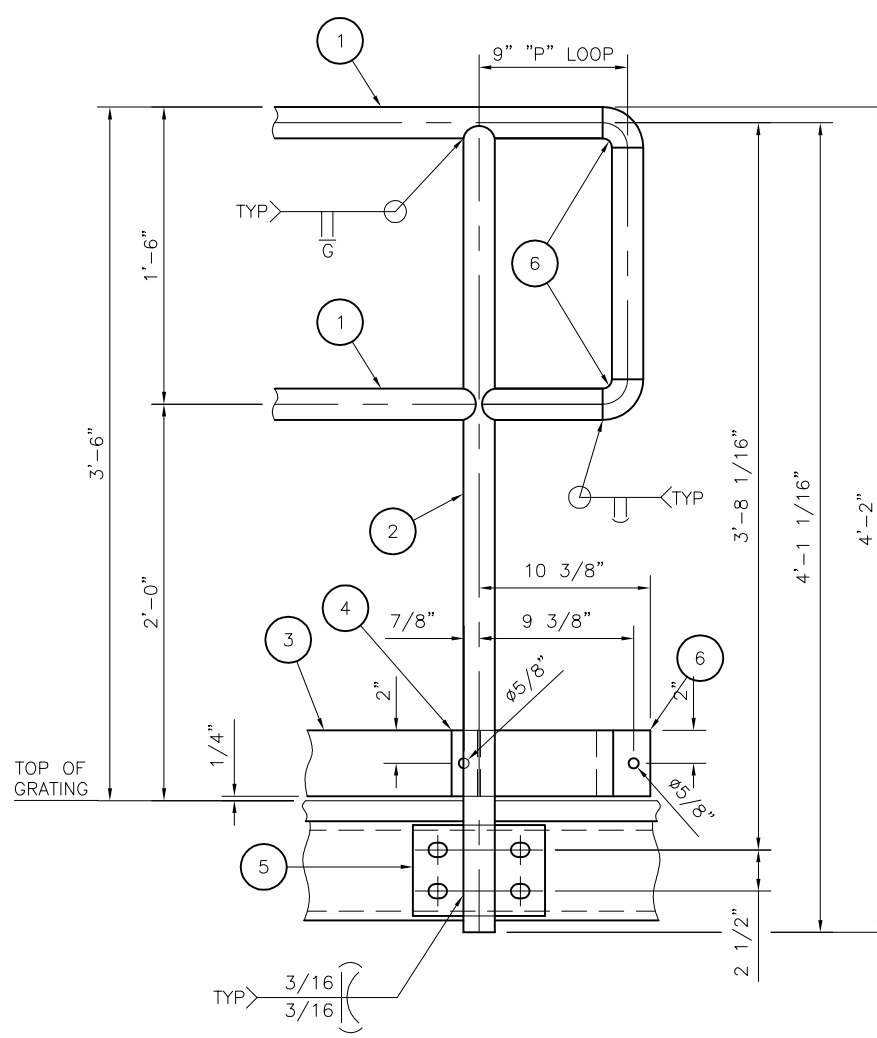
7 - KICK PLATE MTG ANGLE



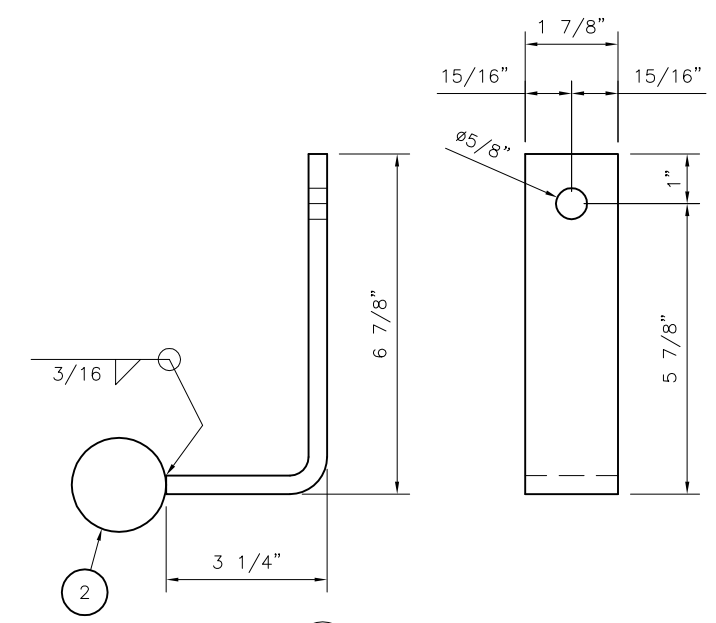
DETAIL 1
 TYPICAL POST SECTION



DETAIL 2
 "P" POST SECTION AT LADDER



DETAIL 3
 "P" POST SECTION AT END



8 - LADDER MTG PLATE

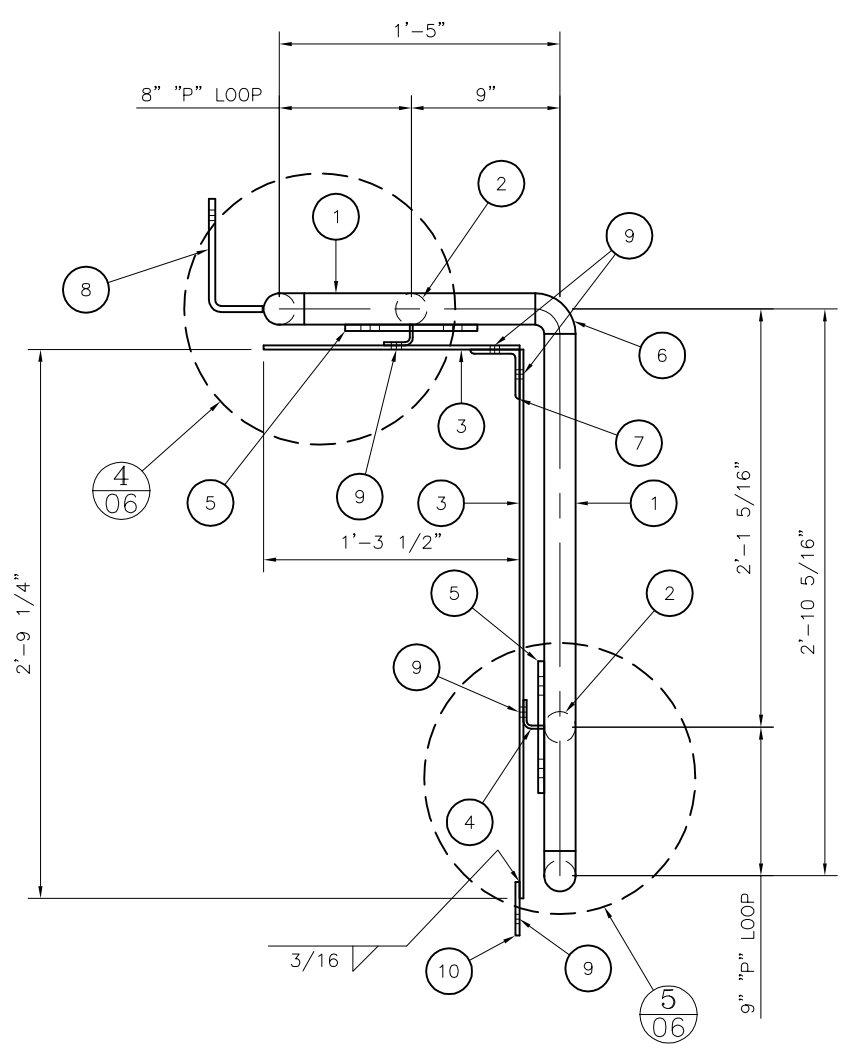
CERTIFIED

REV	DATE	DESCRIPTION	BY
0	11-04-15	RELEASED FOR FABRICATION	DJP
A	10-21-15	CUSTOMER REVIEW	DJP

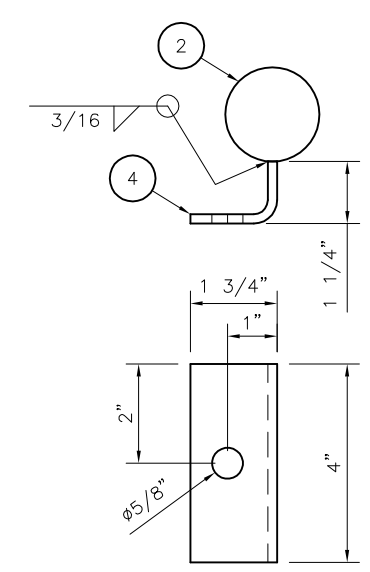
REVISIONS			
 CAROLINA INTEGRATED SOLUTIONS 100 Southwest Dr., Spartanburg, SC 29303			
CUSTOMER	EVONIK (NEW MOBILE, AL)		
OWNER	EVONIK (NEW MOBILE, AL)		
VESSEL NO.	V-1410		
STRUCTURE IDENTIFICATION			
90" ID AcCH EMERGENCY QUENCH VESSEL			
CONTENTS THIS SHEET			
HANDRAILING DETAILS			
DRAWN BY:	CHECKED BY:	DATE:	APP'D BY:
DJP	ELW	10-15-15	
APP'D. BY CHIEF ENG.	APP'D. BY Q.C. MGR.		
			293-06
			SHEET: 06A

