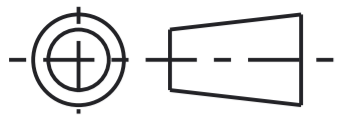
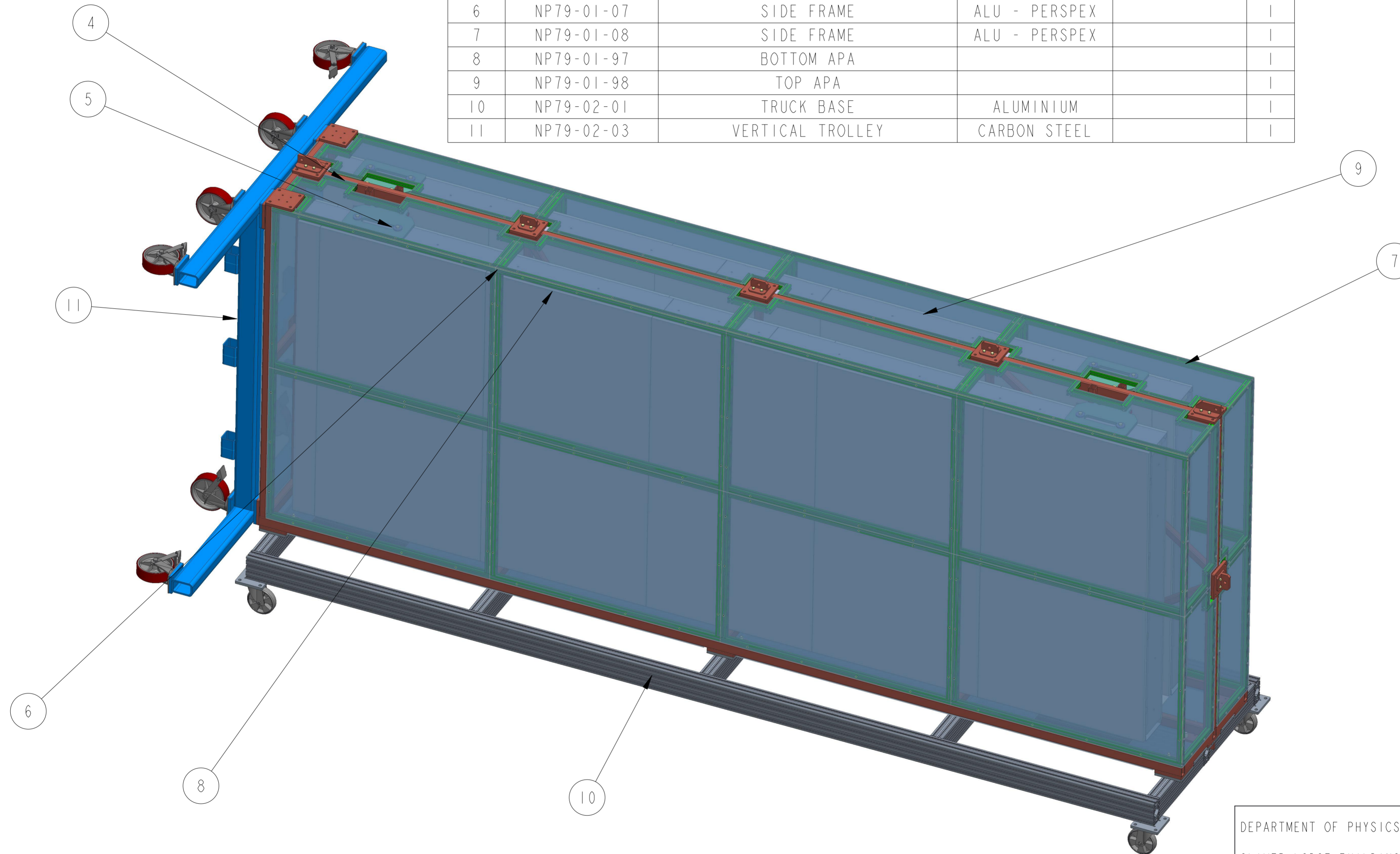


THIRD ANGLE PROJECTION



ITEM	PART/CAD No	DWG TITLE	MATERIAL	REMARK	QTY
1	M12_SET				24
2	M16_SET				4
3	M20_SET				22
4	NP79-01-02	CENTRAL FRAME	ST. ST.		1
5	NP79-01-04	TOP ATTACHMENT ASSEMBLY	CARBON STEEL		4
6	NP79-01-07	SIDE FRAME	ALU - PERSPEX		1
7	NP79-01-08	SIDE FRAME	ALU - PERSPEX		1
8	NP79-01-97	BOTTOM APA			1
9	NP79-01-98	TOP APA			1
10	NP79-02-01	TRUCK BASE	ALUMINIUM		1
11	NP79-02-03	VERTICAL TROLLEY	CARBON STEEL		1

MODIFICATIONS			
ISSUE	DATE	NAME	DESCRIPTION
A	Jan-15-20	G. STAVRAKIS	FIRST ISSUE



DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING

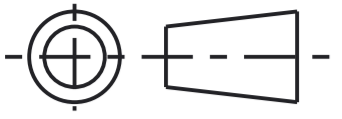


PROJECT
DUNE

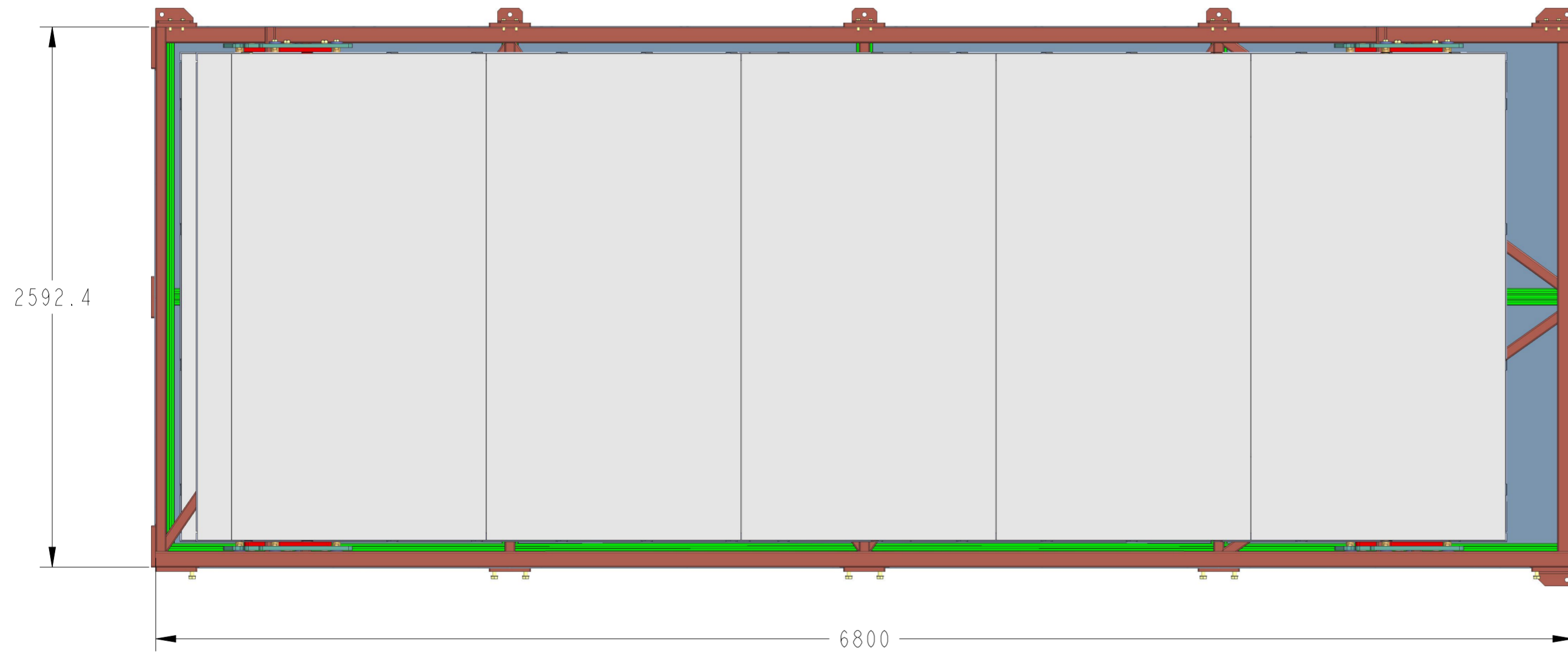
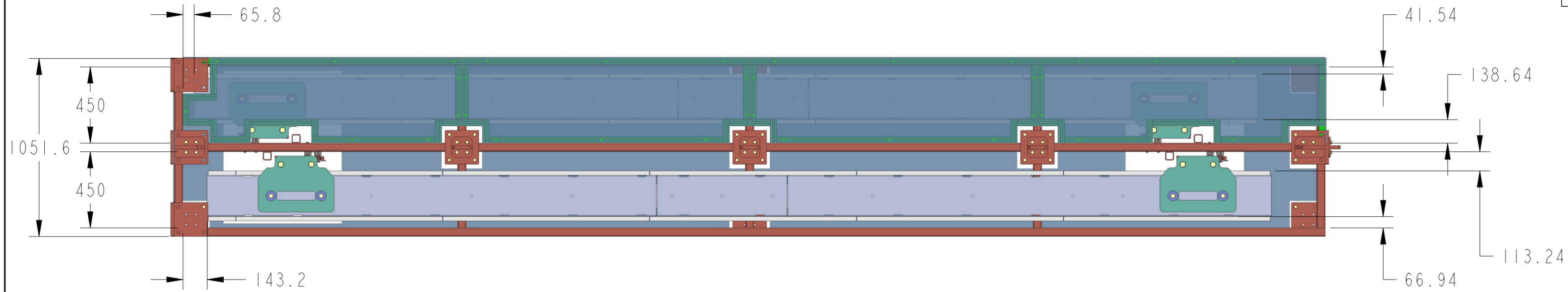
TITLE TRANSPORT FRAME	
DRAWING NUMBER NP79	ARRGR. DRAWING NP79
SHEET 1 OF 4	SCALE 1:20

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE <input checked="" type="checkbox"/> MACHINE ALL OVER OR WHERE MARKED <input checked="" type="checkbox"/>	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888	WELDING SYMBOLS TO BS 2553	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC	DATE	Jan-15-20
	ANGULAR ± °	TREATMENT	CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH	APPROVED	

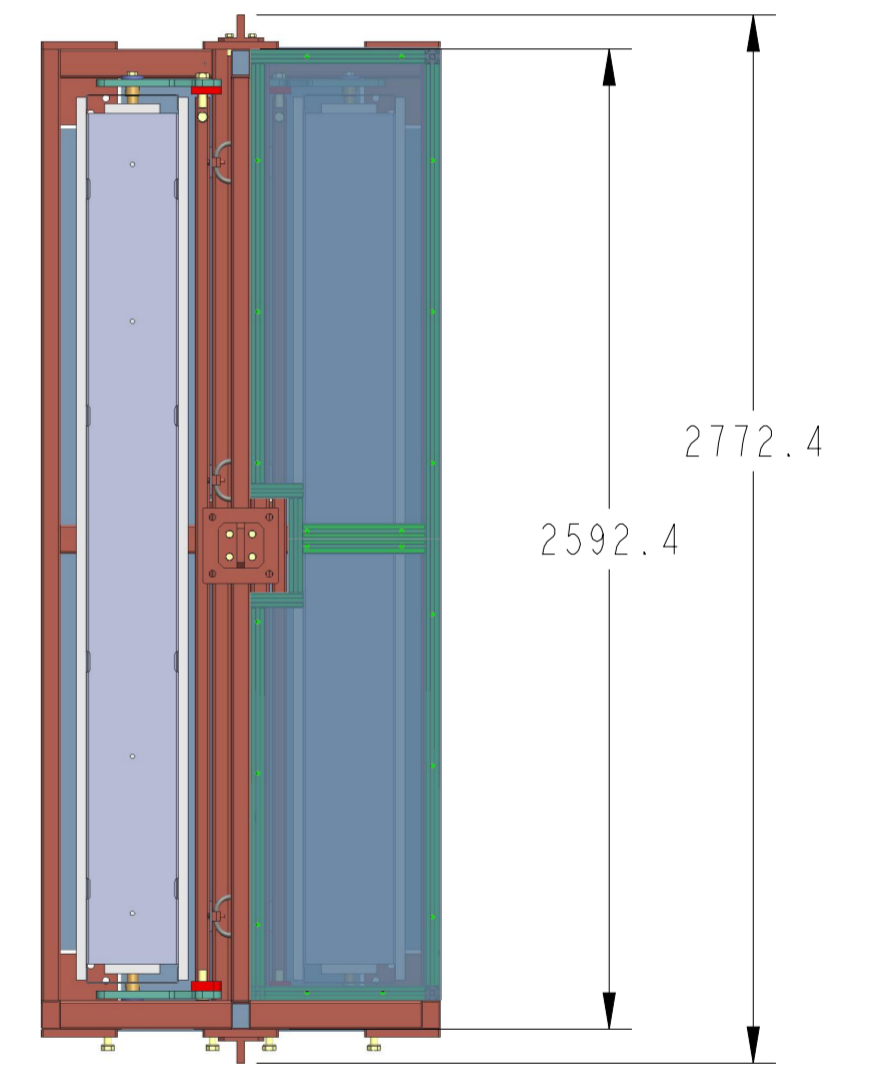
THIRD ANGLE PROJECTION



MODIFICATIONS			
ISSUE	DATE	NAME	DESCRIPTION
A	Jan-15-20	G. STAVRAKIS	FIRST ISSUE



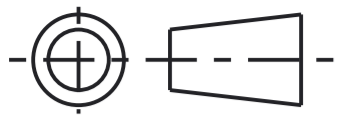
VIEW WITHOUT ONE PROTECTIVE FRAME



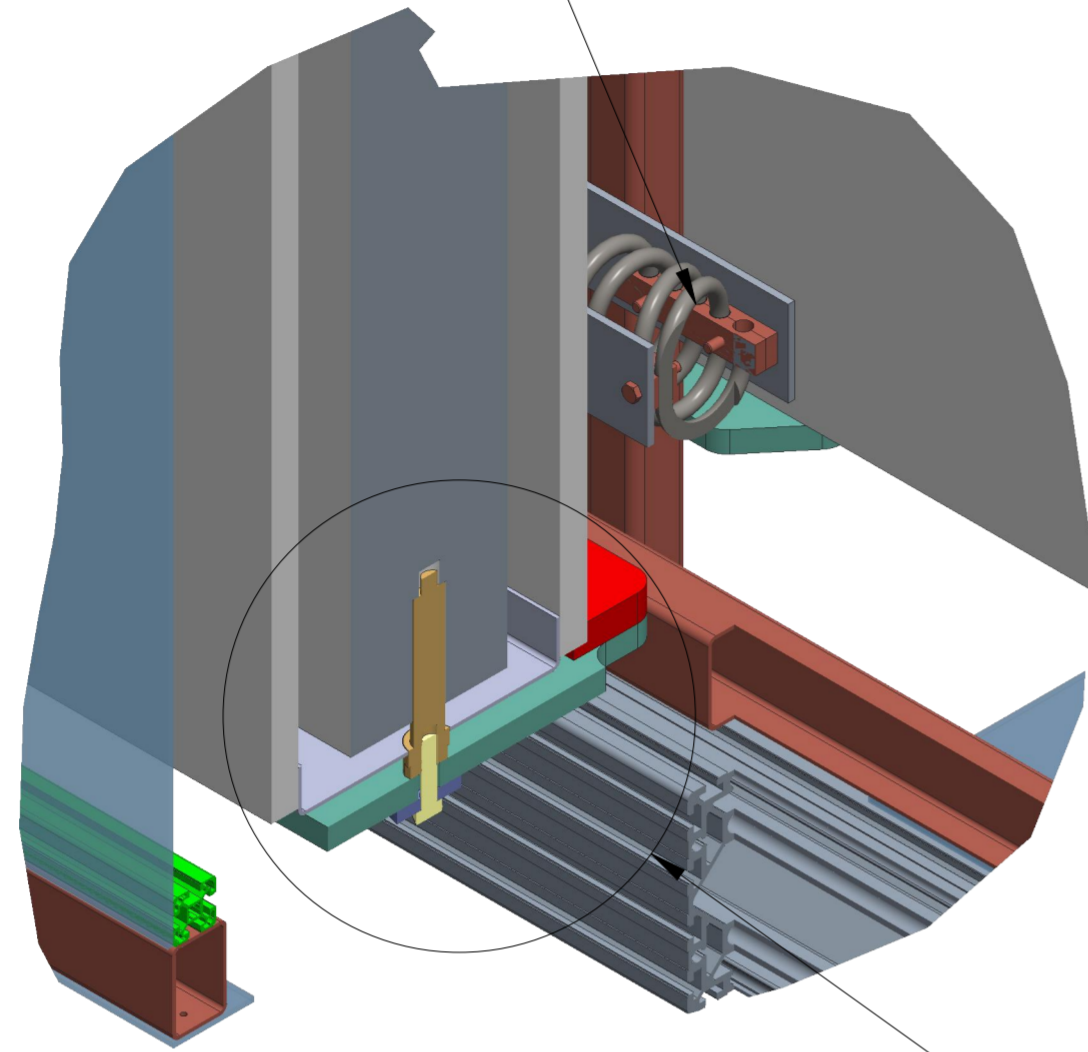
DEPARTMENT OF PHYSICS		UNIVERSITY OF LIVERPOOL	
OLIVER LODGE BUILDING			
PROJECT			
DUNE			
TITLE			
TRANSPORT FRAME			
DRAWING NUMBER		ARRGR. DRAWING	
NP79		NP79	
SHEET 2 OF 4		SCALE 1:20	
		A2	

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE ✓ MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL		DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC		DATE	Jan-15-20
	ANGULAR ± °	TREATMENT		CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED	

THIRD ANGLE PROJECTION



WIRE ISOLATORS
POSITIONED
HORIZONTALLY

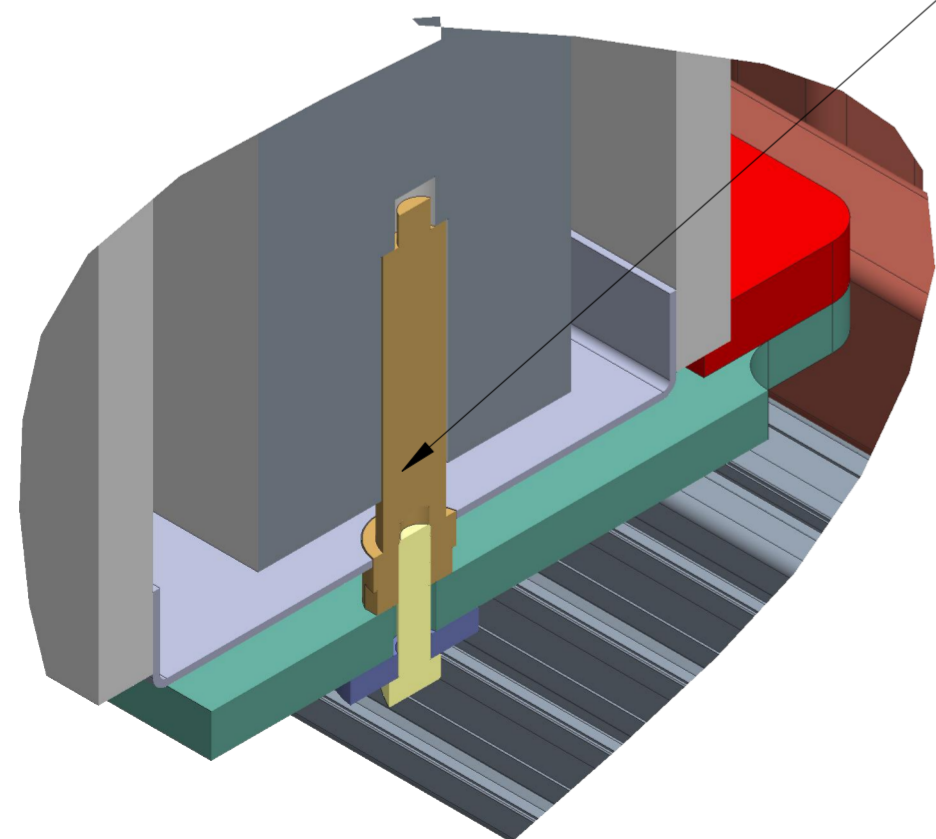


DETAIL A
SCALE 1:5

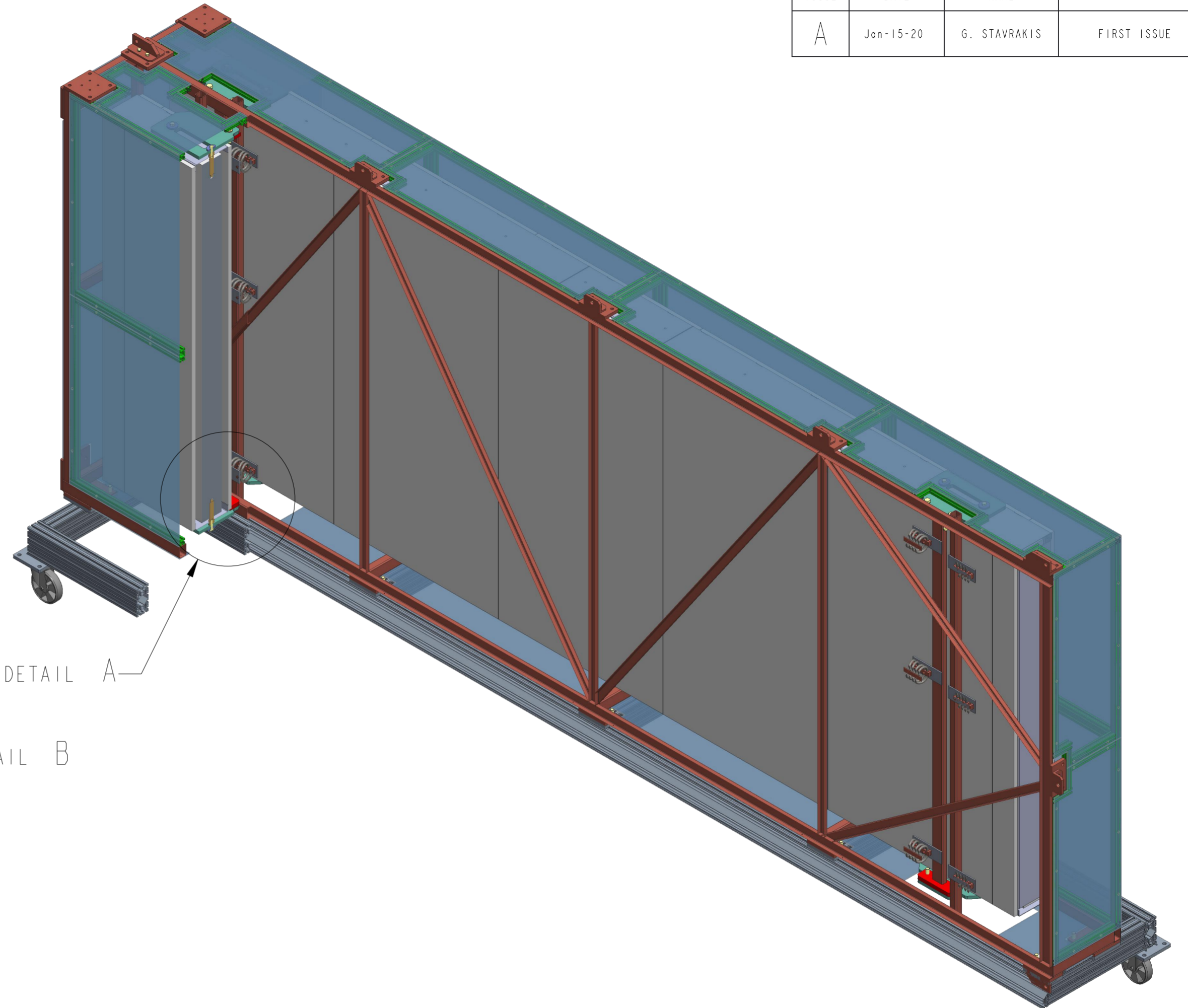
SEE DETAIL A

SEE DETAIL B

M16 TO M20 ADAPTOR
PREINSTALLED IN APA



DETAIL B
SCALE 2:5



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-15-20	G. STAVRAKIS	FIRST ISSUE

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



PROJECT
DUNE

TITLE
TRANSPORT FRAME

DRAWING NUMBER
NP79

ARRGR. DRAWING
NP79

SHEET 3 OF 4

SCALE 1:20

A2

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN MILLIMETERS
SURFACE TEXTURE VALUES IN MICROMETERS
SURFACE TEXT TO BE
MACHINE ALL OVER OR WHERE MARKED

REMOVE BURRS AND BREAK SHARP EDGES

METRIC SCREW THREADS
TO BS3643 CLASS 6H/6g
TOLERANCES
UNLESS OTHERWISE SPECIFIED

MACHINED DIMS ±
ANGULAR ± °

DO NOT SCALE

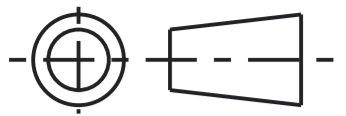
DRAWING PRACTICE AND TOLERANCE
INTERPRATION TO BS 8888

MATERIAL
SPEC
TREATMENT
FINISH

WELDING SYMBOLS TO BS 2553

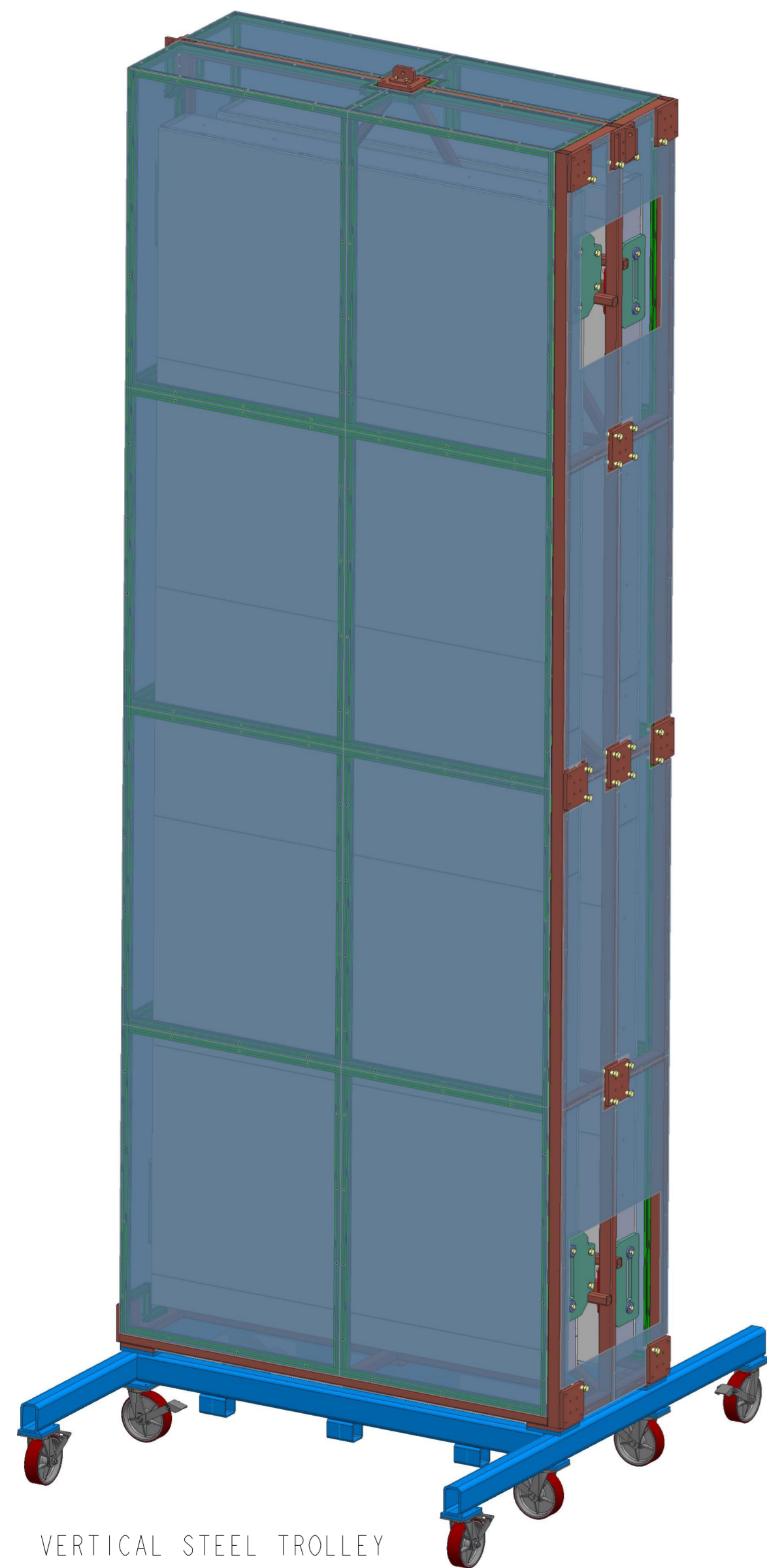
DRAWN
G. STAVRAKIS
DATE
Jan-15-20
CHECKED
APPROVED

