SPECIFICATIONS & NOTES

- 1. THE SCHEDULES ON THIS SHEET SHALL BE USED FOR REFERENCE PURPOSES ONLY, AND CANNOT SUBSTITUTE FOR STRUCTURAL DESIGN FOR PARTICULAR SITE CONDITIONS.
- 2. THE DATA IN THE SCHEDULES IS VALID ONLY WITHIN THE FOLLOWING (OR ANY LESS STRINGENT) DESIGN ASSUMPTIONS (1997 UBC-1998 CBC):
 - a. FOR SEISMIC ZONES 1, 2A, 2B, 3, AND 4 FOR OXYGEN-FILLED TANKS OR PER 1997 UBC WITH IMPORTANCE FACTORS OF 1.25/1.5 (UNO).
- b. DESIGNATION "4*" PERTAINS TO SEISMIC ZONE 4, OXYGEN-FILLED TANKS PER 1998 CBC TITLE 24 VOL. 2A WITH IMPORTANCE FACTORS OF 1.5/1.5.
- c. DESIGNATION "4LIN" PERTAINS TO SEISMIC ZONE 4, NITROGEN-FILLED TANKS PER 1997 UBC WITH IMPORTANCE FACTORS OF 1.0/1.0.
- d. FOR SEISMIC 4, THE DESIGN SITE HAS SOIL PROFILE "SD", AS IS NO CLOSER THAN 10 KM FROM FAULT TYPE "A", AND NO CLOSER THAN 5 KM FROM FAULT TYPE "B".
- e. MAXIMUM WIND SPEED 110 MPH, EXPOSURE "C".
- f. ALLOWABLE BEARING CAPACITY OF SOIL 1500 PSF WITH 1.33 INCREASE FOR TRANSIENT LOADS.
- 3. THE SPECIFIED BEARING CAPACITY OF SOIL REQUIRES GEOTECHNICAL INVESTIGATION.
- 4. ACTUAL INSTALLATION MAY REQUIRE SOIL IMPROVEMENT, INCLUDING SOIL REPLACEMENT, OVEREXCAVATION, SCARIFYING, RECOMPACTION, ETC. SOME INSTALLATIONS REQUIRE ANTI-FROST MEASURES. REFER TO LOCAL CODES, GEOTECHNICAL REPORT, AND STRUCTURAL DESIGN DOCUMENTATION FOR SPECIFIC REQUIREMENTS.
- 5. THE INSTALLATION SITE SHALL BE SUPPLIED WITH ADEQUATE DRAINAGE (BY OTHERS) PREVENTING WATER PONDING/ACCUMULATION ON, AROUND, AND UNDER THE NEW CONCRETE.

- 6. ALL CONCRETE IS AT LEAST 2500 PSI NORMAL WEIGHT CONCRETE. SPECIAL INSPECTION NOT REQUIRED BY DESIGN.
- 7. ALL REBARS ARE PER ASTM A615 Gr60.
- 8. FOR INSTALLATIONS UNDER PER CBC TITLE 24, USE DETAIL TO ASSURE 1/8" MAX. GAP BETWEEN THE BASEPLATE/SHEAR PLATE.



9. FOR ALL INSTALLATIONS OTHER THAN PER ITEM 8, THE DIFFERENCE BETWEEN THE DIAMETER OF THE BASEPLATE HOLES AND THE SPECIFIED ANCHOR SHOULD NOT EXCEED THE "DD" VALUE PROVIDED BELOW.