BILL OF MATERIALS						
QUAN	Pc	MK	DESCRIPTION	MAT'L	SOURCE NO.	WEIGHT
1	6B		HANDRAILING ASSEMBLY			
1	6-1		PIPE 1 1/2" SCH 40 X 12'-0" LF (HANDRAIL, MIDRAIL & P LOOP)	A-500 GRB	-	32
2	6-2		PIPE 1 1/2" SCH 40 X 4'-1" (HANDRAIL POST)	A-500 GRB	-	22
1	6-3		FB 4" X 1/4" X 5'-0" LF (TOE PL)	SA-36	-	17
2	6-4		PL 3/16" X 2 5/8" X 4" (BENT)	SA-36	-	1
2	6-5		PL 3/8" X 5 1/2" X 8"	SA-36	-	10
6	6-6		ELBOW 1 1/2" SCH 40 90 DEGREE S.R.	SA-234 WPB	-	3
1	6-7		L 3" X 3" X 1/4" X 4"	SA-36	-	2
1	6-8		PL 3/8" X 1 7/8" X 9 3/8" (BENT)	SA-36	-	2
5	6-9		Ø1/2" X 1 1/4" HEX BOLTS W/ NUT	A325 GALV	-	1
1	6-10		PL 1/4" X 3 1/4" X 4"	SA-36	-	1

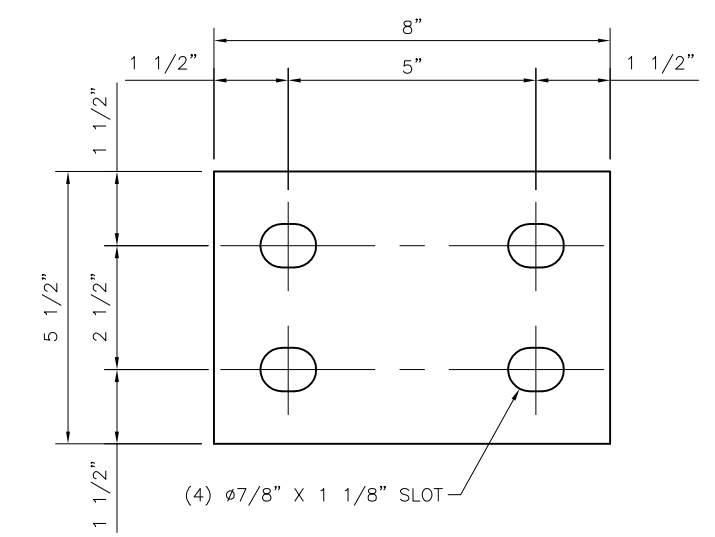
NOTE:
 1. HOT DIP GALV. CARBON STEEL HANDRAILING ASSEMBLIES PER ASTM A-123.
 2. WRAP AND SEAL ALL WELDS PRIOR TO GALVANIZING.
 3. PROVIDE VENT HOLES IN HANDRAIL PRIOR TO GALVANIZING.



