

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/2$
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
TWO PLACE DECIMAL $\pm .50$

MATERIAL/FINISH:

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FIELD	NAME	DATE
DRAWN	JO	12/2/2022

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FIRST
ROBOTICS
COMPETITION

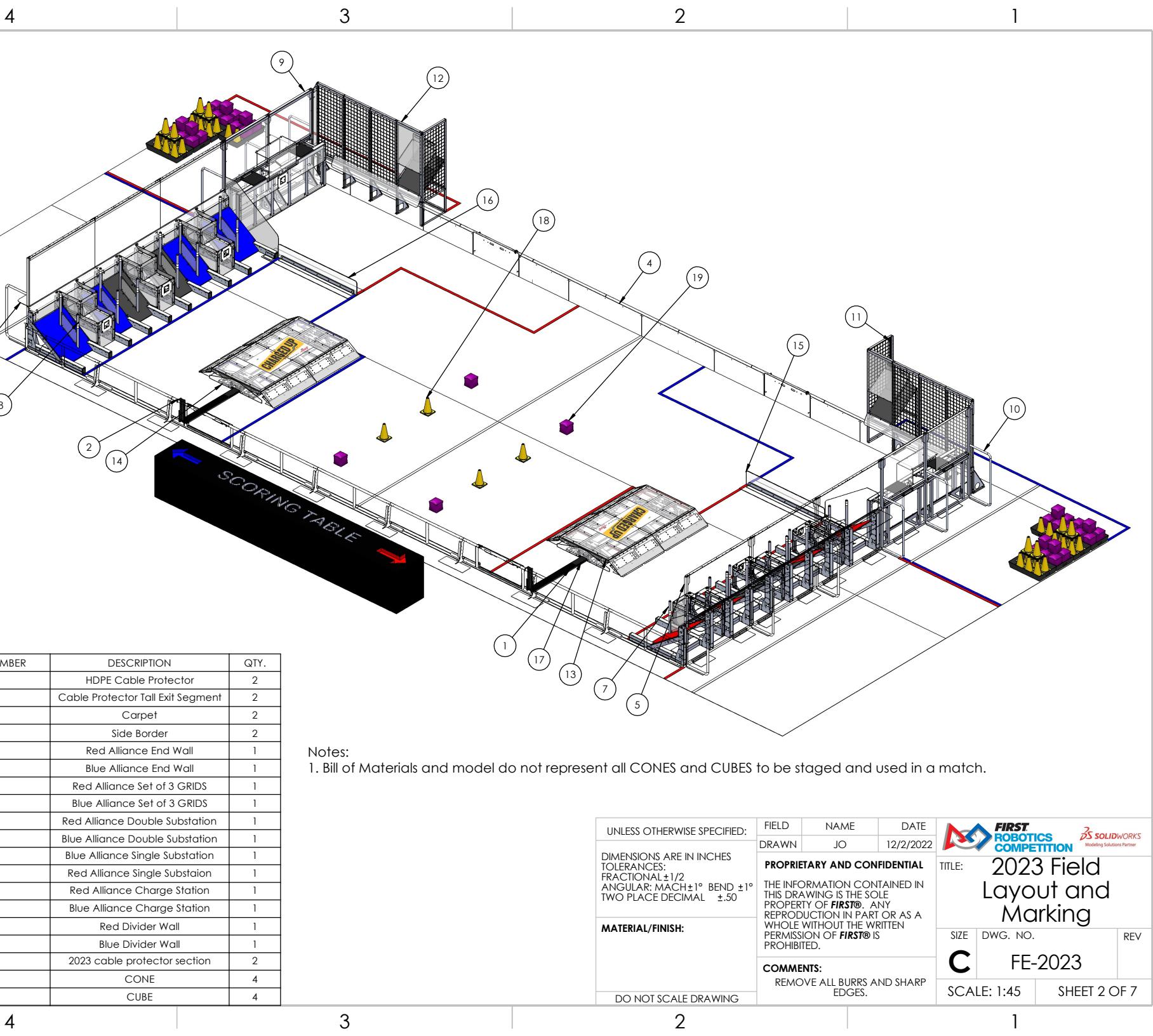
SOLIDWORKS
Modeling Solutions Partner

TITLE: 2023 Field
Layout and
Marking

SIZE DWG. NO. REV

C FE-2023

SCALE: 1:50 SHEET 1 OF 7



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00300	HDPE Cable Protector	2
2	FE-00307	Cable Protector Tall Exit Segment	2
3	FE-2023-01	Carpet	2
4	FE-2023-02	Side Border	2
5	FE-2023-03	Red Alliance End Wall	1
6	FE-2023-04	Blue Alliance End Wall	1
