

Appendix A - Field Overview

Game Field Introduction

This document will provide Bill of Materials (BOM) information and detailed specifications for the Official Competition Field.

Teams who do not need an “official” field should refer to the separate low-cost field guide for cost reduction options. *Teams* assembling the full *Field* should refer to the separate VEX V5 Robotics Competition High Stakes Field Build Instructions.

Please note: this *Field* can utilize both the [VEX Portable Competition Field Perimeter \(276-8242\)](#) and the VEX Competition Field Perimeter (278-1501) developed by VEX Robotics. Instructions and specifications for these field perimeters are available in separate documents and are important for the field assembly.

This document is divided up into three sections:

1. *Field* Overview
2. *Field* BOM
3. *Field* Specifications

There is also an accompanying STEP file which can be imported into most 3D modeling programs (e.g., Inventor, Sketchup, Solidworks, etc.). This 3D model shows the “official” setup of a VEX V5 Robotics Competition - High Stakes competition field, as well as detailed models of individual *Field Elements*.

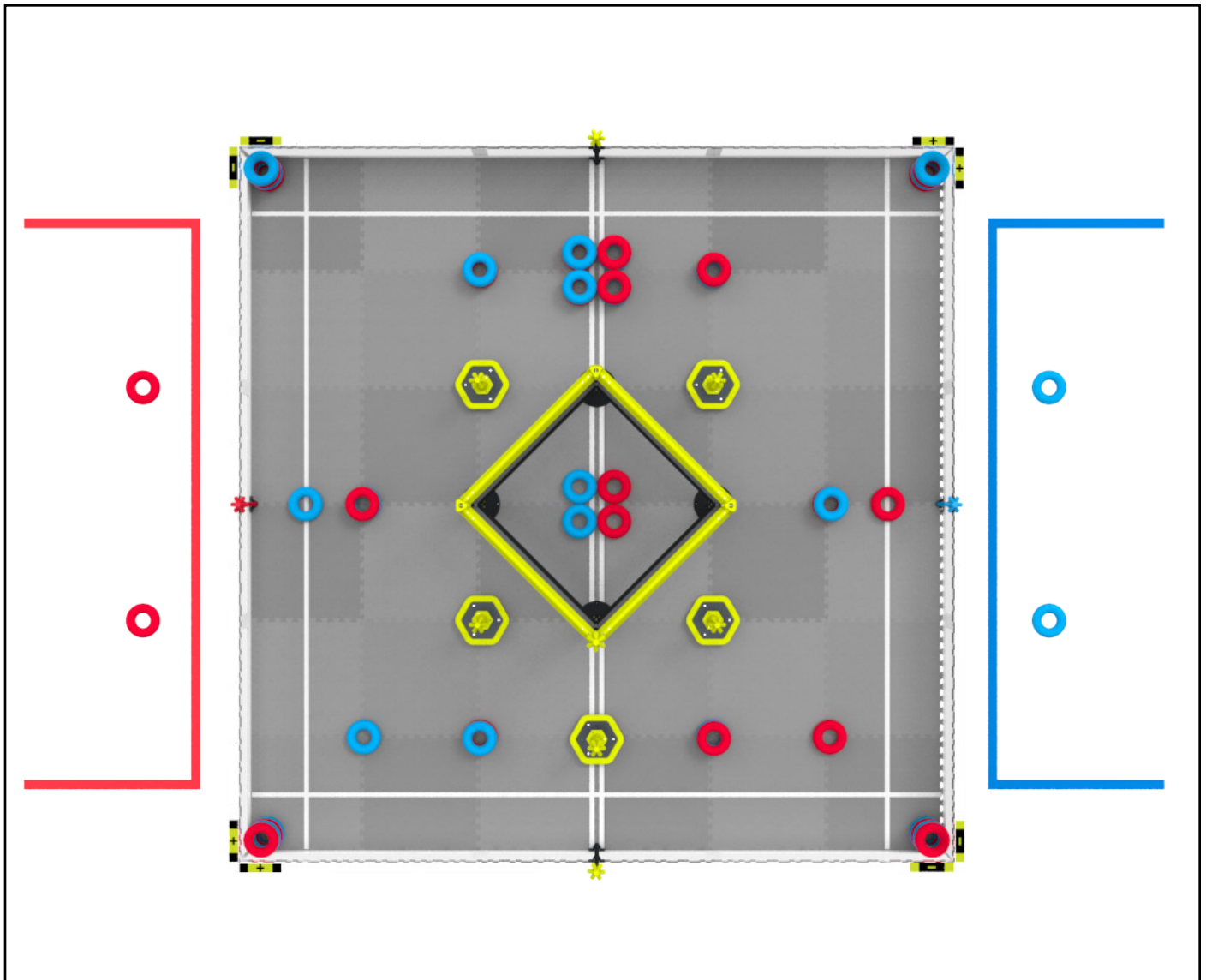
For additional game-play detail, please refer to the VEX V5 Robotics Competition High Stakes Game Manual.

Field Overview

V5RC High Stakes is played on a 12ft x 12ft foam mat, surrounded by a perimeter, with a *Ladder* in the center of the field.

The V5RC High Stakes field consists of forty-eight (48) Rings, five (5) Mobile Goals, four (4) Wall Stakes, and one (1) *Ladder*. Four (4) *Corners*, two (2) Positive and two (2) Negative, are taped off in each corner of the *Field Perimeter*.

For more details and specific gameplay rules, please refer to the V5RC High Stakes Game Manual.



Game Objects & Field Bill of Materials

All of these items are available for purchase from www.vexrobotics.com

Generic Field Elements - Reusable Each Year

Part Number	Description
278-1501	Field Perimeter Frame & Hardware
276-8242	Portable Competition Field Perimeter
276-6905	Anti-Static Field Tiles (18-Pack)
275-1401	VEXnet Field Controller

Official VEX V5 Robotics Competition High Stakes Specific Elements

Part Number	Description	Quantity per Full Field
276-8868	V5RC 2024-25 Full Field & Game Element Kit	
276-8869	V5RC 2024-25 Game Element Kit	1
276-8870	V5RC 2024-25 Field Element Kit 1	1
276-8871	V5RC 2024-25 Field Element Kit 2	1
276-9068	V5RC 2024-25 Field Element Kit 3	1
276-9091	V5RC Field Element Plates (4-Pack)*	1

*Optional. Only needed if Field Element Plates are not already owned.

Practice Elements

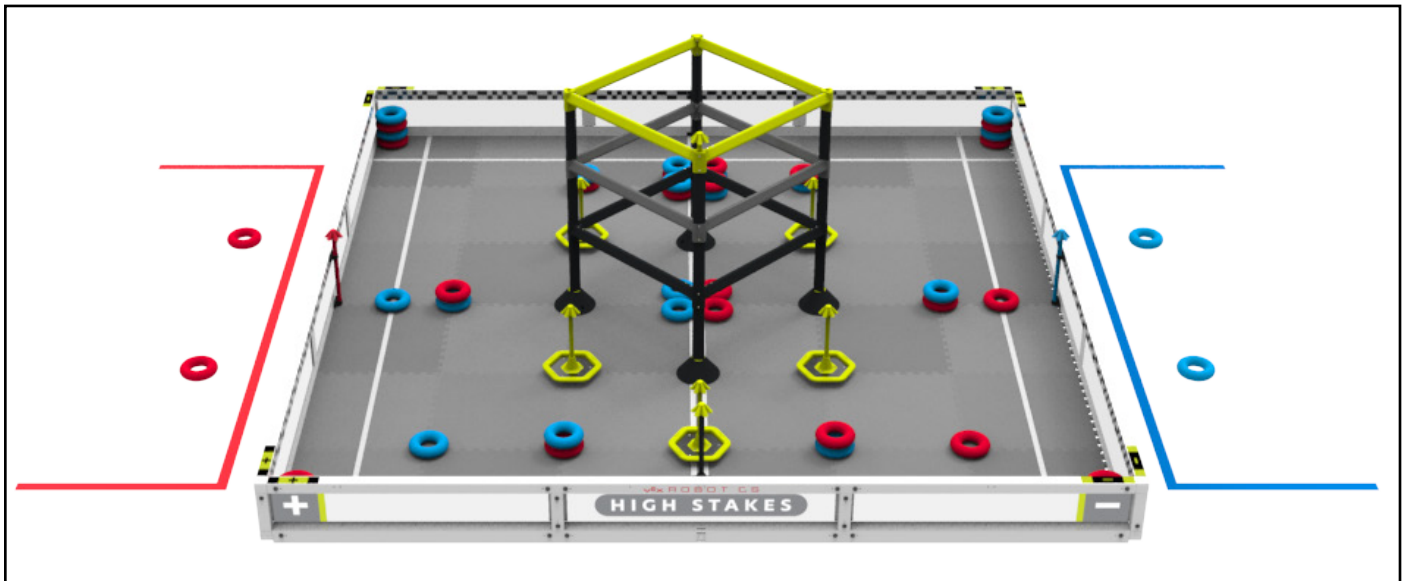
Part Number	Description
276-8869	V5RC 2024-25 Game Element Kit
276-8872	V5RC 2024-25 Scoring Element Kit

Field Specifications Introduction

This section will outline the specifications that are most important to *Teams* designing a *Robot* to compete in the VEX V5 Robotics Competition High Stakes. Though many of the critical dimensions are included in this section, it may be necessary to consult the separate assembly guide and 3D CAD models of the *Field* for an additional level of detail. If you can't find a dimension in the specifications, we include a full model of the field to "virtually" measure whatever dimension is necessary.