THIRD ANGLE PROJECTION

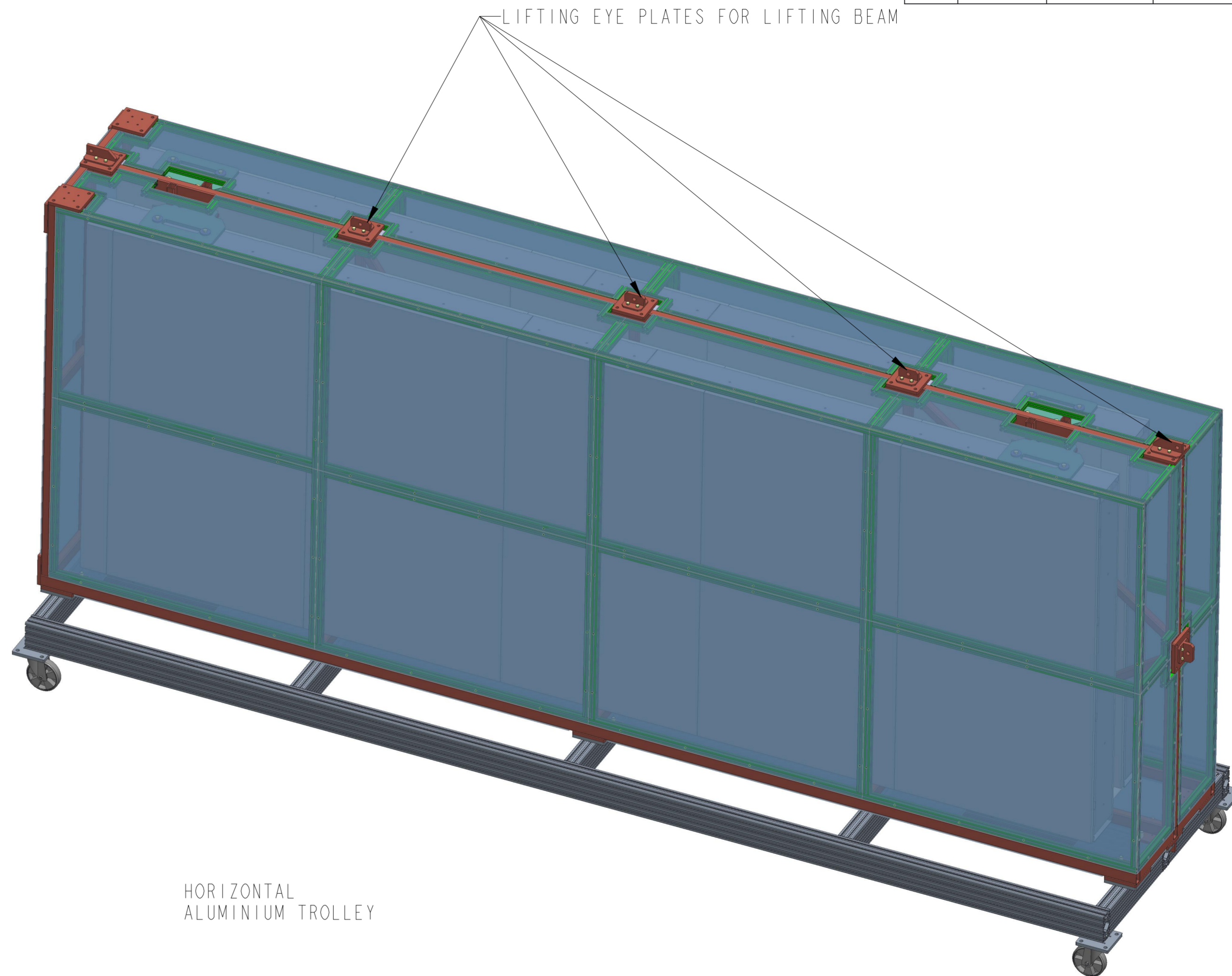


MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-15-20	G. STAVRAKIS	FIRST ISSUE



VERTICAL STEEL TROLLEY



HORIZONTAL ALUMINIUM TROLLEY

LIFTING EYE PLATES FOR LIFTING BEAM

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



UNIVERSITY OF
LIVERPOOL

PROJECT
DUNE

TITLE
TRANSPORT FRAME

DRAWING NUMBER
NP79

ARRGR. DRAWING
NP79

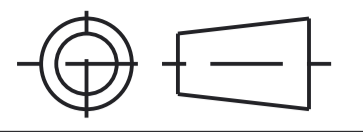
SHEET 4 OF 4

SCALE 1:20

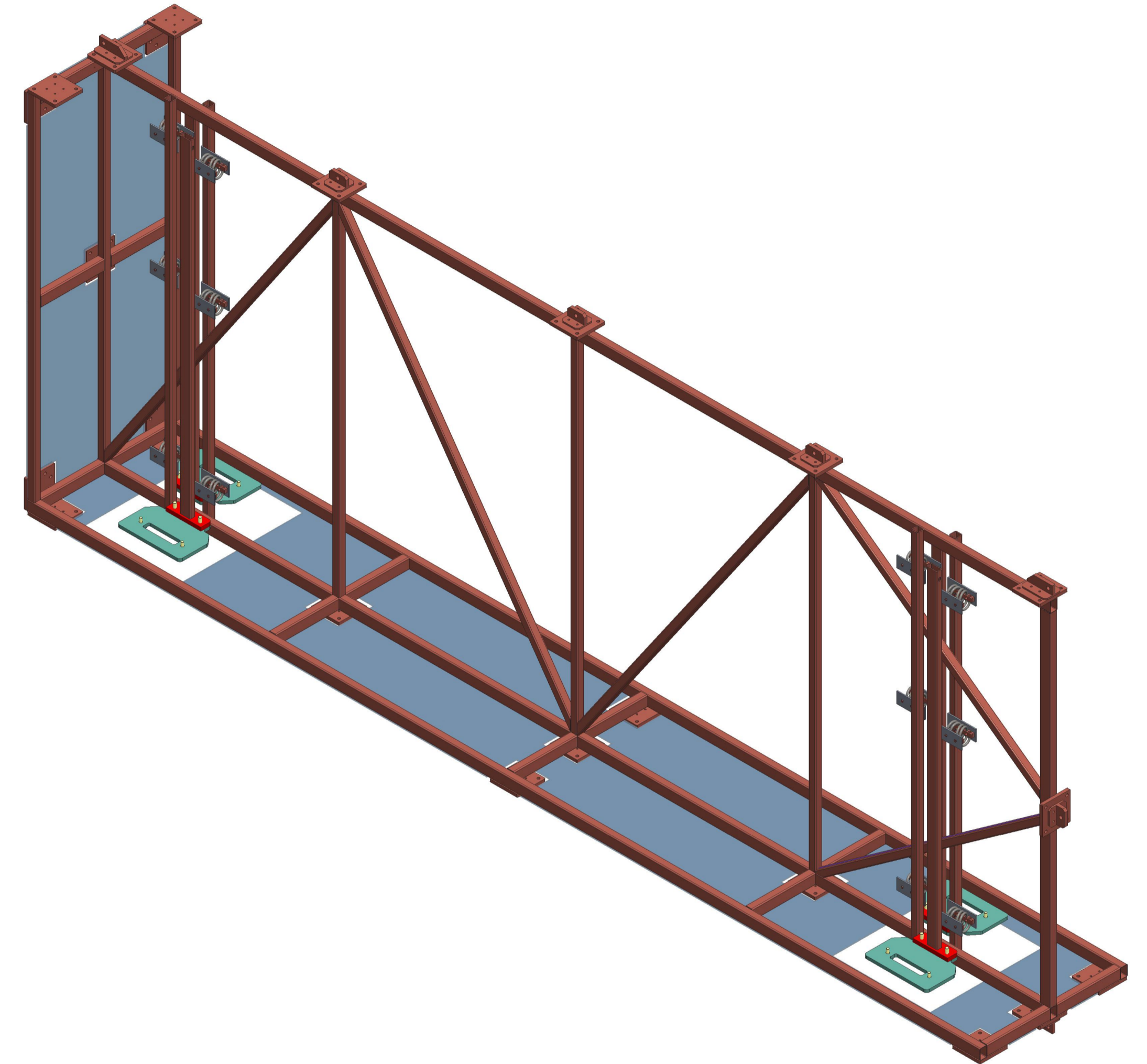
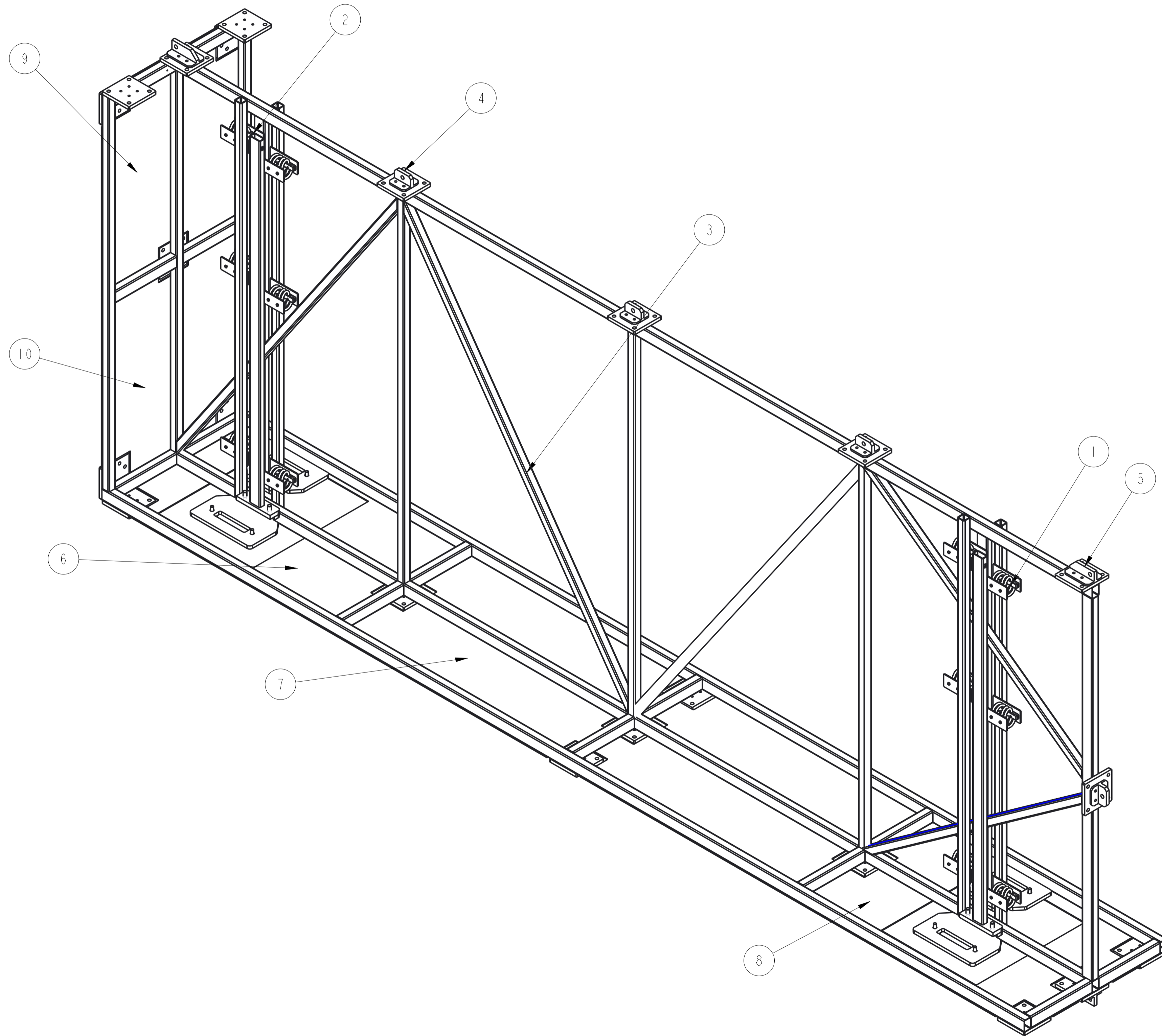
A2

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE ✓ MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL		DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC		DATE	Jan-15-20
	ANGULAR ± °	TREATMENT		CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED	

THIRD ANGLE PROJECTION



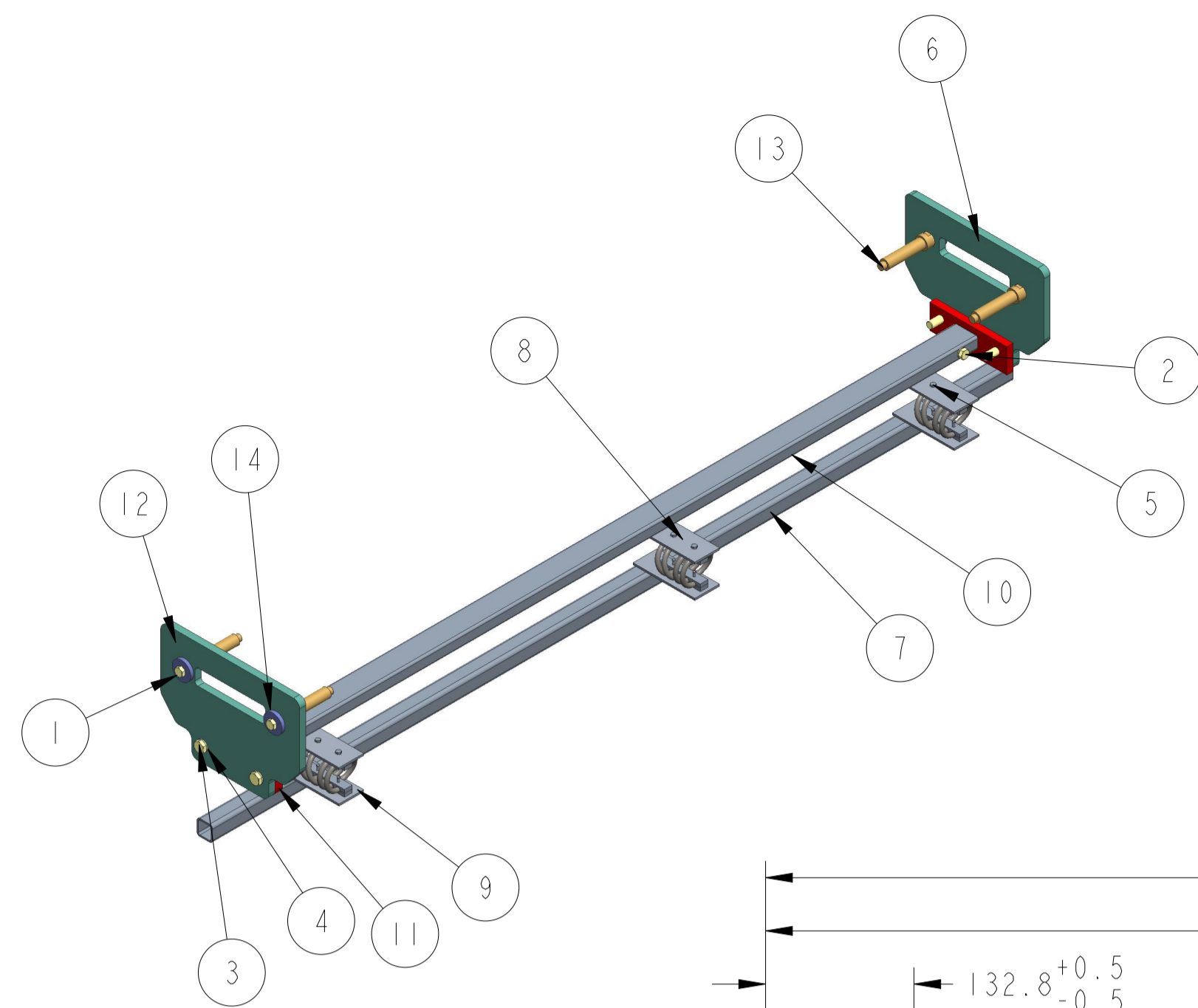
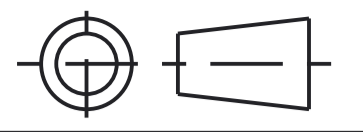
ITEM	PART/CAD No	DWG TITLE	MATERIAL	REMARK	QTY	MODIFICATIONS			
						ISSUE	DATE	NAME	DESCRIPTION
1	M8	M8 BOLT	CARBON STEEL		24	A	20-Jan-20	G. STAVRAKIS	FIRST ISSUE
2	NP79-01-03	ATTACHMENT ASSEMBLY	ST. ST.		4				
3	NP79-01-05	MAIN CENTRAL SKELETON	ST. ST.		1				
4	NP79-01-24	EYE LIFT BRACKET MIDDLE	CARBON STEEL		4				
5	NP79-01-25	EYE LIFT BRACKET CORNER	CARBON STEEL		3				
6	NP79-01-26	PANEL TYPE 1 5mm THICK	CLEAR PETG	5mm THICK	2				
7	NP79-01-27	PANEL TYPE 2 5mm THICK	CLEAR PETG	5mm THICK	4				
8	NP79-01-28	PANEL TYPE 3 5mm THICK	CLEAR PETG	5mm THICK	2				
9	NP79-01-29	PANEL TYPE 4 5mm THICK	CLEAR PETG	5mm THICK	2				
10	NP79-01-30	PANEL TYPE 5 5mm THICK	CLEAR PETG	5mm THICK	2				



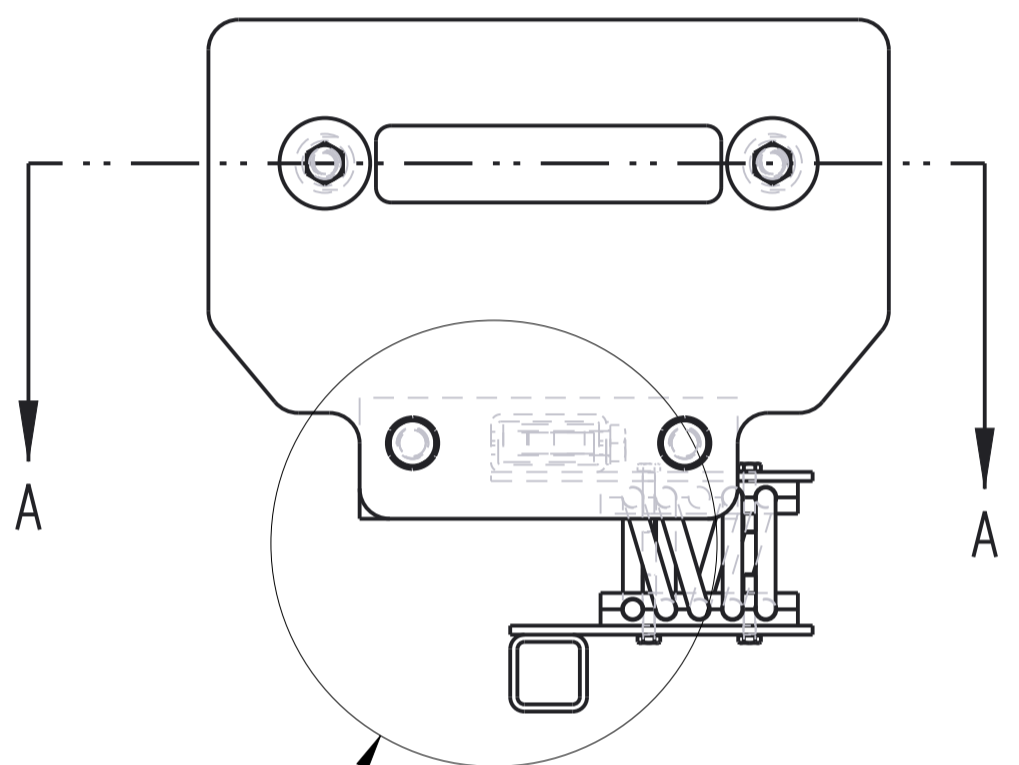
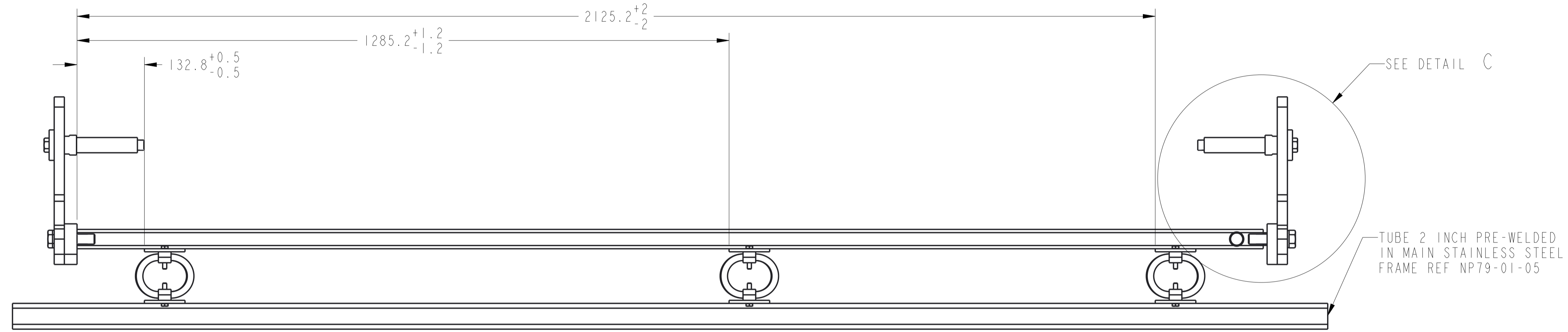
THE PROTECTIVE PANELS WILL BE PLACED AFTER THE TWO APAs ATTACHED TO THE TRANSPORT FRAME

UNLESS OTHERWISE SPECIFIED: -		METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888	WELDING SYMBOLS TO BS 2553	TITLE	
ALL DIMENSIONS IN MILLIMETERS	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	ST. ST.	DRAWN	G. STAVRAKIS	DEPARTMENT OF PHYSICS OLIVER LODGE BUILDING UNIVERSITY OF LIVERPOOL
SURFACE TEXTURE VALUES IN MICROMETERS	MACHINED DIMS ±	SPEC		DATE	20-Jan-20	PROJECT DUNE
SURFACE TEXT TO BE MACHINED ALL OVER OR WHERE MARKED ✓	ANGULAR ± °	TREATMENT		CHECKED		DRAWING NUMBER NP79-01-02
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED		ARRGR. DRAWING NP79-01
						SHEET 1 OF 1
						SCALE 3:40
						A1

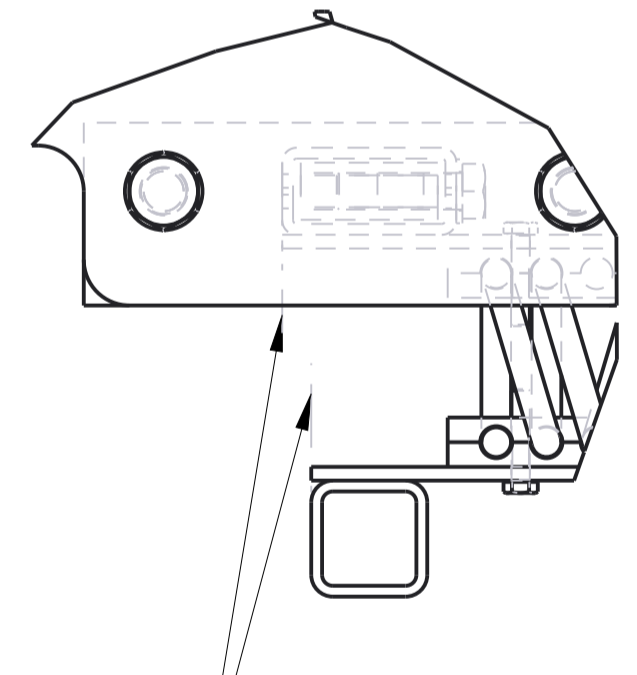
THIRD ANGLE PROJECTION



ITEM	PART/CAD No	DWG TITLE	MATERIAL	MAT SPEC	QTY	MODIFICATIONS			
						ISSUE	DATE	NAME	DESCRIPTION
1	M16	M16 BOLT	CARBON STEEL		3	A	Jan-10-20	G. STAVRAKIS	FIRST ISSUE
2	M16_WASHER	M16 WASHER			1				
3	M20	M20 BOLT	CARBON STEEL		2				
4	M20_WASHER	M20 WASHER	CARBON STEEL		2				
5	M8	M8 BOLT	CARBON STEEL		12				
6	NP79-01-04	TOP ATTACHMENT ASSEMBLY	CARBON STEEL		1				
7	NP79-01-05-20	SHS 2x2x3/16	CARBON STEEL	EN10210 S355J2H	1				
8	NP79-01-06	WIRE ROPE SHOCK MOUNT	ALU 6000 / SS 316	H 130-131-95-121-4S	3				
9	NP79-01-09	MOUNTING PLATE FRAME SIDE	CARBON STEEL	EN10025-2:2004 S355J2H	3				
10	NP79-01-32	TUBE 3 x 1/2 INCH	CARBON STEEL	EN10210 S355J2H	1				
11	NP79-01-33	BOTTOM WIELDED PLATE	CARBON STEEL	EN10210 S355J2H	1				
12	NP79-01-34	ATTACHMENT PLATE	CARBON STEEL	EN10210 S355J2H	1				
13	NP79-01-35	M16 ADAPTOR TO M20	ST. ST. 304		4				
14	NP79-01-36	M16 WASHER	CARBON STEEL	EN10025-2: 2004 S355J2H	2				