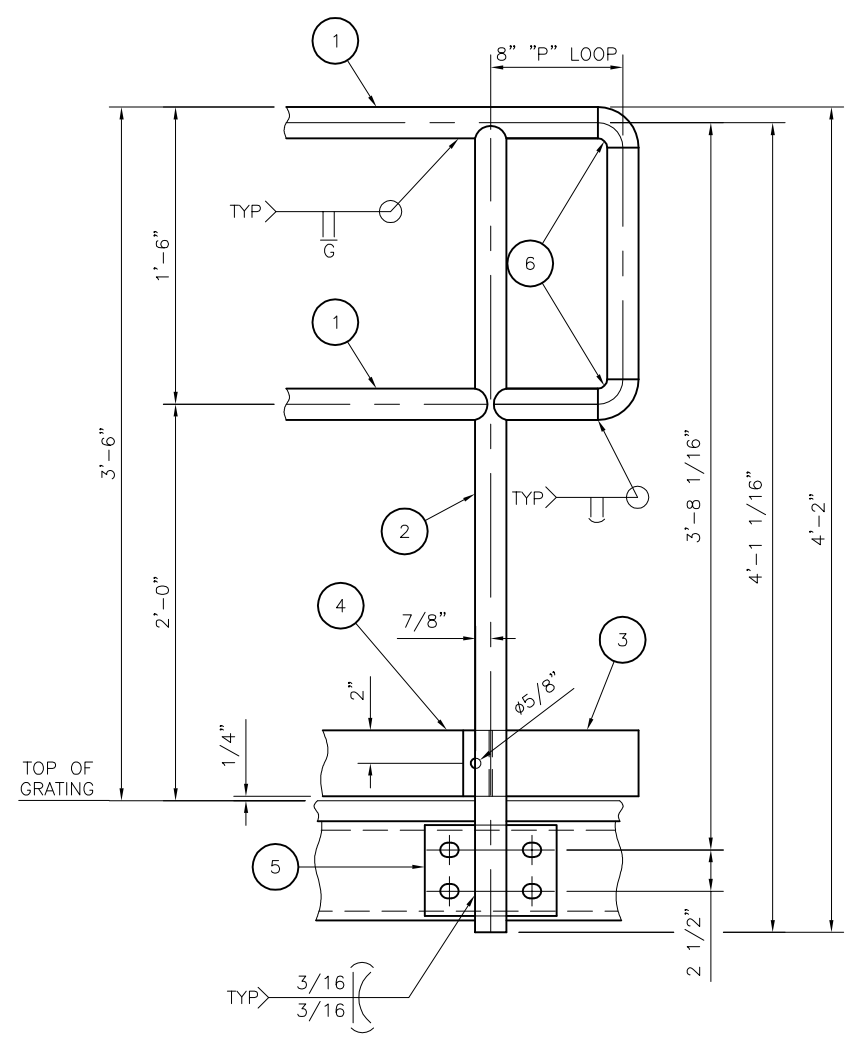
5B - HANDRAILING SECTION



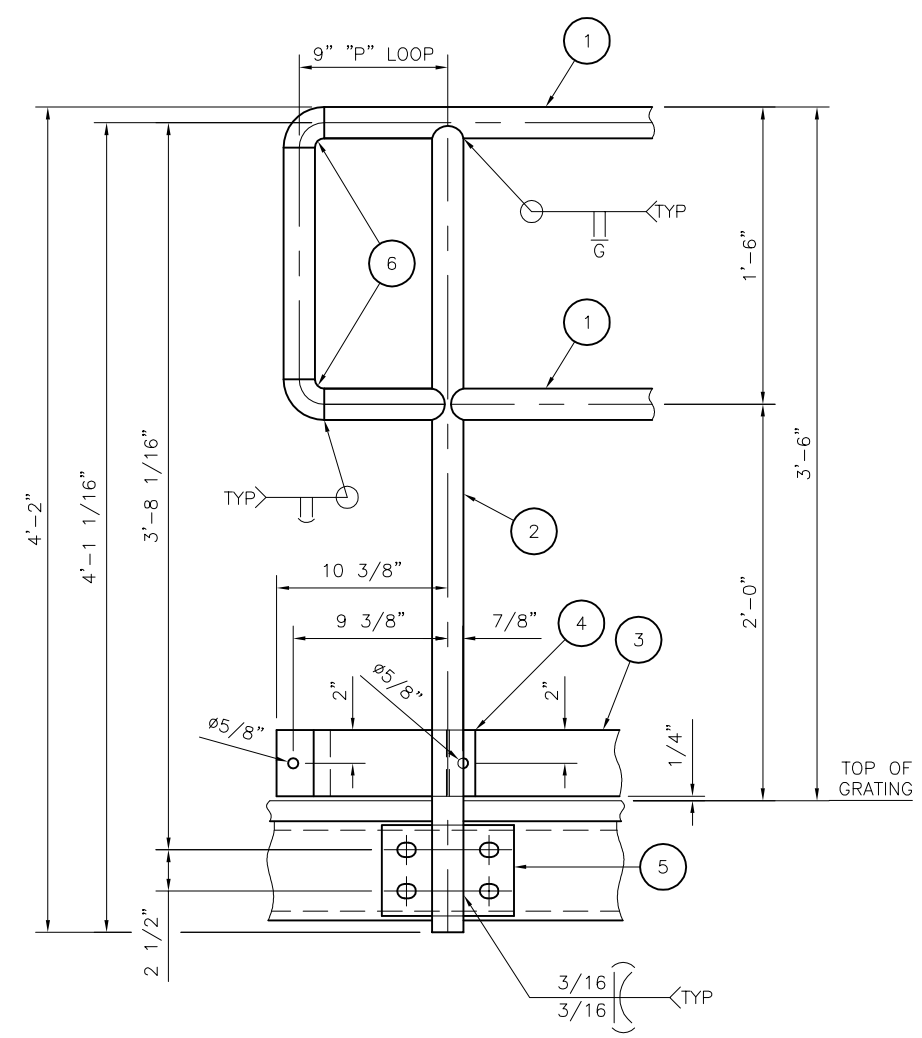
4 - KICK PLATE MTG CLIP



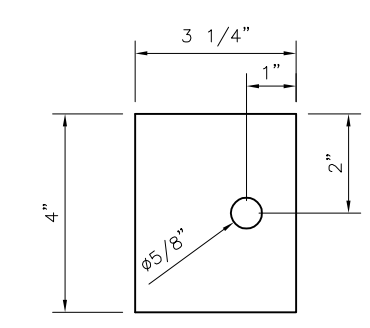
5 - HANDRAILING MTG PLATE



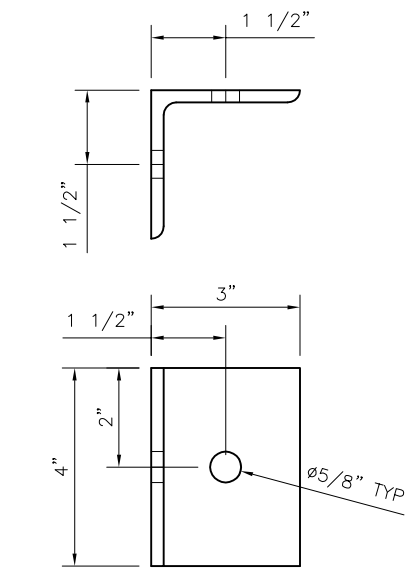
DETAIL 4
 "P" POST SECTION AT LADDER



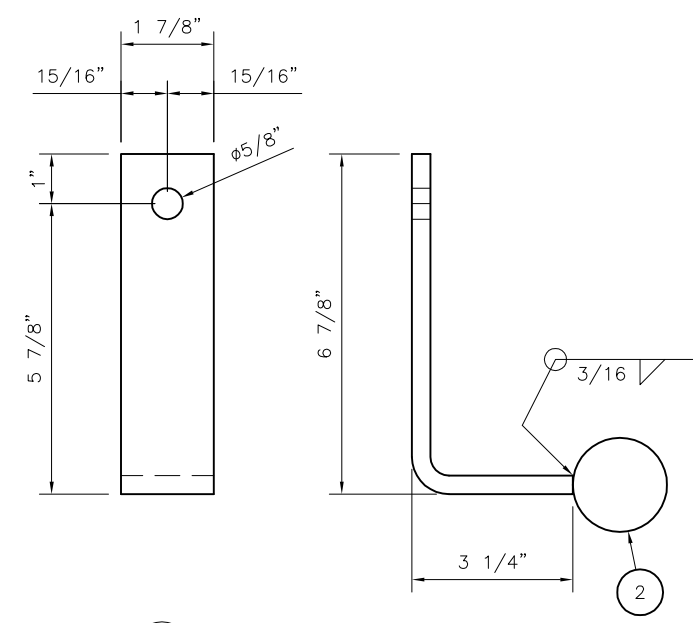
DETAIL 5
 "P" POST SECTION AT END



10 - KICK PLATE MTG PLATE



7 - KICK PLATE MTG ANGLE



8 - LADDER MTG PLATE

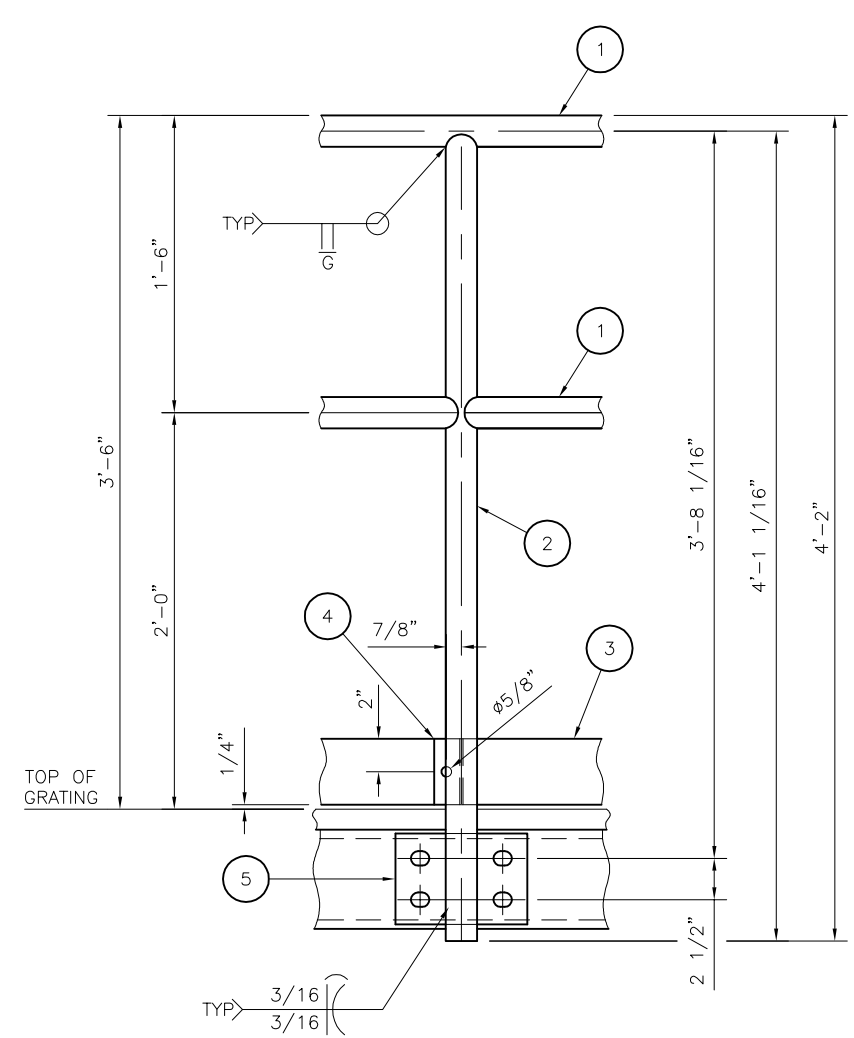
CERTIFIED

REV	DATE	DESCRIPTION	BY
0	11-04-15	RELEASED FOR FABRICATION	DJP
A	10-21-15	CUSTOMER REVIEW	DJP

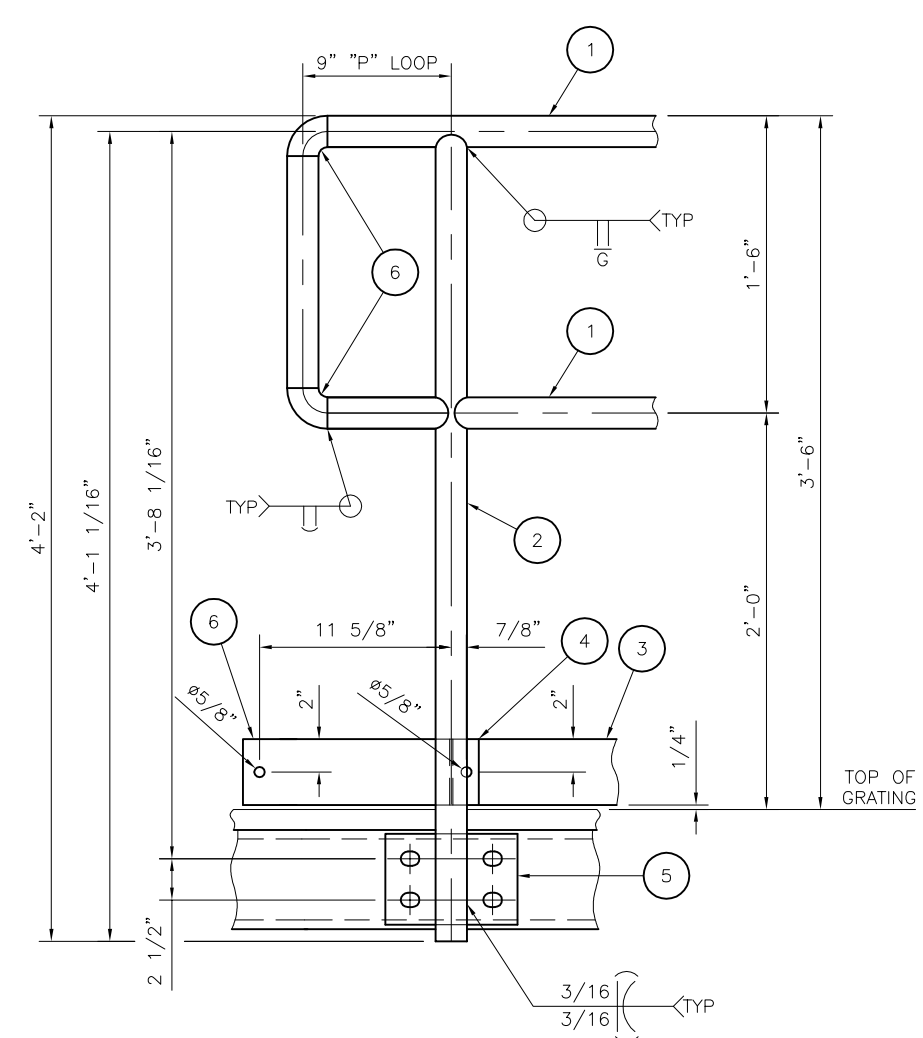
REVISIONS			
 CAROLINA INTEGRATED SOLUTIONS 100 Southwest Dr., Spartanburg, SC 29303			
CUSTOMER	EVONIK (NEW MOBILE, AL)		
OWNER	EVONIK (NEW MOBILE, AL)		
VESSEL NO.	V-1410		
STRUCTURE IDENTIFICATION			
90" ID AcCH EMERGENCY QUENCH VESSEL			
CONTENTS THIS SHEET			
HANDRAILING DETAILS			