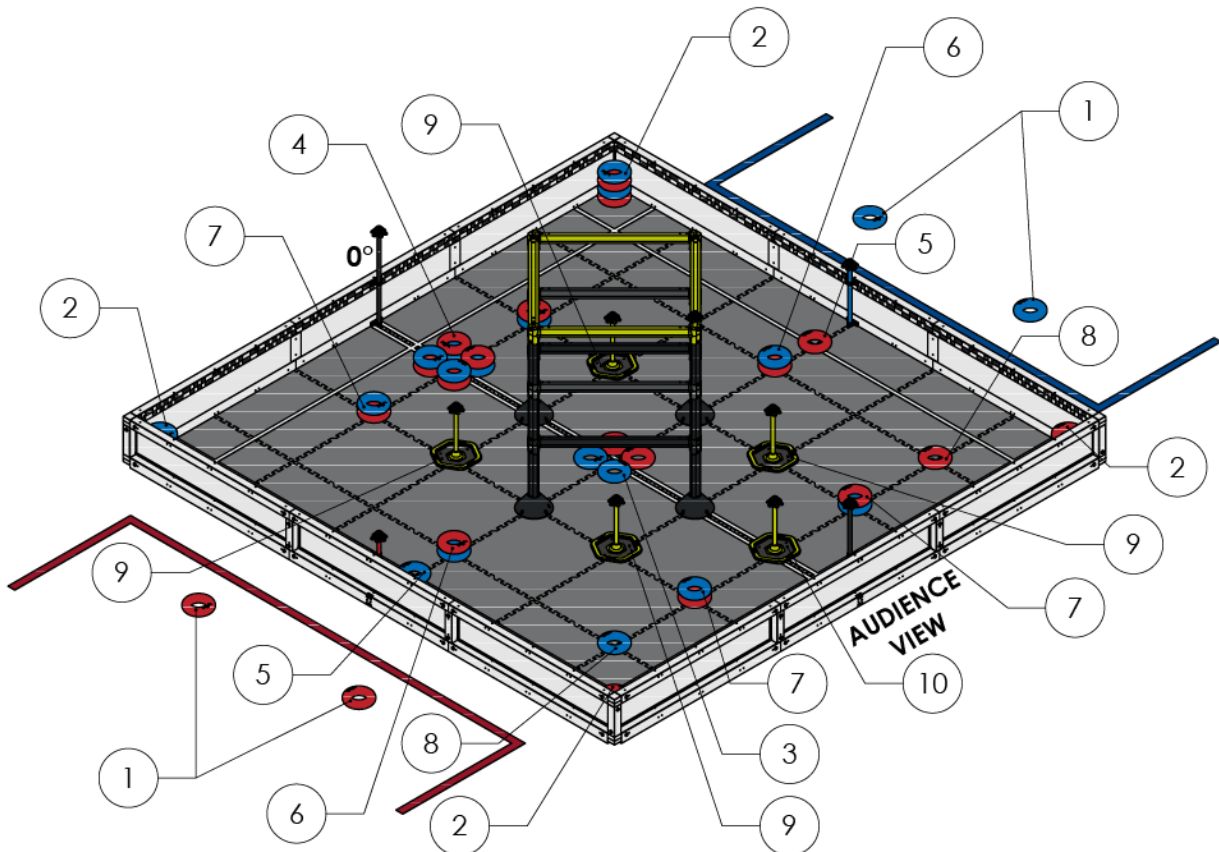
Field components may vary slightly from event to event. This is to be expected; *Teams* will need to adapt accordingly. It is good design practice to create mechanisms capable of accommodating variances in the *Field* and *Scoring Objects*.


Note: Minor Field repairs are permissible, provided that the repairs do not affect gameplay. Examples of minor Field repairs include (but are not limited to) threadlocker applied to Field Element mounting hardware. Be sure to check the Official Q&A for specific examples or to get an official clarification.



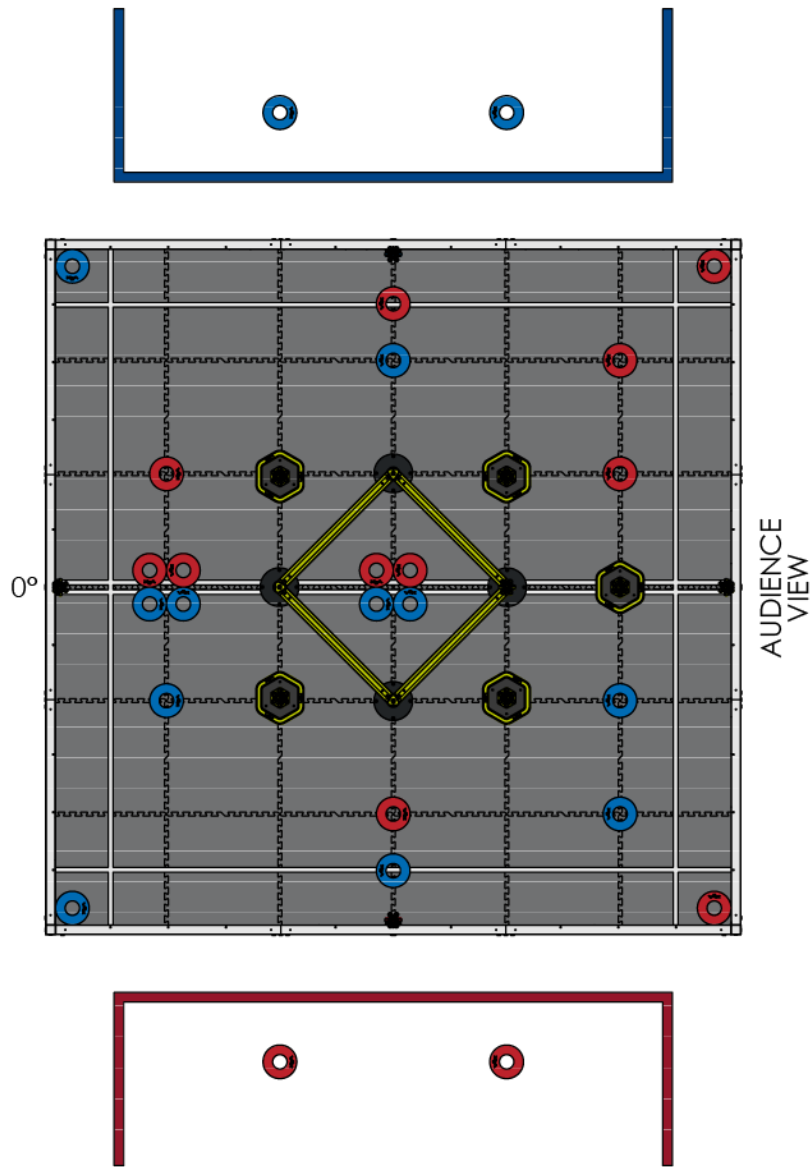
Scoring Objects are placed as follows before the start of each Head-to-Head VRC Match

1. (2x) Alliance colored Rings for Preload, (1x) per Team.
2. (4x) Rings in alternating colors placed in each Corner.
3. (4x) Rings placed at the center of the Field, under the Ladder. Blue Rings on red side and vice versa.
4. (8x) Rings between the Ladder and the Neutral Wall Stake opposite the Audience, stacked in sets of 2 with alternating colors. Blue Rings on top on red side and vice versa.
5. (1x) Ring of opposite Alliance color placed in front of each Alliance Specific Stationary Goal.
6. (2x) Rings of alternating colors placed between the Alliance Specific Wall Stakes and the Ladder. Red Ring on top on red side and vice versa.
7. (2x) Rings of alternating colors stacked, one tile away from the Autonomous Line in all 4 quadrants of the Field.
8. (1x) Ring of opposing Alliance color placed on the intersection of the tiles in front of each Corner.
9. (4x) Mobile Goals placed on the intersection of the tiles in front of each face of the Ladder.
10. (1x) Mobile Goal placed on center line in front of Neutral Wall Stake on Audience side of the Field.