7	GE-23000	Red Alliance Set of 3 GRIDS	1
8	GE-23000	Blue Alliance Set of 3 GRIDS	1
9	GE-23100	Red Alliance Double Substation	1
10	GE-23100	Blue Alliance Double Substation	1
11	GE-23200	Blue Alliance Single Substation	1
12	GE-23270	Red Alliance Single Substation	1
13	GE-23300	Red Alliance Charge Station	1
14	GE-23300	Blue Alliance Charge Station	1
15	GE-23400	Red Divider Wall	1
16	GE-23410	Blue Divider Wall	1
17	GE-23500	2023 cable protector section	2
18	GE-23700	CONE	4
19	GE-23701	CUBE	4

Notes:

1. Bill of Materials and model do not represent all CONES and CUBES to be staged and used in a match.

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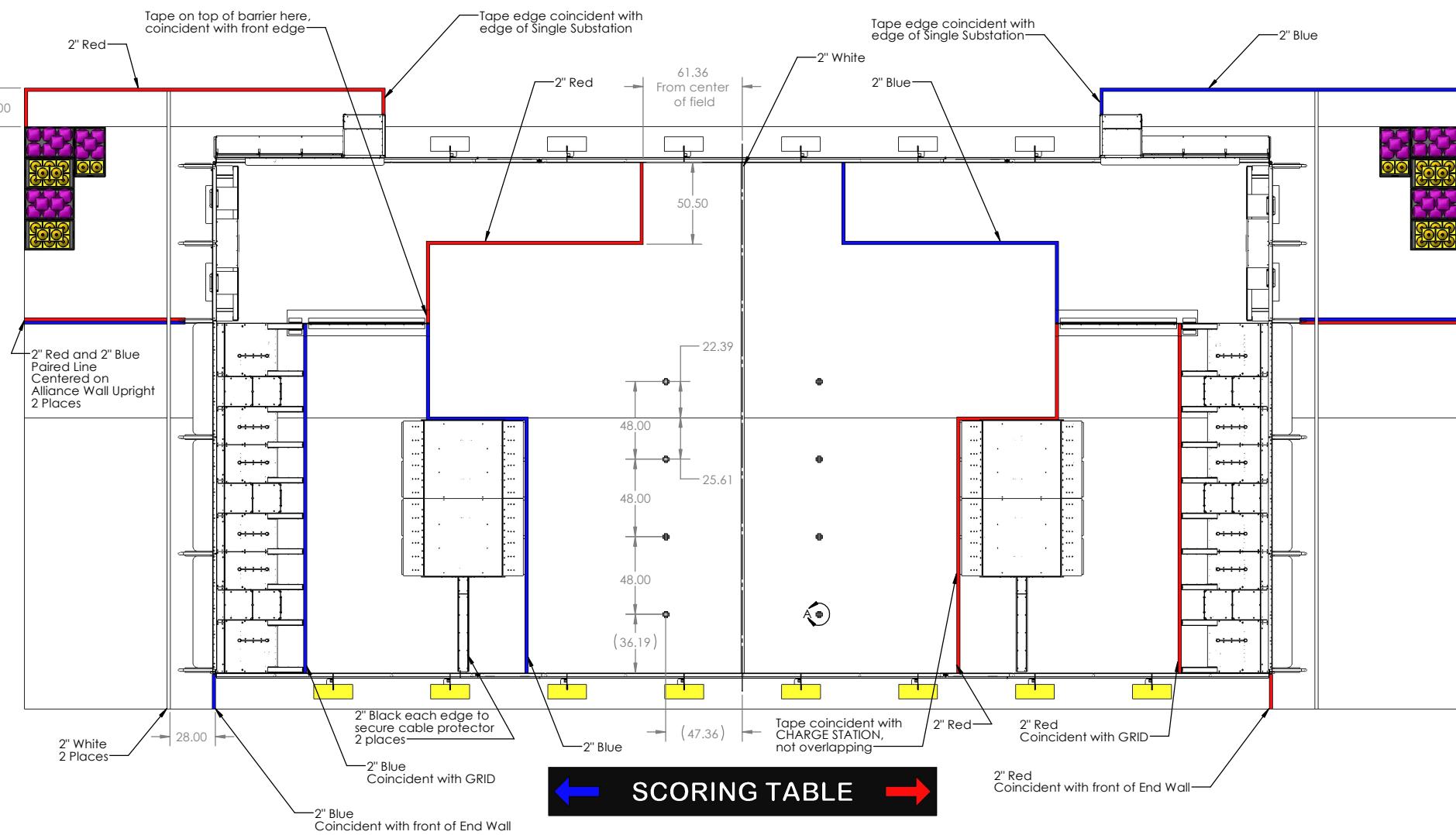
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TITLE: 2023 Field Layout and Marking