DRAWN BY:	CHECKED BY:	DATE:	APP'D BY:
DJP	ELW	10-15-15	
APP'D. BY CHIEF ENG.:	APP'D. BY O.C. MGR.:		
			293-06
			SHEET: 06B
PLST DISTRIBUTION LIST			
PREP	FITERS	FITERS HB	MARKERS
SHIPPING	REP PRINT	QS	FIELD SUPT
			FIELD FOREMAN

BILL OF MATERIALS						
QUAN	Pc	MK	DESCRIPTION	MAT'L	SOURCE NO.	WEIGHT
1	6C		HANDRAILING ASSEMBLY			
1	6-1		PIPE 1 1/2" SCH 40 X 43'-0" LF (HANDRAIL, MIDRAIL & P LOOP)	A-500 GRB	-	117
5	6-2		PIPE 1 1/2" SCH 40 X 4'-1" (HANDRAIL POST)	A-500 GRB	-	55
1	6-3		FB 4" X 1/4" X 21'-0" LF (TOE PL)	SA-36	-	71
5	6-4		PL 3/16" X 2 5/8" X 4" (BENT)	SA-36	-	3
5	6-5		PL 3/8" X 5 1/2" X 8"	SA-36	-	10
8	6-6		ELBOW 1 1/2" SCH 40 90 DEGREE S.R.	SA-234 WPB	-	4
5	6-9		Ø1/2" X 1 1/4" HEX BOLTS W/NUT	A325 GALV	-	1

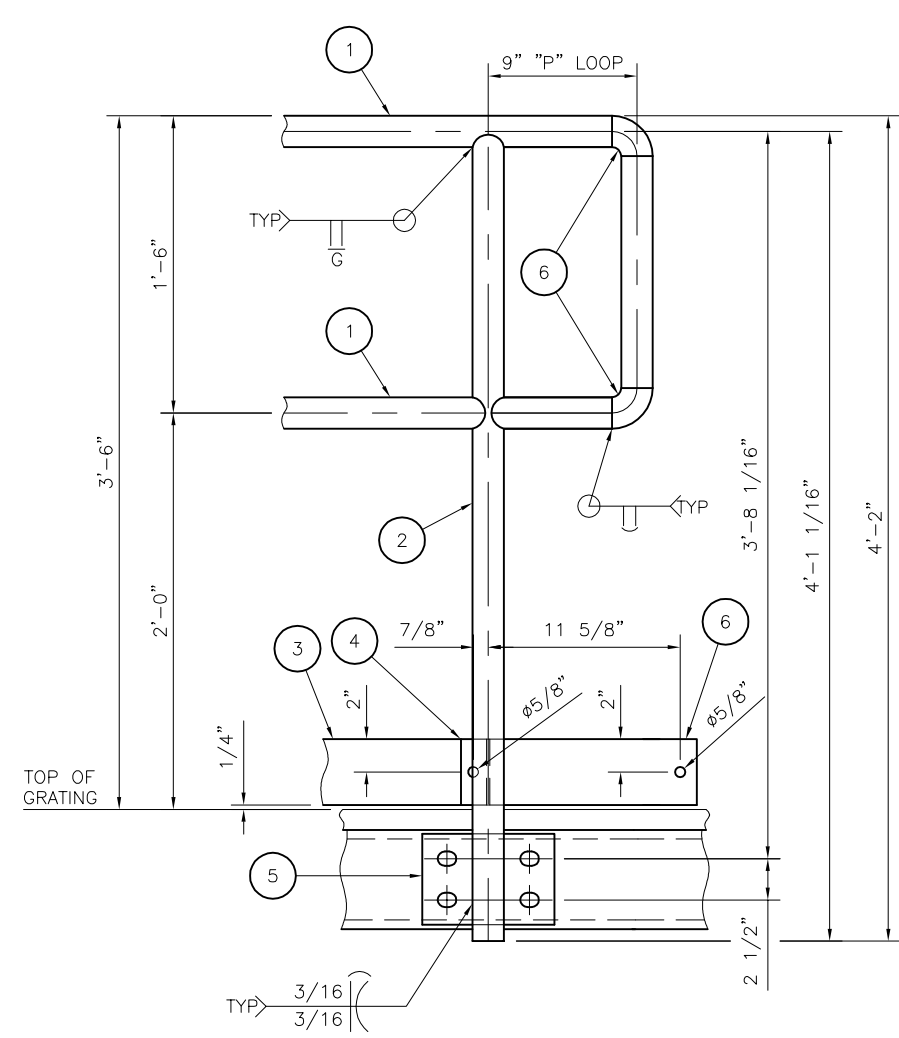
NOTE:
 1. HOT DIP GALV. CARBON STEEL HANDRAILING ASSEMBLIES PER ASTM A-123.
 2. WRAP AND SEAL ALL WELDS PRIOR TO GALVANIZING.
 3. PROVIDE VENT HOLES IN HANDRAIL PRIOR TO GALVANIZING.