	Description OBJECT PLACEMENT	
	Dwg No 276-8868 FIELD SPECIFICATIONS	
	Competition VRC 2024-2025	SHEET 1 OF 15
	Release 2/15/2024	ALL DIMENSIONS ARE IN INCHES. www.VEXROBOTICS.COM

Reference Object Placement Image, V5RC Head-to-Head Matches



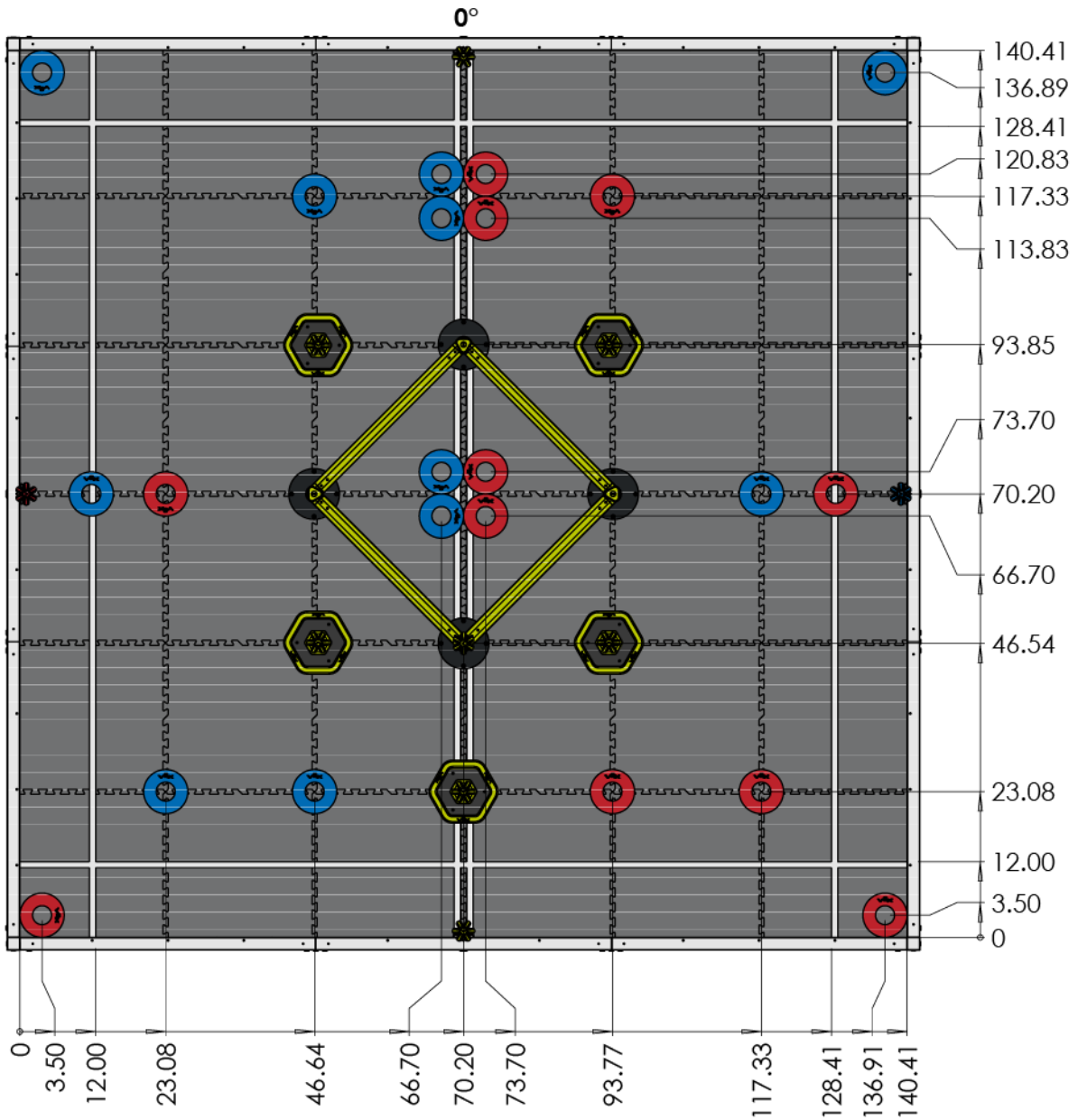
AUDIENCE
VIEW



Description	OBJECT PLACEMENT (2)	
Dwg No	276-8868 FIELD SPECIFICATIONS	
Competition	VRC 2024-2025	
Release	3/18/2024	ALL DIMENSIONS ARE IN INCHES.

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FIELD REFERENCE SPECIFICATIONS

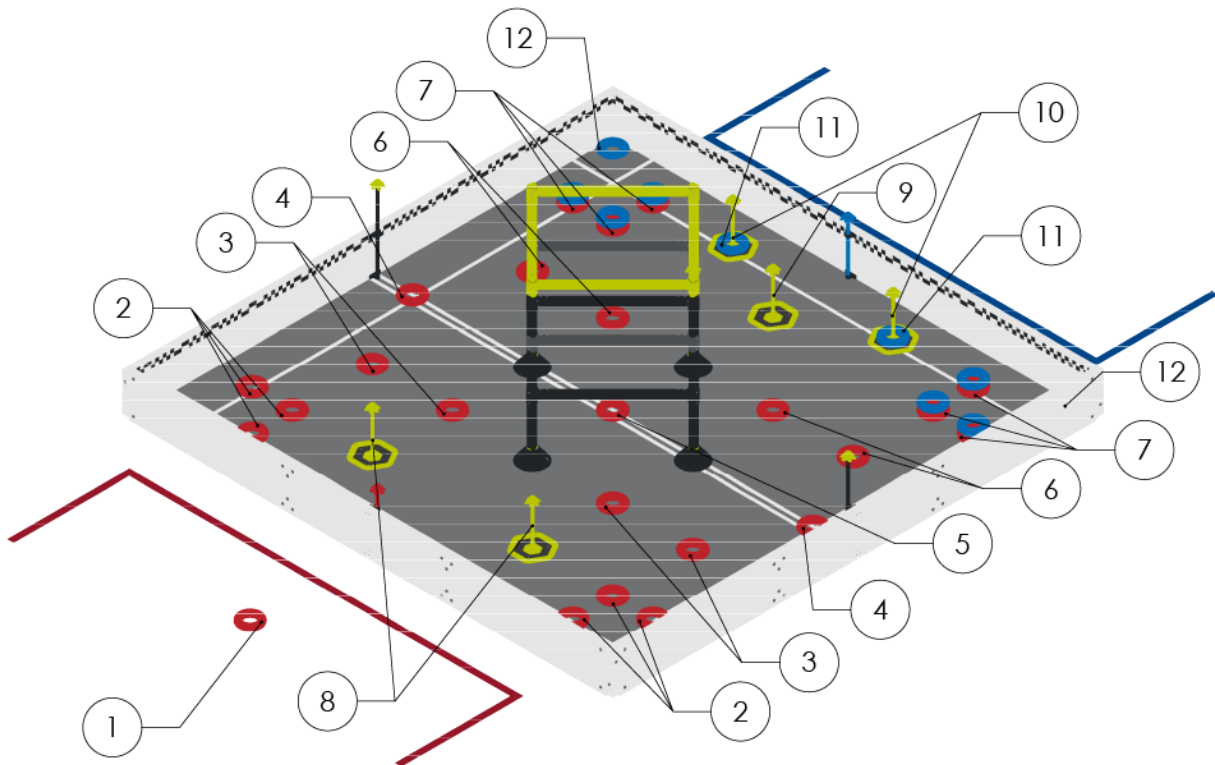



AUDIENCE VIEW

	Description	FIELD REFERENCE SPECIFICATIONS	
	Dwg No	276-8868 FIELD SPECIFICATIONS	
	Competition	VRC 2024-2025	
	Release	3/18/2024	ALL DIMENSIONS ARE IN INCHES.
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Scoring Objects are placed as follows before the start of each VRC Skills Match

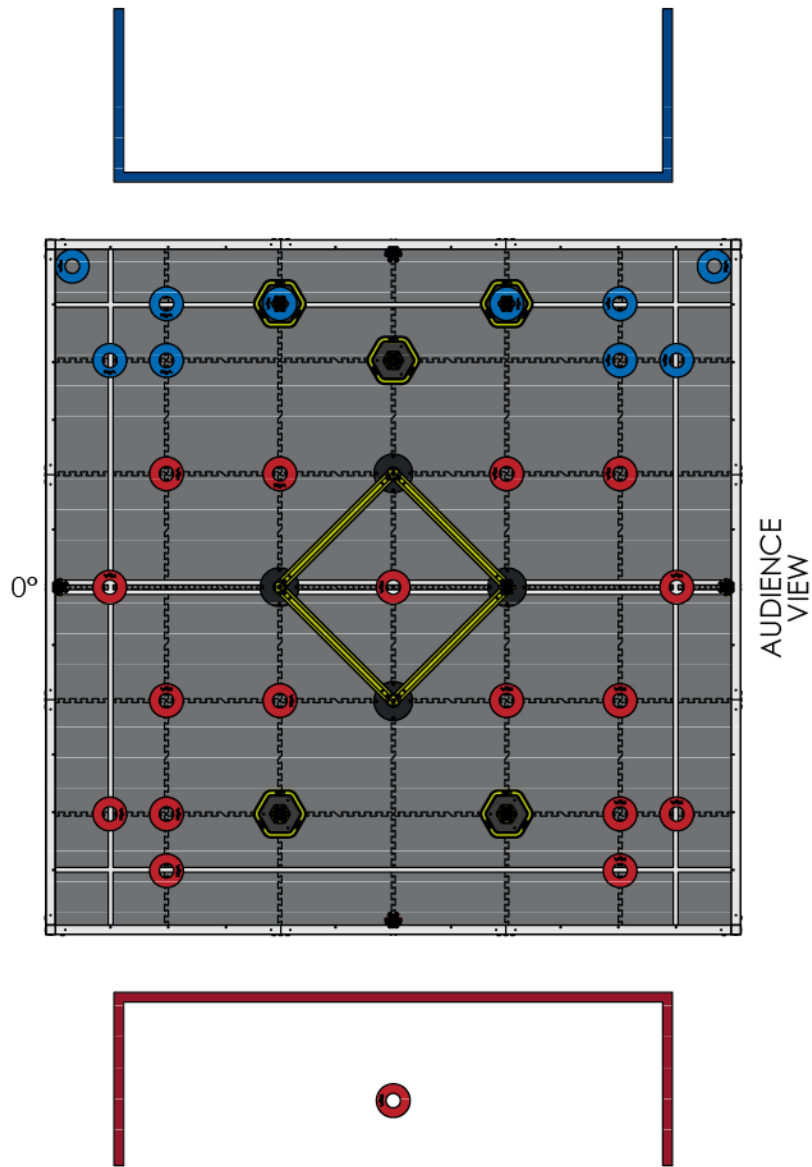
1. (1x) Red Ring for Preload.
2. (3x) Red Rings placed along the outside of the tile that contains the Corner on either side of the Field on the red Alliance side.
3. (4x) Rings placed along the tile junctions 2 tiles away from the red Alliance Wall
4. (1x) Red Ring placed in front of each Neutral Wall Stake.
5. (1x) Ring centered on the field, under the Ladder.
6. (4x) Rings placed along the tile junctions 2 tiles away from the Blue Alliance Wall.
7. (3x) Stacks of Blue Rings on top of Red Rings placed along the outside of the tile that contains the Corner on either side of the field on the Red Alliance Side
8. (2x) Mobile Goals one tile away from the red Alliance Wall.
9. (1x) Mobile Goal one tile away from the blue Alliance Wall Stake, centered on the Field.
10. (2x) Mobile goals placed on the Blue Starting Line, each one tile away from the blue Alliance Wall Stake.
11. (1x) Blue Ring placed on each Mobile Goal that starts on the blue Starting Line.
12. (1x) Blue Ring placed touching both field walls in each Corner on the blue Alliance side of the Field.



