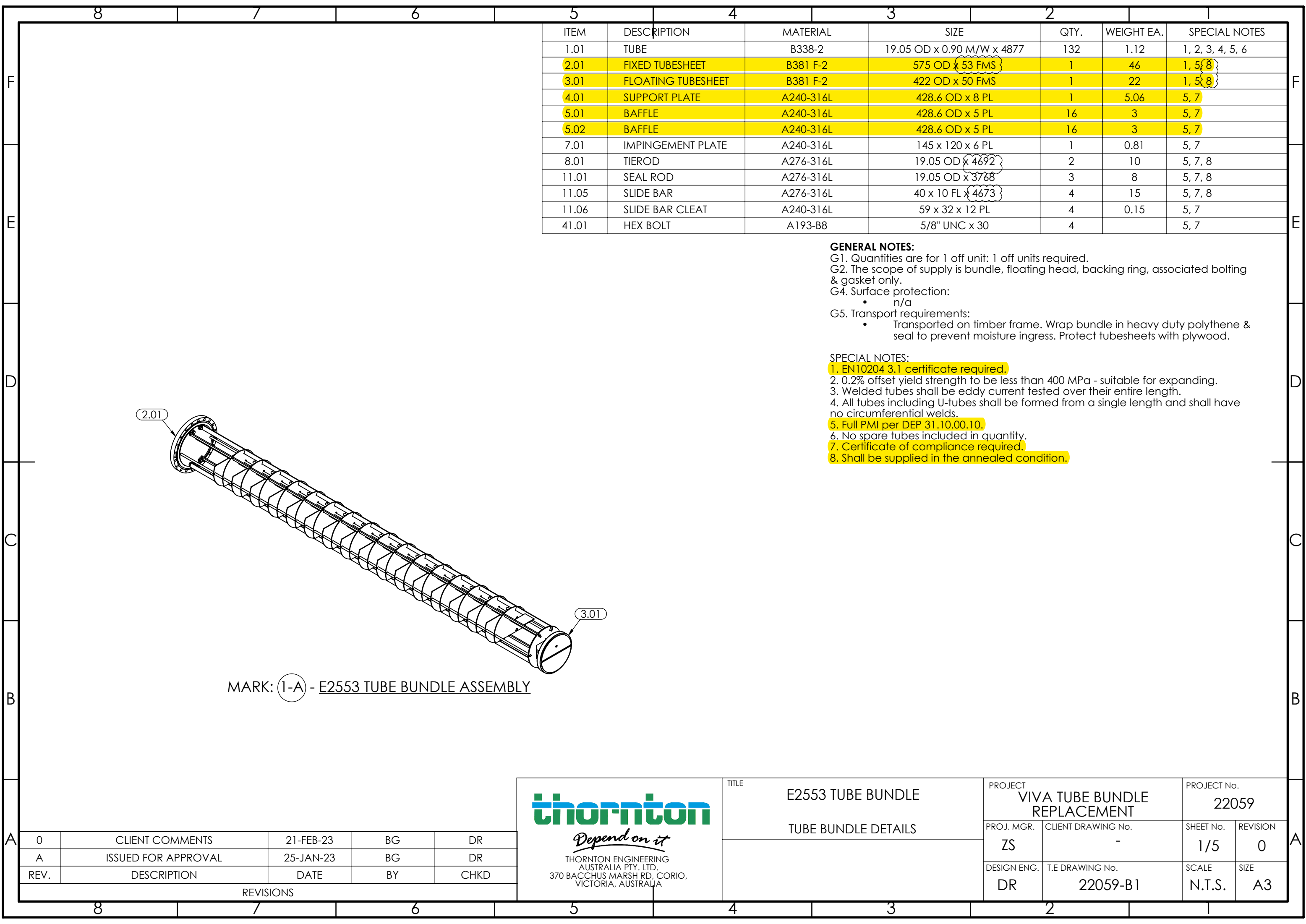




MARK: 1-A - E2553 TUBE BUNDLE ASSEMBLY

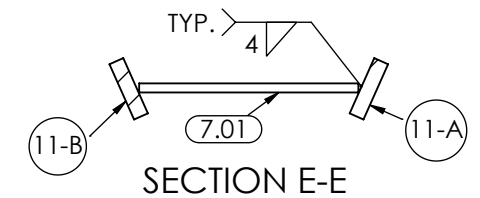
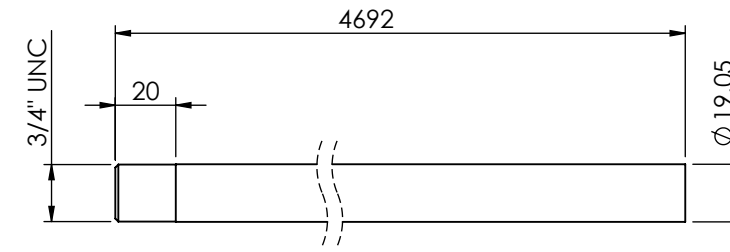
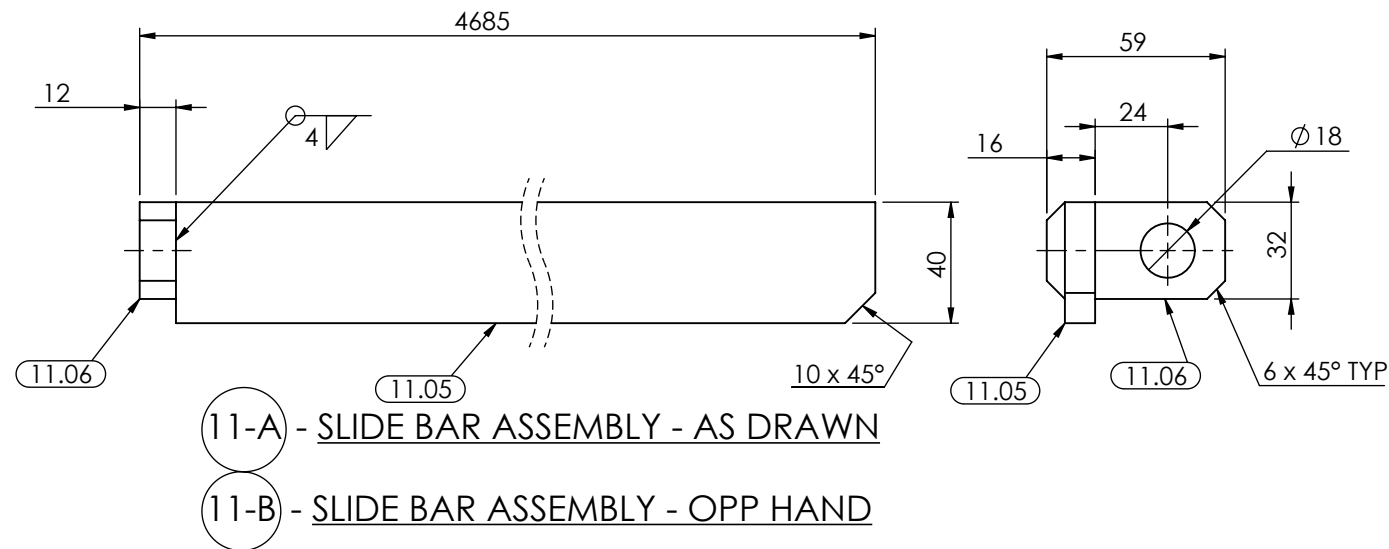
ITEM	DESCRIPTION	MATERIAL	SIZE	QTY.	WEIGHT EA.	SPECIAL NOTES
1.01	TUBE	B338-2	19.05 OD x 0.90 M/W x 4877	132	1.12	1, 2, 3, 4, 5, 6
2.01	FIXED TUBESHEET	B381 F-2	575 OD x 53 FMS	1	46	1, 5, 8
3.01	FLOATING TUBESHEET	B381 F-2	422 OD x 50 FMS	1	22	1, 5, 8
4.01	SUPPORT PLATE	A240-316L	428.6 OD x 8 PL	1	5.06	5, 7
5.01	BAFFLE	A240-316L	428.6 OD x 5 PL	16	3	5, 7
5.02	BAFFLE	A240-316L	428.6 OD x 5 PL	16	3	5, 7
7.01	IMPINGEMENT PLATE	A240-316L	145 x 120 x 6 PL	1	0.81	5, 7
8.01	TIEROD	A276-316L	19.05 OD x 4692	2	10	5, 7, 8
11.01	SEAL ROD	A276-316L	19.05 OD x 3768	3	8	5, 7, 8
11.05	SLIDE BAR	A276-316L	40 x 10 FL x 4673	4	15	5, 7, 8
11.06	SLIDE BAR CLEAT	A240-316L	59 x 32 x 12 PL	4	0.15	5, 7
41.01	HEX BOLT	A193-B8	5/8" UNC x 30	4		5, 7

GENERAL NOTES:
G1. Quantities are for 1 off unit: 1 off units required.
G2. The scope of supply is bundle, floating head, backing ring, associated bolting & gasket only.
G4. Surface protection:
• n/a
G5. Transport requirements:
• Transported on timber frame. Wrap bundle in heavy duty polythene & seal to prevent moisture ingress. Protect tubesheets with plywood.