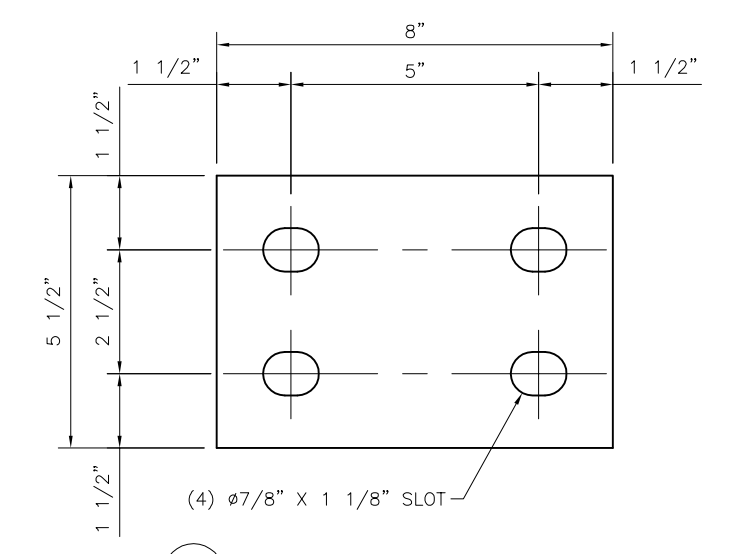
DETAIL 1
 TYPICAL POST SECTION



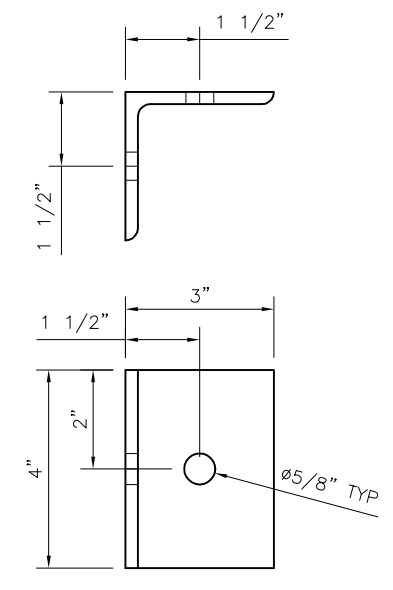
DETAIL 6
 "P" POST SECTION AT END



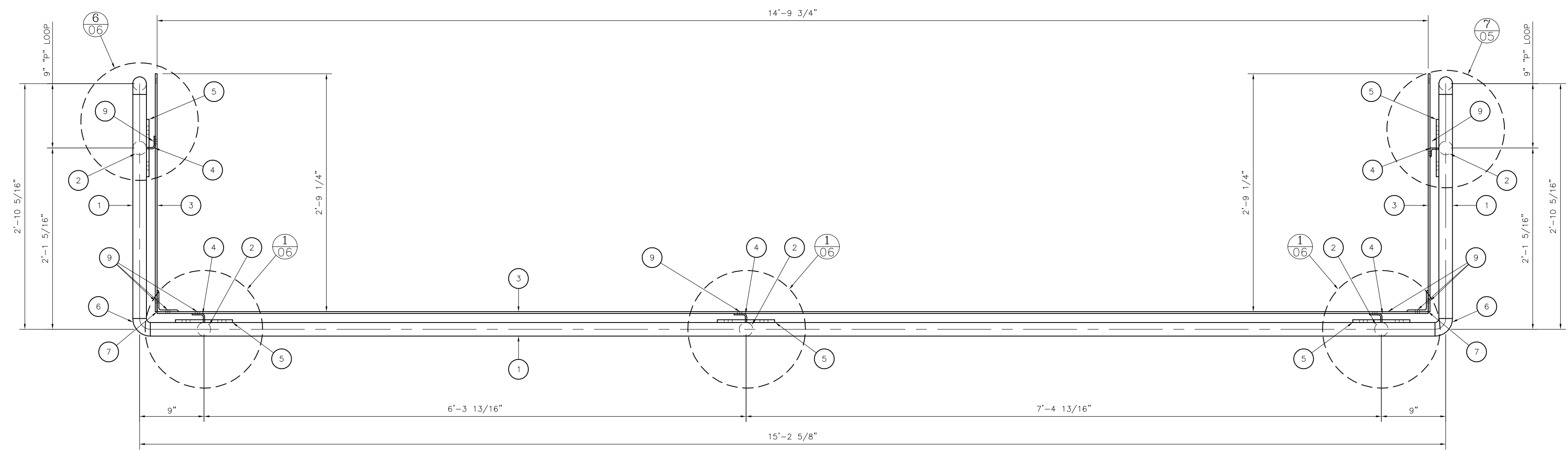
DETAIL 7
 "P" POST SECTION AT END



5 - HANDRAILING MTG PLATE



7 - KICK PLATE MTG ANGLE



6C - HANDRAILING SECTION

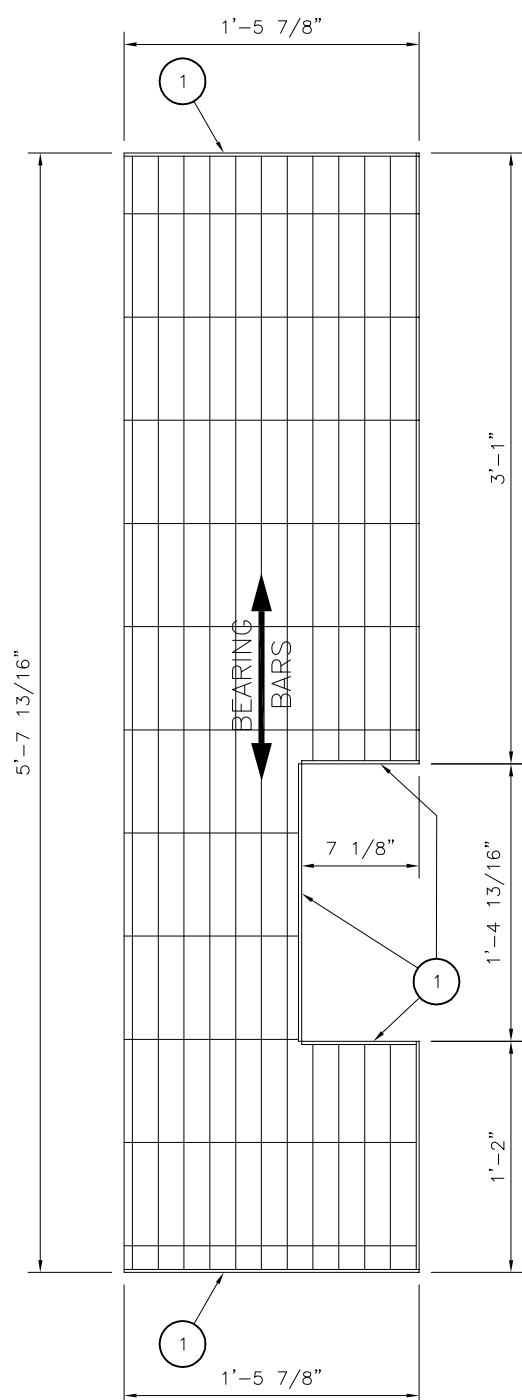
CERTIFIED

REV	DATE	DESCRIPTION	BY
0	11-04-15	RELEASED FOR FABRICATION	DJP
A	10-21-15	CUSTOMER REVIEW	DJP

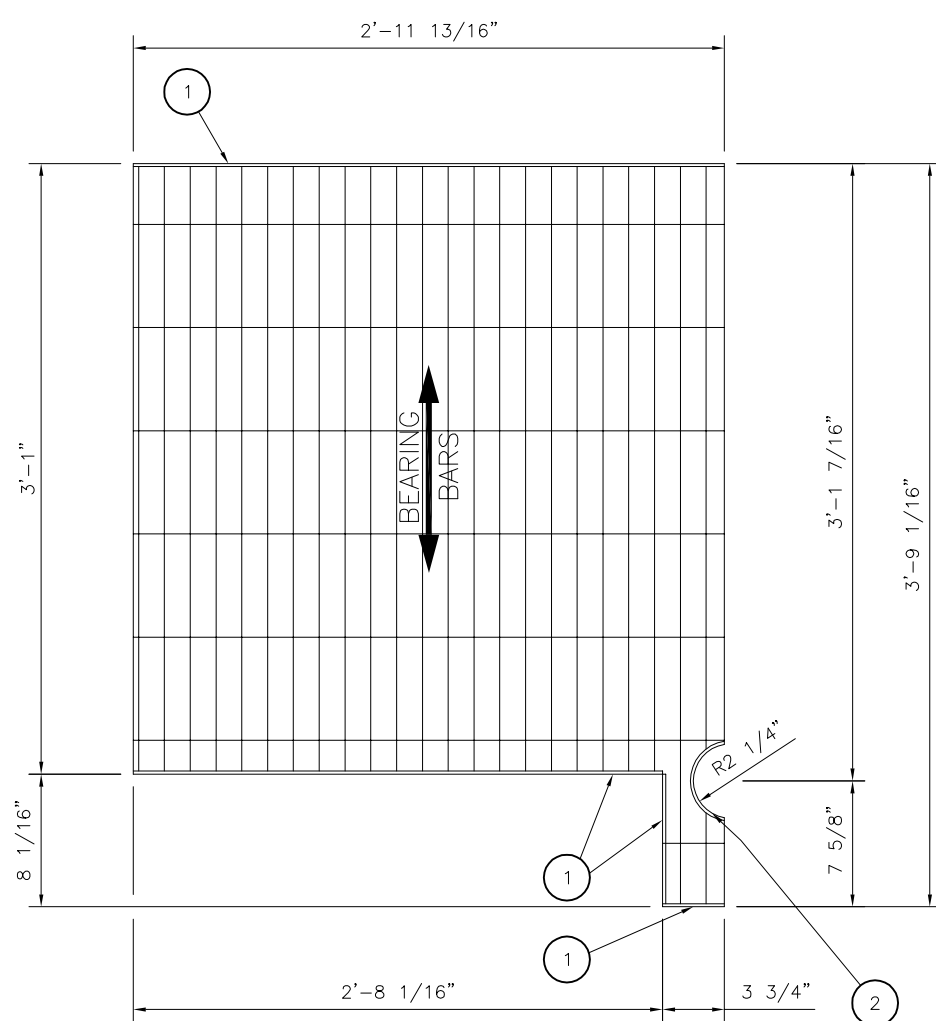
REVISIONS			
 100 Southwest Dr., Spartanburg, SC 29303			
CUSTOMER	EVONIK (NEW MOBILE, AL)		
OWNER	EVONIK (NEW MOBILE, AL)		
VESSEL NO.	V-1410		
STRUCTURE IDENTIFICATION			
90" ID AcCH EMERGENCY QUENCH VESSEL			
CONTENTS THIS SHEET			
HANDRAILING DETAILS			
DRAWN BY:	CHECKED BY:	DATE:	APP'D BY:
DJP	ELW	10-15-15	
APP'D. BY CHIEF ENG.:	APP'D. BY Q.C. MGR.:		
CONTRACT NO. 293-06			
SHEET: 06C			
PLIST DISTRIBUTION LIST			
PREP	ITERS	ITERS HB	MARKERS
