

4

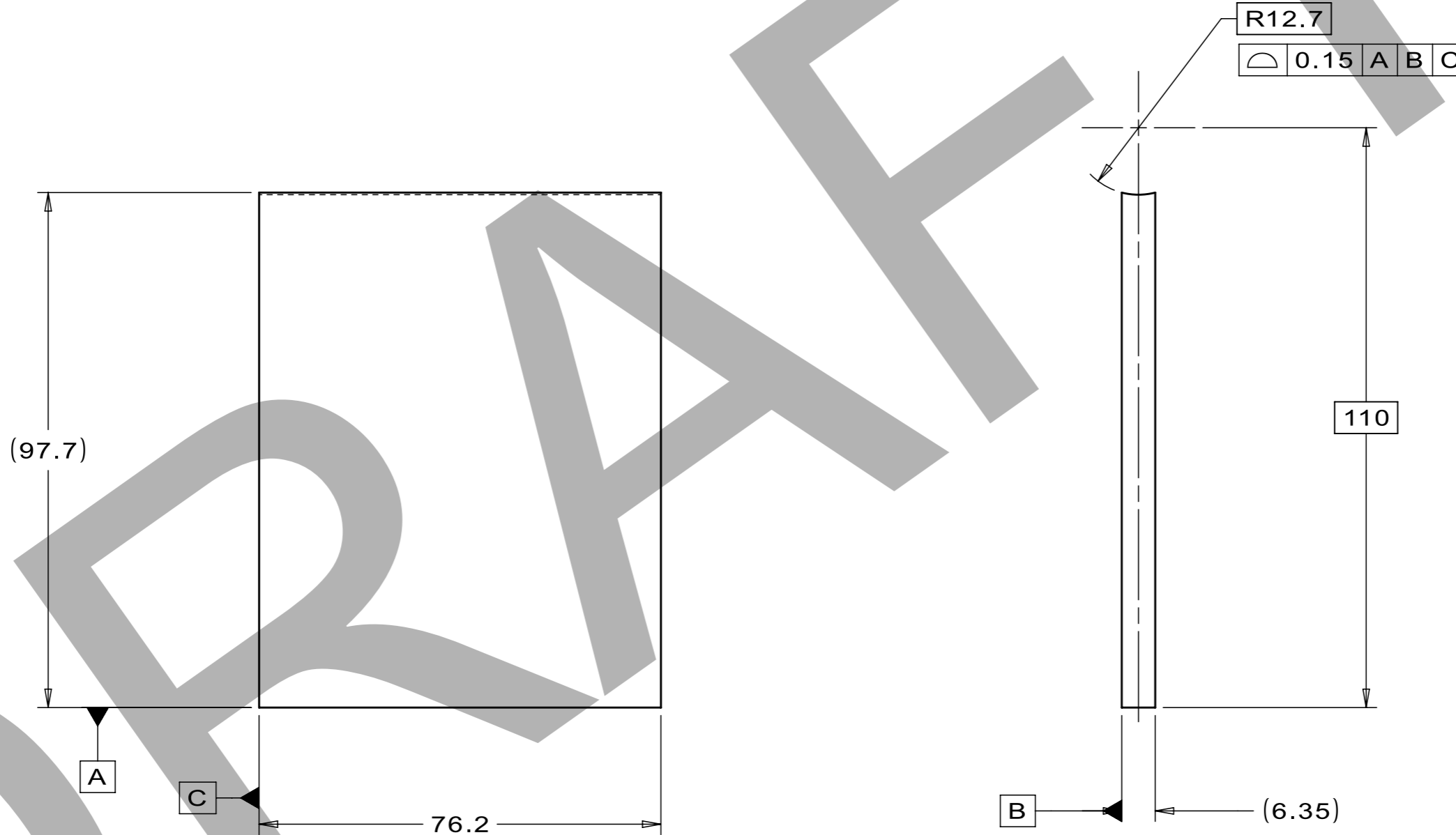
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2

1

DESCRIPTION: MANIFOLD RISER, INPUT, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10156658---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART MUST BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART MUST BE FREE OF SHARP EDGES, CORNERS, AND BURRS.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	26-Dec-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10156655, F10156656, F10163810, F10189375		
MATERIAL	316 STAINLESS STEEL 1/4" THICK STOCK		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME MANIFOLD RISER, INPUT, ORNL STS			
SCALE 1:1	SIZE A3	DRAWING NUMBER F10156658	SHEET 1 OF 1	REV -	

SNS S02040000-M8U-A10052

4

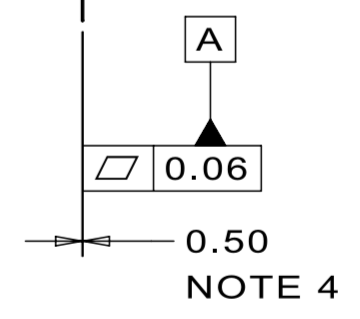
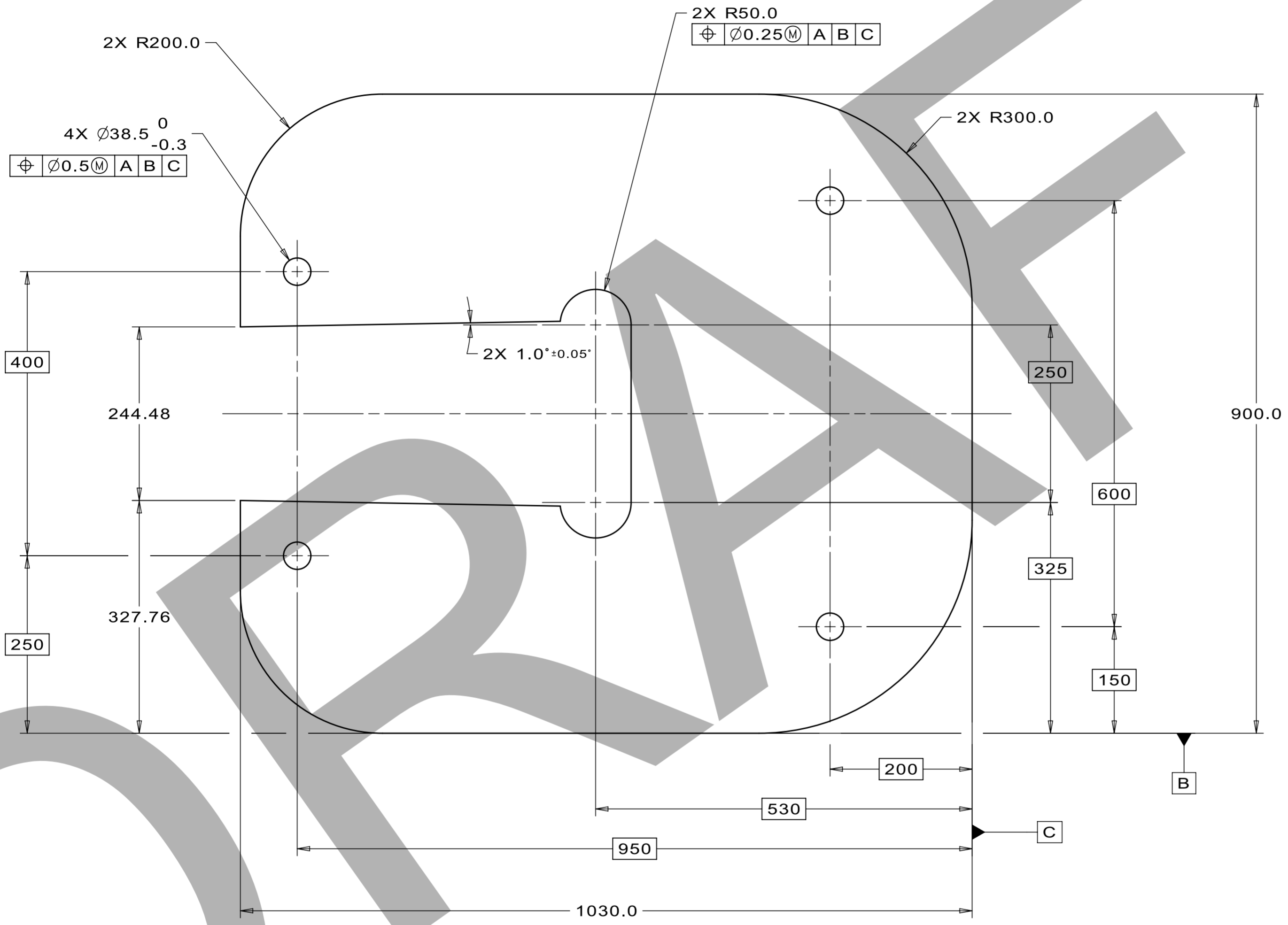
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2

1

TEMPLATE VERSION: 2021.06.06

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10182786---RCD		DRAWN APPROVED



NOTES (UNLESS OTHERWISE SPECIFIED):

1. PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.
4. EXACT LAMINATION THICKNESS DETERMINED AT MANUFACTURING.

TEMPLATE VERSION: 2021.08.06

SNS S02040000-M8U-8820-A10004

UNLESS OTHERWISE SPECIFIED				
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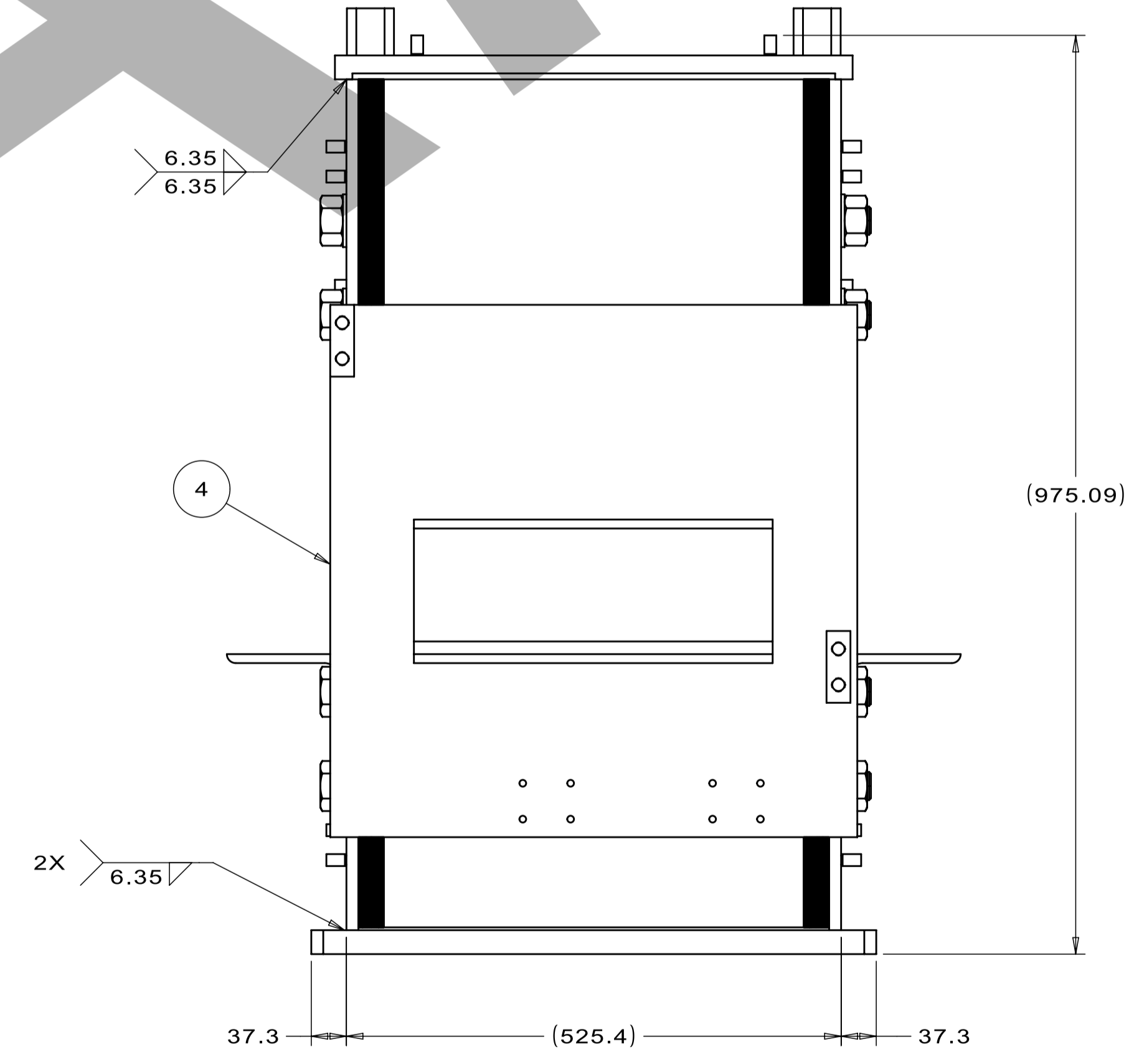
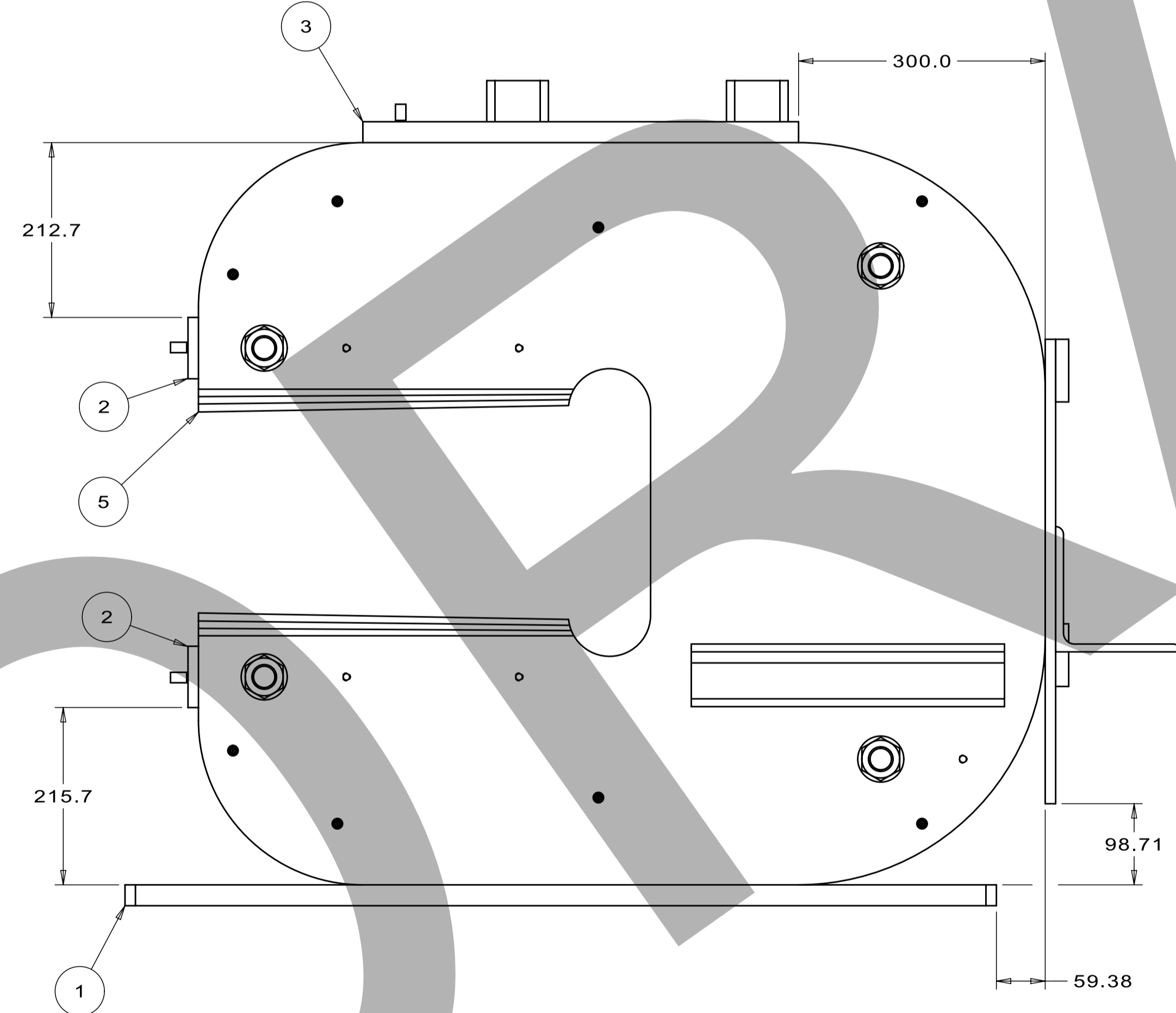
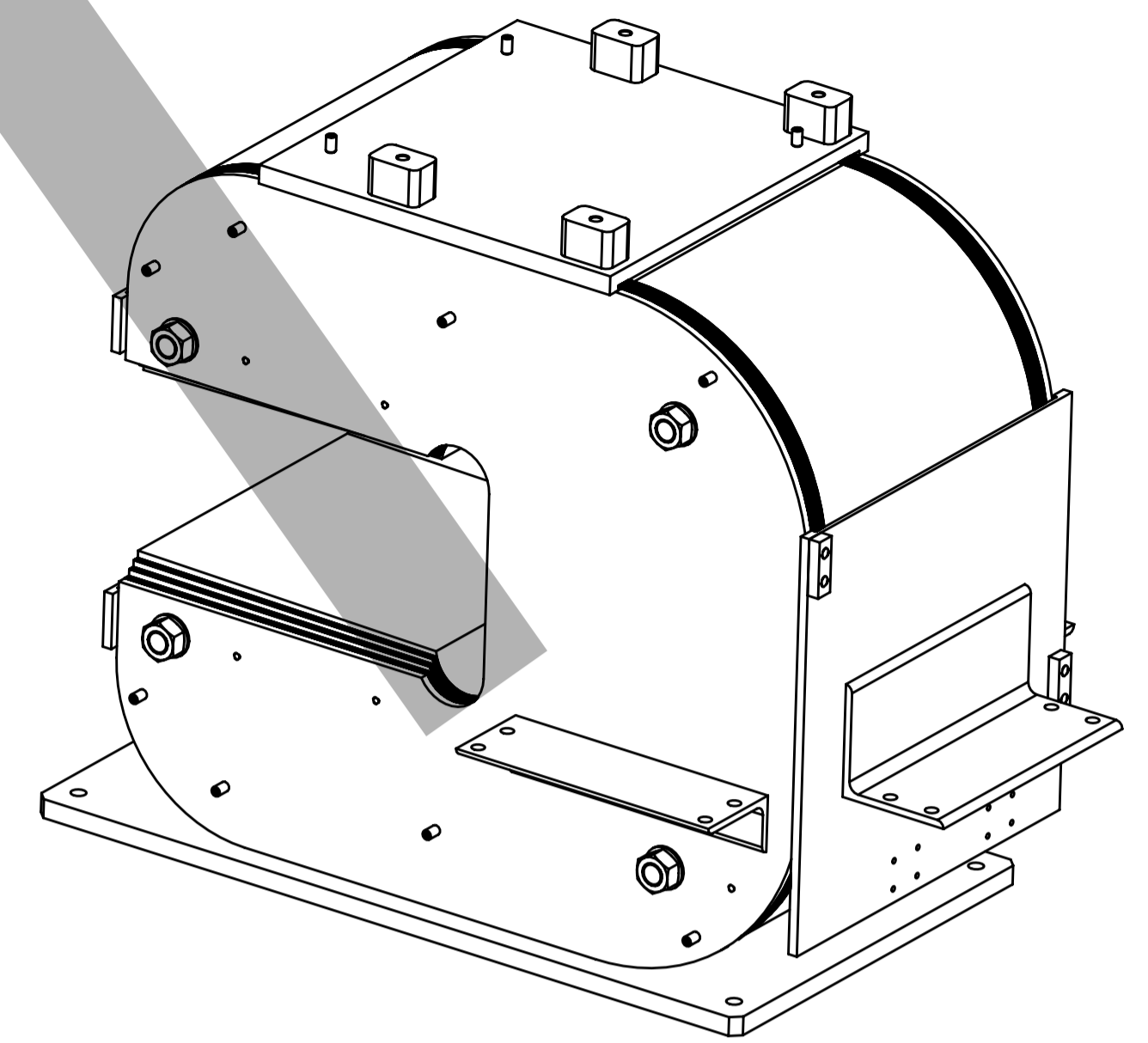
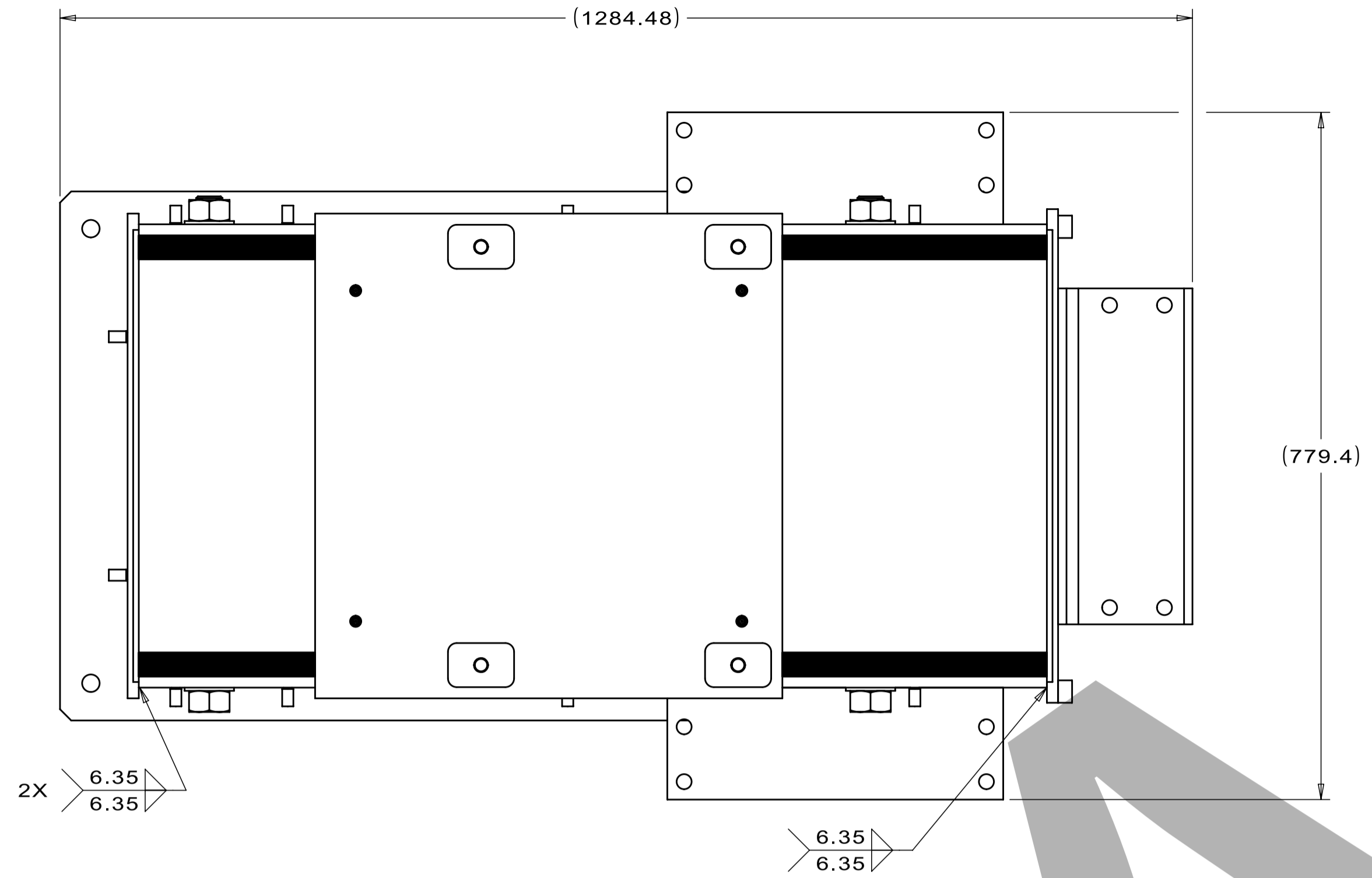
BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10182790		
MATERIAL	ASTM A677 NON-ORIENTED ELECTRICAL STEEL, M-15		
GROUP:	Technical Division - Design and Drafting		
CAGE CODE:	OU5R6		

<p>FERMI NATIONAL ACCELERATOR LABORATORY                  UNITED STATES DEPARTMENT OF ENERGY</p>				
				NAME LAMINATION, PULSED DIPOLE MAGNET, ORNL STS
SCALE	SIZE	DRAWING NUMBER	SHEET	REV
1:5	A2	F10182786	1 of 1	-

REV	REVISION CONTROL DOCUMENT	DATES	DRAWN	SIGNATURES
-	F10182790--RCD		APPROVED	



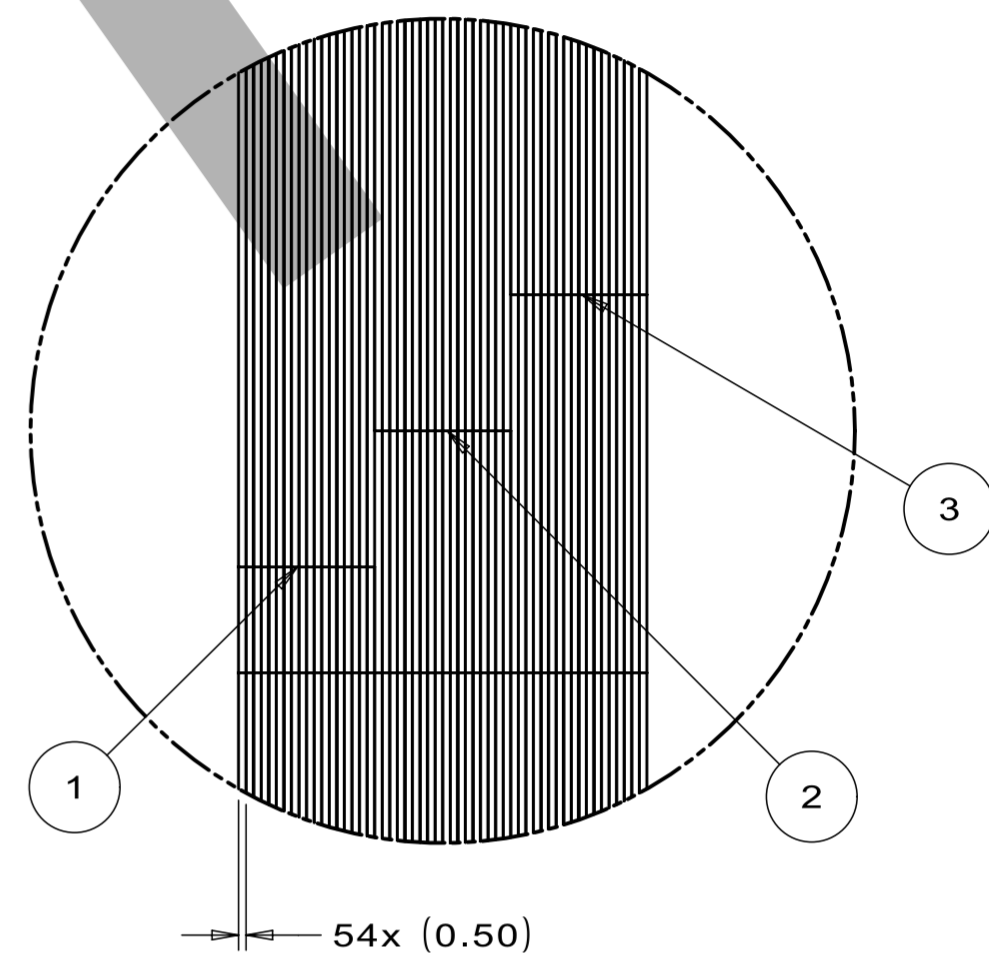
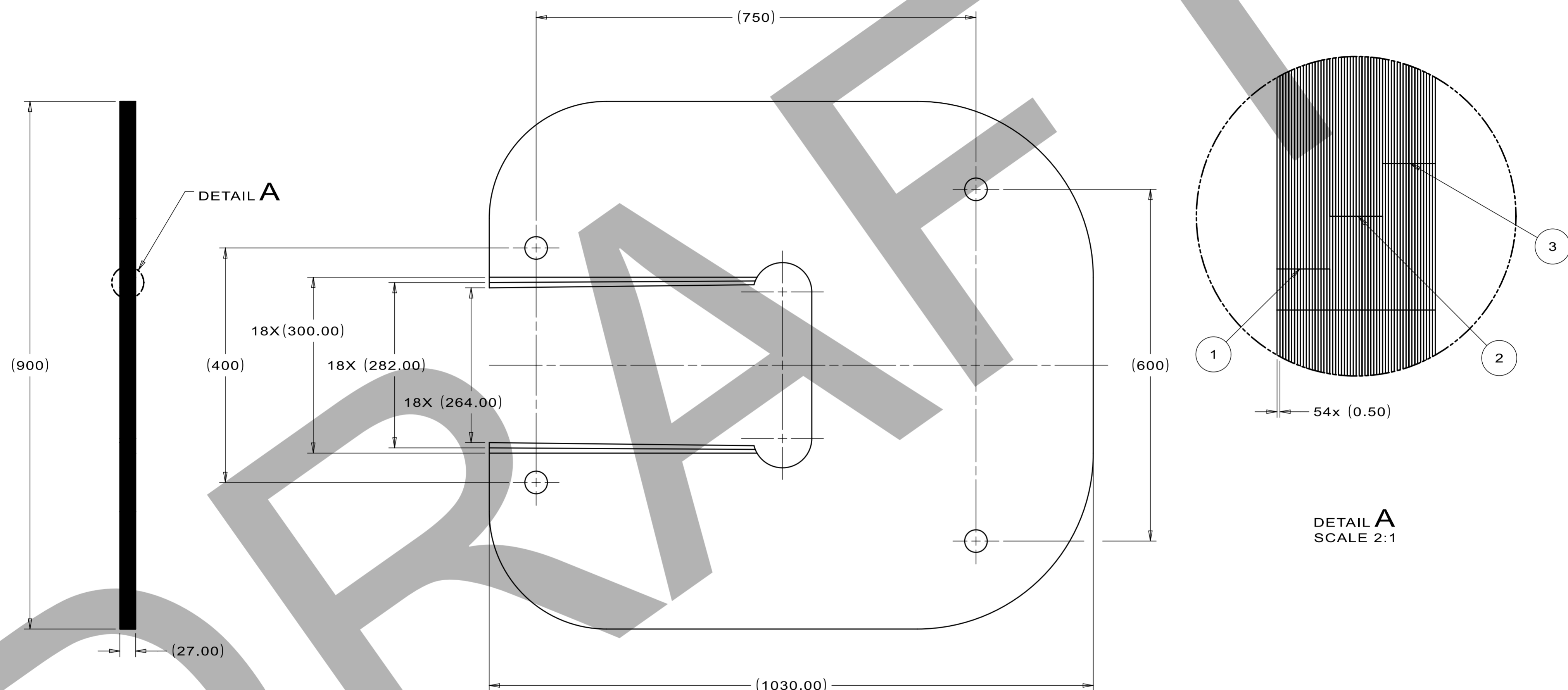
- NOTES (UNLESS OTHERWISE SPECIFIED):
1. ASSEMBLY TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
  2. ASSEMBLY TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
  3. TRAILING ZEROS DENOTE TOLERANCE.

ITEM	VENDOR #	FERMI #	PART NAME	QTY
5		F10211961	WELDMENT, STACKED LAMINATIONS & ACCESSORIES, PULSED DIPOLE CORE, ORNL STS	1
4		F10211960	WELDMENT, BACK COIL SUPPORT, PULSED DIPOLE CORE, ORNL STS	1
3		F10211959	WELDMENT, TOP PLATE, PULSED DIPOLE CORE, ORNL STS	1
2		F10211958	WELDMENT, POLE TIP, PULSED DIPOLE CORE, ORNL STS	2
1		F10189003	PLATE, BOTTOM CORE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1

UNLESS OTHERWISE SPECIFIED		DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
+X	+X.X	+X.XX	+X.XX	DATE	
2	0.3	0.12	N/A	DATE	
BROKE ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					
THIRD ANGLE PROJECTION		GROUP: Technical Division - Design and Drafting		CAGE CODE: OUSR6	

PARTS LIST		F10203414		CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS	
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:5	A1	F10182790	1 of 1	-	

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10182791---RCD		DRAWN APPROVED



DETAIL A  
SCALE 2:1

NOTES (UNLESS OTHERWISE SPECIFIED):

1. ASSEMBLY TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. ASSEMBLY TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.

ITEM	FERMI #	PART NAME	QTY
3	F10183568	LAMINATION 3, END PACK, PULSED DIPOLE MAGNET, ORNL STS	18
2	F10183567	LAMINATION 2, END PACK, PULSED DIPOLE MAGNET, ORNL STS	18
1	F10183566	LAMINATION 1, END PACK, PULSED DIPOLE MAGNET, ORNL STS	18

PARTS LIST

UNLESS OTHERWISE SPECIFIED				
±X	±X.X	±X.XX	±X/X	±X'
2	0.3	0.12	N/A	1'

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

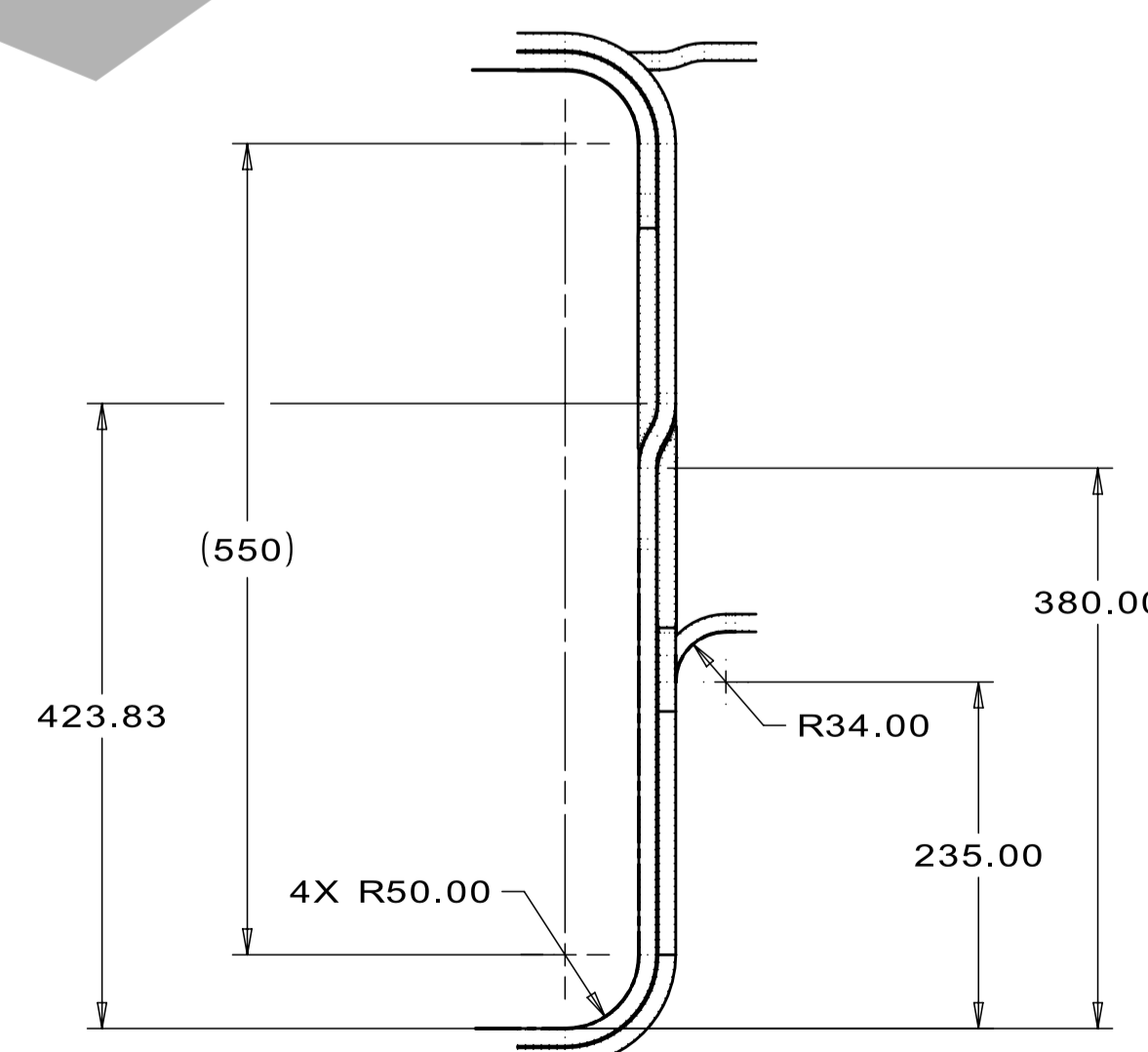
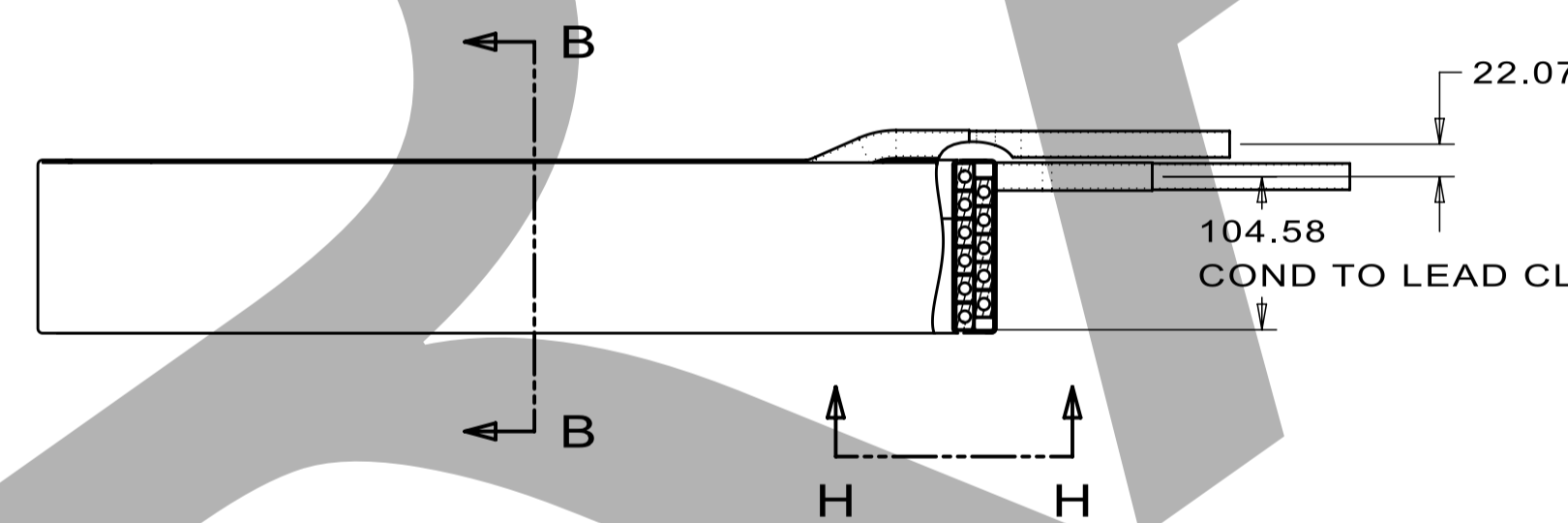
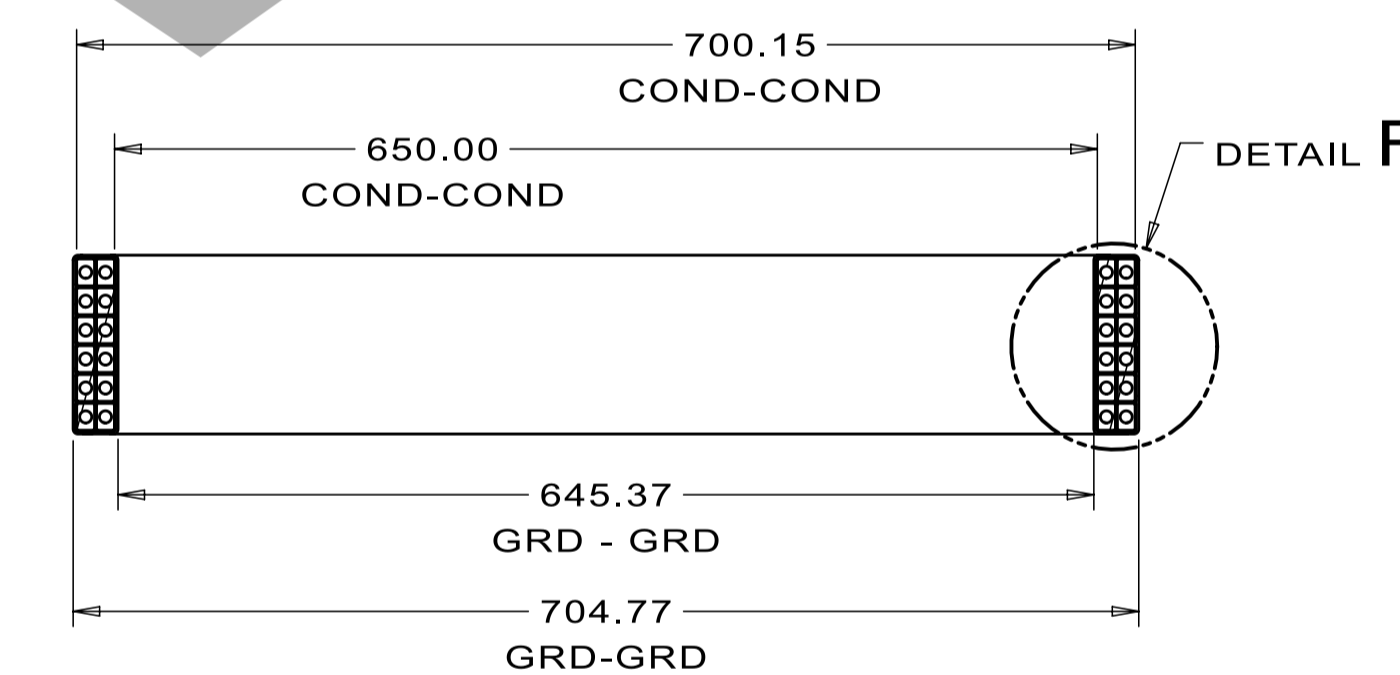
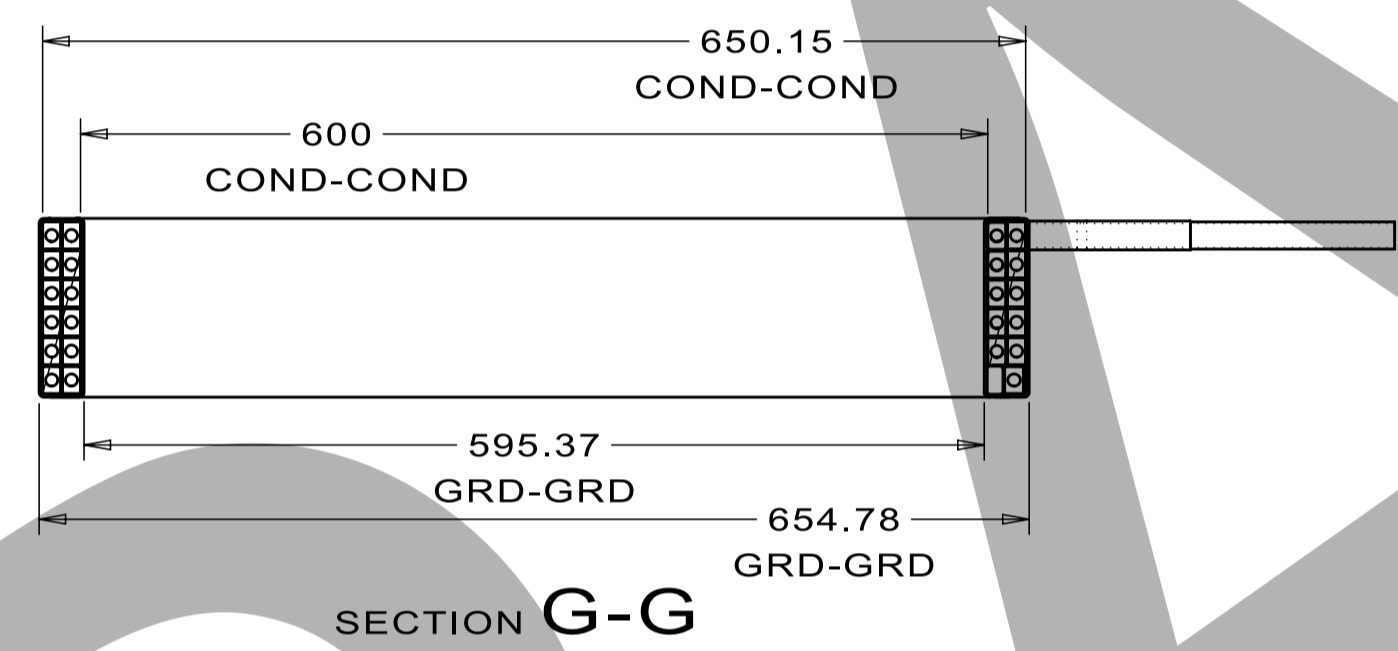
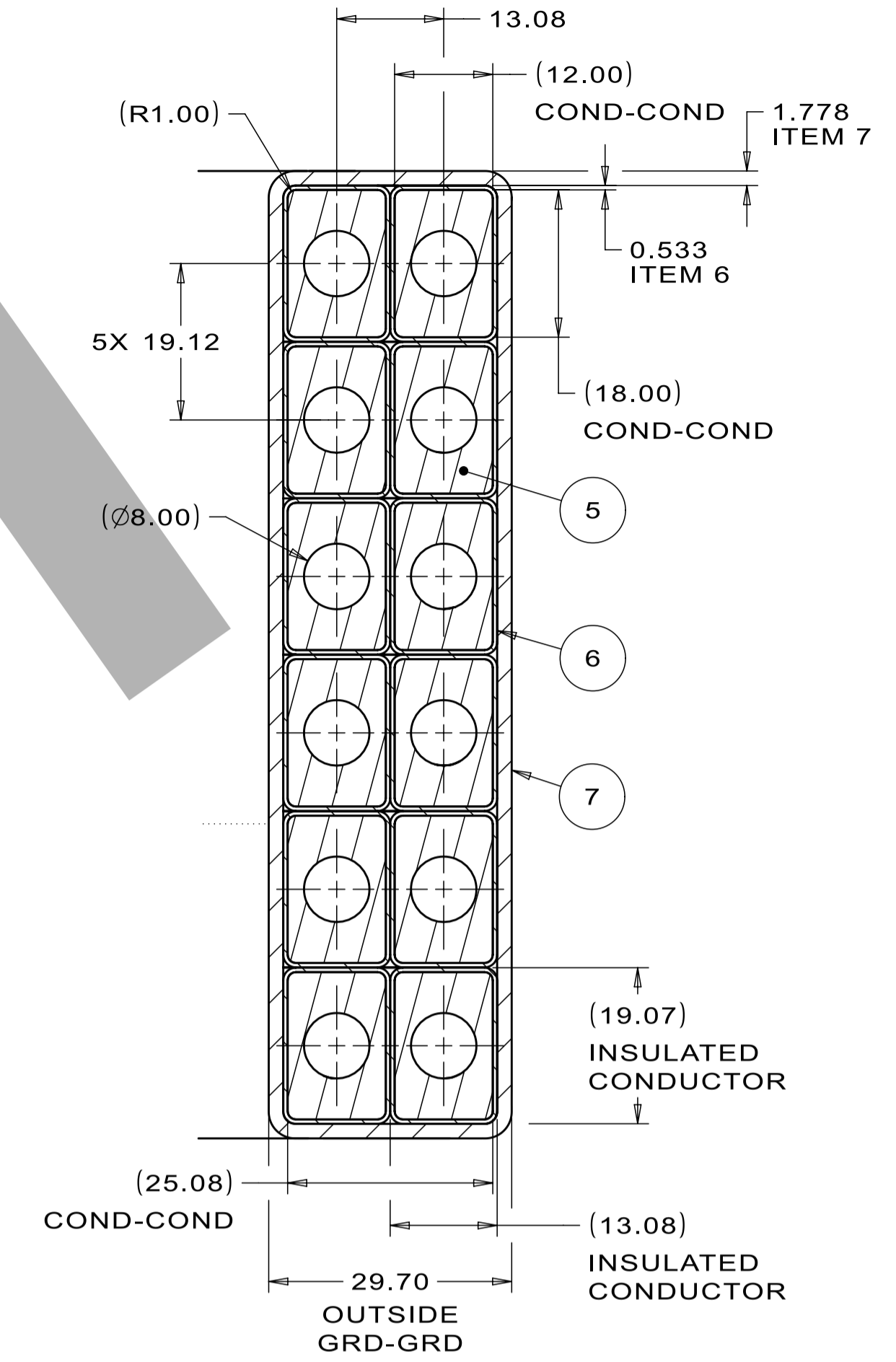
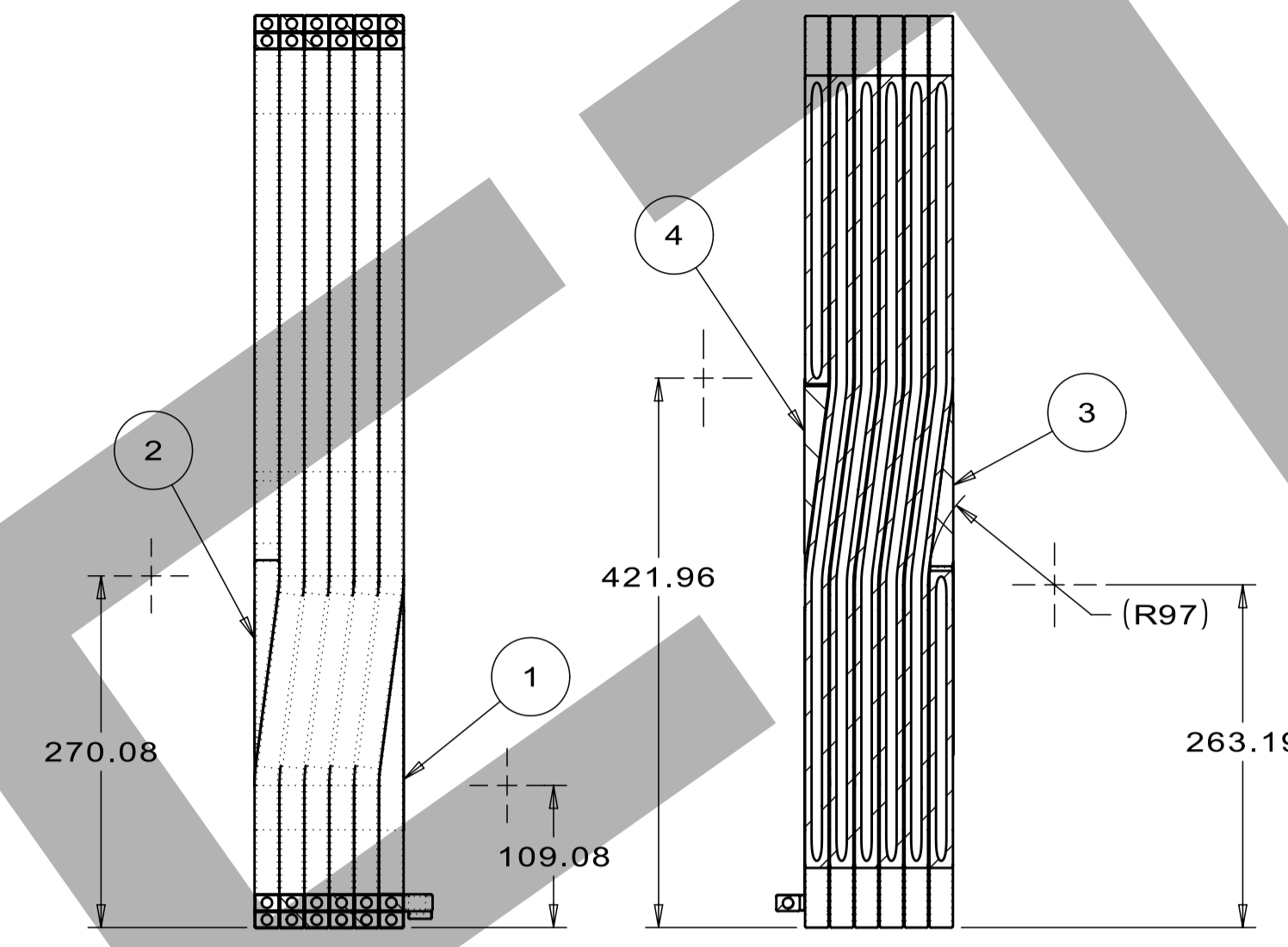
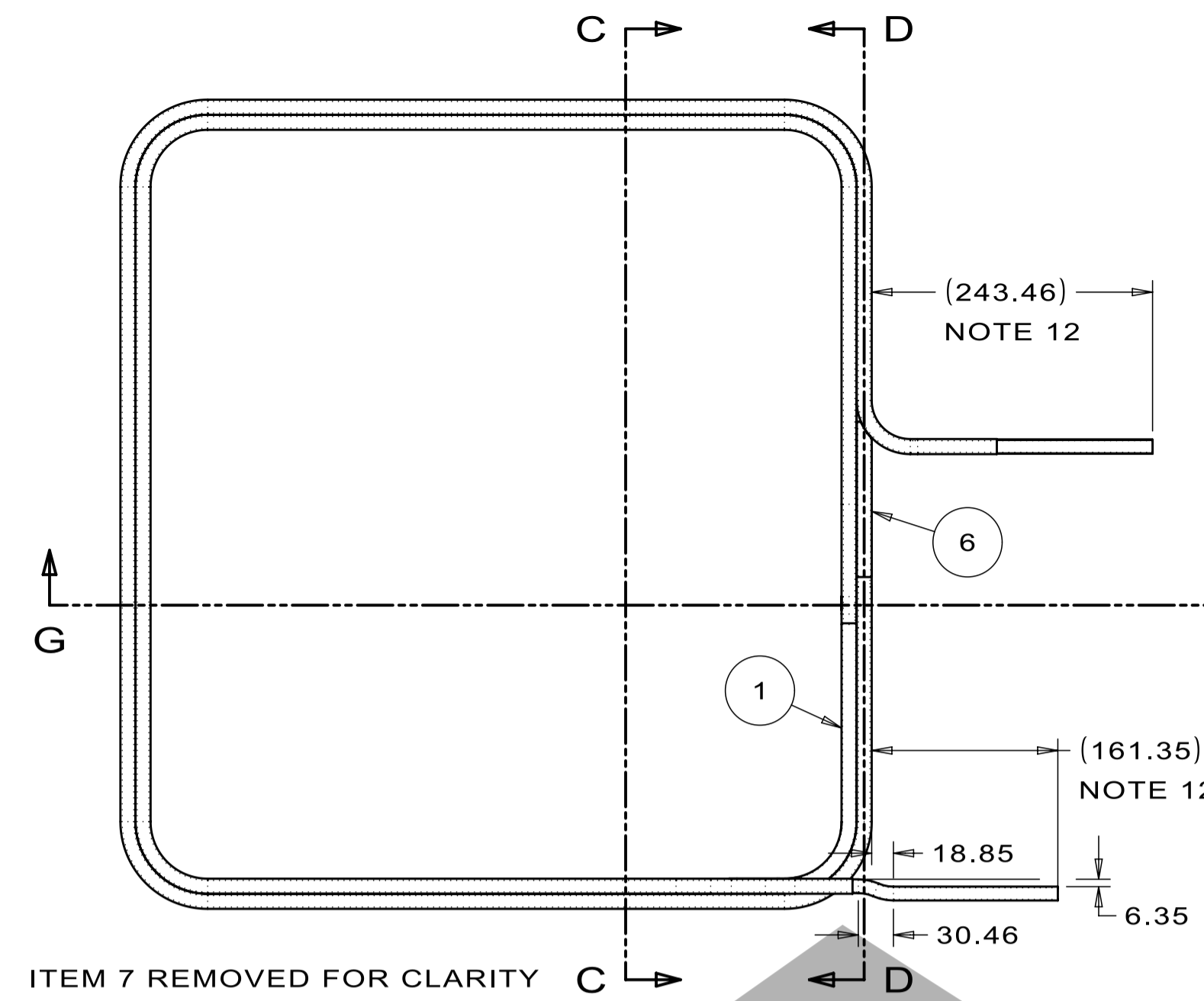
THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10182790		
MATERIAL	SEE PARTS LIST		
GROUP:	Technical Division - Design and Drafting		
CAGE CODE:	OU5R6		