	Description OBJECT PLACEMENT - SKILLS	
	Dwg No 276-8868 FIELD SPECIFICATIONS	
	Competition VRC 2024-2025	SHEET 3 OF 15
	Release 2/15/2024	ALL DIMENSIONS ARE IN INCHES.

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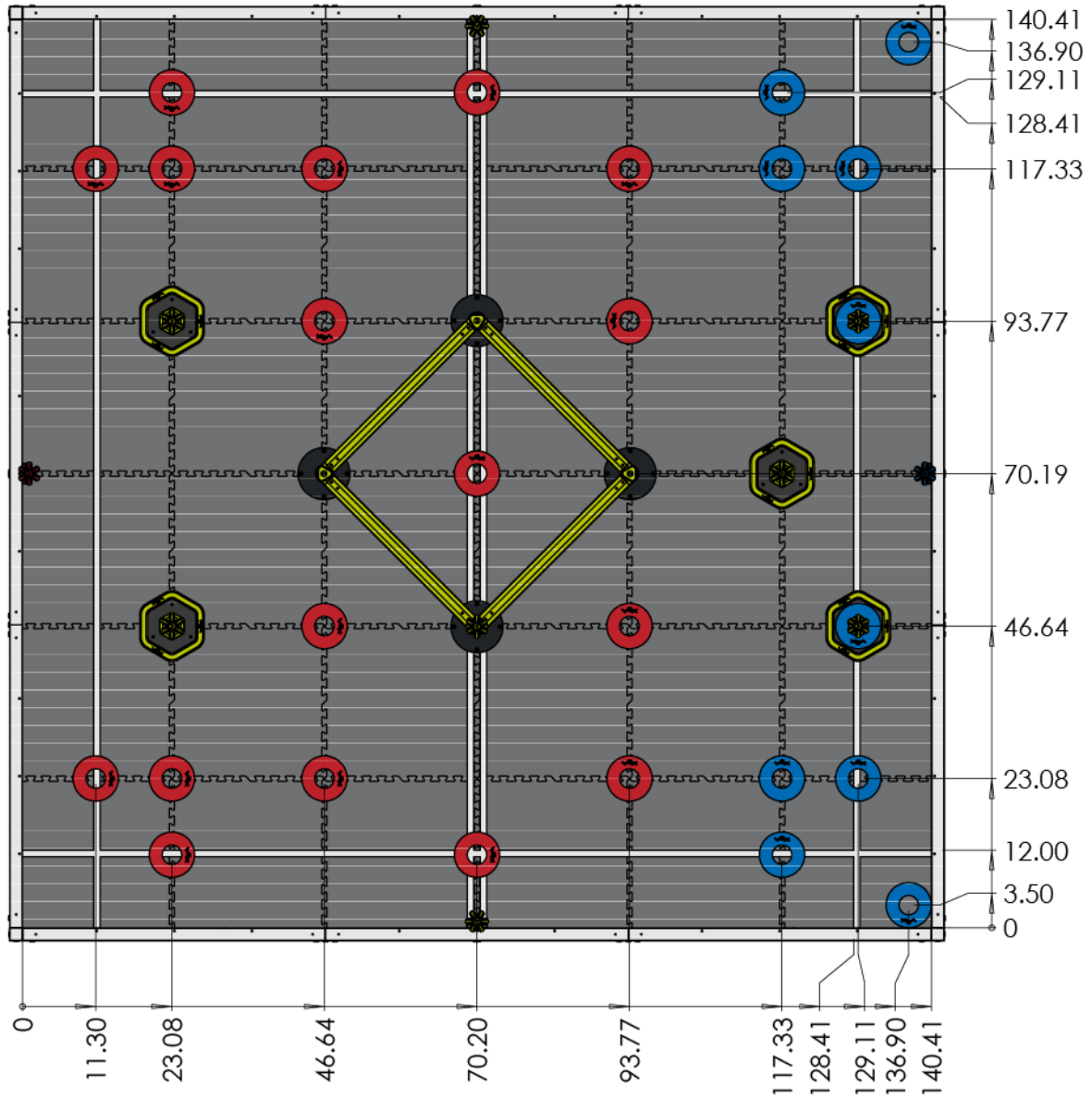
Reference Object Placement Image, VRC Skills Match



Description	OBJECT PLACEMENT - SKILLS (2)	
Dwg No	276-8868 FIELD SPECIFICATIONS	
Competition	VRC 2024-2025	SHEET 4 OF 15
Release	2/16/2024	ALL DIMENSIONS ARE IN INCHES.

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FIELD REFERENCE SPECIFICATIONS, VRC SKILLS

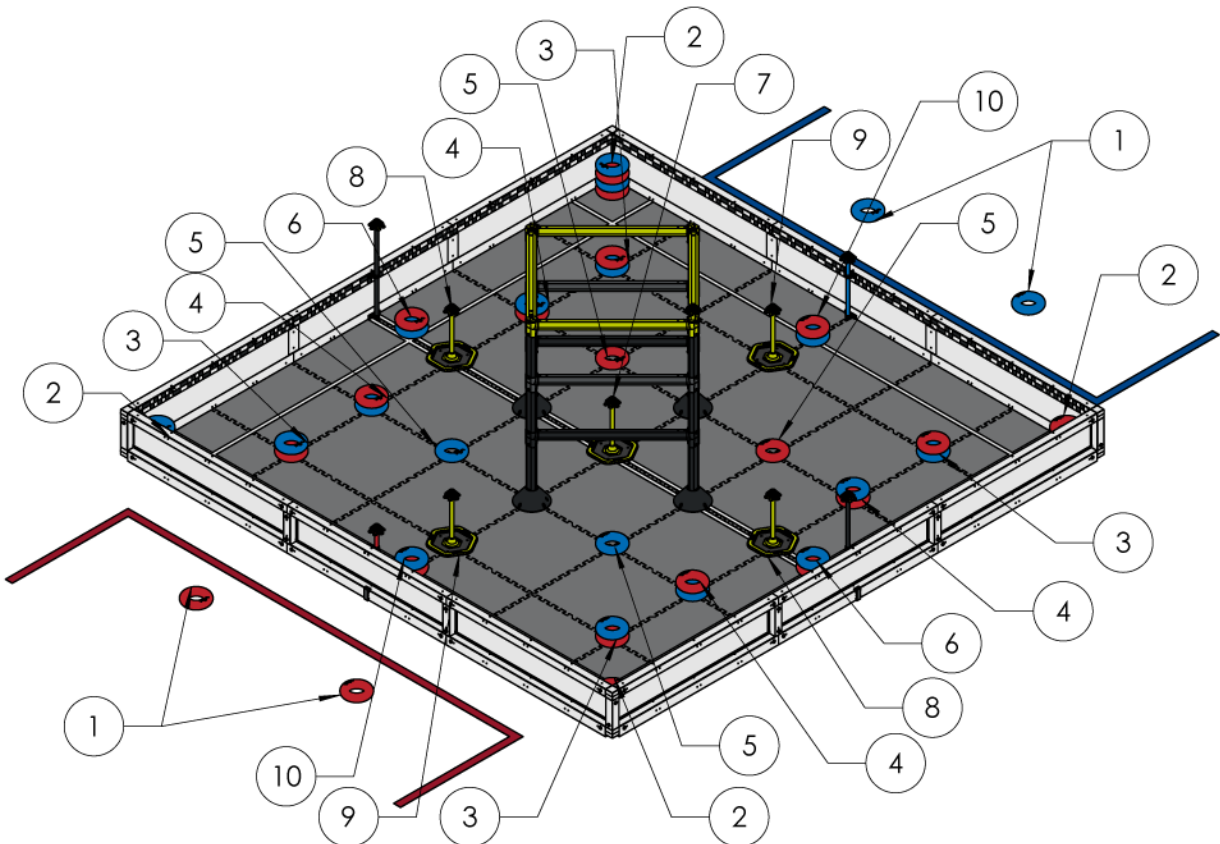


Description	FIELD REFERENCE SPECIFICATIONS - VRC SKILLS	
Dwg No	276-8868 FIELD SPECIFICATIONS	
Competition	VRC 2024-2025	
Release	3/18/2024	ALL DIMENSIONS ARE IN INCHES.