SHIPPING	REP PRINT	QS	FIELD SUPT
			FIELD FOREMAN

BILL OF MATERIALS						
QUAN	Pc	MK	DESCRIPTION	MAT'L	SOURCE NO.	WEIGHT
PLATFORM GRATING						
1	7A		1 1/4" X 3/16" X 1'-5 7/8" X 5'-7 13/16" - PLAIN GRATING PANEL	CS-UNCOATED	-	73
3	7B		1 1/4" X 3/16" X 2'-11 13/16" X 3'-1" - PLAIN GRATING PANEL	CS-UNCOATED	-	239
1	7C		1 1/4" X 3/16" X 2'-11 13/16" X 3'-9 1/16" - PLAIN GRATING PANEL	CS-UNCOATED	-	97
1	7D		1 1/4" X 3/16" X 1'-2 1/8" X 5'-7 13/16" - PLAIN GRATING PANEL	CS-UNCOATED	-	57
3	7E		1 1/4" X 3/16" X 2'-11 13/16" X 1'-2" - PLAIN GRATING PANEL	CS-UNCOATED	-	90
1	7F		1 1/4" X 3/16" X 2'-11 13/16" X 1'-10 1/16" - PLAIN GRATING PANEL	CS-UNCOATED	-	47
PLATFORM GRATING BANDING						
1	7-1		FB 1 1/4" X 3/16" X 35 LIN/FT (BANDING)	SA-36	-	28
1	7-2		FB 2 1/4" X 3/16" X 3 LIN/FT (BANDING @ OPENINGS)	SA-36	-	2

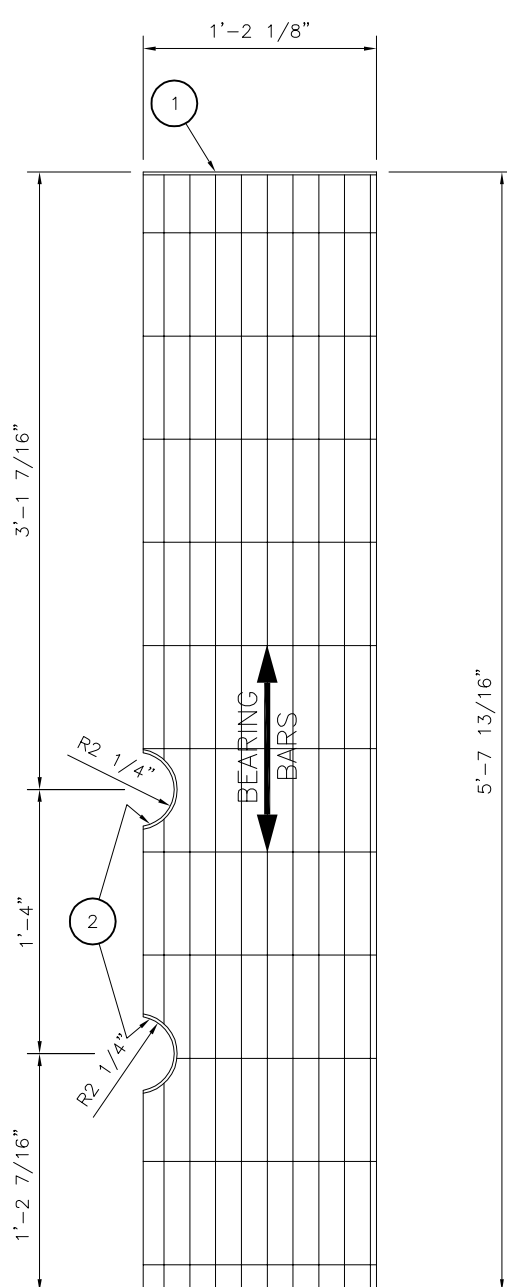
NOTE:
 1. HOT DIP GALV. CARBON STEEL GRATING ASSEMBLIES PER ASTM A-123.
 2. WRAP AND SEAL ALL WELDS PRIOR TO GALVANIZING.