		FERMION NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY	
NAME			
END PACK, LH, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET
1:5 & AS SHOWN	A2	F10182791	1 of 1
REV	-		

SNS S02040000-M8U-8820-A10008

REV	REVISION CONTROL DOCUMENT	DATES	DRAWN	SIGNATURES
-	F10182796--RCD		APPROVED	



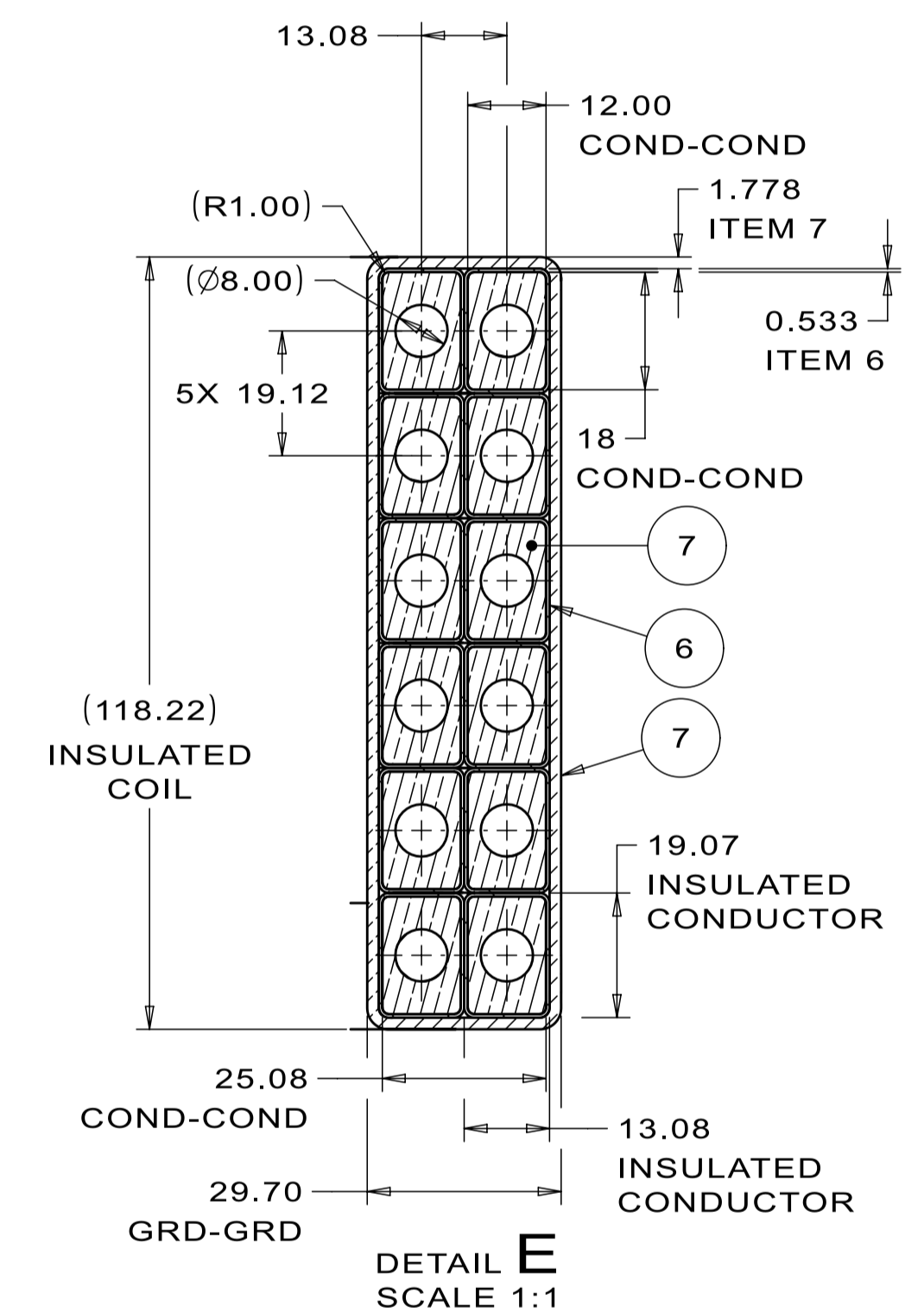
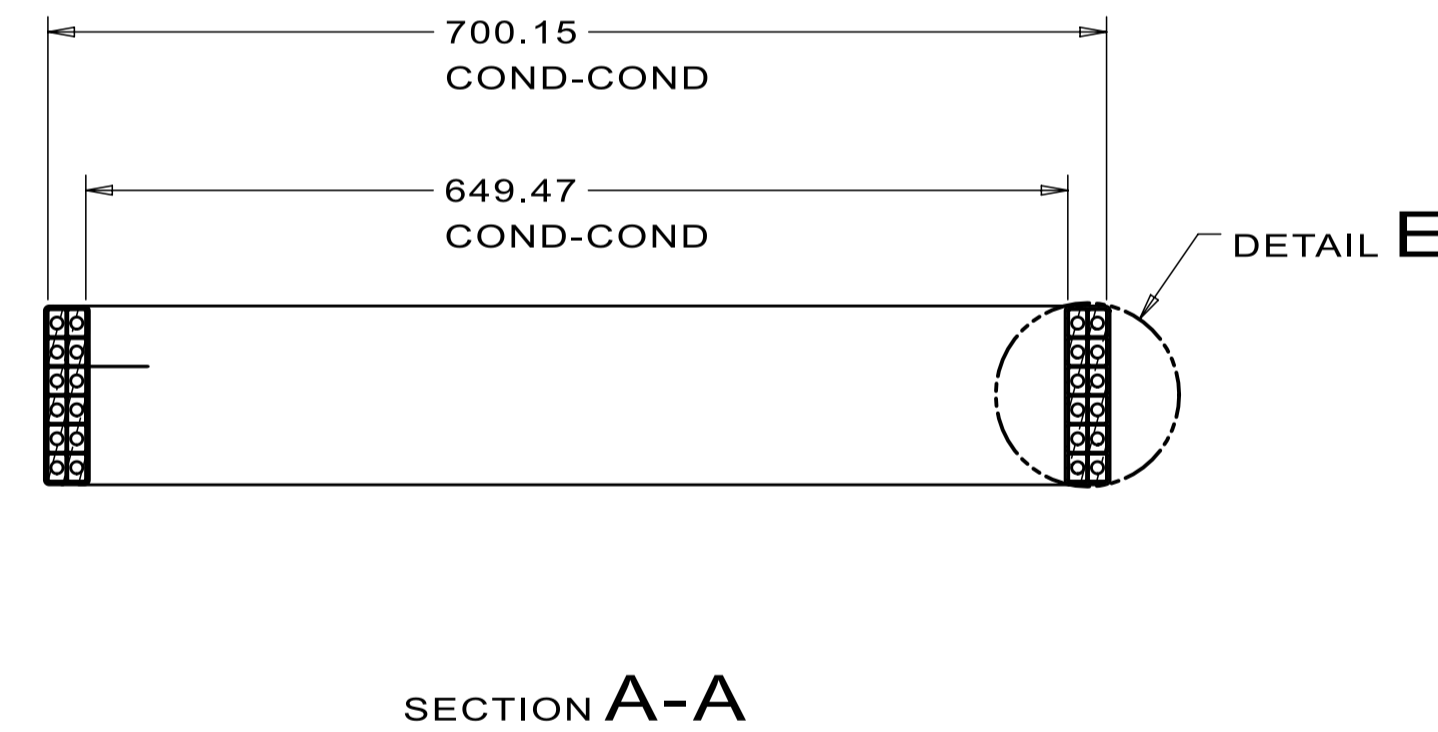
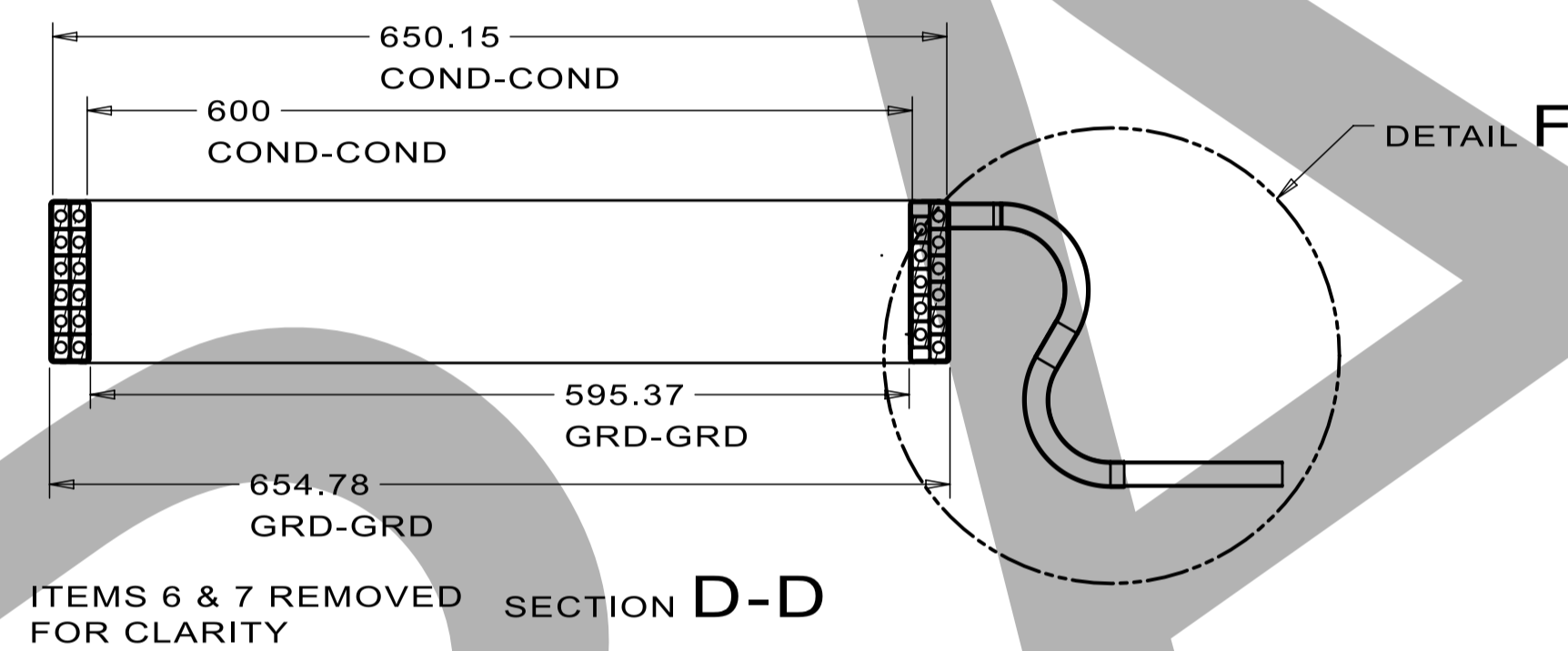
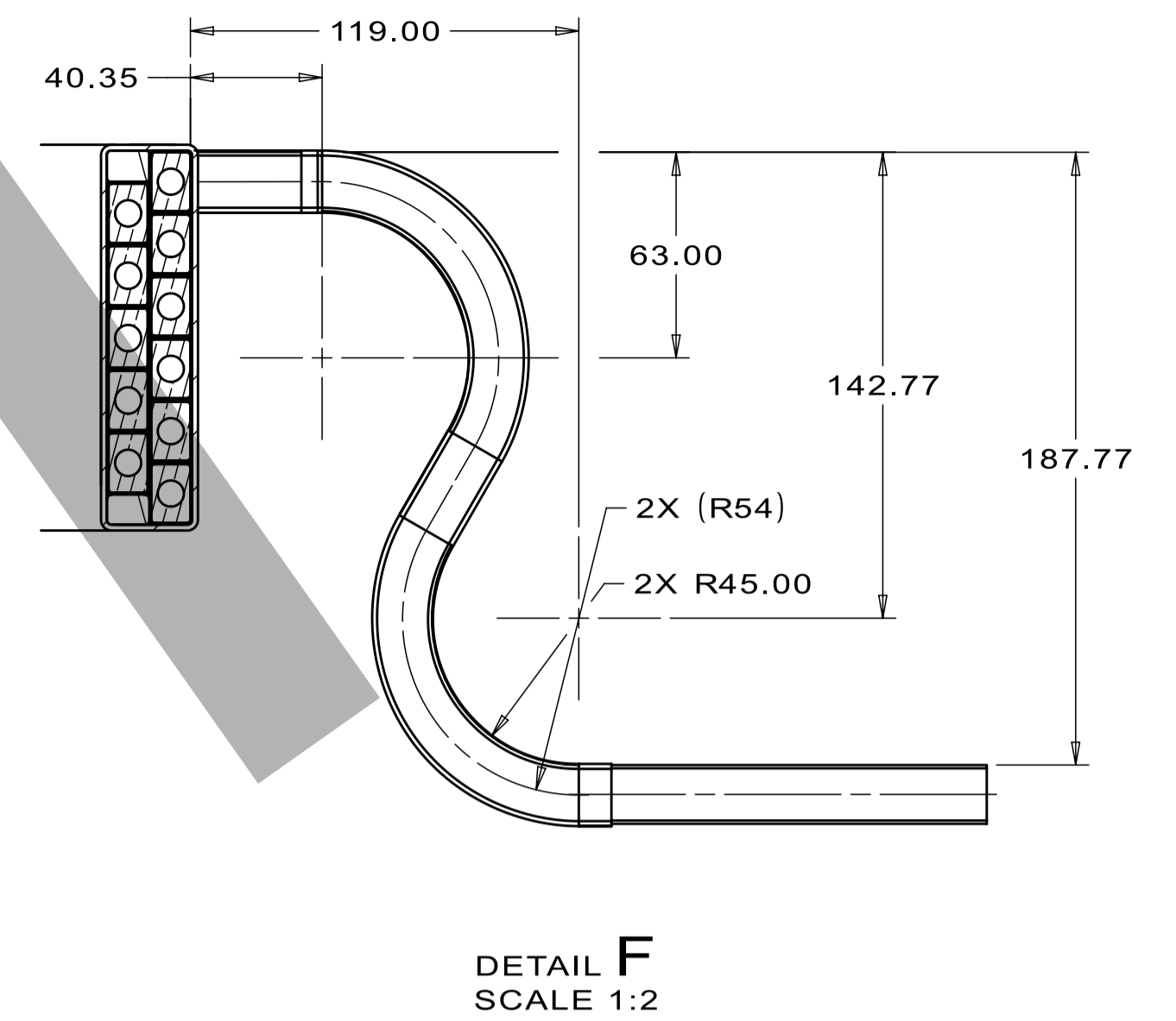
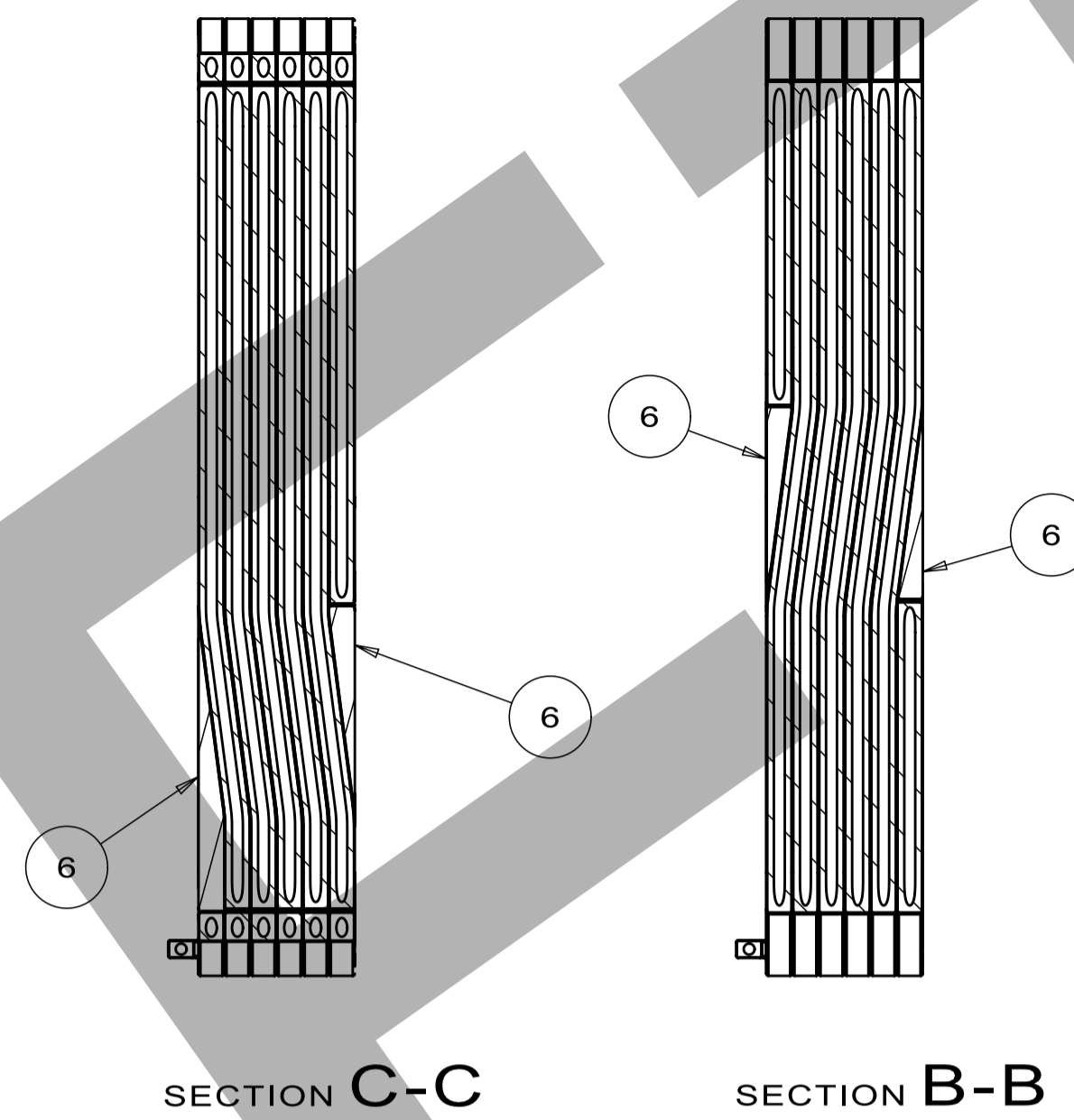
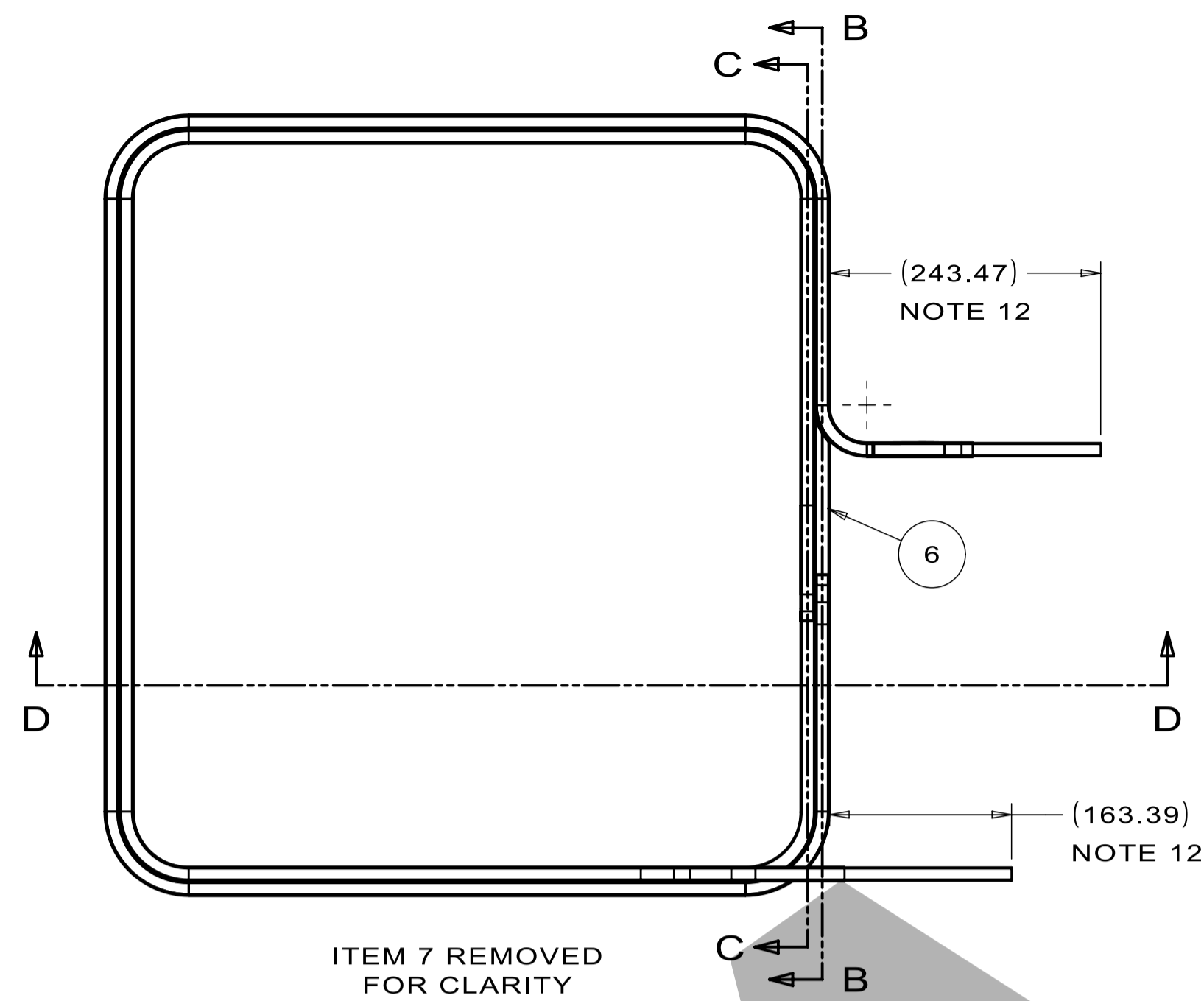
- NOTES (UNLESS OTHERWISE SPECIFIED):
- THERE SHALL BE NO JOINTS IN THE CONDUCTOR.
  - WIND BARE CONDUCTOR, USING ALUMINUM SHIMS BETWEEN TURNS AND AT BEND RADII TO FILL THE GAPS WHERE THE CONDUCTOR WILL LATER BE INSULATED WITH FIBERGLASS TAPE.
  - REMOVE KEYSTONE AT BEND RADII BY BUFFING WHEEL OR FILING TO ACHIEVE CONDUCTOR TO CONDUCTOR DIMENSIONS. CLEAN CONDUCTOR TO REMOVE DIRT, OILS, AND METALLIC CHIPS.
  - WRAP CONDUCTOR WITH 1 LAYER HALF LAPPED 1" WIDE X .007" THICK FIBERGLASS TAPE, FOLLOWED BY 1 LAYER BUTT WRAPPED OF THE SAME FIBERGLASS TAPE.
  - WRAP COIL WINDING WITH 5 LAYERS HALF LAPPED 1" WIDE X .007" THICK FIBERGLASS TAPE.
  - STAMP COIL PART NUMBER IN 3MM HIGH CHARACTERS ON THE COIL LEAD.
  - ELECTRIC TEST:
    - MEASURE RESISTANCE AND RECORD TEMPERATURE. (CALCULATED RESISTANCE)
    - MEASURE INDUCTANCE.
    - IMPULSE TEST.
    - HIPOT 1000V DC, LEAKAGE CURRENT SHALL NOT EXCEED 51A.
  - ALL WATER PARTS AND CONNECTIONS MUST CONFORM TO ASME B31.3 CATEGORY D FLUID SERVICES.
  - WATER TEST: PRESSURE 225PSI 30 MINUTES, NO VISIBLE LEAKS.
  - WATER FLOW TEST:
    - 630 K Pa (90psi)dP
    - 0.0259LL/S (0.41 gpm) MINIMUM
  - USE FERMILAB COIL WINDING TRAVELER #XXXXXX FOR THIS COIL.
  - LEAD LENGTHS ARE APPROXIMATE, FINAL LENGTHS TO BE DETERMINED DURING ASSEMBLY OF COIL. APPROXIMATE LENGTH OF CONDUCTOR 30.5M (100LF) COIL BODY IS THE SAME AS THE LOWER COIL, ONLY THE LEADS ARE DIFFERENT.
  - ASSEMBLY TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS. ASSEMBLY TO BE FREE OF SHARP EDGES, CORNERS AND BURRS.
  - DIMENSIONS WITH TRAILING ZEROS DENOTE TOLERANCE.
  - APPROXIMATE WEIGHT OF SINGLE COIL: 50.5 KG (111 LBS)

**DETAIL F**  
 SCALE 3:2  
 CONDUCTOR:  
 12.0MM X 18.0MM RECTANGLE  
 DPG/KPT/BEARING TUBING  
 Ø8.0 ID  
 FIBERGLASS INSULATION:  
 1 LAYER 1/2 LAPPED, PLUS ONE  
 LAYER BUTT LAPPED  
 AROUND CONDUCTOR:0.535MM MAX  
 3 LAYERS BUTT LAPPED, AROUND  
 WHOLE COIL 1.78MM

ITEM	FERMI #	PART NAME	QTY
7	FC0104641	COIL GROUND INSULATION, PULSED DIPOLE MAGNET, ORNL STS	1
6	FC0104640	COIL CONDUCTOR INSULATION, PULSED DIPOLE MAGNET, ORNL STS	1
5	FC0104639	COIL, PULSED DIPOLE MAGNET, ORNL STS	1
4	F10205292	FILLER, OUTER LEAD EXIT, PULSED DIPOLE MAGNET, ORNL STS	1
3	F10205291	FILLER, TOP TRANSITION OUTER, PULSED DIPOLE MAGNET, ORNL STS	1
2	F10205290	FILLER, TOP TRANSITION INNER, PULSED DIPOLE MAGNET, ORNL STS	1
1	F10205289	FILLER, INNER LEAD CORNER, PULSED DIPOLE MAGNET, ORNL STS	1

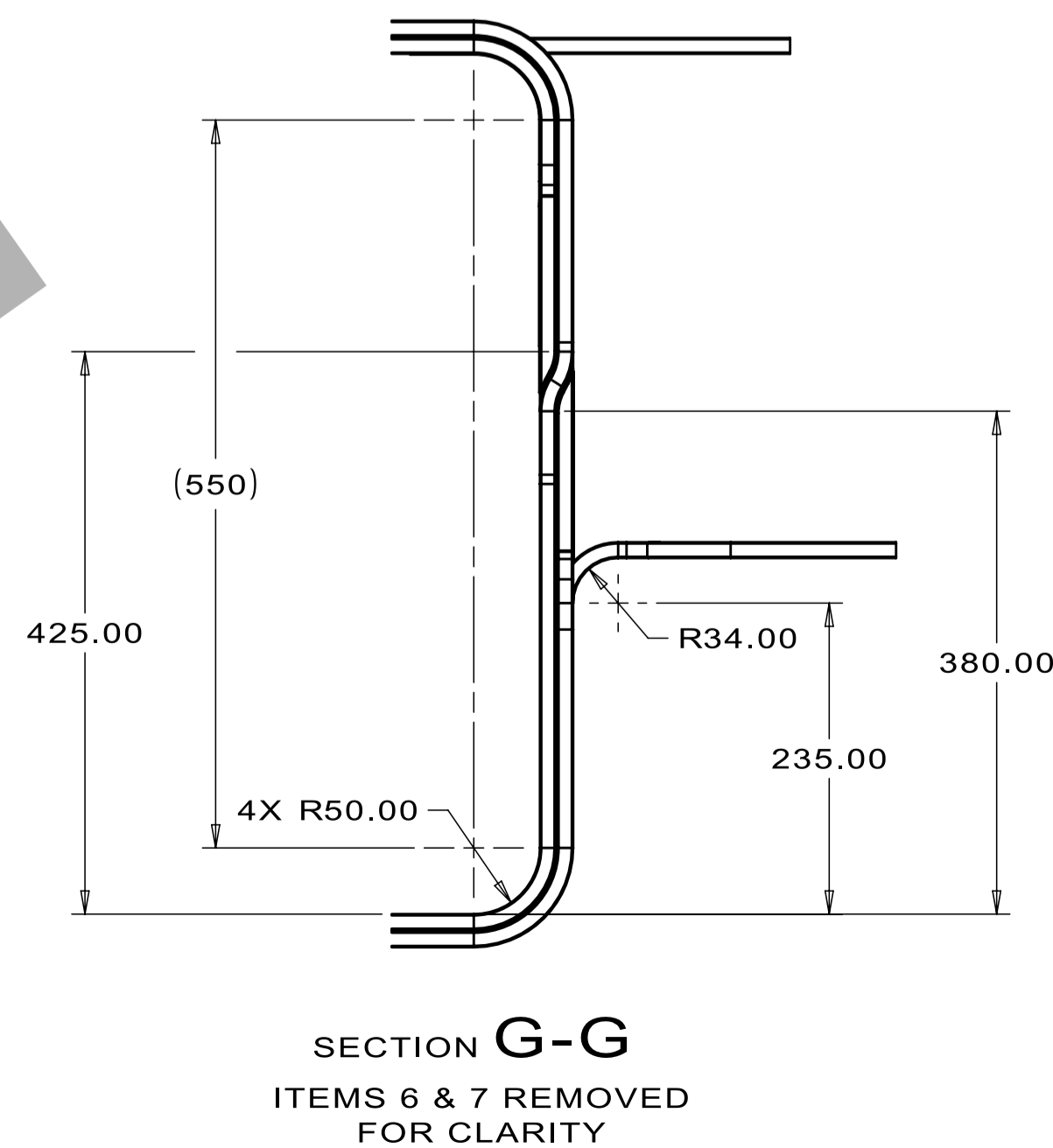
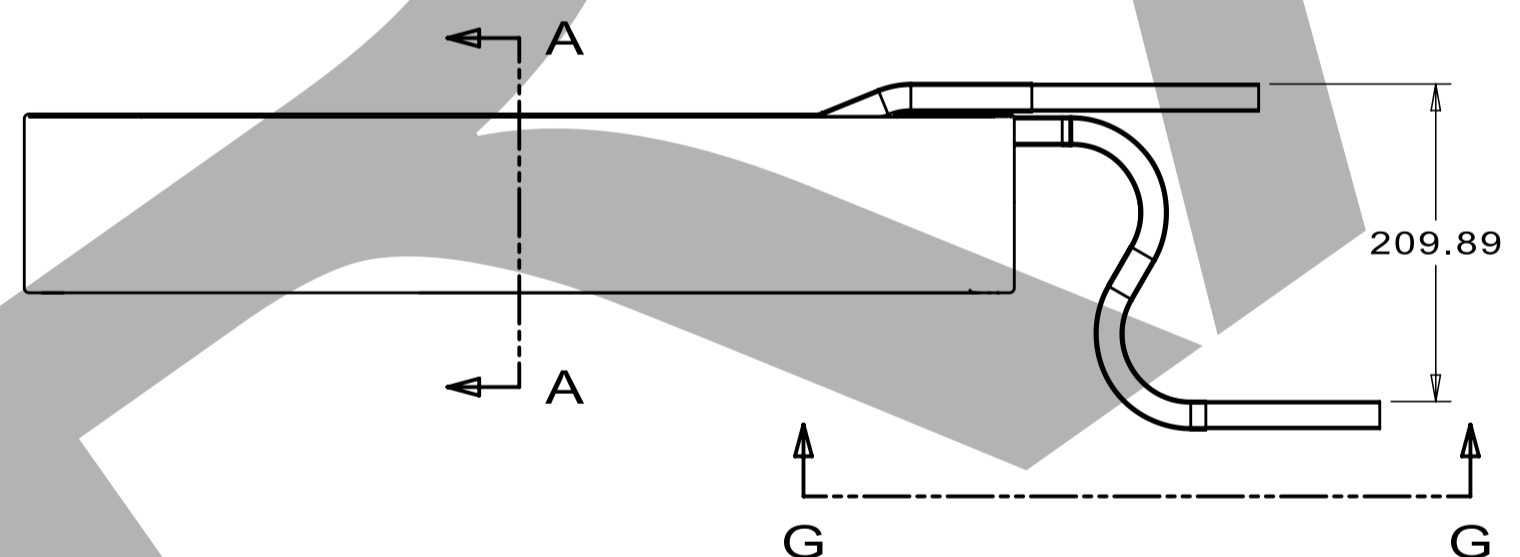
UNLESS OTHERWISE SPECIFIED				DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023
+X	+X	+X	+X	CHECKED		DATE	
2	0.3	0.12	N/A	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM				USED ON			
THIRD ANGLE PROJECTION				F10203414			
				MATERIAL			
				SEE PARTS LIST			
				GROUP: Technical Division - Design and Drafting			
				CAGE CODE: OUSRB			

PARTS LIST			
FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY			
COIL ASSEMBLY, UPPER, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET
1:5 & AS SHOWN	A1	F10182796	1 of 1



NOTES (UNLESS OTHERWISE SPECIFIED):

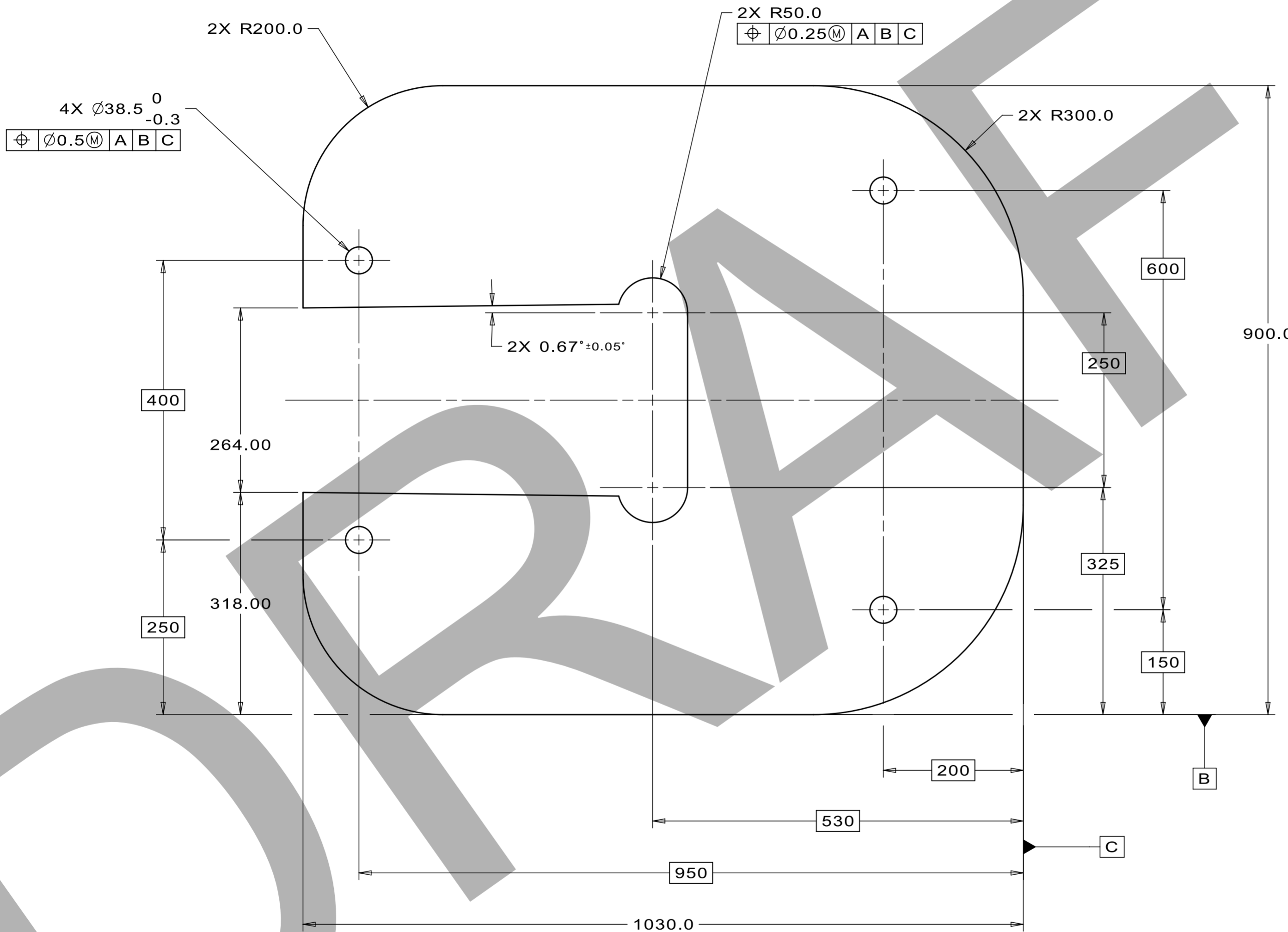
- THERE SHALL BE NO JOINTS IN THE CONDUCTOR.
- WIND BARE CONDUCTOR, USING ALUMINUM SHIMS BETWEEN TURNS AND AT BEND RADII TO FILL THE GAPS WHERE THE CONDUCTOR WILL LATER BE INSULATED WITH FIBERGLASS TAPE.
- REMOVE KEYSTONE AT BEND RADII BY BUFFING WHEEL OR FILING TO ACHIEVE CONDUCTOR TO CONDUCTOR DIMENSIONS. CLEAN CONDUCTOR TO REMOVE DIRT, OILS, AND METALLIC CHIPS.
- WRAP CONDUCTOR WITH 1 LAYER HALF LAPPED 1" WIDE X .007" THICK FIBERGLASS TAPE, FOLLOWED BY 1 LAYER BUTT WRAPPED OF THE SAME FIBERGLASS TAPE.
- WRAP COIL WINDING WITH 5 LAYERS HALF LAPPED 1" WIDE X .007" THICK FIBERGLASS TAPE.
- STAMP COIL PART NUMBER IN 3MM HIGH CHARACTERS ON THE COIL LEAD.
- ELECTRIC TEST:  
 A. MEASURE RESISTANCE AND RECORD TEMPERATURE. (CALCULATED RESISTANCE)  
 B. MEASURE INDUCTANCE.  
 C. IMPULSE TEST.  
 D. HIPOT 1000V DC, LEAKAGE CURRENT SHALL NOT EXCEED 51A.
- ALL WATER PARTS AND CONNECTIONS MUST CONFORM TO ASME B31.3 CATEGORY D FLUID SERVICES.
- WATER TEST: PRESSURE 225PSI 30 MINUTES, NO VISIBLE LEAKS.
- WATER FLOW TEST:  
 630 K Pa (90psi)dP  
 0.0259LL/S (0.41 gpm) MINIMUM
- USE FERMILAB COIL WINDING TRAVELER #XXXXXX FOR THIS COIL.
- LEAD LENGTHS ARE APPROXIMATE, FINAL LENGTHS TO BE DETERMINED DURING ASSEMBLY OF COIL. APPROXIMATE LENGTH OF CONDUCTOR 30.5M (100LF) COIL BODY IS THE SAME AS THE UPPER COIL, ONLY THE LEADS ARE DIFFERENT.
- ASSEMBLY TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS. ASSEMBLY TO BE FREE OF SHARP EDGES, CORNERS AND BURRS.
- DIMENSIONS WITH TRAILING ZEROS DENOTE TOLERANCE.
- APPROXIMATE WEIGHT OF SINGLE COIL: 50.5 KG (111 LBS)



ITEM	FERMI #	PART NAME	QTY
7	FC0104641	COIL GROUND INSULATION, PULSED DIPOLE MAGNET, ORNL STS	1
6	FC0104640	COIL CONDUCTOR INSULATION, PULSED DIPOLE MAGNET, ORNL STS	1
5	FC0104639	COIL, PULSED DIPOLE MAGNET, ORNL STS	1
4	F10205292	FILLER, OUTER LEAD EXIT, PULSED DIPOLE MAGNET, ORNL STS	1
3	F10205291	FILLER, TOP TRANSITION OUTER, PULSED DIPOLE MAGNET, ORNL STS	1
2	F10205290	FILLER, TOP TRANSITION INNER, PULSED DIPOLE MAGNET, ORNL STS	1
1	F10205289	FILLER, INNER LEAD CORNER, PULSED DIPOLE MAGNET, ORNL STS	1

UNLESS OTHERWISE SPECIFIED		DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023
+X	+X.X	+X.XX	+X.XX	CHECKED	
2	0.3	0.12	N/A	DATE	
BREAK ALL SHARP EDGES, MAX: 0.5		APPROVED			
DO NOT SCALE DRAWINGS		USED ON			
DIMENSIONS BASED ON: ASME Y14.5M-2009		F10203414			
MAX MACHINE ALL SURFACES, Ra: 3.2		MATERIAL			
DRAWING UNITS: MM		SEE PARTS LIST			
THIRD ANGLE PROJECTION		GROUP: Technical Division - Design and Drafting			
		SCALE		SIZE	DRAWING NUMBER
		1:5 & AS SHOWN		A1	F10182797
		SHEET		REV	
		1 of 1		-	

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10183566---RCD		DRAWN APPROVED



NOTES (UNLESS OTHERWISE SPECIFIED):

1. PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.
4. EXACT LAMINATION THICKNESS DETERMINED AT MANUFACTURING.

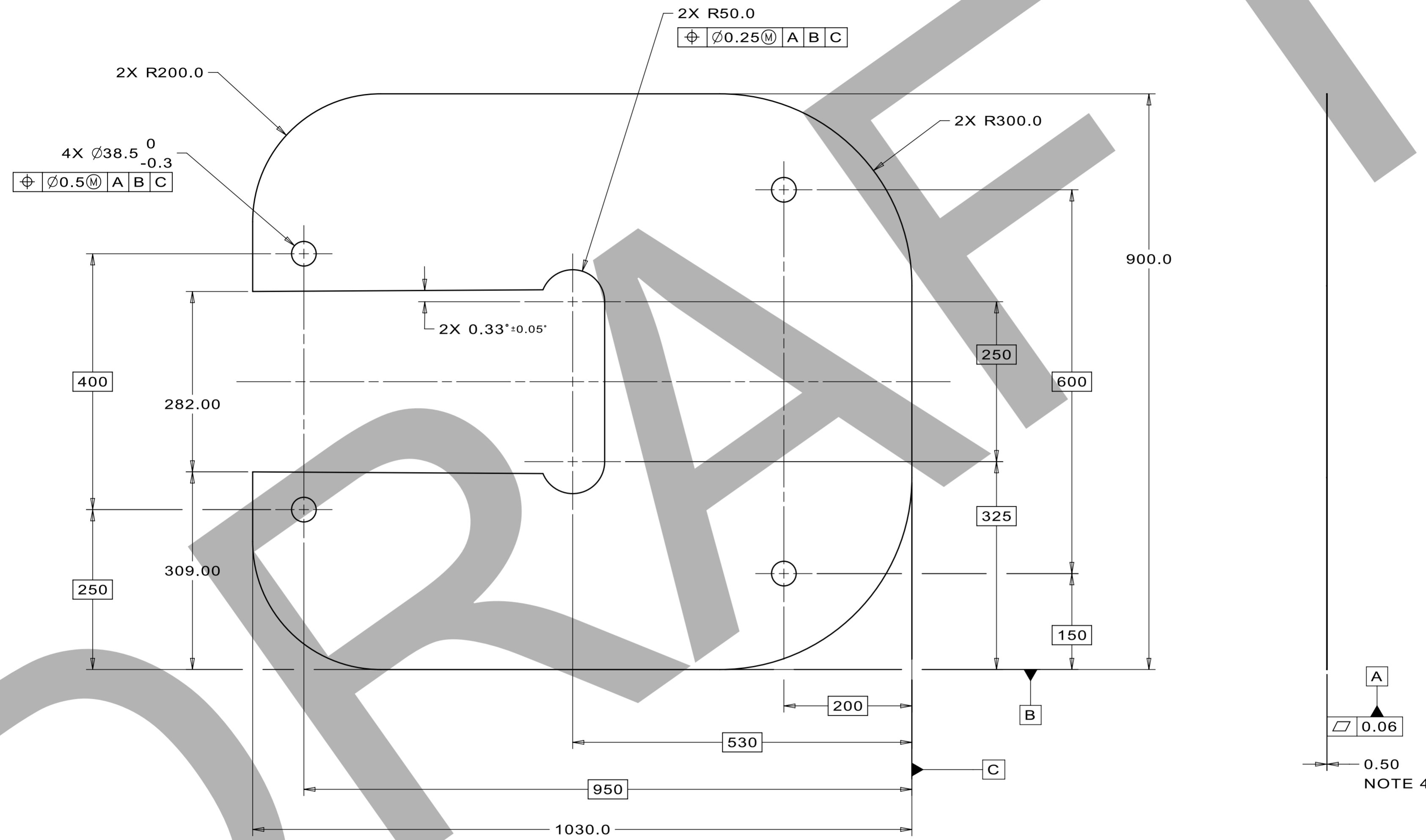
SNS S02040000-M8U-8820-A10005

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
±X	±X.X	±X.XX	±X/X	±X'	CHECKED		DATE	
2	0.3	0.12	N/A	1'	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					USED ON			
					F10182791, F10183600			
					MATERIAL			
					ASTM A677 NON-ORIENTED ELECTRICAL STEEL, M-15			
					GROUP: Technical Division - Design and Drafting			
					CAGE CODE: OJ5R6			

<p>FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY</p>				NAME	
				LAMINATION 1, END PACK, PULSED DIPOLE MAGNET, ORNL STS	
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:5	A2	F10183566	1 of 1	-	

TEMPLATE VERSION: 2021.08.06

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10183567---RCD		DRAWN APPROVED



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- EXACT LAMINATION THICKNESS TO BE DETERMINED AT MANUFACTURE.