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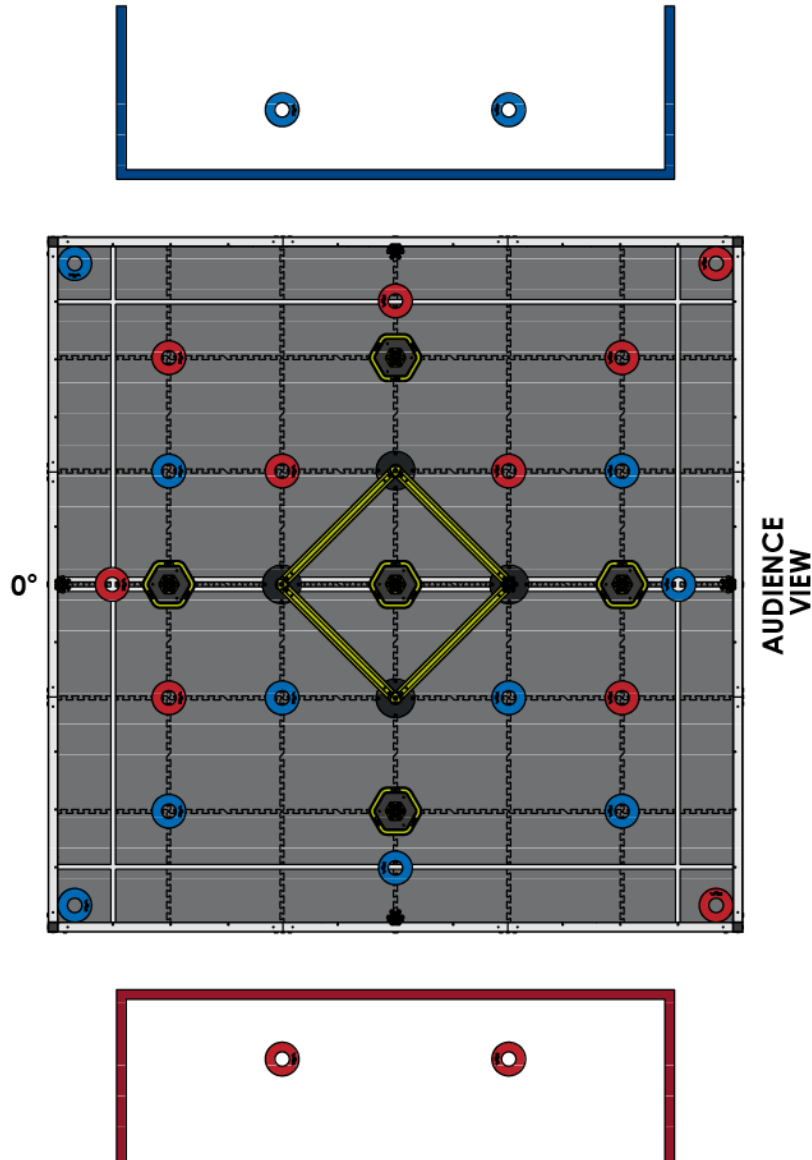
Scoring Objects are placed as follows before the start of each Head-to-Head VURC Match

1. (2x) Alliance colored Rings for Preload, (1x) per Team.
2. (4x) Rings in alternating colors placed in each Corner.
3. (4x) Rings, stacked in sets of 2 with alternating colors, placed on the intersection of field tiles closest to the corners. Blue Rings on top on red side and vice versa.
4. (8x) Rings, stacked in sets of 2 with alternating colors, placed 2 tiles from the Alliance walls, 1 tile from the neutral walls. Blue Rings on top on red side and vice versa.
5. (4x) Ring of opposite Alliance color placed 2 tiles from Alliance walls and 2 tiles from neutral walls.
6. (2x) Rings, stacked in sets of 2 with alternating colors, placed on the tape line in front of the Neutral Wall Stakes. Blue Ring on top on Audience side.
7. (1x) Mobile Goal placed in the center of the field, under the Ladder.
8. (2x) Mobile Goals, each placed 1 tile away from the Neutral Wall Stake, on the middle tape line.
9. (2x) Mobile Goals, each placed 1 tile away from the Alliance color wall stake.
10. (2x) Rings, stacked in sets of 2 with alternating colors, placed on the tape line in front of the Alliance color Wall Stakes. Blue Ring on top on red side and vice versa



	Description	OBJECT PLACEMENT - VEXU	
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	Competition	VRC 2024-2025	
	Release	4/12/2024	ALL DIMENSIONS ARE IN INCHES.

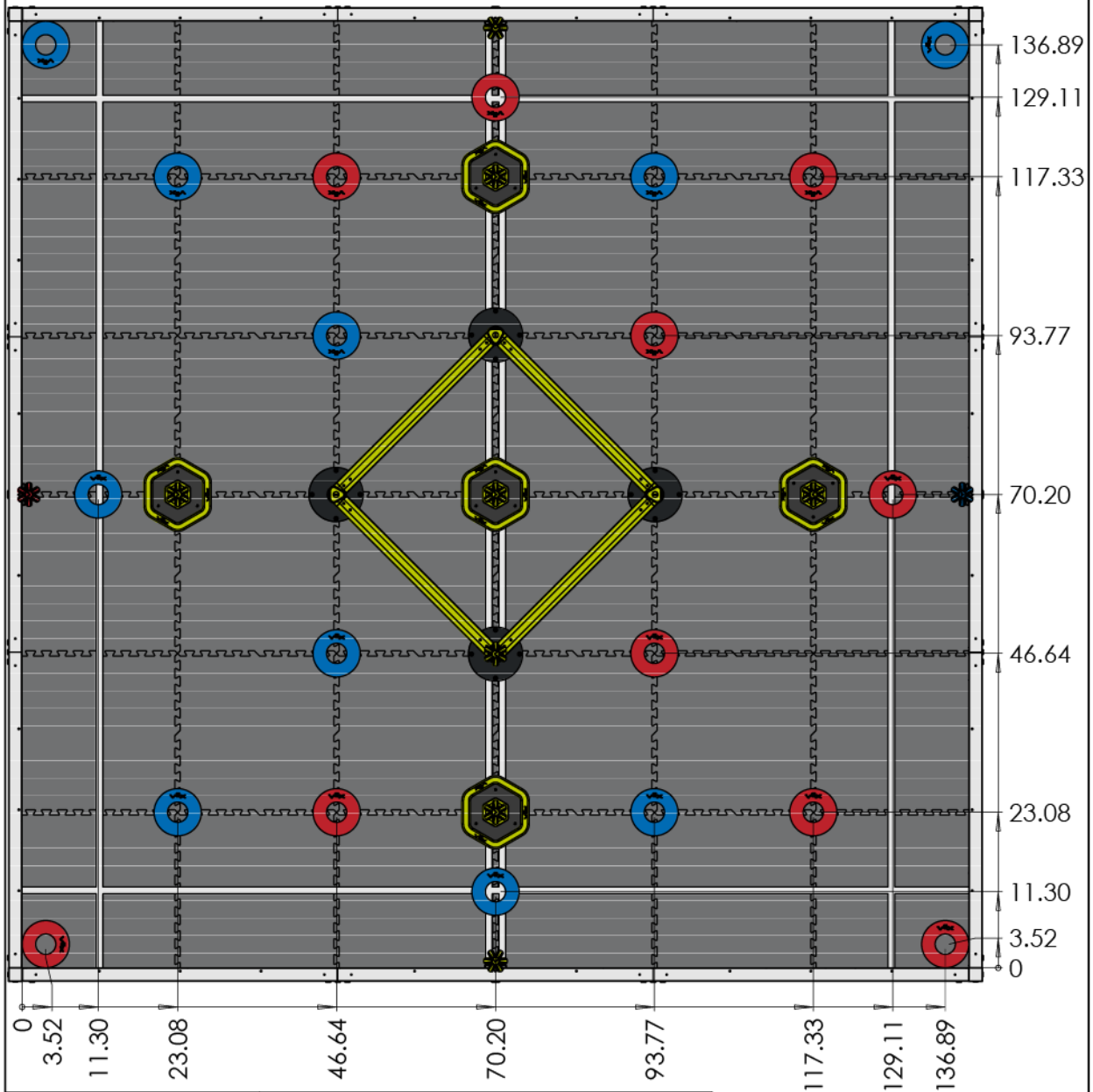
Reference Object Placement Image, VURC Head-to-Head Matches




Description	REFERENCE OBJECT PLACEMENT - VEXU	
Dwg No	276-8868 FIELD SPECIFICATIONS	
Competition	VRC 2024-2025	
Release	4/12/2024	ALL DIMENSIONS ARE IN INCHES.