SIZE DWG. NO. REV

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SCALE: 1:45 SHEET 2 OF 7



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TWO PLACE DECIMAL $\pm .50$

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FIELD

NAME
DRAWN CO

DATE
12/2/2022

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TITLE:
2023 Field Layout and Marking

SIZE DWG. NO.
C FE-2023 REV

SCALE: 1:46 SHEET 3 OF 7



AprilTag Coordinates

The XYZ Origin is established in the bottom left corner of the field (as viewed in the image above). An x coordinate of 0 is aligned with the Blue Alliance Station diamond plate. A y coordinate of 0 is aligned with the side border polycarbonate on the scoring table side of the field. A z coordinate of 0 is on the carpet. Coordinate (0,0,0) is located inside of the Blue Alliance GRID.

+Z is up into the air from the carpet, +X is horizontal to the right (in this image above) toward the opposing alliance stations, and +Y runs from the GRID to the SUBSTATIONS.

The face-pose of the tags is denoted with 1 degree representation, the Z-rotation. 0° faces the red alliance station, and 180° faces the blue alliance station.

Distances are measured to the center of the tag.

ID	X	Y	Z	Z-rotation
1	610.77 in.	42.19 in.	18.22 in.	180°
2	610.77 in.	108.19 in.	18.22 in.	180°
3	610.77 in.	147.19 in.	18.22 in.	180°
4	636.96 in.	265.74 in.	27.38 in.	180°
5	14.25 in.	265.74 in.	27.38 in.	0°
6	40.45 in.	147.19 in.	18.22 in.	0°
7	40.45 in.	108.19 in.	18.22 in.	0°
8	40.45 in.	42.19 in.	18.22 in.	0°

UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	JO	12/2/2022
TOLERANCES: FRACTIONAL: ±1/2 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ± .50	PROPRIETARY AND CONFIDENTIAL		
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2023 Field Layout and Marking