SNS S02040000-M8U-8820-A10006

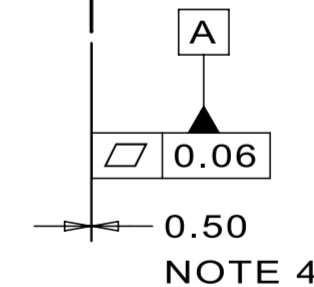
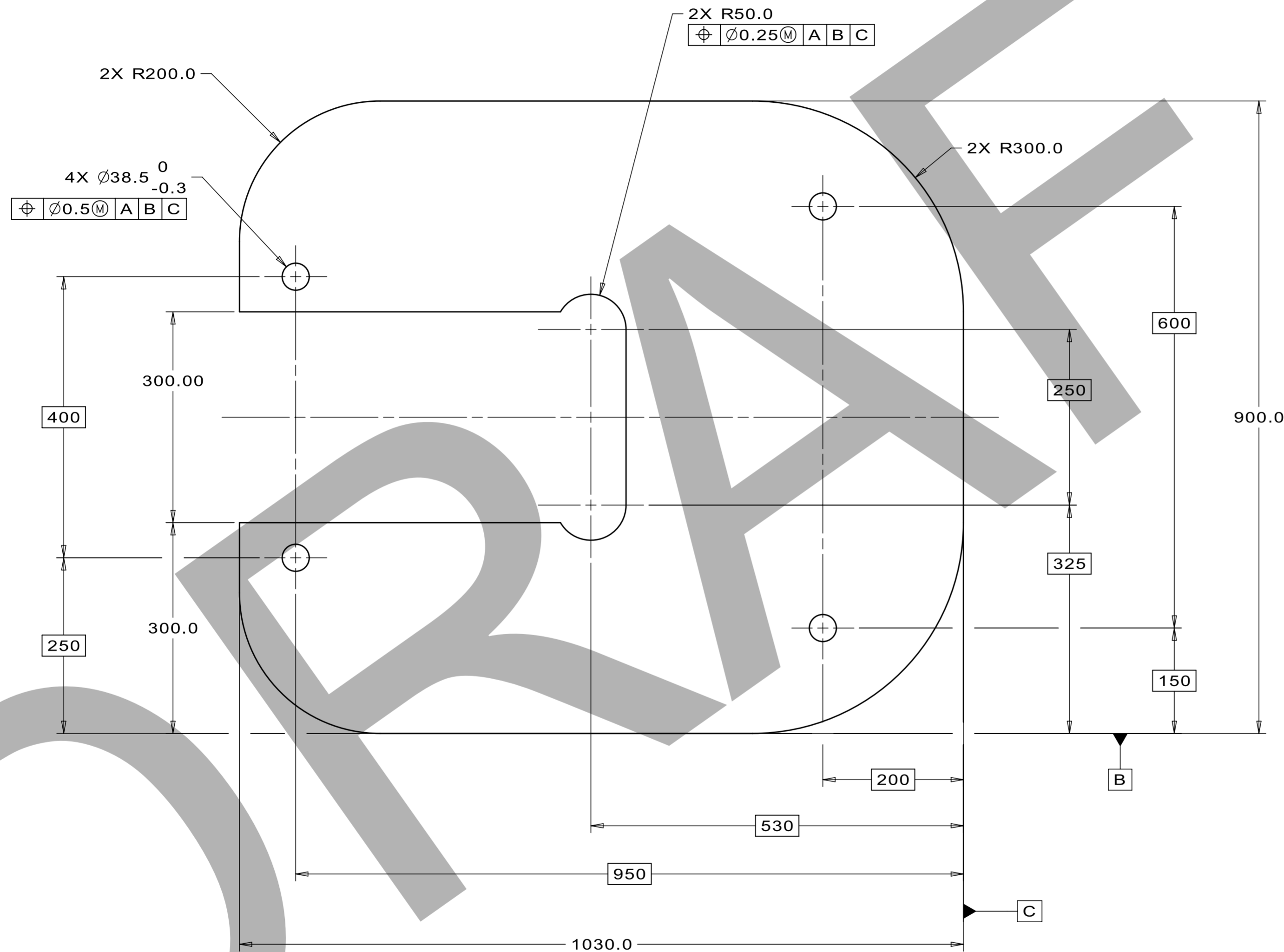
UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
±X	±X.X	±X.XX	±X/X	±X°	CHECKED		DATE	
2	0.3	0.12	N/A	1°	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5					USED ON			
DO NOT SCALE DRAWING					F10182791, F10183600			
DIMENSIONS BASED ON: ASME Y14.5M-2009					MATERIAL			
MAX MACHINE ALL SURFACES, Ra: 3.2					ASTM A677 NON-ORIENTED ELECTRICAL STEEL, M-15			
DRAWING UNITS: MM					GROUP: Technical Division - Design and Drafting			
THIRD ANGLE PROJECTION					CAGE CODE: OJ5R6			

<p>FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY</p>				NAME	
				LAMINATION 2, END PACK, PULSED DIPOLE MAGNET, ORNL STS	
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:5	A2	F10183567	1 of 1	-	

TEMPLATE VERSION: 2021.08.06



REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10183568---RCD		DRAWN APPROVED



NOTES (UNLESS OTHERWISE SPECIFIED):

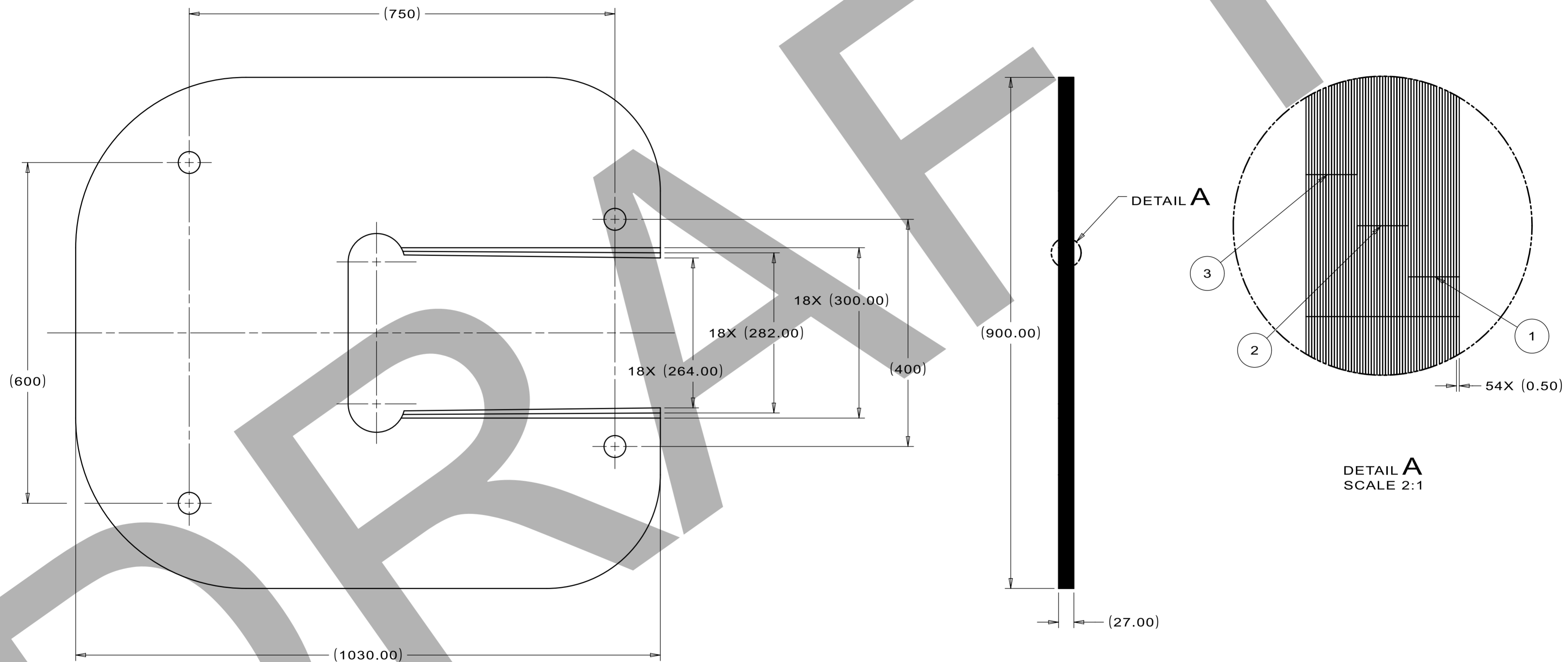
- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- EXACT LAMINATION THICKNESS DETERMINED AT MANUFACTURE.

SNS S02040000-M8U-8820-A10007

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
±X	±X.X	±X.XX	±X/X	±X'	CHECKED		DATE	
2	0.3	0.12	N/A	1'	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					USED ON			
<p>THIRD ANGLE PROJECTION</p>					F10182791, F10183600			
					MATERIAL ASTM A677 NON-ORIENTED ELECTRICAL STEEL, M-15			
GROUP: Technical Division - Design and Drafting					CAGE CODE: OJ5R6			

FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY			
NAME LAMINATION 3, END PACK, PULSED DIPOLE MAGNET, ORNL STS			
SCALE 1:5	SIZE A2	DRAWING NUMBER F10183568	SHEET 1 of 1
		REV -	

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10183600---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

1. ASSEMBLY TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. ASSEMBLY TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.

ITEM	FERMI #	PART NAME	QTY
3	F10183568	LAMINATION 3, END PACK, PULSED DIPOLE MAGNET, ORNL STS	18
2	F10183567	LAMINATION 2, END PACK, PULSED DIPOLE MAGNET, ORNL STS	18
1	F10183566	LAMINATION 1, END PACK, PULSED DIPOLE MAGNET, ORNL STS	18

PARTS LIST				
DRAWN		J.VANDER MEULEN	DATE	08-Sep-2023
CHECKED			DATE	
APPROVED			DATE	
USED ON		F10182790		
MATERIAL		SEE PARTS LIST		
SCALE	SIZE	DRAWING NUMBER	SHEET	REV
1:5 & AS SHOWN	A2	F10183600	1 of 1	-

UNLESS OTHERWISE SPECIFIED				
±X	±X.X	±X.XX	±X/X	±X'
2	0.3	0.12	N/A	1'

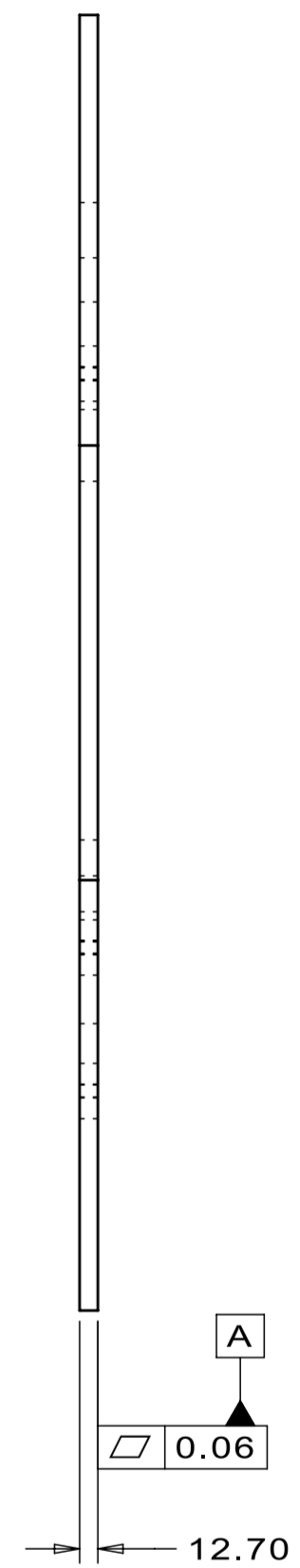
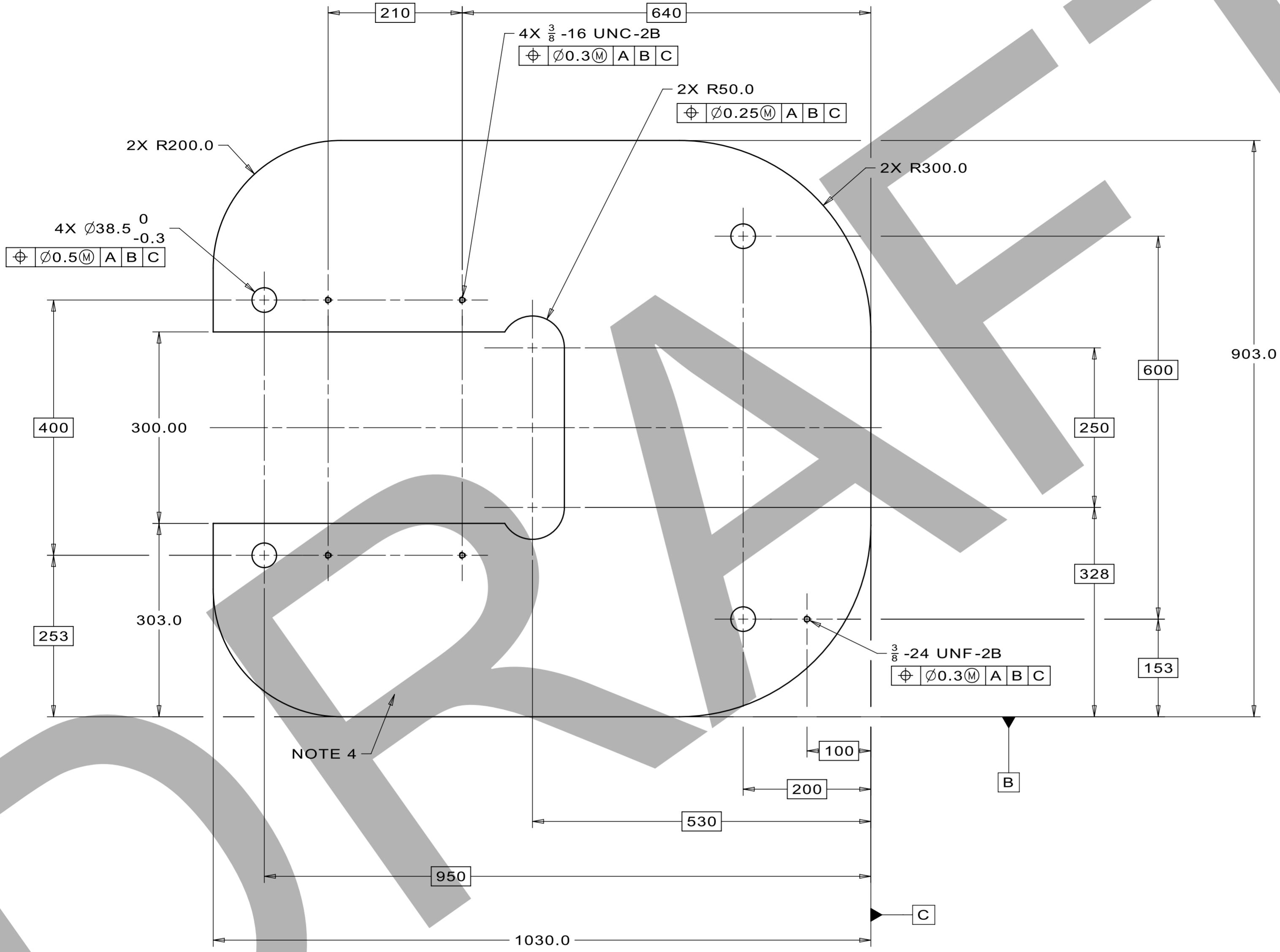
BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

SNS S02040000-M8U-8820-A10009

TEMPLATE VERSION: 2021.08.06

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10183601---RCD		DRAWN APPROVED



NOTE 4

NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- MARK IN THIS AREA, NEAR EDGE: "BOTTOM"

SNS S02020300-M8U-8820-A10010

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
±X	±X.X	±X.XX	±X/X	±X'	CHECKED		DATE	
2	0.3	0.12	N/A	1'	APPROVED		DATE	

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

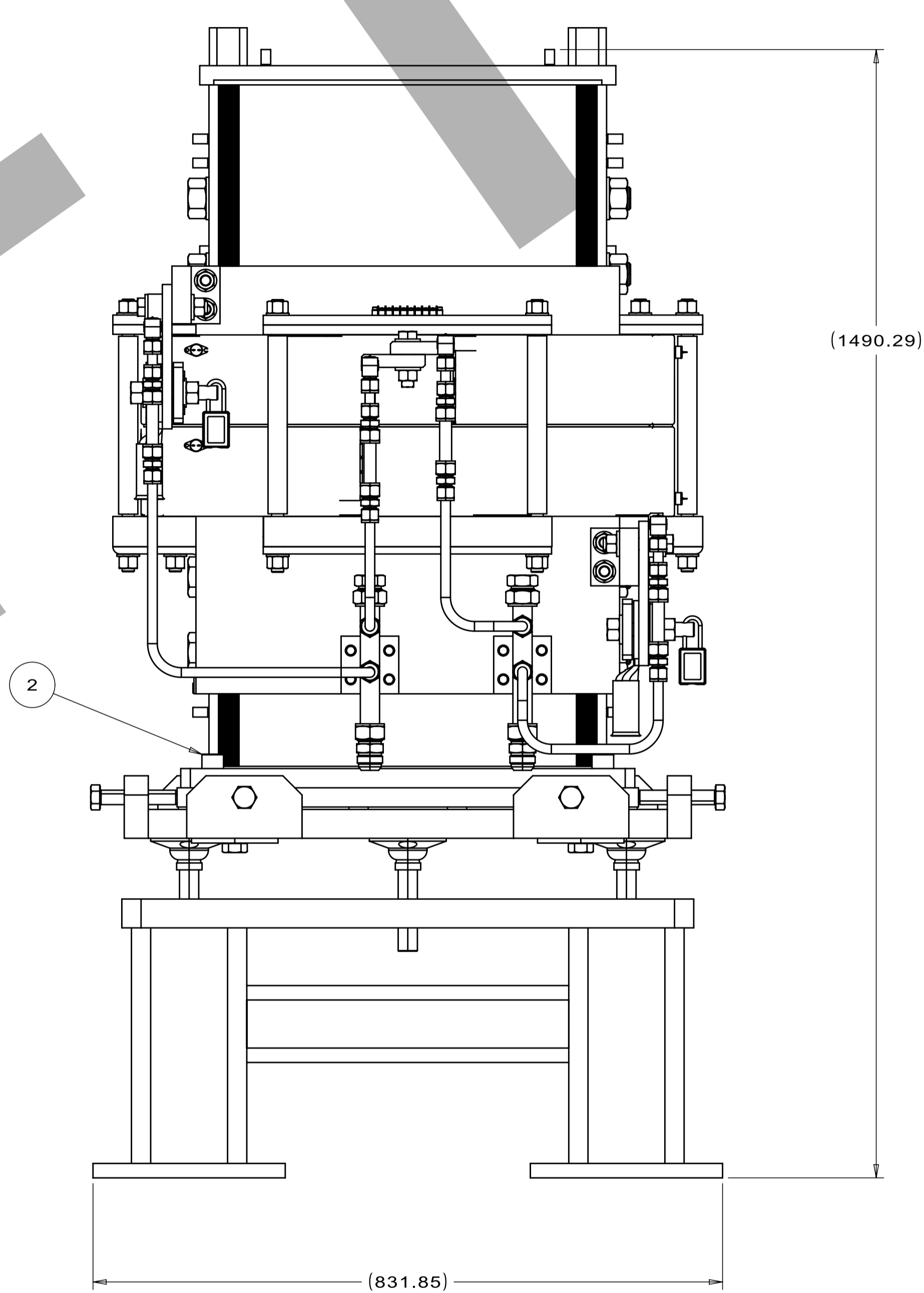
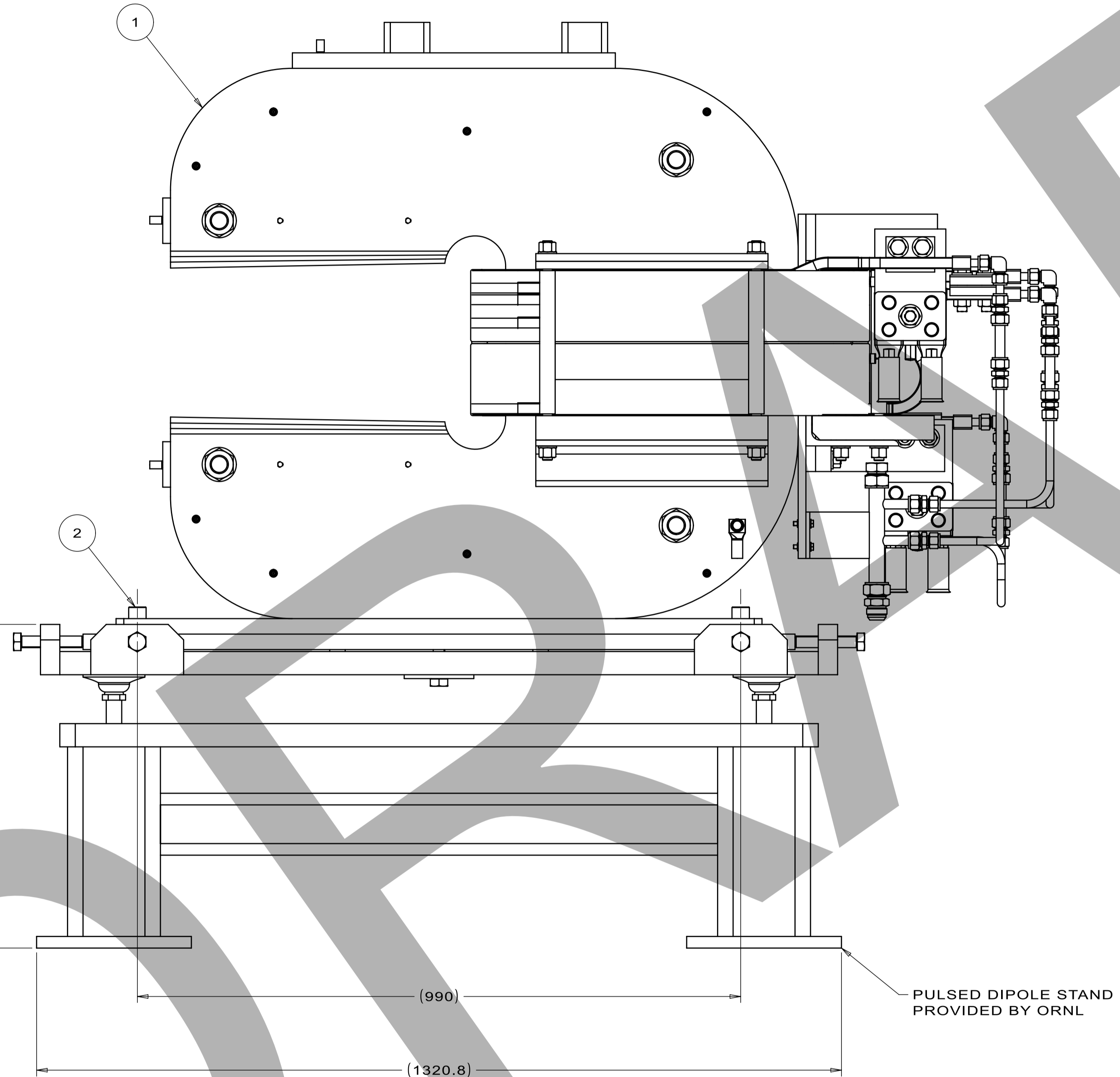
THIRD ANGLE PROJECTION

USED ON	F10186818
MATERIAL	304 STAINLESS STEEL
GROUP:	Technical Division - Design and Drafting
CAGE CODE:	OU5R6

<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME END PLATE, LH, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET
1:5	A2	F10183601	1 of 1
REV			-

TEMPLATE VERSION: 2021.08.06

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10183603--RCD		



ITEM	VENDOR #	FERMI #	PART NAME	QTY
2	FC0005781	SHCS, 3/4-10x1.75LGxFT, G8S, Z		4
1	F10203414	PULSED DIPOLE MAGNET ASSEMBLY, ORNL STS		1

PARTS LIST			
<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
PULSED DIPOLE MAGNET ASSEMBLY, WITH STAND, ORNL STS			

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	20-Oct-2023
+X	+X	+X	+X	+X	CHECKED		DATE	
2	0.3	0.12	N/A	1'	APPROVED		DATE	

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

SNS S02040000-M8U-8820-A10001

SCALE	SIZE	DRAWING NUMBER	SHEET	REV
1:5	A1	F10183603	1 of 1	-

4

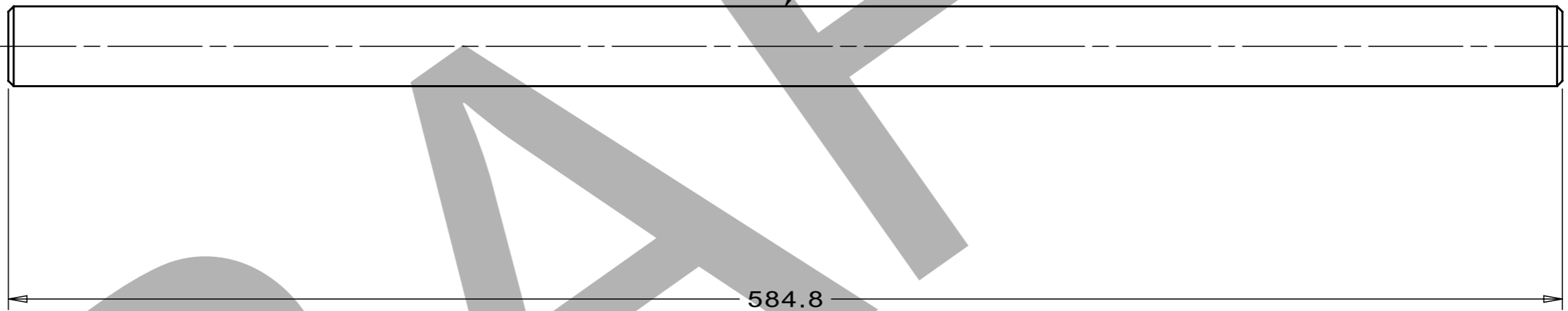
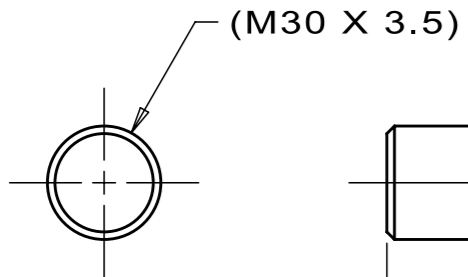
3

2

1

DESCRIPTION: THREADED ROD, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: ROD

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10185893---RCD		DRAWN	
			APPROVED	


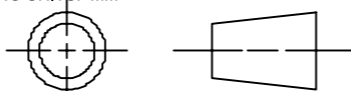


NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

1	McMASTER-CARR 1077N18	FC0072983	THREADED ROD, M30x3.5X1M LG, CLASS 12.9 HIGH STRENGTH STEEL	1
ITEM	VENDOR #	FERMILAB #	PART NAME	QTY

PARTS LIST

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023	 <b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY
+X	+X.X	+X.XX	+X/X	+X"	CHECKED		DATE		
2	0.3	0.12	N/A	1"	APPROVED		DATE		
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					USED ON				NAME
 THIRD ANGLE PROJECTION					F10182790				THREADED ROD, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS
					MATERIAL				SCALE
					CARBON STEEL ALLOY, CLASS 12.9				1:2
					GROUP: Technical Division - Design and Drafting				SIZE
					CAGE CODE: OU5R6				A3
									DRAWING NUMBER
									F10185893
									SHEET
									1 OF 1
									REV
									-

SNS S02040000-M8U-8820-A10012

TEMPLATE VERSION: 2021.08.06

4

3

2

1

4

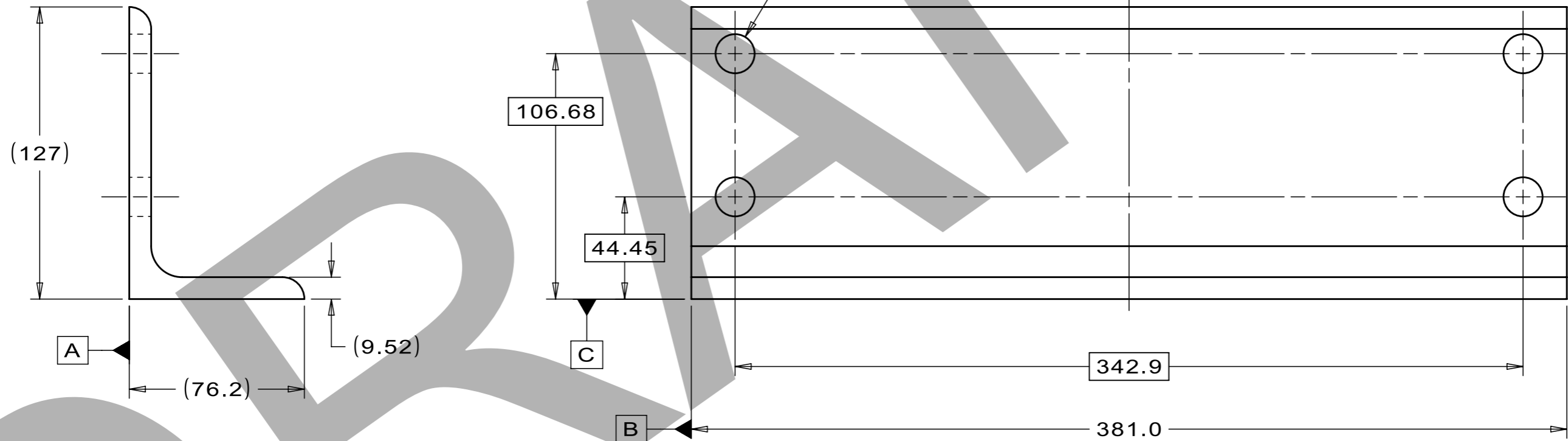
3

2

1

DESCRIPTION: ANGLE SIDE,CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-ST5\_Magnets  
CATEGORY: ANGLE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10185912---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10186818, F10186819		
MATERIAL	304 STAINLESS STEEL ANGLE 3"X5", .375"THK		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME ANGLE SIDE,CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS			
SCALE 1:2	SIZE A3	DRAWING NUMBER F10185912	SHEET 1 OF 1	REV -	

SNS S02040000-M8U-8820-A10019

4

3

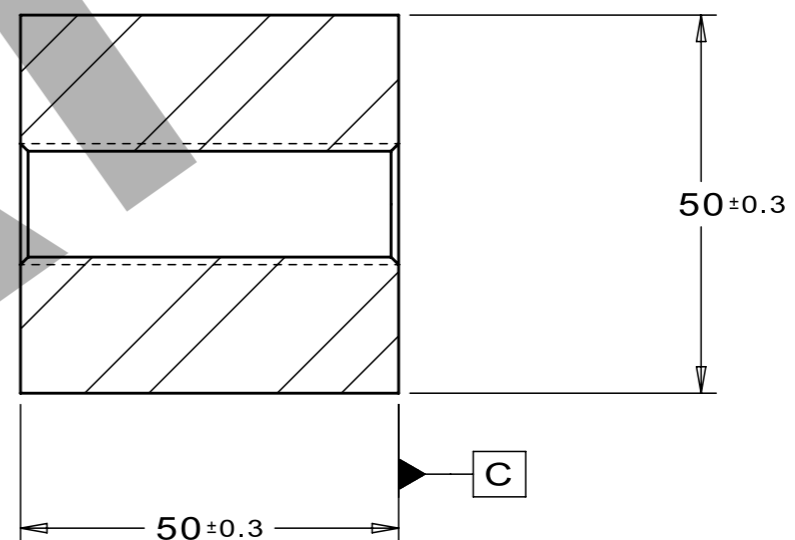
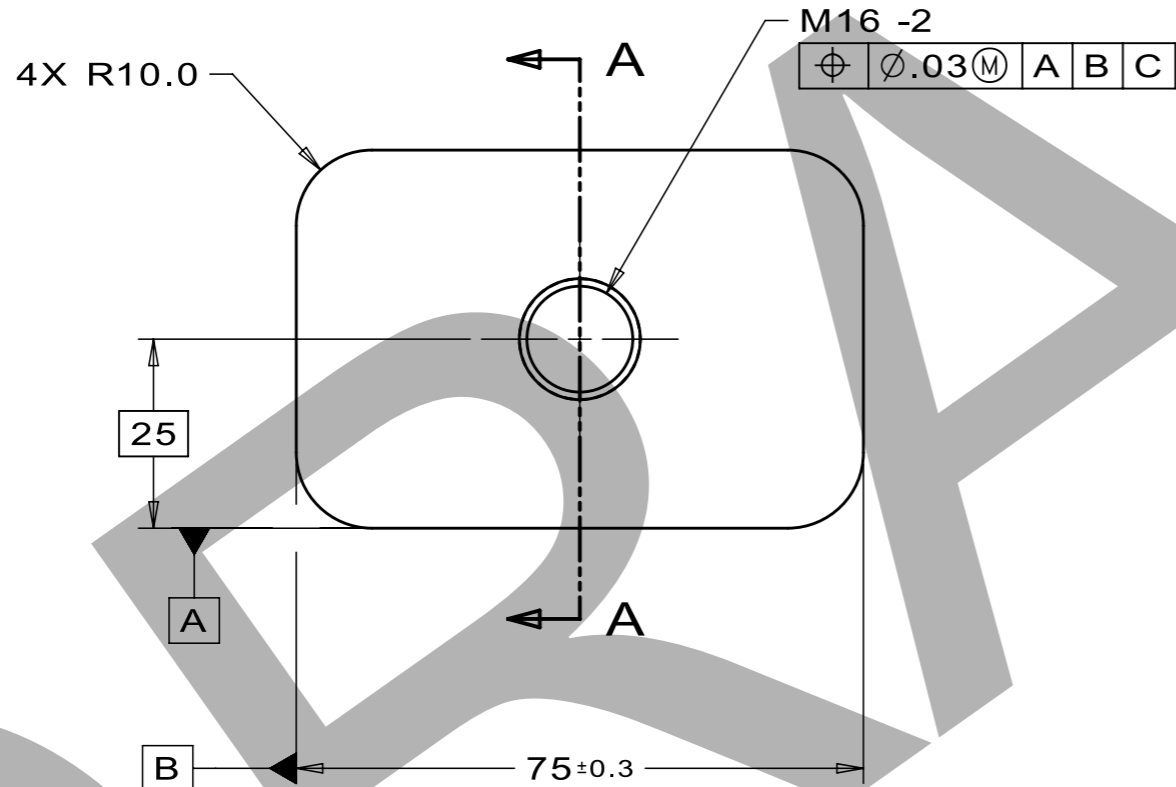
2

1

TEMPLATE VERSION: 2021.06.06

DESCRIPTION: BLOCK, HOIST RING, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: BLOCK

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10185915---RCD		DRAWN	
			APPROVED	



SECTION A-A

NOTES (UNLESS OTHERWISE SPECIFIED):

1. PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10186818, F10186819		
MATERIAL	304 STAINLESS STEEL		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

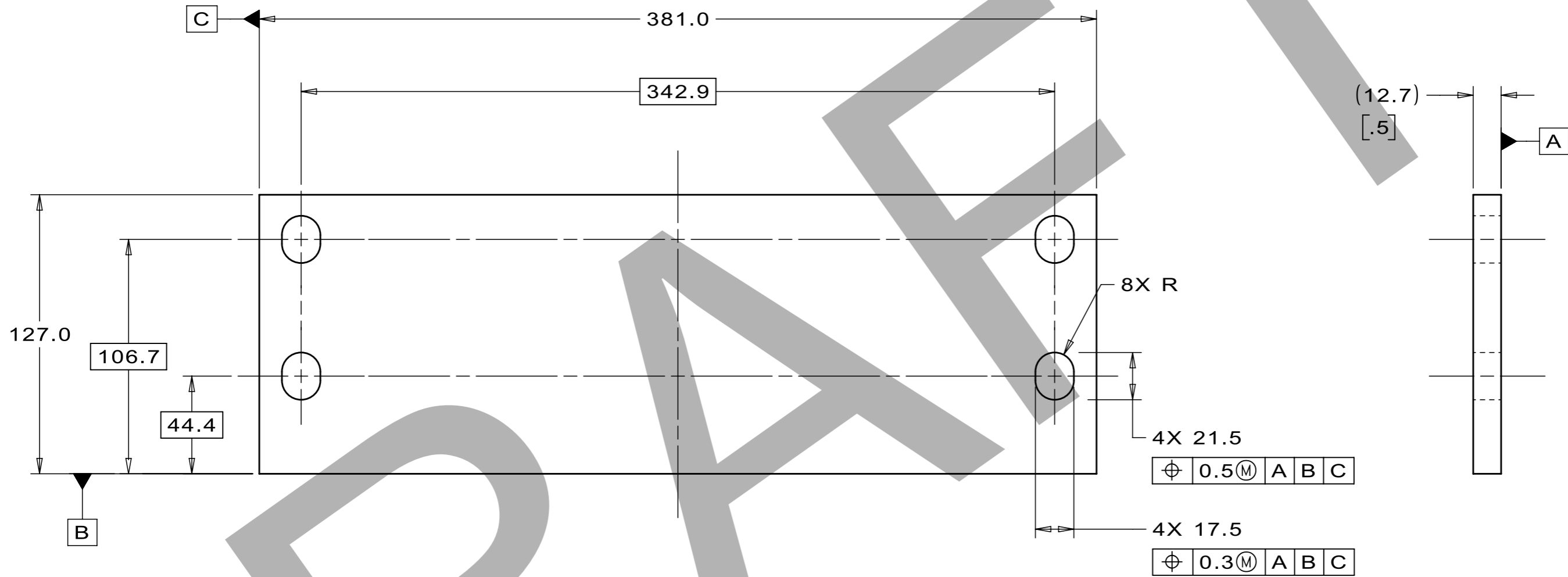
 <b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY				
				NAME <b>BLOCK, HOIST RING, PULSED DIPOLE MAGNET, ORNL STS</b>
SCALE	SIZE	DRAWING NUMBER	SHEET	REV
1:1	A3	F10185915	1 OF 1	-

SNS S02040000-M8U-8820-A10020

TEMPLATE VERSION: 2021.08.06

DESCRIPTION: INSULATOR PLATE TOP, COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10185917---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- DIMENSIONS IN [X.X] ARE INCH.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	R.NOCEDA	DATE	29-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10187024, F10189029		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE .5" THK. STOCK		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME INSULATOR PLATE TOP, COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:2	A3	F10185917	1 OF 1	-	

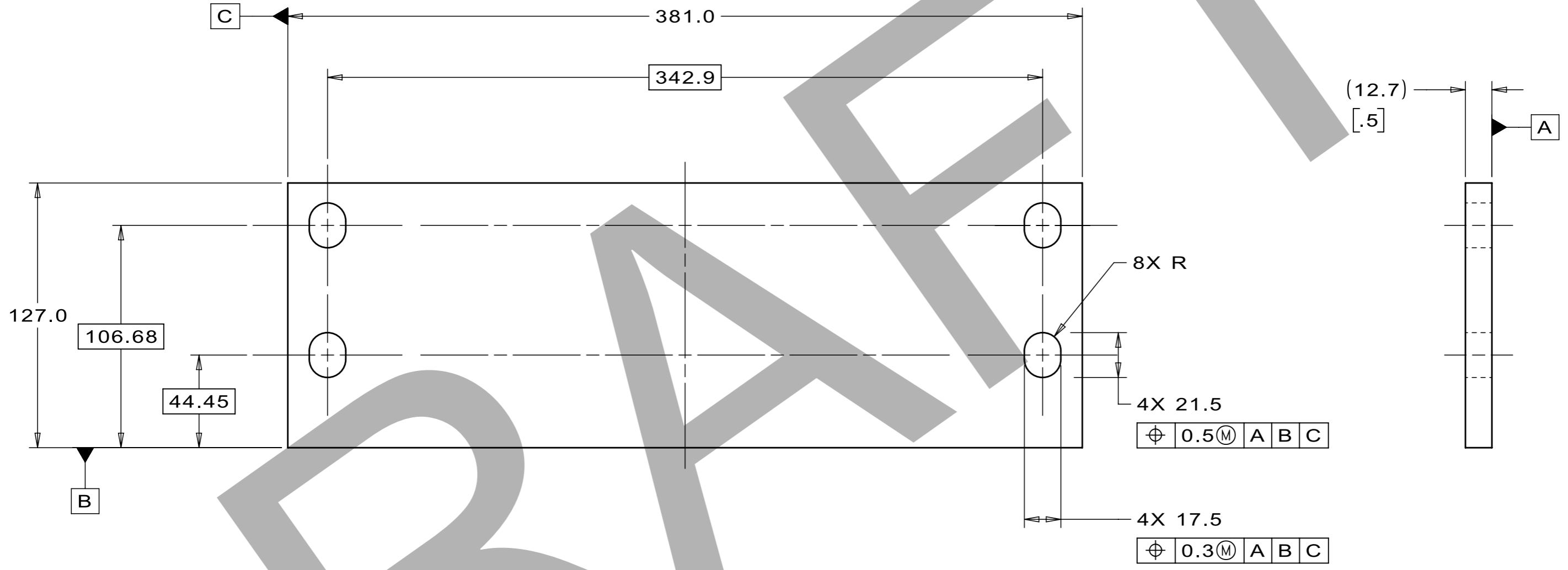
SNS S02040000-M8U-8820-A10033

TEMPLATE VERSION: 2021.06.06



DESCRIPTION: PLATE, TOP, SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10185918---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- DIMENSIONS IN [X.X] ARE INCH.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	R.NOCEDA	DATE	29-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10187024		
MATERIAL	316L STAINLESS STEEL .5" THK. STOCK		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME <b>PLATE, TOP, SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS</b>			
SCALE	SIZE	DRAWING NUMBER	SHEET
1:2	A3	F10185918	1 OF 1
			REV
			-

SNS S02040000-M8U-8820-A10034

TEMPLATE VERSION: 2021.06.06

4

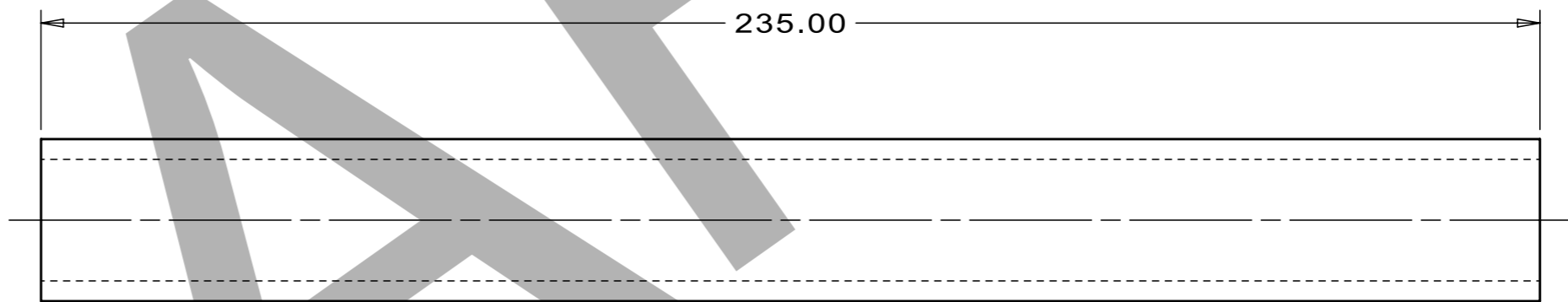
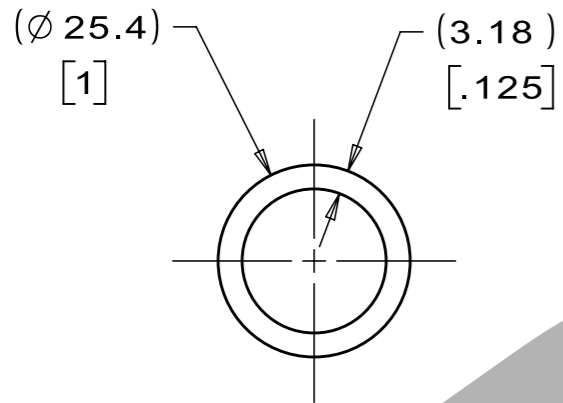
3

2

1

DESCRIPTION: INSULATOR TUBE, COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: TUBE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10185996---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- DIMENSIONS IN [X.X] ARE INCH.