ANCHOR DD DIAMETER

5/16" TO 1" 5/16" MAX 1" TO 2" 1/2" MAX OVER 2" 1"

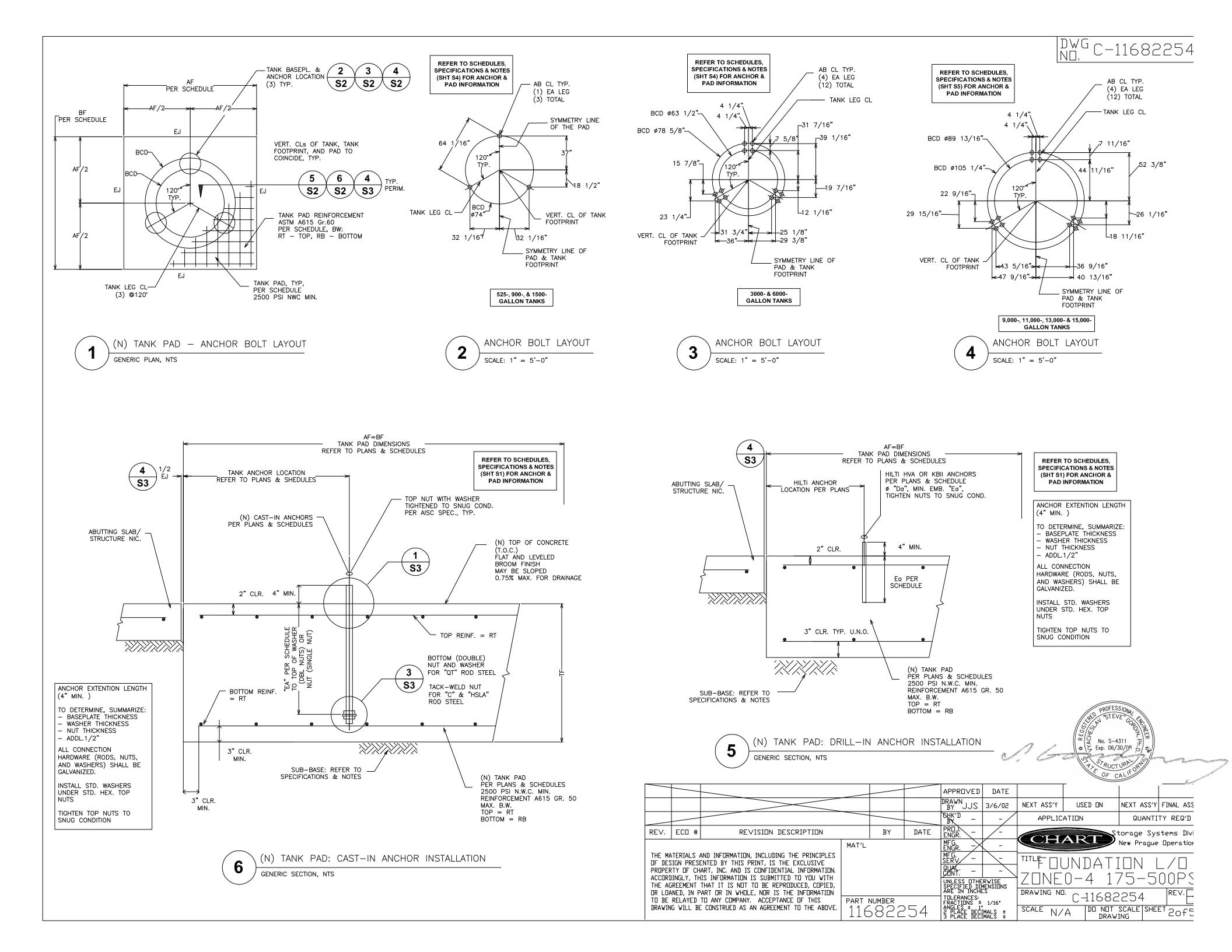
- 10. IF THE DIFFERENCE BETWEEN THE DIAMETER OF THE BASEPLATE HOLES AND THE SPECIFIED ANCHOR EXCEEDS THE "DD" VALUE, INSTALL THE TANK ACCORDING TO THE FOLLOWING SPECIFICATION.
- a. PLACE THE TANK ON THE ANCHORS.
- b. OIL THE INNER SURFACES OF ALL BASEPLATE HOLES.
- c. FILL THE HOLES TO TOP OF BASEPLATES WITH SIKAGROUT 212 OR OTHER NON-SHRINK DRYPACK.
- d. IF GROUT IS TO BE USED IN POURABLE FORM, SEAL THE HOLES TO PREVENT LOSS OF GROUT.
- e. INSTALL A 1/4" THICK A36 SQUARE WASHER (EA. SIDE TO MEASURE NOT LESS THAN 1.5 HOLES DIAMETER) UNDER EACH NUT.
- f. TIGHTEN ALL NUTS TO SNUG CONDITION.
- 11. ALTERNATIVELY TO ITEM 10, ITEM 8 SPECS MAY BE USED FOR OVERSIZED (NON-CONFORMING TO ITEM 9) HOLES.
- 12. ANCHOR RODS MADE OF QUENCHED AND TEMPERED STEEL (DESIGNATED AS "QT") SHALL NOT BE SUBJECTED TO WELDING OR HEATING AND SHOULD BE SUPPLED WITH DOUBLE BOTTOM NUTS. ANCHOR RODS MADE OF CARBON ("C") OR HIGH-STRENGTH LOW-ALLOW ("HSLA") STEELS MAY HAVE SINGLE TACK-WELDED BOTTOM NUTS.