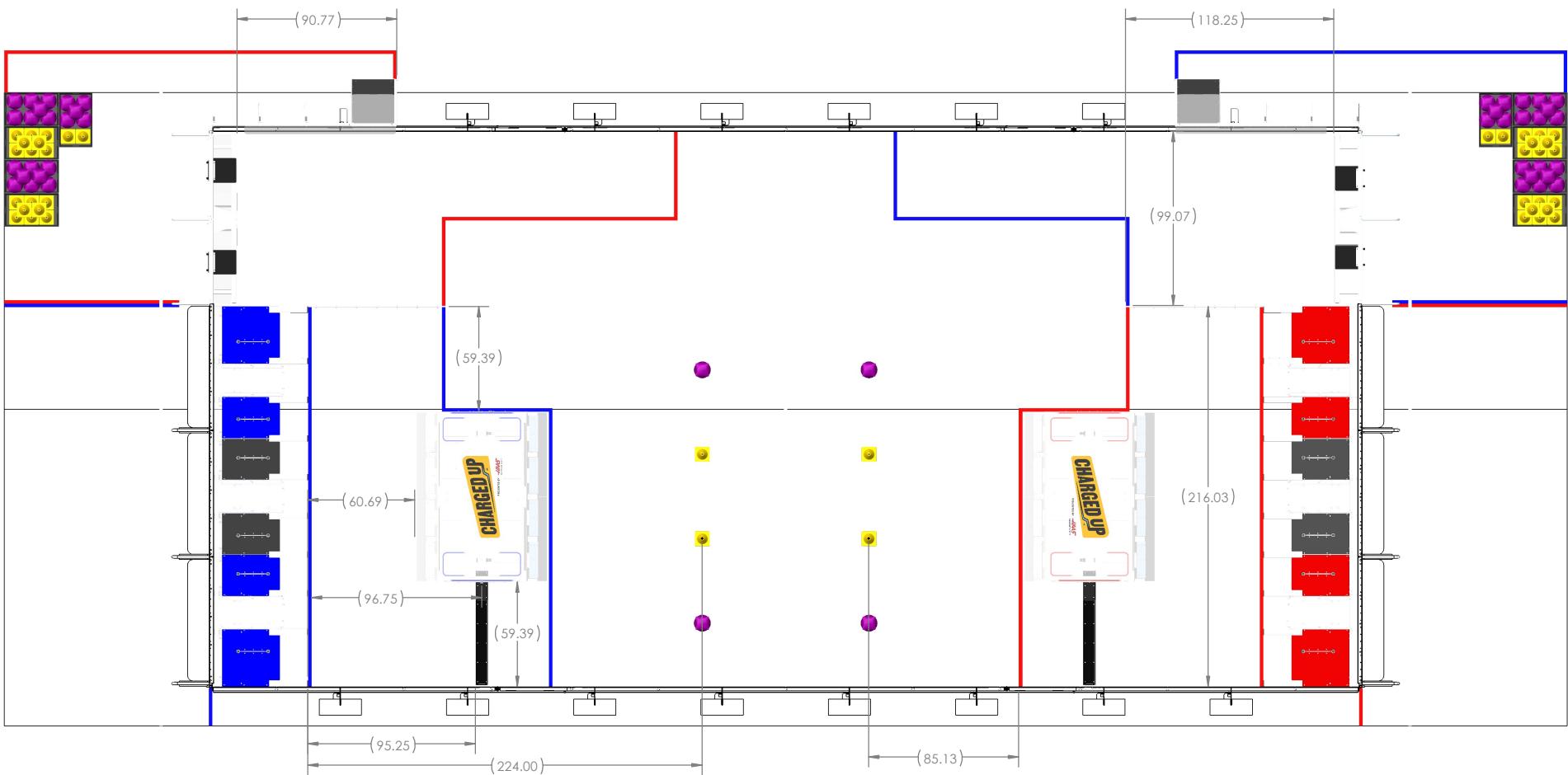
SIZE DWG. NO. REV

C FE-2023

SCALE: 1:45 SHEET 4 OF 7

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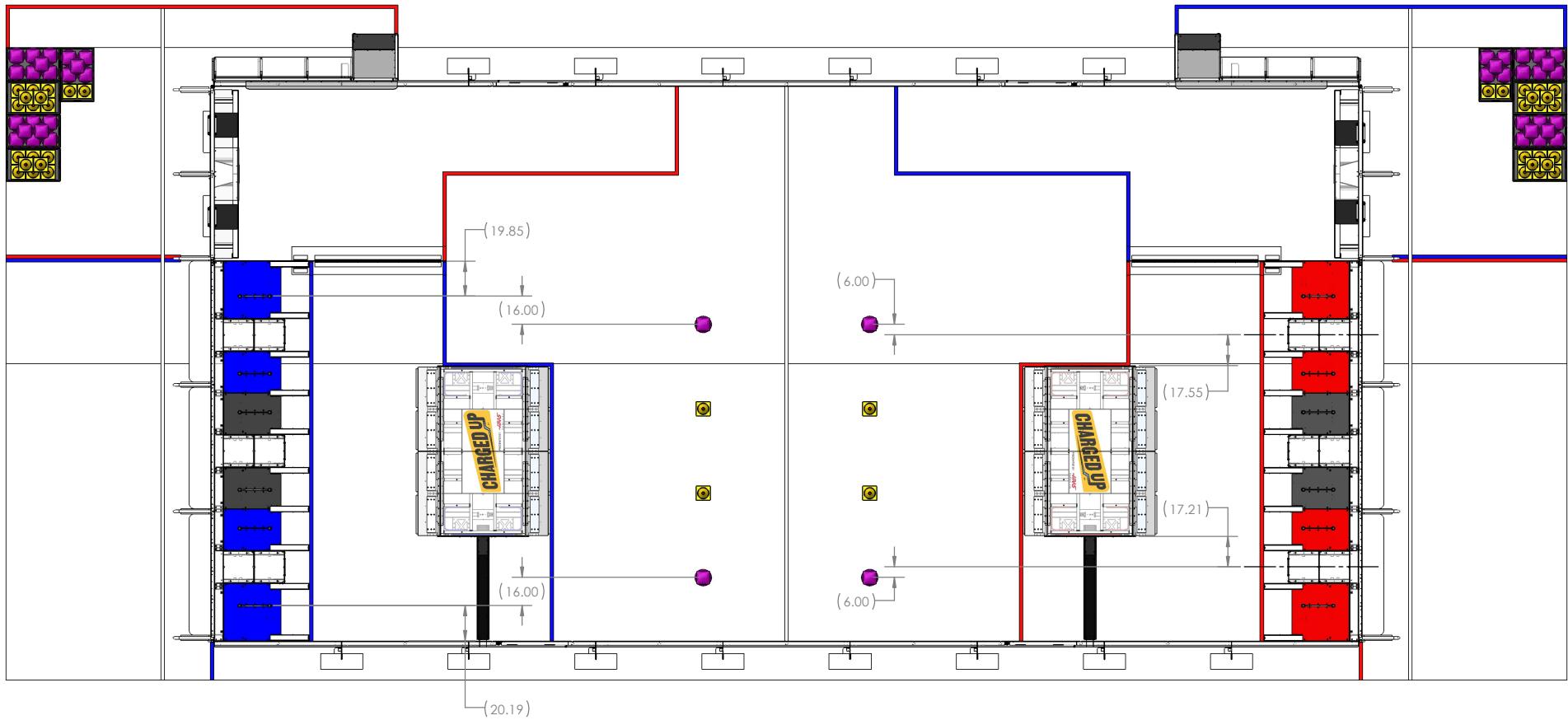