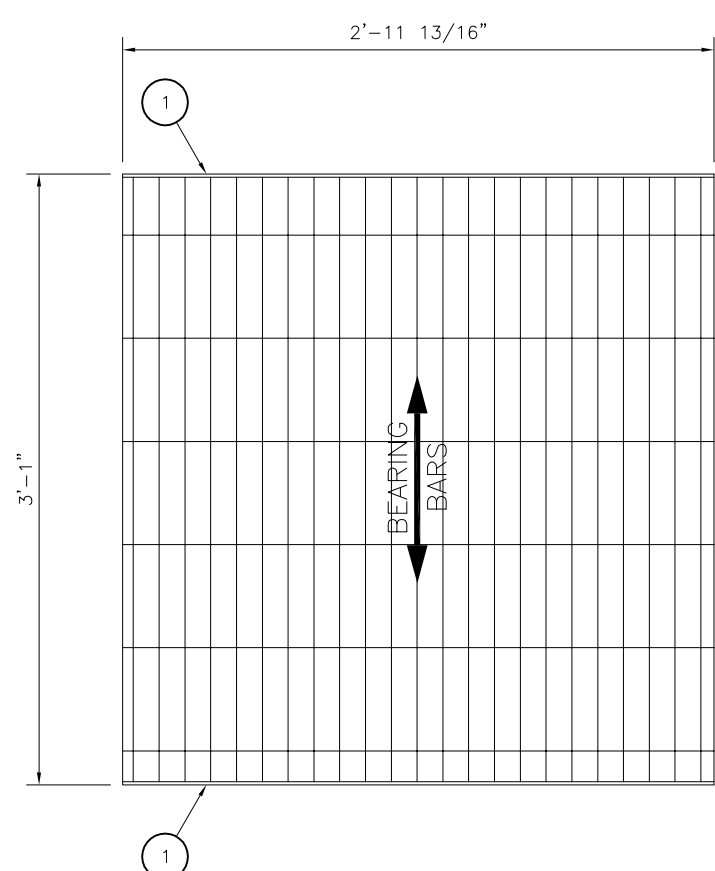
7A - GRATING SECTION



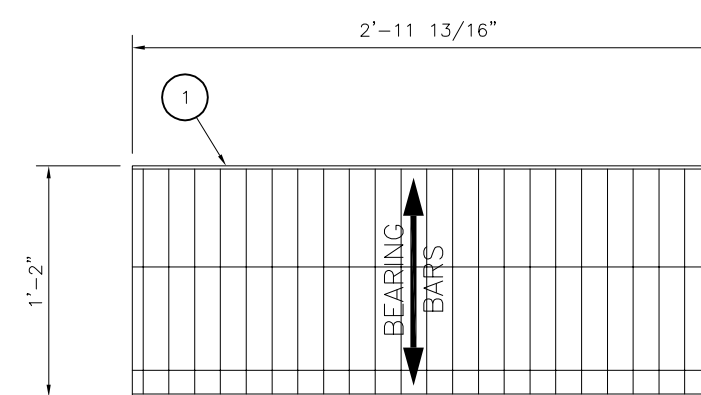
7C - GRATING SECTION



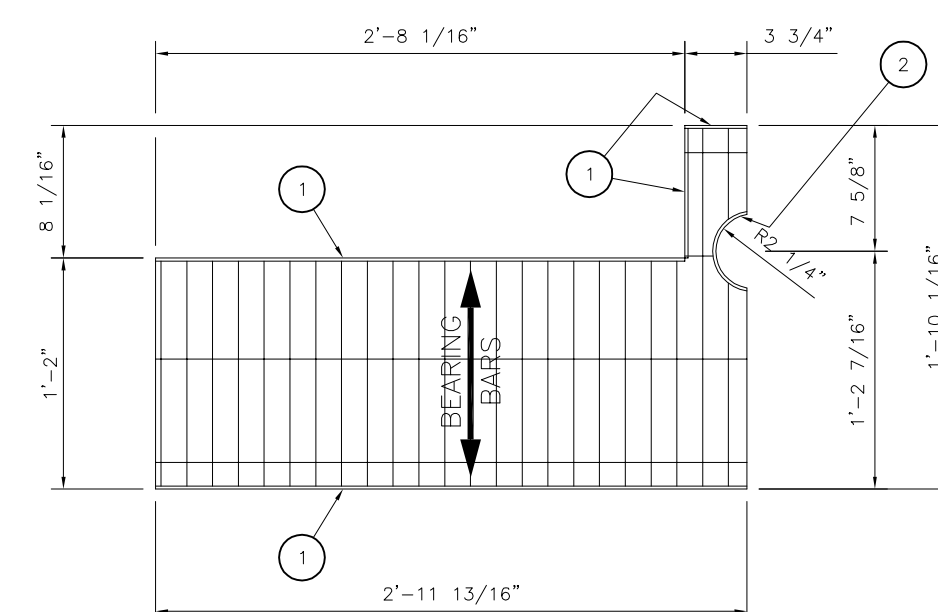
7D - GRATING SECTION



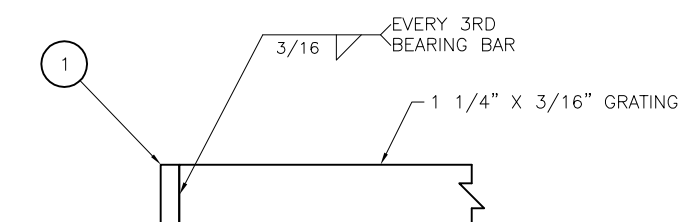
7B - GRATING SECTION



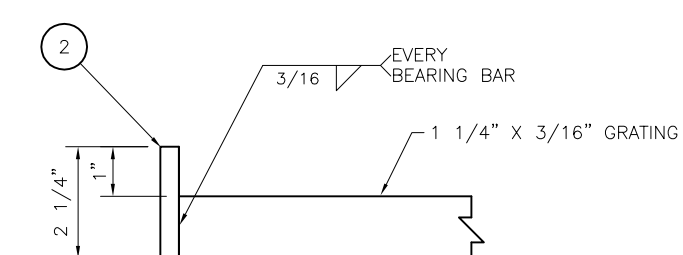
7E - GRATING SECTION



7F - GRATING SECTION



1 - GRATING BANDING (ENDS)



2 - GRATING BANDING (OPENINGS)

CERTIFIED

REV	DATE	DESCRIPTION	BY
0	11-04-15	RELEASED FOR FABRICATION	DJP
A	10-21-15	CUSTOMER REVIEW	DJP

REVISIONS

CAROLINA INTEGRATED SOLUTIONS
 100 Southwest Dr., Spartanburg, SC 29303

CUSTOMER: EVONIK (NEW MOBILE, AL)
 OWNER: EVONIK (NEW MOBILE, AL)
 VESSEL NO.: V-1410

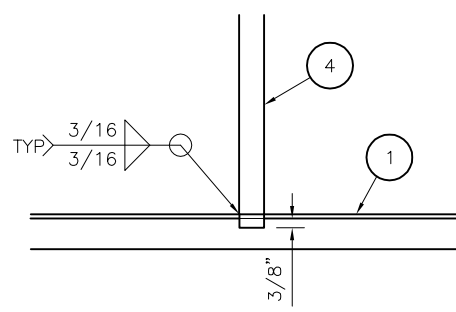
STRUCTURE IDENTIFICATION
 90" ID AcCH EMERGENCY QUENCH VESSEL

CONTENTS THIS SHEET
 GRATING DETAILS

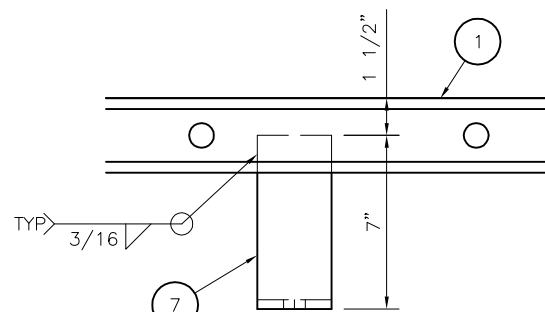
DRAWN BY: DJP	CHECKED BY: ELW	DATE: 10-15-15	APP'D BY: [Signature]	CONTRACT NO.: 293-06
APP'D. BY CHEF ENG:	APP'D. BY Q.C. MGR.			SHEET: 07

PLANT DISTRIBUTION LIST

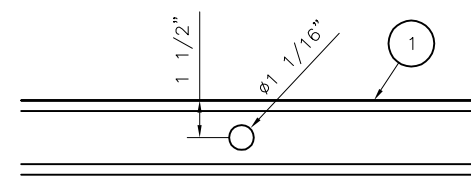
PREP	FITERS	FITERS HB	WELDERS	SHIPPING	REP PRINT	QS	FIELD SUPT	FIELD FOREMAN
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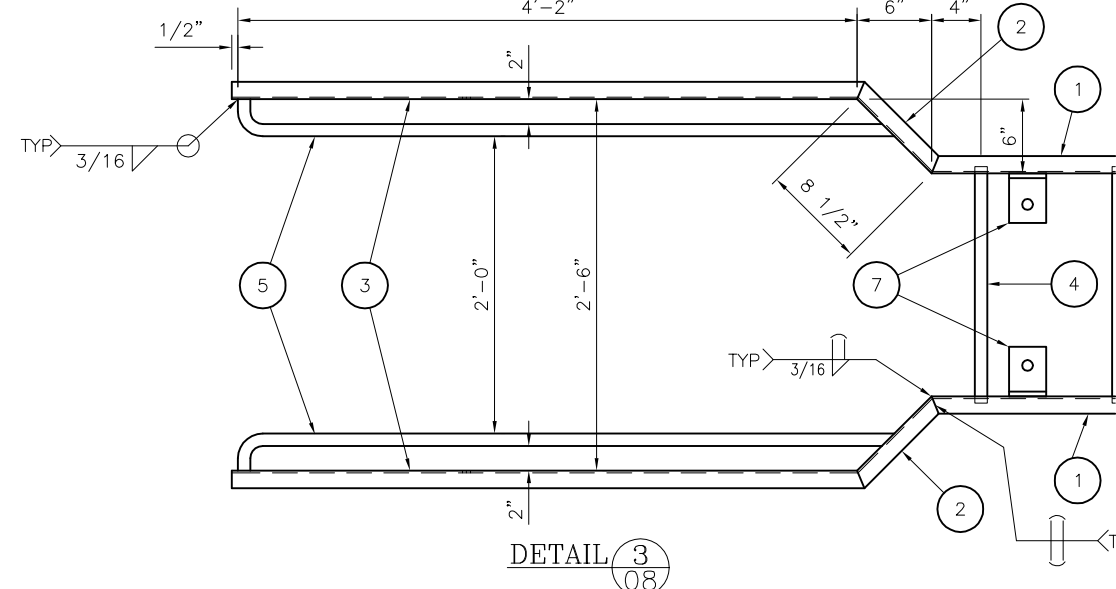
DETAIL 1/08
TYP LADDER RUNG