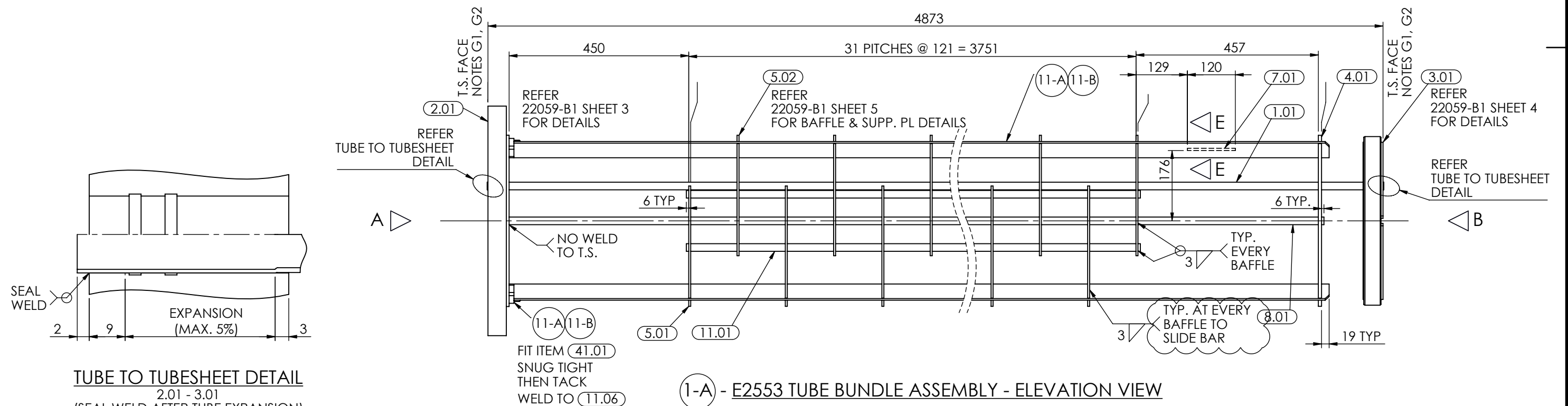
SPECIAL NOTES:
1. EN10204 3.1 certificate required.
2. 0.2% offset yield strength to be less than 400 MPa - suitable for expanding.
3. Welded tubes shall be eddy current tested over their entire length.
4. All tubes including U-tubes shall be formed from a single length and shall have no circumferential welds.
5. Full PMI per DEP 31.10.00.10.
6. No spare tubes included in quantity.
7. Certificate of compliance required.
8. Shall be supplied in the annealed condition.

A						thornton <i>Depend on it</i> THORNTON ENGINEERING AUSTRALIA PTY. LTD. 370 BACCHUS MARSH RD, CORIO, VICTORIA, AUSTRALIA	TITLE	E2553 TUBE BUNDLE		PROJECT VIVA TUBE BUNDLE REPLACEMENT		PROJECT No. 22059	
	TUBE BUNDLE DETAILS		PROJ. MGR. ZS	CLIENT DRAWING No. -	SHEET No. 1/5			REVISION 0					
	0	CLIENT COMMENTS	21-FEB-23	BG	DR			DESIGN ENG. DR	T.E DRAWING No. 22059-B1	SCALE N.T.S.	SIZE A3		
	A	ISSUED FOR APPROVAL	25-JAN-23	BG	DR								
	REV.	DESCRIPTION	DATE	BY	CHKD								
REVISIONS													

GENERAL NOTES:
G1. Tubesheet flatness to be checked after tube expansion & seal welding, to be within 1.5mm.
G2. Flatness tolerance of peripheral gasket contact surface shall be $\pm 0.15\text{mm}$ (after welding & expansion).