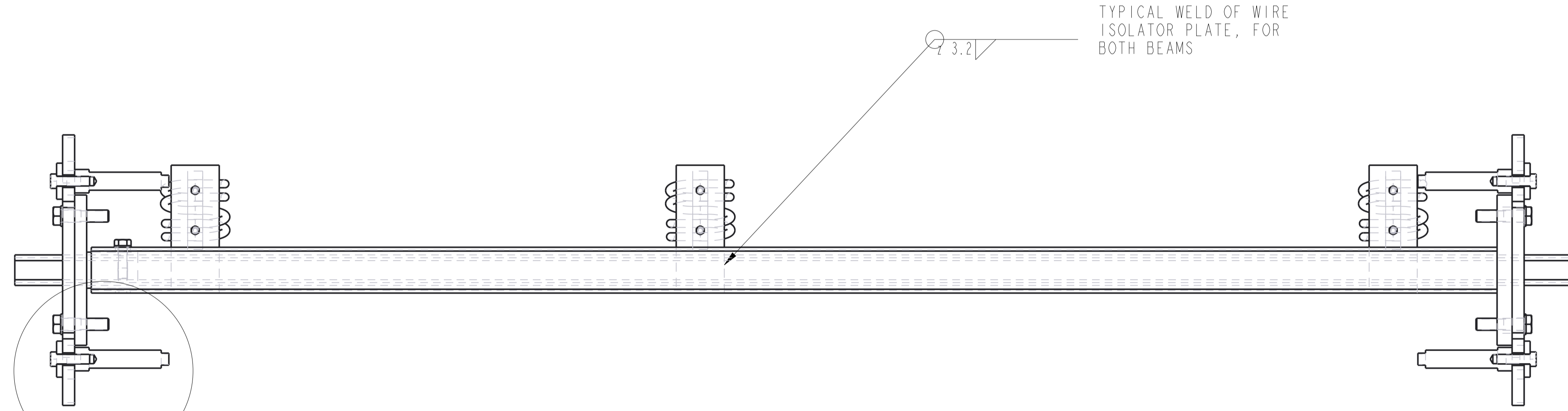


SEE DETAIL B

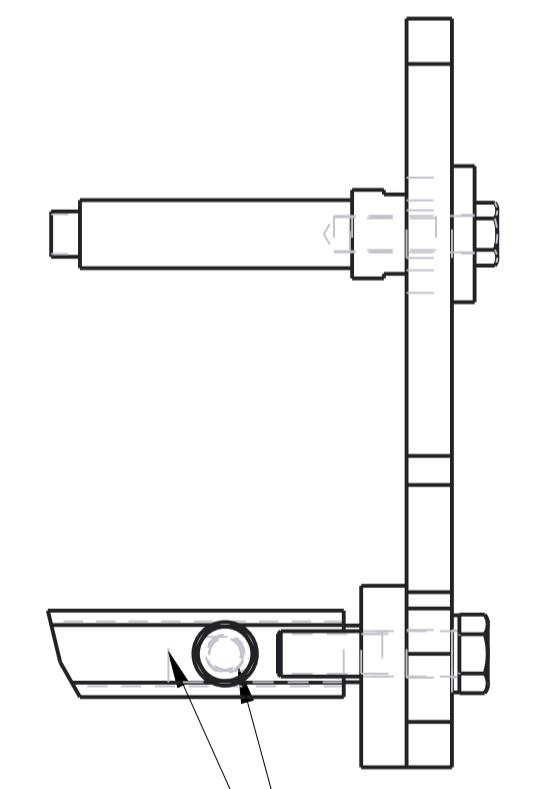


DETAIL B
SCALE 3:10

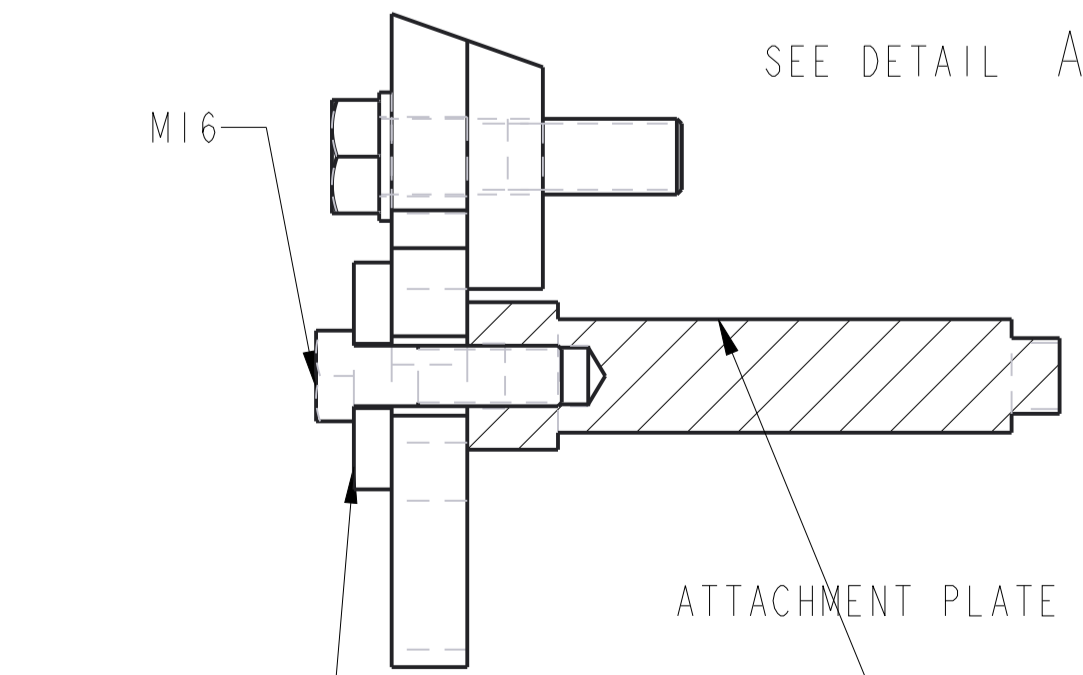
THE WIRE ISOLATOR PLATES ARE ALIGNED TO THE BEAMS



SECTION A-A
SCALE 1:5



DETAIL C
SCALE 3:10
THE TOP ATTACHMENT PART WILL BE SECURED TO THE ATTACHMENT WITH AN M16 BOLT



DETAIL A
SCALE 1:2

M16 WASHER

ATTACHMENT PLATE

M16 ADAPTOR PRE-INSTALLED IN APA

THERE WILL BE MADE 2 ATTACHMENT ASSEMBLIES PER APA, TOTAL 4 ATTACHMENT ASSEMBLIES PER TRANSPORT FRAME

UNLESS OTHERWISE SPECIFIED:	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g		DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	SPEC	DRAWN	G. STAVRAKIS	DATE
ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED DIMS ± MACHINE ALL OVER OR WHERE MARKED ✓	MACHINED DIMS ±	SPEC		DATE	Jan-10-20	
	ANGULAR ±	TREATMENT		CHECKED		
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED		

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING

UNIVERSITY OF LIVERPOOL

PROJECT: DUNE

TITLE: REF FOR ATTACHMENT ASSEMBLY

DRAWING NUMBER: NP79-01-03-01

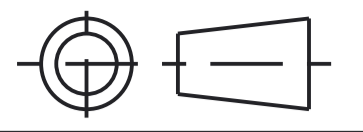
ARRGR. DRAWING: NP79

SHEET 1 OF 1

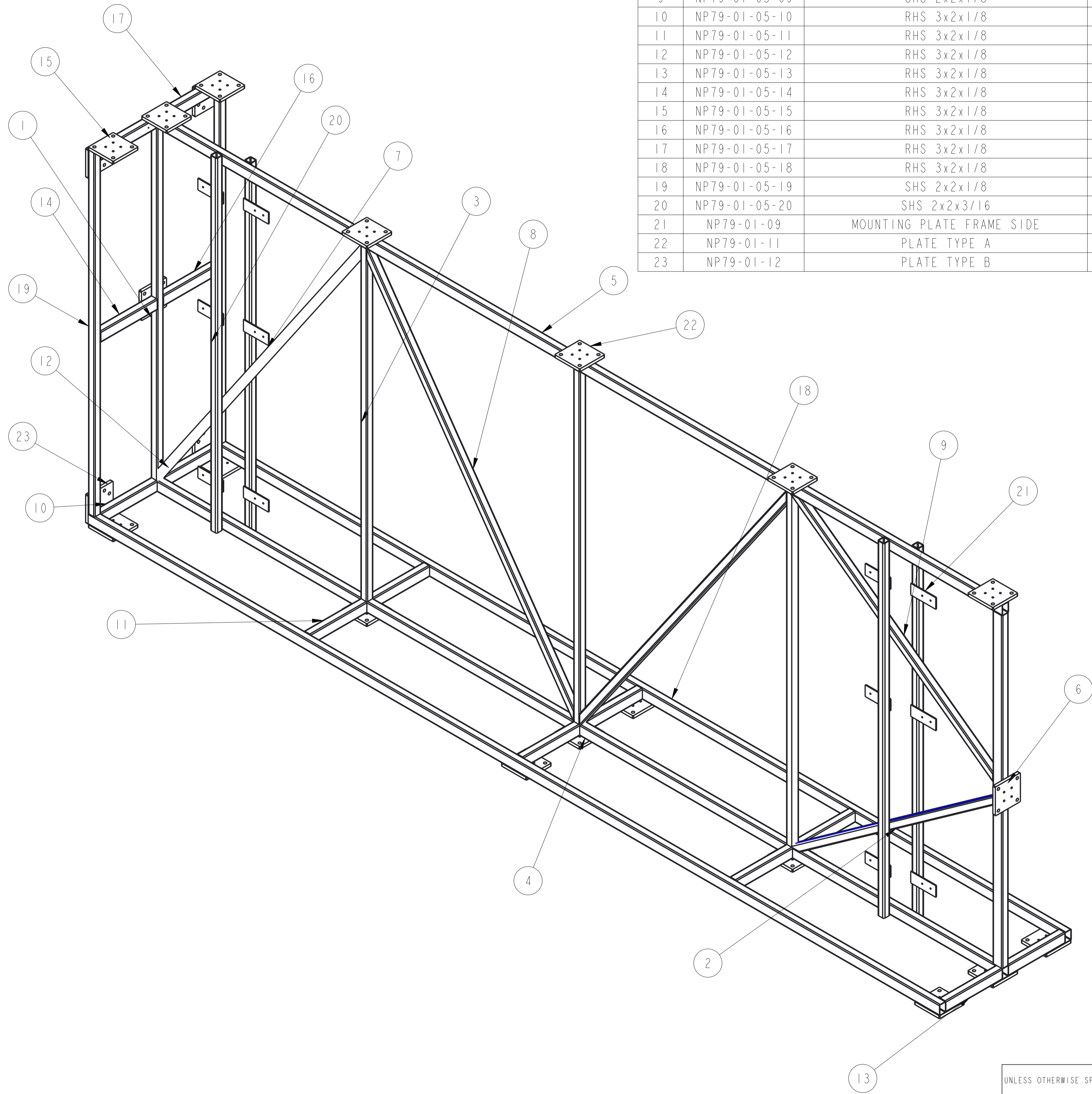
SCALE 1:5

AI

THIRD ANGLE PROJECTION

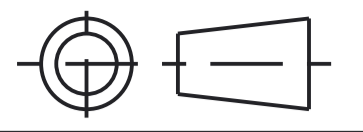


ITEM	PART/CAD No	DWG TITLE	MATERIAL	MAT SPEC	REMARK	QTY	MODIFICATIONS			
							ISSUE	DATE	NAME	DESCRIPTION
1	NP79-01-05-01	SHS 2x2x1/8	CARBON STEEL	EN10210 S355J2H		1	A	12-Jan-20	G. STAVRAKIS	FIRST ISSUE
2	NP79-01-05-02	SHS 2x2x1/8	CARBON STEEL	EN10210 S355J2H		1				
3	NP79-01-05-03	SHS 2x2x1/8	CARBON STEEL	EN10210 S355J2H		3				
4	NP79-01-05-04	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		1				
5	NP79-01-05-05	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		1				
6	NP79-01-05-06	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		1				
7	NP79-01-05-07	SHS 2x2x1/8	CARBON STEEL	EN10210 S355J2H		1				
8	NP79-01-05-08	SHS 2x2x1/8	CARBON STEEL	EN10210 S355J2H		2				
9	NP79-01-05-09	SHS 2x2x1/8	CARBON STEEL	EN10210 S355J2H		1				
10	NP79-01-05-10	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		1				
11	NP79-01-05-11	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		6				
12	NP79-01-05-12	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		1				
13	NP79-01-05-13	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		2				
14	NP79-01-05-14	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		1				
15	NP79-01-05-15	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		1				
16	NP79-01-05-16	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		1				
17	NP79-01-05-17	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		1				
18	NP79-01-05-18	RHS 3x2x1/8	CARBON STEEL	EN10219 S355J2H		2				
19	NP79-01-05-19	SHS 2x2x1/8	CARBON STEEL	EN10210 S355J2H		2				
20	NP79-01-05-20	SHS 2x2x3/16	CARBON STEEL	EN10210 S355J2H		4				
21	NP79-01-09	MOUNTING PLATE FRAME SIDE	CARBON STEEL	EN10025-2:2004 S355J2H	6 mm THICK	12				
22	NP79-01-11	PLATE TYPE A	CARBON STEEL	EN10025-2:2004 S355J2H	20mm THICK	19				
23	NP79-01-12	PLATE TYPE B	CARBON STEEL	EN10025-2:2004 S355J2H	20mm THICK	4				

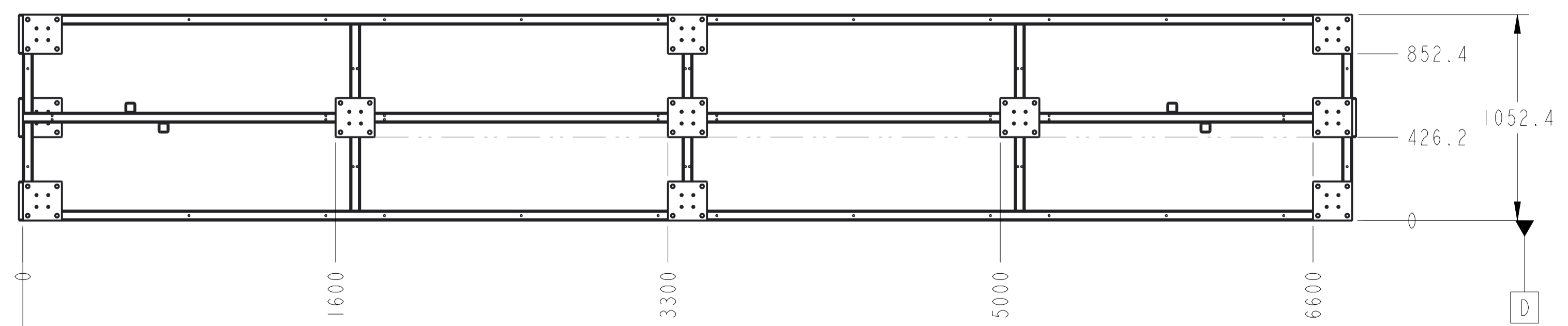
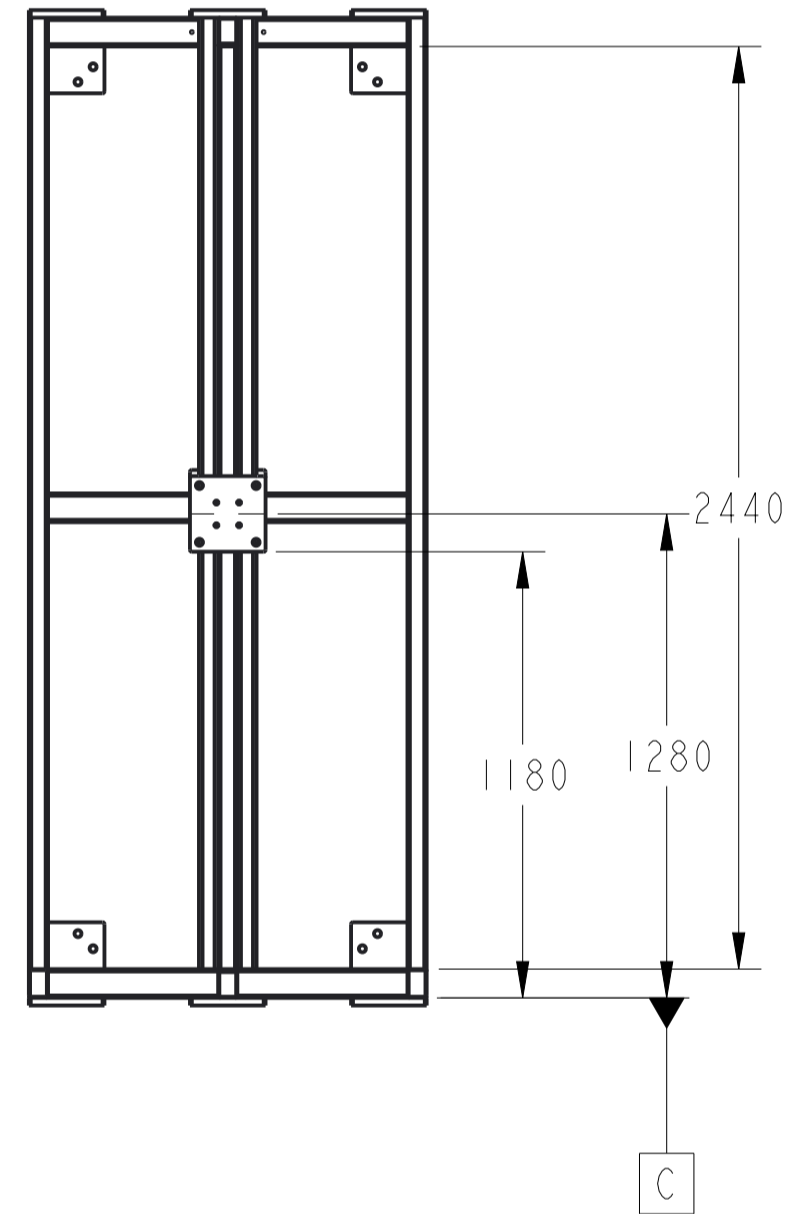
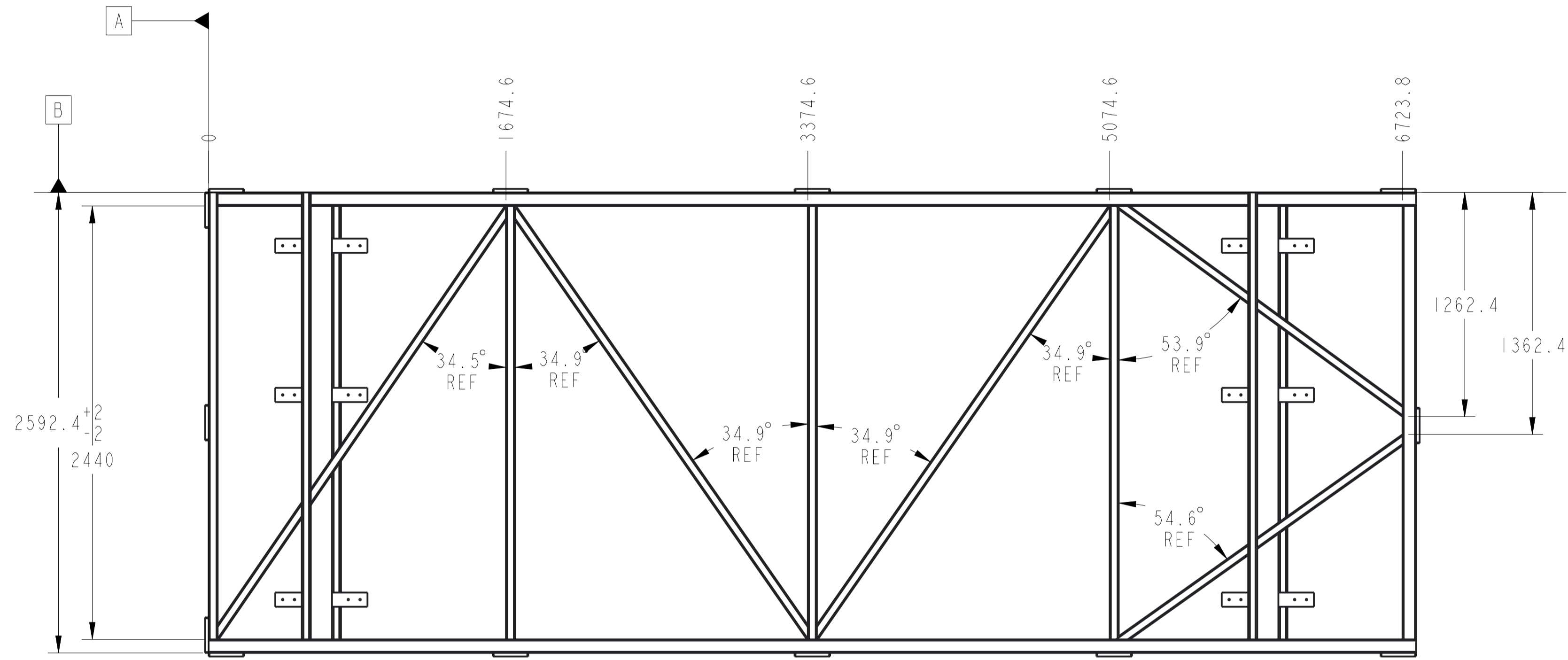
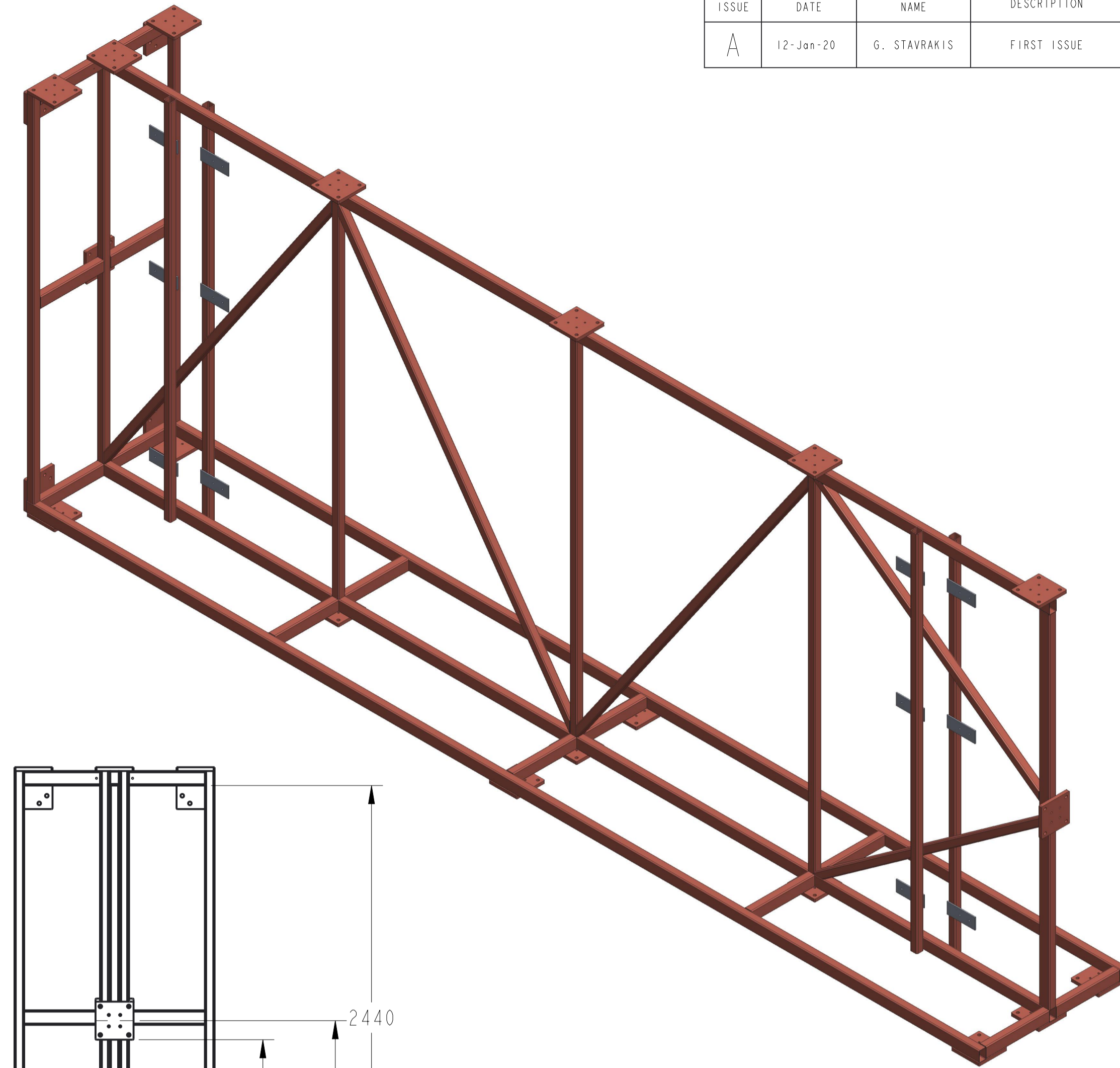
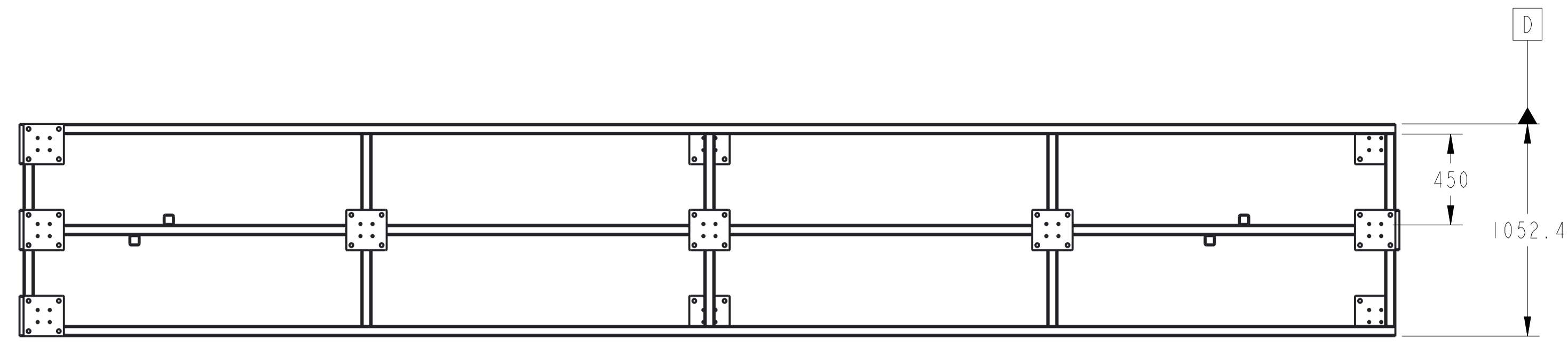


UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	ST. ST.	DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC		DATE	12-Jan-20
	ANGULAR ±	TREATMENT		CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED	

DEPARTMENT OF PHYSICS		UNIVERSITY OF LIVERPOOL	
OLIVER LODGE BUILDING			
PROJECT			
DUNE			
TITLE			
MAIN CENTRAL SKELETON			
DRAWING NUMBER		ARRGR. DRAWING	
NP79-01-05		NP79	
SHEET 1 OF 5		SCALE 3:40	