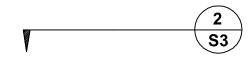


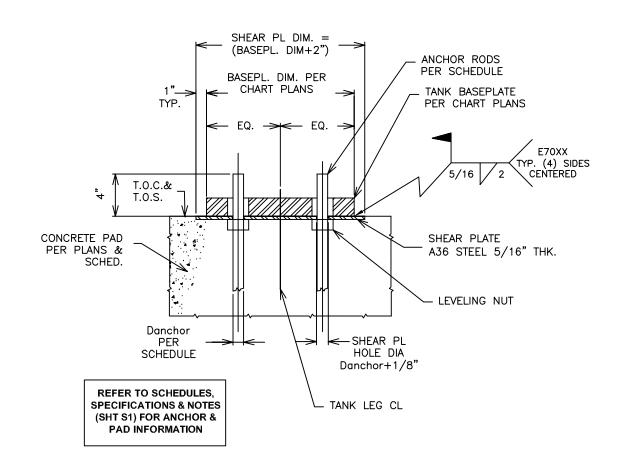


FOR SCHEDULES REFER TO SHEETS S4 AND S5. FOR DETAILS REFER TO SHEETS S2 AND S3

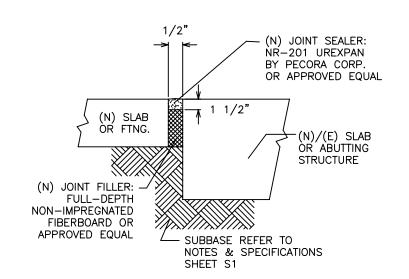
						APPROVED	DATE					
I	12383	UPDATE STAMP EXPIRATION DATE	Ξ	CM∨	11-29-06	DRAWN BY JJS	3/6/02	NEXT ASS'Y	USED ON	NEXT ASS'Y	FINAL ASS	
	Δ	UPDATE STAMP EXPIRATION	DATE	CMV	7-22-04	CHK'D MDS	3/6/02	APPLIC	ATION	QUANTI	TY REQ'D	
RE	V. ECO #	REVISION DESCRIPTION		BY	DATE	PROJ. MDS	3/6/02			torage Sys		
			MAT'L			MFG. — ENGR. —	-		ARI	New Prague	□peration	
		AND INFORMATION, INCLUDING THE PRINCIPLES SENTED BY THIS PRINT, IS THE EXCLUSIVE				MFG. SERV. —	-	TITLE []	INDAT	 		
		CHART, INC. AND IS CONFIDENTIAL INFORMATION. THIS INFORMATION IS SUBMITTED TO YOU WITH				QUAL: —	-		$\bigcap / A = 1^{-}$	75-5		
TH	E AGREEMENT	THAT IT IS NOT TO BE REPRODUCED, COPIED,				UNLESS OTHE SPECIFIED DII ARE IN INCHE	RWISE MENSI□NS			$\frac{1}{1}$		
		PART OR IN WHOLE, NOR IS THE INFORMATION TO ANY COMPANY. ACCEPTANCE OF THIS	PART	NUMBER		TOLERANCES: FRACTIONS ±		DRAWING NE	^{l.} C-11682	2254	REV. B	
		BE CONSTRUED AS AN AGREEMENT TO THE ABOVE.		822	254	ANGLES ± 1' 2 PLACE DEC 3 PLACE DEC	IMALS ±	SCALE N/	A DO NOT DRAW	SCALE SHE	ET 1of5	