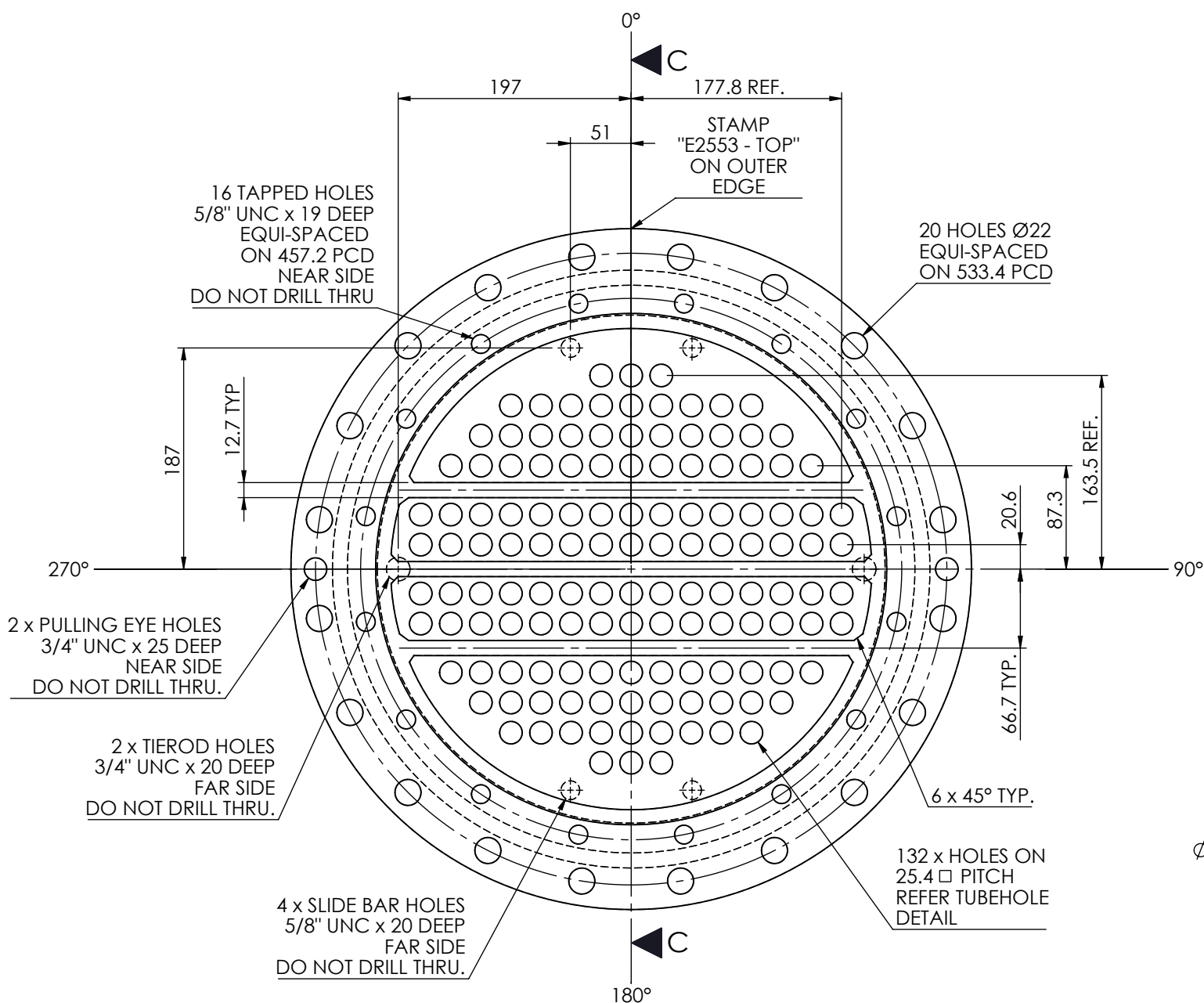
(8.01) - TIEROD DETAILS



(1-A) - E2553 TUBE BUNDLE ASSEMBLY - ELEVATION VIEW

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TITLE		PROJECT		PROJECT No.	
E2553 TUBE BUNDLE		VIVA TUBE BUNDLE REPLACEMENT		22059	
TUBE BUNDLE DETAILS		PROJ. MGR.	CLIENT DRAWING No.	SHEET No.	REVISION
		ZS	-	2/5	0
		DESIGN ENG.	T.E DRAWING No.	SCALE	SIZE
		DR	22059-B1	N.T.S.	A3

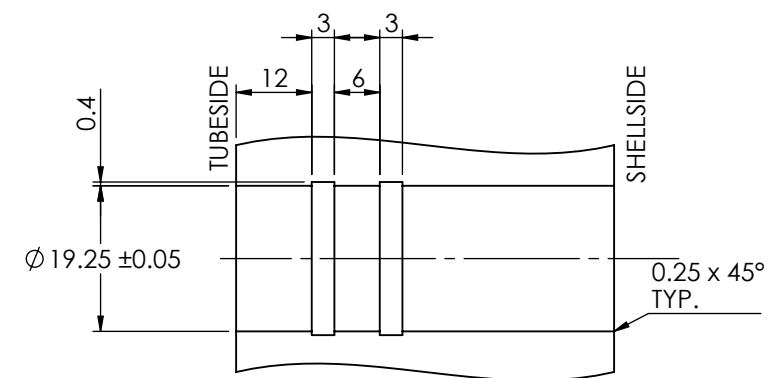


(2.0T) - FIXED TUBESHEET DETAIL - VIEW A (SHEET 2)

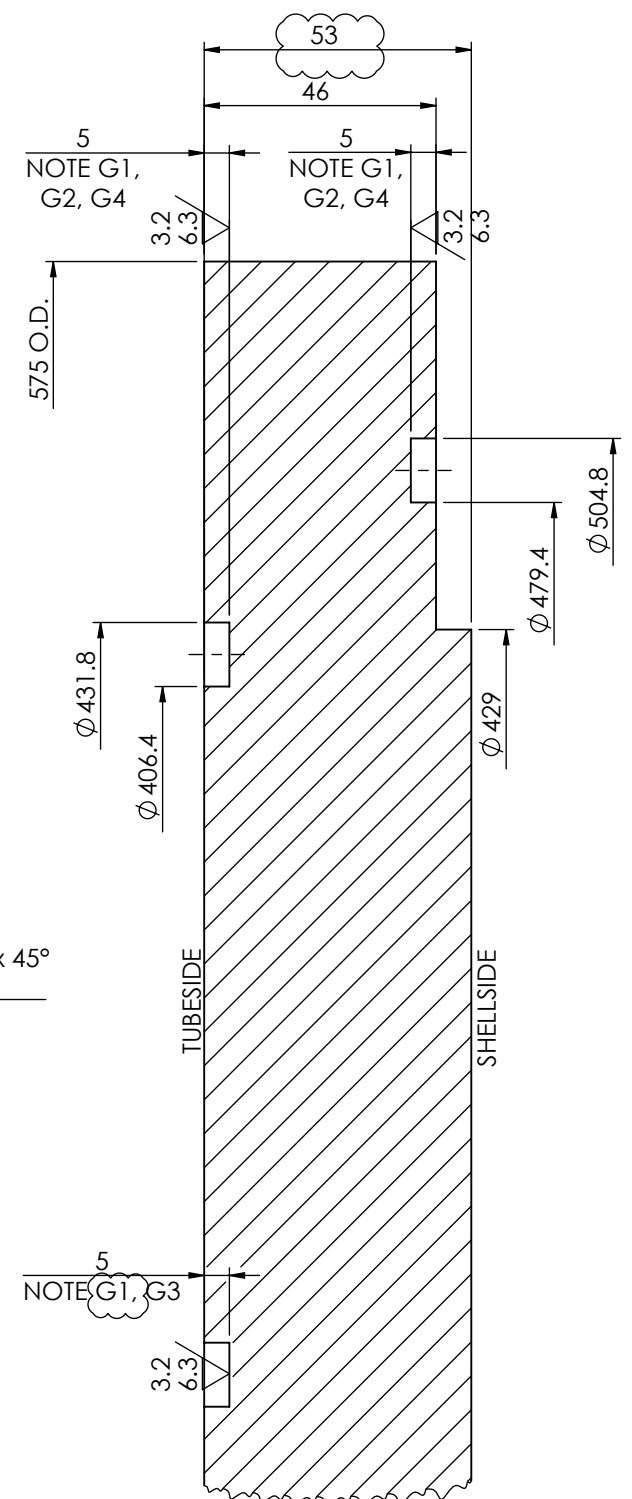
QTY: 1
MATERIAL: B381 F-2
SPECIAL NOTES: 1, 5, 8