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FIELD REFERENCE SPECIFICATIONS - VURC Head-to-Head

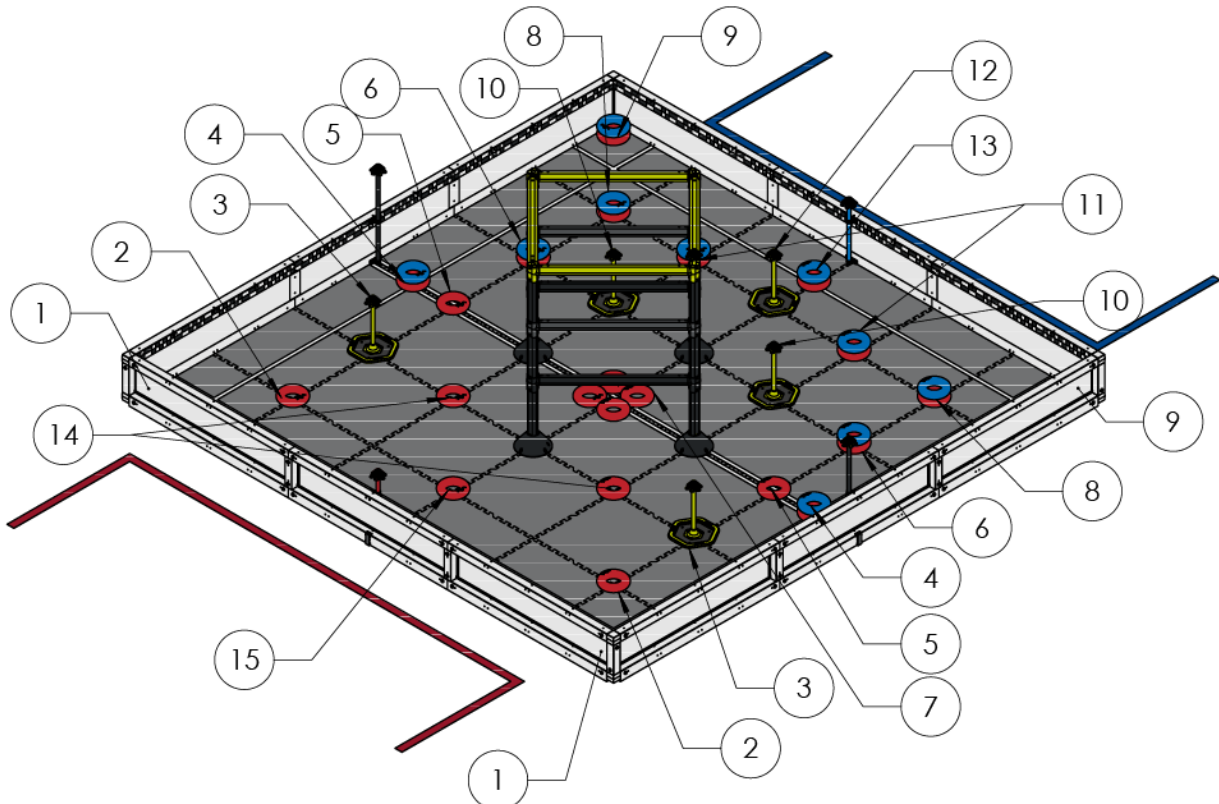


	Description FIELD REFERENCE SPECIFICATIONS - VEXU	
	Dwg No 276-8868 FIELD SPECIFICATIONS	
	Competition VRC 2024-2025	
	Release 4/12/2024	ALL DIMENSIONS ARE IN INCHES.

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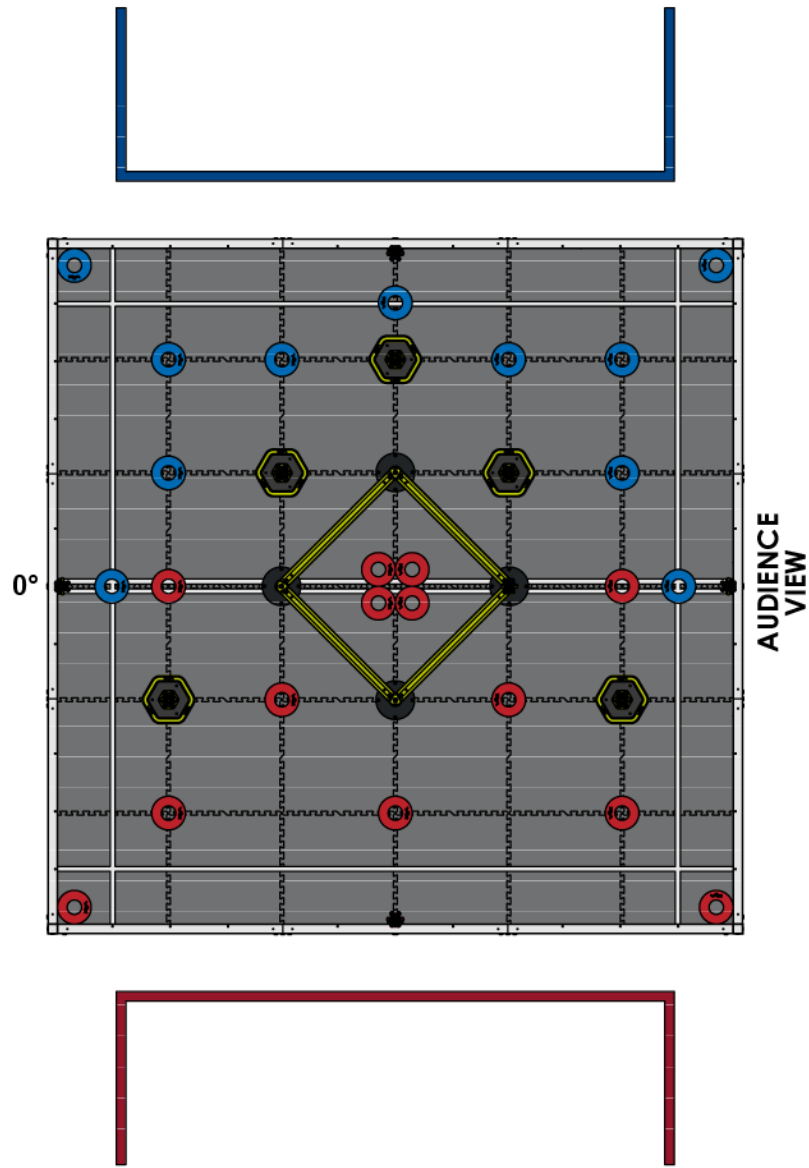
Scoring Objects are placed as follows in VURC Skills matches:

1. (2x) Single red Ring placed in the corners on the red Alliance wall.
2. (2x) Single red Ring placed on the intersection of tiles closest to the corners on the red Alliance wall.
3. (2x) Mobile Goals placed 1 tile away from the Neutral walls, 1 tile away from the center line on red Side of the field.
4. (2x) Stack of blue Ring on top of red Ring, on the tape line in front of the Neutral Wall Stakes.
5. (2x) Single red Ring placed 1 tile away from the Neutral Wall Stakes, on the center line.
6. (2x) Stack of blue Ring on top of red Ring, one tile away from neutral walls, one tile away from center line on blue side of the field.
7. (4x) Red Rings, placed in a 2x2 formation, touching each other, directly over the center of the field under the Ladder.
8. (2x) Stack of blue Ring on top of red Ring, placed on the intersection of tiles closest to the corners on the blue Alliance wall.
9. (2x) Stack of blue Ring on top of red Ring, placed in the corners on the blue Alliance wall
10. (2x) Mobile Goals, placed 2 tiles from the Neutral walls, 1 tile from the center line on the blue Alliance side of the field.
11. (2x) Stack of blue Ring on top of red Ring, placed 2 tiles away from the Neutral walls, 1 tile away from the blue Alliance wall.
12. (1x) Mobile goal, placed 1 tile away from the Blue Alliance Wall Stake
13. (1x) Stack of blue Ring on top of red Ring, placed on the tape line in front of the Blue Alliance Wall Stake
14. (2x) Single Red Ring, placed 2 tiles from the Neutral Walls, 2 tiles from the Red Alliance Wall
15. (1x) Single Red Ring, placed 1 tile away from the Red Alliance Wall Stake.



	Description	OBJECT PLACEMENT - VEXU SKILLS	
	Dwg No	276-8868 FIELD SPECIFICATIONS	
	Competition	VRC 2024-2025	
	Release	4/12/2024	ALL DIMENSIONS ARE IN INCHES.