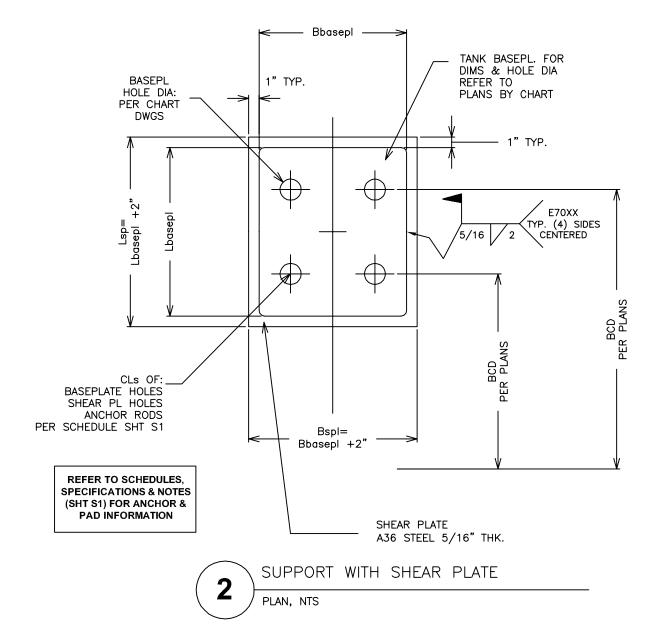


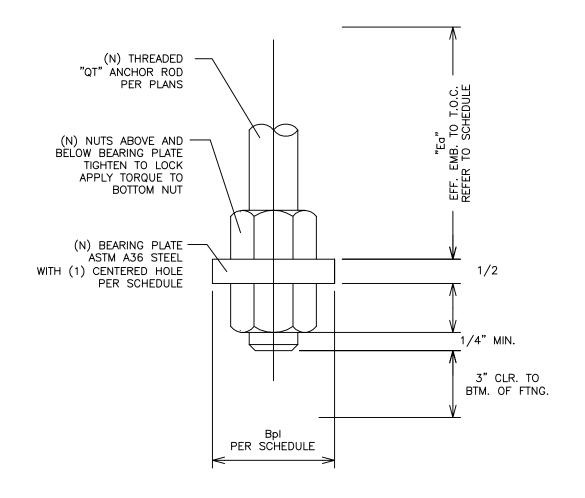












BOTTOM BEARING ANCHOR ASSEMBLY SECTION, NTS



						APPROVED	DATE					
						DRAWN BY JJS	3/6/02	NEXT ASS'Y	USED ON	NEXT ASS'Y	FINAL ASS'Y	
						BK –	-/	APPLIC	ATION	QUANTITY REQ'D		
REV.	ECO #	REVISION DESCRIPTION		BY	DATE	PROJ. – ENGR. –	/-				stems Divisi	
			MAT'L			MFG. ENGR.	-		ARI	New Prague	2 Operations	
		AND INFORMATION, INCLUDING THE PRINCIPLES ENTED BY THIS PRINT, IS THE EXCLUSIVE				MFG. –	\-	TITLE	INDAT	T \square \square \square	<u></u>	
		ART, INC. AND IS CONFIDENTIAL INFORMATION. HIS INFORMATION IS SUBMITTED TO YOU WITH				QUAL. —	-		0-4 1	75_5		
THE A	GREEMENT	THAT IT IS NOT TO BE REPRODUCED, COPIED,				UNLESS OTHE SPECIFIED DI ARE IN INCH	IRWISE MENSIONS		•		REV.	
		PART OR IN WHOLE, NOR IS THE INFORMATION TO ANY COMPANY. ACCEPTANCE OF THIS	PART N	NUMBER		TOLERANCES:	-s 1/16 *	DRAWING NO. C-11682254				
DRAWIN	NG WILL BE	CONSTRUED AS AN AGREEMENT TO THE ABOVE.	116	822	254	LANGLES ± 1	· '/'O IMALS ± IMALS ±	SCALE N/A DO NOT SCALE SHEET 30 FE				

SCHEDULES FOR TANK PADS FOR, AMD ANCHORAGE OF, CRYOGENIC VESSELS

	Tank Capacity, Gallons	525		900				1500			3000						6000				
	Seis. Zone	0-4*	0-3	4	4*	0-2A	2B-3	4	4*	4 LIN	0-2A	2B-3	4	4*	4 LIN	0-2A	2B-3	4	4*	4 LIN	
Ftng.	AF,ft	8	8	8	8	8'-6"	9	10	10'-3"	8'-3"	10	12	13	13'-3"	11	15	17	18	19'-6"	16	
Dims.	BF, ft	8	8	8	8	8'-6"	9	10	10'-3"	8'-3"	10	12	13	13'-3"	11	15	17	18	19'-6"	16	
	TF, in	12	12	15	15	15	15	18	18	18	15	18	20	18	16	18	24	26	30	26	
Ftng.	Rt	4@18	4@18	4@14	4@14	4@14	4@14	5@18	5@18	5@18	5@18	5@18	5@16	5@18	5@18	5@18	6@18	6@18	6@16	6@18	