TEMPLATE VERSION: 2021.06.06

SNS S02040000-M8U-8820-A10035

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	R.NOCEDA	DATE	29-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10187024, F10189029		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE 1" OD X .125" WALL, TUBE		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME INSULATOR TUBE, COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS			
SCALE 1:1	SIZE A3	DRAWING NUMBER F10185996	SHEET 1 OF 1	REV -	

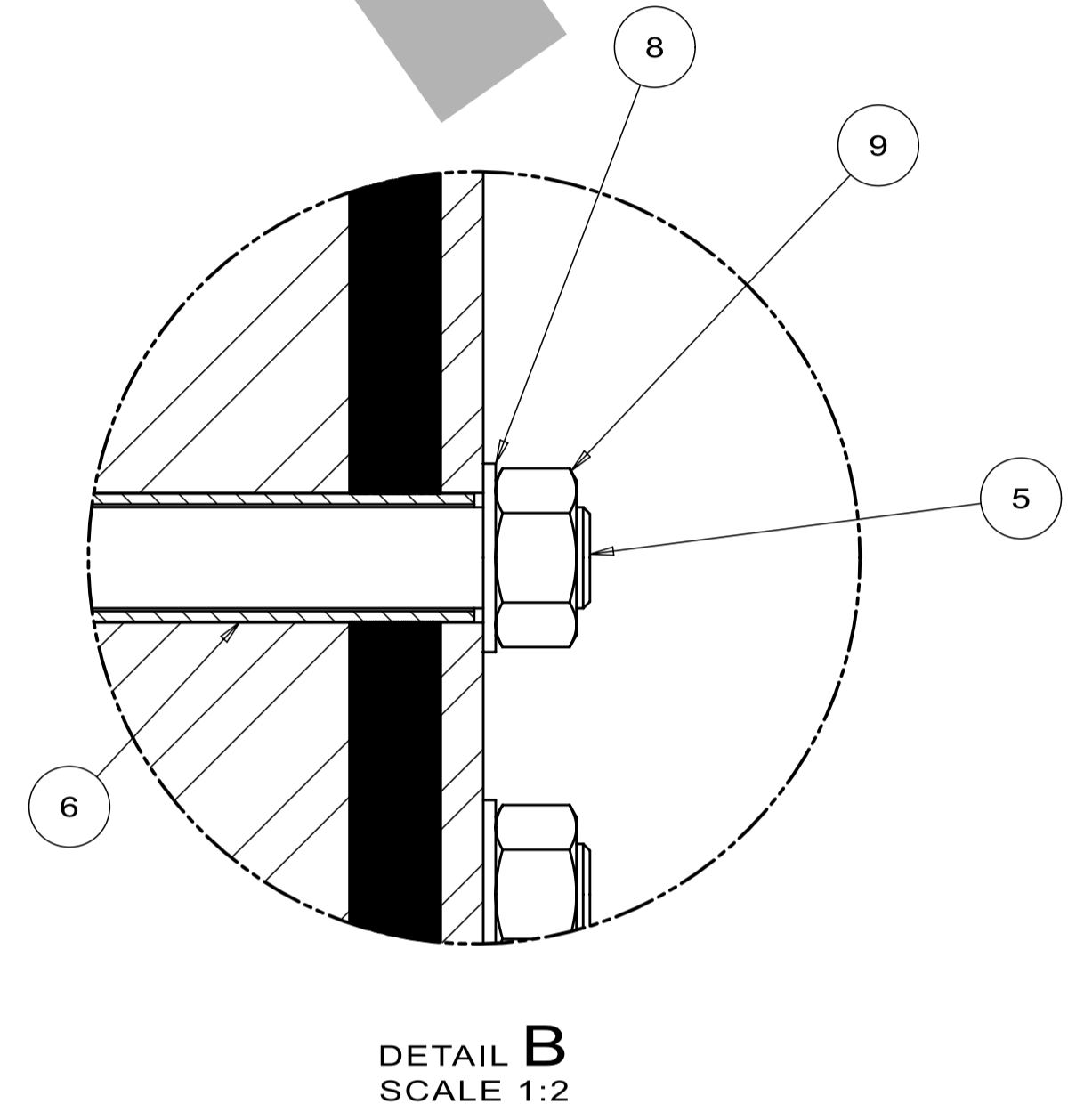
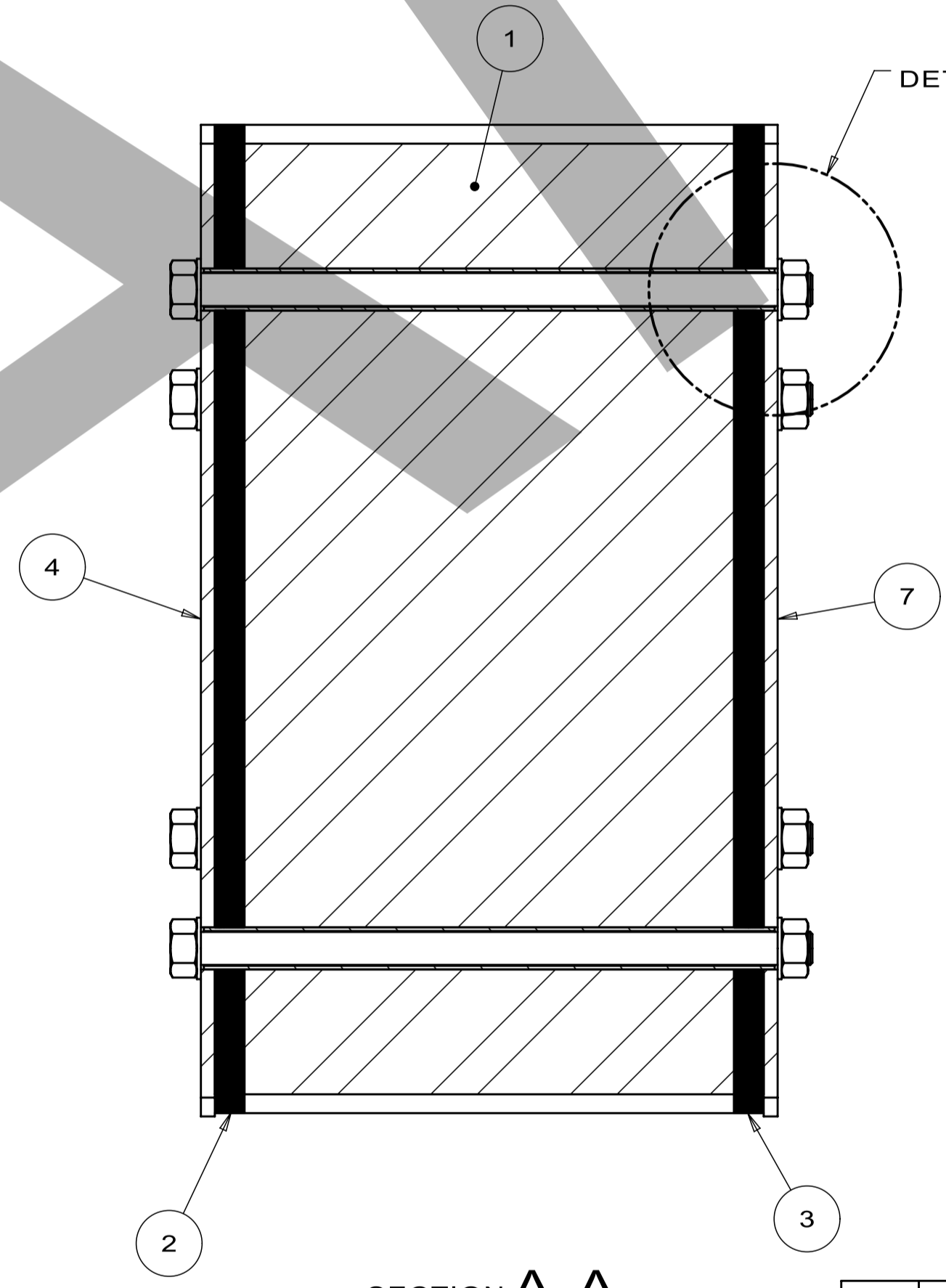
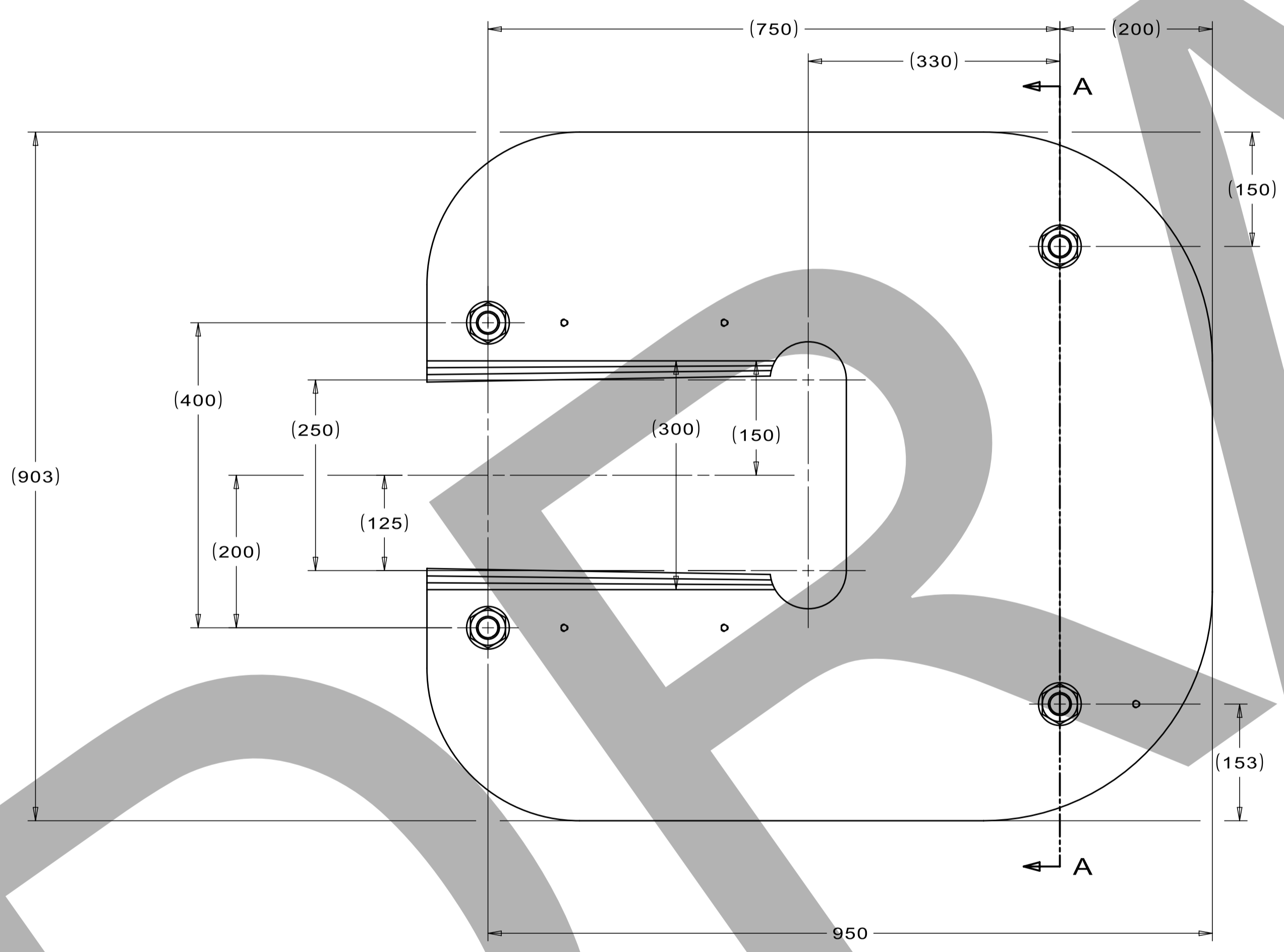
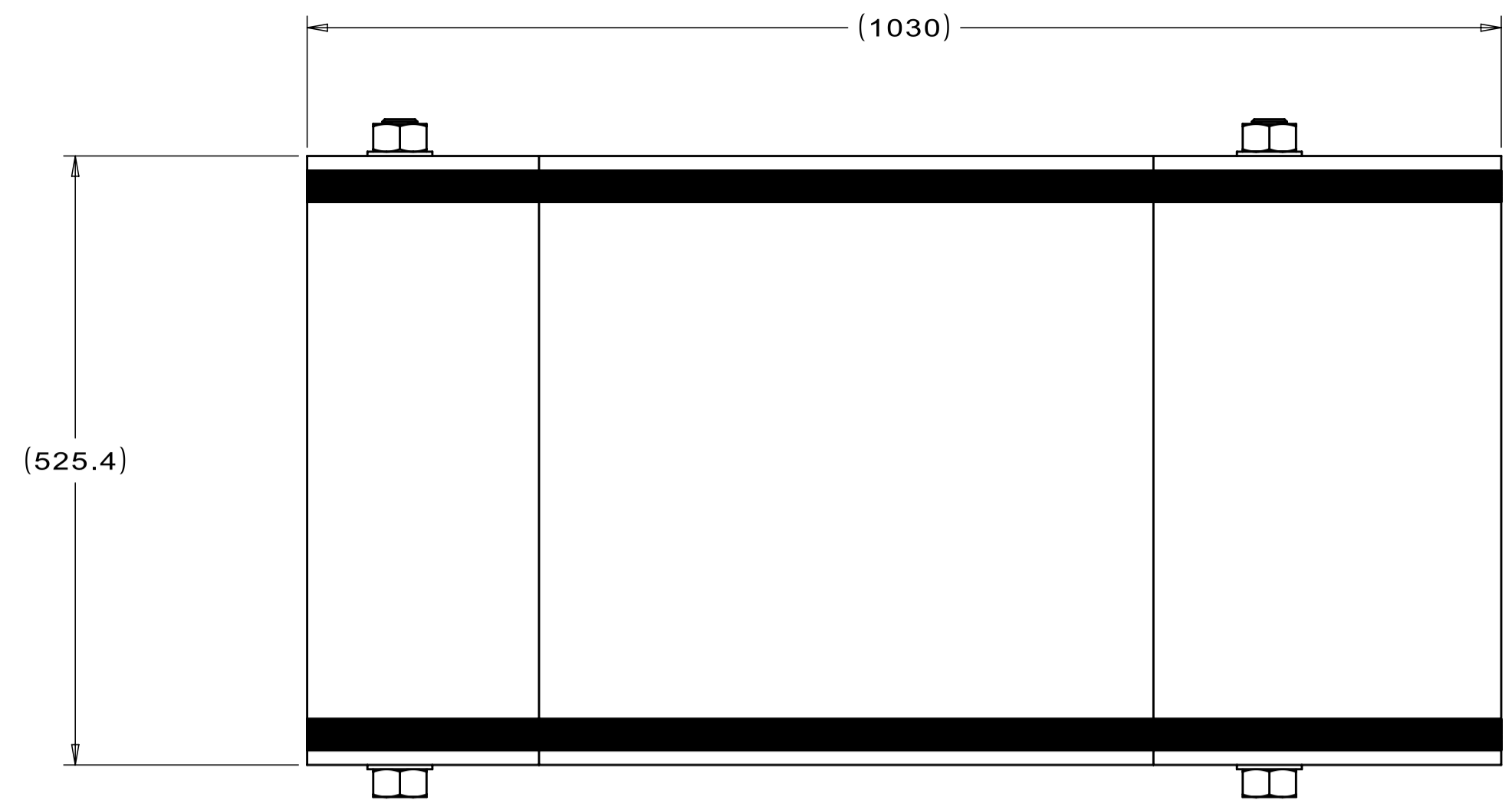
4

3

2

1

REV	REVISION CONTROL DOCUMENT	DATES	DRAWN	SIGNATURES
-	F10186818--RCD		APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

1. WELDMENT TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. WELDMENT TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.
4. ALL FILLET WELDS TO BE SMOOTH FOR COSMETIC APPEARANCE.
5. VENDOR TO SUPPLY ALL MATERIAL CERTIFICATION DOCUMENTS.

ITEM	VENDOR #	FERMI #	PART NAME	QTY
9		FC0072981	NUT-HEX, M30x3.5MM x46x24, CLASS 12 STEEL EXTREME STRENGTH	8
8		FC0016212	WASHER, M30-31x56x3.7, C10.9S, Z	8
7		F10196517	END PLATE, RH, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS	1
6		F10189484	INSULATING SLEEVE, CORE RODS, PULSED DIPOLE MAGNET, ORNL STS	4
5		F10185893	THREADED ROD, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS	4
4		F10183601	END PLATE, LH, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS	1
3		F10183600	END PACK, RH, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS	1
2		F10182791	END PACK, LH, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS	1
1		F10182786	LAMINATION, PULSED DIPOLE MAGNET, ORNL STS	892

UNLESS OTHERWISE SPECIFIED				DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
+X	+X.X	+X.XX	+X.XX	CHECKED		DATE	
2	0.3	0.12	N/A	APPROVED		DATE	

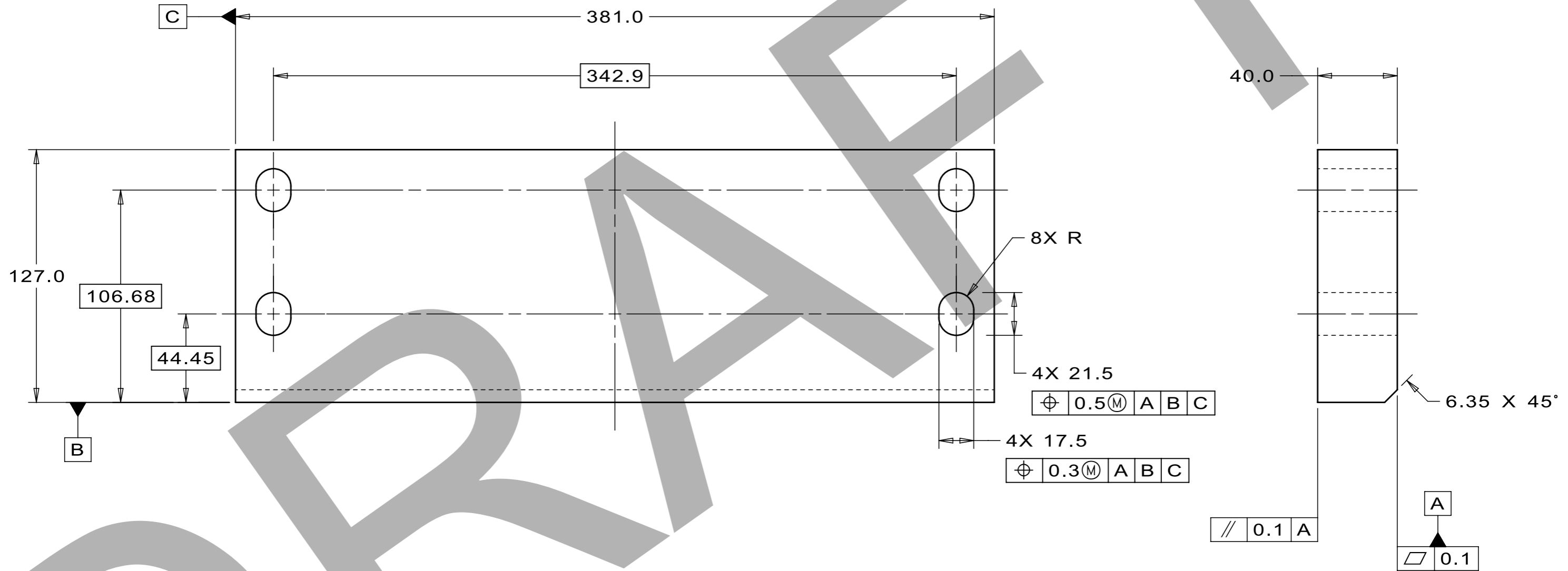
BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

GROUP: Technical Division - Design and Drafting | CAGE CODE: OUSR6

SCALE: 1:2 | SIZE: A1 | DRAWING NUMBER: F10186818 | SHEET: 1 OF 1 | REV: -

DESCRIPTION: PLATE, BOTTOM, SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10186868---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED					DRAWN	R.NOCEDA		DATE	29-Sep-2023	
+X	+X.X	+X.XX	+X/X	+X"	CHECKED			DATE		
2	0.3	0.12	N/A	1"	APPROVED			DATE		
BREAK ALL SHARP EDGES, MAX: 0.5					USED ON					
DO NOT SCALE DRAWING					F10187024					
DIMENSIONS BASED ON: ASME Y14.5M-2009					MATERIAL					
MAX MACHINE ALL SURFACES, Ra: 3.2					G-10 FIBERGLASS REINFORCED EPOXY LAMINATE					
DRAWING UNITS: MM					GROUP: Technical Division - Design and Drafting					
THIRD ANGLE PROJECTION					CAGE CODE: OU5R6					

				<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY							
NAME						PLATE, BOTTOM, SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS					
SCALE		SIZE		DRAWING NUMBER		SHEET		REV			
1:2		A3		F10186868		1 OF 1		-			

SNS S02040000-M8U-8820-A10036

TEMPLATE VERSION: 2021.08.06

4

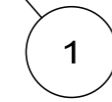
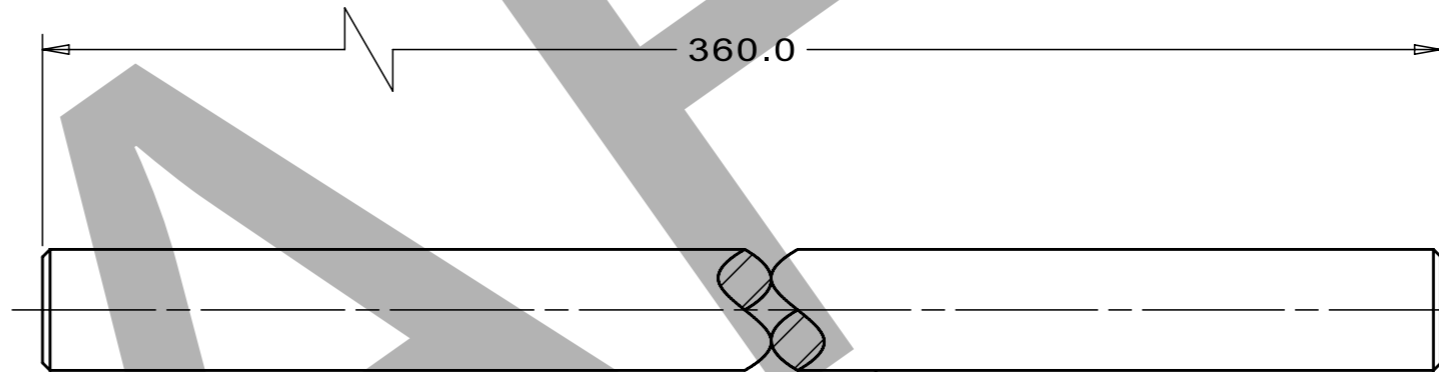
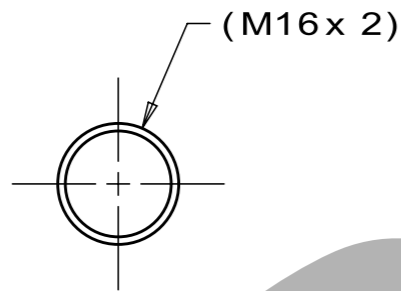
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2

1

DESCRIPTION: THREADED ROD, COIL SUPPORT ASSY, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: ROD

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10186880---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

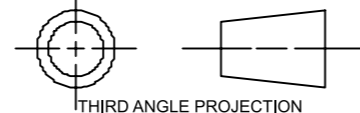
- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

1		FC0098259	THREADED ROD, M16x2 500MMLG, CLASS12.9 HIGH STRENGTH STEEL	1
ITEM	VENDOR #	FERMI #	PART NAME	QTY

PARTS LIST

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM



DRAWN	R.NOCEDA	DATE	29-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10187024, F10189029		
MATERIAL	SEE PARTS LIST		
GROUP:	Technical Division - Design and Drafting		
CAGE CODE:	OU5R6		

		FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY			
NAME THREADED ROD, COIL SUPPORT ASSY, PULSED DIPOLE MAGNET, ORNL STS					
SCALE 1:1	SIZE A3	DRAWING NUMBER F10186880	SHEET 1 OF 1	REV -	

4

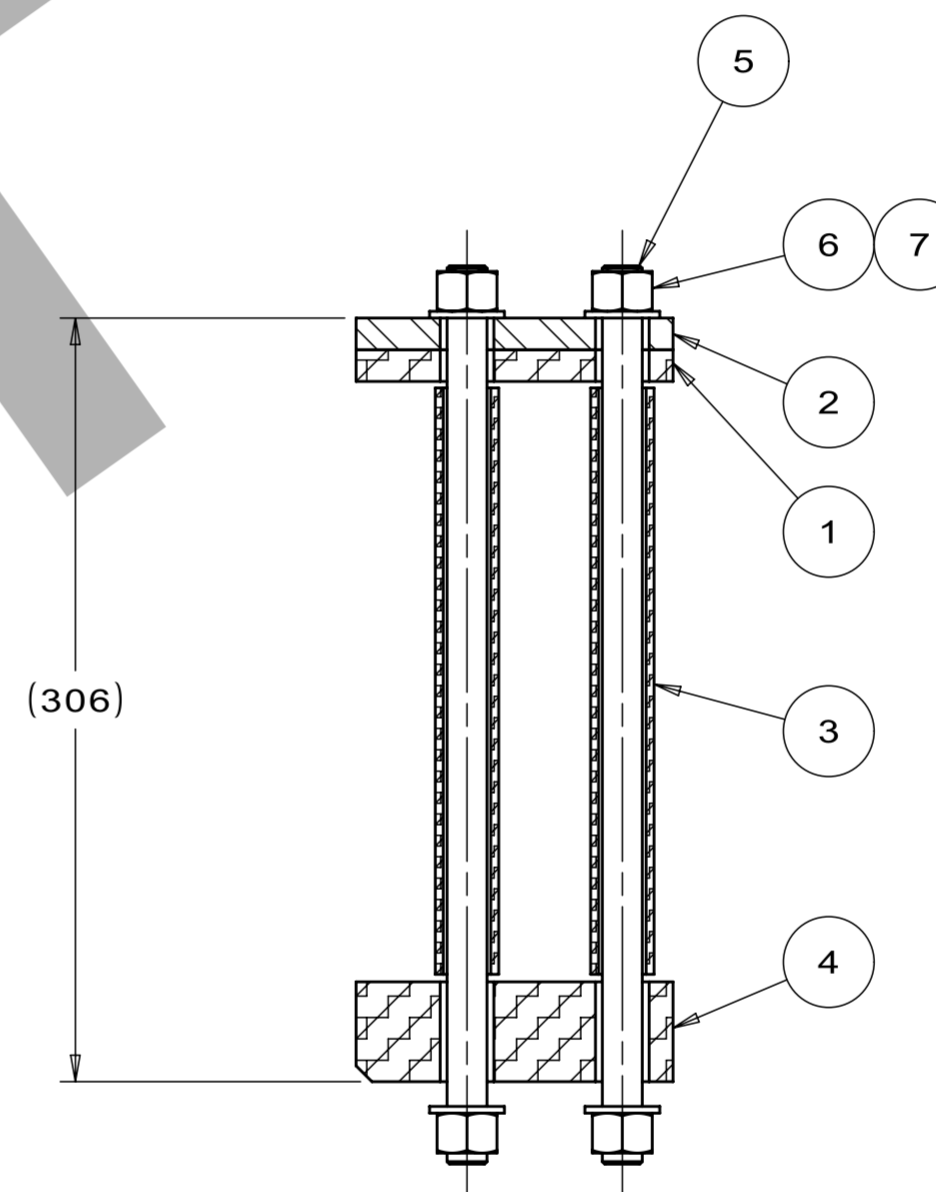
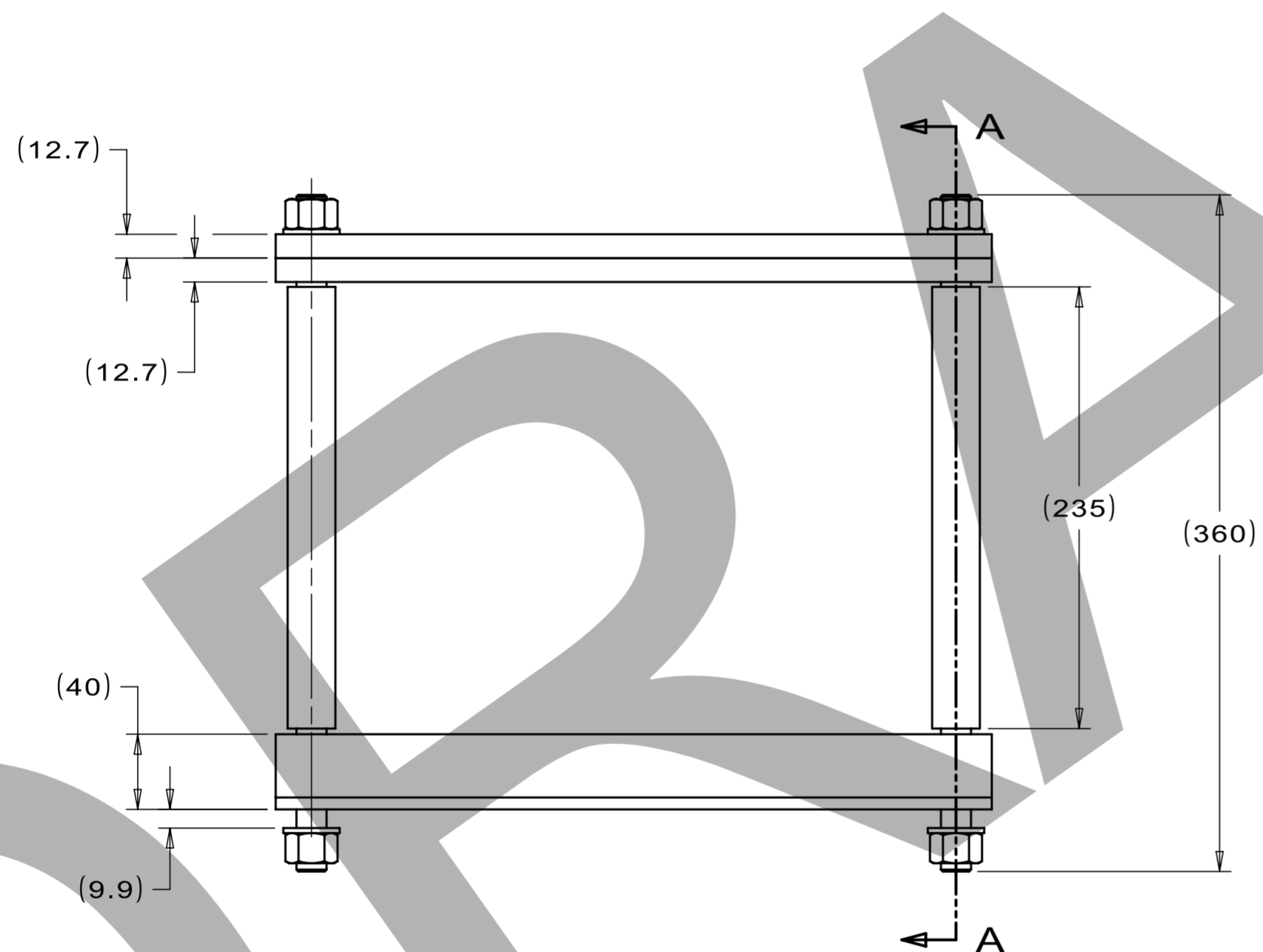
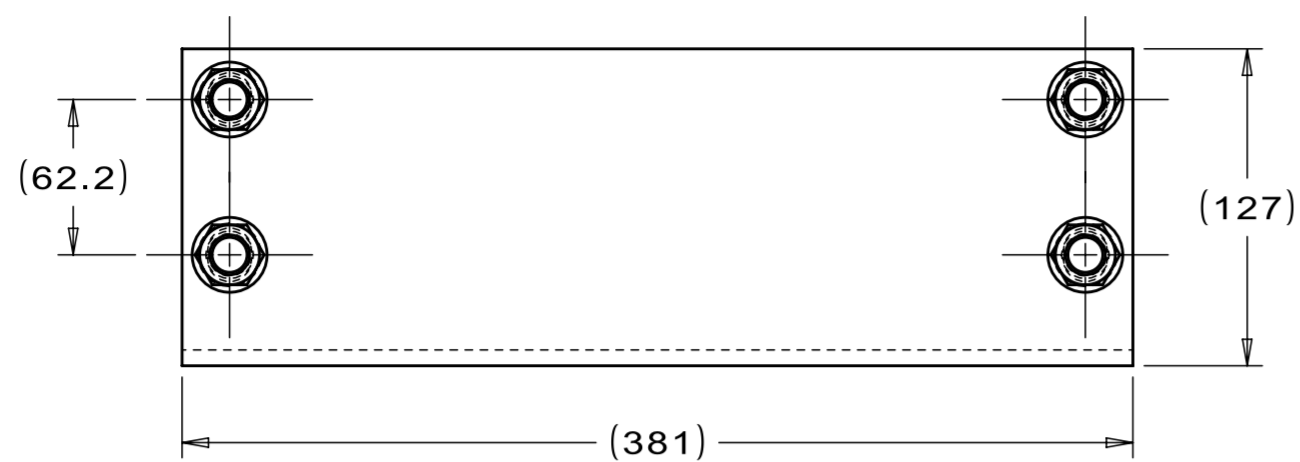
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2

1

TEMPLATE VERSION: 2021.08.06

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10187024--RCD		DRAWN APPROVED



SECTION A-A

ITEM	FERMI #	PART NAME	QTY
7	FC0016328	WASHER, M16-17x30x2.7, C4S, Z	8
6	FC0015045	NUT_HEX, M16x2x16, C8S, Z	8
5	F10186880	THREADED ROD, COIL SUPPORT ASSY, PULSED DIPOLE MAGNET, ORNL STS	4
4	F10186868	PLATE, BOTTOM, SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1
3	F10185996	INSULATOR TUBE, COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	4
2	F10185918	PLATE, TOP, SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1
1	F10185917	INSULATOR PLATE TOP, COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1

PARTS LIST

NOTES: (UNLESS OTHERWISE SPECIFIED)

- ASSEMBLY MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- ASSEMBLY TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

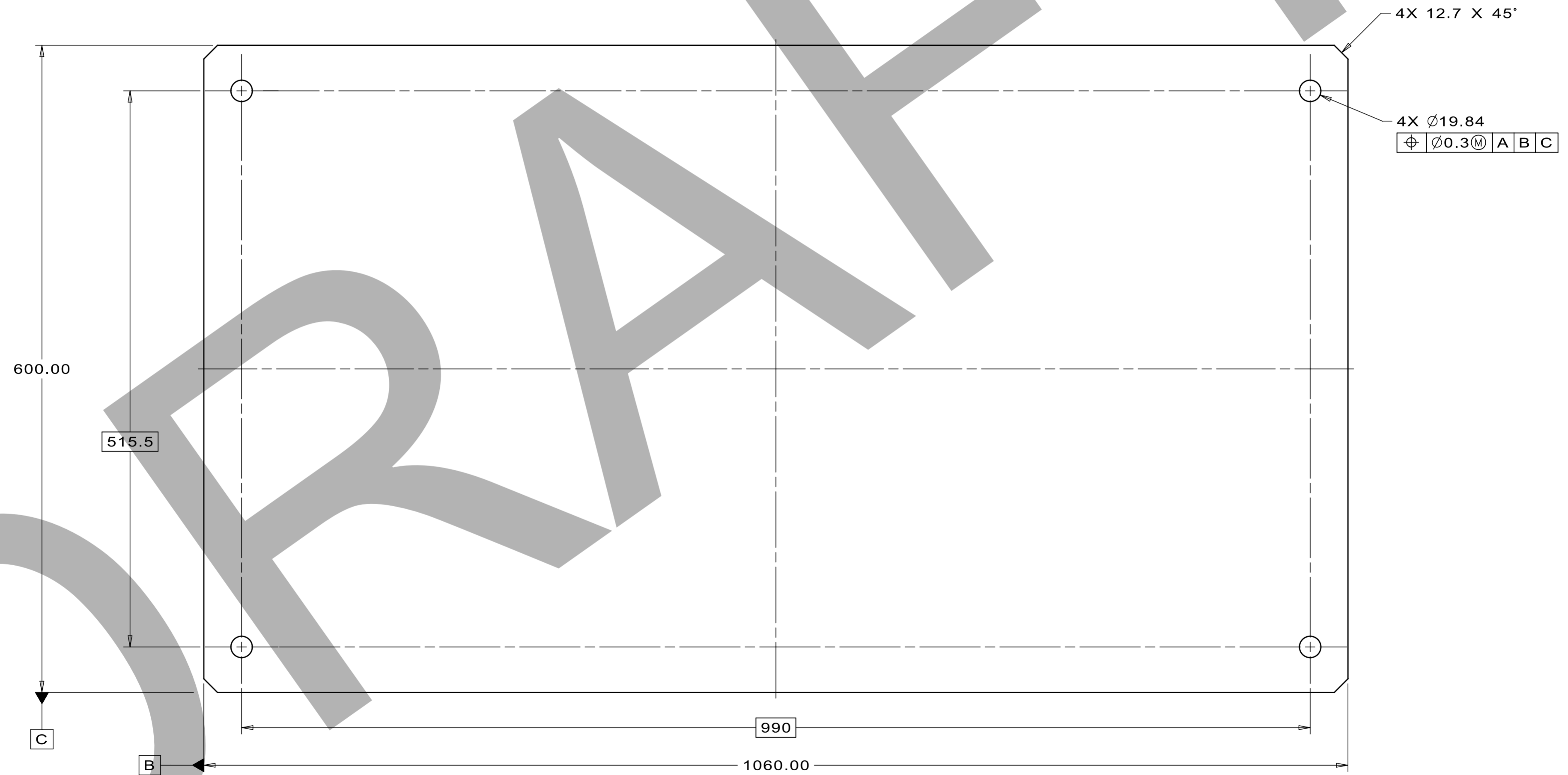
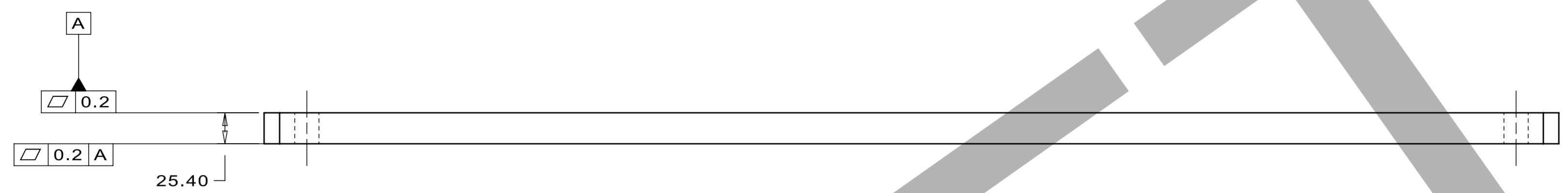
UNLESS OTHERWISE SPECIFIED					DRAWN	R.NOCEDA	DATE	29-Sep-2023
±X	±X.X	±X.XX	±X/X	±X'	CHECKED		DATE	
2	0.3	0.12	N/A	1'	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5					USED ON			
DO NOT SCALE DRAWING					F10203414			
DIMENSIONS BASED ON: ASME Y14.5M-2009					MATERIAL			
MAX MACHINE ALL SURFACES, Ra: 3.2					SEE PARTS LIST			
DRAWING UNITS: MM					GROUP: Technical Division - Design and Drafting			
THIRD ANGLE PROJECTION					CAGE CODE: OJ5R6			

FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY				
NAME ASSEMBLY, SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS				
SCALE 1:3	SIZE A2	DRAWING NUMBER F10187024	SHEET 1 of 1	REV -

SNS S02040000-M8U-8820-A10041

DESCRIPTION: PLATE, BOTTOM CORE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STs\_Magnets  
 CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10189003---RCD		DRAWN APPROVED



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

SNS S02040000-M8U-8820-A10015

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
±X	±X.X	±X.XX	±X/X	±X°	CHECKED		DATE	
2	0.3	0.12	N/A	1°	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5					USED ON			
DO NOT SCALE DRAWING					F10182790			
DIMENSIONS BASED ON: ASME Y14.5M-2009					MATERIAL			
MAX MACHINE ALL SURFACES, Ra: 3.2					304 STAINLESS STEEL			
DRAWING UNITS: MM					GROUP: Technical Division - Design and Drafting			
THIRD ANGLE PROJECTION					CAGE CODE: OJ5R6			

				<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME				PLATE, BOTTOM CORE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV			
1:3	A2	F10189003	1 of 1	-			

TEMPLATE VERSION: 2021.08.06

4

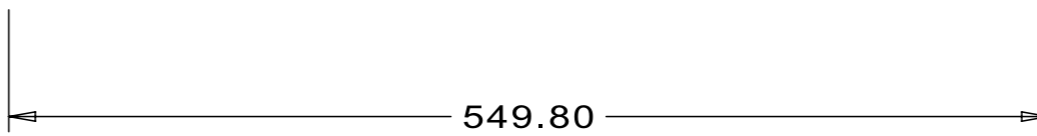
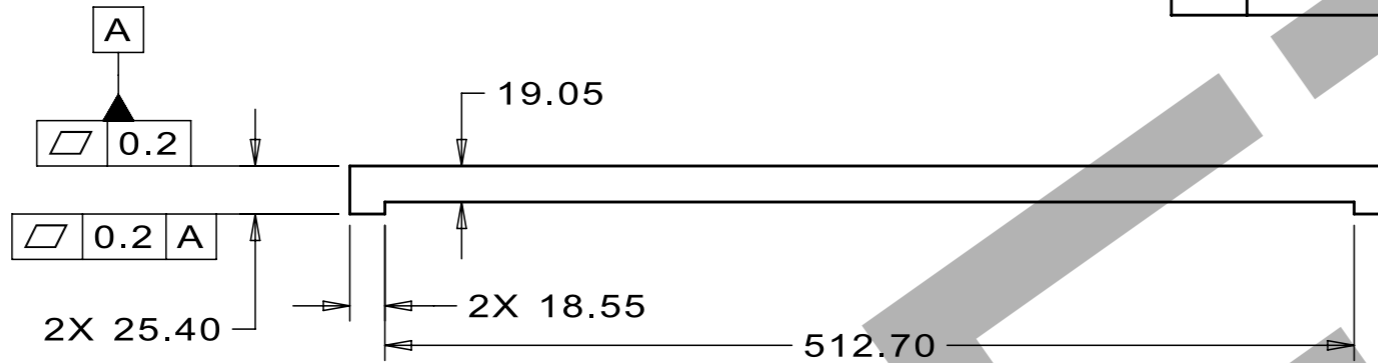
3

2

1

DESCRIPTION: PLATE, TOP CORE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10189004---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

1. PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X*
2	0.3	0.12	N/A	1*

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10211961		
MATERIAL	304 STAINLESS STEEL		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

	FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY			
	NAME PLATE, TOP CORE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS			
SCALE 1:4	SIZE A3	DRAWING NUMBER F10189004	SHEET 1 OF 1	REV -

SNS S02040000-M8U-8820-A10016

4

3

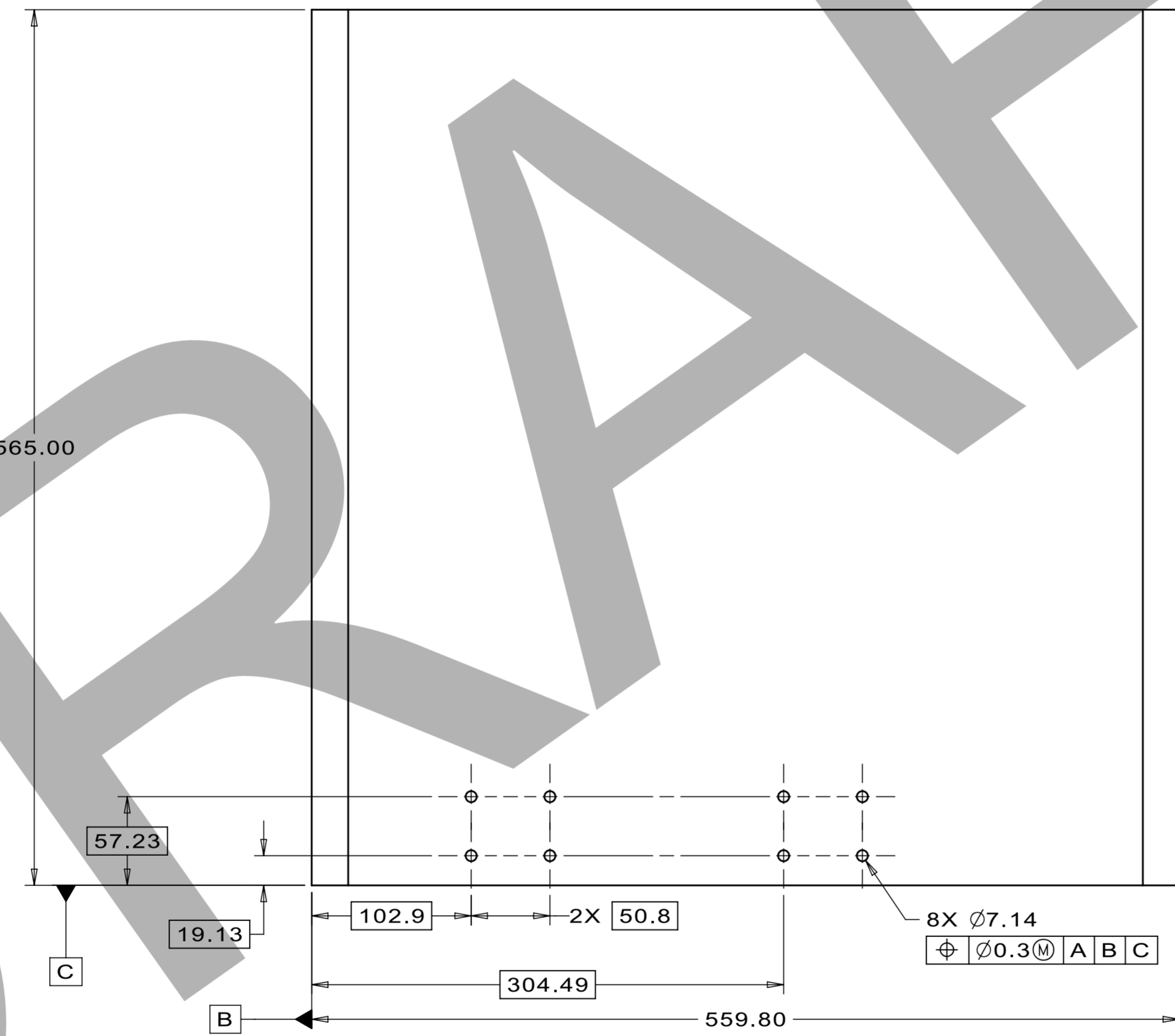
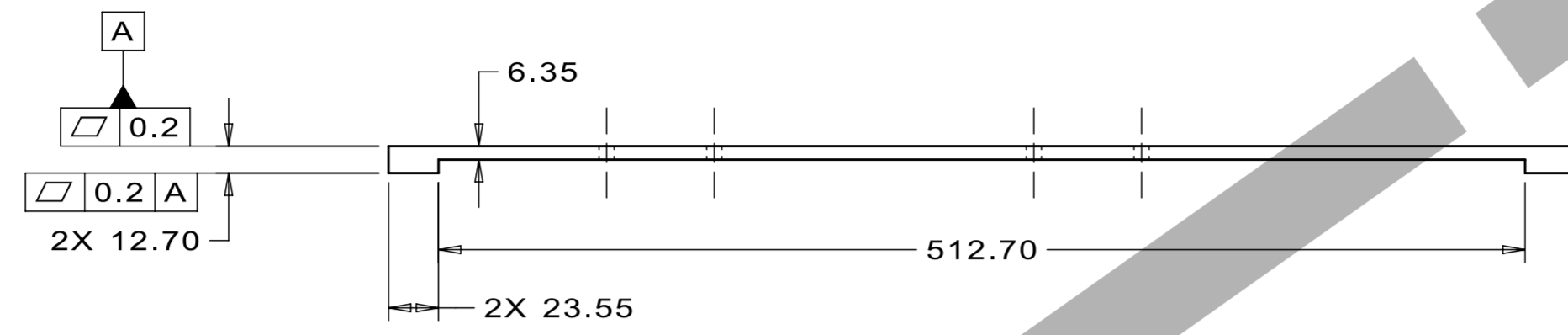
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1

TEMPLATE VERSION: 2021.08.06



REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10189005---RCD		DRAWN APPROVED



- NOTES (UNLESS OTHERWISE SPECIFIED):
- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
  - PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
  - TRAILING ZEROS DENOTE TOLERANCE.