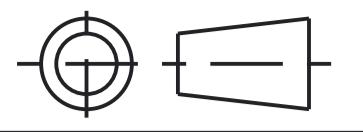


MODIFICATIONS			
ISSUE	DATE	NAME	DESCRIPTION
A	12-Jan-20	G. STAVRAKIS	FIRST ISSUE

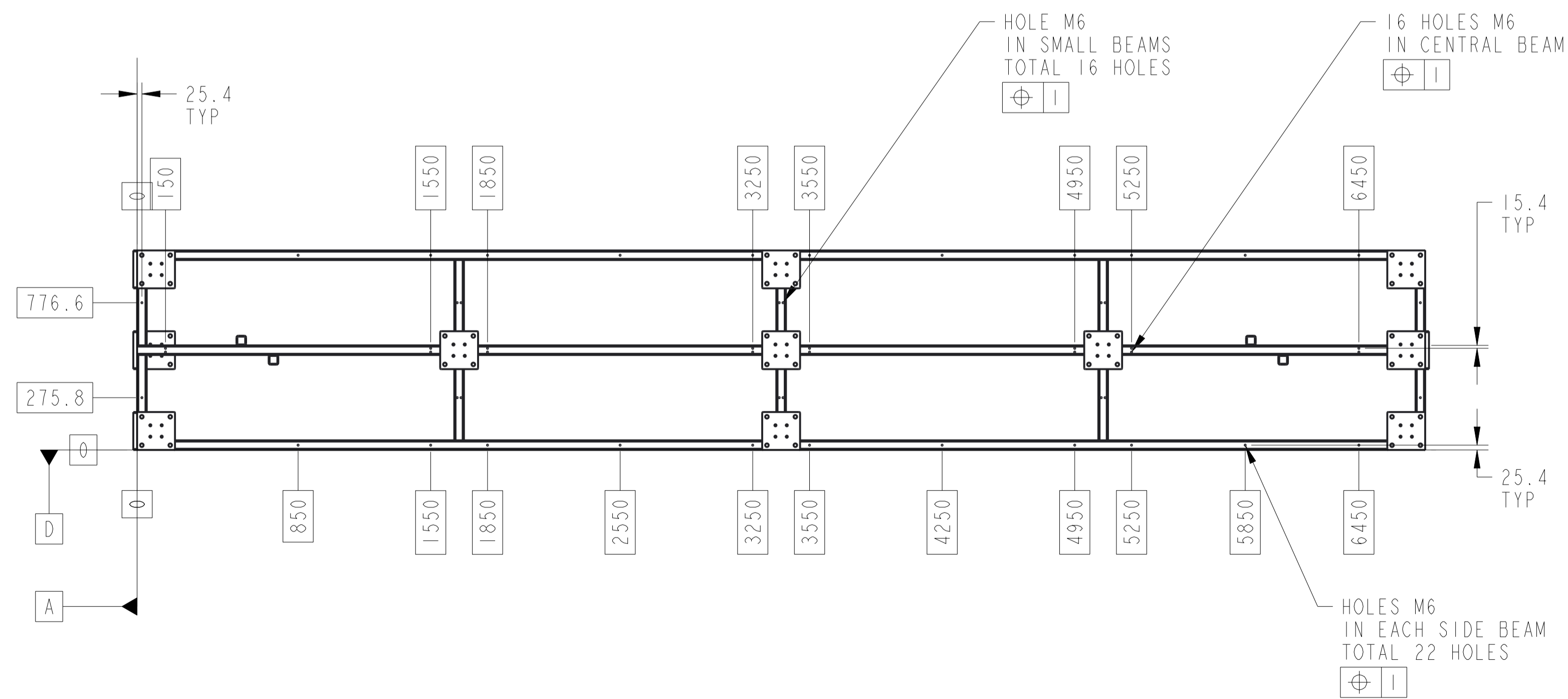
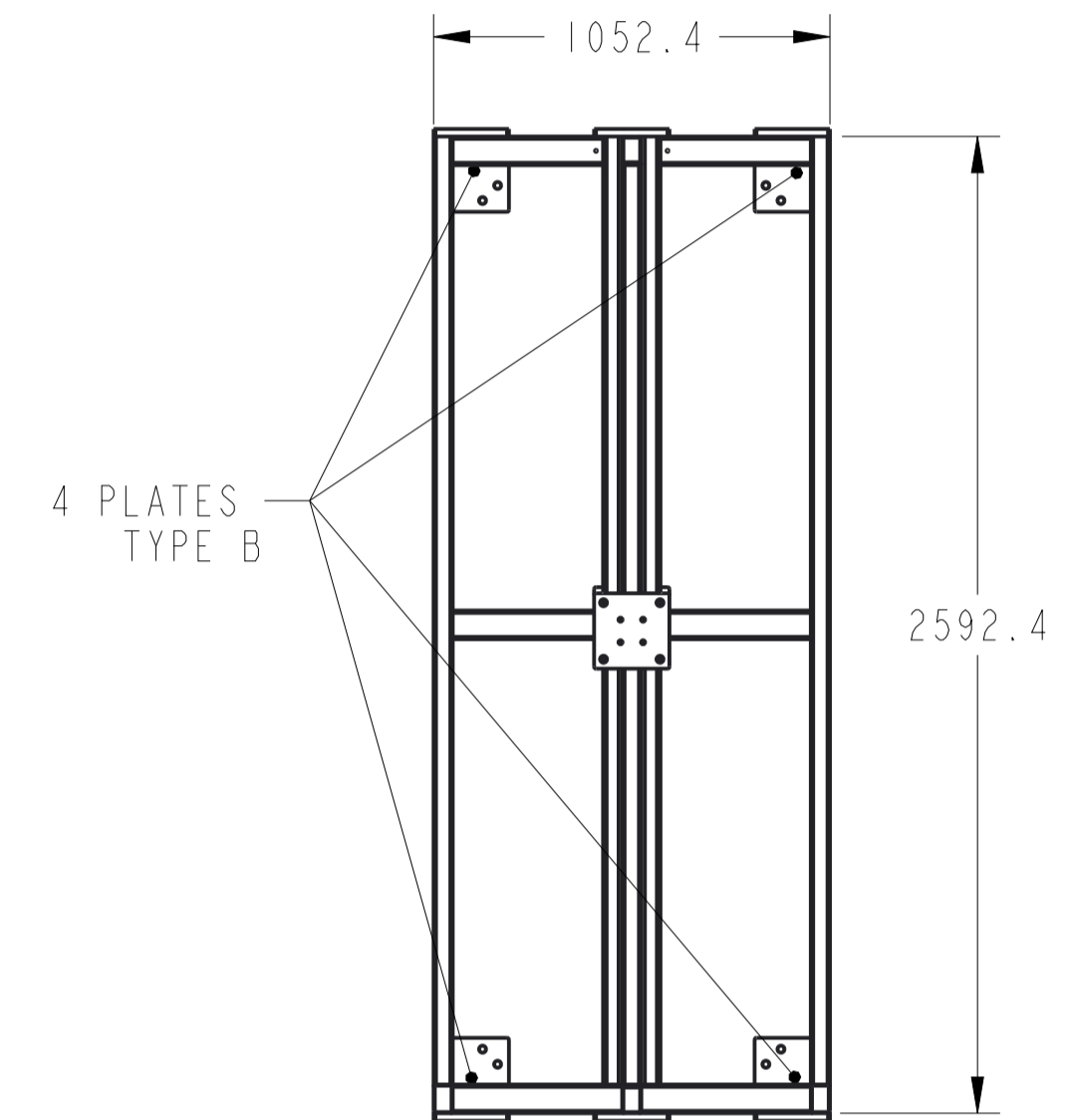
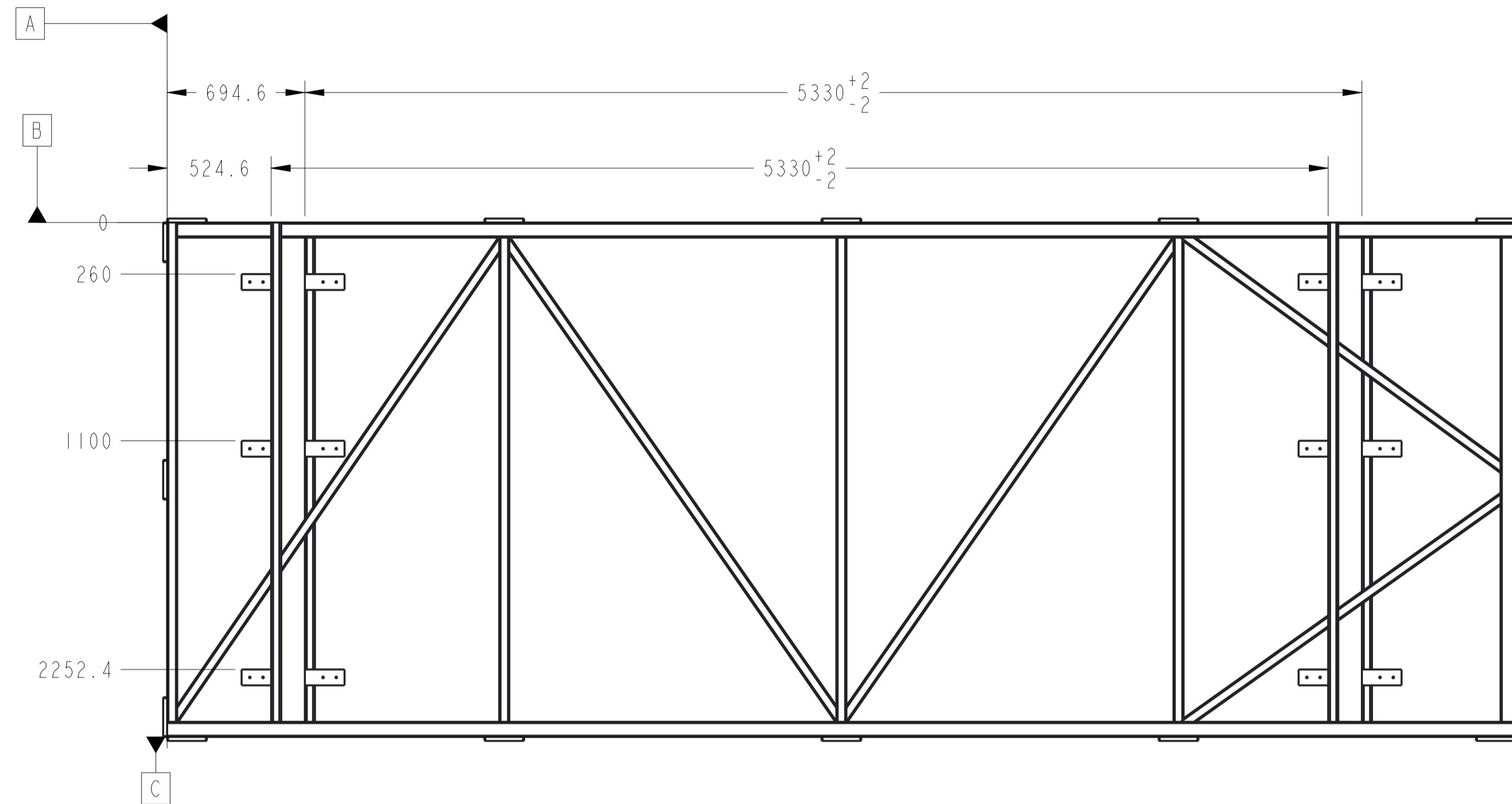
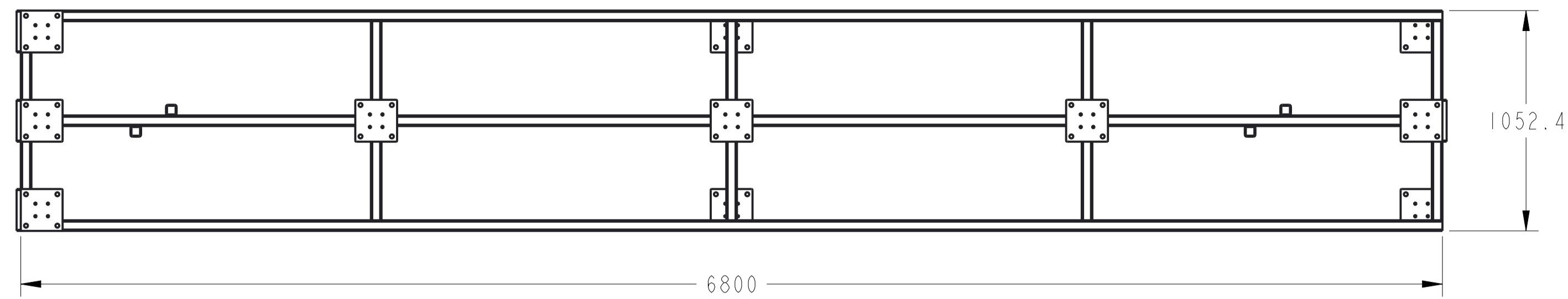


UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g TOLERANCES UNLESS OTHERWISE SPECIFIED MACHINED DIMS ± ANGULAR ± °	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888 MATERIAL SPEC TREATMENT	WELDING SYMBOLS TO BS 2553 ST. ST. DRAWN G. STAVRAKIS DATE 12-Jan-20 CHECKED
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH	APPROVED

DEPARTMENT OF PHYSICS OLIVER LODGE BUILDING PROJECT	UNIVERSITY OF LIVERPOOL
DUNE	
TITLE MAIN CENTRAL SKELETON	
DRAWING NUMBER NP79-01-05	ARRGR. DRAWING NP79
SHEET 2 OF 5	SCALE 1:20

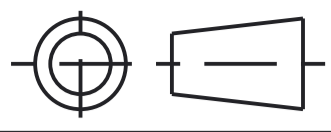


MODIFICATIONS			
ISSUE	DATE	NAME	DESCRIPTION
A	12-Jan-20	G. STAVRAKIS	FIRST ISSUE

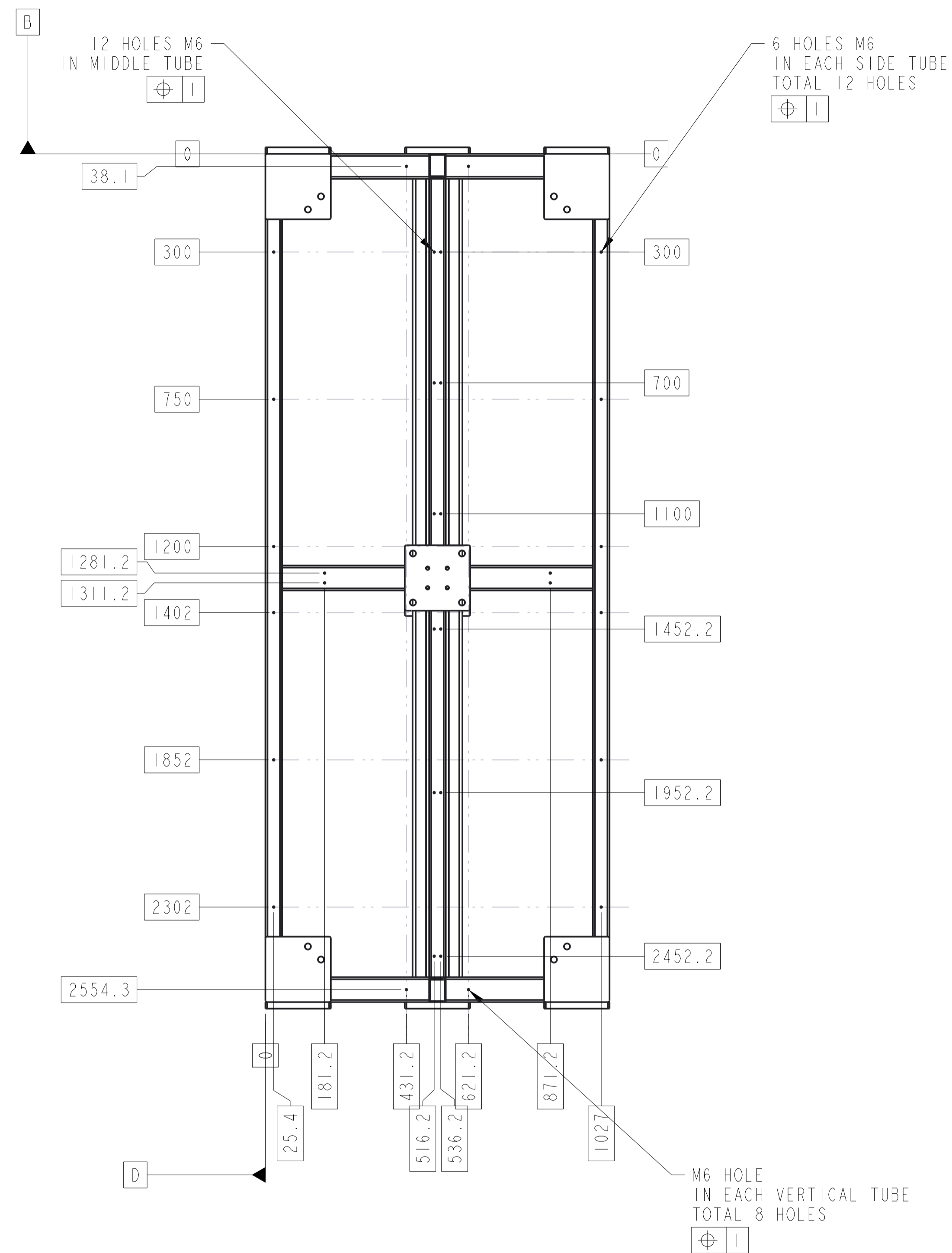


UNLESS OTHERWISE SPECIFIED:- ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED ALL OVER OR WHERE MARKED ✓ REMOVE BURRS AND BREAK SHARP EDGES	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	ST. ST.	DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC		DATE	12-Jan-20
	ANGULAR ±	TREATMENT		CHECKED	
	DO NOT SCALE	FINISH		APPROVED	

DEPARTMENT OF PHYSICS		UNIVERSITY OF LIVERPOOL	
OLIVER LODGE BUILDING			
PROJECT DUNE			
TITLE MAIN CENTRAL SKELETON			
DRAWING NUMBER NP79-01-05		ARRGR. DRAWING NP79	
SHEET 3 OF 5		SCALE 1:20	



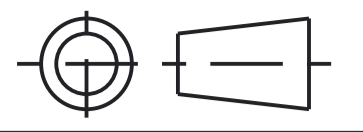
MODIFICATIONS			
ISSUE	DATE	NAME	DESCRIPTION
A	12-Jan-20	G. STAVRAKIS	FIRST ISSUE



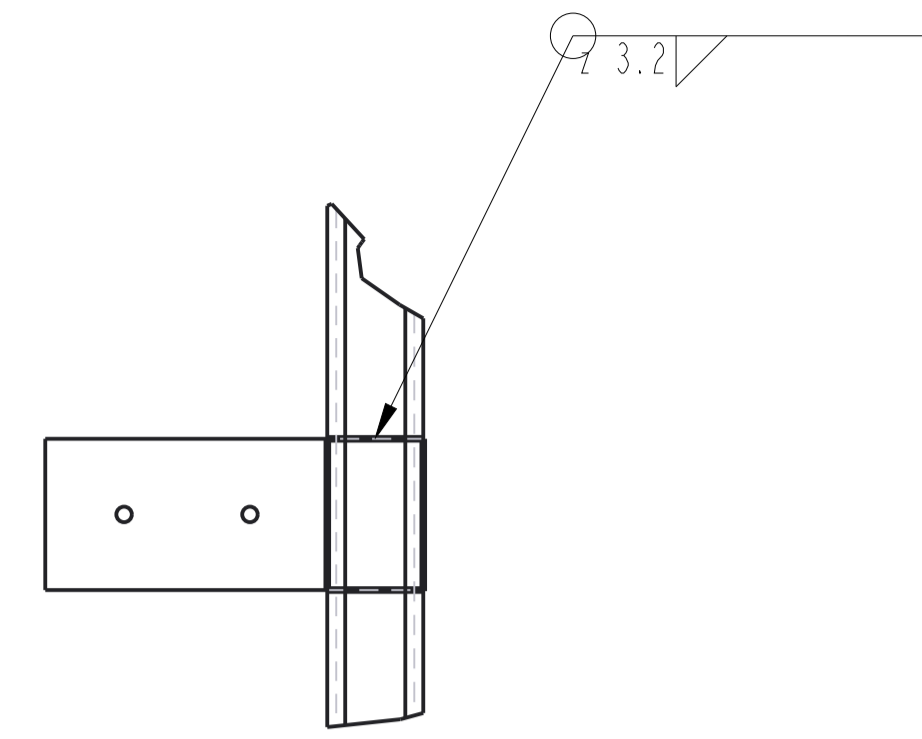
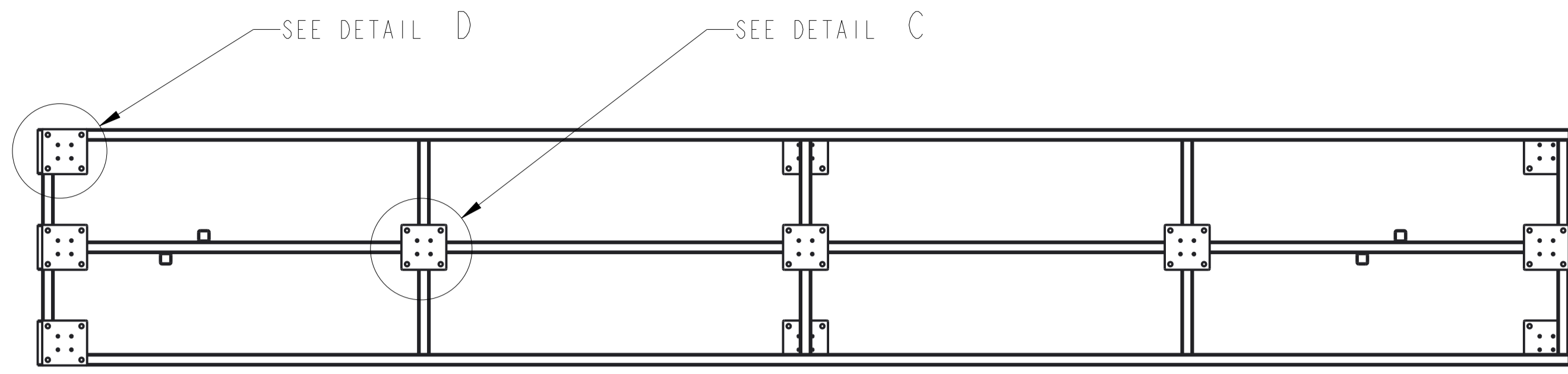
SCALE 1:10

DEPARTMENT OF PHYSICS		UNIVERSITY OF LIVERPOOL	
OLIVER LODGE BUILDING			
PROJECT			
DUNE			
TITLE			
MAIN CENTRAL SKELETON			
DRAWING NUMBER		ARRGR. DRAWING	
NP79-01-05		NP79	
SHEET 4 OF 5		SCALE 1:10	

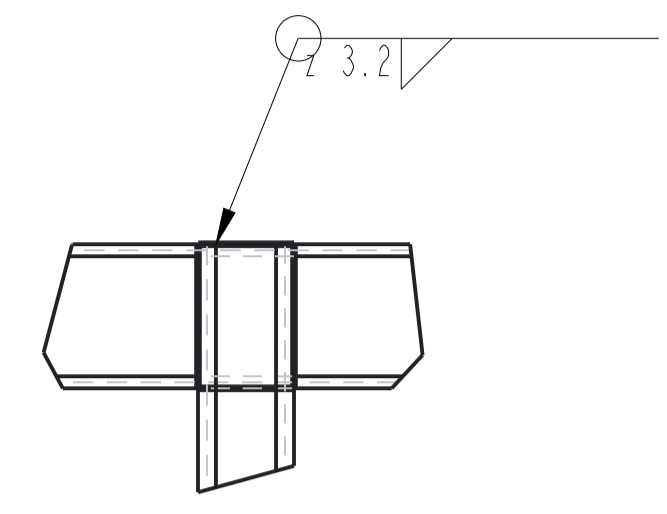
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	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	ST. ST.	DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC		DATE	12-Jan-20
	ANGULAR ±	TREATMENT		CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED	



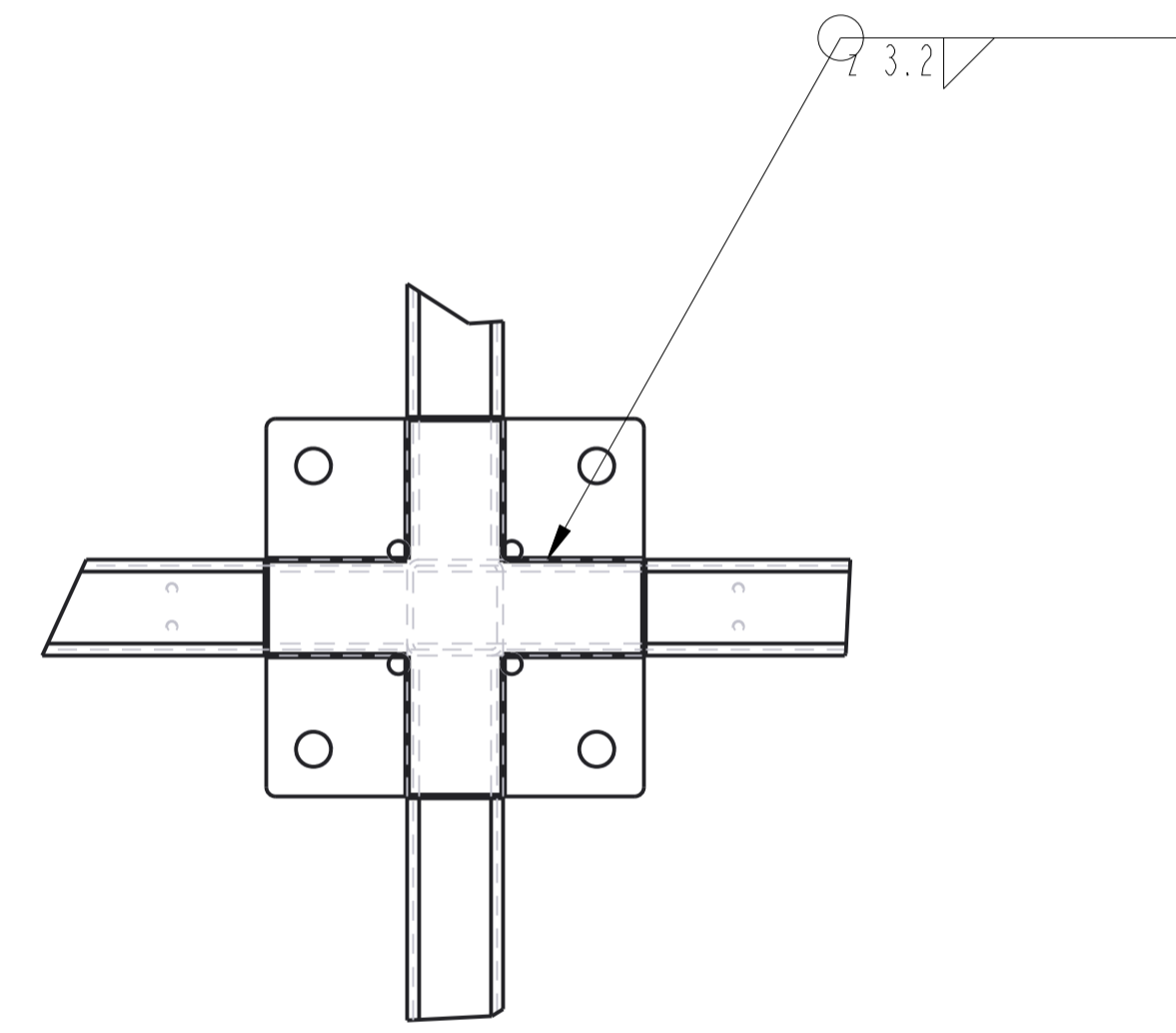
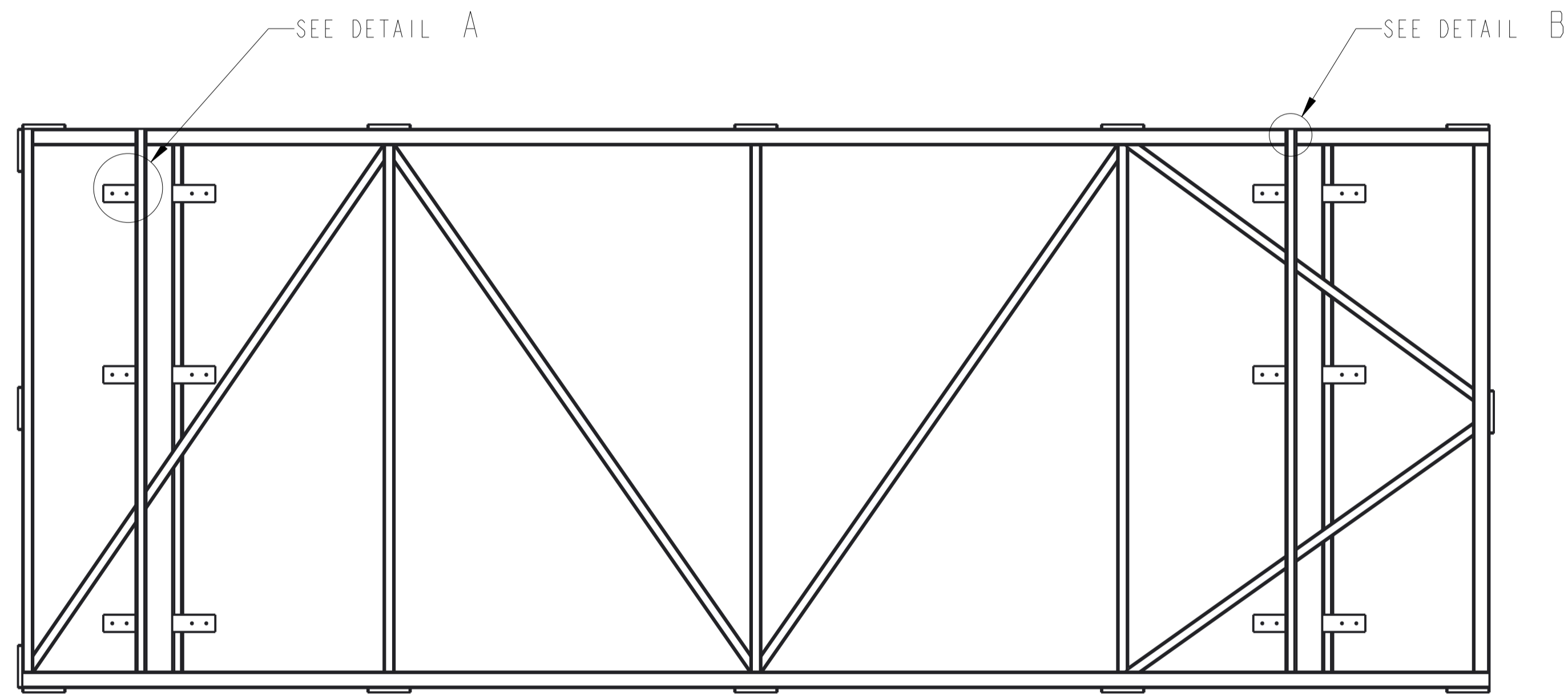
MODIFICATIONS			
ISSUE	DATE	NAME	DESCRIPTION
A	12-Jan-20	G. STAVRAKIS	FIRST ISSUE