Reinf.	Rb	4@18	4@18	4@14	4@14	4@14	4@14	5@18	5@18	5@18	5@18	5@18	5@16	6@18	5@18	6@12	6@12	8@18	8@18	6@16	
	# per leg	1	1	1	1	1	1	1	1	1	4	4	4	4	4	4	4	4	4	4	
	Da, in	0.625	0.625	0.875	0.875	0.875	0.875	1.000	1.000	1.000	0.875	0.875	0.875	0.875	0.875	1.000	1.125	1.000	1.000	1.000	
	Ea, in	7.50	7.50	10.50	10.50	10.50	10.50	12.00	12.00	12.00	10.50	12.00	14.00	12.00	11.00	13.00	19.00	21.00	24.00	21.00	
rs, in	Steel ASTM Material	A36 C	A 44 9 QT	A449 QT	A449 QT																
Anchors, Cast-in	Btm nut	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	DBL	DBL	DBL	
An	Bpl, in	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.00	3.00	3.00	
	Tpl, in	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.500	0.625	0.500	
	Dia hole, in	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	1.0625	1.0625	1.0625	
	Sp. Insp.	No	No	No	No	No	Yes	Yes	Yes	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No	
	# per leg	1	1	1	-	1	1	-	-	1	4	4	4	4	4	4	4	-	19'-6" 19'-6" 30 6@16 8@18 4 1.000 24.00 A449 QT DBL 3.00 0.625 1.0625	4	
Anchors, HILTI HVA	Dae, in	0.625	0.625	1.000	-	1.000	1.000	-	-	1.000	1.000	1.250	1.250	1.250	1.250	1.250	1.250	-	-	1.250	
ncho LTI I	Eae, in	5.000	5.000	8.250	-	6.625	12.375	-	-	12.375	6.625	12	12	12	8	12	15	-	-	15	
⋖ ፰	Steel ASTM	A36	A36	A36	-	A36	A193	-	-	A36	A193	-	-	A36							
	Sp. Insp.	Yes	Yes	Yes	-	Yes	Yes	-	-	Yes	-	-	Yes								
_	# per leg	1	1	-	-	1	-	-	-	-	4	-	-	-	-	-	-	-	-	-	
ors, KBI	Dam, in	0.625	0.625	-	-	1.000	-	-	-	-	1.000	-	-	-	-	-	-	-	-	-	
Anchors, HILTI KBII	Eam, in	4.00	4.00	-	-	6.00	-	-	-	-	9.00	-	-	-	-	-	-	-	-	-	
4	Sp. Insp.	No	No	-	-	No	-	-	-	-	No	-	-	-	-	-	-	-	-	-	
		2.										F	F	<u> </u>							
Cal	c. Sheet.	C1	D1	D2	D3	E1	E2	E3	E4	E5	F1	F2	F3	F4	F5	G1	G2	G3	G4	G5	