SNS S02040000-M8U-8820-A10017

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
±X	±X.X	±X.XX	±X/X	±X'	CHECKED		DATE	
2	0.3	0.12	N/A	1'	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5					USED ON			
DO NOT SCALE DRAWING					F10211960			
DIMENSIONS BASED ON: ASME Y14.5M-2009					MATERIAL			
MAX MACHINE ALL SURFACES, Ra: 3.2					304 STAINLESS STEEL			
DRAWING UNITS: MM					GROUP: Technical Division - Design and Drafting			
THIRD ANGLE PROJECTION					CAGE CODE: OJ5R6			

<p><b>FERMI NATIONAL ACCELERATOR LABORATORY</b>                  UNITED STATES DEPARTMENT OF ENERGY</p>				NAME	
				PLATE, BACK COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:3	A2	F10189005	1 of 1	-	

TEMPLATE VERSION: 2021.08.06

4

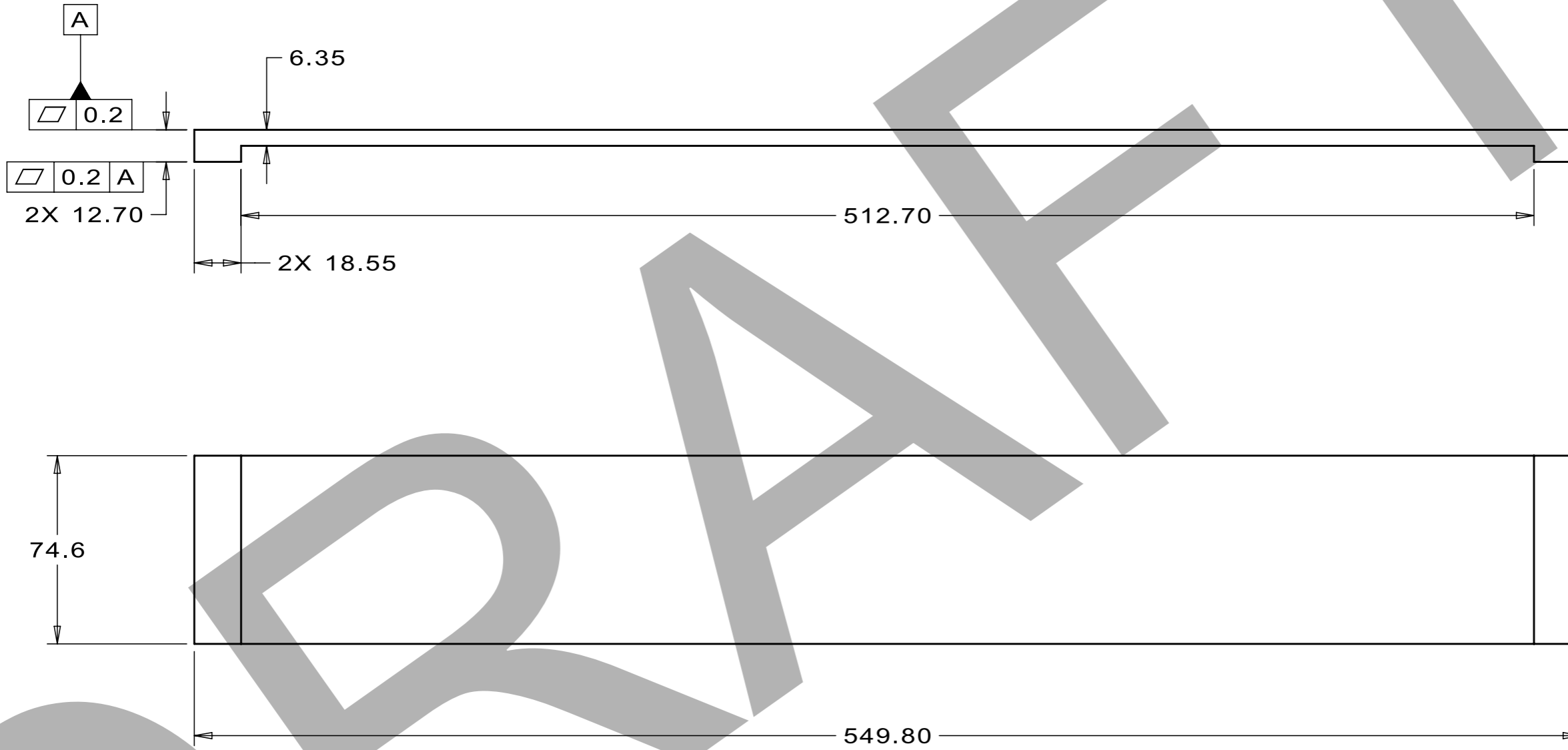
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2

1

DESCRIPTION: PLATE, POLE TIP SUPPORT, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10189006---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10211958		
MATERIAL	304 STAINLESS STEEL		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME PLATE, POLE TIP SUPPORT, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:2	A3	F10189006	1 OF 1	-	

SNS S02040000-M8U-8820-A10018

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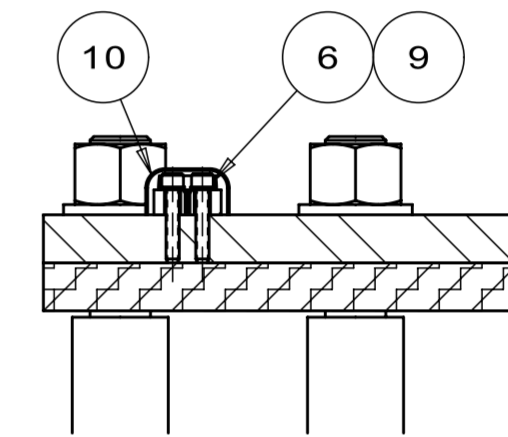
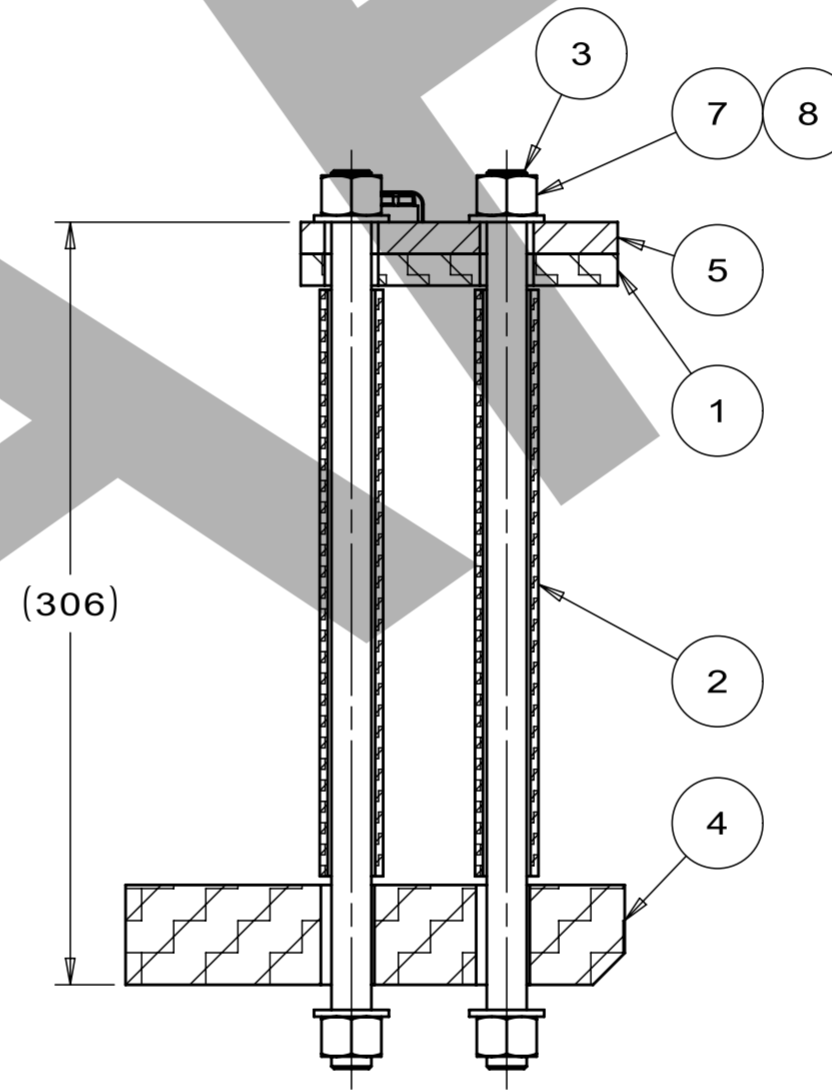
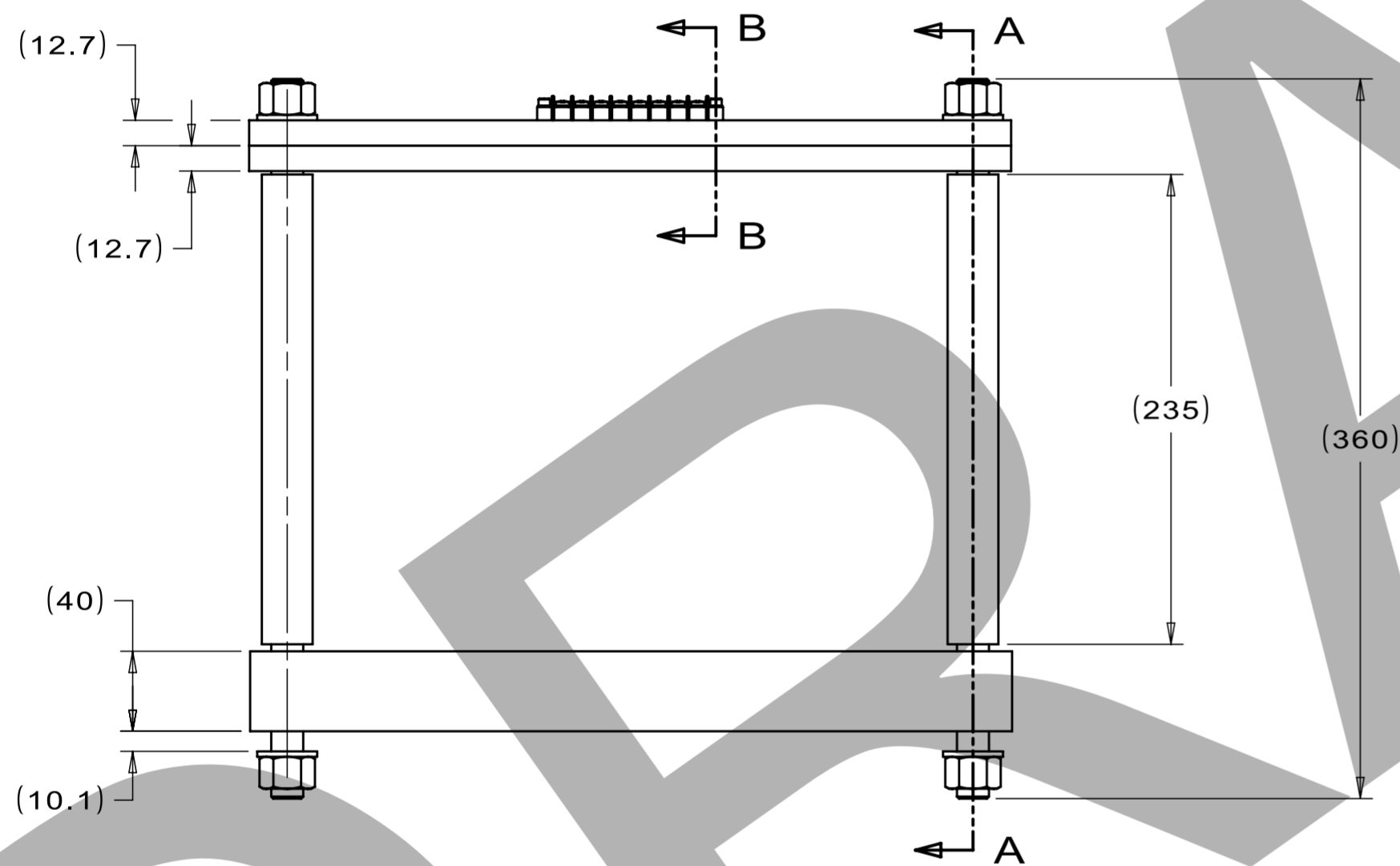
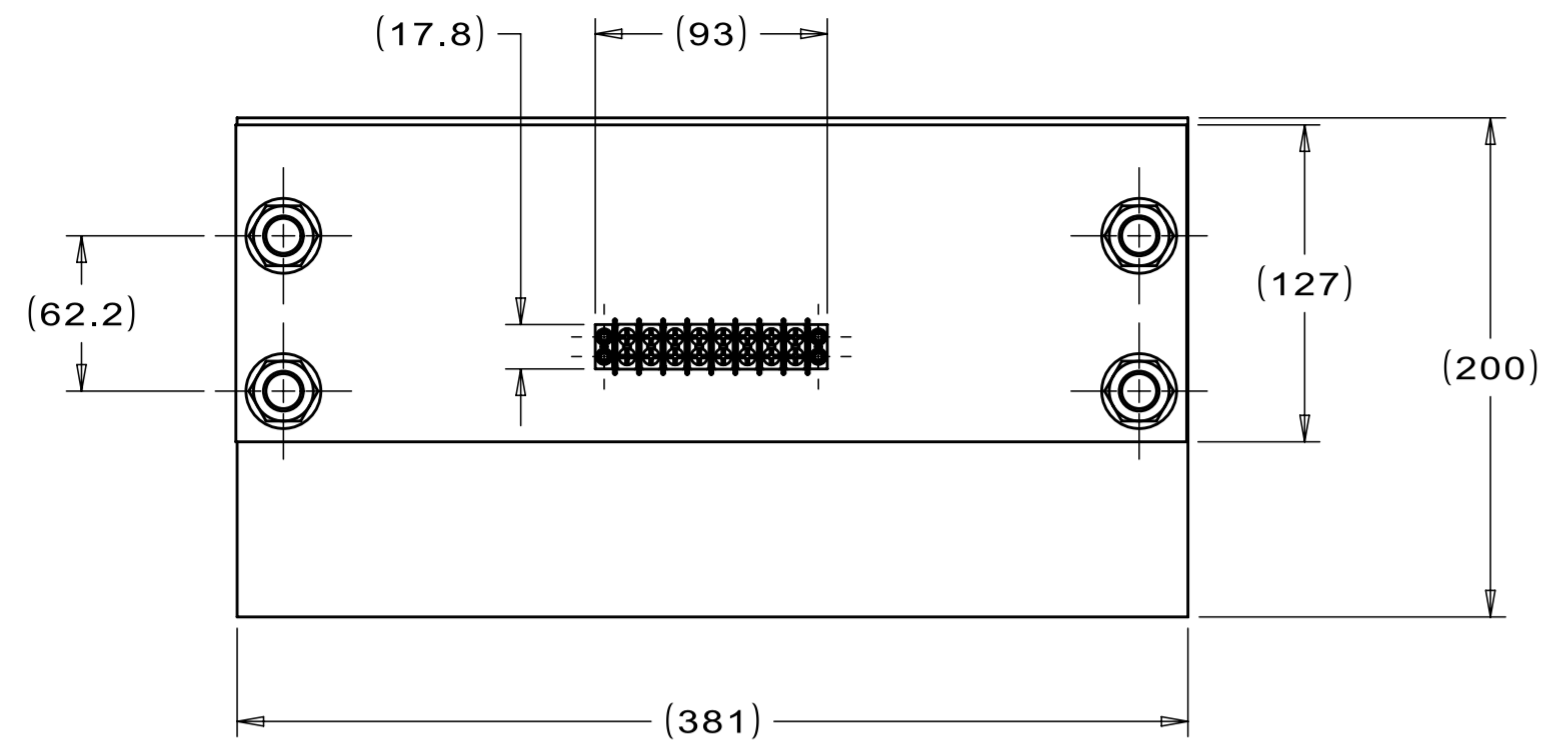
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2

1

TEMPLATE VERSION: 2021.08.06

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10189029--RCD		DRAWN	
			APPROVED	



SECTION B-B  
SCALE 1:2

SECTION A-A

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. ASSEMBLY MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
2. ASSEMBLY TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.

ITEM	VENDOR #	FERMI #	PART NAME	QTY
10		FC0108568	TERMINAL BLOCK, 8 CIRCUIT, 300V AC/DC, 20A, 22-12 AWG	1
9		FC0018669	WASHER, No6, SPLIT LOCK, G2S, Z	4
8		FC0016328	WASHER, M16-17x30x2.7, C4S, Z	8
7		FC0015045	NUT_HEX, M16x2x16, C8S, Z	8
6		FC0005603	SHCS, 6-32x0.75LGxFT, G8S, Z	4
5		F10207430	PLATE TOP, LEAD SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1
4		F10189058	PLATE, BOTTOM, LEAD SIDE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1
3		F10186880	THREADED ROD, COIL SUPPORT ASSY, PULSED DIPOLE MAGNET, ORNL STS	4
2		F10185996	INSULATOR TUBE, COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	4
1		F10185917	INSULATOR PLATE TOP, COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1

UNLESS OTHERWISE SPECIFIED					DRAWN	R.NOCEDA		DATE	29-Sep-2023	
±X	±X.X	±X.XX	±X/XX	±X'	CHECKED			DATE		
2	0.3	0.12	N/A	1'	APPROVED			DATE		
BREAK ALL SHARP EDGES, MAX: 0.5					USED ON					
DO NOT SCALE DRAWING					F10203414					
DIMENSIONS BASED ON: ASME Y14.5M-2009					MATERIAL					
MAX MACHINE ALL SURFACES, Ra: 3.2					SEE PARTS LIST					
DRAWING UNITS: MM					GROUP: Technical Division - Design and Drafting					
THIRD ANGLE PROJECTION					CAGE CODE: OJ5R6					

<p>FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY</p>				NAME	
				ASSEMBLY, LEAD SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:3	A2	F10189029	1 of 1	-	

SNS S02040000-M8U-8820-A10042

4

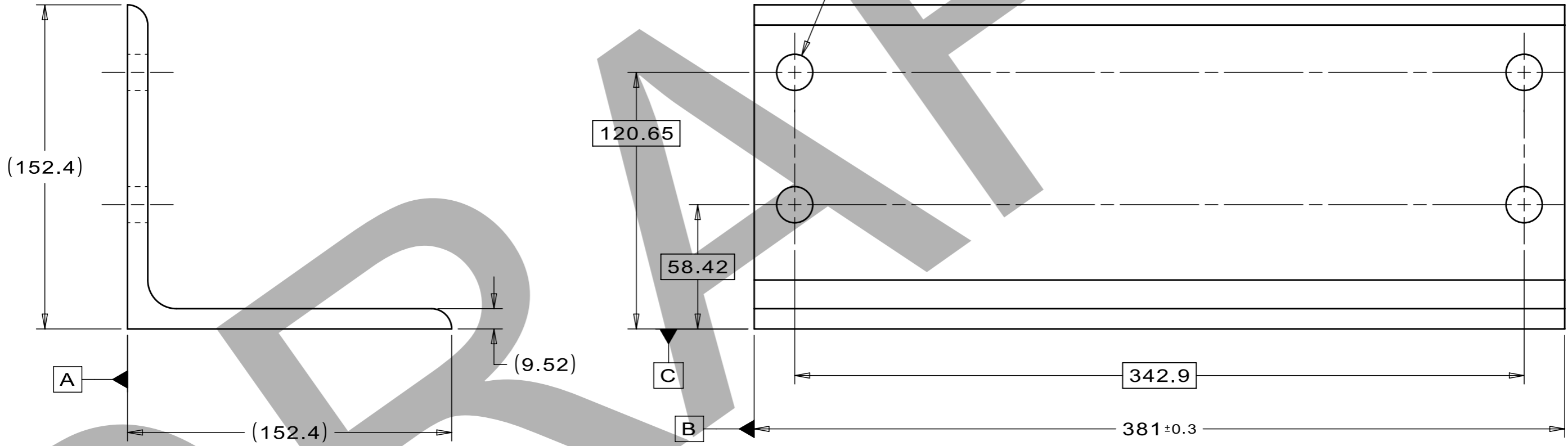
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2

1

DESCRIPTION: ANGLE, LEAD SIDE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: ANGLE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10189032---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

SNS S02040000-M8U-8820-A10021

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10211960		
MATERIAL	304 STAINLESS STEEL ANGLE 6"x6". .375" THK		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME ANGLE, LEAD SIDE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:2	A3	F10189032	1 OF 1	-	

4

3

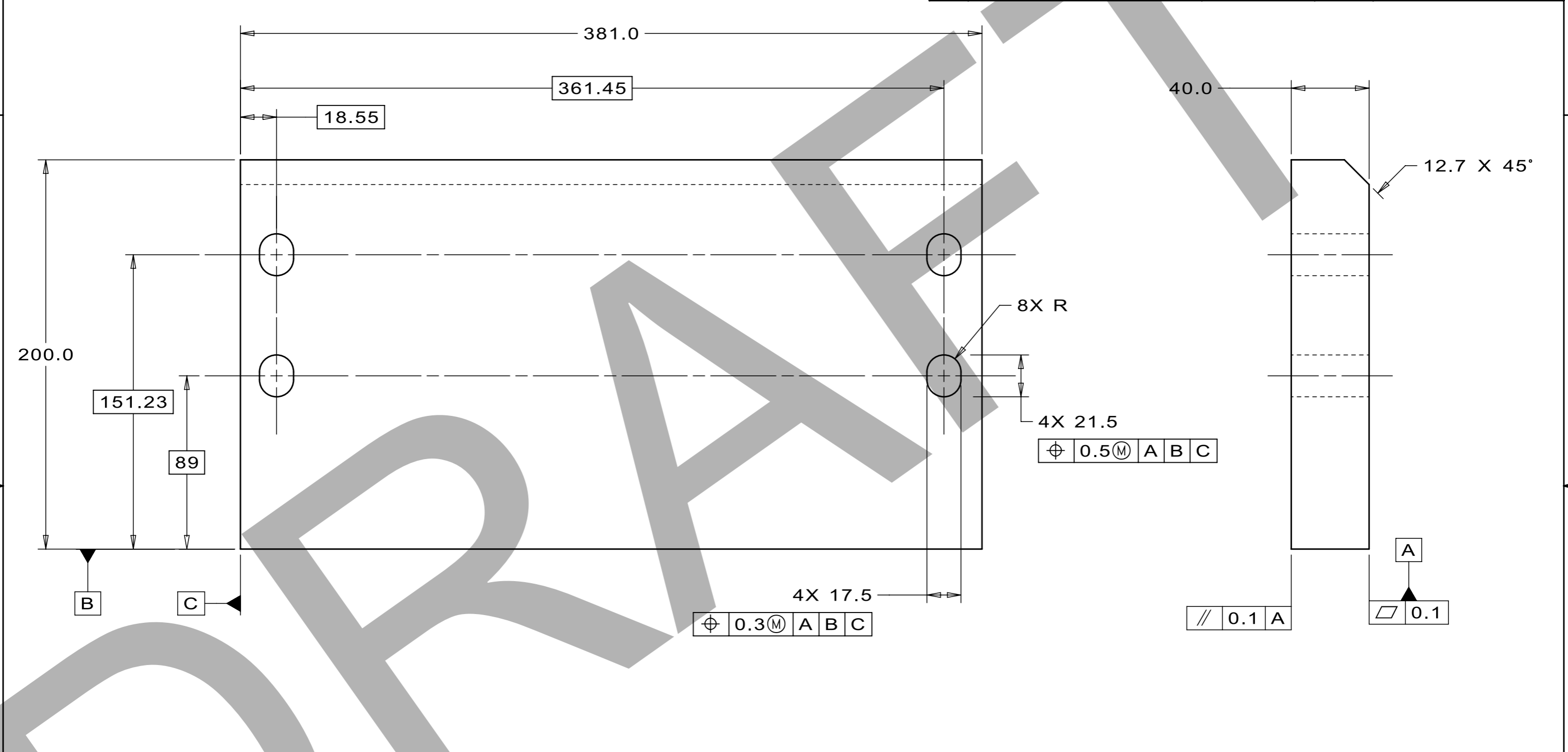
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1

TEMPLATE VERSION: 2021.06.06

DESCRIPTION: PLATE, BOTTOM, LEAD SIDE SUPPORT, PULSED DIPOLE MAGNET, ORNL STSL  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10189058---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

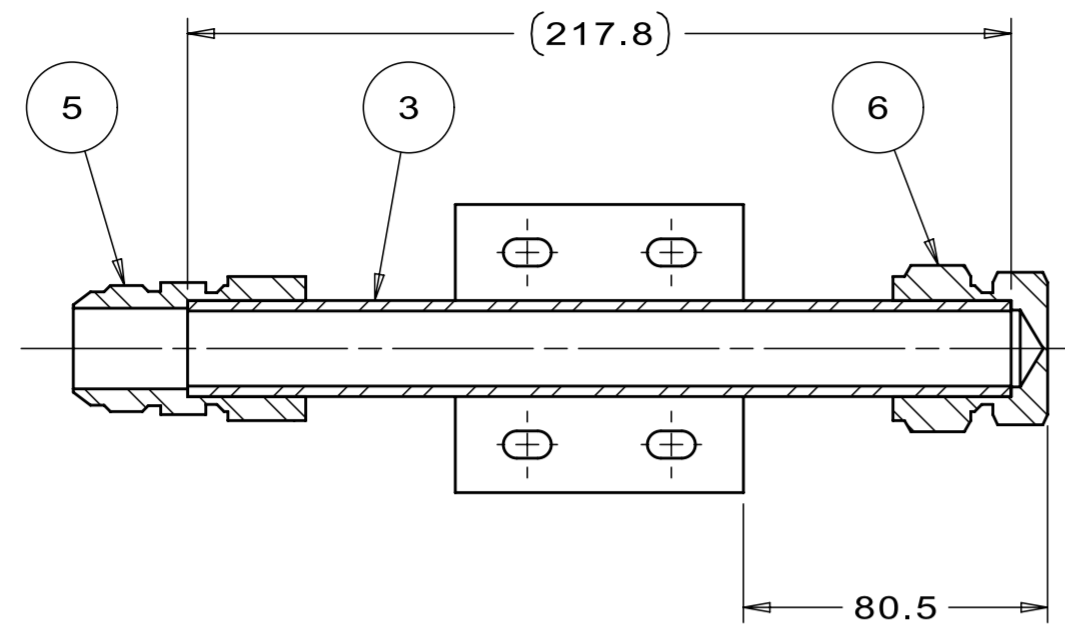
DRAWN	R.NOCEDA	DATE	29-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10189029		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME PLATE, BOTTOM, LEAD SIDE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:2	A3	F10189058	1 OF 1	-	

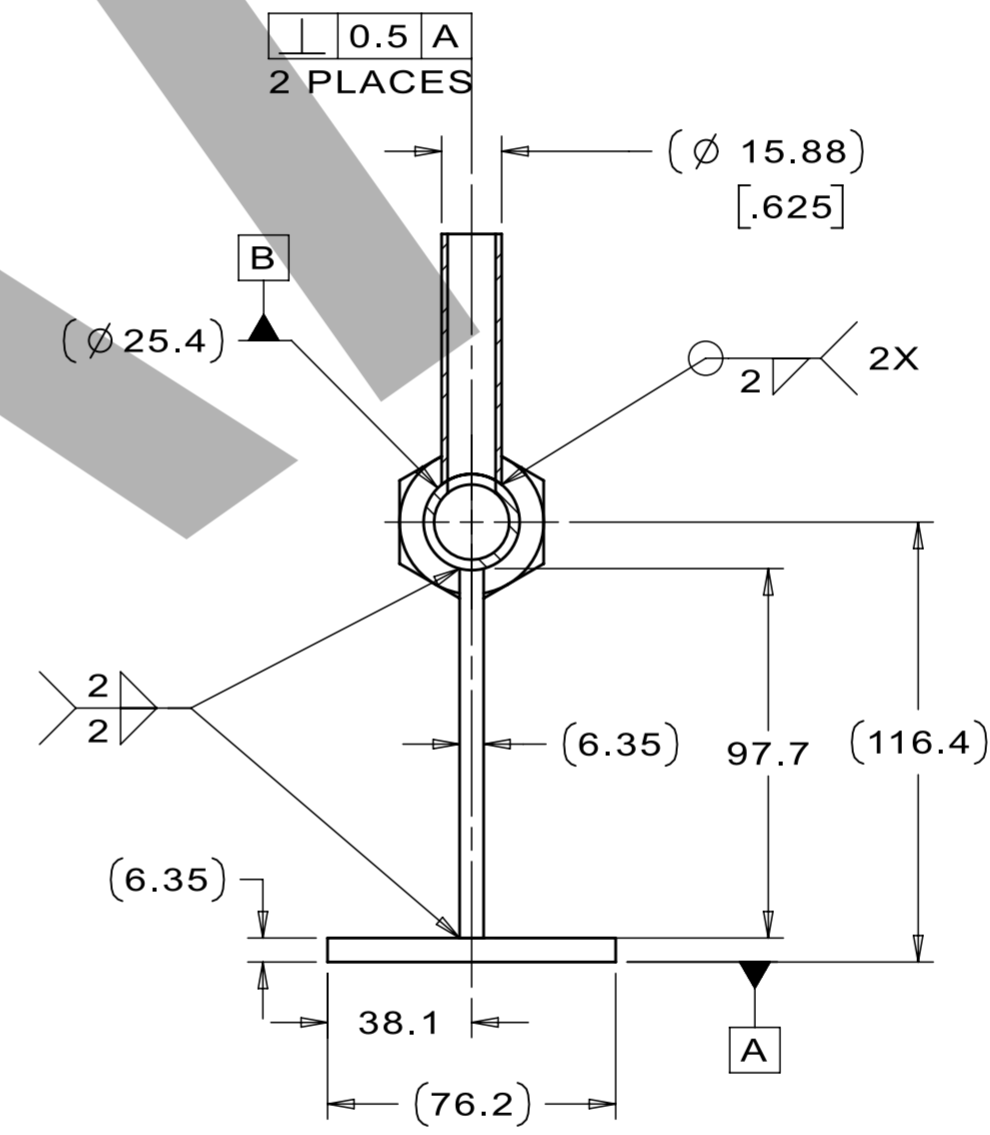
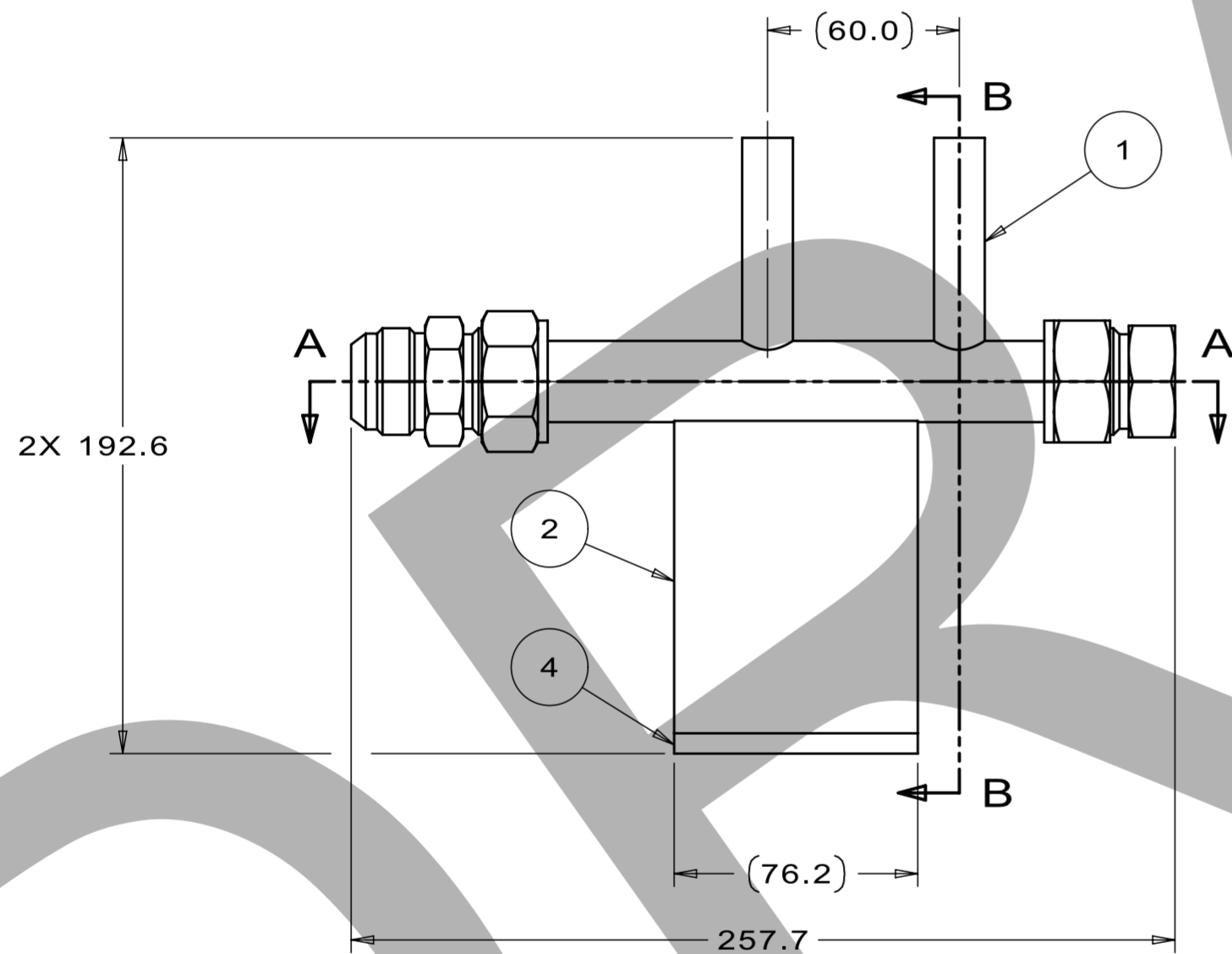
SNS S02040000-M8U-8820-A10038

TEMPLATE VERSION: 2021.06.06

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10189375---RCD		DRAWN APPROVED



SECTION A-A



SECTION B-B

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. WELDMENT MUST BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. WELDMENT TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
3. DIMENSIONS IN [X.X] ARE INCH.
4. PROTECT TUBE PARTS FROM OUTER SURFACE DAMAGE DURING ASSEMBLY.
5. WELDMENT MUST BE LEAK TESTED TO 225psi FOR 30 MINUTES WITH NO APPARENT LEAKS UPON COMPLETION.
6. ALL WATER PARTS AND CONNECTIONS MUST CONFORM TO ASME B31.3 CODE. ALL BRAZED AND WELDED JOINTS SHALL MEET REQUIREMENTS OF ASME 31.3 CATEGORY D FLUID SERVICES AND ASME BPV SECTION IX CODES.

ITEM	VENDOR #	FERMI #	PART NAME	QTY
6	SWAGelok SS-1610-C	FC0075590	CAP, 1" OD TUBING, SS316	1
5	SWAGelok SS-1610-6-16AN	FC0075589	UNION, 1" TUBE OD X 1" AN TUBE FLARE, SS316	1
4		F10200270	MANIFOLD BASE, PULSED DIPOLE MAGNET, ORNL STS	1
3		F10189376	MANIFOLD BODY, PULSED DIPOLE MAGNET, ORNL STS	1
2		F10156658	MANIFOLD RISER, INPUT, ORNL STS	1
1		F10109781	MANIFOLD EXTENSION, SHORT, ORNL PPU	2

UNLESS OTHERWISE SPECIFIED					DRAWN	R.NOCEDA		DATE	02-Oct-2023	
±X	±X.X	±X.XX	±X/X	±X°	CHECKED			DATE		
2	0.3	0.12	N/A	1°	APPROVED			DATE		
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					USED ON			F10203414, F10184747		
THIRD ANGLE PROJECTION					MATERIAL			SEE PARTS LIST		
GROUP: Technical Division - Design and Drafting					CAGE CODE: OJ5R6			NAME		
					FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY			MANIFOLD WELDMENT, PULSED DIPOLE MAGNET, ORNL STS		
SCALE 1:2		SIZE A2	DRAWING NUMBER F10189375		SHEET 1 of 1		REV -			

SNS S02040000-M8U-8820-A10045

TEMPLATE VERSION: 2021.08.02

4

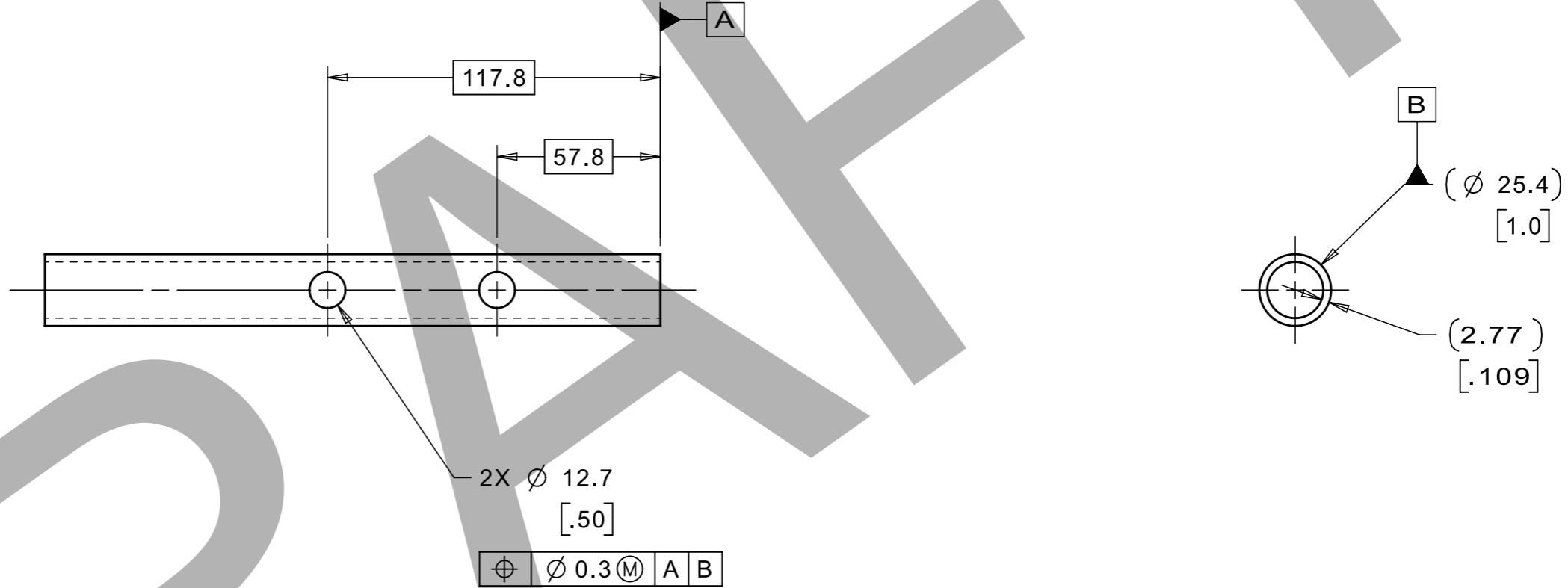
3

2

1

DESCRIPTION: MANIFOLD BODY, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STs\_Magnets  
CATEGORY: TUBE

REV	REVISION CONTROL DOCUMENT	DATES		SIGNATURES	
-	F10189376---RCD			DRAWN	
				APPROVED	

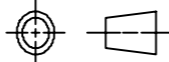


NOTES:(UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS AND BURRS.
- DIMENSIONS IN [X.X] ARE INCH.
- ALL WATER PARTS AND CONNECTIONS MUST CONFORM TO ASME B31.3 CODE, CATEGORY D FLUID SERVICES.

UNLESS OTHERWISE SPECIFIED				
±X	±X.X	±X.XX	±X/X	±X°
2	0.3	0.12	N/A	1°

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM



THIRD ANGLE PROJECTION

DRAWN	J.HELSLEY	DATE	03-Oct-2023
CHECKED		DATE	
APPROVED		DATE	

USED ON  
F10189375

MATERIAL  
316 STAINLESS STEEL  
1.0" OD x .109" WALL, TUBE

GROUP: Technical Division - Design and Drafting CAGE CODE: OU5R6



**FERMI NATIONAL ACCELERATOR LABORATORY**  
UNITED STATES DEPARTMENT OF ENERGY

NAME  
MANIFOLD BODY, PULSED DIPOLE MAGNET, ORNL STS

SCALE	SIZE	DRAWING NUMBER	SHEET	REV
1:2	A3	F10189376	1 OF 1	-

SNS S02040000-M8U-8820-A10046

4

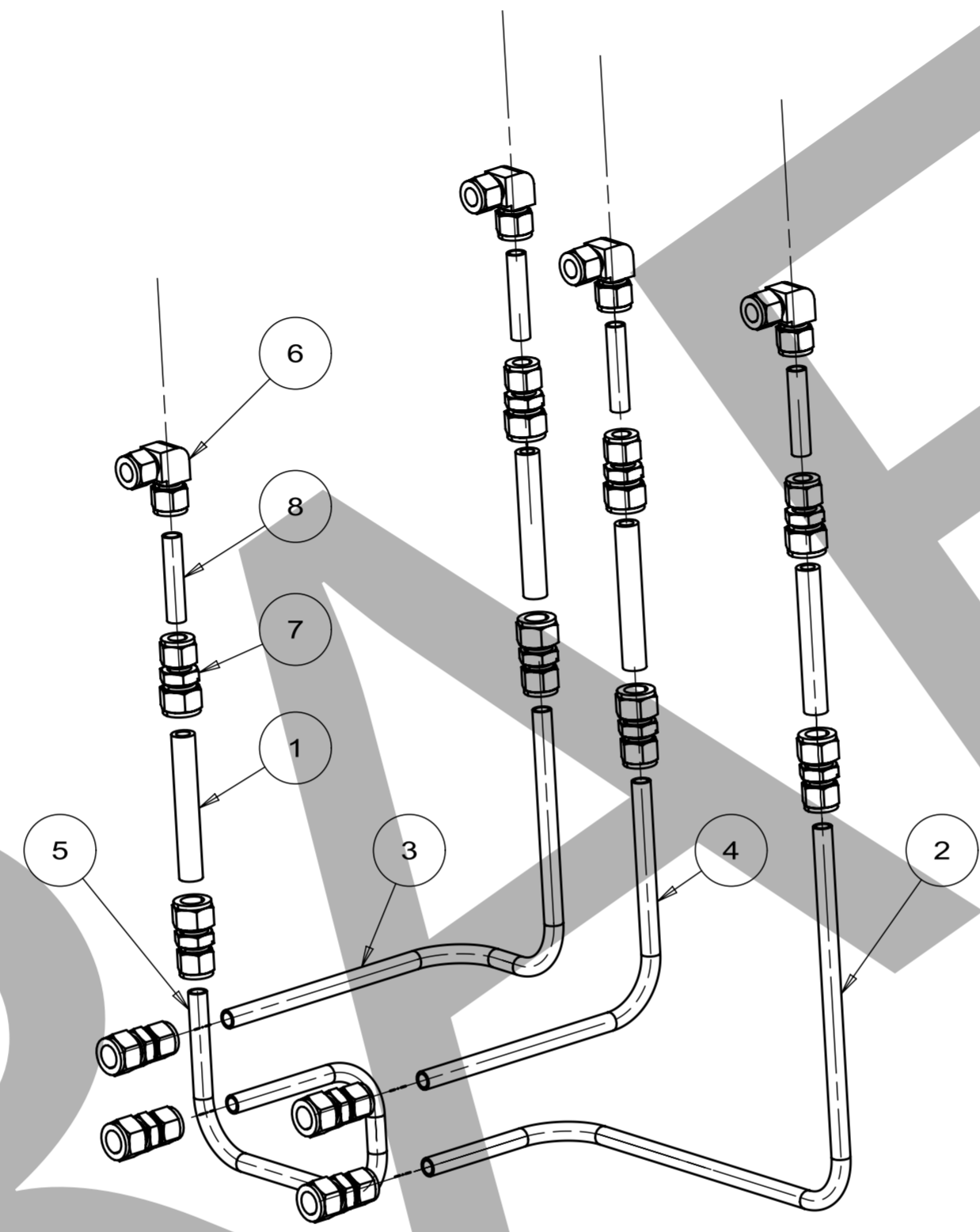
3

2

1

TEMPLATE VERSION: 2021.08.02


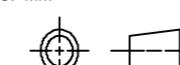
REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10189377---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PARTS MUST BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PARTS TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- NOT NECESSARILY PUT TOGETHER COMPLETELY APART FROM MAGNET, MEANT AS A CLEAR PARTS LIST.