← SCORING TABLE →

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE
DRAWN	JO	12/2/2022	
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SCALE: 1:45 SHEET 5 OF 7			

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SCORING TABLE

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DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$			DRAWN	JO	12/2/2022
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			TITLE: 2023 Field Layout and Marking		
SIZE	DWG. NO.	REV	C	FE-2023	
SCALE: 1:45 SHEET 6 OF 7					

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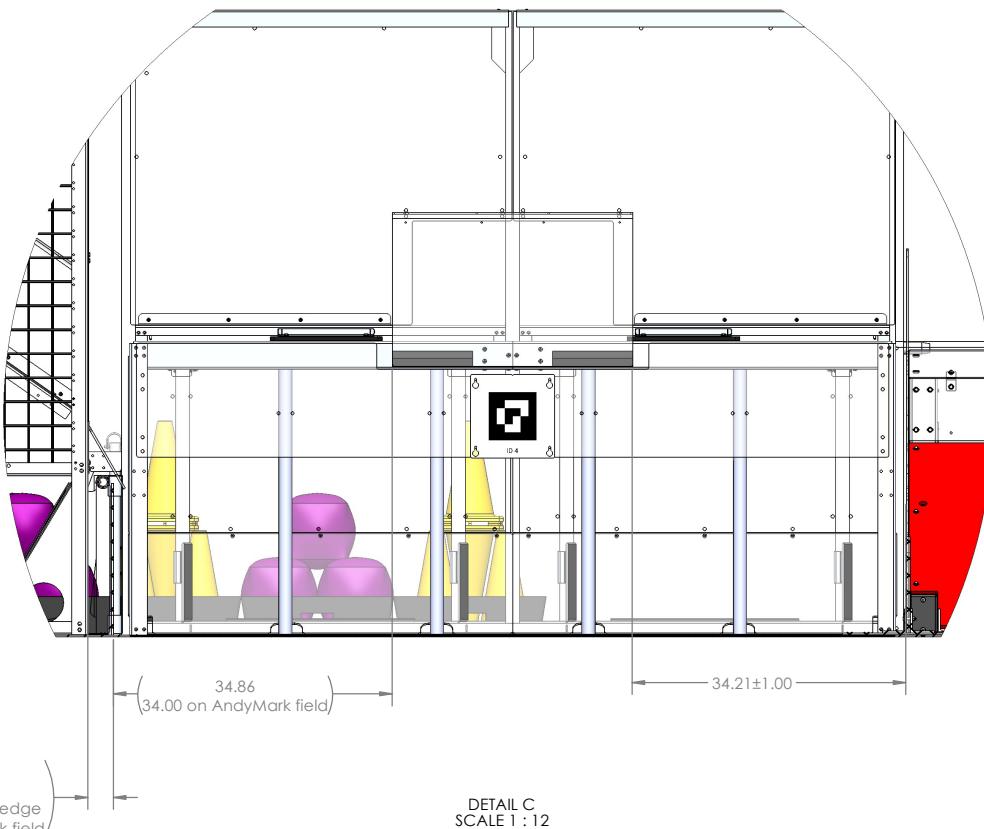
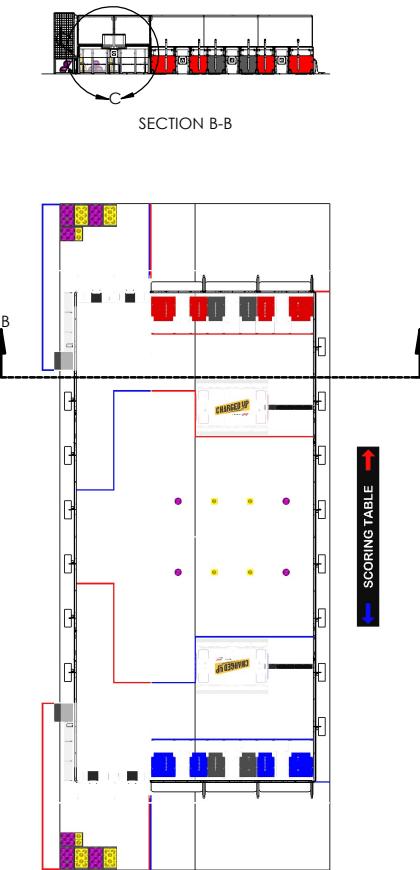
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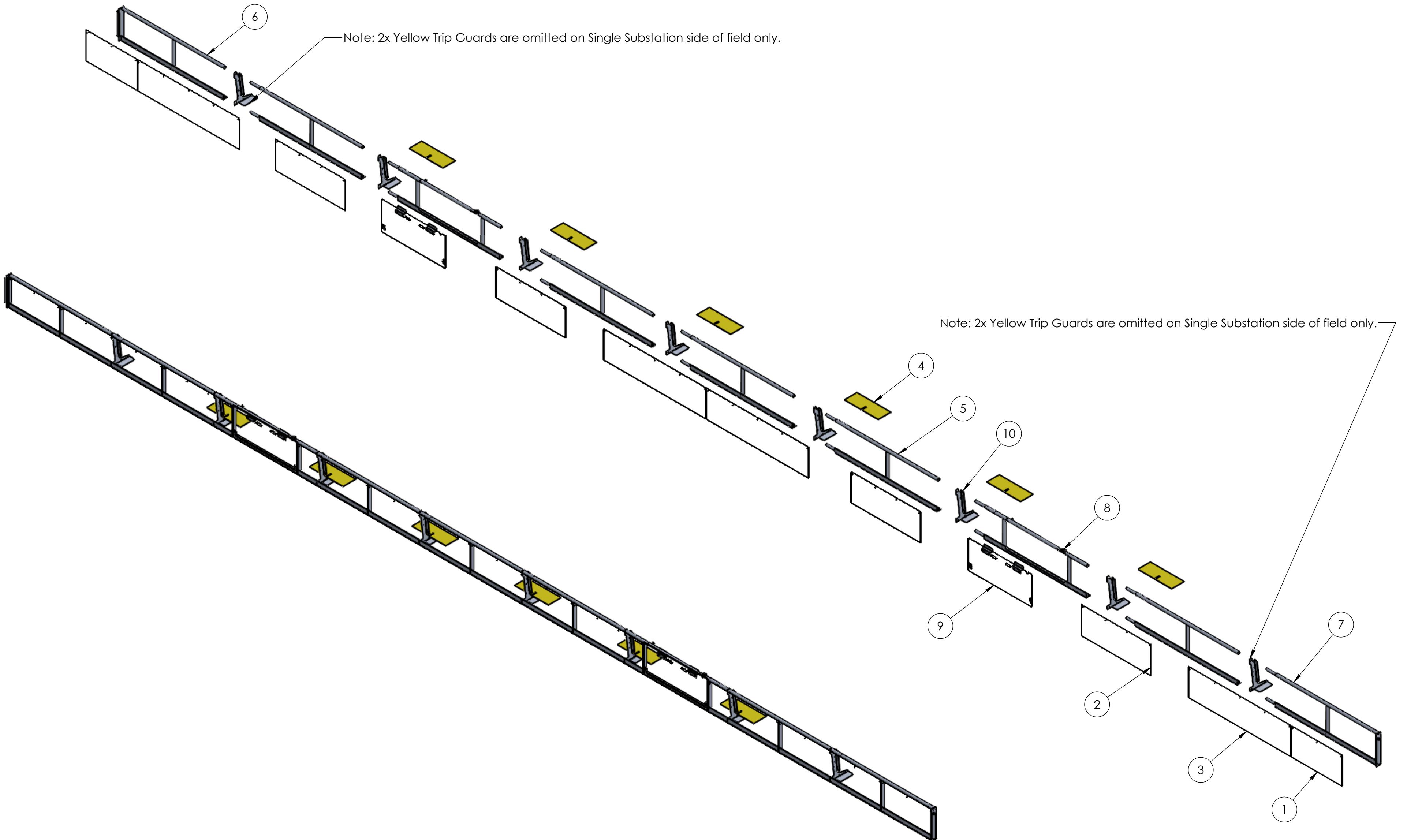
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00008	Field Plastic "A"	2
2	FE-00009	Field Plastic "B"	4
3	FE-00010	Field Plastic "C"	4
4	FE-00015	Trip Guard	6
5	FE-00022	Field Rail Assy - Mid	5
6	FE-00023	Field Rail Assy - Left	1
7	FE-00024	Field Rail Assy - Right	1
8	FE-00029	Field Gate, Assembly	2
9	FE-00047	Gate Plastic Assembly	2
10	FE-00050	Outrigger	8