GENERAL NOTES:

- G1. 3mm future machining allowance included on gasket faces.
- G2. Flatness tolerance of peripheral gasket contact surface shall be $\pm 0.15\text{mm}$ (after welding & expansion)
- G3. The flatness tolerance on pass partition grooves shall be $+0 / -0.2\text{mm}$.
- G4. The gasket contact surface is formed by a continuous spiral groove generated by a 0.8mm radius, round-nosed tool at a feed rate between 0.35 and 0.45mm per revolution.



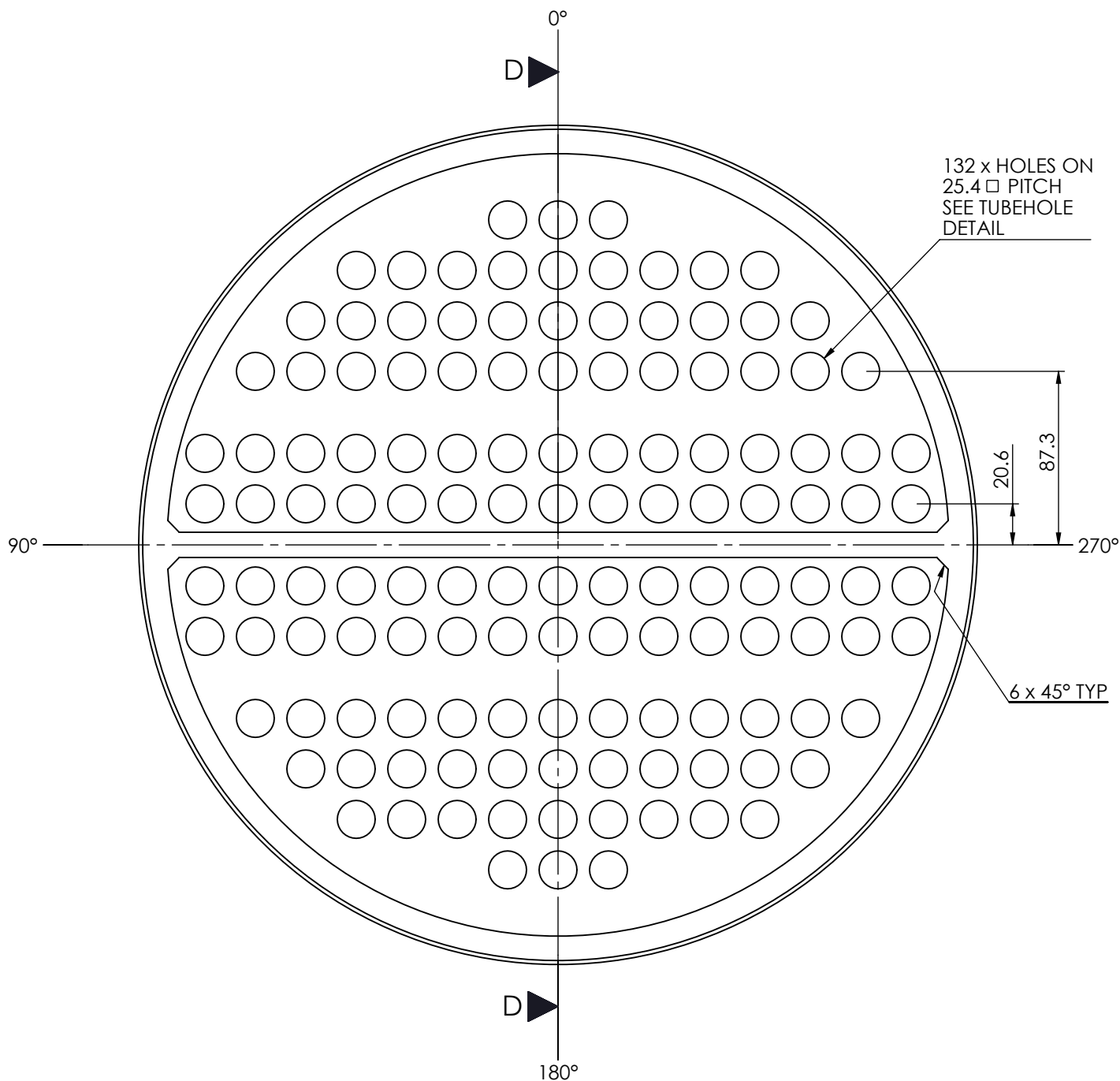
TUBEHOLE DETAIL



SECTION C-C



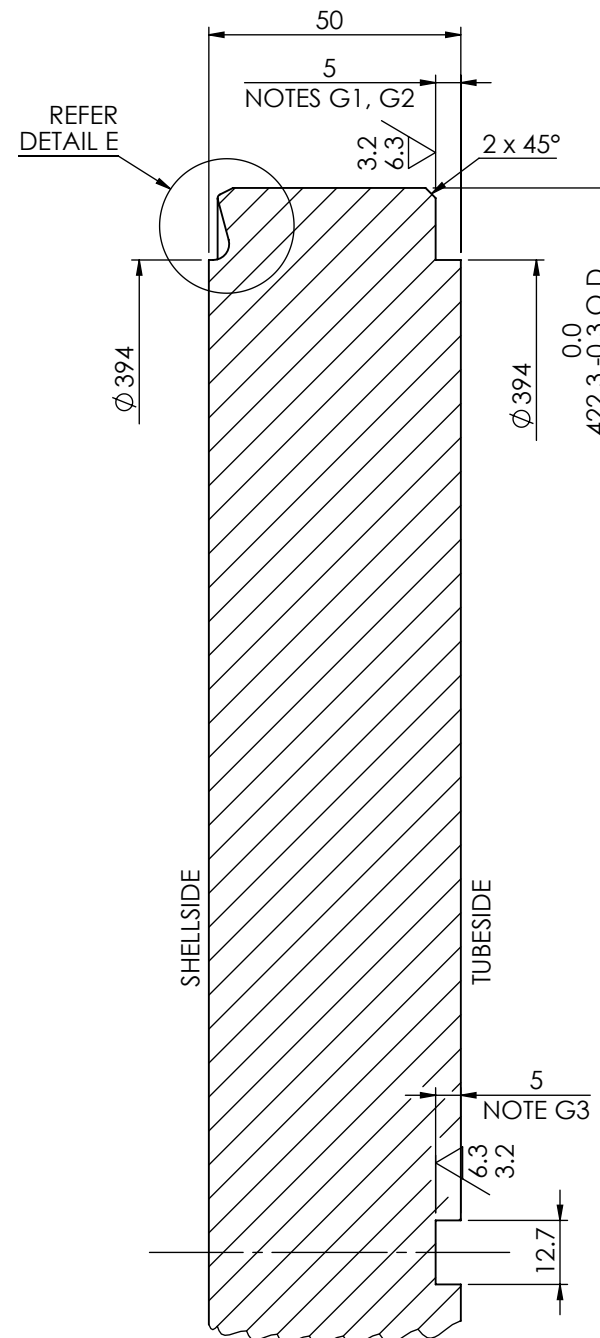
TITLE		PROJECT		PROJECT No.	
E2553 TUBE BUNDLE		VIVA TUBE BUNDLE REPLACEMENT		22059	
TUBE BUNDLE DETAILS		PROJ. MGR.	CLIENT DRAWING No.	SHEET No.	REVISION