ITEM	VENDOR #	FERMI #	PART NAME	QTY
8		FC0109293	TUBE, LEAD TO INSULATOR, 1/2"X .065"WLx60mmLG, SS316 ORNL STS	4
7	SWAGELOK SS1010-6-8	FC0075409	UNION, REDUCING, 5/8" TUBE TO 1/2" TUBE, SS316	12
6	SWAGELOK SS-810-9	FC0075407	ELBOW, TUBE, 90DEG, .5", 316 SS	4
5		F10196285	TUBE 4, PULSED DIPOLE MAGNET, ORNL STS	1
4		F10196282	TUBE 3, PULSED DIPOLE MAGNET, ORNL STS	1
3		F10196281	TUBE 2, PULSED DIPOLE MAGNET, ORNL STS	1
2		F10196280	TUBE 1, PULSED DIPOLE MAGNET, ORNL STS	1
1		F10148644	INSULATOR, MANIFOLD, PPU MAGNETS	4

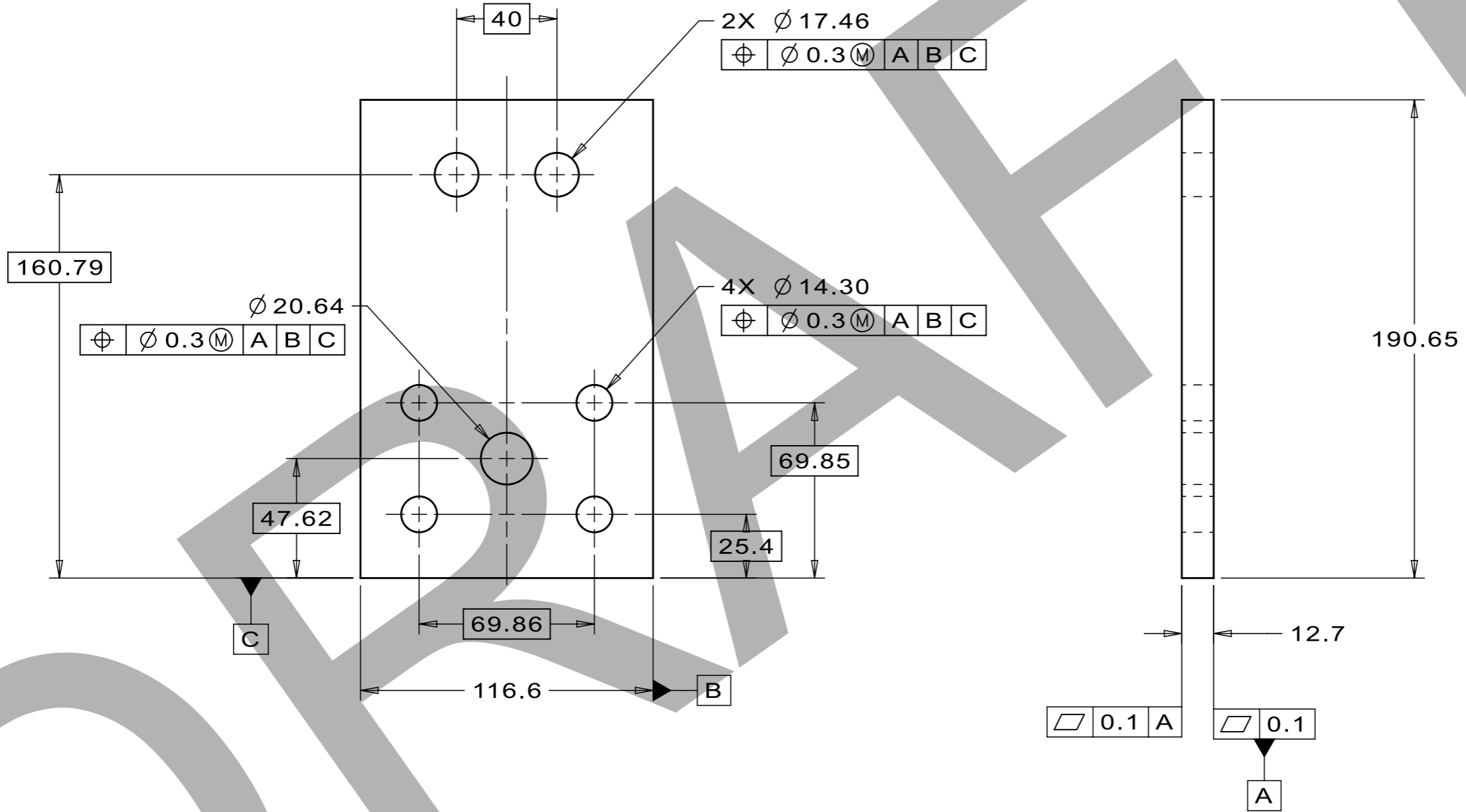
UNLESS OTHERWISE SPECIFIED					DRAWN	R.NOCEDA		DATE	02-Oct-2023		 <b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY
±X	±X.X	±X.XX	±X/X	±X"	CHECKED			DATE			
2	0.3	0.12	N/A	1"	APPROVED			DATE			
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					USED ON F10184747, F10203414		NAME ASSEMBLY, TUBES AND FITTINGS, PULSED DIPOLE MAGNET, ORNL STS				
 THIRD ANGLE PROJECTION					MATERIAL SEE PARTS LIST		SCALE	SIZE	DRAWING NUMBER	SHEET	REV
SNS S02040000-M8U-8820-A10047					GROUP: Technical Division - Design and Drafting		1:4	A2	F10189377	1 of 1	-
					CAGE CODE: OJ5R6						

TEMPLATE VERSION: 2021.08.02



DESCRIPTION: POWER FLAG PLATE, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10189414---RCD		DRAWN	
			APPROVED	

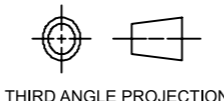


NOTES:(UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.

UNLESS OTHERWISE SPECIFIED				
±X	±X.X	±X.XX	±X/X	±X°
2	0.3	0.12	N/A	1°

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM



DRAWN	J.VANDER MEULEN	DATE	19-Oct-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10203414		
MATERIAL	OXYGEN FREE COPPER, UNS C10100		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME <b>POWER FLAG PLATE, PULSED DIPOLE MAGNET, ORNL STS</b>			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:3	A3	F10189414	1 OF 1	-	

SNS S02040000-M8U-8820-A10054

TEMPLATE VERSION: 2021.08.02

4

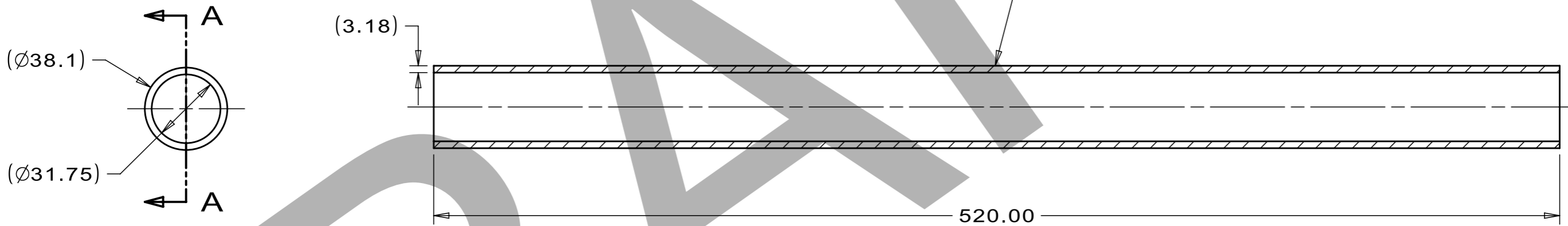
3

2

1

DESCRIPTION: INSULATING SLEEVE, CORE RODS, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STs\_Magnets  
CATEGORY: TUBE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10189484---RCD		DRAWN	
			APPROVED	



SECTION A-A

NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

1	McMASTER-CARR 8668K71	FC0116357	TUBE, 1.5"OD, 1.25"ID X 48"LG, G-10	1
ITEM	VENDOR #	FERMI #	PART NAME	QTY

PARTS LIST

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10182790		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE SEE PARTS LIST		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

		FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY		
NAME INSULATING SLEEVE, CORE RODS, PULSED DIPOLE MAGNET, ORNL STS				
SCALE 1:2	SIZE A3	DRAWING NUMBER F10189484	SHEET 1 OF 1	REV -

SNS S02040000-M8U-8820-A10013

4

3

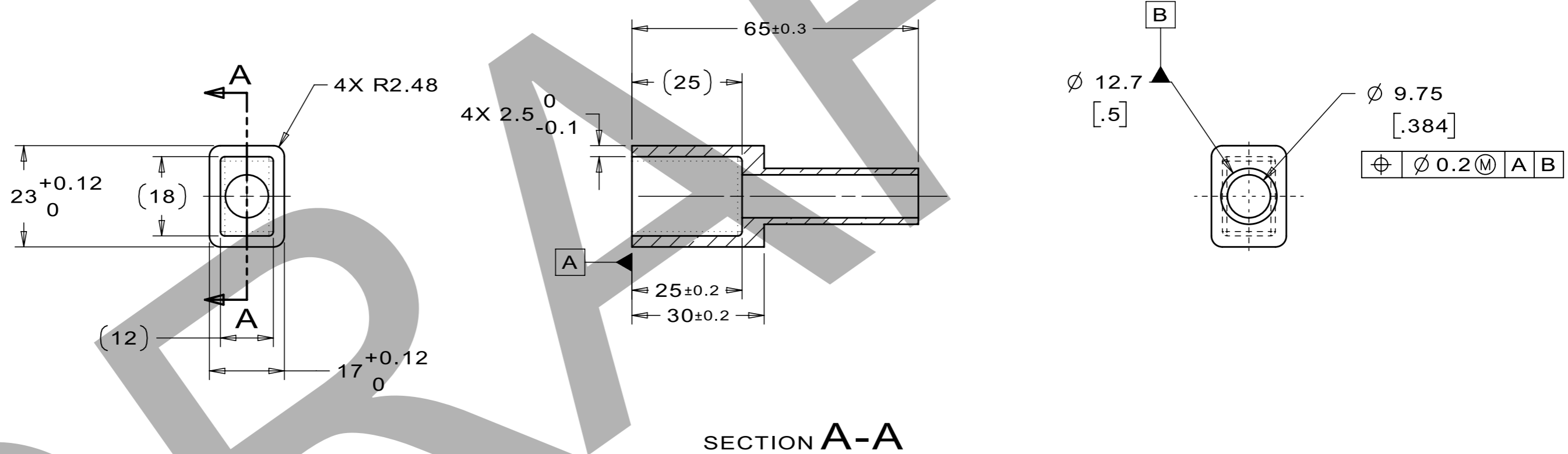
2

1

TEMPLATE VERSION: 2021.08.06

DESCRIPTION: ADAPTER, 12MMx18MM CONDUCTOR, PULSED DIPOLE, ORNL STS  
 PROJECT: ORNL-STTS\_Magnets  
 CATEGORY: ADAPTER

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10191036---RCD		DRAWN	
			APPROVED	



SECTION A-A

NOTES:(UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS AND BURRS.
- DIMENSIONS IN [ ] ARE IN INCHES.

UNLESS OTHERWISE SPECIFIED				
±X	±X.X	±X.XX	±X/X	±X°
2	0.3	0.12	N/A	1°

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	04-Mar-2024
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10203414		
MATERIAL	OXYGEN FREE COPPER UNS C10100		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME ADAPTER, 12MMx18MM CONDUCTOR, PULSED DIPOLE, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:1	A3	F10191036	1 OF 1	-	

SNS S02040000-M8U-8820-A10079

TEMPLATE VERSION: 2021.08.02

4

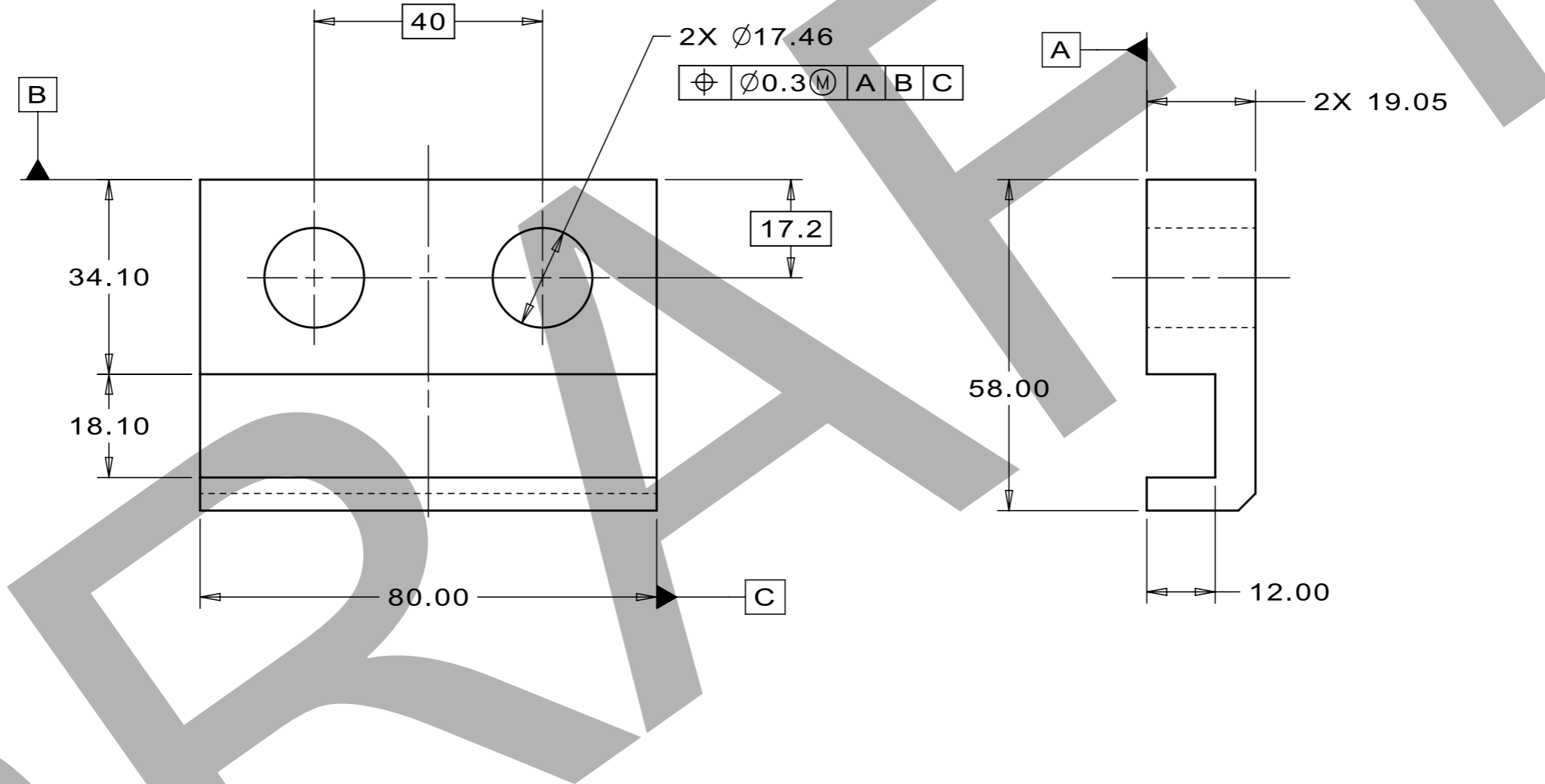
3

2

1

DESCRIPTION: JUMPER, CONDUCTOR, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: JUMPER

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10195123---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART MUST BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART MUST BE FREE OF ALL SHARP EDGES, CORNERS AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	19-Oct-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10203414		
MATERIAL	OXYGEN FREE COPPER		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME <b>JUMPER, CONDUCTOR, PULSED DIPOLE MAGNET, ORNL STS</b>			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:1	A3	F10195123	1 OF 1	-	

SNS S02040000-M8U-8820-A10055

4

3

2

1

TEMPLATE VERSION: 2021.08.06

4

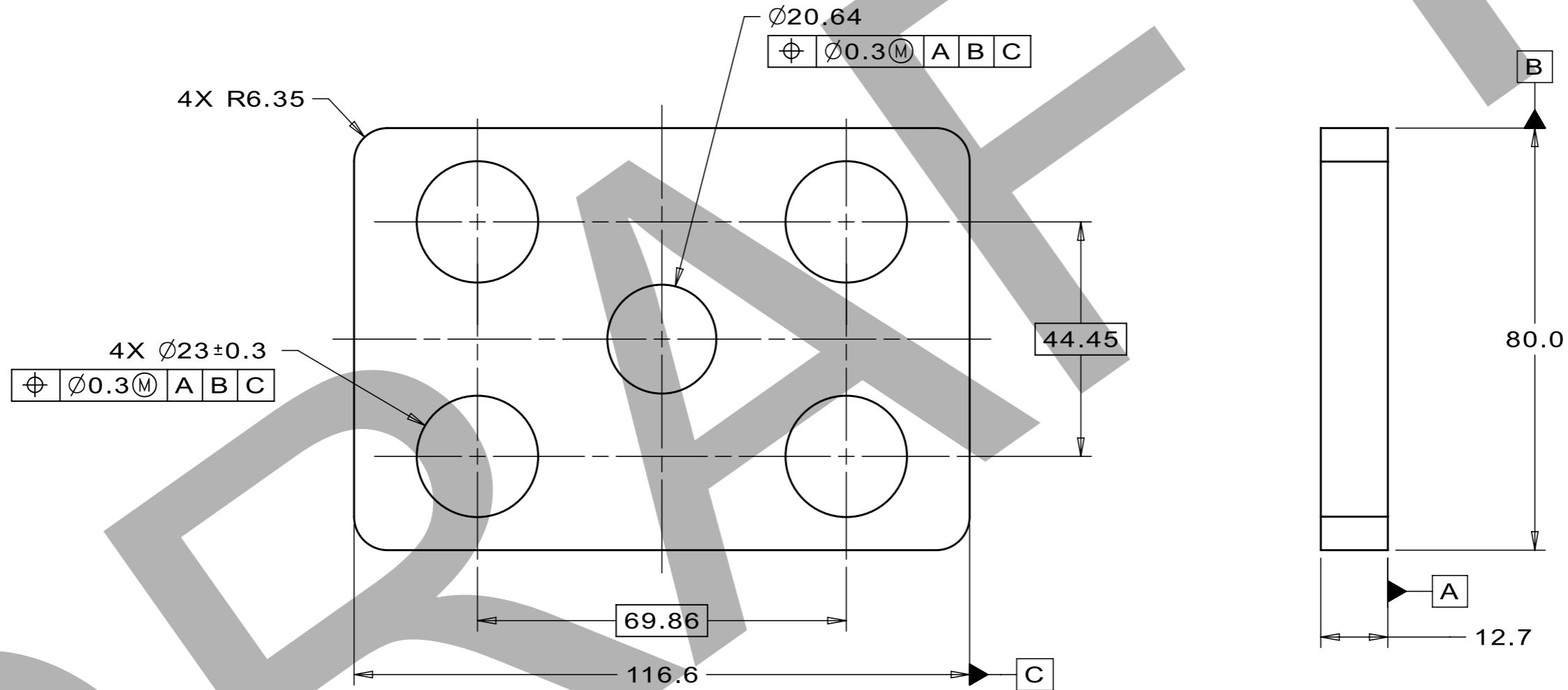
3

2

1

DESCRIPTION: PLATE, RAD PROTECTION, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10195217---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X*
2	0.3	0.12	N/A	1*

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10200588		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME PLATE, RAD PROTECTION, PULSED DIPOLE MAGNET, ORNL STS			
SCALE 1:1	SIZE A3	DRAWING NUMBER F10195217	SHEET 1 OF 1	REV -	

SNS S02040000-M8U-8820-A10056

4

3

2

1

TEMPLATE VERSION: 2021.08.06

4

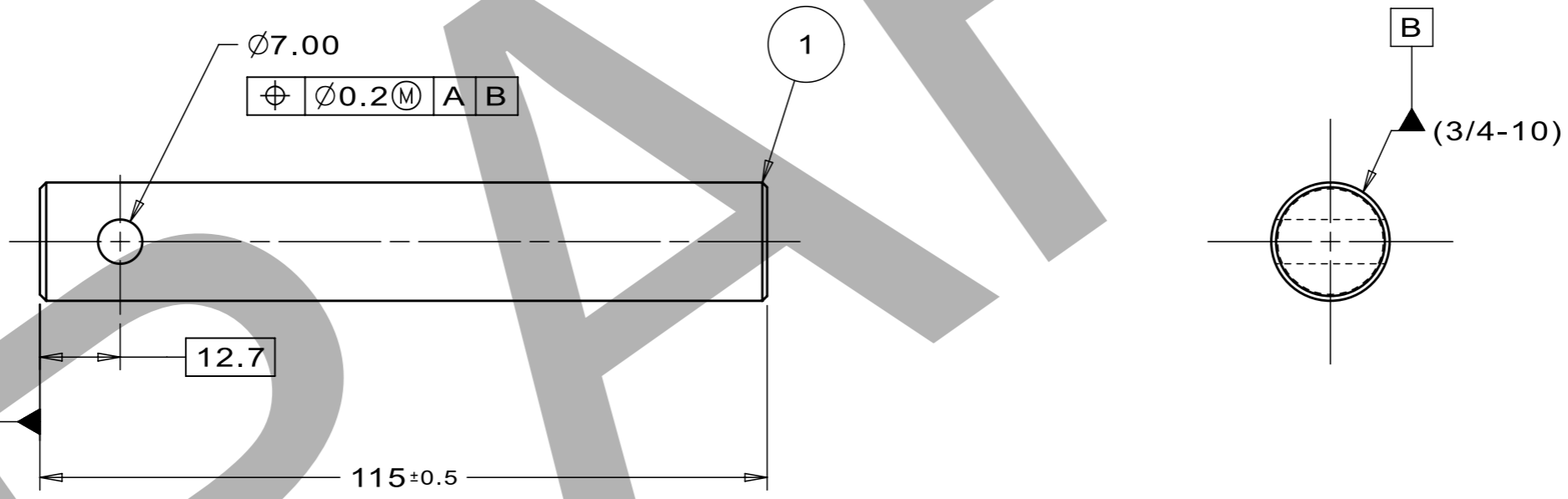
3

2

1

DESCRIPTION: THREADED ROD, LOCKOUT, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STs\_Magnets  
CATEGORY: ROD

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10195484---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

1	McMASTER-CARR 93250A017 OR EQV	FC0045767	THREADED ROD, 3/4-10x12"LG - 316SS	1
ITEM	VENDOR #	FERMI #	PART NAME	QTY

PARTS LIST

DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023	<p>FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY</p>
CHECKED		DATE		
APPROVED		DATE		
USED ON	F10195611			NAME THREADED ROD, LOCKOUT, PULSED DIPOLE MAGNET, ORNL STS
MATERIAL	SEE PARTS LIST			SCALE 1:1
GROUP: Technical Division - Design and Drafting	CAGE CODE: OU5R6	SIZE A3	DRAWING NUMBER F10195484	SHEET 1 OF 1
			REV -	

SNS S02040000-M8U-8820-A10057

4

3

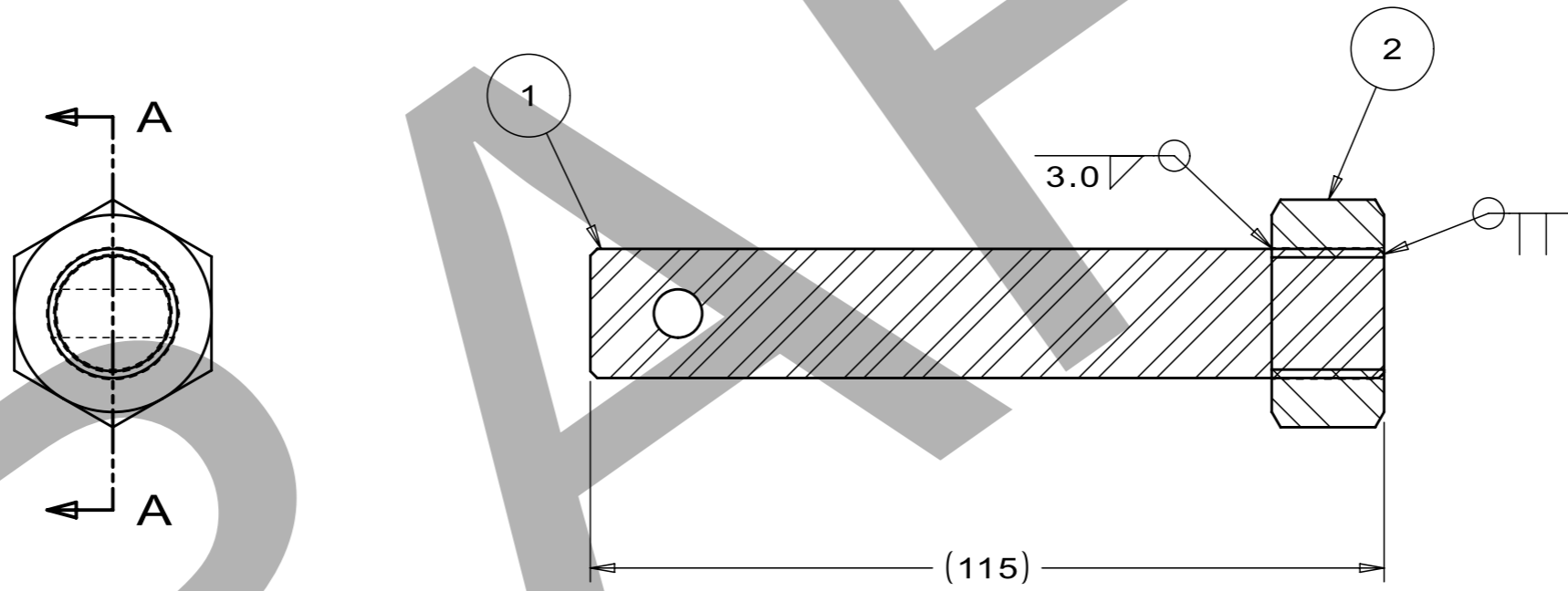
2

1

TEMPLATE VERSION: 2021.06.06

DESCRIPTION: WELDMENT, LOCKOUT ROD, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: WELDMENT

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10195611---RCD		DRAWN	
			APPROVED	



SECTION A-A

NOTES (UNLESS OTHERWISE SPECIFIED):

1. WELDMENT MUST BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. WELDMENT MUST BE FREE OF ALL SHARP EDGES, CORNERS AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.

ITEM	VENDOR #	FERMI #	PART NAME	QTY
2		FC0014197	NUT-HEX, 3/4-10x0.6406,SS316	1
1		F10195484	THREADED ROD, LOCKOUT, PULSED DIPOLE MAGNET, ORNL STS	1

PARTS LIST

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10200588		
MATERIAL	SEE PARTS LIST		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

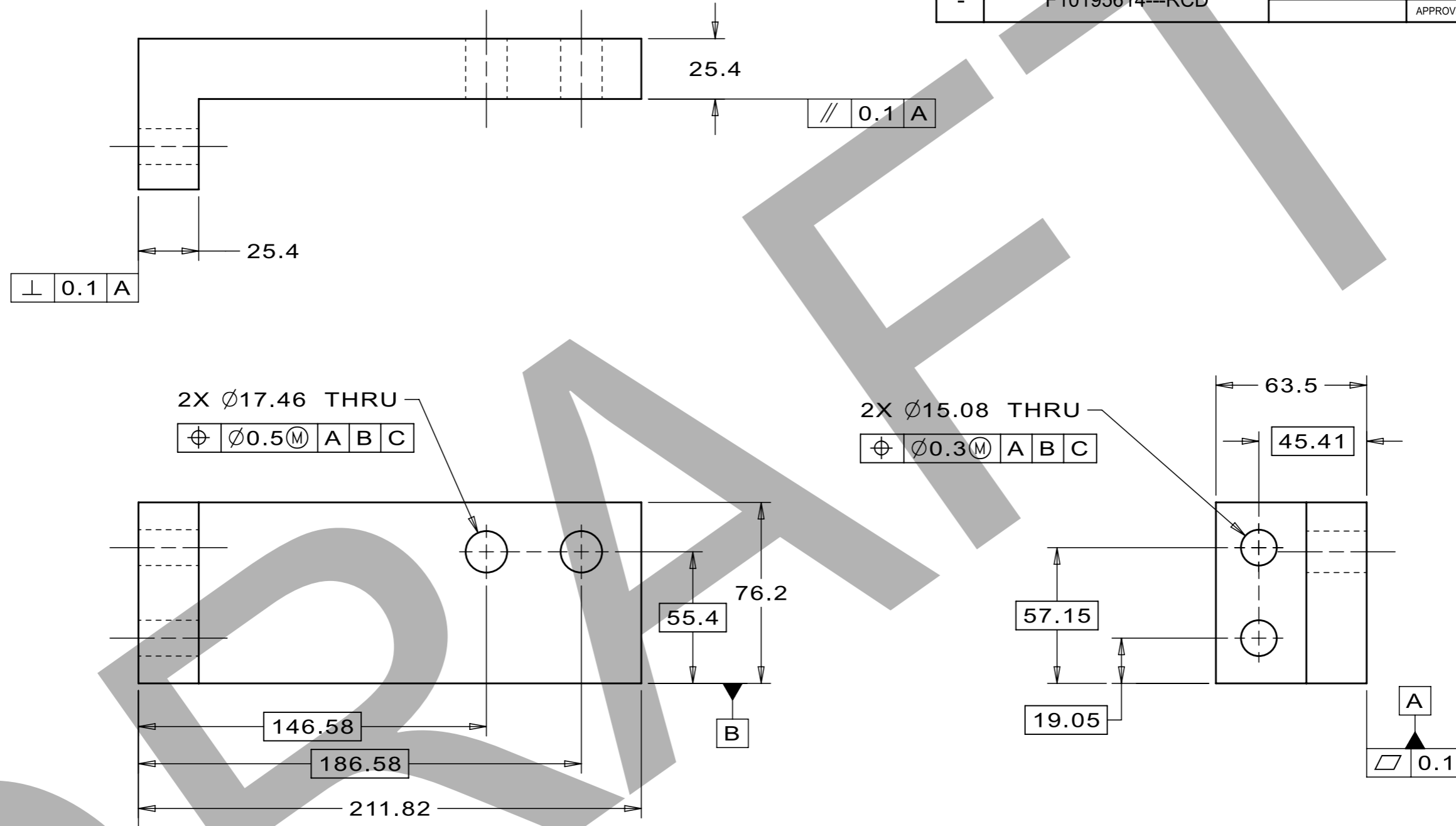
 <b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY		NAME			
		WELDMENT, LOCKOUT ROD, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:1	A3	F10195611	1 OF 1	-	

SNS S02040000-M8U-8820-A10058

TEMPLATE VERSION: 2021.06.06

DESCRIPTION: FLAG SUPPORT BLOCK, LOWER, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: BLOCK

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10195614---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	R.NOCEDA	DATE	29-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10203414		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME <b>FLAG SUPPORT BLOCK, LOWER, PULSED DIPOLE MAGNET, ORNL STS</b>			
SCALE	SIZE	DRAWING NUMBER	SHEET
1:2	A3	F10195614	1 OF 1
			REV
			-

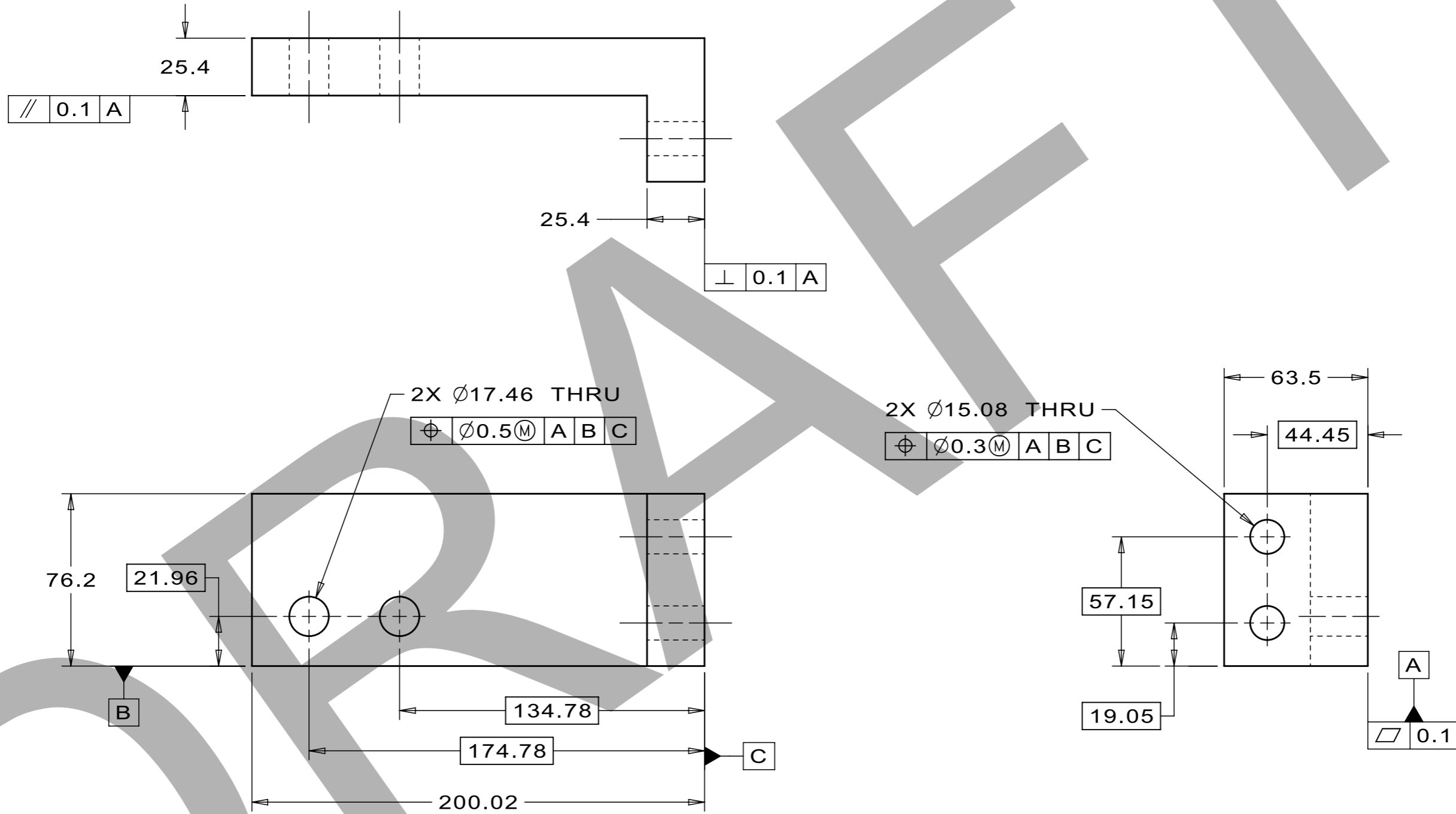
SNS S02040000-M8U-8820-A10043

TEMPLATE VERSION: 2021.08.06



DESCRIPTION: FLAG SUPPORT BLOCK, UPPER, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: BLOCK

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10195625---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X*
2	0.3	0.12	N/A	1*

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	R.NOCEDA	DATE	29-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10203414		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME <b>FLAG SUPPORT BLOCK, UPPER, PULSED DIPOLE MAGNET, ORNL STS</b>			
SCALE	SIZE	DRAWING NUMBER	SHEET
1:2	A3	F10195625	1 OF 1
			REV
			-

SNS S02040000-M8U-8820-A10044

TEMPLATE VERSION: 2021.08.06

4

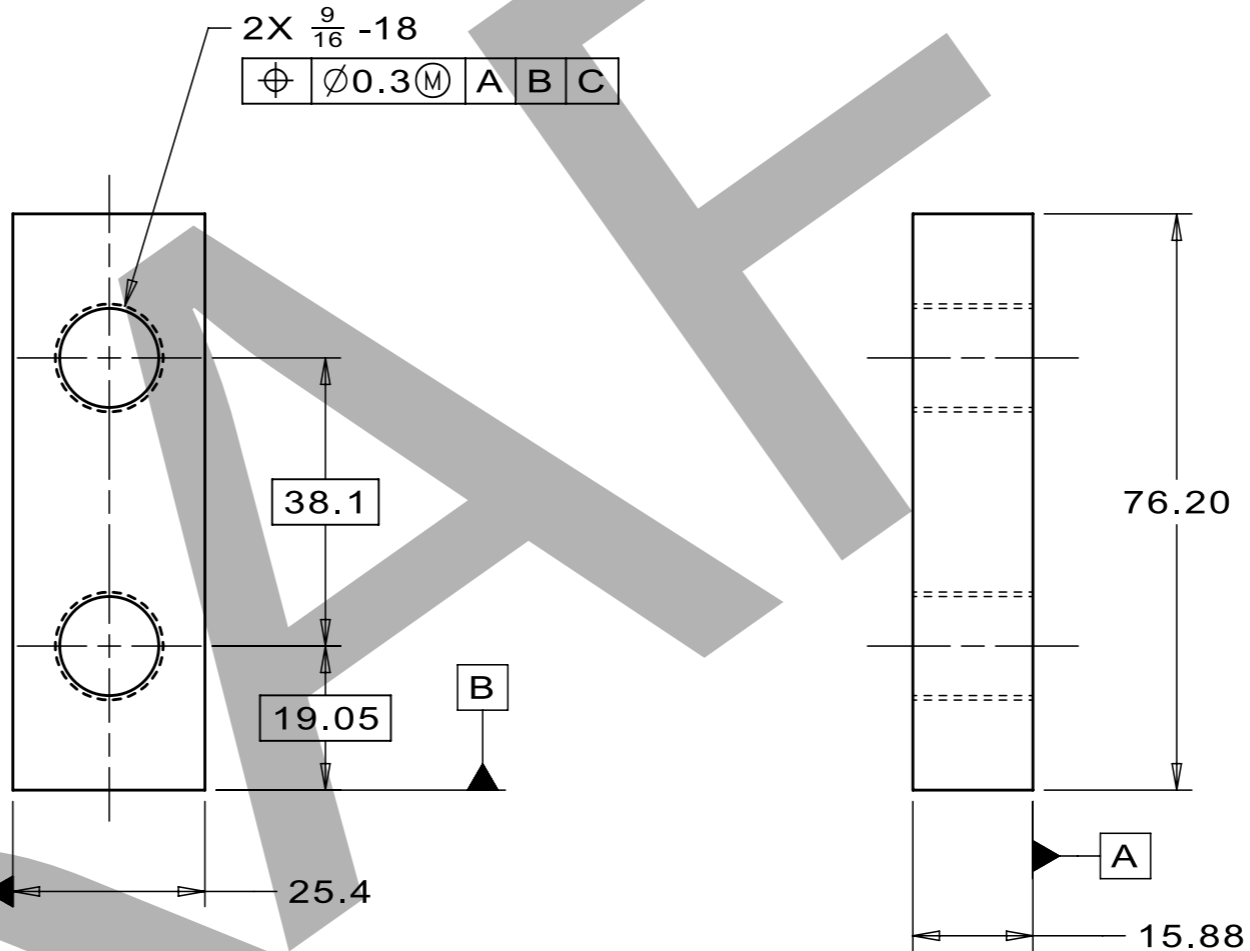
3

2

1

DESCRIPTION: STANDOFF, LEAD SUPPORT BLOCK, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10196008---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X'
2	0.3	0.12	N/A	1'

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10211960		
MATERIAL	304 STAINLESS STEEL		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

 <b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY		NAME <b>STANDOFF, LEAD SUPPORT BLOCK, PULSED DIPOLE MAGNET, ORNL STS</b>			

SNS S02040000-M8U-8820-A10022

4

3

2

1

TEMPLATE VERSION: 2021.08.06

4

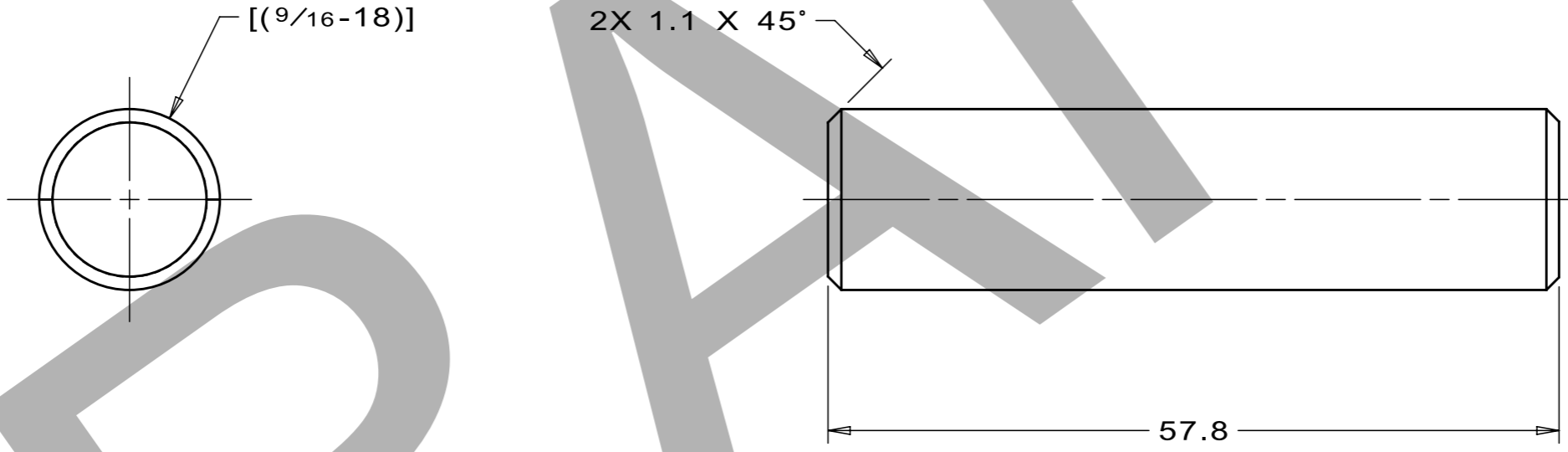
3

2

1

DESCRIPTION: THREADED ROD, LEAD SUPPORT BLOCK, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: ROD

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10196034---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
2. PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
3. DIMENSIONS IN [X.X] ARE INCH.

UNLESS OTHERWISE SPECIFIED					DRAWN	R.NOCEDA	DATE	29-Sep-2023
+X	+X.X	+X.XX	+X/X	+X"	CHECKED		DATE	
2	0.3	0.12	N/A	1"	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					USED ON			
<p>THIRD ANGLE PROJECTION</p>					F10203414			
					MATERIAL			
					9/16"-18 THREADED ROD			
					GROUP: Technical Division - Design and Drafting		CAGE CODE: OU5R6	

				<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME <b>THREADED ROD, LEAD SUPPORT BLOCK, PULSED DIPOLE MAGNET, ORNL STS</b>							
SCALE	SIZE	DRAWING NUMBER		SHEET	REV		
2:1	A3	F10196034		1 OF 1	-		

SNS S02040000-M8U-8820-A10039

4

3

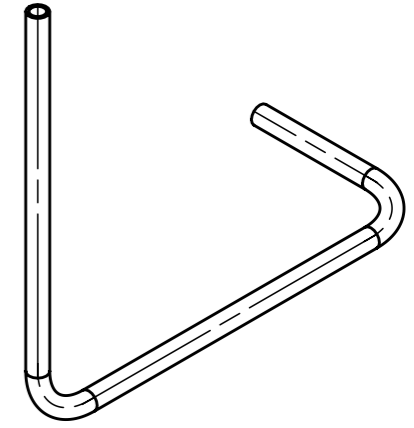
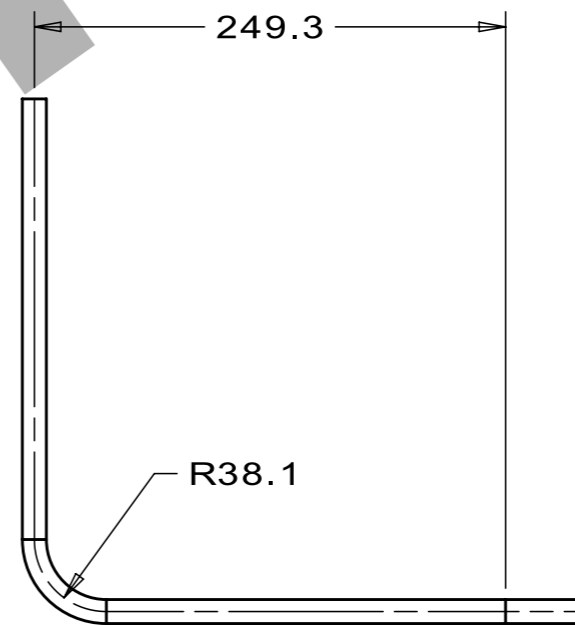
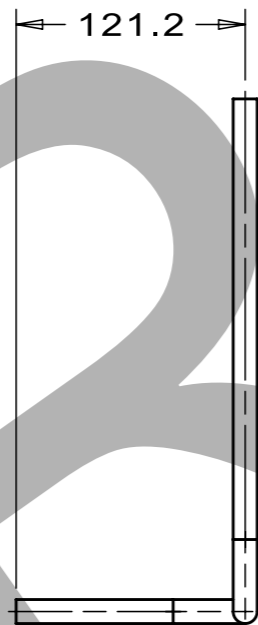
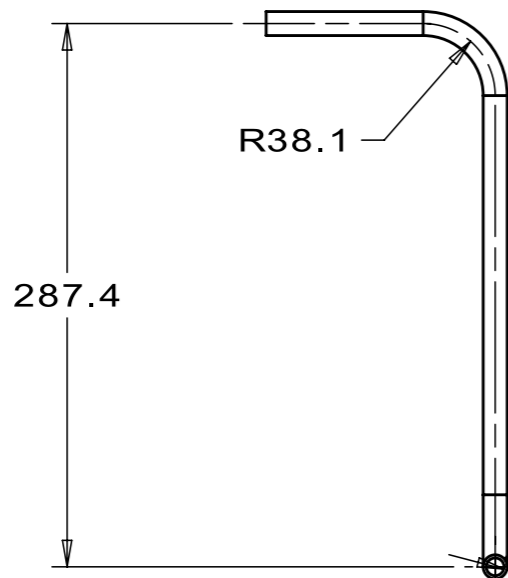
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1

TEMPLATE VERSION: 2021.08.06

DESCRIPTION: TUBE 1, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: TUBE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10196280---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- DIMENSIONS IN [X.X] ARE INCH.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

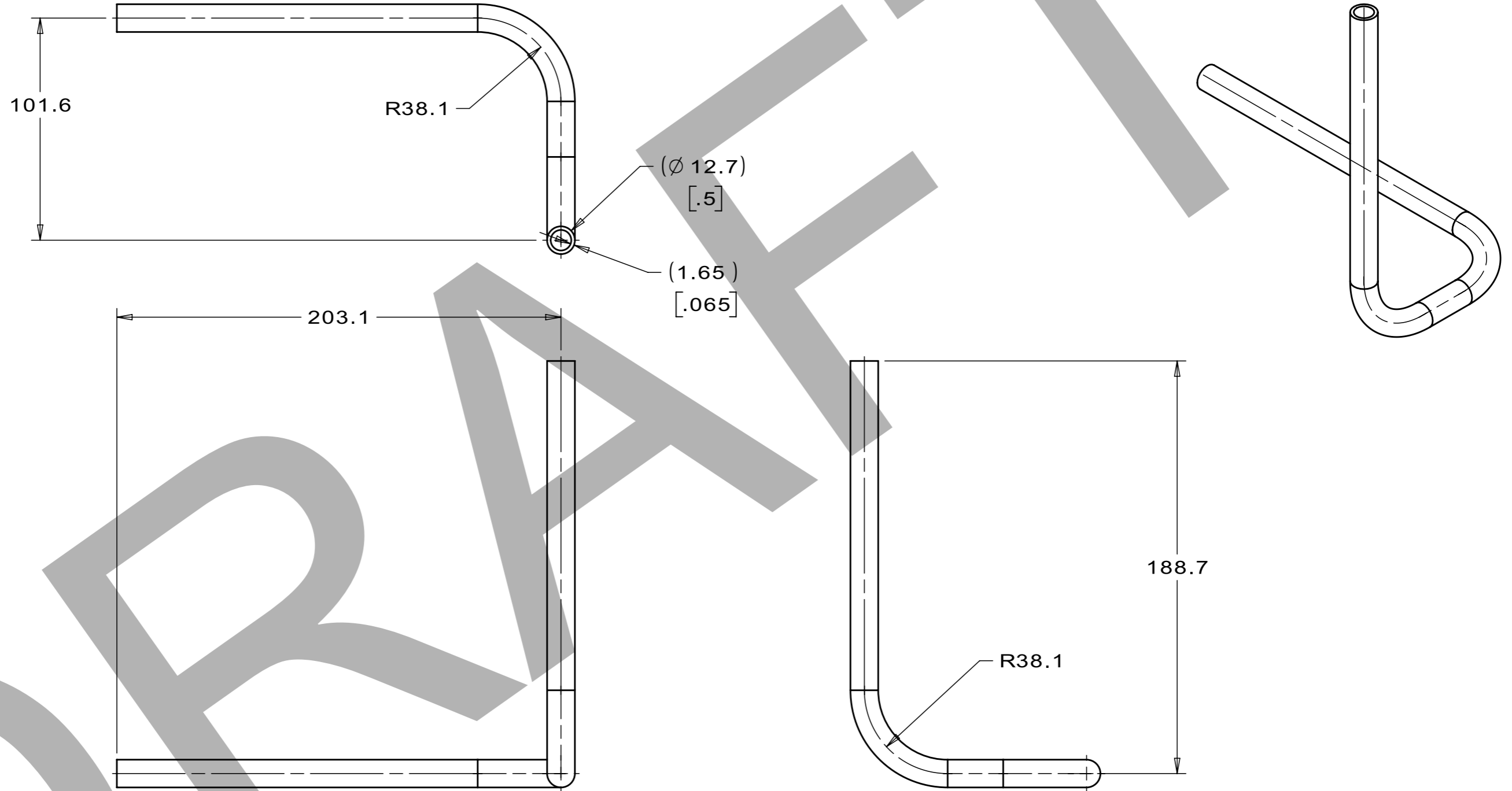
DRAWN	R.NOCEDA	DATE	03-Oct-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10189377		
MATERIAL	316 STAINLESS STEEL 1/2" OD X .065"W, TUBING		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		TUBE 1, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:4	A3	F10196280	1 OF 1	-	

TEMPLATE VERSION: 2021.06.06

DESCRIPTION: TUBE 2, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: TUBE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10196281---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- DIMENSIONS IN [X.X] ARE INCH.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	R.NOCEDA	DATE	03-Oct-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10189377		
MATERIAL	316 STAINLESS STEEL 1/2" OD X .065"W, TUBE		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		TUBE 2, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:2	A3	F10196281	1 OF 1	-	

SNS S02040000-M8U-8820-A10049

TEMPLATE VERSION: 2021.08.06

4

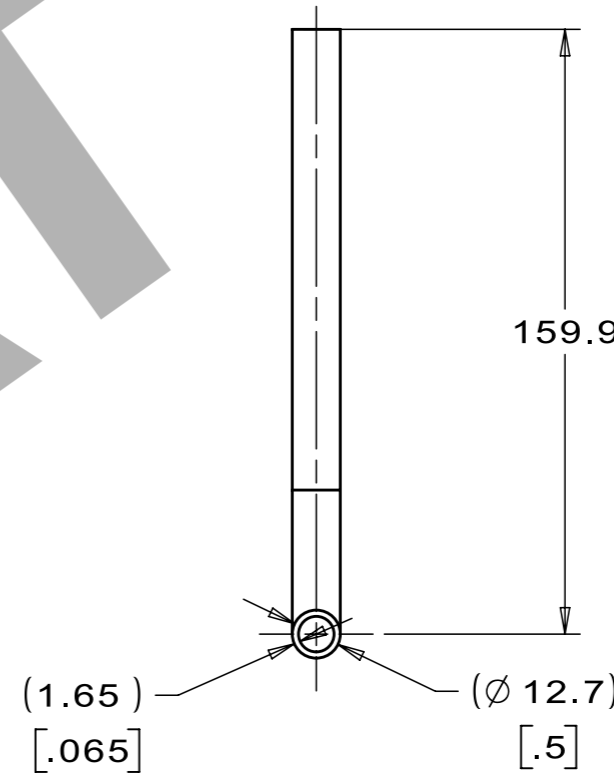
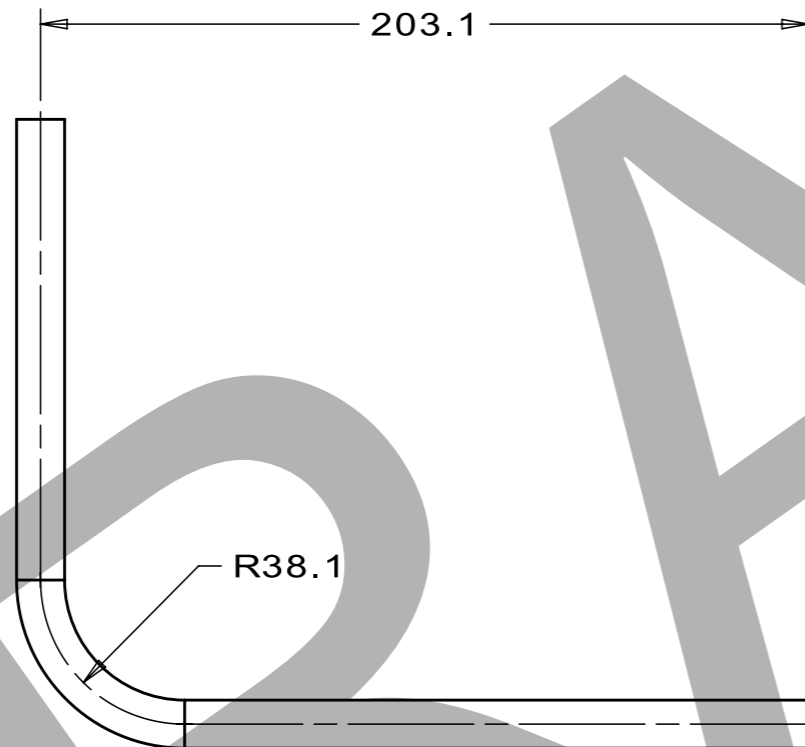
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2

1

DESCRIPTION: TUBE 3, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: TUBE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10196282---RCD		DRAWN	
			APPROVED	



NOTES:(UNLESS OTHERWISE SPECIFIED)

- 1. PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- 2. PART TO BE FREE OF ALL SHARP EDGES, CORNERS AND BURRS.
- 3. DIMENSIONS IN [X.X] ARE INCH.
- 4. ALL WATER PARTS AND CONNECTIONS MUST CONFORM TO ASME B31.3 CODE, CATEGORY D FLUID SERVICES.