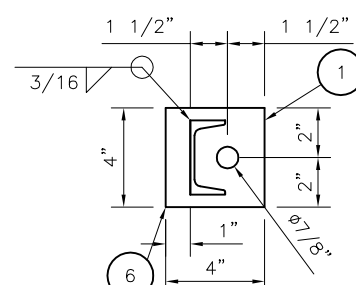
DETAIL 2/08
LADDER MTG PLATE



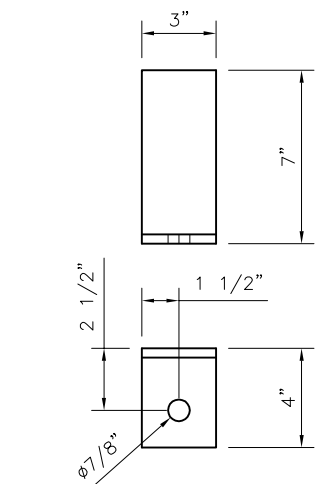
DETAIL 3/08
LADDER MTG HOLE



DETAIL 3/08
PLATFORM LADDER WALK THROUGH



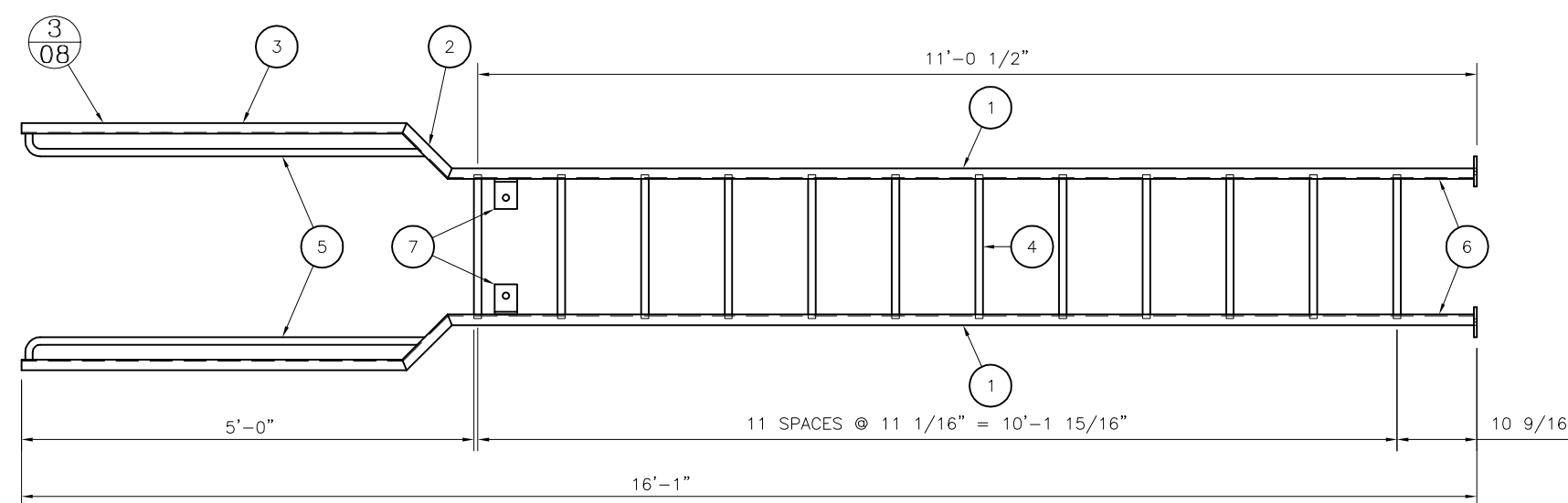
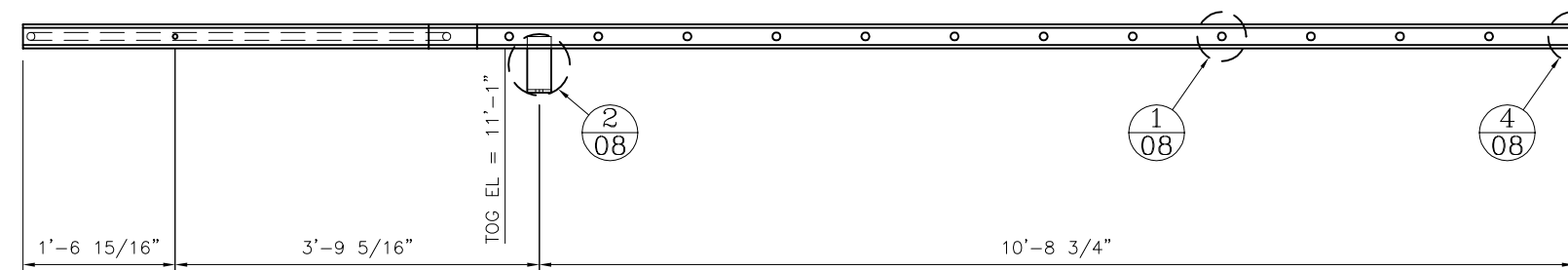
DETAIL 4/08
BASE PLATE



7 - STAND-OFF LUG

BILL OF MATERIALS						
QUAN	Pc	MK	DESCRIPTION	MAT'L	SOURCE NO.	WEIGHT
1	8A		STEP-THROUGH LADDER ASSEMBLY			
2	8-1		C3 X 4.1 X 11'-4 1/8"	SA-36	-	76
2	8-2		C3 X 4.1 X 9 1/16"	SA-36	-	6
2	8-3		C3 X 4.1 X 4'-3 1/16"	SA-36	-	35
12	8-4		RB ø1" X 1'-7 1/16"	SA-36	-	38
2	8-5		RB ø1" X 5'-0" (INCLUDES TRIM)	SA-36	-	27
2	8-6		PL 3/8" X 4" X 4"	SA-36	-	3
2	8-7		PL 3/8" X 3" X 10 1/4" FORMED	SA-36	-	7

NOTE:
1. HOT DIP GALV. CARBON STEEL LADDER ASSEMBLY PER ASTM A-123.
2. WRAP AND SEAL ALL WELDS PRIOR TO GALVANIZING.



8A - STEP-THROUGH LADDER ASSEMBLY

CERTIFIED

REV	DATE	DESCRIPTION	BY
0	11-04-15	RELEASED FOR FABRICATION	DJP
A	10-21-15	CUSTOMER REVIEW	DJP

REVISIONS

CAROLINA INTEGRATED SOLUTIONS
100 Southwest Dr., Spartanburg, SC 29303

CUSTOMER: EVONIK (NEW MOBILE, AL)
OWNER: EVONIK (NEW MOBILE, AL)
VESSEL NO.: V-1410

STRUCTURE IDENTIFICATION
90" ID AcCH EMERGENCY QUENCH VESSEL

CONTENTS THIS SHEET
LADDER DETAILS

DRAWN BY: DJP	CHECKED BY: ELW	DATE: 10-15-15	APP'D BY:	CONTRACT NO.: 293-06
APP'D. BY: CHEF ENG.	APP'D. BY: Q.C. MGR.			SHEET: 08

PLST DISTRIBUTION LIST

PREP	FITTERS	FITTERS HB	WELDERS	SHIPPING	REP PRINT	QS	FIELD SUPT	FIELD FOREMAN
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