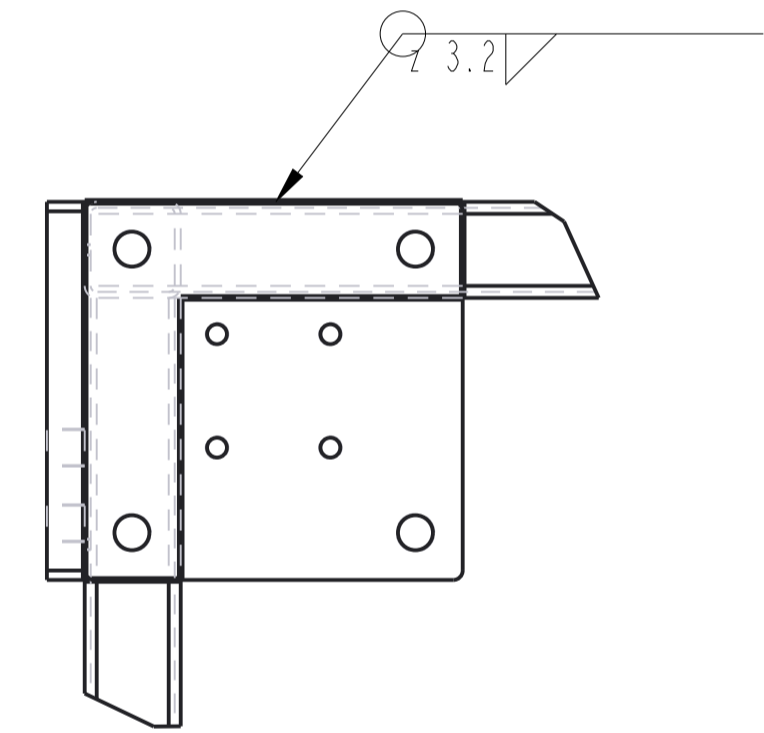
DETAIL A
SCALE 1:4
TYP WELD FOR WIRE PLATES



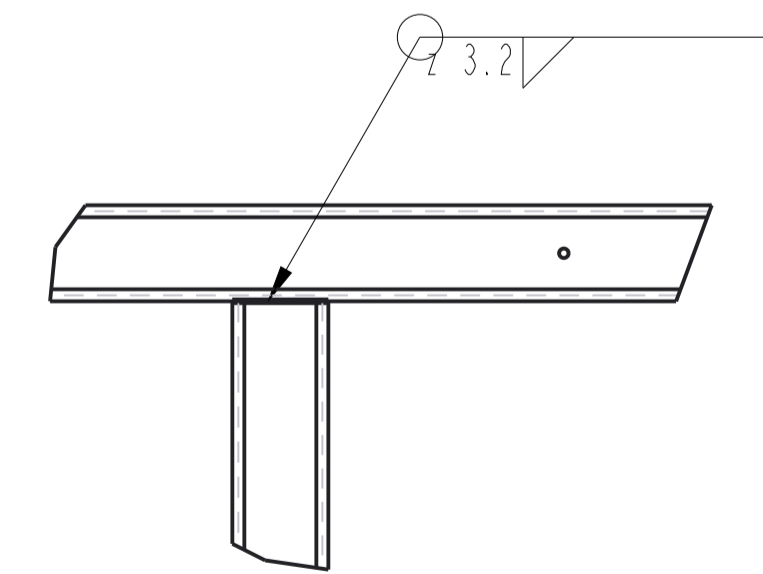
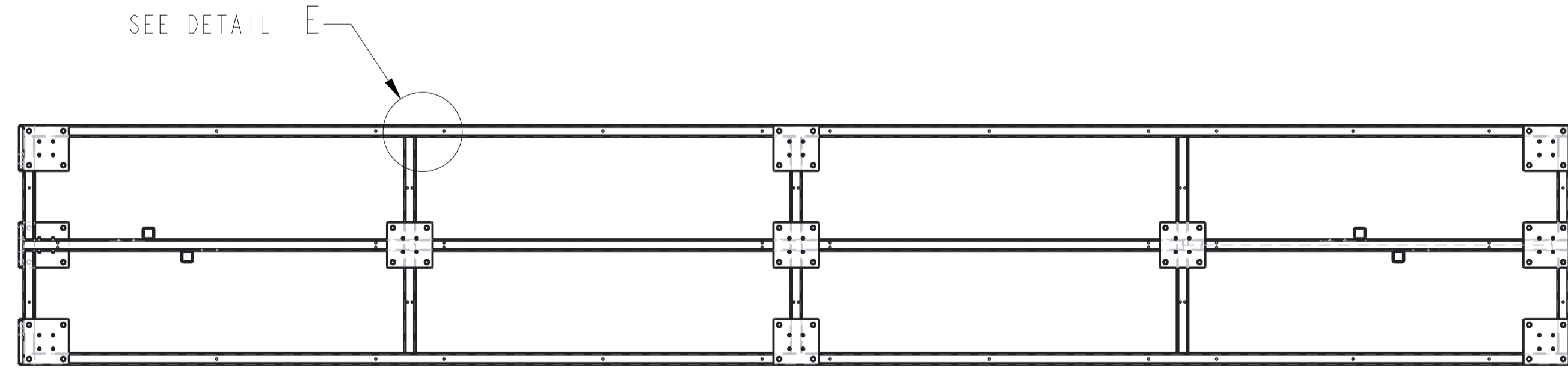
DETAIL B
SCALE 1:4
TYP WELD FOR JOINTS



DETAIL C
SCALE 1:4
TYP WELD CENTRAL PLATES



DETAIL D
SCALE 1:4
TYP WELD FOR CORNER PLATES

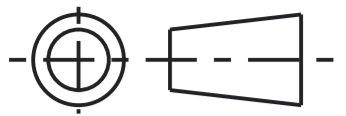


DETAIL E
SCALE 1:4
TYP WELD FOR BEAMS

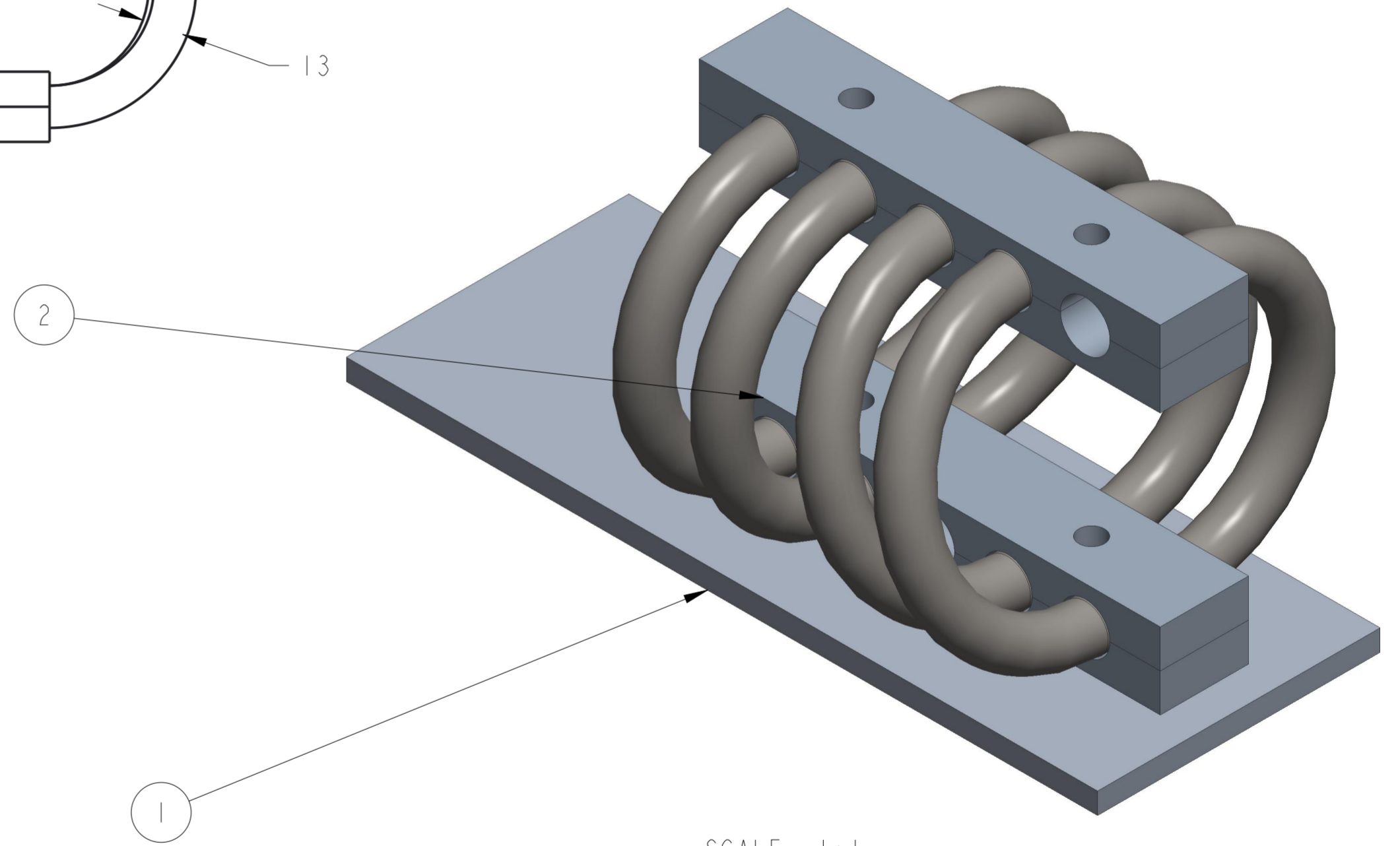
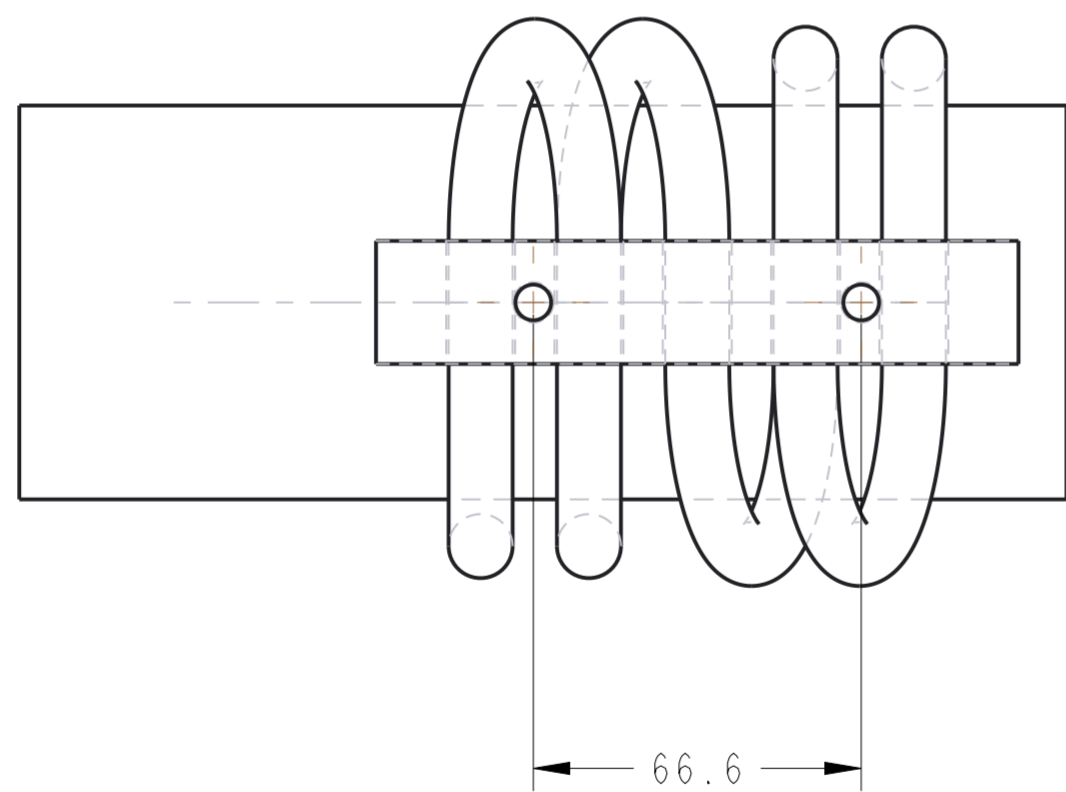
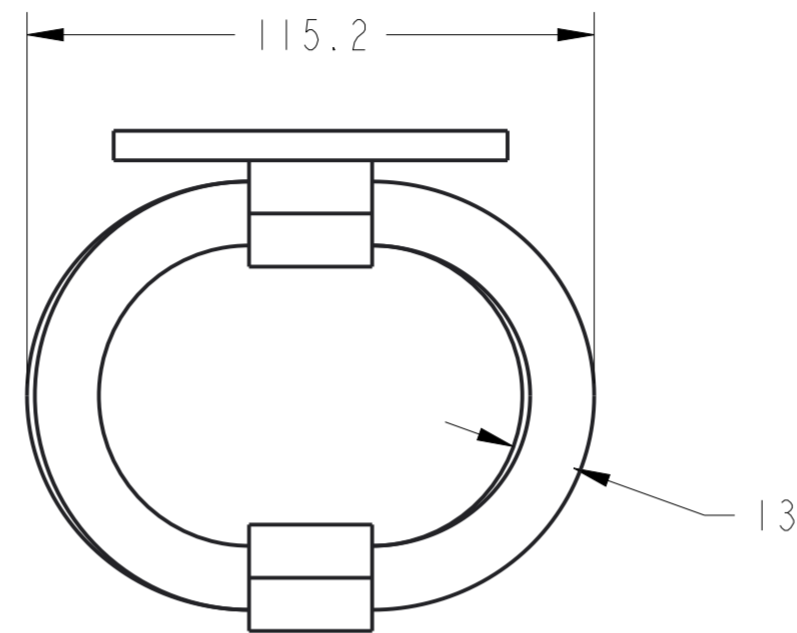
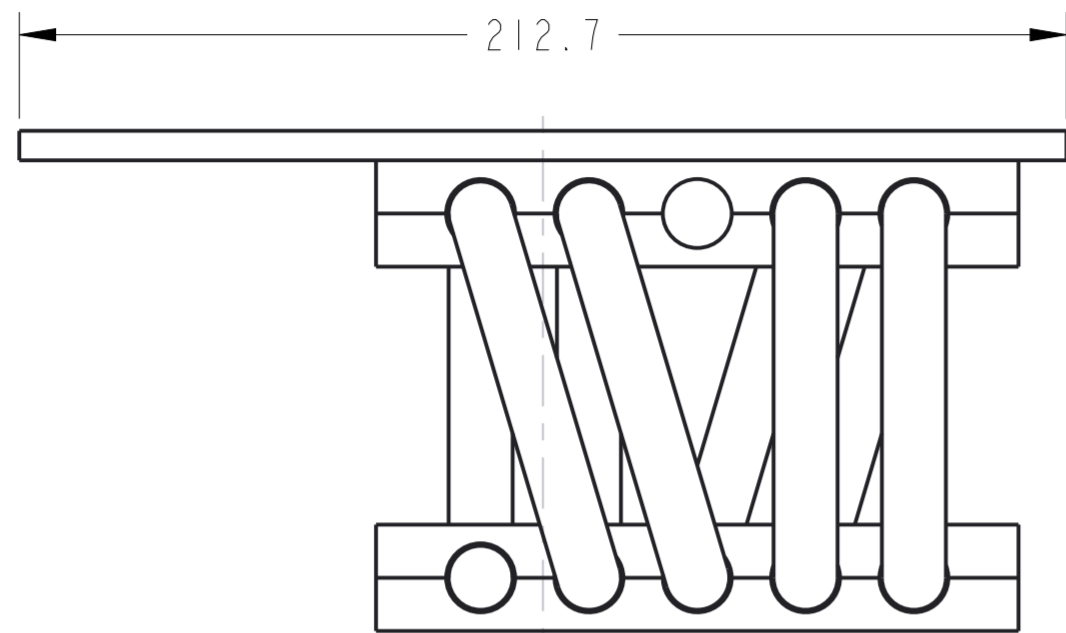
DEPARTMENT OF PHYSICS		UNIVERSITY OF LIVERPOOL	
OLIVER LODGE BUILDING			
PROJECT			
DUNE			
TITLE			
MAIN CENTRAL SKELETON			
DRAWING NUMBER		ARRGR. DRAWING	
NP79-01-05		NP79	
SHEET 5 OF 5		SCALE 1:20	

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED ALL OVER OR WHERE MARKED ✓ REMOVE BURRS AND BREAK SHARP EDGES	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	ST. ST.	DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC		DATE	12-Jan-20
	ANGULAR ±	TREATMENT		CHECKED	
	DO NOT SCALE	FINISH		APPROVED	

THIRD ANGLE PROJECTION



ITEM	PART/CAD No	DWG TITLE	MATERIAL	REMARK	QTY	MODIFICATIONS			
						ISSUE	DATE	NAME	DESCRIPTION
1	NP79-01-10	MOUNTING PLATE TUBE SIDE	CARBON STEEL	6 mm THICK	1				
2	NP79-01-13	WIRE ROP SHOCK MOUNT ISOLATOR	ALU / SS	H 130-131-95-121-4S	1	A	Oct-03-19	G. STAVRAKIS	FIRST ISSUE



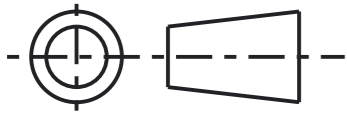
SCALE 1:1

12 OFF

DEPARTMENT OF PHYSICS		UNIVERSITY OF LIVERPOOL	
OLIVER LODGE BUILDING			
PROJECT			
DUNE			
TITLE			
WIRE ROPE SHOCK MOUNT			
DRAWING NUMBER		ARRGR. DRAWING	
NP79-01-06		NP79-01-03	
SHEET 1 OF 1		SCALE 1:2	
		A2	

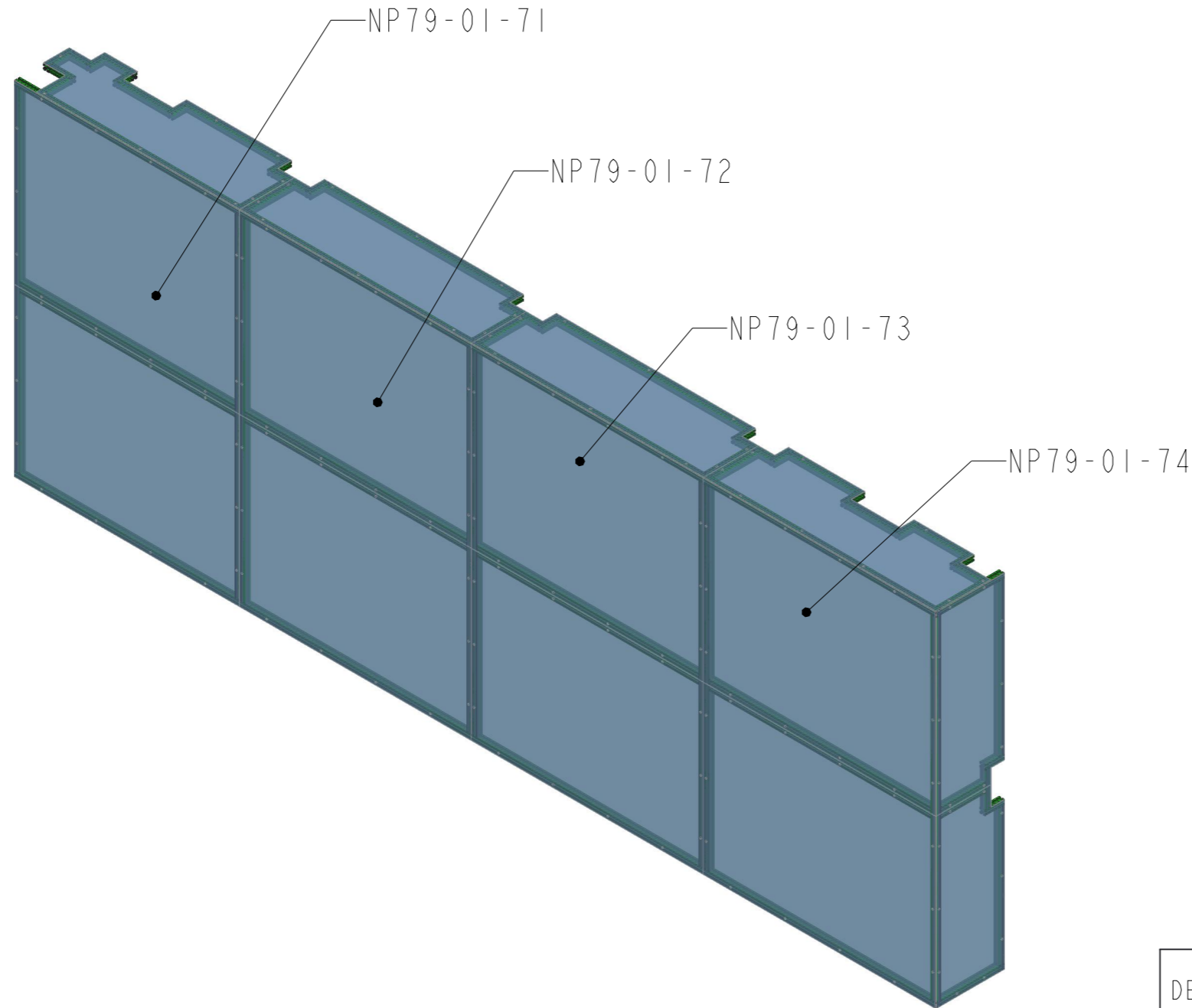
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE <input checked="" type="checkbox"/> MACHINE ALL OVER OR WHERE MARKED <input checked="" type="checkbox"/>	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS8888		WELDING SYMBOLS TO BS 499	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	ALU 6000 / SS 316	DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC		DATE	Oct-03-19
	ANGULAR ± °	TREATMENT		CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED	

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	20-Jan-20	G. STAVRAKIS	FIRST ISSUE

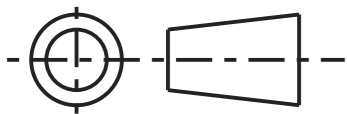


DEPARTMENT OF PHYSICS  UNIVERSITY OF LIVERPOOL
 OLIVER LODGE BUILDING

PROJECT
 DUNE

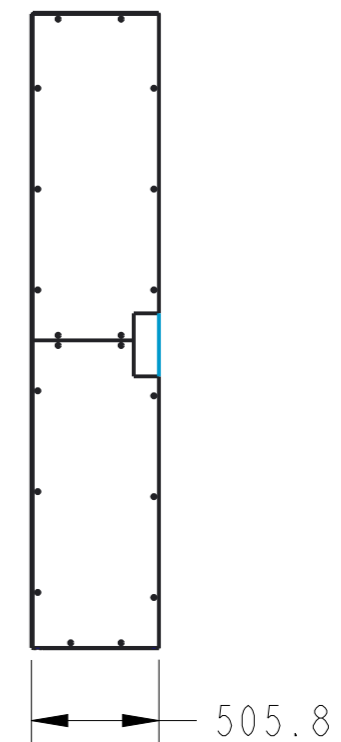
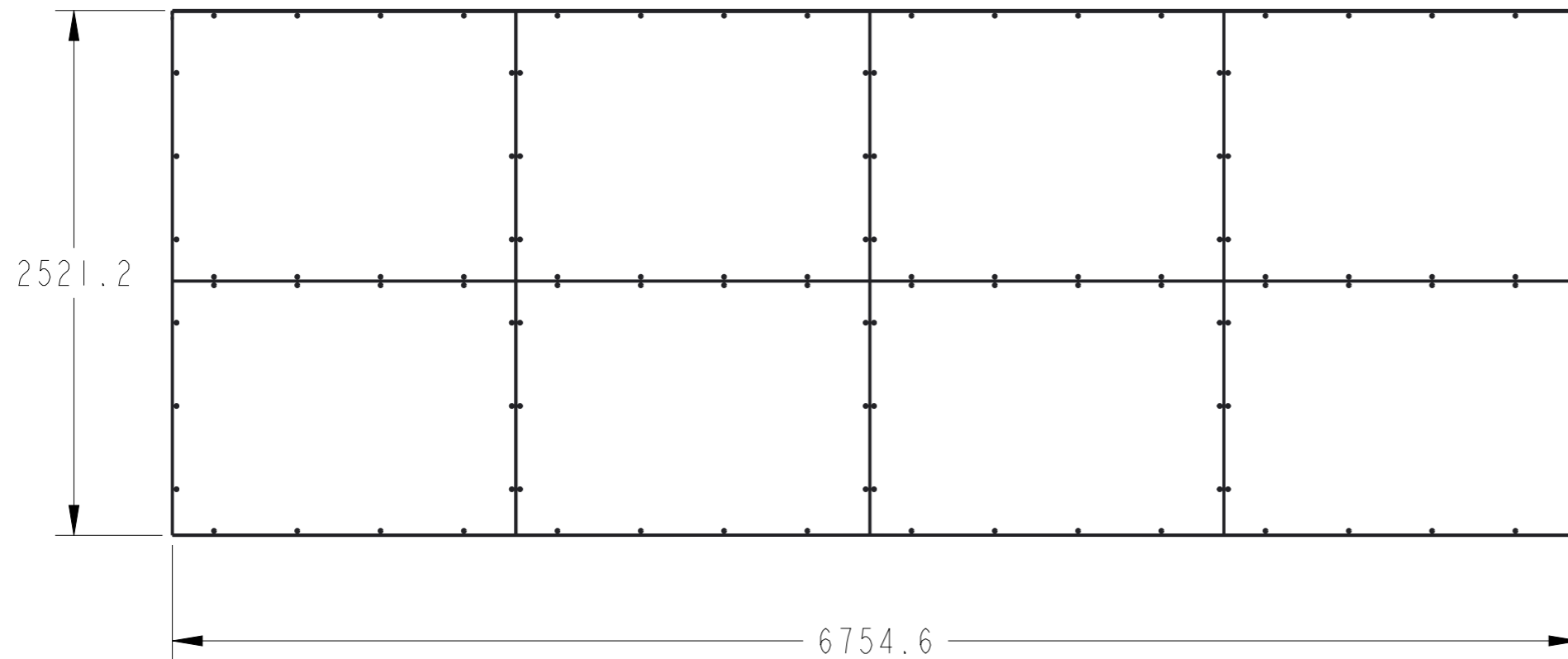
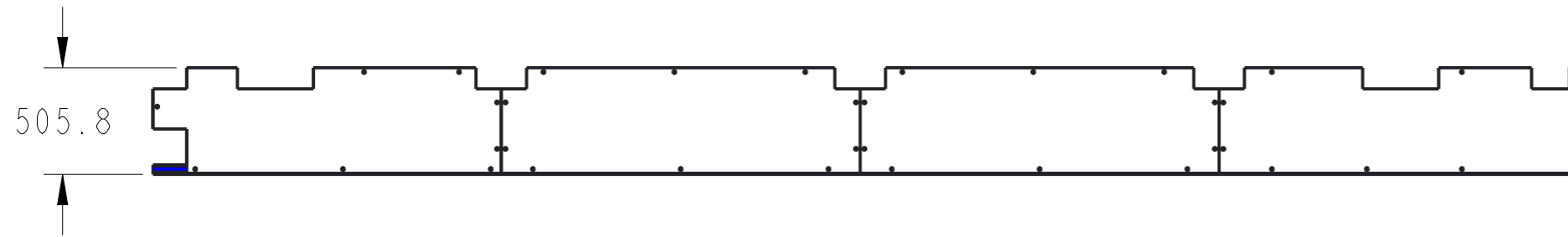
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE <input checked="" type="checkbox"/> MACHINE ALL OVER OR WHERE MARKED <input checked="" type="checkbox"/>	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE SIDE FRAME		
	TOLERANCES UNLESS OTHERWISE SPECIFIED MACHINED DIMS ±	MATERIAL SPEC	ALU - PERSPEX	DRAWN DATE	G. STAVRAKIS 20-Jan-20	DRAWING NUMBER NP79-01-07		ARRGR. DRAWING NP79-01-01
	ANGULAR ± °	TREATMENT		CHECKED		SHEET 1 OF 2		SCALE 1:30
	REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH	APPROVED				A3

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	20-Jan-20	G. STAVRAKIS	FIRST ISSUE



DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



UNIVERSITY OF
LIVERPOOL

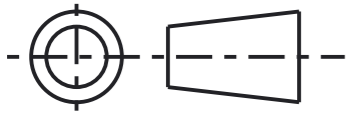
PROJECT

DUNE

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	ALU - PERSPEX	DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC		DATE	20-Jan-20
	ANGULAR ± °	TREATMENT		CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED	

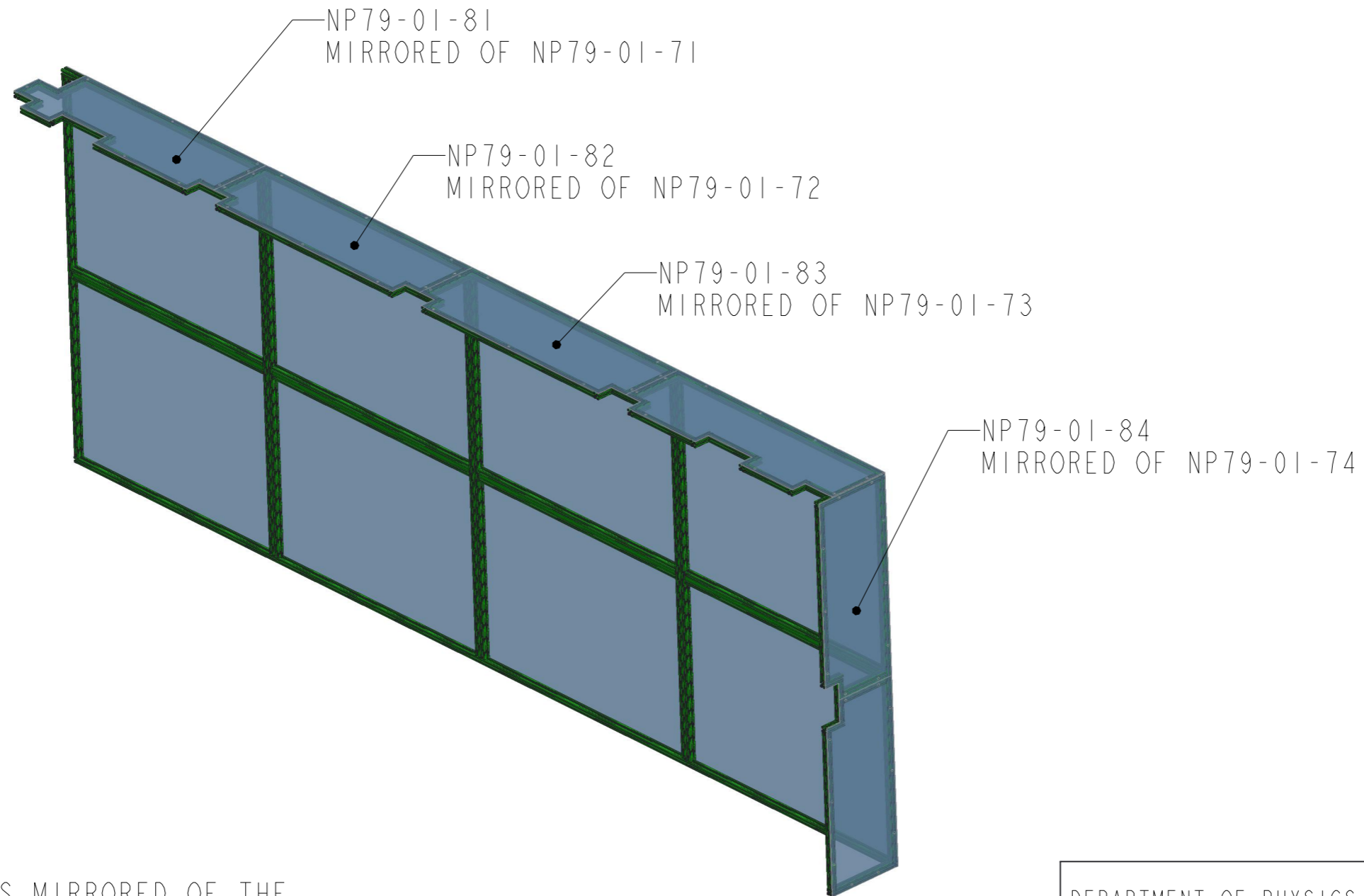
TITLE		SIDE FRAME	
DRAWING NUMBER		ARRGR. DRAWING	
NP79-01-07		NP79-01-01	
SHEET 2 OF 2		SCALE 1:30	
		A3	