						APPROVED	DATE					
						DRAWN BY JJS	3/6/02	NEXT ASS'Y	USED ON	NEXT ASS'Y	FINAL ASS'Y	
						CHK'D -	-	APPLIC	ATION	QUANTITY REQ'D		
REV.	ECO #	REVISION DESCRIPTION		BY	DATE	PROJ. – ENGR. –	-				stems Division	
	•		MAT'L			MFG. – ENGR. –	-		ART	New Prague	Dperations	
1		AND INFORMATION, INCLUDING THE PRINCIPLES ENTED BY THIS PRINT, IS THE EXCLUSIVE				MFG. SERV. –	_	TITE TUNDATION 1/				
PROPE	RTY OF CH	MART, INC. AND IS CONFIDENTIAL INFORMATION. HIS INFORMATION IS SUBMITTED TO YOU WITH				QUAL. —	_		75 5			
THE A	GREEMÉNT	THAT IT IS NOT TO BE REPRODUCED, COPIED,				UNLESS OTH SPECIFIED DI ARE IN INCH	ERWISE MENSIONS			<u>/ </u>	00PSI	
		PART OR IN WHOLE, NOR IS THE INFORMATION TO ANY COMPANY. ACCEPTANCE OF THIS	DADT	NUMBER		TOLERANCES:		SCALE N/A DO NOT SCALE SHEET 40f5				
1		E CONSTRUED AS AN AGREEMENT TO THE ABOVE.	116	822	254	FRACTIONS	IMALS ± IMALS ±					