		ZS	-	3/5	0
		DESIGN ENG.	T.E DRAWING No.	SCALE	SIZE
		DR	22059-B1	N.T.S.	A3



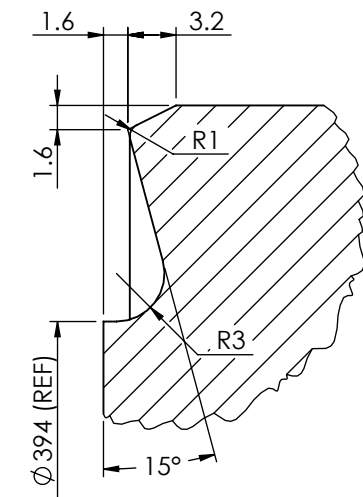
(3.0T) - FLOATING TUBESHEET DETAILS - VIEW B (SHEET 2)

QTY: 1
MATERIAL: B381 F-2
SPECIAL NOTES: 1, 5, 8

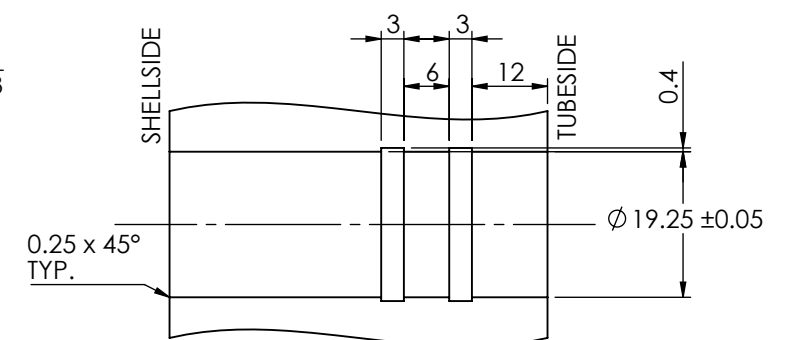
GENERAL NOTES:
G1. 3mm future machining allowance included on gasket faces.
G2. Flatness tolerance of peripheral gasket contact surface shall be $\pm 0.15\text{mm}$ (after welding & expansion)
G3. The flatness tolerance on pass partition grooves shall be $+0 / -0.2\text{mm}$.
G4. The gasket contact surface is formed by a continuous spiral groove generated by a 0.8mm radius, round-nosed tool at a feed rate between 0.35 and 0.45mm per revolution.