SNS S02040000-M8U-8820-A10050

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	R.NOCEDA	DATE	04-Oct-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10189377		
MATERIAL	316 STAINLESS STEEL .5" OD X .065 W, TUBE		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY				
				NAME TUBE 3, PULSED DIPOLE MAGNET, ORNL STS
SCALE 1:2	SIZE A3	DRAWING NUMBER F10196282	SHEET 1 OF 1	REV -

4

3

2

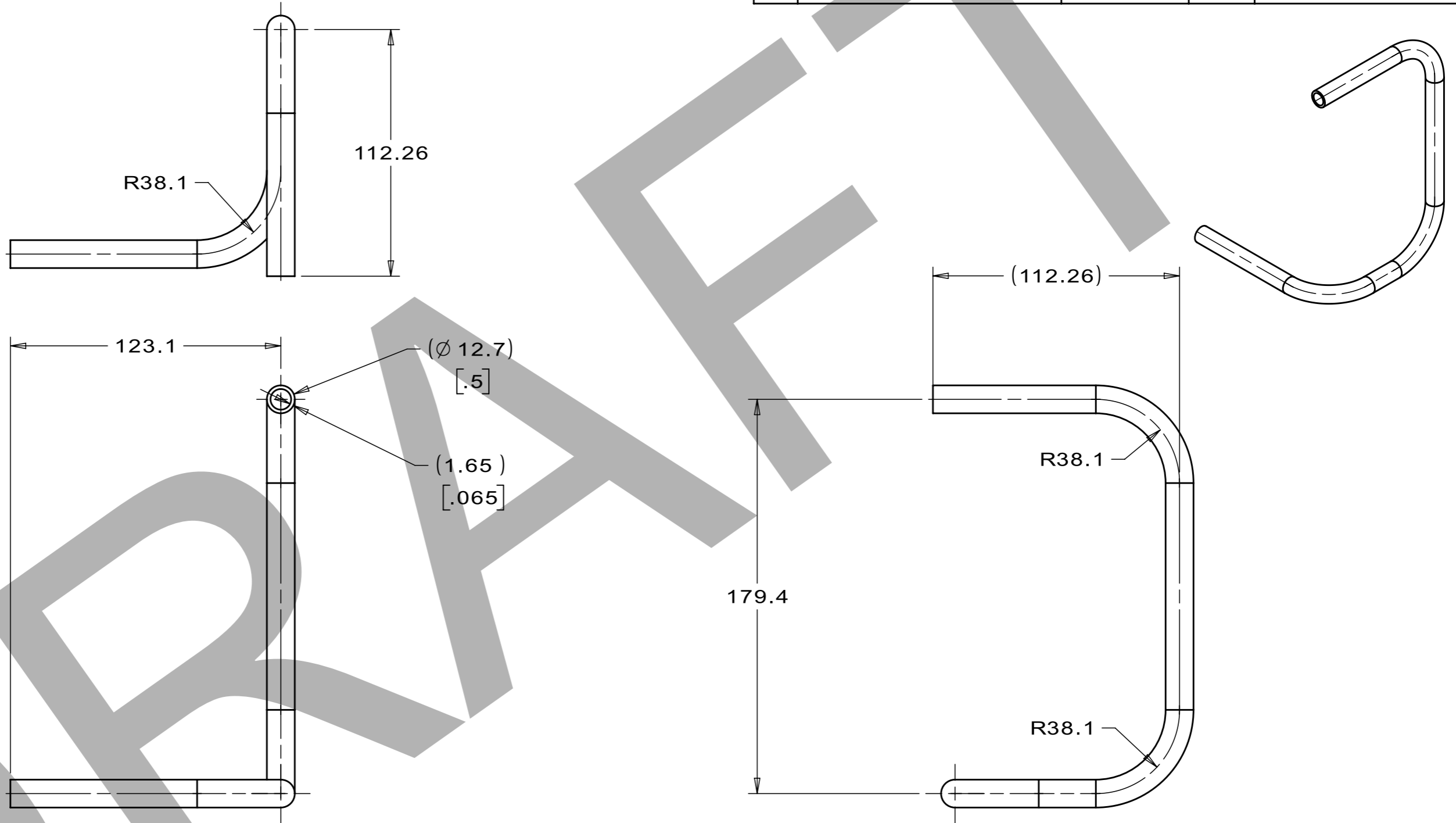
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TEMPLATE VERSION: 2021.08.06

TEMPLATE VERSION: 2021.08.06

DESCRIPTION: TUBE 4, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: TUBE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10196285---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- DIMENSIONS IN [X.X] ARE INCH.

SNS S02040000-M8U-8820-A10051

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

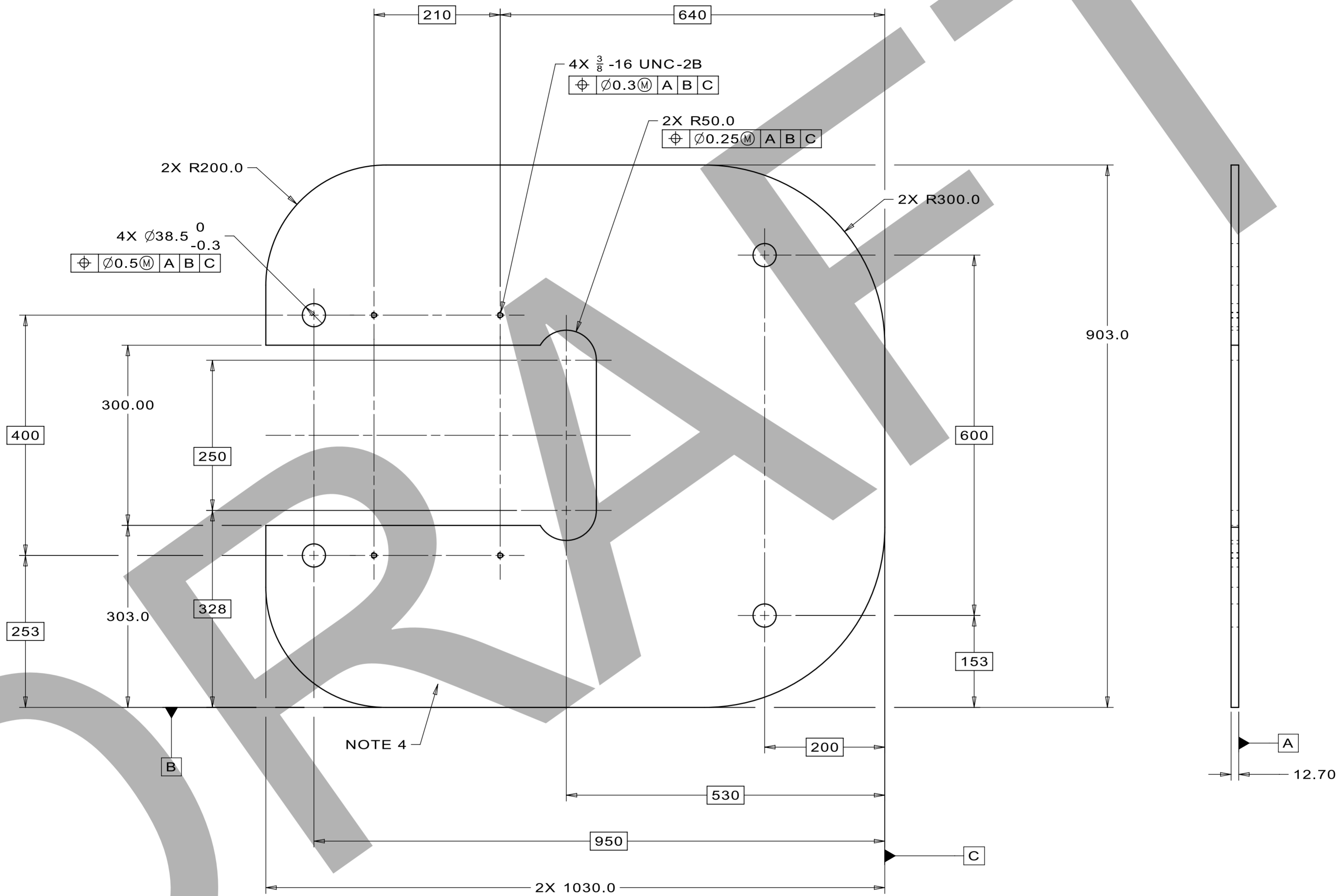
THIRD ANGLE PROJECTION

DRAWN	R.NOCEDA	DATE	03-Oct-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10189377		
MATERIAL	316 STAINLESS STEEL .5" OD X .065" W, TUBE		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		TUBE 4, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:2	A3	F10196285	1 OF 1	-	

TEMPLATE VERSION: 2021.06.06

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10196517---RCD		DRAWN APPROVED



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- MARK IN THIS AREA, NEAR THE EDGE: "BOTTOM"

SNS S02040000-M8U-8820-A10011

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	08-Sep-2023
±X	±X.X	±X.XX	±X/X	±X'	CHECKED		DATE	
2	0.3	0.12	N/A	1'	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					USED ON			
<p>THIRD ANGLE PROJECTION</p>					F10186819			
					MATERIAL 304 STAINLESS STEEL			
GROUP: Technical Division - Design and Drafting					CAGE CODE: OJ5R6			

<p>FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY</p>			
NAME END PLATE, RH, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS			
SCALE 1:5	SIZE A2	DRAWING NUMBER F10196517	SHEET 1 of 1
		REV -	

TEMPLATE VERSION: 2021.08.06



4

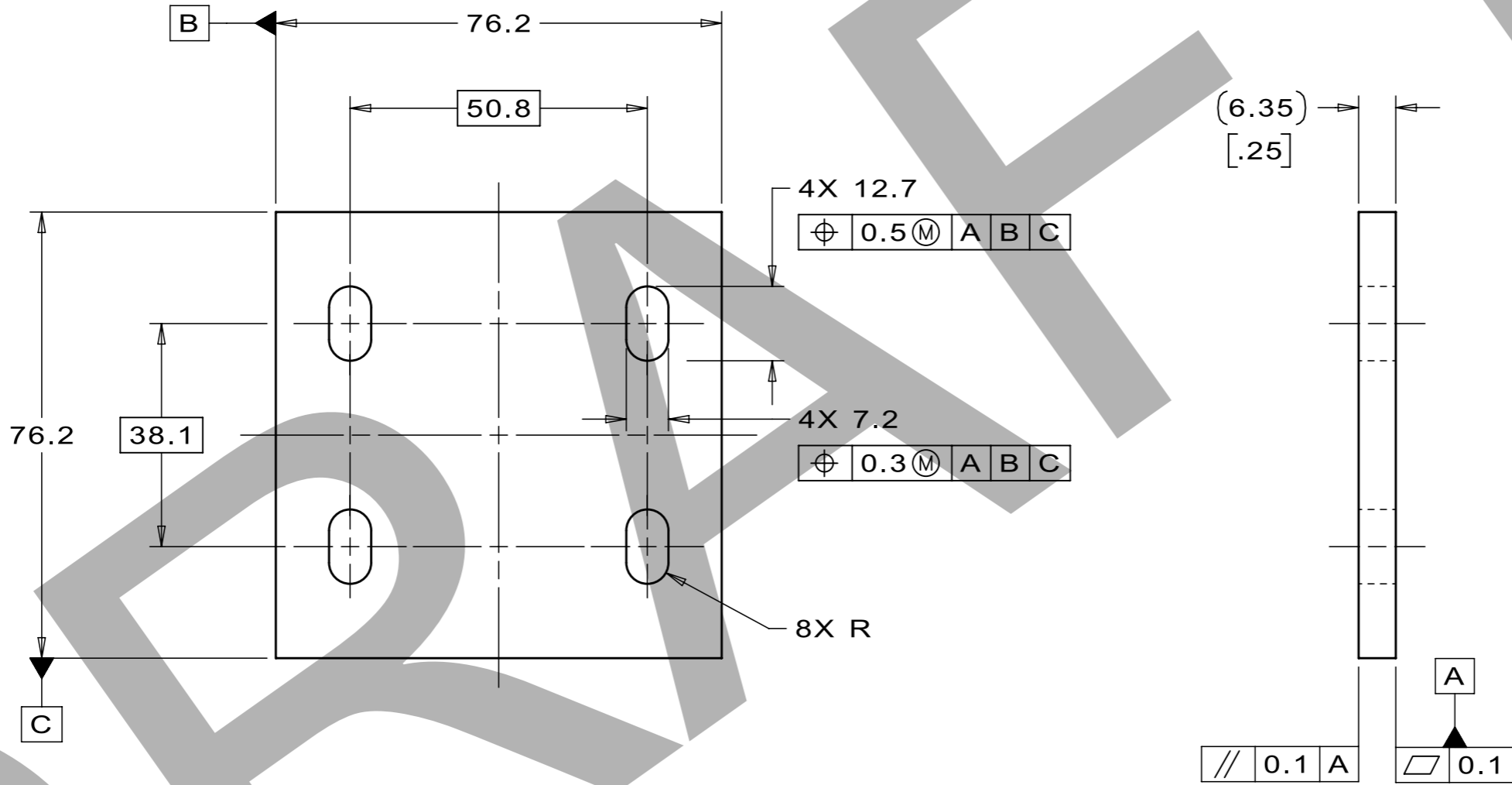
3

2

1

DESCRIPTION: MANIFOLD BASE, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STS\_Magnets  
CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10200270---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- DIMENSIONS IN [X.X] ARE INCH.

SNS S02040000-M8U-8820-A10053

UNLESS OTHERWISE SPECIFIED				
±X	±X.X	±X.XX	±X/X	±X°
2	0.3	0.12	N/A	1°

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.HELSELEY	DATE	03-Oct-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10189375		
MATERIAL	316 STAINLESS STEEL .25" THK. STOCK		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME MANIFOLD BASE, PULSED DIPOLE MAGNET, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:1	A3	F10200270	1 OF 1	-	

4

3

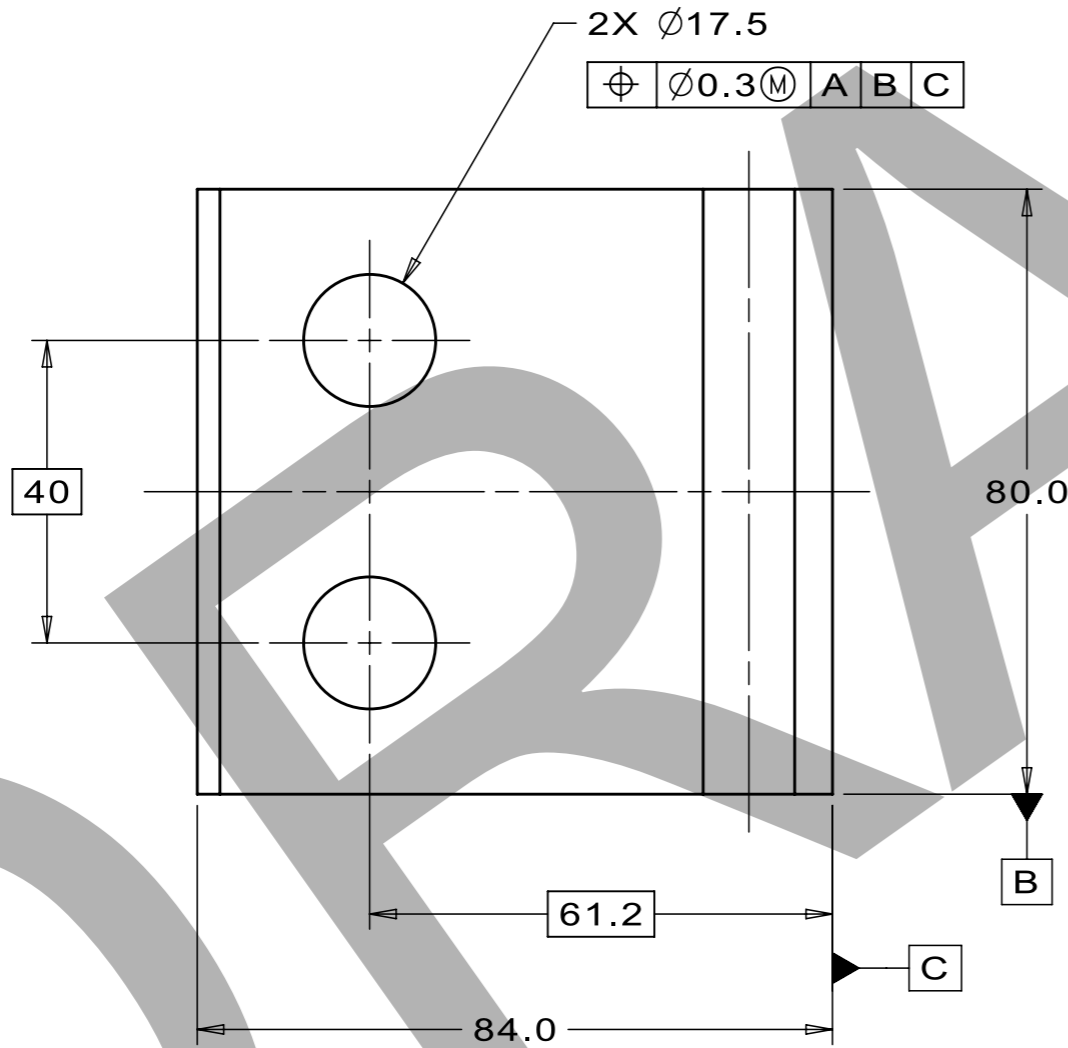
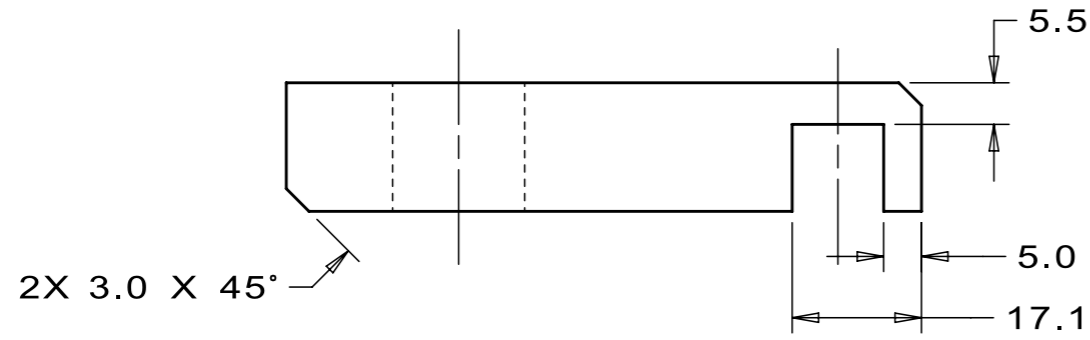
2

1

TEMPLATE VERSION: 2021.08.06

DESCRIPTION: JUMPER, NON-FLAG UPPER LEAD, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10200495---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	R.NOCEDA	DATE	03-Oct-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10203414		
MATERIAL	OXYGEN FREE COPPER		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

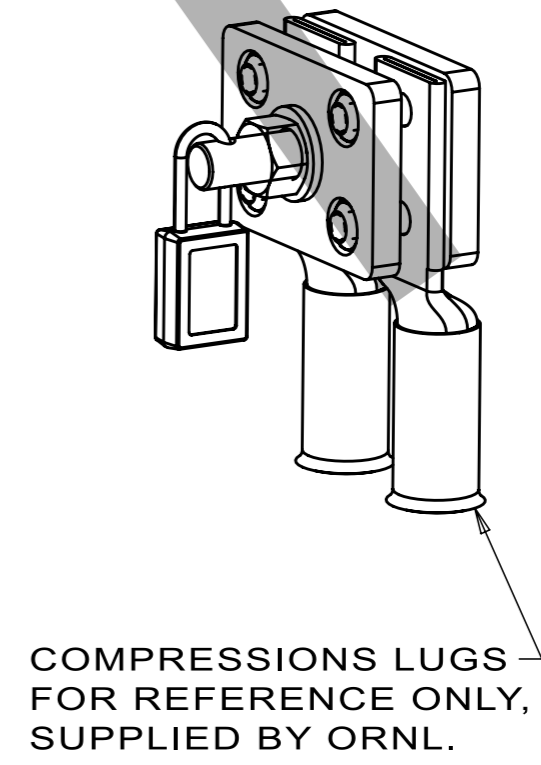
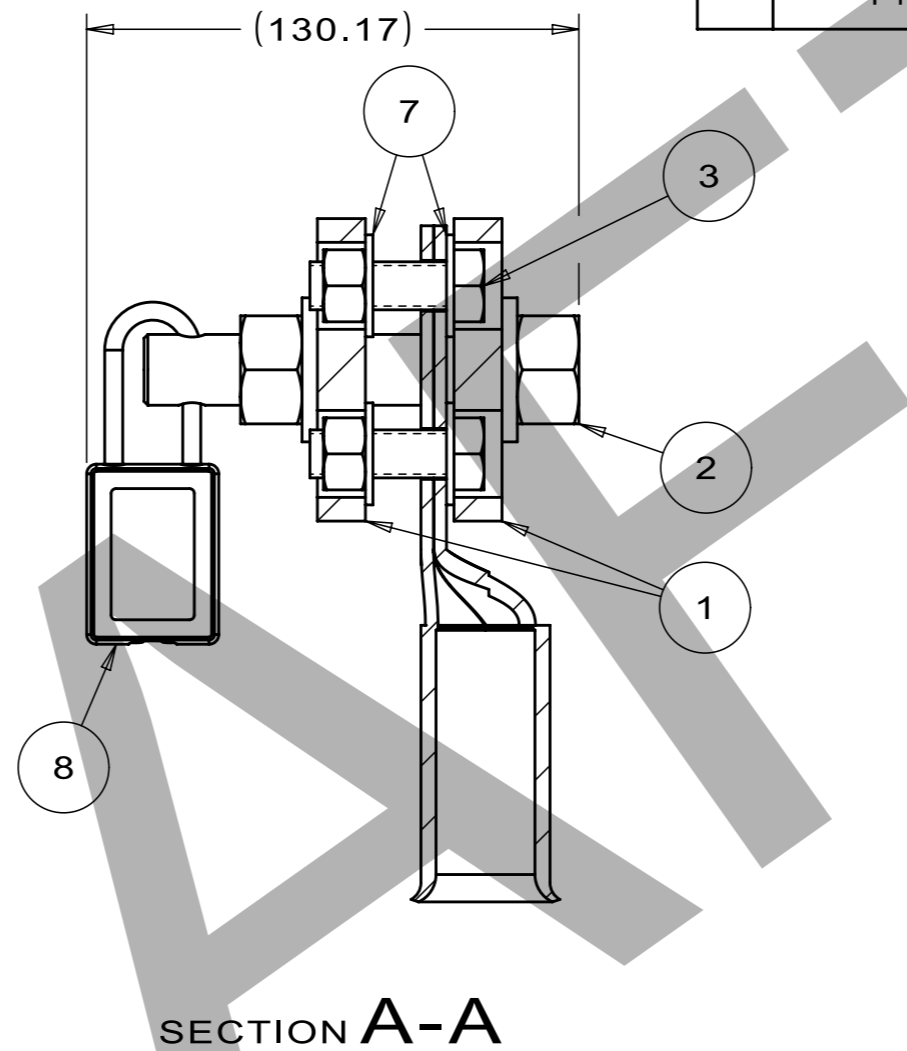
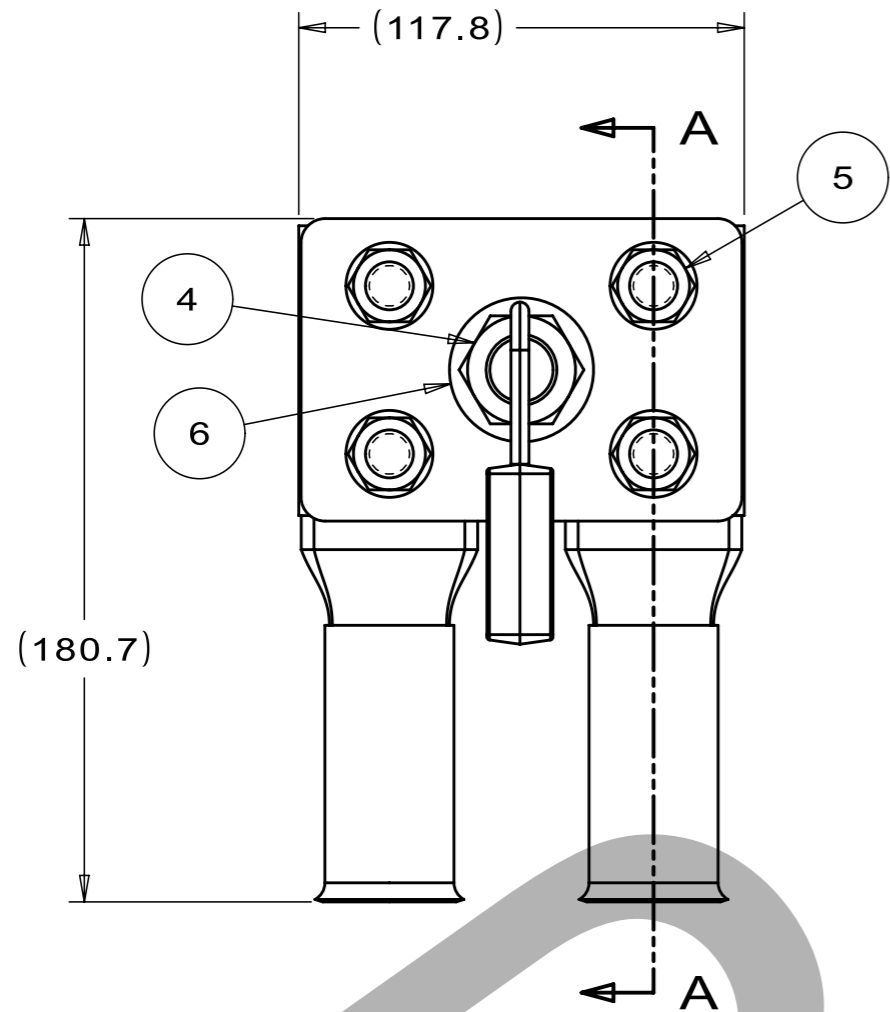
<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME <b>JUMPER, NON-FLAG UPPER LEAD, PULSED DIPOLE MAGNET, ORNL STS</b>			
SCALE	SIZE	DRAWING NUMBER	SHEET
1:1	A3	F10200495	1 OF 1
			REV
			-

SNS S02040000-M8U-8820-A10059

TEMPLATE VERSION: 2021.08.06

DESCRIPTION: RAD LOCKOUT ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STs\_Magnets  
 CATEGORY: ASSEMBLY

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10200588---RCD		DRAWN	
			APPROVED	



8	McMASTER-CARR 13305A833 OR EQV	FC0105359	LOCKOUT PADLOCK, EXTRA CLEARANCE	1
7		FC0015813	WASHER, 1/2-0.531x1.062x0.078, G8S, ZYC	8
6		FC0015590	WASHER, 3/4-0.812x1.5x0.16, SS316	2
5		FC0014773	NUT-HEX, 1/2-13x0.4375, G8S, ZYC	4
4		FC0014197	NUT-HEX, 3/4-10x0.6406, SS316	1
3		FC0009694	HHCS, 1/2-13x1.5LGxFT, G8S, ZYC	4
2		F10195611	WELDMENT, LOCKOUT ROD, PULSED DIPOLE MAGNET, ORNL STS	1
1		F10195217	PLATE, RAD PROTECTION, PULSED DIPOLE MAGNET, ORNL STS	2
ITEM	VENDOR #	FERMI #	PART NAME	QTY

NOTES (UNLESS OTHERWISE SPECIFIED):

- PART MUST BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART MUST BE FREE OF ALL SHARP EDGES, CORNERS AND BURRS.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

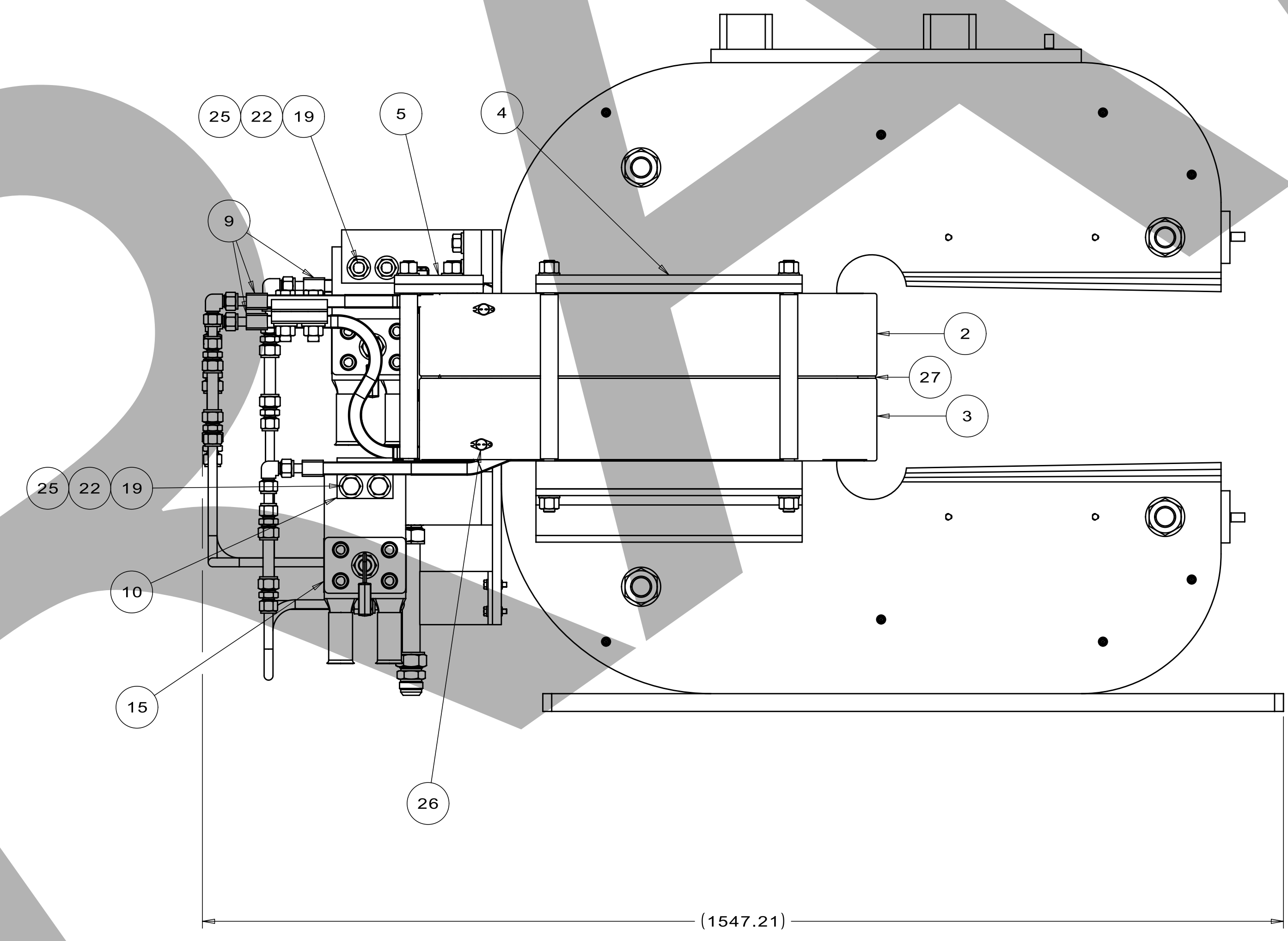
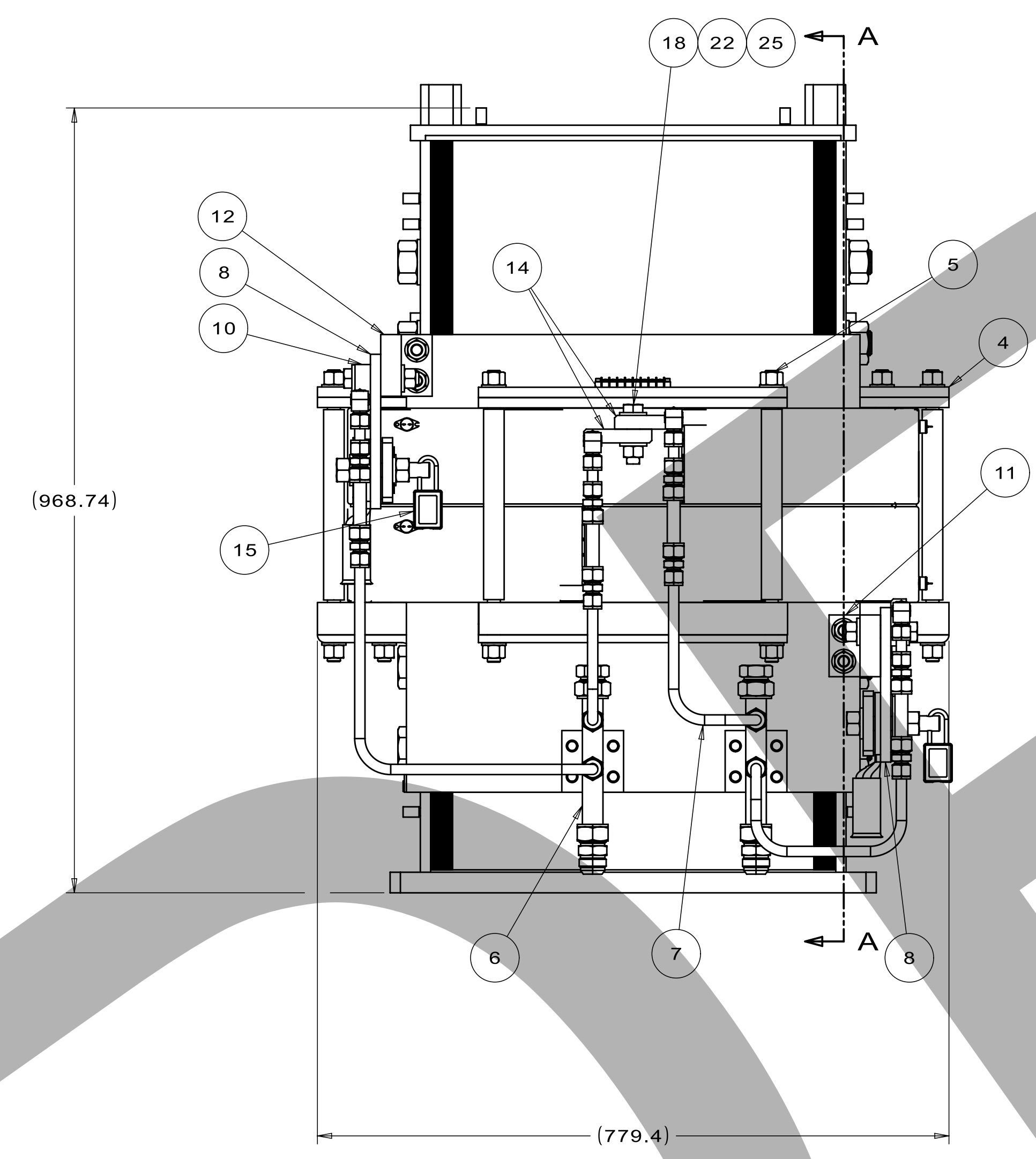
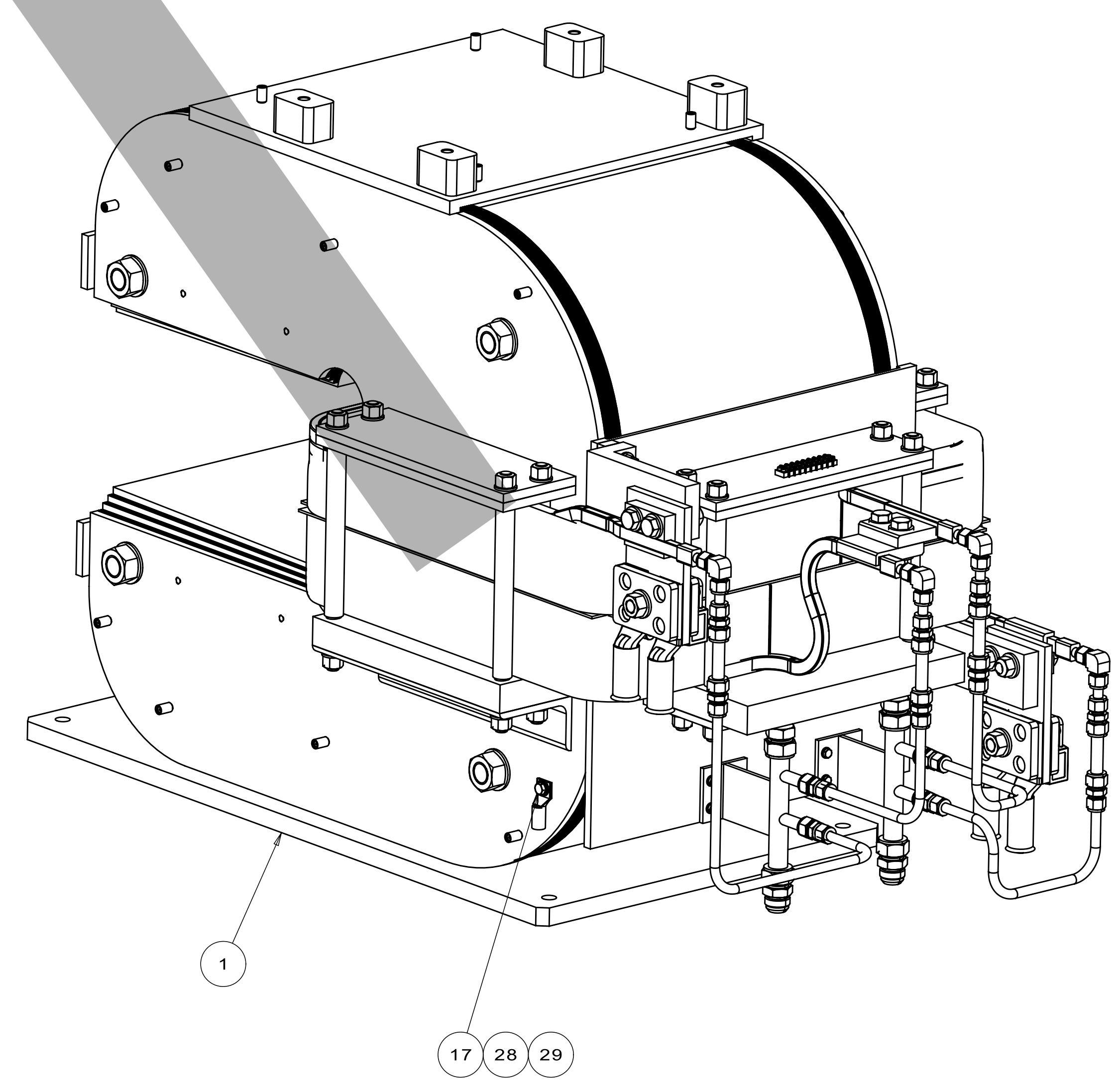
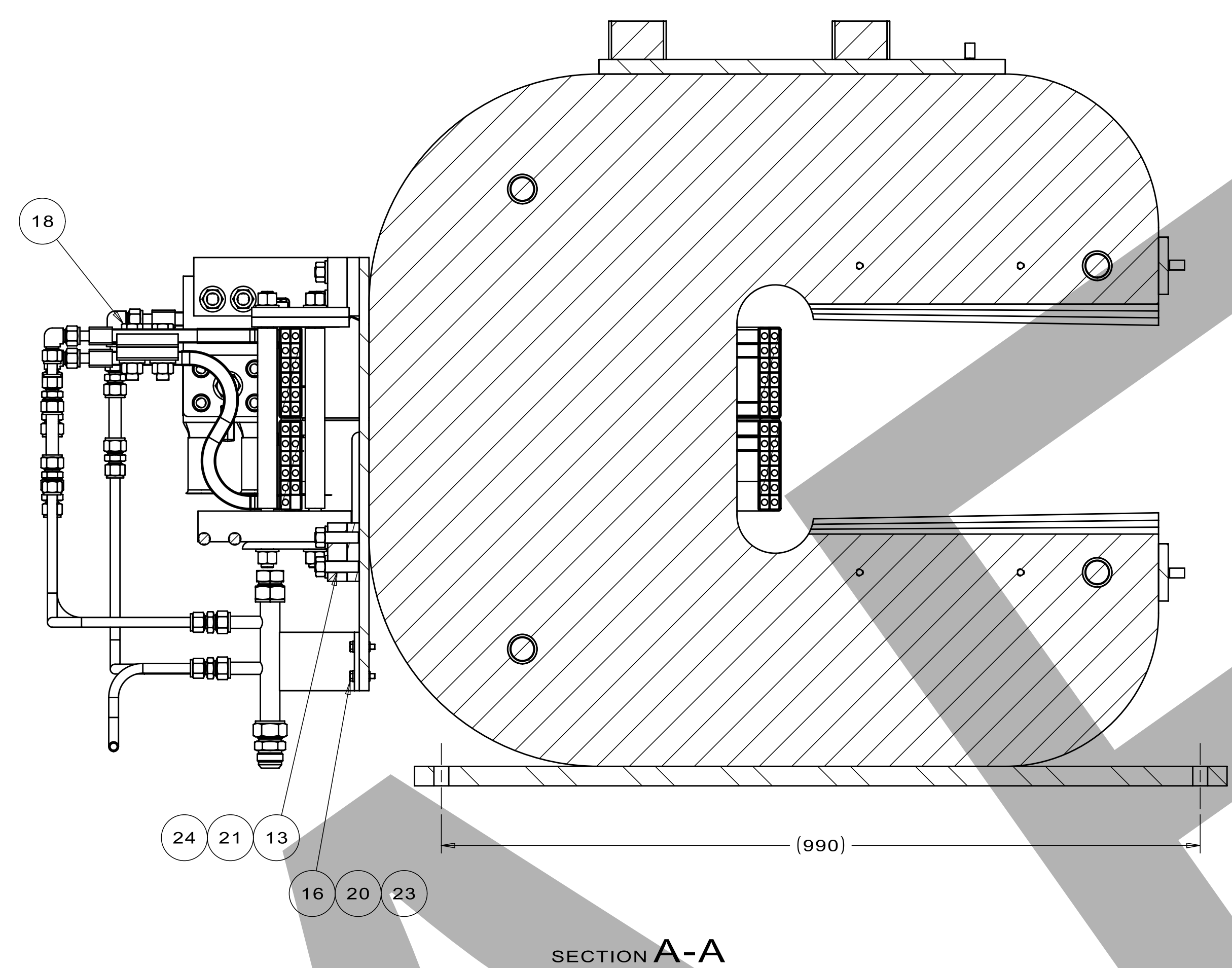
THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10203414		
MATERIAL	SEE PARTS LIST		
GROUP:	Technical Division - Design and Drafting		
CAGE CODE:	OU5R6		

<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME RAD LOCKOUT ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS			
SCALE 1:2	SIZE A3	DRAWING NUMBER F10200588	SHEET 1 OF 1
		REV -	