SCHEDULES FOR TANK PADS FOR, AMD ANCHORAGE OF, CRYOGENIC VESSELS

	Tank Capacity, Gallons	ity, 9000						11000						13000			15000				
	Seis. Zone	0-2A	2B-3	4	4*	4 LIN	0-2A	2B-3	4	4*	4 LIN	0-2A	2B-3	4	4*	4 LIN	0-2A	2B-3	4	4*	4 LIN
54 10.01	AF,ft	17	19	21	22	17'-6"	19	22	23	24'-6"	20	21	24	26	27'-6"	21'-6"	22'-6"	26'-6"	29	30'-6"	24
Ftng.	BF, ft	17	19	21	22	17'-6"	19	22	23	24'-6"	20	21	24	26	27'-6"	21'-6"	22'-6"	26'-6"	29	30'-6"	24
	TF, in	18	24	26	30	26	21	27	32	34	30	24	32	36	39	28	27	37	42	44	32
Ftng.	RT	5@18	6@18	6@18	6@15	6@18	5@15	6@16	7@18	7@18	6@15	6@18	7@18	7@16	7@16	6@16	6@17	7@16	8@18	8@18	6@15
Reinf.	RB	6@12	7@15	8@18	8@18	6@15	8@18	8@16	8@16	8@15	7@16	8@16	8@14	8@13	8@13	8@16	8@14	8@12	8@12	8@11	8@15
	# per leg	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Da, in	1.000	1.000	1.500	1.500	1.250	1.000	1.500	1.500	1.250	1.500	1.000	1.500	1.500	1.500	1.500	1.000	1.500	1.500	1.500	1.500
	Ea, in	12.00	18.00	21.00	24.00	20.00	15.00	22.00	26.00	29.00	25.00	19.00	27.00	30.00	33.00	23.00	22.00	31.00	36.00	38.00	27
<u>,</u>	Steel ASTM Material	A36 C	A36 C	A36 C	A36 C	A36 C	A36 C	A36 C	A36 C	A449 QT	A36 C	A449 QT	A36 C	A449 QT	A449 QT	A36 C	A449 QT	A449 QT	A449 QT	A449 QT	A572 Gr.50 HSLA
hors st-in	Btm nut	W	W	W	W	W	W	W	W	DBL	W	DBL	W	DBL	DBL	W	DBL	DBL	DBL	DBL	W
Anchors, Cast-in	து Bpl, in	-	-	-	-	-	-	-	-	-	-	-	-	3.00	3.00	-	3.00	3.00	3.00	3.00	-
`	Tpl, in	-	-	-	-	-	-	-	-	-	-	-	-	0.500	0.500	-	0.500	0.500	0.500	0.500	-
	Dia hole, in	-	-	-	-	-	-	-	-	-	-	-	-	1.5625	1.5625	-	1.0625	1.5625	1.5625	1.5625	-
	Sp. Insp.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	# per leg	4	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
iors, HVA	Dae, in	1.250	-	-	-	-	1.250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anchoi HILTI H	Eae, in	12.00	-	-	-	-	15.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
` =	Steel ASTM	A36	-	-	-	-	A193	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sp. Insp.	Yes	-	-	-	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-
_	# per leg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
lors, KBI	Dam, in	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	-
Anchors, HILTI KBII	Eam, in	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
~ =	Sp. Insp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	<u> </u>	114	1110		114	l IE	14	10	10	14	1E	174	1/0	1/0	17.4	I/E	1.4	1.0	1 1 2		1.5
Cal	c. Sheet.	H1	H2	H3	H4	H5	J1	J2	J3	J4	J5	K1	K2	K3	K4	K5	L1	L2	L3	L4	L5



						APPROVED	DATE					
						DRAWN BY JJS	3/6/02	NEXT ASS'Y	USED ON	NEXT ASS'Y	FINAL ASS'Y	
						CHK'D -	_	APPLIC	ATION	QUANTI	TY REQ'D	
REV.	ECO #	REVISION DESCRIPTION		BY	DATE	PROJ. – ENGR. –	-				stems Division	
			MAT'L			MFG. – ENGR. –	-		ART	New Prague	2 Operations	
		AND INFORMATION, INCLUDING THE PRINCIPLES ENTED BY THIS PRINT, IS THE EXCLUSIVE				MFG. SERV. –	-	TITLE				
PROPE	RTY OF CH	ART, INC. AND IS CONFIDENTIAL INFORMATION. HIS INFORMATION IS SUBMITTED TO YOU WITH				QUAL. — CONT. —	_			75-500P		
		THAT IT IS NOT TO BE REPRODUCED, COPIED,				UNLESS OTHE SPECIFIED DI ARE IN INCHI	RWISE MENSIONS			<u>/ </u>	00621	
	•	PART OR IN WHOLE, NOR IS THE INFORMATION TO ANY COMPANY. ACCEPTANCE OF THIS	DADT	NUMBER		THE FRANCES:		DRAWING NO. C-11682254				
		E CONSTRUED AS AN AGREEMENT TO THE ABOVE.	1116	822	254	FRACTIONS ± ANGLES ± 1 2 PLACE DEC 3 PLACE DEC	. 1/16 ° IMALS ± IMALS ±	SCALE N/		SCALE SHE	ET 50 f 5	