SECTION D-D



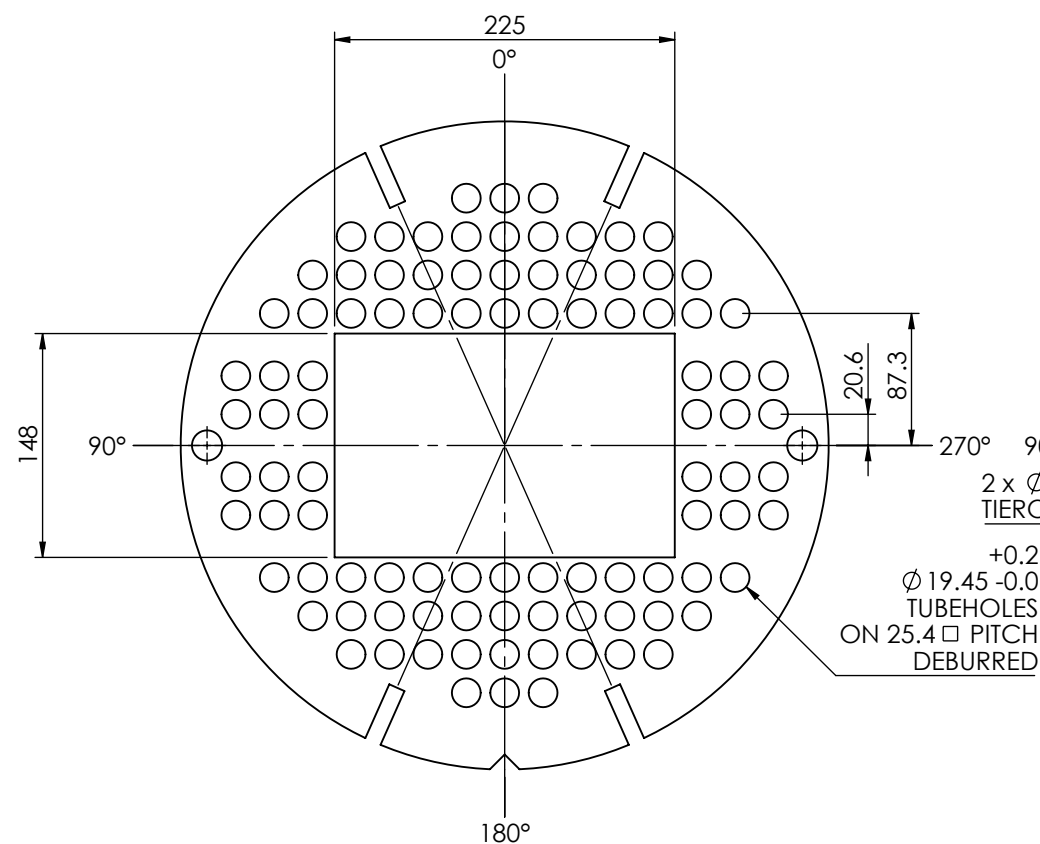
DETAIL E



TUBEHOLE DETAIL

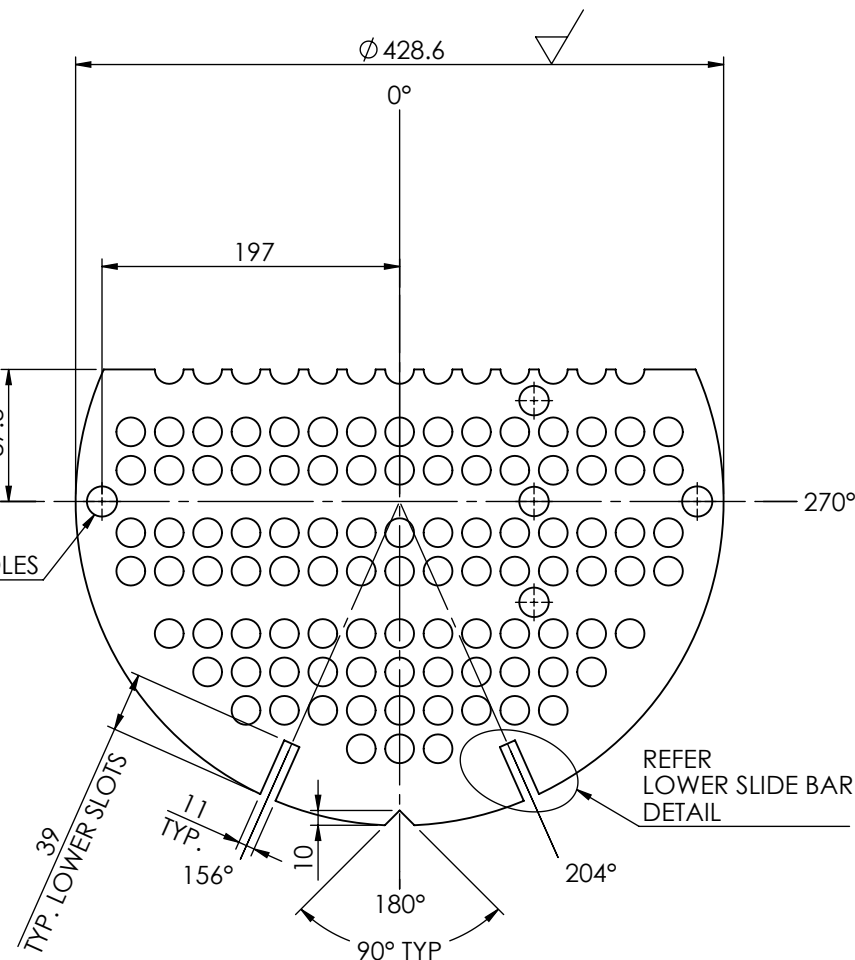
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TITLE		PROJECT		PROJECT No.	
E2553 TUBE BUNDLE		VIVA TUBE BUNDLE REPLACEMENT		22059	
TUBE BUNDLE DETAILS		PROJ. MGR.	CLIENT DRAWING No.	SHEET No.	REVISION
		ZS	-	4/5	0
		DESIGN ENG.	T.E DRAWING No.	SCALE	SIZE
		DR	22059-B1	N.T.S.	A3