Reference Object Placement Image, VURC Skills



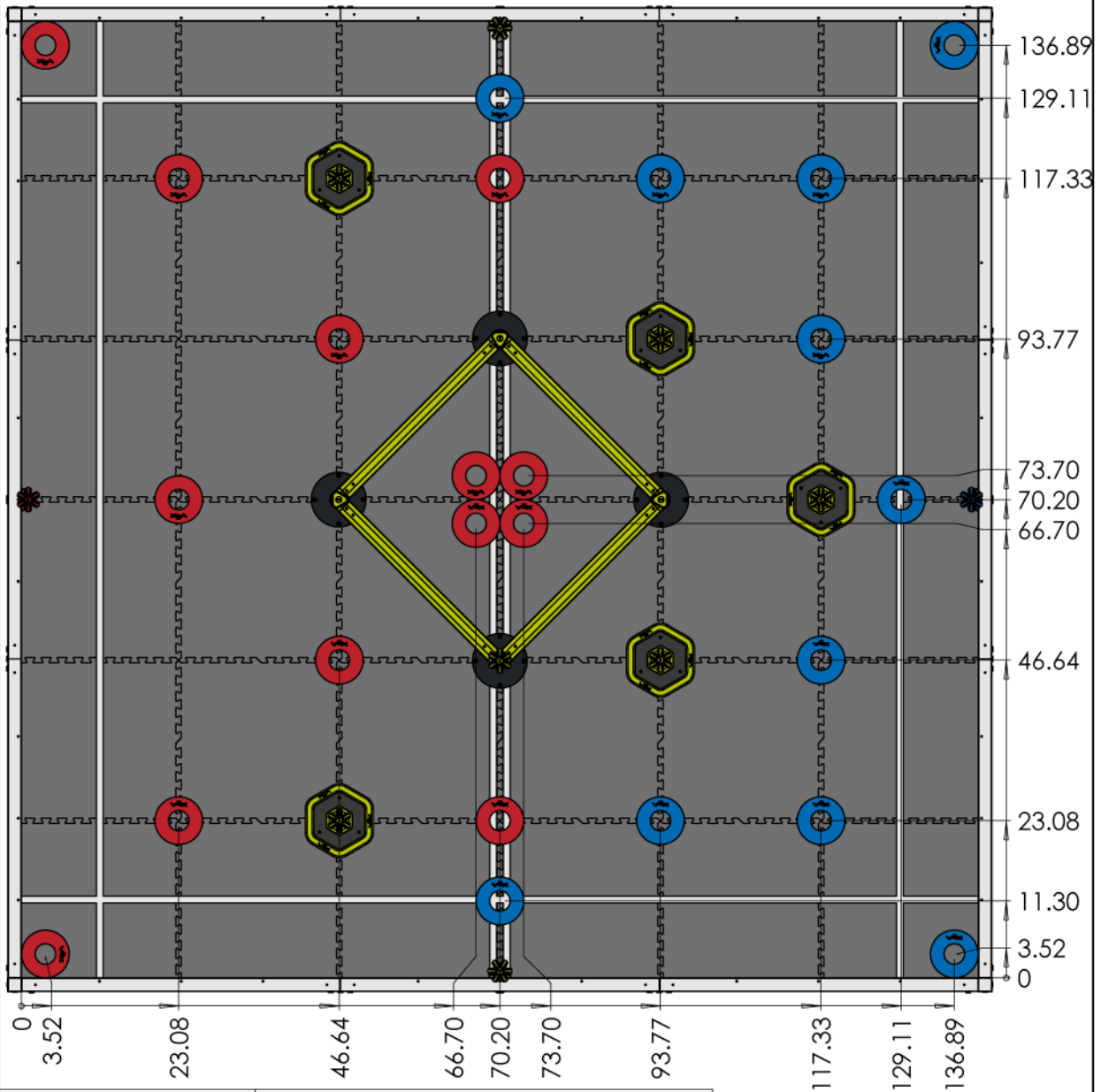
AUDIENCE
VIEW



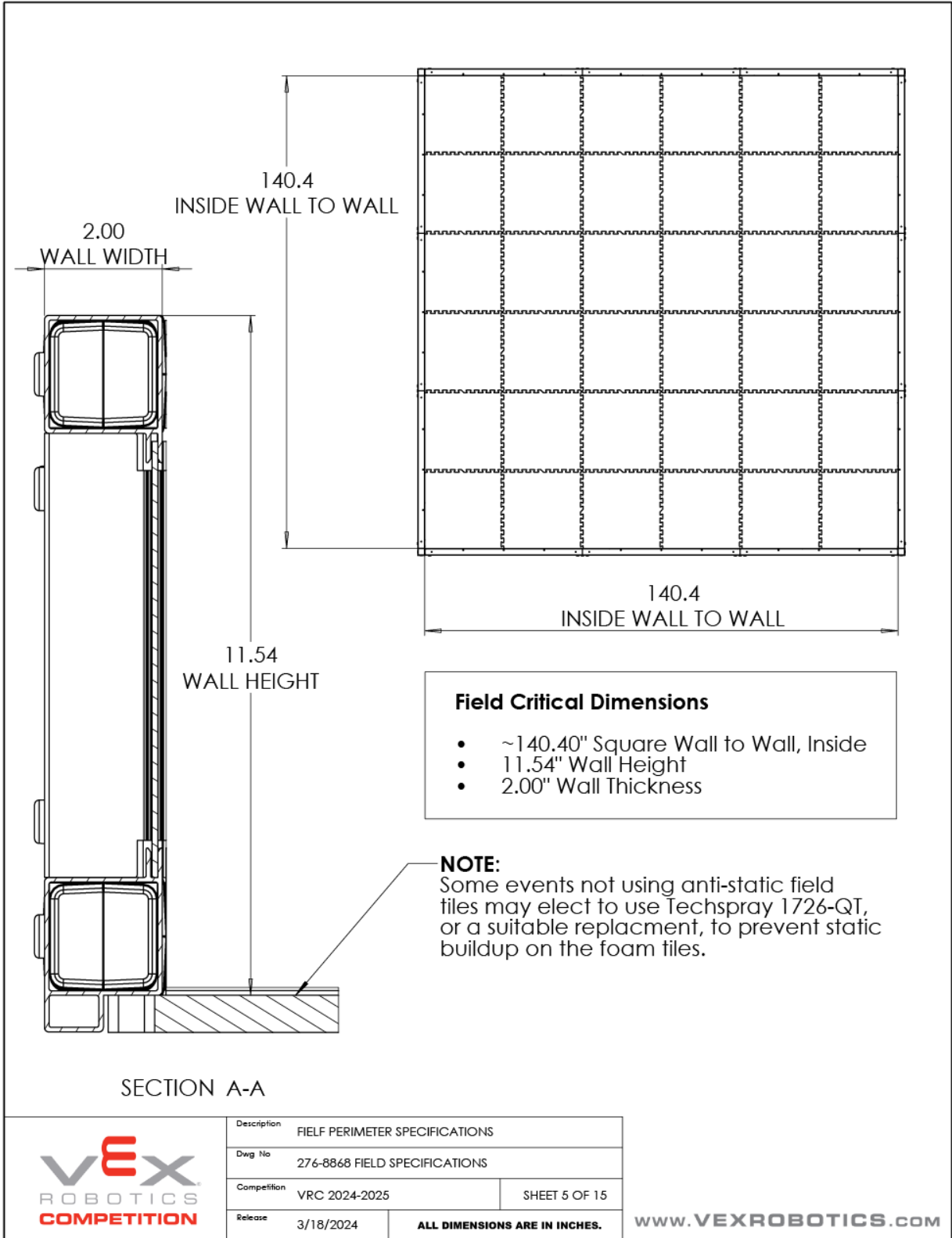
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Dwg No	276-8868 FIELD SPECIFICATIONS	
Competition	VRC 2024-2025	
Release	4/12/2024	ALL DIMENSIONS ARE IN INCHES.

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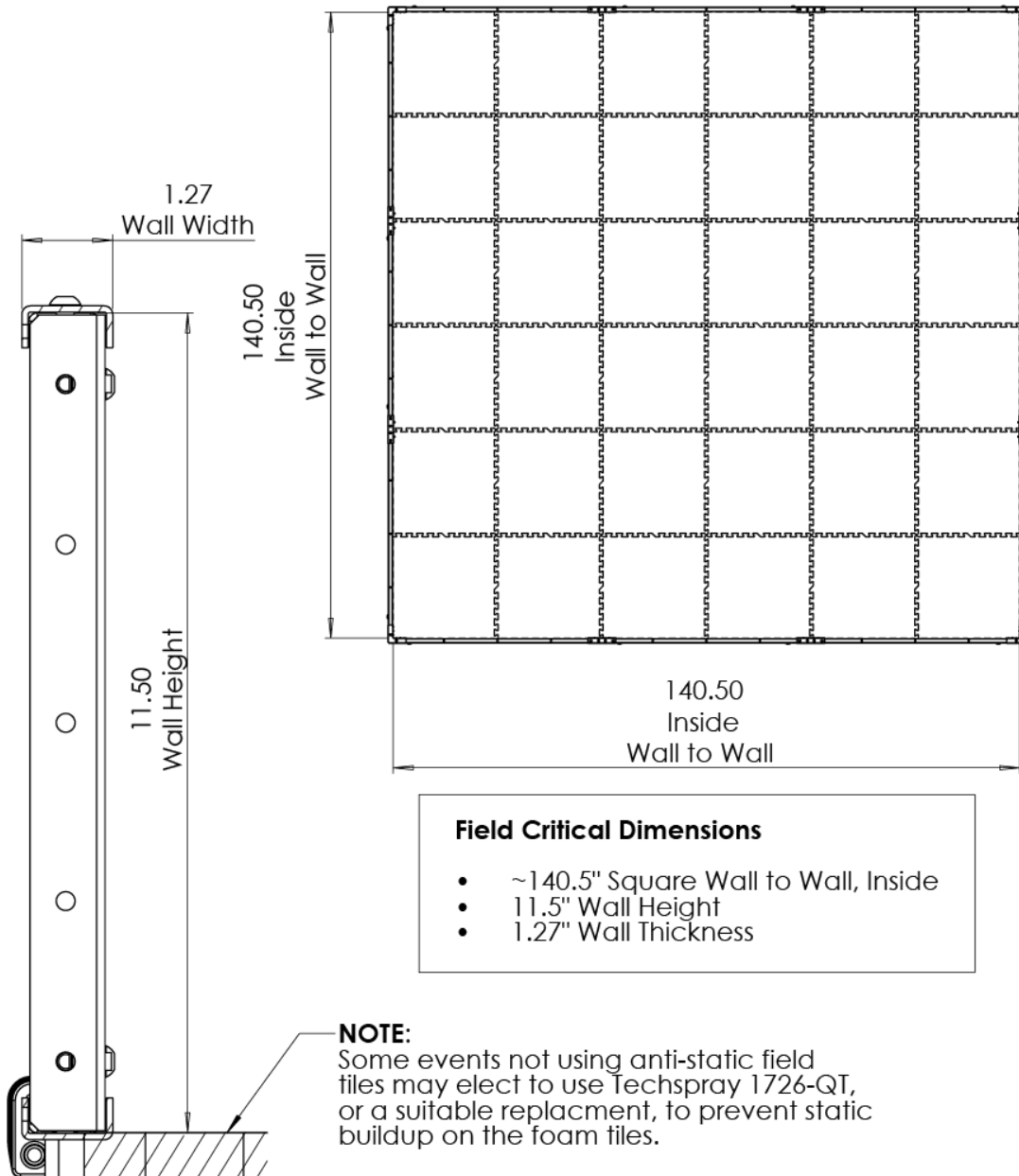
FIELD REFERENCE SPECIFICATIONS - VURC Skills