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FIRST ROBOTICS COMPETITION SOLIDWORKS Modeling Solutions Partner

Title: Side Border

Size: DWG. NO. **Rev:**

C FE-2023-02

Scale: 1:35 **Sheet:** 1 OF 1

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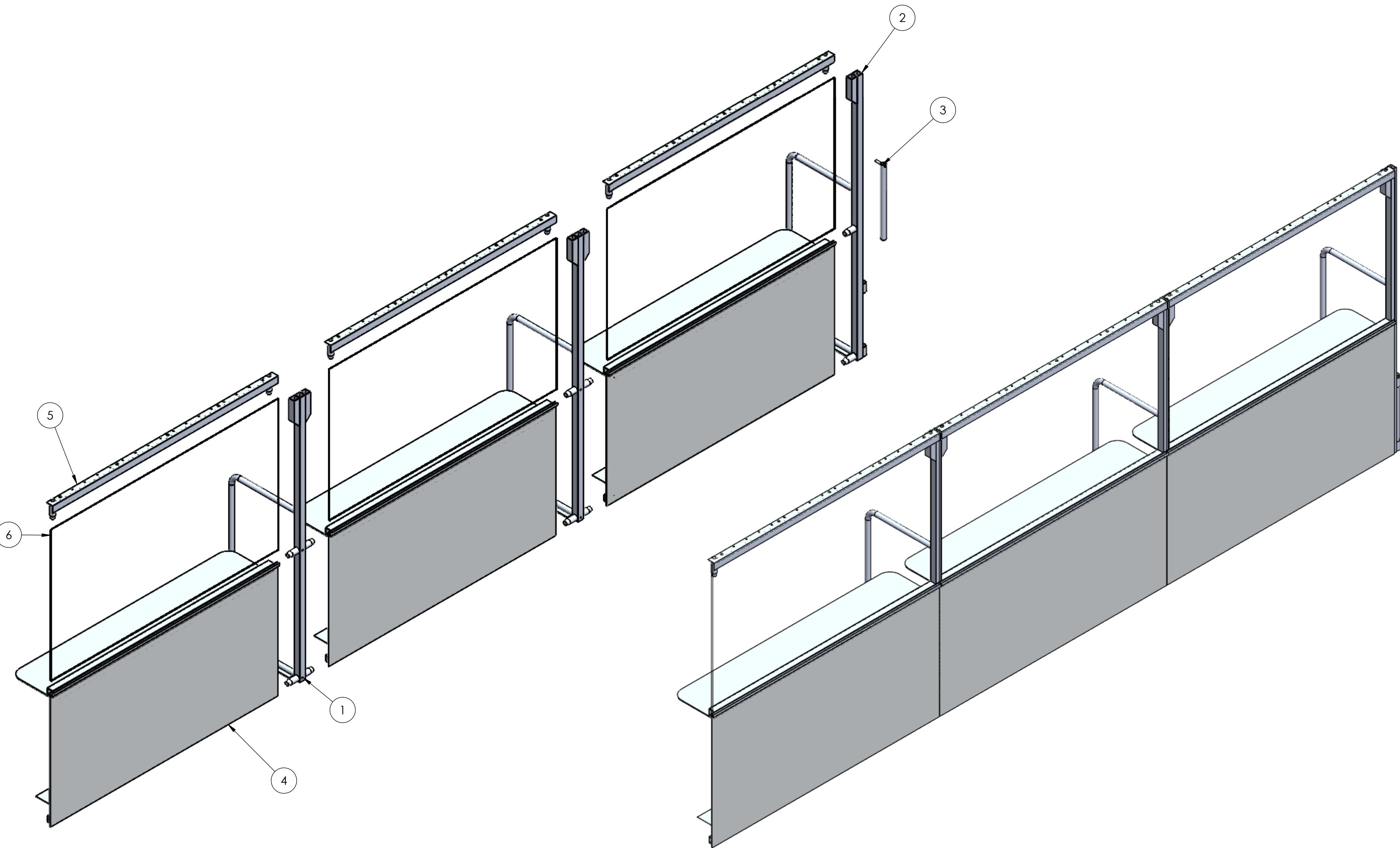
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00001	Drivers Station Support	2
2	FE-00002	Corner Supports, Left	1
3	FE-00003	Rail Pin Assy	1
4	FE-00004	End Panel	3
5	FE-00007	Field Top Rail	3
6	FE-00012	Drivers Station Acrylic	3

UNLESS OTHERWISE SPECIFIED:

FIELD NAME DATE

**FIRST
ROBOTICS
COMPETITION**

DRAWN JO 12/27/2022

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DIMENSIONS ARE IN INCHES
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TITLE:
**Red Alliance
End Wall**SIZE DWG. NO. REV
C FE-2023-03

SCALE: 1:16 SHEET 1 OF 1

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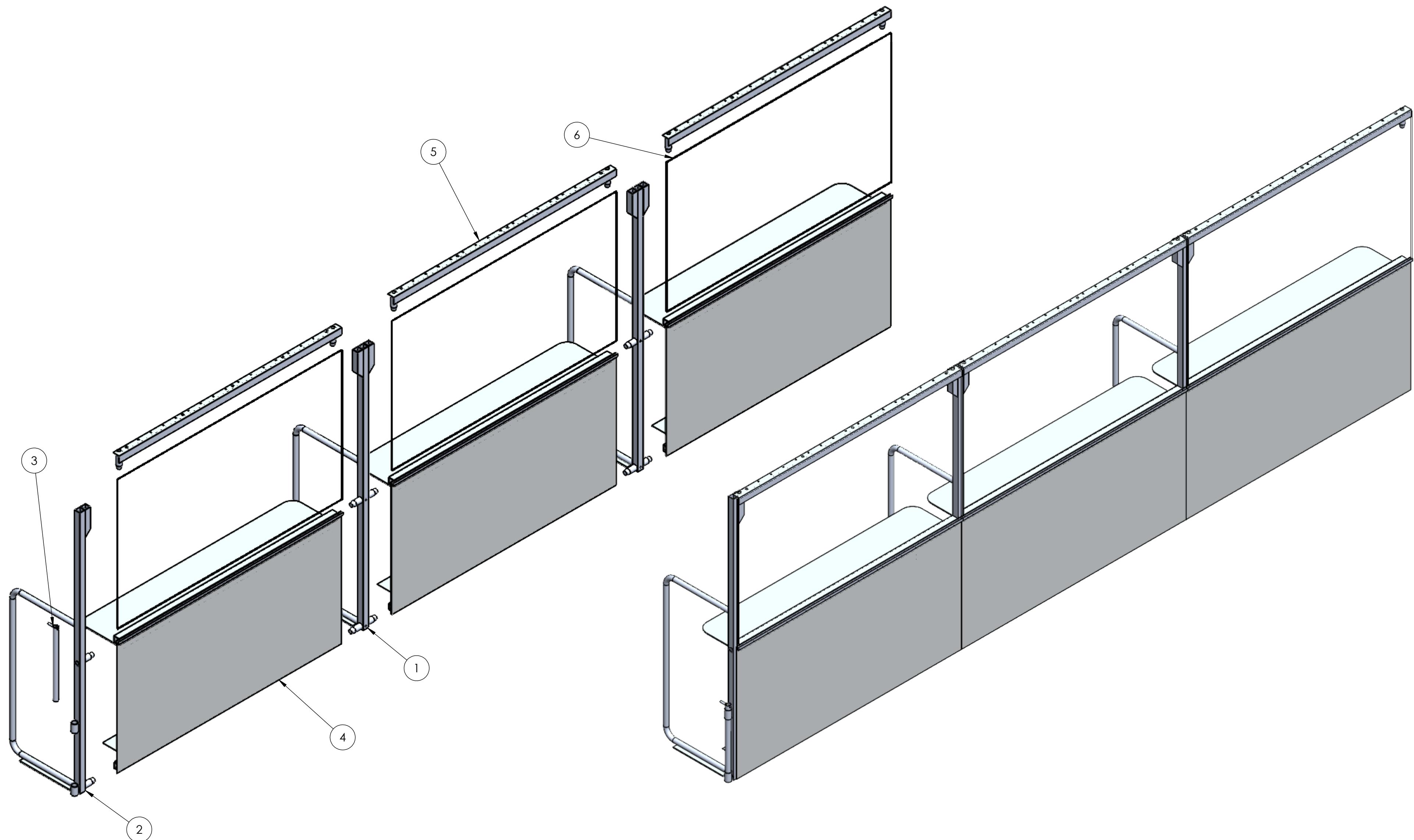
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00001	Drivers Station Support	2
2	FE-00002_Left	Corner Supports, Left	1
3	FE-00003	Rail Pin Assy	1
4	FE-00004	End Panel	3
5	FE-00007	Field Top Rail	3
6	FE-00012	Drivers Station Acrylic	3

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FIRST ROBOTICS COMPETITION SOLIDWORKS Modeling Solutions Partner

TITLE: Blue Alliance End Wall

SIZE DWG. NO. REV

C FE-2023-04

SCALE: 1:16 SHEET 1 OF 1