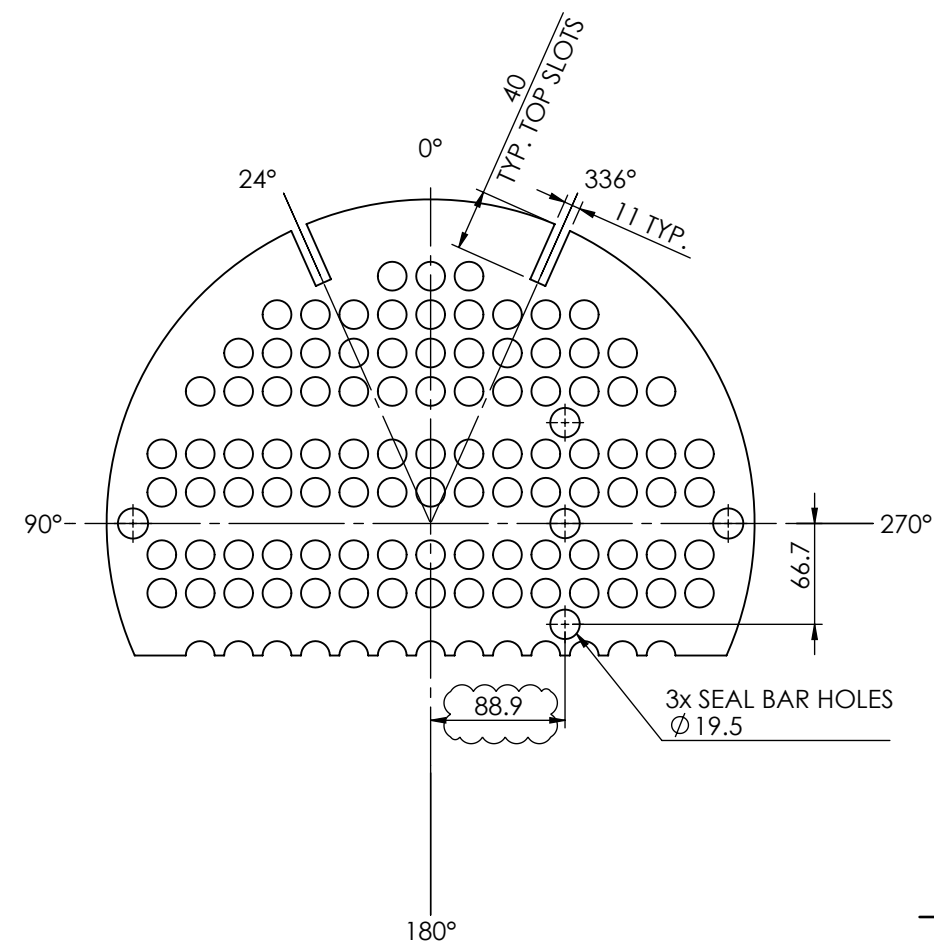
4.01 - SUPPORT PLATE DETAIL - VIEW B (SHEET 2)

QTY: 1
MATERIAL: A240-316L
SPECIAL NOTES: 5, 7



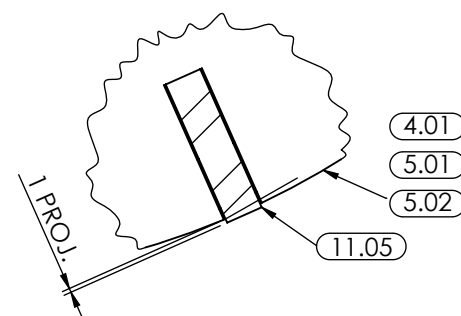
5.01 - BAFFLE DETAIL - VIEW B (SHEET 2)

QTY: 16
MATERIAL: A240-316L
SPECIAL NOTES: 5, 7



5.02 - BAFFLE DETAILS - VIEW B (SHEET 2)

QTY: 16
MATERIAL: A240-316L
SPECIAL NOTES: 5, 7



TYP. LOWER SLIDE BAR DETAIL

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TITLE		PROJECT		PROJECT No.	
E2553 TUBE BUNDLE		VIVA TUBE BUNDLE REPLACEMENT		22059	
TUBE BUNDLE DETAILS		PROJ. MGR.	CLIENT DRAWING No.	SHEET No.	REVISION
		ZS	-	5/5	0
		DESIGN ENG.	T.E DRAWING No.	SCALE	SIZE
		DR	22059-B1	N.T.S.	A3