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	20-Jan-20	G. STAVRAKIS	FIRST ISSUE



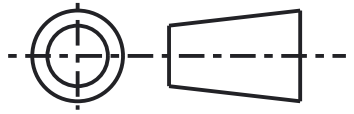
THIS SIDE FRAME IS MIRRORED OF THE NP79-01-07 SIDE FRAME ASSEMBLY

DEPARTMENT OF PHYSICS  UNIVERSITY OF LIVERPOOL
OLIVER LODGE BUILDING

PROJECT
DUNE

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE <input checked="" type="checkbox"/> MACHINE ALL OVER OR WHERE MARKED <input checked="" type="checkbox"/>	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE SIDE FRAME	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	ALU - PERSPEX	DRAWN	G. STAVRAKIS	DRAWING NUMBER NP79-01-08	ARRGR. DRAWING NP79-01-01
	MACHINED DIMS ±	SPEC		DATE	20-Jan-20		
	ANGULAR ± °	TREATMENT		CHECKED		SHEET 1 OF 1	SCALE 1:30
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED			

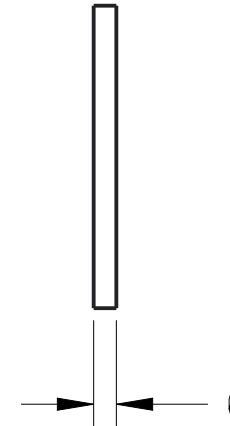
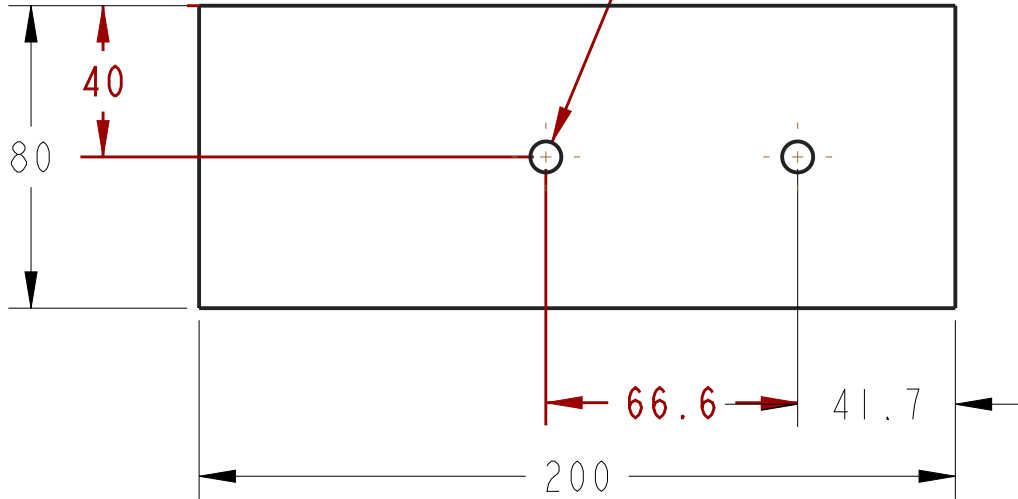
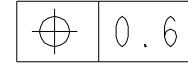
THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Oct-03-19	G. STAVRAKIS	FIRST ISSUE

2 HOLES $\varnothing 8.2$
THRU



12 OFF

UNLESS OTHERWISE SPECIFIED: -

ALL DIMENSIONS IN MILLIMETERS
 SURFACE TEXTURE VALUES IN MICROMETERS
 SURFACE TEXT TO BE
 MACHINE ALL OVER OR WHERE MARKED

DEPARTMENT OF PHYSICS



UNIVERSITY OF
LIVERPOOL

OLIVER LODGE BUILDING

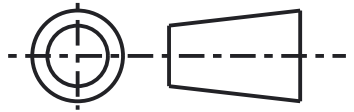
PROJECT

DUNE

REMOVE BURRS AND BREAK SHARP EDGES

METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS8888		WELDING SYMBOLS TO BS 499		TITLE	
TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CARBON STEEL	DRAWN	G. STAVRAKIS	MOUNTING PLATE FRAME SIDE	
MACHINED DIMS \pm	SPEC		DATE	Oct-03-19	DRAWING NUMBER	ARRGR. DRAWING
ANGULAR \pm	TREATMENT		CHECKED		NP79-01-09	NP79-01-03a
DO NOT SCALE	FINISH		APPROVED		SHEET 1 OF 1	SCALE 1:2
						A4

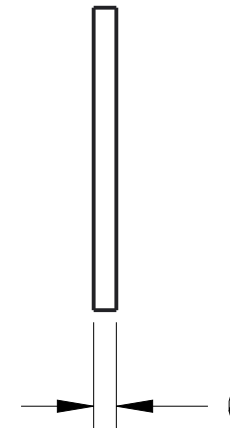
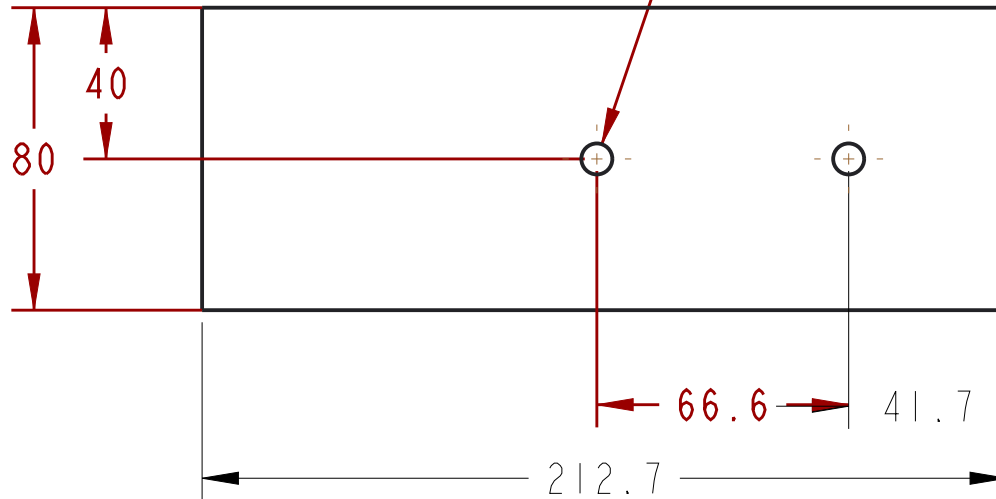
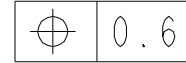
THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Oct-03-19	G. STAVRAKIS	FIRST ISSUE

2 HOLES $\varnothing 8.2$
THRU



12 OFF

UNLESS OTHERWISE SPECIFIED: -

ALL DIMENSIONS IN MILLIMETERS
SURFACE TEXTURE VALUES IN MICROMETERS
SURFACE TEXT TO BE ✓
MACHINE ALL OVER OR WHERE MARKED ✓

DEPARTMENT OF PHYSICS



UNIVERSITY OF
LIVERPOOL

OLIVER LODGE BUILDING

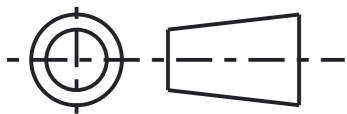
PROJECT

DUNE

REMOVE BURRS AND BREAK SHARP EDGES

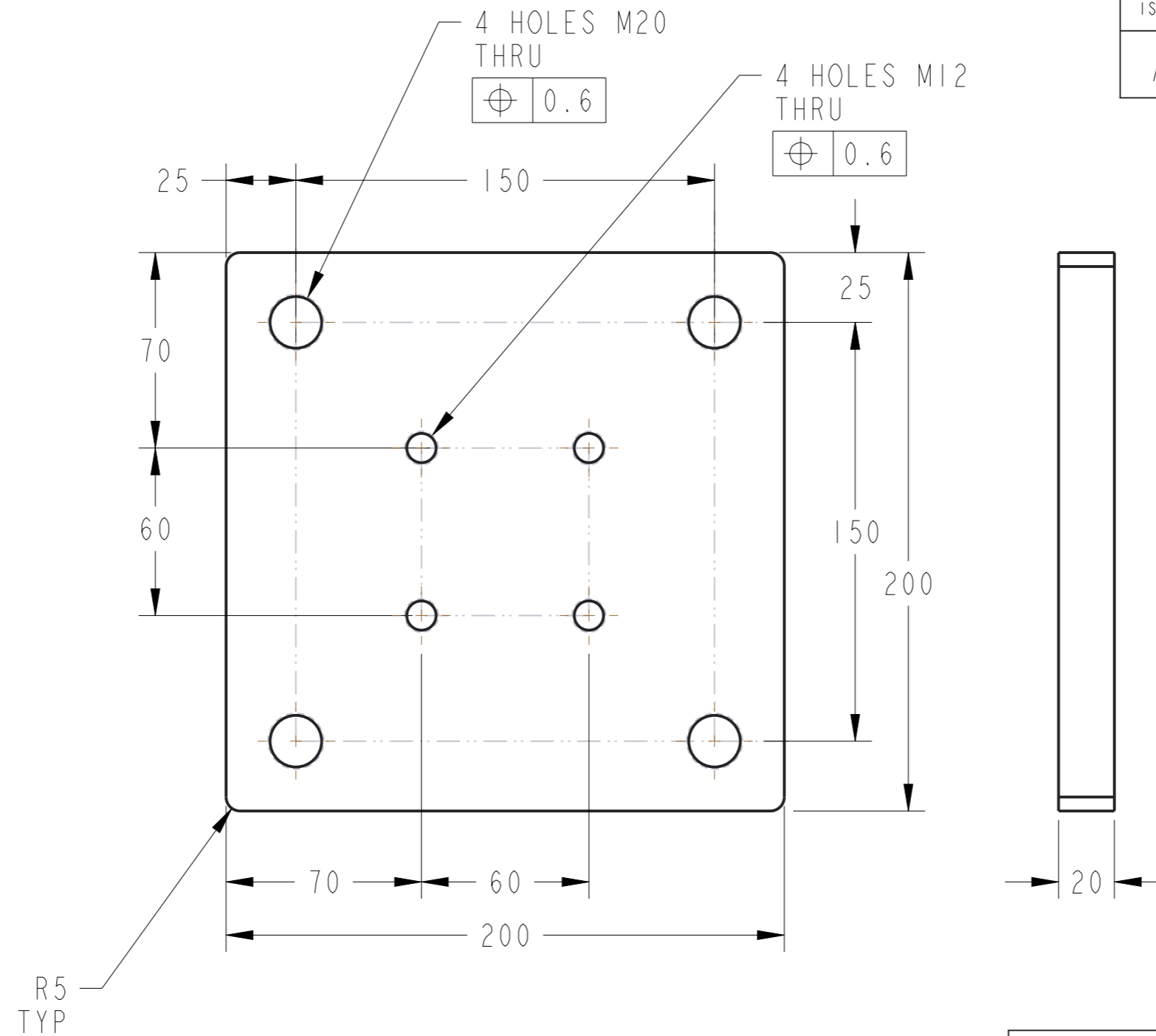
METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS8888		WELDING SYMBOLS TO BS 499		TITLE	
TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CARBON STEEL	DRAWN	G. STAVRAKIS	MOUNTING PLATE TUBE SIDE	
MACHINED DIMS ±	SPEC		DATE	Oct-03-19	DRAWING NUMBER	ARRGR. DRAWING
ANGULAR ± °	TREATMENT		CHECKED		NP79-01-10	NP79-01-03a
DO NOT SCALE	FINISH		APPROVED		SHEET 1 OF 1	SCALE 1:2
						A4

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Dec-15-19	G. STAVRAKIS	FIRST ISSUE



18 OFF

DEPARTMENT OF PHYSICS
 OLIVER LODGE BUILDING

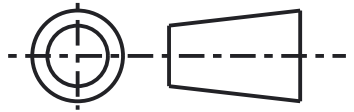


UNIVERSITY OF
LIVERPOOL

PROJECT
 DUNE

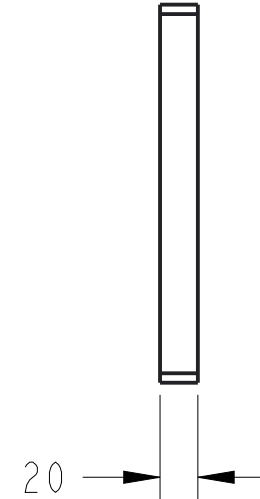
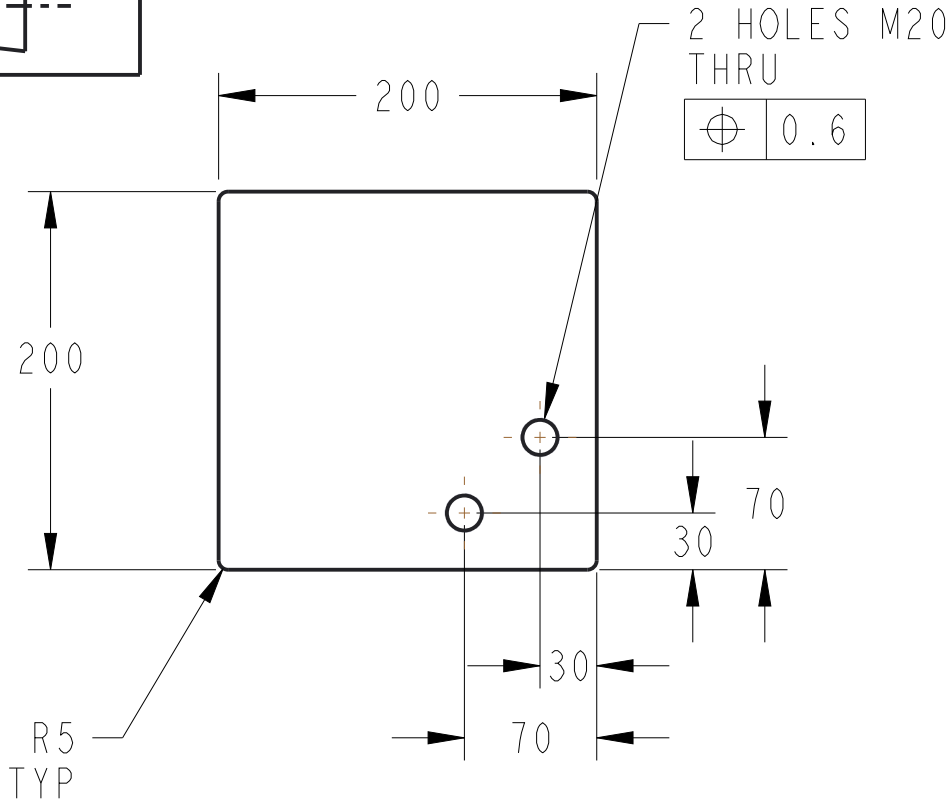
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS308		WELDING SYMBOLS TO BS 499		TITLE PLATE TYPE A	
	TOLERANCES UNLESS OTHERWISE SPECIFIED MACHINED DIMS ±	MATERIAL SPEC	CARBON STEEL EN10025-2: 2004 S355J2H	DRAWN G. STAVRAKIS	DATE Dec-15-19	DRAWING NUMBER NP79-01-11	
	ANGULAR ± °	TREATMENT HOT ROLLED		CHECKED		ARRGR. DRAWING NP79-01-05	
	REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH	APPROVED		SHEET 1 OF 1	SCALE 1:4

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Dec-15-19	G. STAVRAKIS	FIRST ISSUE



4 OFF

UNLESS OTHERWISE SPECIFIED: -
 ALL DIMENSIONS IN MILLIMETERS
 SURFACE TEXTURE VALUES IN MICROMETERS
 SURFACE TEXT TO BE ✓
 MACHINE ALL OVER OR WHERE MARKED ✓

DEPARTMENT OF PHYSICS  UNIVERSITY OF LIVERPOOL
 OLIVER LODGE BUILDING

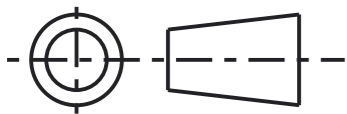
REMOVE BURRS AND BREAK SHARP EDGES

PROJECT
 DUNE

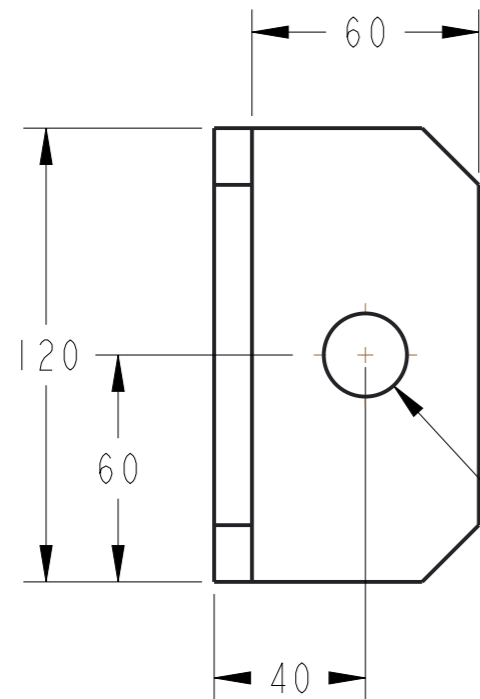
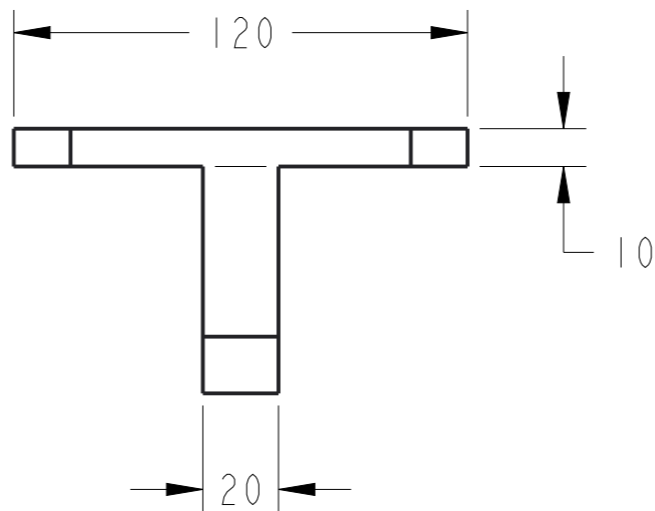
METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS308		WELDING SYMBOLS TO BS 499	
TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CARBON STEEL	DRAWN	G. STAVRAKIS
MACHINED DIMS ±	SPEC	EN10025-2: 2004 S355J2H	DATE	Dec-15-19
ANGULAR ± °	TREATMENT	HOT ROLLED	CHECKED	
DO NOT SCALE	FINISH		APPROVED	

TITLE	PLATE TYPE B		
DRAWING NUMBER	NP79-01-12		ARRGR. DRAWING NP79-01-05
SHEET 1 OF 1	SCALE 1:4	A4	

THIRD ANGLE PROJECTION



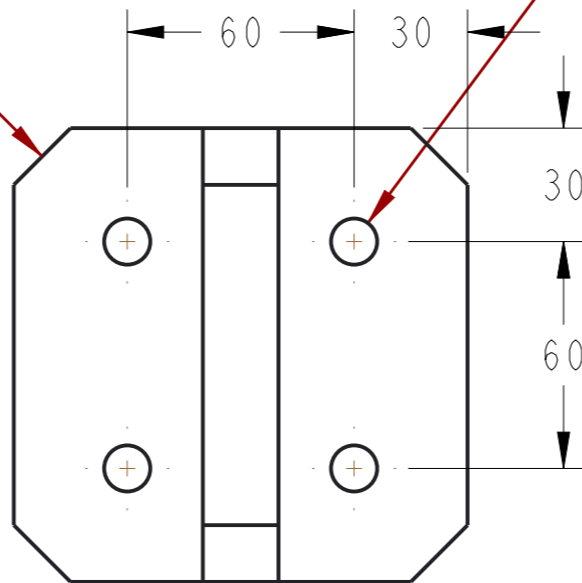
MODIFICATIONS			
ISSUE	DATE	NAME	DESCRIPTION
A	23-Aug-19	G. STAVRAKIS	FIRST ISSUE



Ø22 THRU

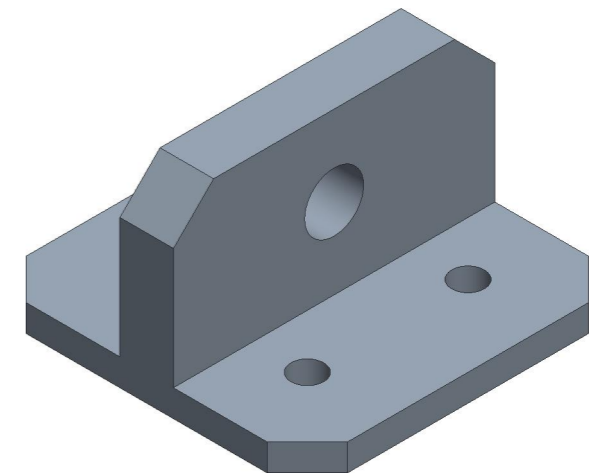
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C15 TYP




4 HOLES Ø12.2 THRU

⊕	0.6
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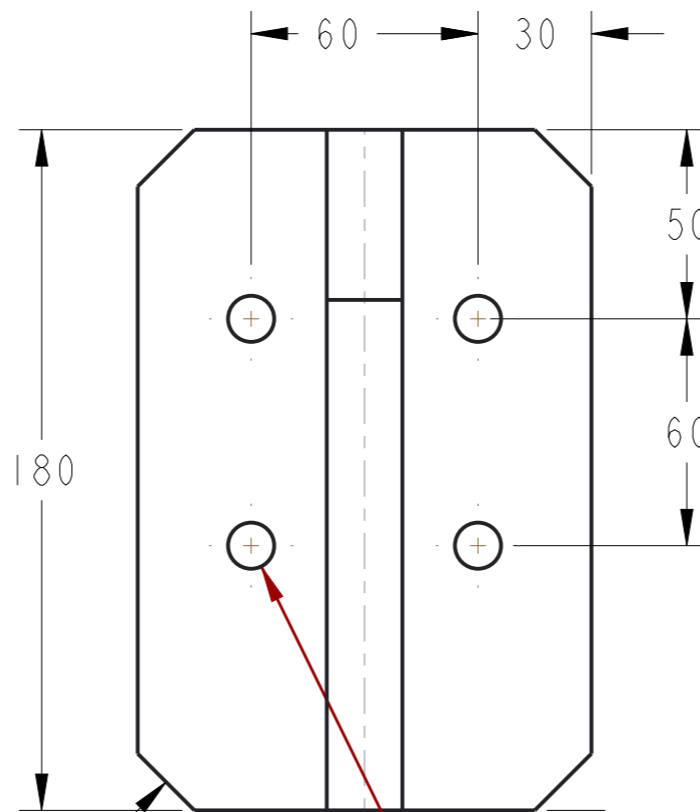
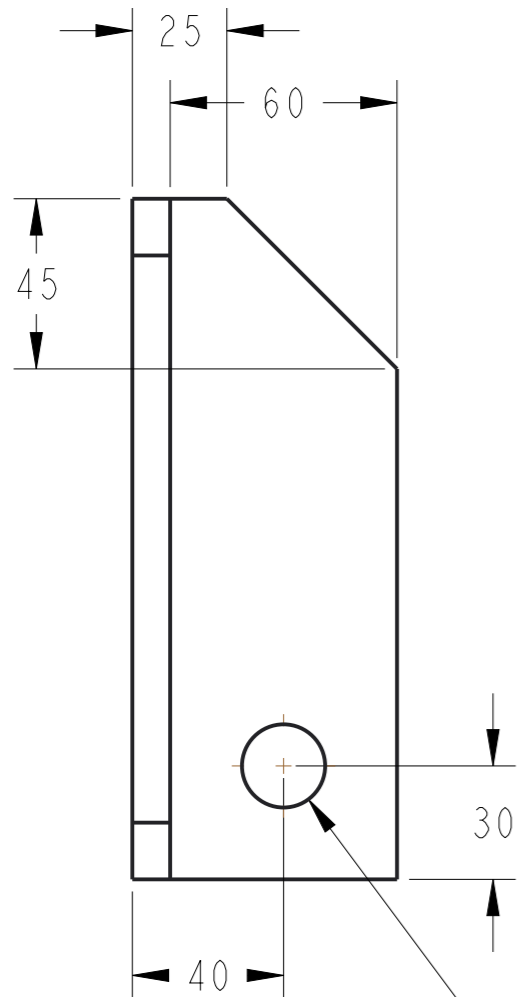
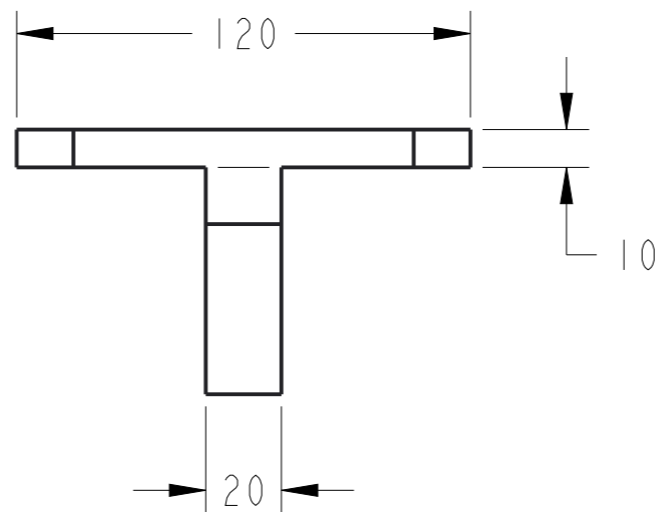
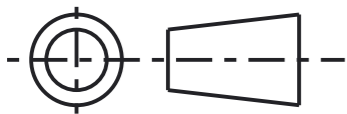


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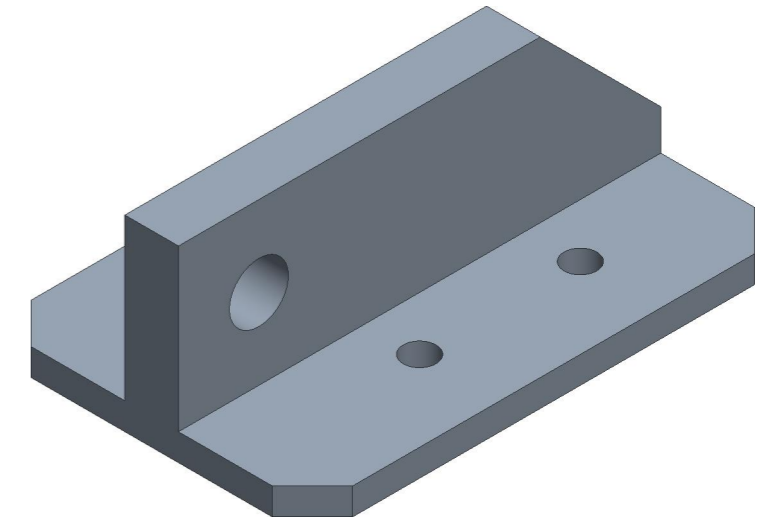
DEPARTMENT OF PHYSICS		UNIVERSITY OF LIVERPOOL
OLIVER LODGE BUILDING		
PROJECT		
DUNE		
TITLE		
EYE LIFT BRACKET MIDDLE		
DRAWING NUMBER		ARRGR. DRAWING
NP79-01-24		
SHEET 1 OF 1	SCALE 1:2	A3