SNS S02040000-M8U-8820-A10060

TEMPLATE VERSION: 2021.08.06



- NOTES (UNLESS OTHERWISE SPECIFIED):**
- FOLLOW TRAVELER ORNL-STs-PULSED DIPOLE -XXXXXX TO ASSEMBLE AND TEST THE PULSED DIPOLE MAGNET ASSEMBLY. INSTALL THE COILS ONTO THE CORE, USING THE NEOPRENE SHEETS, ITEM 28, BETWEEN THE TWO COILS. SECURE THE TWO COILS IN PLACE WITH COIL SUPPORT ASSEMBLIES, ITEMS 4 & 6.
  - BRUSH SLIVER PLATE OVER ALL COPPER ELECTRICAL CONNECTIONS AFTER BRAZING.
  - PROTECT UNPAINTED AREA WITH CLEAR PAINT TO PREVENT RUSTING. NO GREASE OF ANY GRADE ALLOWED.
  - SECURE THERMAL SWITCHES, ITEM 26, AND THERMOCOUPLES WITH THERMAL EPOXY. EPOXY FORMULATION: HENKEL LOCTITE ABLESTIK 285/CATALYST 9-100:8.5 BY WEIGHT.
  - ALL WATER PARTS AND CONNECTIONS MUST CONFORM TO ASME B31.3 CODE. ALL BRAZED AND WELDED JOINTS SHALL MEET REQUIREMENTS OF ASME 31.3 CATEGORY D FLUID SERVICES AND ASME BPV SECTION IX CODES.
  - ASSEMBLY MUST BE FREE OF DIRT, GREASE, OIL, CHIPS, SHARP EDGES, CORNERS AND BURRS.
  - APPROXIMATE WEIGHT OF ASSEMBLY: 3313KG (7304LB)

- TIGHTENING TORQUE SPECIFICATIONS:**
- ITEM 16, ITEM 19: 1/4-20 TORQUE TO 66 IN/LBS
  - ITEM 17, ITEM 18, ITEM 22: 5/8-11 TORQUE TO 49 FT/LBS
  - ITEM 20: 5/16-18 TORQUE TO 66 IN/LBS
  - ITEM 21: 9/16-18 TORQUE TO 45 FT/LBS

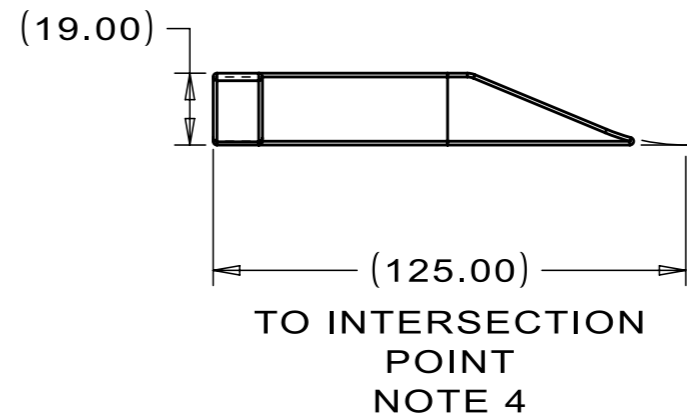
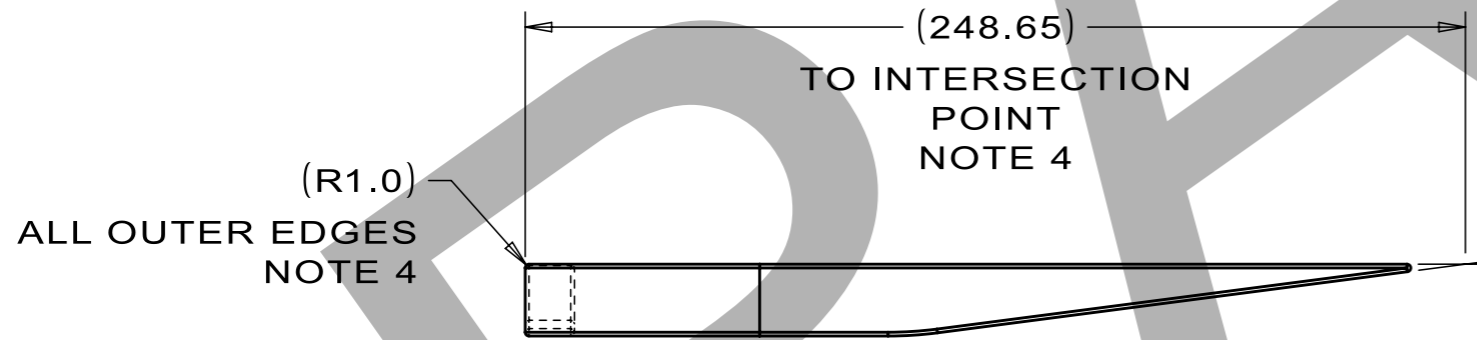
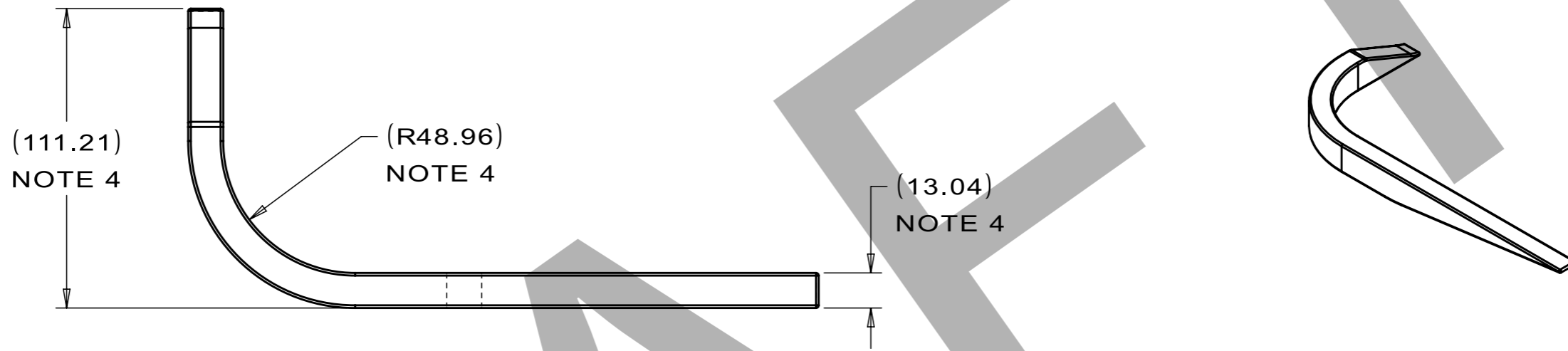
ITEM	VENDOR #	FERMI #	PART NAME	QTY
29	PANDUIT LCA4/0-38-X	FC0120528	COPPER LUG, 1 HOLE, STD BARREL, .71"OD, 2.5"LG	1
28	McMASTER-CARR 91812A431 OR EQV	FC0120517	WASHER, WEDGE LOCK, 3/8", .83"OD, 316SS	1
27	McMASTER-CARR 9325N423	FC0109296	1" x 1/8" X 10' NEOPRENE STRIP WITH ADHESIVE	4
26	SENSATA 4344-184	FC0075125	SWITCH, THERMAL, SINGLE POLE SEALED	4
25		FC0015817	WASHER, 5/8-0.656x1.312x0.15, G8S, ZYC	12
24		FC0015815	WASHER, 9/16-0.593x1.156x0.13, G8S, ZYC	4
23		FC0015553	WASHER, 1/4-0.265x0.562x0.08, SS316	16
22		FC0014777	NUT-HEX, 5/8-11x0.5469, G8S, ZYC	6
21		FC0014776	NUT-HEX, 9/16-18x0.4844, G8S, ZYC	4
20		FC0014178	NUT-HEX, 1/4-20x0.2188, SS316	8
19		FC0009816	HHCS, 5/8-11x3.25LGx1.5T, G8S, ZYC	4
18		FC0009811	HHCS, 5/8-11x2.5LGx1.5T, G8S, ZYC	2
17		FC0009598	HHCS, 3/8-24x0.625LGxFT, G8S, ZYC	1
16		FC0008960	HHCS, 1/4-20x1.125LGxFT, SS316	8
15		F10200588	RAD LOCKOUT ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS	2
14		F10200495	JUMPER, NON-FLAG UPPER LEAD, PULSED DIPOLE MAGNET, ORNL STS	2
13		F10196034	THREADED ROD, LEAD SUPPORT BLOCK, PULSED DIPOLE MAGNET, ORNL STS	4
12		F10195625	FLAG SUPPORT BLOCK, UPPER, PULSED DIPOLE MAGNET, ORNL STS	1
11		F10195614	FLAG SUPPORT BLOCK, LOWER, PULSED DIPOLE MAGNET, ORNL STS	1
10		F10195123	JUMPER, CONDUCTOR, PULSED DIPOLE MAGNET, ORNL STS	2
9		F10191036	ADAPTER, MANIFOLD, 12MMx18MM CONDUCTOR, PULSED DIPOLE	4
8		F10189414	POWER FLAG PLATE, PULSED DIPOLE MAGNET, ORNL STS	2
7		F10189377	ASSEMBLY, TUBES AND FITTINGS, PULSED DIPOLE MAGNET, ORNL STS	1
6		F10189375	MANIFOLD WELDMENT, PULSED DIPOLE MAGNET, ORNL STS	2
5		F10189029	ASSEMBLY, LEAD SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1
4		F10187024	ASSEMBLY, SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	2
3		F10182797	COIL ASSEMBLY, LOWER, PULSED DIPOLE MAGNET, ORNL STS	1
2		F10182796	COIL ASSEMBLY, UPPER, PULSED DIPOLE MAGNET, ORNL STS	1
1		F10182790	CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS	1

UNLESS OTHERWISE SPECIFIED:				PARTS LIST			
IX	IX-A	IX-XI	IX-XII	CHECKED	DATE	20-03-2023	
2	0.3	0.12	N/A	APPROVED	DATE		
BREAK ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED				DRAWN: J. VANDER MEULEN			
DO NOT SCALE DRAWING				DATE: 20-03-2023			
DIMENSIONS BASED ON ASME Y14.9A-2009				DRAWING NUMBER: F10183603			
MAXIMUM SURFACE FINISH: Ra 3.2				SCALE: 1.5			
DRAWING UNIT: MM				SIZE: A0			
TOLERANCE: DECIMAL DIMENSIONS: Design and Drafting				DRAWING NUMBER: F10203414			
TOLERANCE: ANGLES: PROJECTED				SHEET: 1 of 1			
TOLERANCE: HOLE POSITION: ±0.10				REV: -			

FERNI NATIONAL ACCELERATOR LABORATORY  
UNITED STATES DEPARTMENT OF ENERGY

DESCRIPTION: FILLER, INNER LEAD CORNER, PULSED DIPOLE MAGNET, ORNL STS  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: FILLER

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10205289---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- CAD MODEL IS MASTER. USE PROVIDED STEP FILE TO PRODUCE PART.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10182796, F10182797		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

 <b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY				
				NAME <b>FILLER, INNER LEAD CORNER, PULSED DIPOLE MAGNET, ORNL STS</b>
SCALE 1:2	SIZE A3	DRAWING NUMBER F10205289	SHEET 1 OF 1	REV -

SNS S02040000-M8U-8820-A10029

TEMPLATE VERSION: 2021.06.06

4

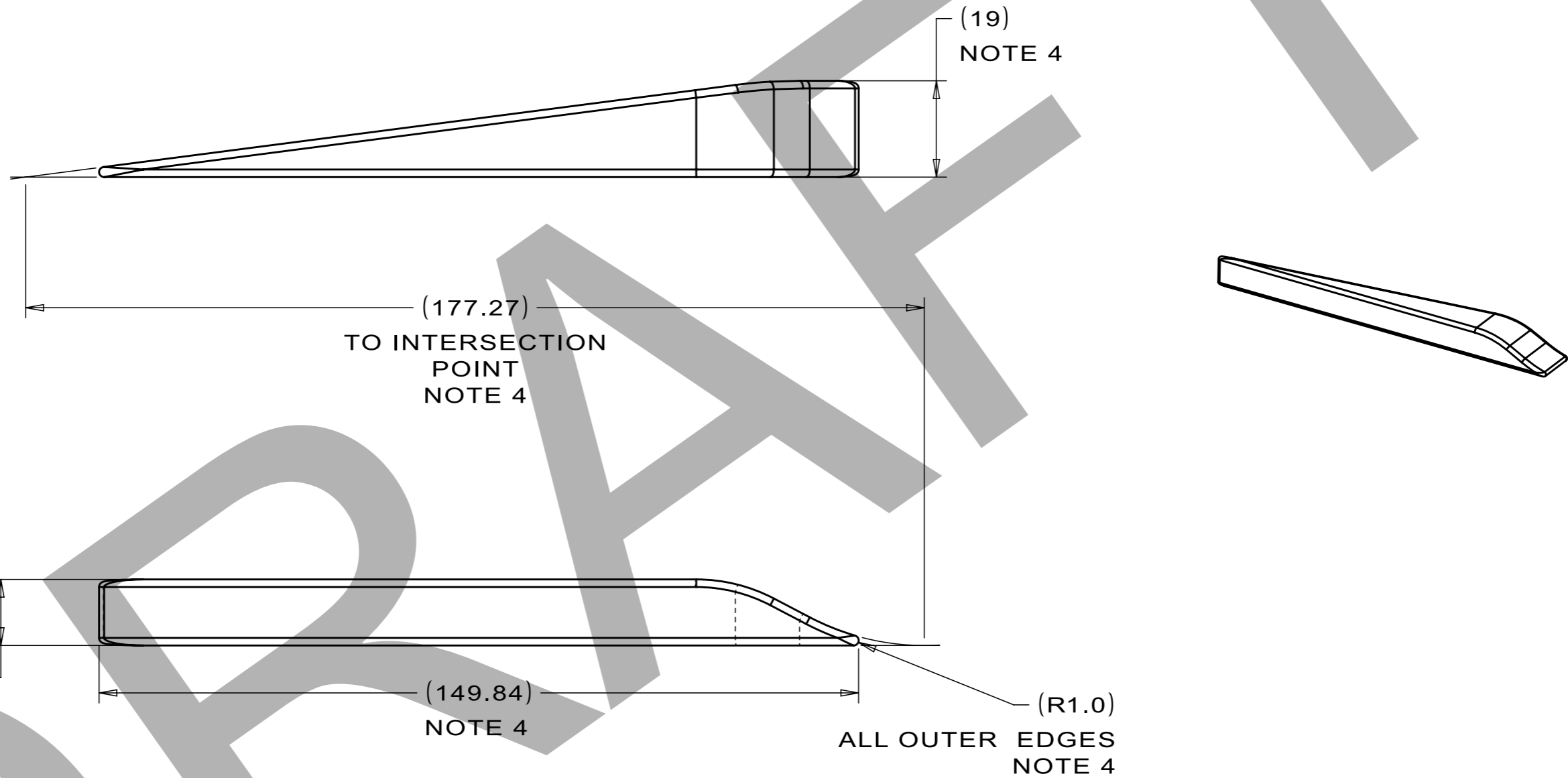
3

2

1

DESCRIPTION: FILLER, TOP TRANSITION INNER, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-ST5\_Magnets  
CATEGORY: FILLER

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10205290---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- CAD MODEL IS MASTER. USE PROVIDED STEP FILE TO PRODUCE PART.

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023
+X	+X.X	+X.XX	+X/X	+X"	CHECKED		DATE	
2	0.3	0.12	N/A	1"	APPROVED		DATE	
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					USED ON			
<p>THIRD ANGLE PROJECTION</p>					F10182796, F10182797			
					MATERIAL			
					G-10 FIBERGLASS REINFORCED EPOXY LAMINATE			
					GROUP: Technical Division - Design and Drafting		CAGE CODE: OU5R6	

				<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME							
FILLER, TOP TRANSITION INNER, PULSED DIPOLE MAGNET, ORNL STS							
SCALE	SIZE	DRAWING NUMBER		SHEET	REV		
1:1	A3	F10205290		1 OF 1	-		

SNS S02040000-M8U-8820-A10030

4

3

2

1

TEMPLATE VERSION: 2021.08.06

4

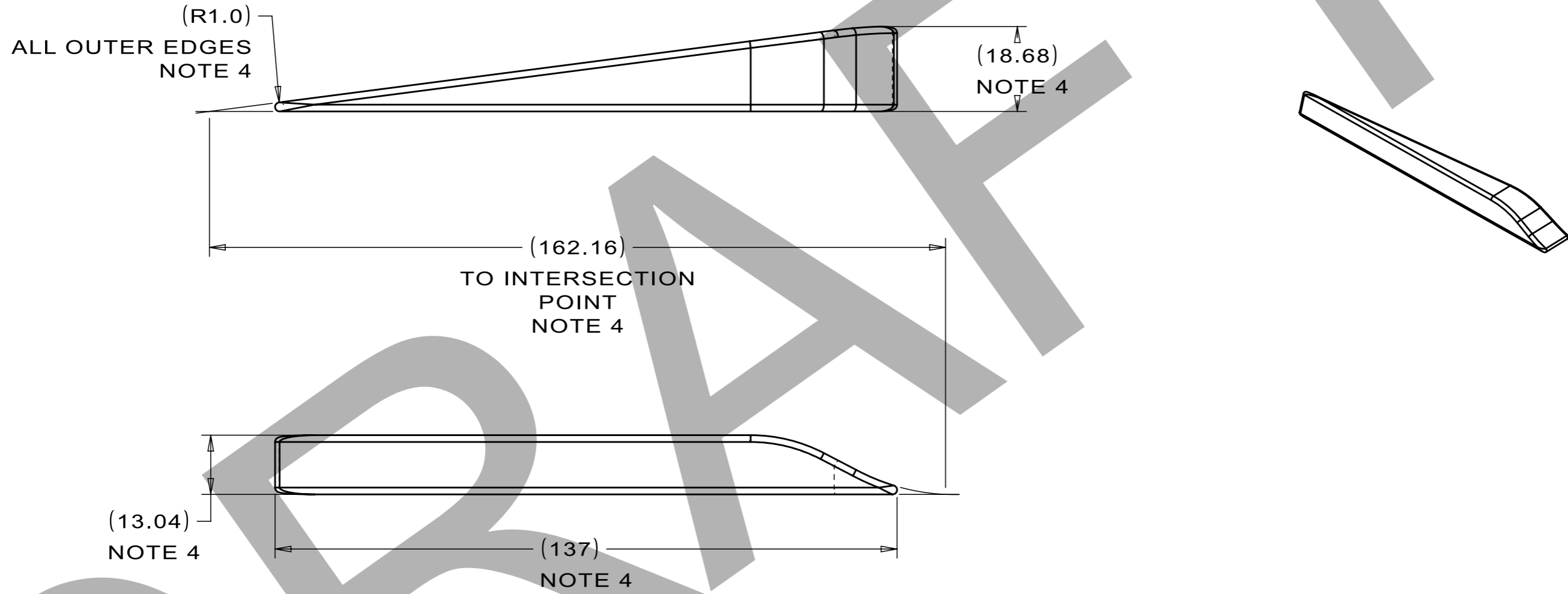
3

2

1

DESCRIPTION: FILLER, TOP TRANSITION OUTER, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STs\_Magnets  
CATEGORY: FILLER

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10205291---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- CAD MODEL IS MASTER. USE PROVIDED STEP FILE TO PRODUCE PART.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10182796, F10182797		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

				<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME FILLER, TOP TRANSITION OUTER, PULSED DIPOLE MAGNET, ORNL STS							
SCALE	SIZE	DRAWING NUMBER		SHEET	REV		
1:1	A3	F10205291		1 OF 1	-		

SNS S02040000-M8U-8820-A10031

4

3

2

1

TEMPLATE VERSION: 2021.06.06

4

3

2

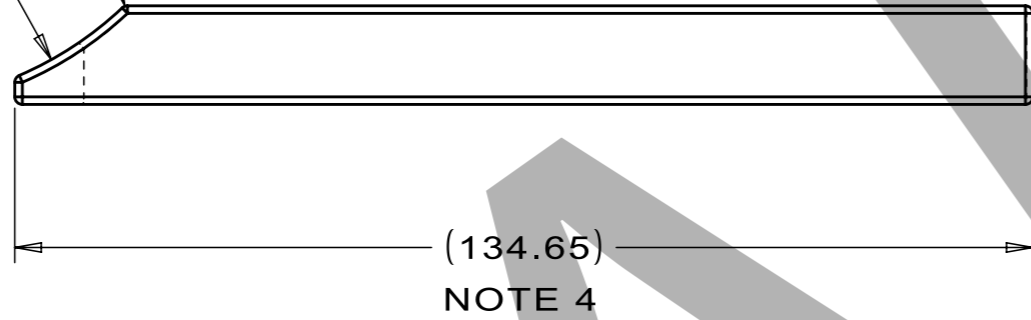
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DESCRIPTION: FILLER, OUTER LEAD EXIT, PULSED DIPOLE MAGNET, ORNL STS  
PROJECT: ORNL-STIS\_Magnets  
CATEGORY: FILLER

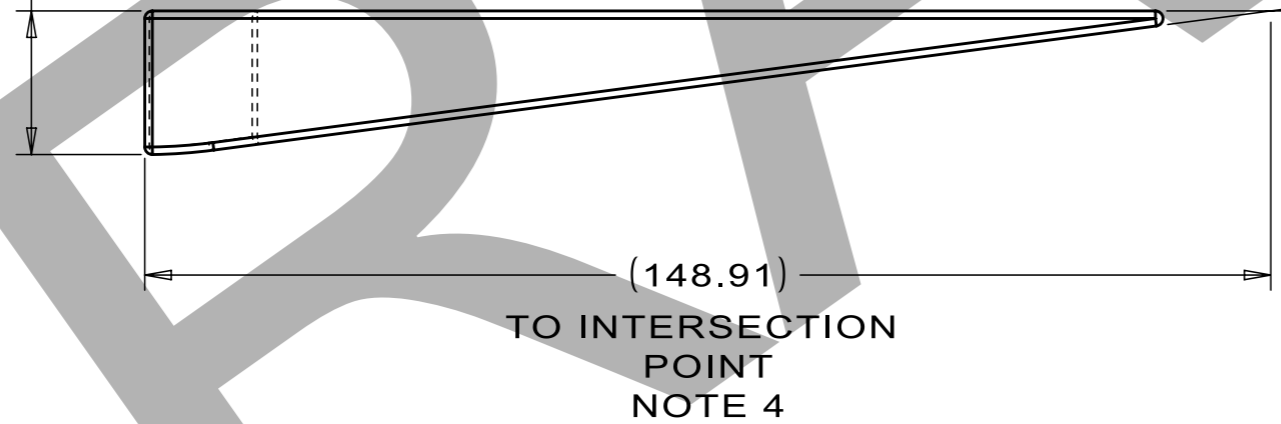
REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10205292---RCD		DRAWN	
			APPROVED	

(R1.0)  
ALL OUTER EDGES  
NOTE 4

(R47)  
NOTE 4



(18.99)  
NOTE 4



NOTES (UNLESS OTHERWISE SPECIFIED):

- PART TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
- PART TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- CAD MODEL IS MASTER. USE PROVIDED STEP FILE TO PRODUCE PART.

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
DO NOT SCALE DRAWING  
DIMENSIONS BASED ON: ASME Y14.5M-2009  
MAX MACHINE ALL SURFACES, Ra: 3.2  
DRAWING UNITS: MM

THIRD ANGLE PROJECTION

DRAWN	J.VANDER MEULEN	DATE	14-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10182796, F10182797		
MATERIAL	G-10 FIBERGLASS REINFORCED EPOXY LAMINATE		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

	<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
	NAME FILLER, OUTER LEAD EXIT, PULSED DIPOLE MAGNET, ORNL STS			
SCALE 1:1	SIZE A3	DRAWING NUMBER F10205292	SHEET 1 OF 1	REV -

4

3

2

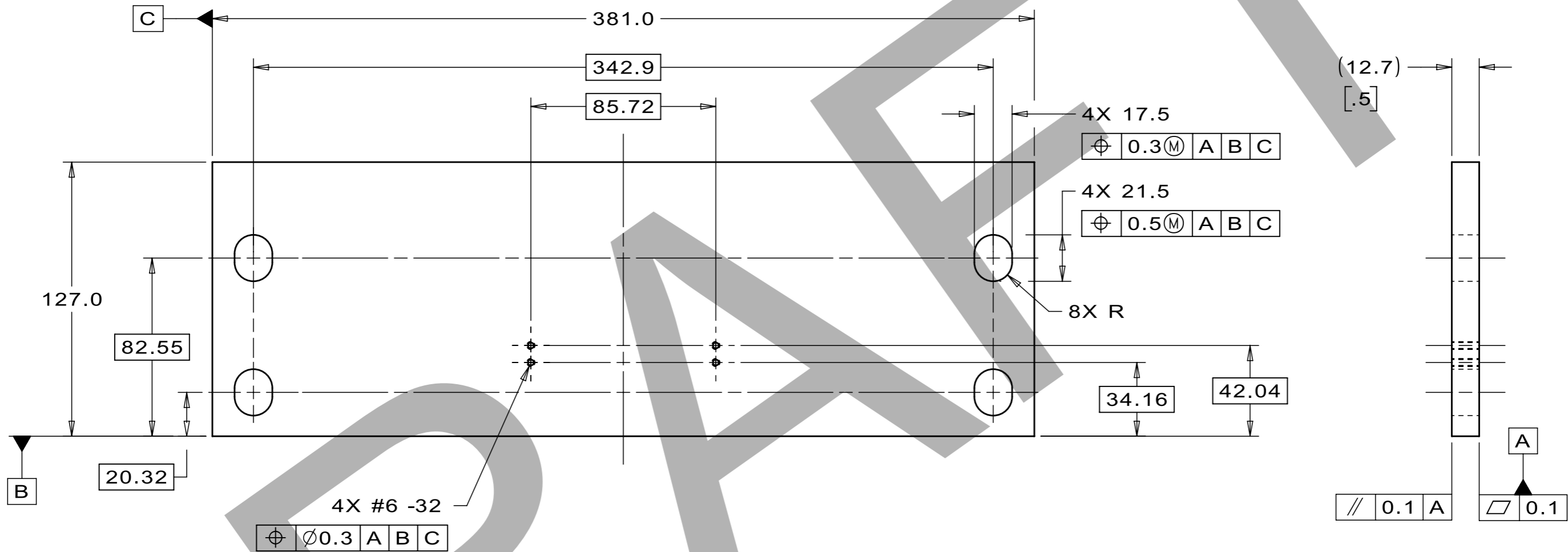
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TEMPLATE VERSION: 2021.08.06



DESCRIPTION: F10207430  
 PROJECT: ORNL-STS\_Magnets  
 CATEGORY: PLATE

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10207430---RCD		DRAWN	
			APPROVED	



NOTES: (UNLESS OTHERWISE SPECIFIED)

- PART MUST BE FREE OF DIRT, GREASE, OIL AND CHIPS.
- PART TO BE FREE OF ALL SHARP EDGES, CORNERS, AND BURRS.
- TRAILING ZEROS DENOTE TOLERANCE.
- DIMENSIONS IN [X.X] ARE INCH.

SNS S02040000-M8U-8820-A10040

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

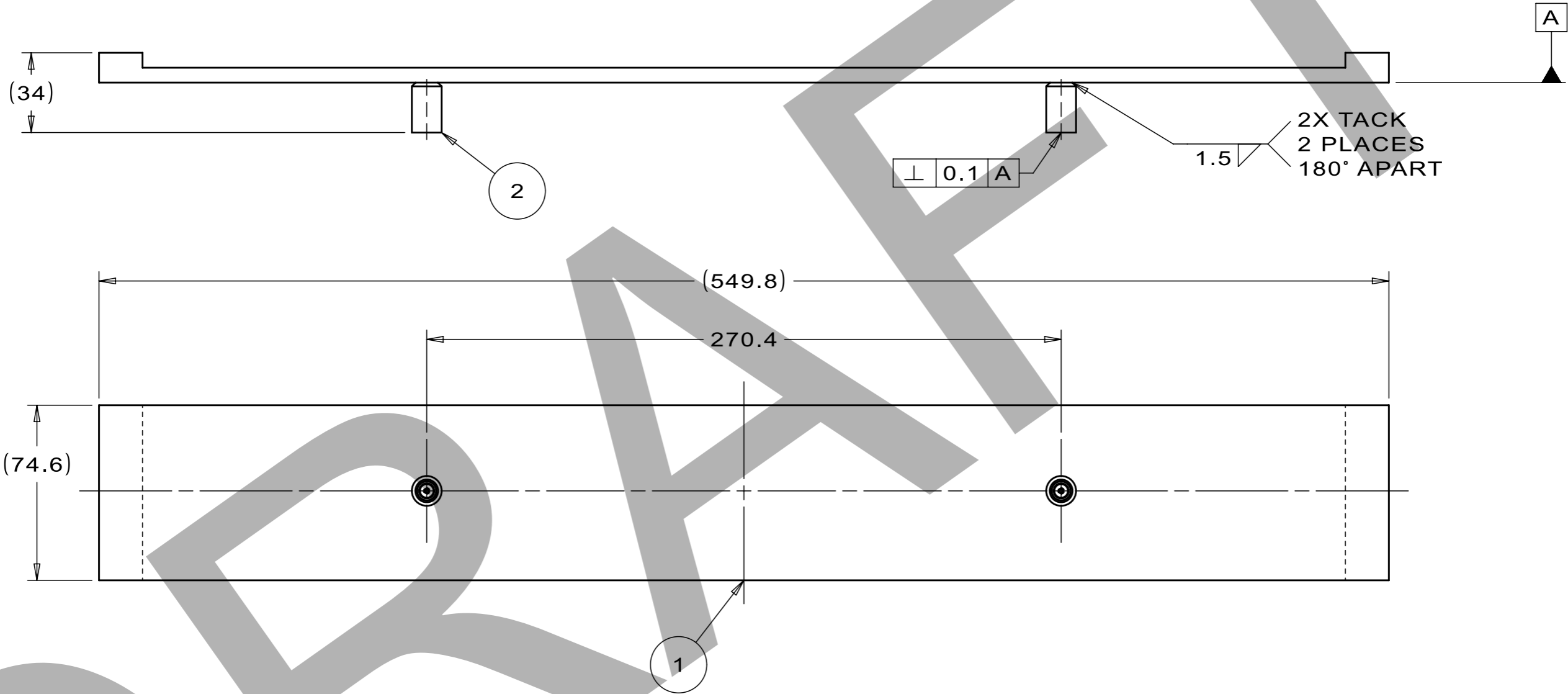
DRAWN	R.NOCEDA	DATE	29-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10189029		
MATERIAL	316L STAINLESS STEEL .5" THK. STOCK		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
NAME PLATE TOP, LEAD SIDE COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS			
SCALE 1:2	SIZE A3	DRAWING NUMBER F10207430	SHEET 1 OF 1
		REV -	

TEMPLATE VERSION: 2021.08.06

DESCRIPTION: WELDMENT, POLE TIP, PULSED DIPOLE CORE, ORNL STS  
 PROJECT: ORNL-STIS\_Magnets  
 CATEGORY: WELDMENT

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10211958---RCD		DRAWN	
			APPROVED	



**NOTES (UNLESS OTHERWISE SPECIFIED):**

1. WELDMENT TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. WELDMENT TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.

ITEM	VENDOR #	FERMI #	PART NAME	QTY
2	METROLOGY WORKS	FC0116360	FIDUCIAL MONUMENT 0.5"ODx.838"LG, WELD ON 17-4SS	2
1		F10189006	PLATE, POLE TIP SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1

**PARTS LIST**

UNLESS OTHERWISE SPECIFIED				
+X	+X.X	+X.XX	+X/X	+X"
2	0.3	0.12	N/A	1"

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

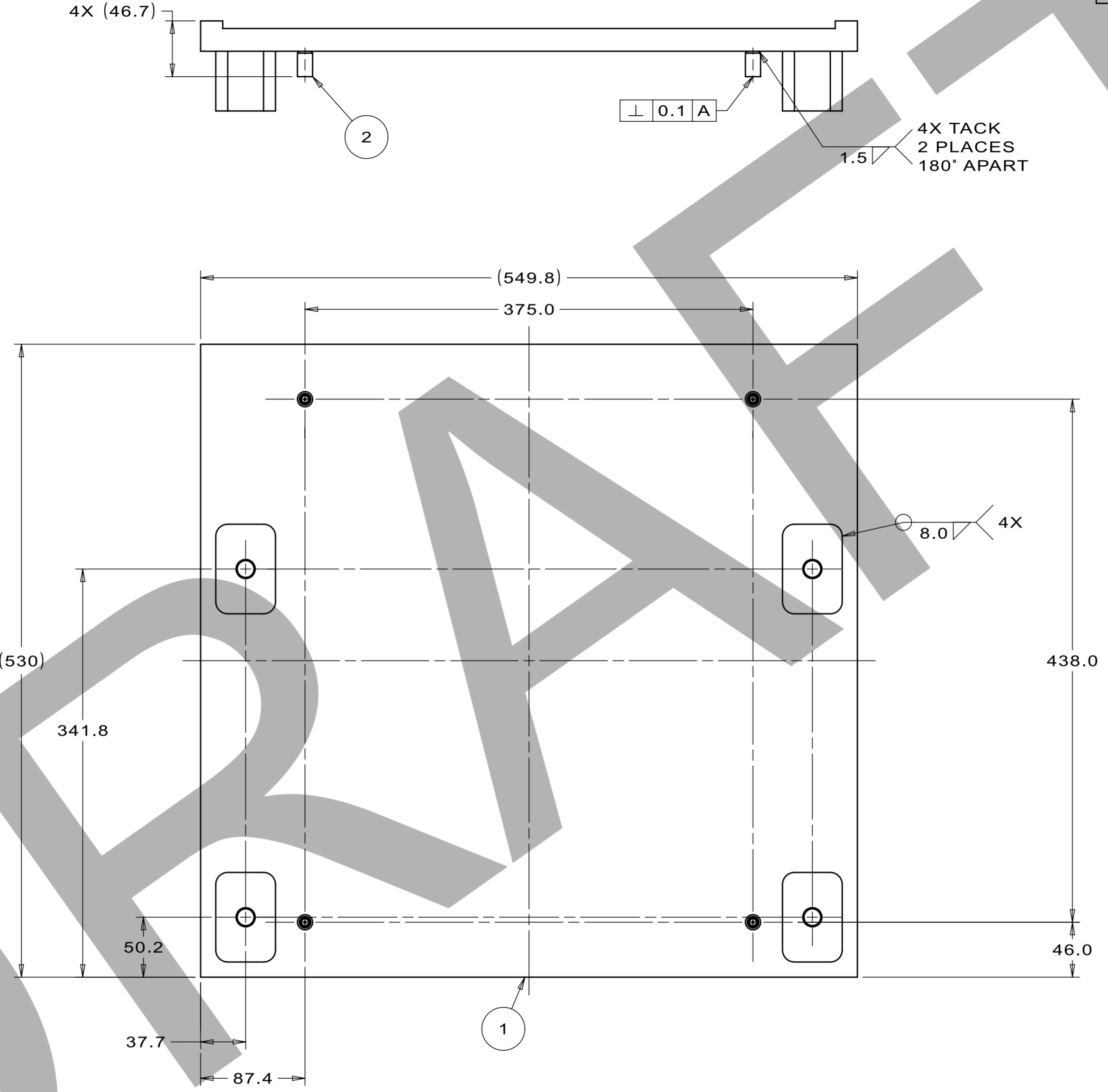
DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
CHECKED		DATE	
APPROVED		DATE	
USED ON	F10182790		
MATERIAL	SEE PARTS LIST		
GROUP:	Technical Division - Design and Drafting		CAGE CODE: OU5R6

		<b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY			
		NAME WELDMENT, POLE TIP, PULSED DIPOLE CORE, ORNL STS			
SCALE	SIZE	DRAWING NUMBER	SHEET	REV	
1:2	A3	F10211958	1 OF 1	-	

SNS S02040000-M8U-8820-A10023

TEMPLATE VERSION: 2021.08.06


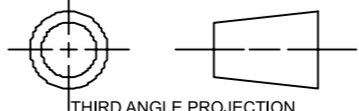
REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10211959--RCD		DRAWN APPROVED



NOTES (UNLESS OTHERWISE SPECIFIED):

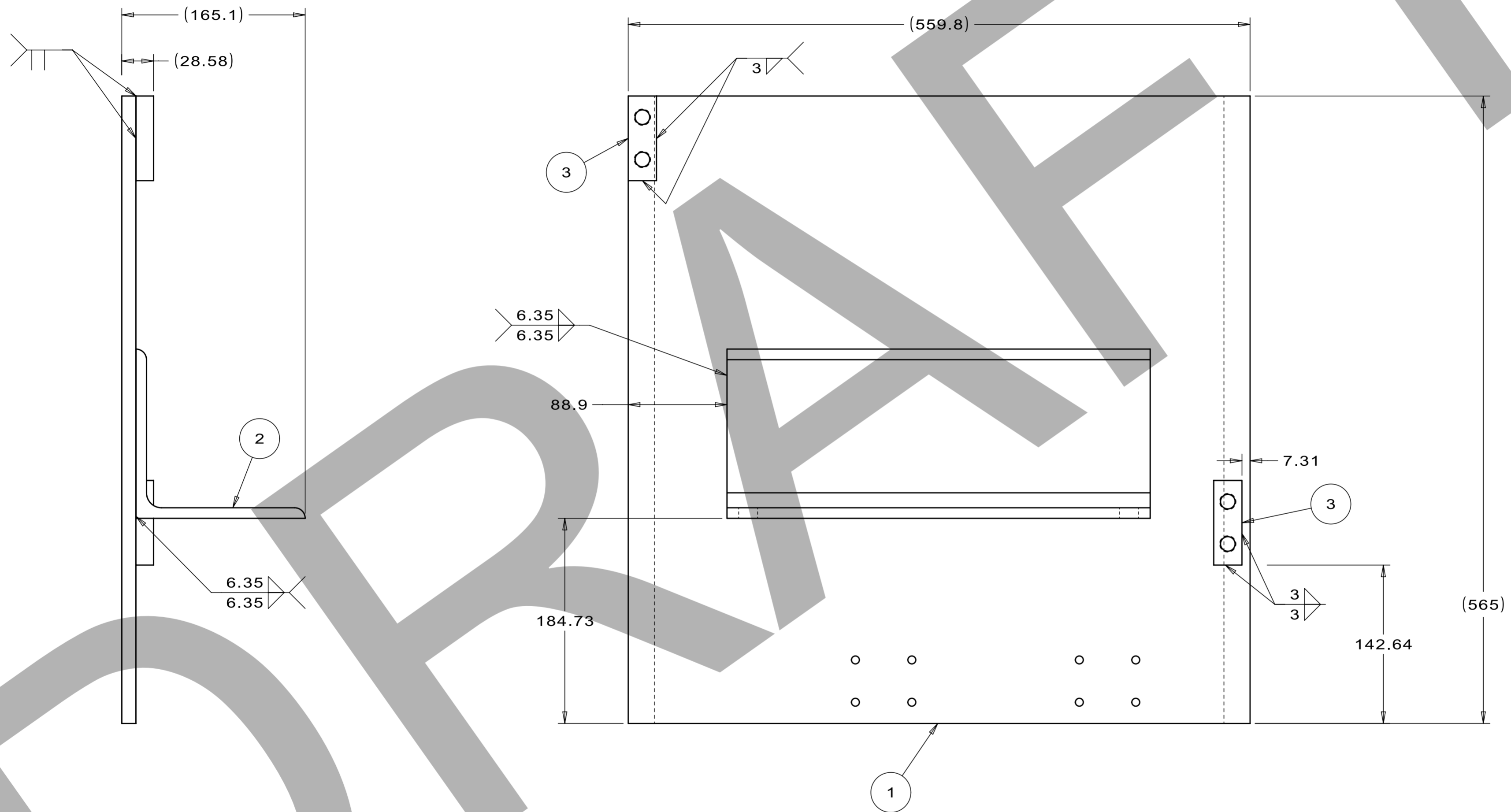
1. WELDMENT TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. WELDMENT TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.

ITEM	VENDOR #	FERMI #	PART NAME	QTY
3		F10185915	BLOCK, HOIST RING, PULSED DIPOLE MAGNET, ORNL STS	4
2	METROLOGY WORKS	FC0116360	FIDUCIAL MONUMENT 0.5"ODx.838"LG, WELD ON 17-4SS	4
1		F10189004	PLATE, TOP CORE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023	 <b>FERMI NATIONAL ACCELERATOR LABORATORY</b> UNITED STATES DEPARTMENT OF ENERGY
±X	±X.X	±X.XX	±X/X	±X'	CHECKED		DATE		
2	0.3	0.12	N/A	1'	APPROVED		DATE		
BREAK ALL SHARP EDGES, MAX: 0.5 DO NOT SCALE DRAWING DIMENSIONS BASED ON: ASME Y14.5M-2009 MAX MACHINE ALL SURFACES, Ra: 3.2 DRAWING UNITS: MM					USED ON F10182790				NAME WELDMENT, TOP PLATE, PULSED DIPOLE CORE, ORNL STS
 THIRD ANGLE PROJECTION					MATERIAL SEE PARTS LIST				SCALE 1:3
SNS S02040000-M8U-8820-A10024					GROUP: Technical Division - Design and Drafting CAGE CODE: OJ5R6				SIZE A2
					DRAWING NUMBER F10211959				SHEET 1 of 1
					REV -				

TEMPLATE VERSION: 2021.08.06

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES	
-	F10211960---RCD		DRAWN	
			APPROVED	



NOTES (UNLESS OTHERWISE SPECIFIED):

1. WELDMENT TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. WELDMENT TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.

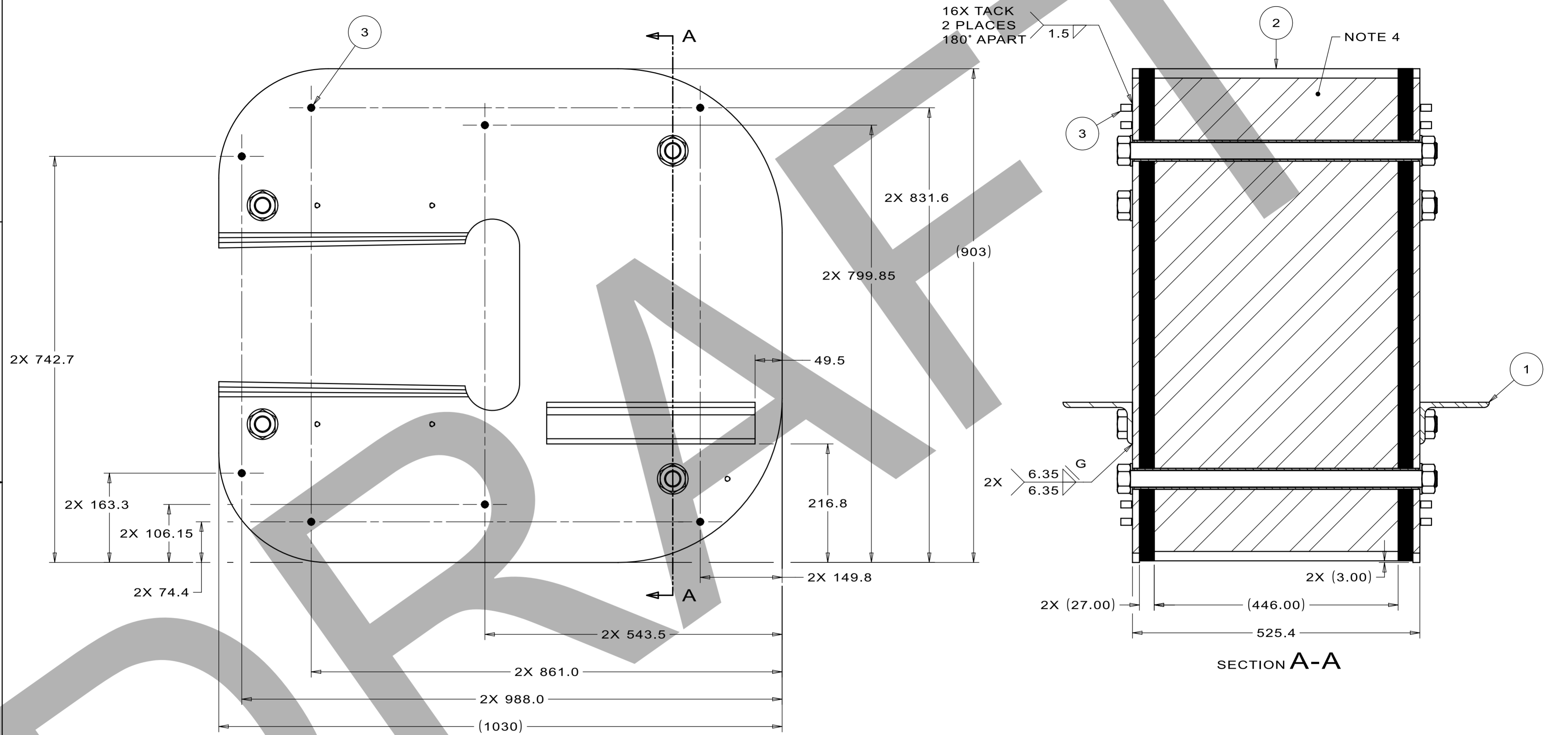
ITEM	VENDOR #	FERMI #	PART NAME	QTY
3		F10196008	STANDOFF, LEAD SUPPORT BLOCK, PULSED DIPOLE MAGNET, ORNL STS	2
2		F10189032	ANGLE, LEAD SIDE SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1
1		F10189005	PLATE, BACK COIL SUPPORT, PULSED DIPOLE MAGNET, ORNL STS	1

PARTS LIST

UNLESS OTHERWISE SPECIFIED		DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023	<p>FERMI NATIONAL ACCELERATOR LABORATORY                  UNITED STATES DEPARTMENT OF ENERGY</p>
±X	±X.X	CHECKED		DATE		
±X.XX	±X.XXX	APPROVED		DATE		
±X'	±X'.	USED ON		F10182790		NAME
BREAK ALL SHARP EDGES, MAX: 0.5		MATERIAL		SEE PARTS LIST		SCALE
DO NOT SCALE DRAWING		GROUP: Technical Division - Design and Drafting		CAGE CODE: OJ5R6		SIZE
DIMENSIONS BASED ON: ASME Y14.5M-2009						DRAWING NUMBER
MAX MACHINE ALL SURFACES, Ra: 3.2						SHEET
DRAWING UNITS: MM						REV
<p>THIRD ANGLE PROJECTION</p>						1 of 1

SNS S02040000-M8U-8820-A10025

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
-	F10211961--RCD		DRAWN APPROVED



NOTES (UNLESS OTHERWISE SPECIFIED):

1. ASSEMBLY TO BE FREE OF DIRT, GREASE, OIL, AND CHIPS.
2. ASSEMBLY TO BE FREE OF SHARP EDGES, CORNERS, AND BURRS.
3. TRAILING ZEROS DENOTE TOLERANCE.
4. APPROXIMATE QUANTITY OF LAMINATIONS, ITEM 1, 892. EXACT NUMBER WILL BE DETERMINED AT ASSEMBLY.
5. APPROXIMATE WEIGHT OF ASSEMBLY: 2982.3KG (6574.5LB)

ITEM	VENDOR #	FERMI #	PART NAME	QTY
3	METROLOGY WORKS	FC0116360	FIDUCIAL MONUMENT 0.5"ODx.838"LG, WELD ON 17-4SS	16
2		F10186818	STACKED LAMINATIONS & END PLATES, PULSED DIPOLE, ORNL STS	1
1		F10185912	ANGLE SIDE, CORE ASSEMBLY, PULSED DIPOLE MAGNET, ORNL STS	2

UNLESS OTHERWISE SPECIFIED					DRAWN	J.VANDER MEULEN	DATE	11-Sep-2023
±X	±X.X	±X.XX	±X/XX	±X"	CHECKED		DATE	
2	0.3	0.12	N/A	1"	APPROVED		DATE	

BREAK ALL SHARP EDGES, MAX: 0.5  
 DO NOT SCALE DRAWING  
 DIMENSIONS BASED ON: ASME Y14.5M-2009  
 MAX MACHINE ALL SURFACES, Ra: 3.2  
 DRAWING UNITS: MM

THIRD ANGLE PROJECTION

PARTS LIST			
NAME	FERMI NATIONAL ACCELERATOR LABORATORY UNITED STATES DEPARTMENT OF ENERGY		
USED ON	F10182790		
MATERIAL	SEE PARTS LIST		
GROUP:	Technical Division - Design and Drafting	CAGE CODE:	OU5R6

SCALE	SIZE	DRAWING NUMBER	SHEET	REV
1:5	A2	F10211961	1 of 1	-

TEMPLATE VERSION: 2021.08.06