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS8888		WELDING SYMBOLS TO BS 499	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CARBON STEEL	DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC	EN10025-2: 2004 S355J2H	DATE	23-Aug-19
	ANGULAR ± °	TREATMENT		CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED	

THIRD ANGLE PROJECTION



MODIFICATIONS			
ISSUE	DATE	NAME	DESCRIPTION
A	23-Aug-19		FIRST ISSUE



Ø22 THRU

⊕	0.6
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C15
TYP

4 HOLES Ø12.2 THRU

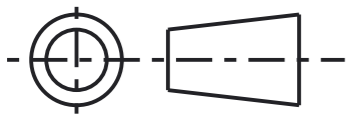
⊕	0.6
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2 OFF

DEPARTMENT OF PHYSICS		UNIVERSITY OF LIVERPOOL
OLIVER LODGE BUILDING		
PROJECT	DUNE	
TITLE	EYE LIFT BRACKET CORNER	
DRAWING NUMBER	NP79-01-25	ARRGR. DRAWING
SHEET 1 OF 1	SCALE 1:2	A3

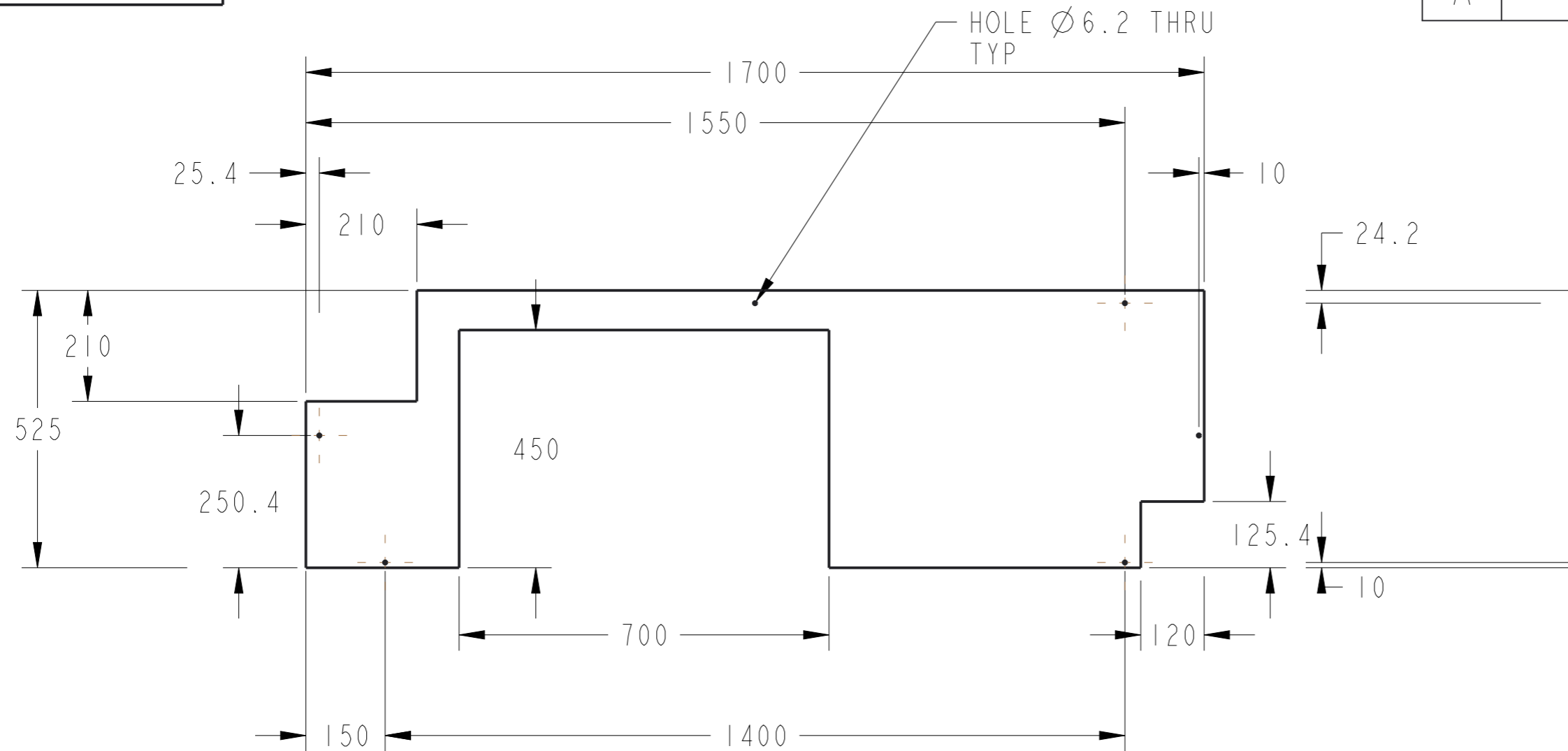
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED ✓ MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS8888		WELDING SYMBOLS TO BS 499	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL		DRAWN	
	MACHINED DIMS ±	SPEC		DATE	23-Aug-19
	ANGULAR ± °	TREATMENT		CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED	

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-20-20	G. STAVRAKIS	FIRST ISSUE



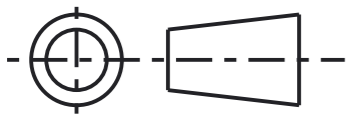
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DEPARTMENT OF PHYSICS  UNIVERSITY OF LIVERPOOL
OLIVER LODGE BUILDING

PROJECT
DUNE

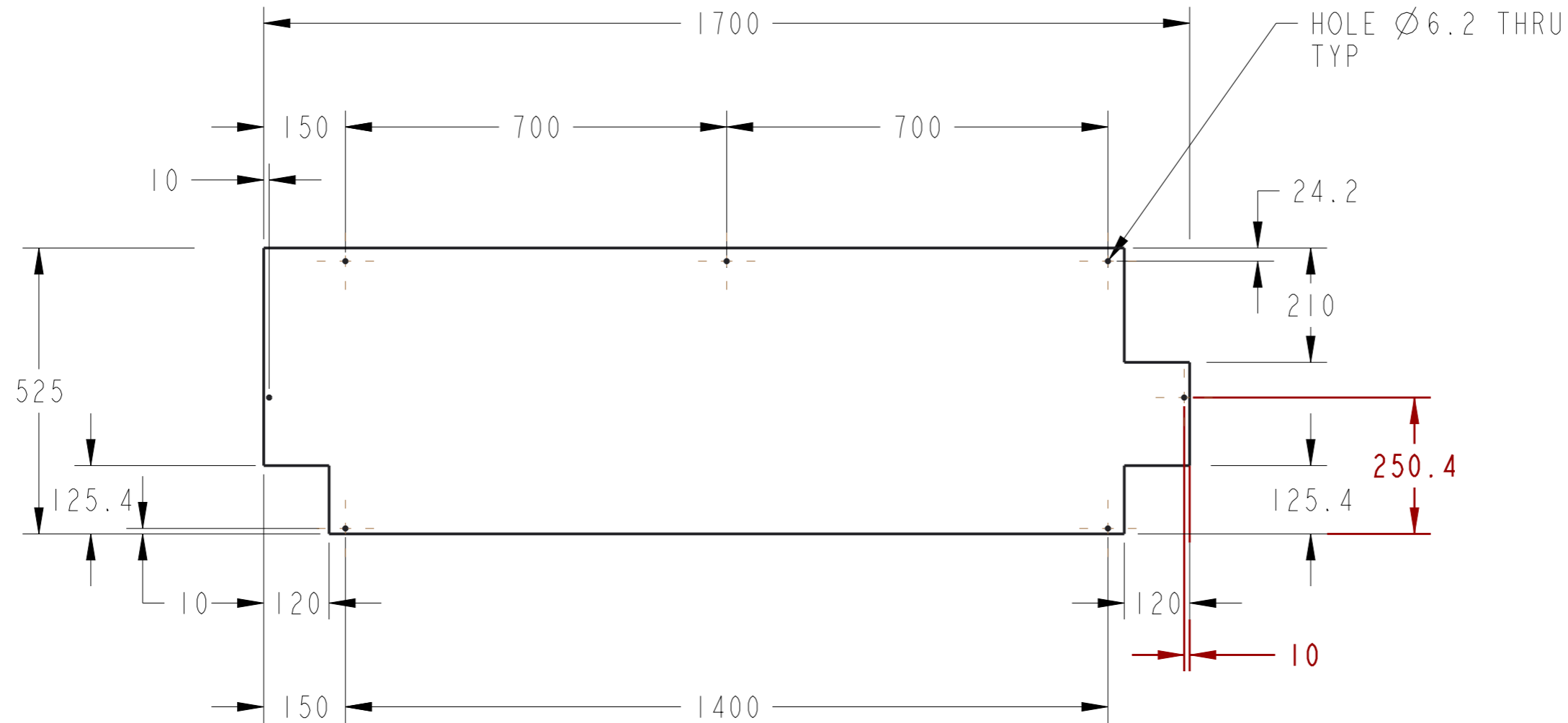
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE PANEL TYPE I 5mm THICK	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CLEAR PETG	DRAWN	G. STAVRAKIS	DRAWING NUMBER NP79-01-26	
	MACHINED DIMS ±	SPEC		DATE	Jan-20-20	ARRGR. DRAWING NP79-01-02	
	ANGULAR ± °	TREATMENT		CHECKED		SHEET 1 OF 1	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED		SCALE 1:10	A3

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-20-20	G. STAVRAKIS	FIRST ISSUE



4 OFF

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OLIVER LODGE BUILDING



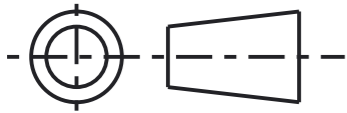
UNIVERSITY OF
LIVERPOOL

PROJECT

DUNE

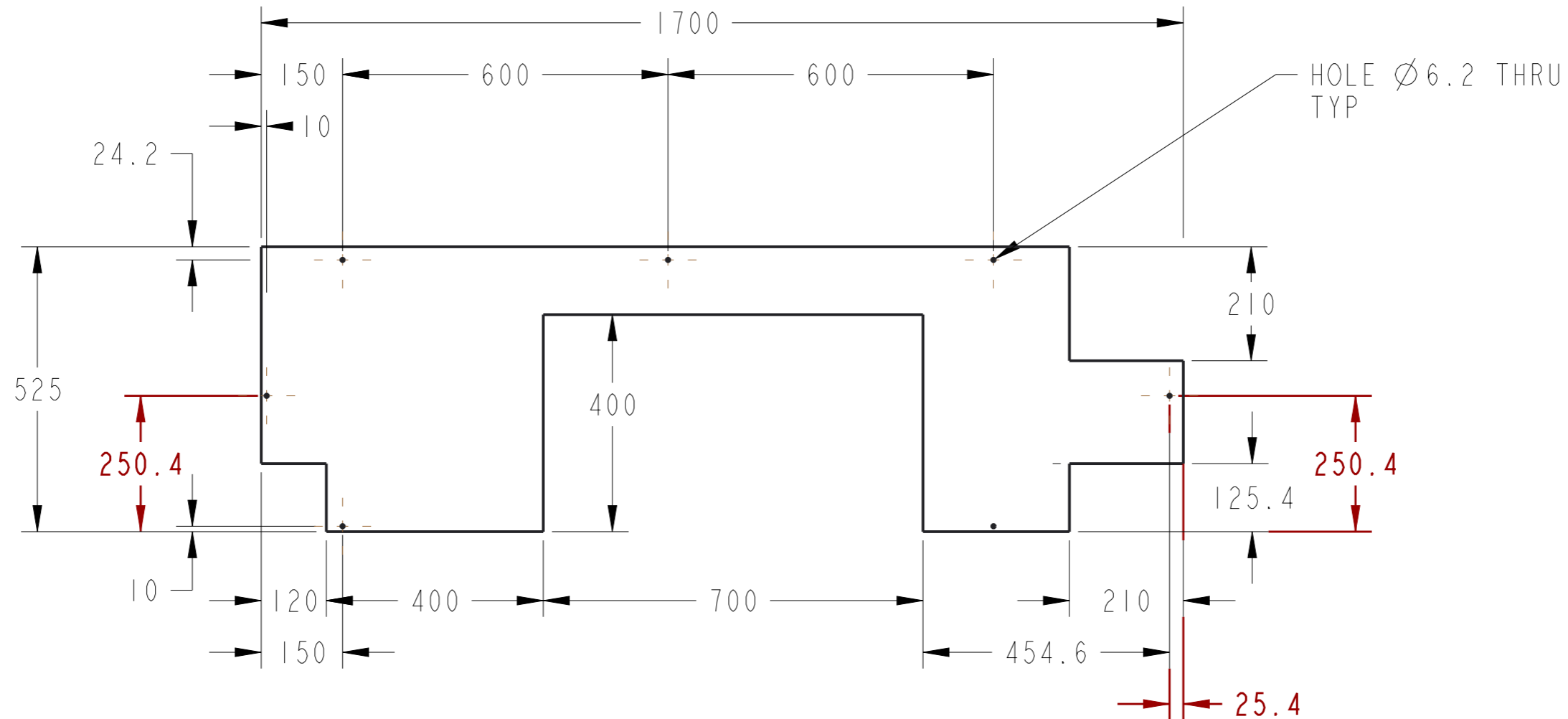
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE \checkmark MACHINE ALL OVER OR WHERE MARKED \checkmark	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE PANEL TYPE 2 5mm THICK		
	TOLERANCES UNLESS OTHERWISE SPECIFIED MACHINED DIMS \pm	MATERIAL SPEC	CLEAR PETG	DRAWN G. STAVRAKIS	DATE Jan-20-20	DRAWING NUMBER NP79-01-27		ARRGR. DRAWING NP79-01-02
	ANGULAR \pm °	TREATMENT		CHECKED		SHEET 1 OF 1		SCALE 1:10
	REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH	APPROVED		A3		

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-20-20	G. STAVRAKIS	FIRST ISSUE



2 OFF

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



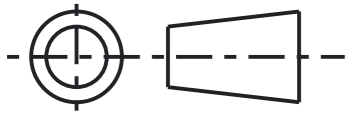
UNIVERSITY OF
LIVERPOOL

PROJECT

DUNE

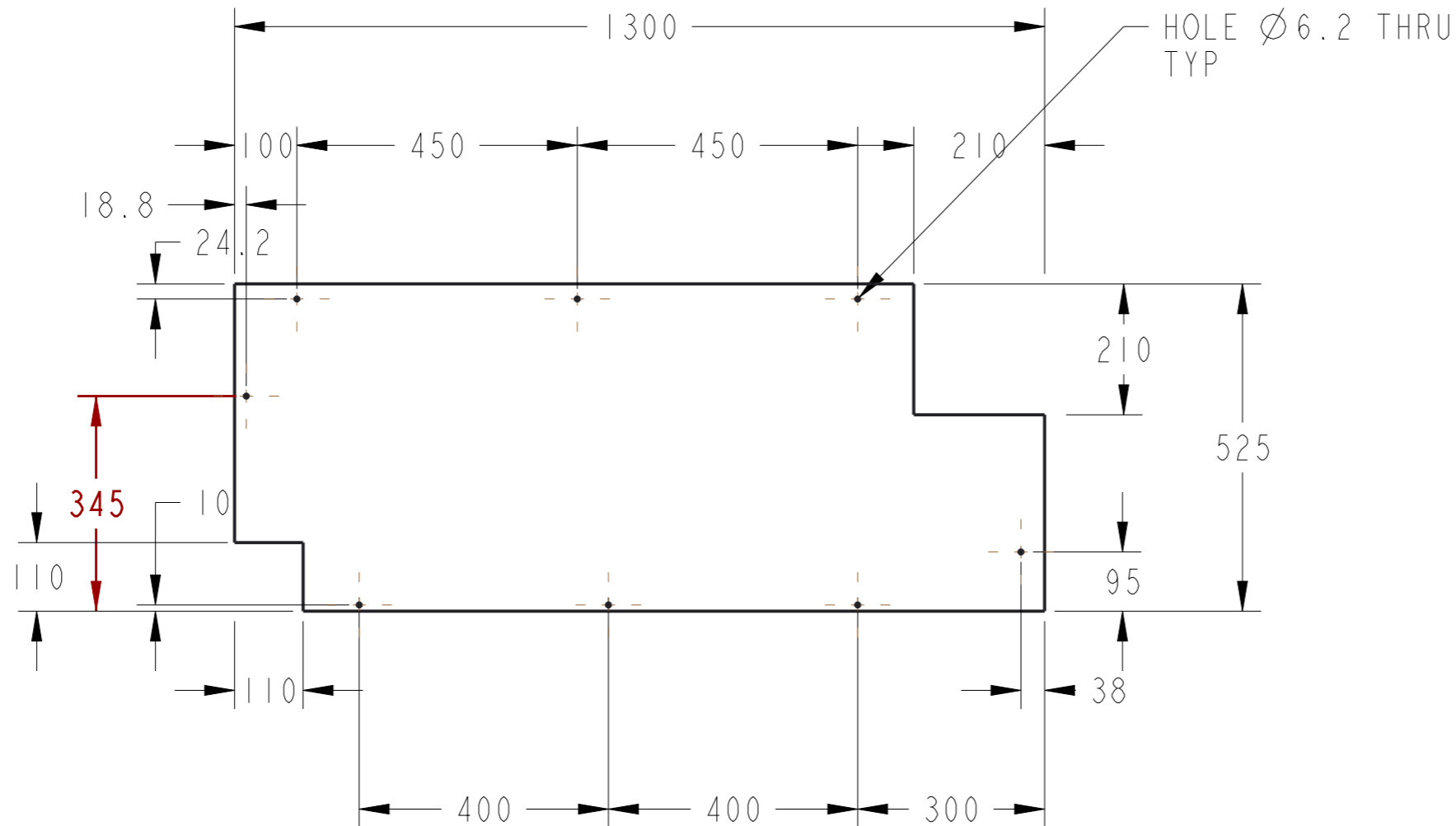
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE PANEL TYPE 3 5mm THICK		
	TOLERANCES UNLESS OTHERWISE SPECIFIED MACHINED DIMS ±	MATERIAL	CLEAR PETG	DRAWN	G. STAVRAKIS	DRAWING NUMBER NP79-01-28		
	ANGULAR ± °	SPEC		DATE	Jan-20-20			ARRGR. DRAWING NP79-01-02
	REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED		SHEET 1 OF 1	SCALE 1:10

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-20-20	G. STAVRAKIS	FIRST ISSUE



2 OFF

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



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LIVERPOOL

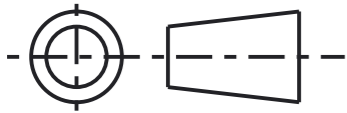
PROJECT

DUNE

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE ✓ MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CLEAR PETG	DRAWN	G. STAVRAKIS	PANEL TYPE 4 5mm THICK	
	MACHINED DIMS ±	SPEC		DATE	Jan-20-20	DRAWING NUMBER	ARRGR. DRAWING
	ANGULAR ± °	TREATMENT		CHECKED		NP79-01-29	NP79-01-02
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED		SHEET 1 OF 1	SCALE 1:10

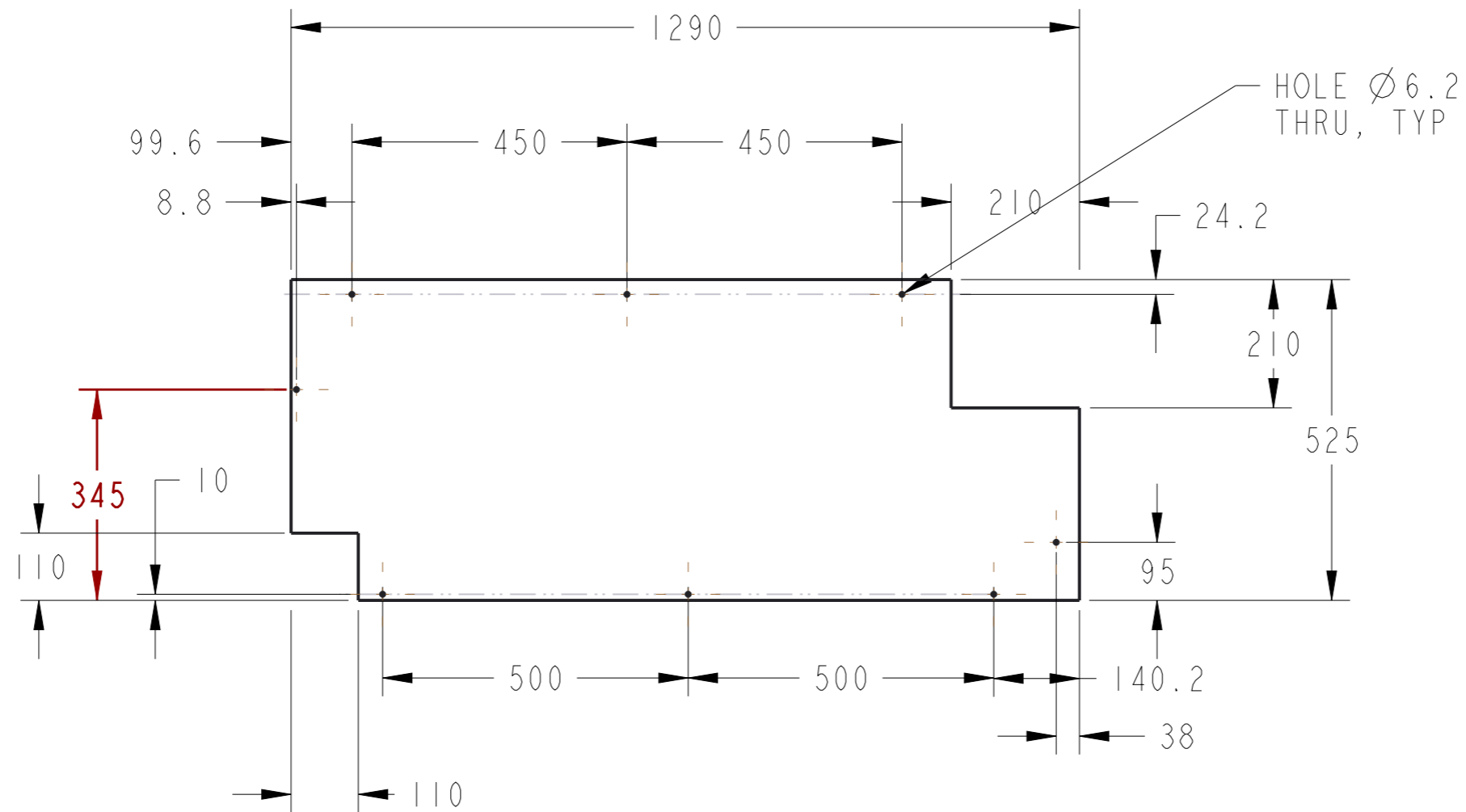
A3

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-20-20	G. STAVRAKIS	FIRST ISSUE



2 OFF

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



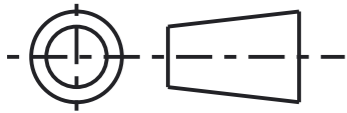
UNIVERSITY OF
LIVERPOOL

PROJECT

DUNE

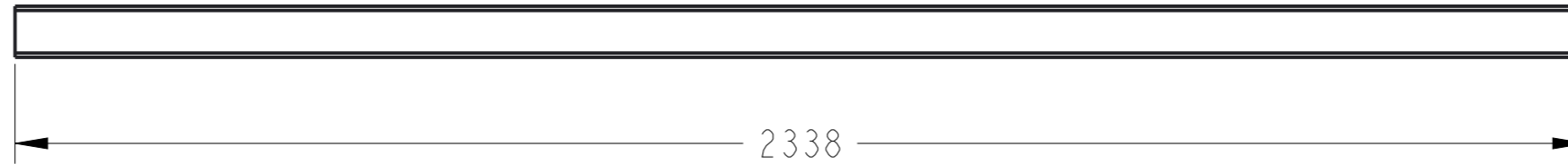
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE PANEL TYPE 5 5mm THICK		
	TOLERANCES UNLESS OTHERWISE SPECIFIED MACHINED DIMS ±	MATERIAL	CLEAR PETG	DRAWN	G. STAVRAKIS	DRAWING NUMBER NP79-01-30		ARRGR. DRAWING NP79-01-02
	ANGULAR ± °	TREATMENT		CHECKED		SHEET 1 OF 1		SCALE 1:10
	REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH	APPROVED		A3		

THIRD ANGLE PROJECTION

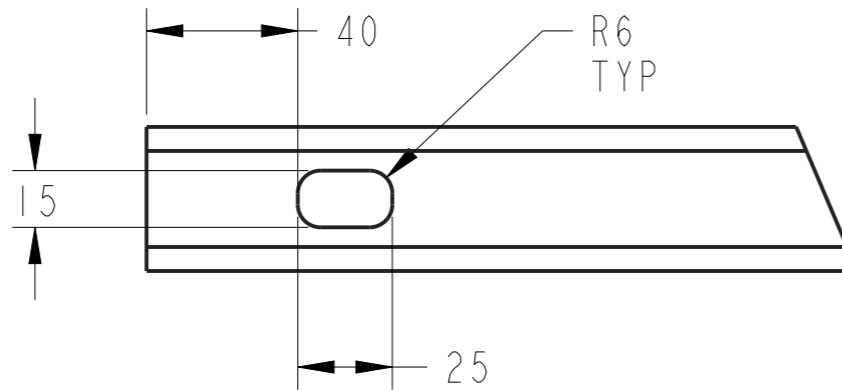


MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-10-20	G. STAVRAKIS	FIRST ISSUE



SEE DETAIL A



DETAIL A
SCALE 1:2

4 OFF

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



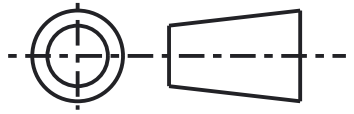
UNIVERSITY OF
LIVERPOOL

PROJECT

DUNE

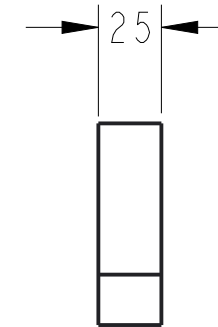
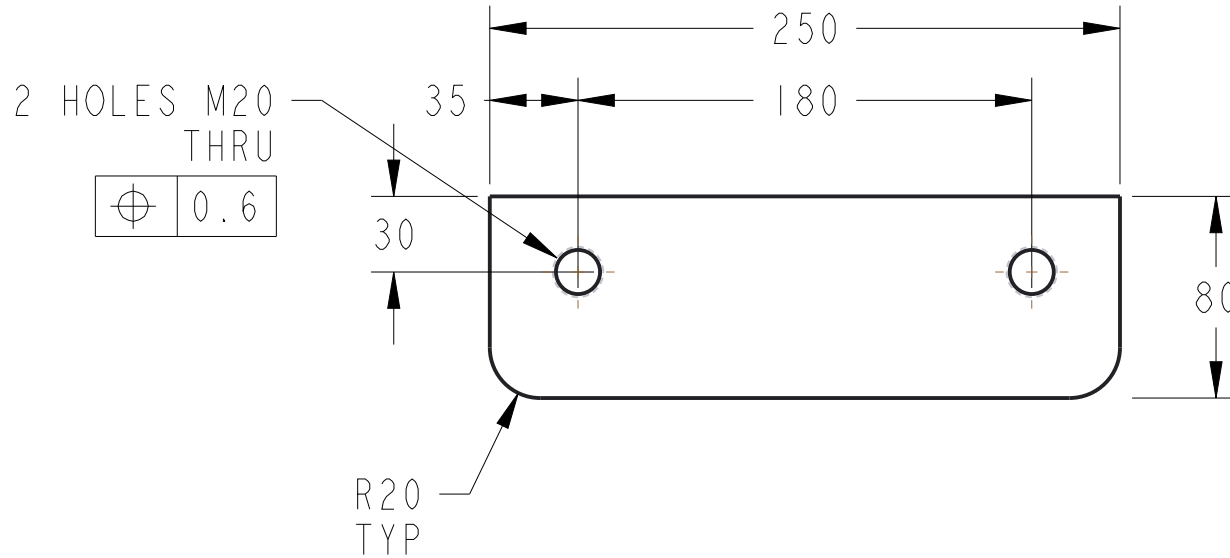
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CARBON STEEL	DRAWN	G. STAVRAKIS	TUBE 3 x 1/2 INCH	
	MACHINED DIMS ±	SPEC	EN10210 S355J2H	DATE	Jan-10-20	DRAWING NUMBER	ARRGR. DRAWING
	ANGULAR ± °	TREATMENT		CHECKED		NP79-01-32	NP79-01-03
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED		SHEET 1 OF 1	SCALE 7:192

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	21-Aug-19	G. STAVRAKIS	FIRST ISSUE



4 OFF

UNLESS OTHERWISE SPECIFIED: -

ALL DIMENSIONS IN MILLIMETERS
 SURFACE TEXTURE VALUES IN MICROMETERS
 SURFACE TEXT TO BE ✓
 MACHINE ALL OVER OR WHERE MARKED ✓

REMOVE BURRS AND BREAK SHARP EDGES

DEPARTMENT OF PHYSICS



UNIVERSITY OF LIVERPOOL

OLIVER LODGE BUILDING

PROJECT

DUNE

METRIC SCREW THREADS TO BS3643 CLASS 6H/6g

DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS8888

WELDING SYMBOLS TO BS 499

TITLE

BOTTOM WIELDED PLATE

TOLERANCES UNLESS OTHERWISE SPECIFIED

MATERIAL

CARBON STEEL

DRAWN

G. STAVRAKIS

MACHINED DIMS ±

SPEC

EN10210 S355J2H

DATE

21-Aug-19

DRAWING NUMBER

NP79-01-33

ARRGR. DRAWING

NP79-01-01

ANGULAR ± °

TREATMENT

CHECKED

DO NOT SCALE

FINISH

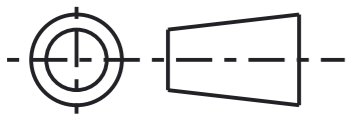
APPROVED

SHEET 1 OF 1

SCALE 1:3

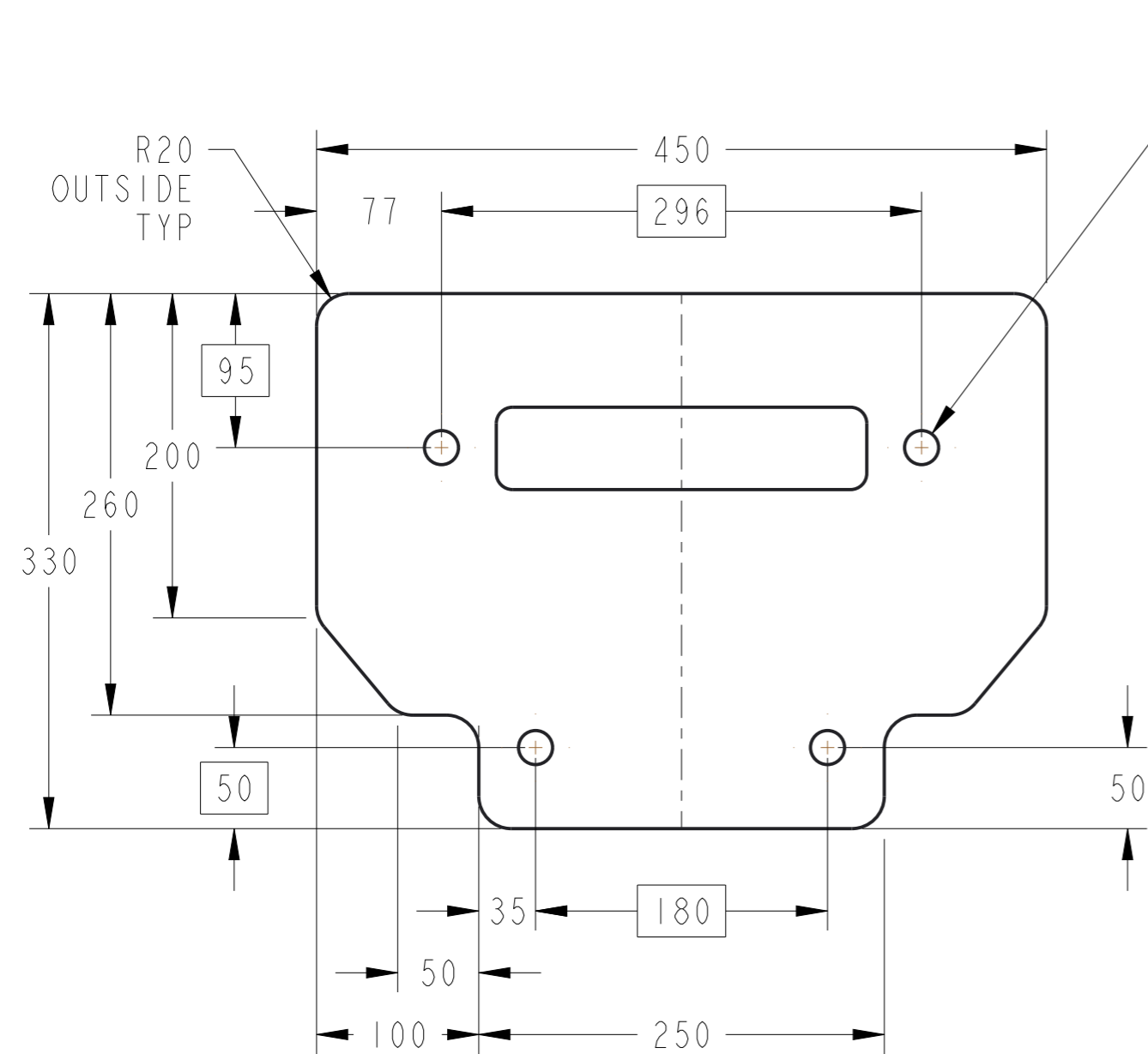
A4

THIRD ANGLE PROJECTION

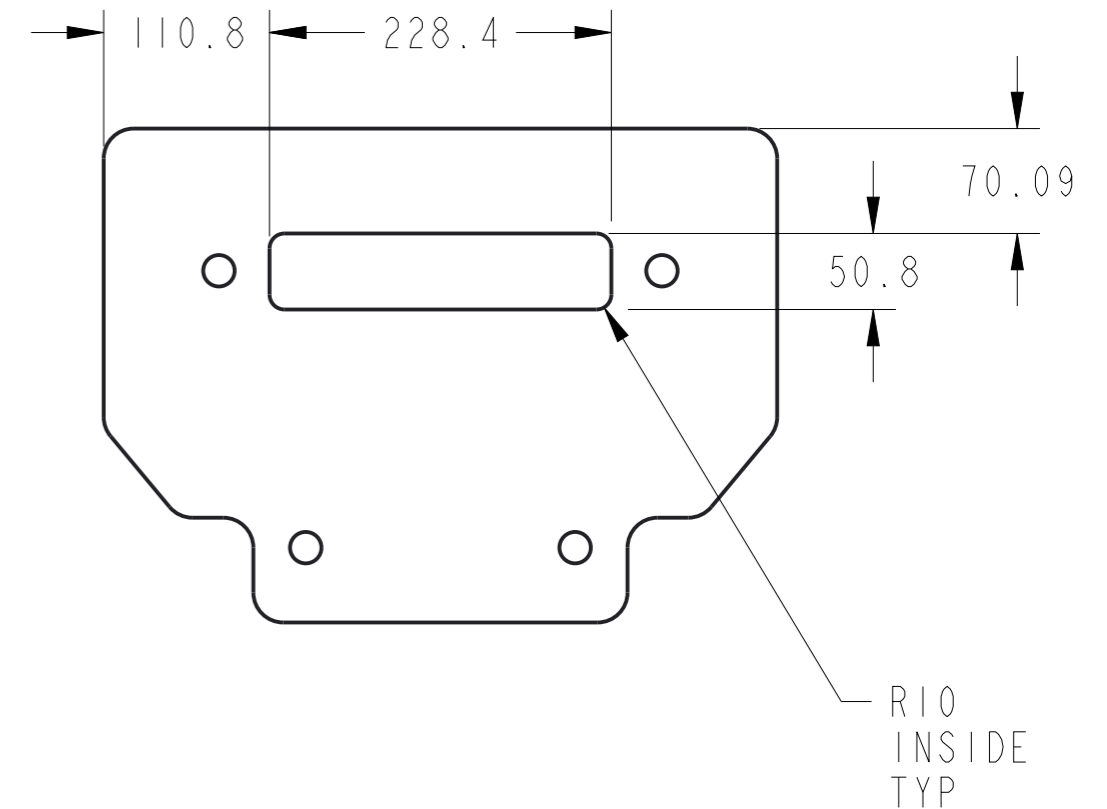
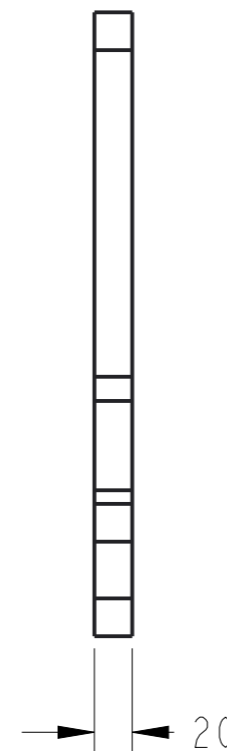


MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-15-20	G. STAVRAKIS	FIRST ISSUE



4 HOLES $\varnothing 21$
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8 OFF

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



UNIVERSITY OF
LIVERPOOL

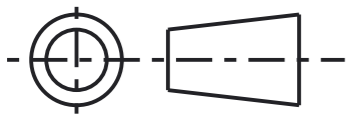
PROJECT

DUNE

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CARBON STEEL	DRAWN	G. STAVRAKIS	ATTACHMENT PLATE	
	MACHINED DIMS ±	SPEC	EN10210 S355J2H	DATE	Jan-15-20	DRAWING NUMBER	ARRGR. DRAWING
	ANGULAR ± °	TREATMENT		CHECKED		NP79-01-34	NP79-01-01
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED		SHEET 1 OF 1	SCALE 1:6

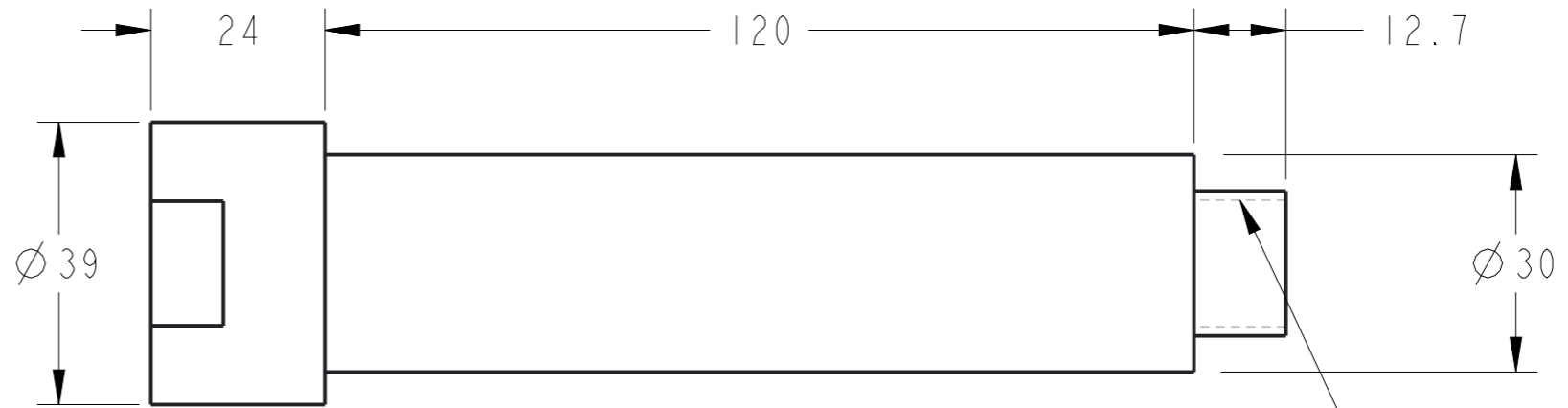
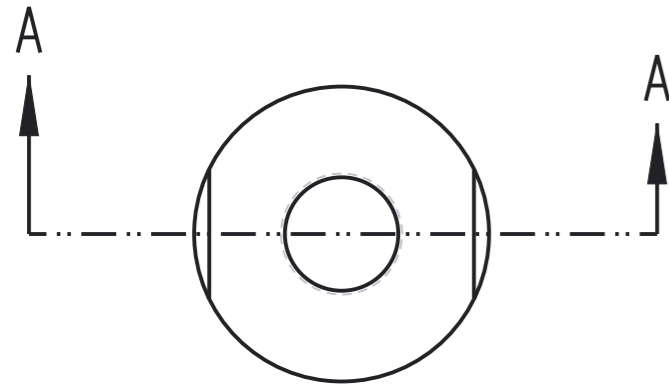
A3

THIRD ANGLE PROJECTION

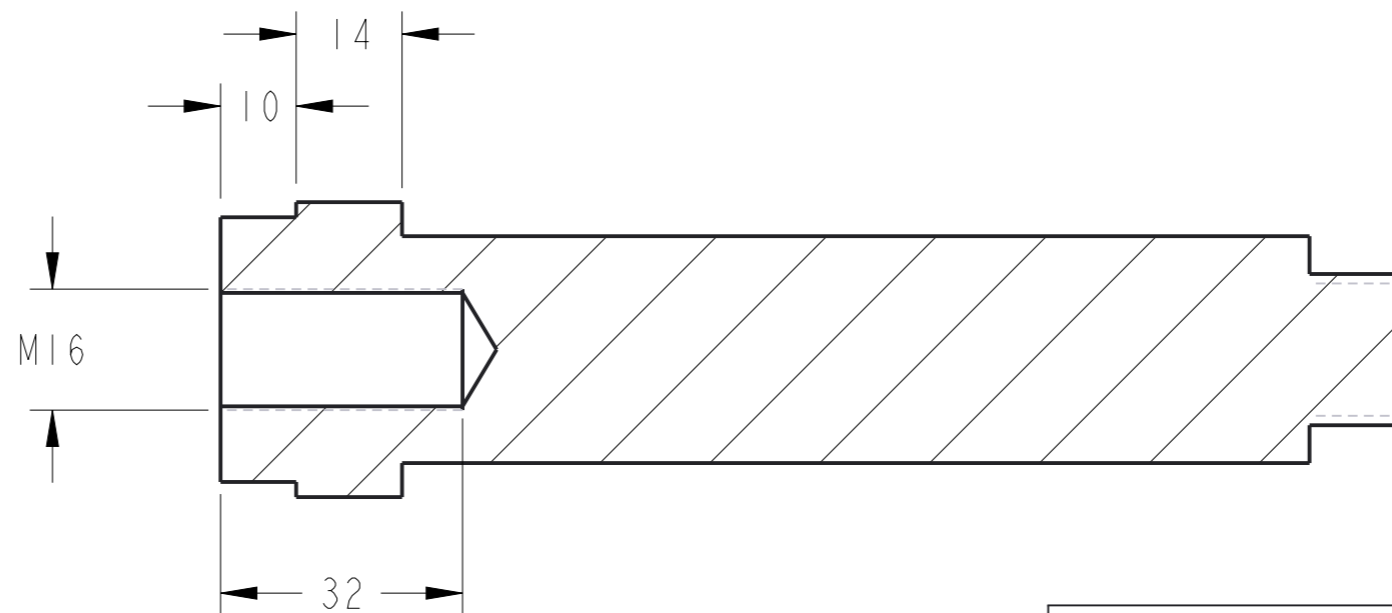


MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Jan-10-20	G. STAVRAKIS	FIRST ISSUE



M20.000 x 2.500
-H EXTERNAL



16 OFF

SECTION A-A

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



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LIVERPOOL

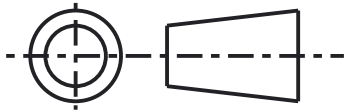
PROJECT

DUNE

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553		TITLE	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	ST. ST. 304	DRAWN	G. STAVRAKIS	MI6 ADAPTOR TO M20	
	MACHINED DIMS ±	SPEC		DATE	Jan-10-20	DRAWING NUMBER	ARRGR. DRAWING
	ANGULAR ± °	TREATMENT	SILVER PLATED	CHECKED		NP79-01-35	NP79-01
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED		SHEET 1 OF 1	SCALE 1:1

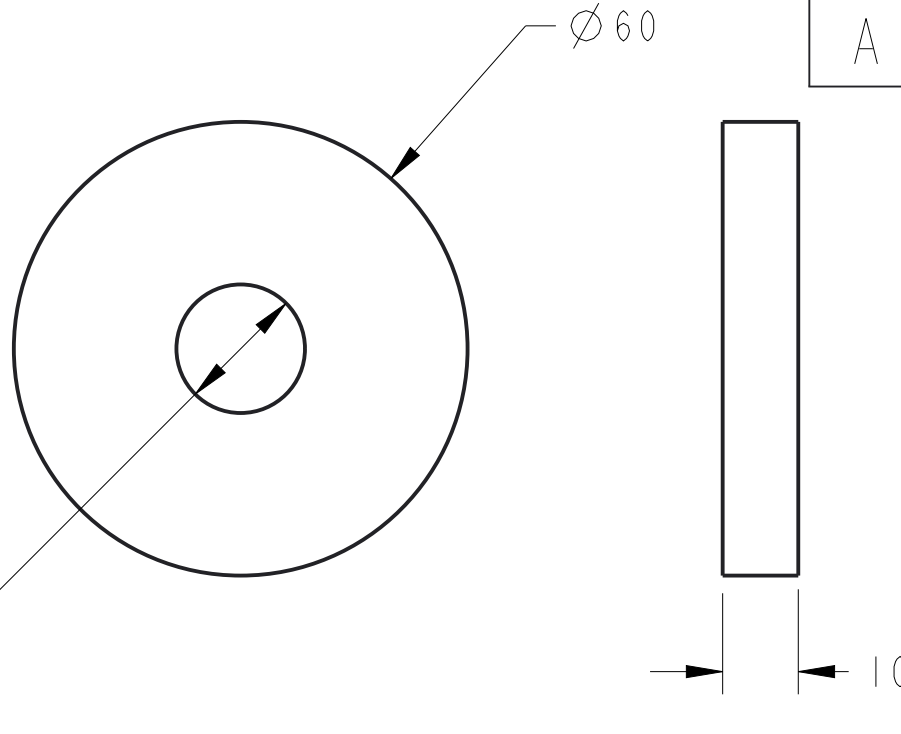
A3

THIRD ANGLE PROJECTION



MODIFICATIONS

ISSUE	DATE	NAME	DESCRIPTION
A	Sep-24-19	G. STAVRAKIS	FIRST ISSUE



HOLE Ø 17 THRU

16 OFF

UNLESS OTHERWISE SPECIFIED: -
 ALL DIMENSIONS IN MILLIMETERS
 SURFACE TEXTURE VALUES IN MICROMETERS
 SURFACE TEXT TO BE ✓
 MACHINE ALL OVER OR WHERE MARKED ✓

DEPARTMENT OF PHYSICS  UNIVERSITY OF LIVERPOOL
 OLIVER LODGE BUILDING

PROJECT
 DUNE

TITLE
 M16 WASHER

REMOVE BURRS AND BREAK SHARP EDGES

METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS8888		WELDING SYMBOLS TO BS 499	
TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CARBON STEEL	DRAWN	G. STAVRAKIS
MACHINED DIMS ±	SPEC	EN10025-2: 2004 S355J2H	DATE	Sep-24-19
ANGULAR ± °	TREATMENT		CHECKED	
DO NOT SCALE	FINISH		APPROVED	

DRAWING NUMBER
NP79-01-36

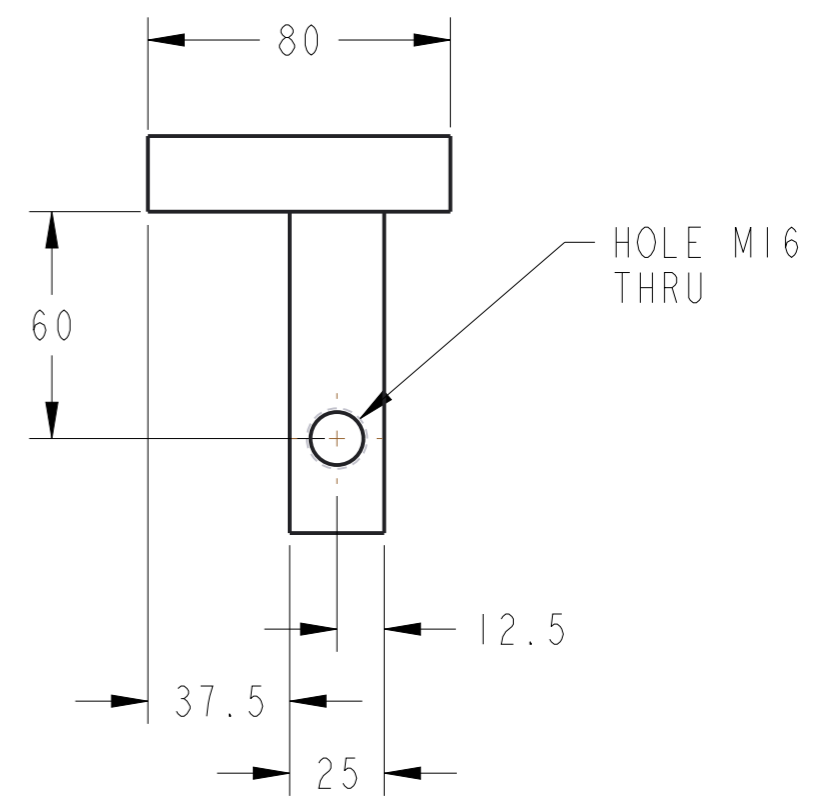
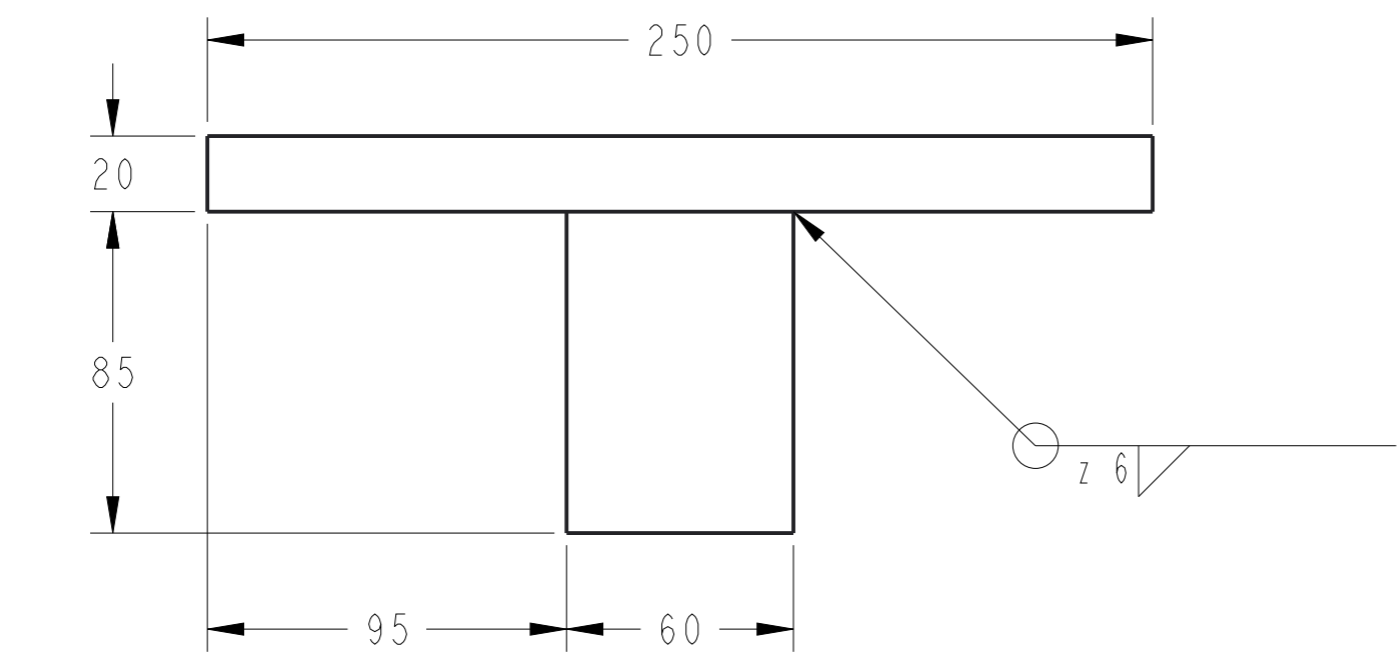
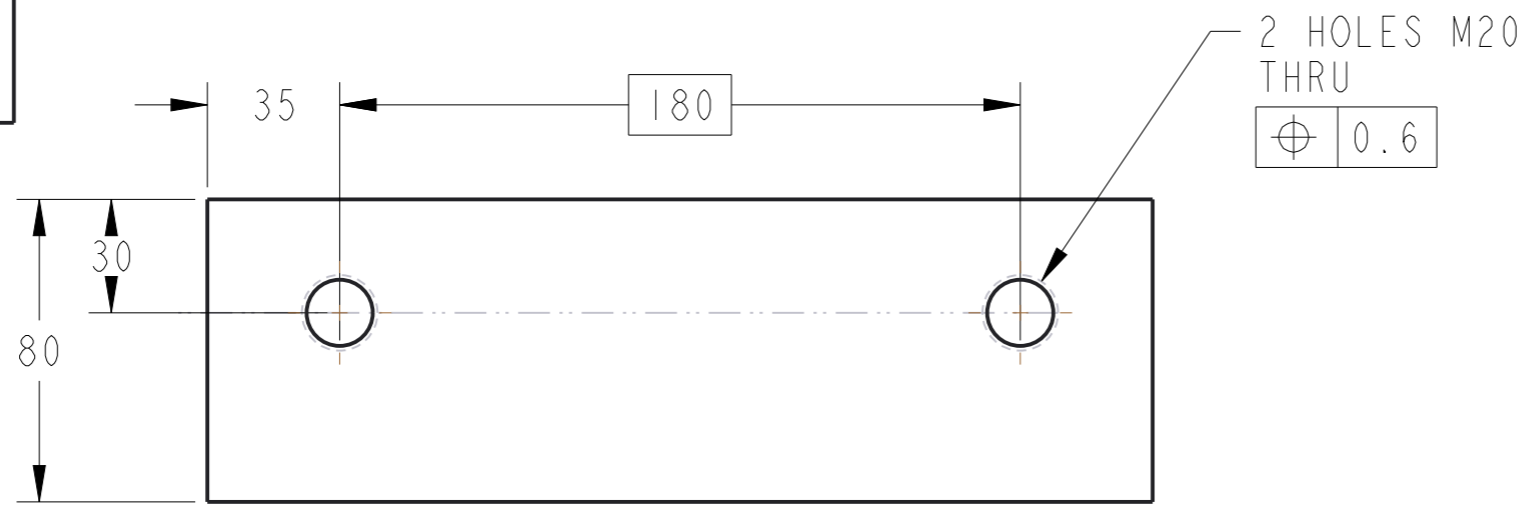
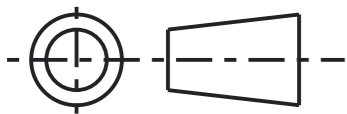
ARRGR. DRAWING
 NP79-01-03

SHEET 1 OF 1

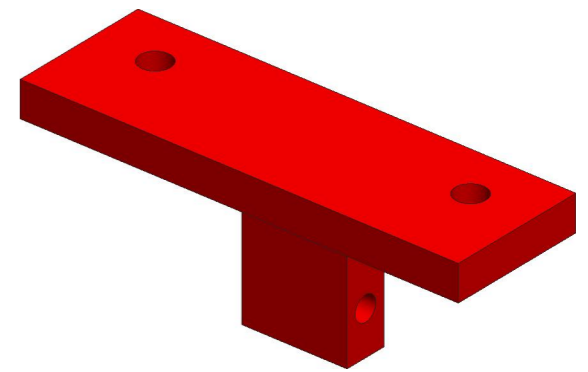
SCALE 1:1

A 4

THIRD ANGLE PROJECTION



MODIFICATIONS			
ISSUE	DATE	NAME	DESCRIPTION
A	Jan-10-20	G. STAVRAKIS	FIRST ISSUE



4 OFF

DEPARTMENT OF PHYSICS
OLIVER LODGE BUILDING



UNIVERSITY OF
LIVERPOOL

PROJECT
DUNE

UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN MILLIMETERS SURFACE TEXTURE VALUES IN MICROMETERS SURFACE TEXT TO BE MACHINED MACHINE ALL OVER OR WHERE MARKED ✓	METRIC SCREW THREADS TO BS3643 CLASS 6H/6g	DRAWING PRACTICE AND TOLERANCE INTERPRATION TO BS 8888		WELDING SYMBOLS TO BS 2553	
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MATERIAL	CARBON STEEL	DRAWN	G. STAVRAKIS
	MACHINED DIMS ±	SPEC	EN10025-2: 2004 S355J2H	DATE	Jan-10-20
	ANGULAR ± °	TREATMENT		CHECKED	
REMOVE BURRS AND BREAK SHARP EDGES	DO NOT SCALE	FINISH		APPROVED	

TITLE LARGE SLOT BEAM	
DRAWING NUMBER NP79-01-37	ARRGR. DRAWING NP79-01-03
SHEET 1 OF 1	SCALE 1:2
A3	