	Description	FIELD REFERENCE SPECIFICATIONS - VEXU SKILLS	
	Dwg No	276-8868 FIELD SPECIFICATIONS	
	Competition	VRC 2024-2025	
	Release	4/12/2024	ALL DIMENSIONS ARE IN INCHES.
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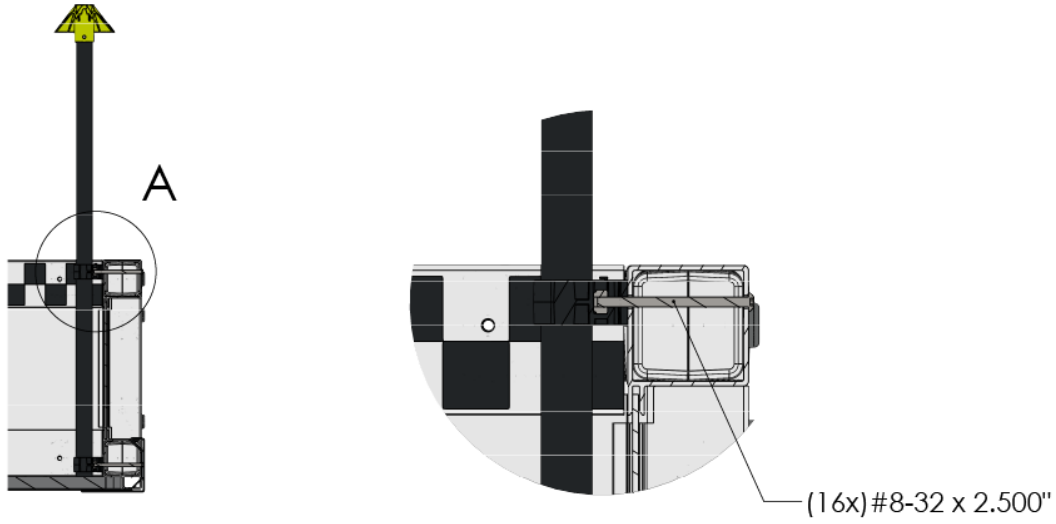
Field Critical Specs (278- 1501):



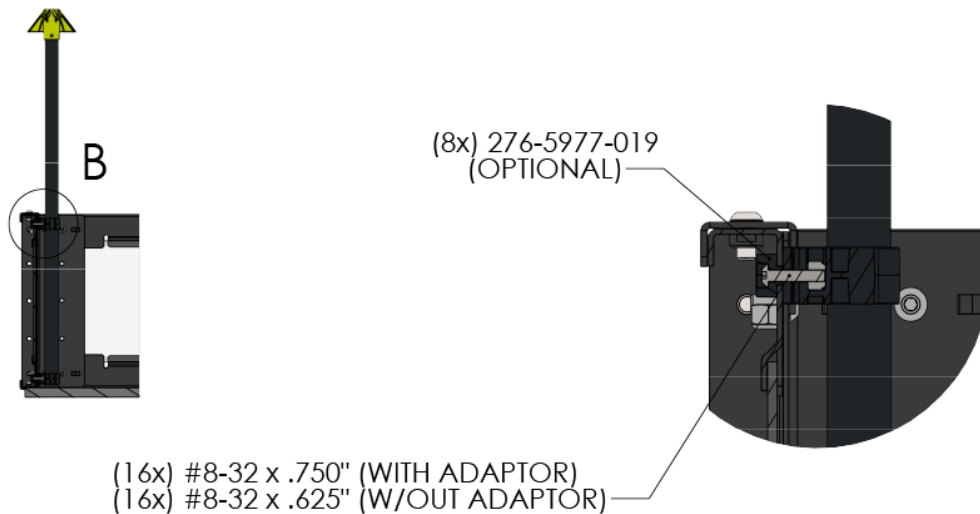
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	Dwg No		276-8868 FIELD SPECIFICATIONS
	Competition	VRC 2024-2025	SHEET 6 OF 15
	Release	3/18/2024	ALL DIMENSIONS ARE IN INCHES.
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FIELD HARDWARE DIFFERENCES

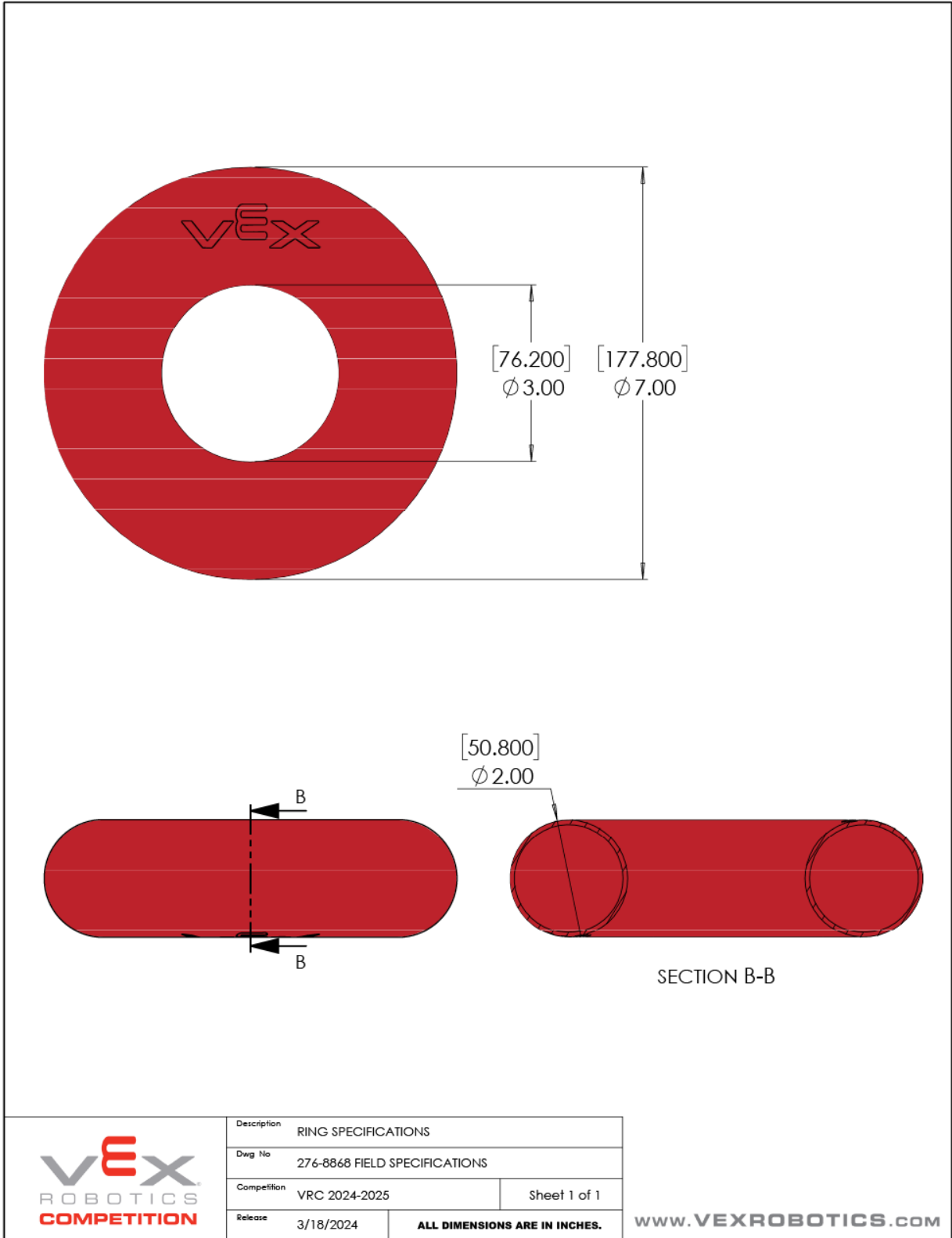
PORTABLE FIELD HARDWARE (INCLUDED)



METAL FIELD HARDWARE (NOT INCLUDED)

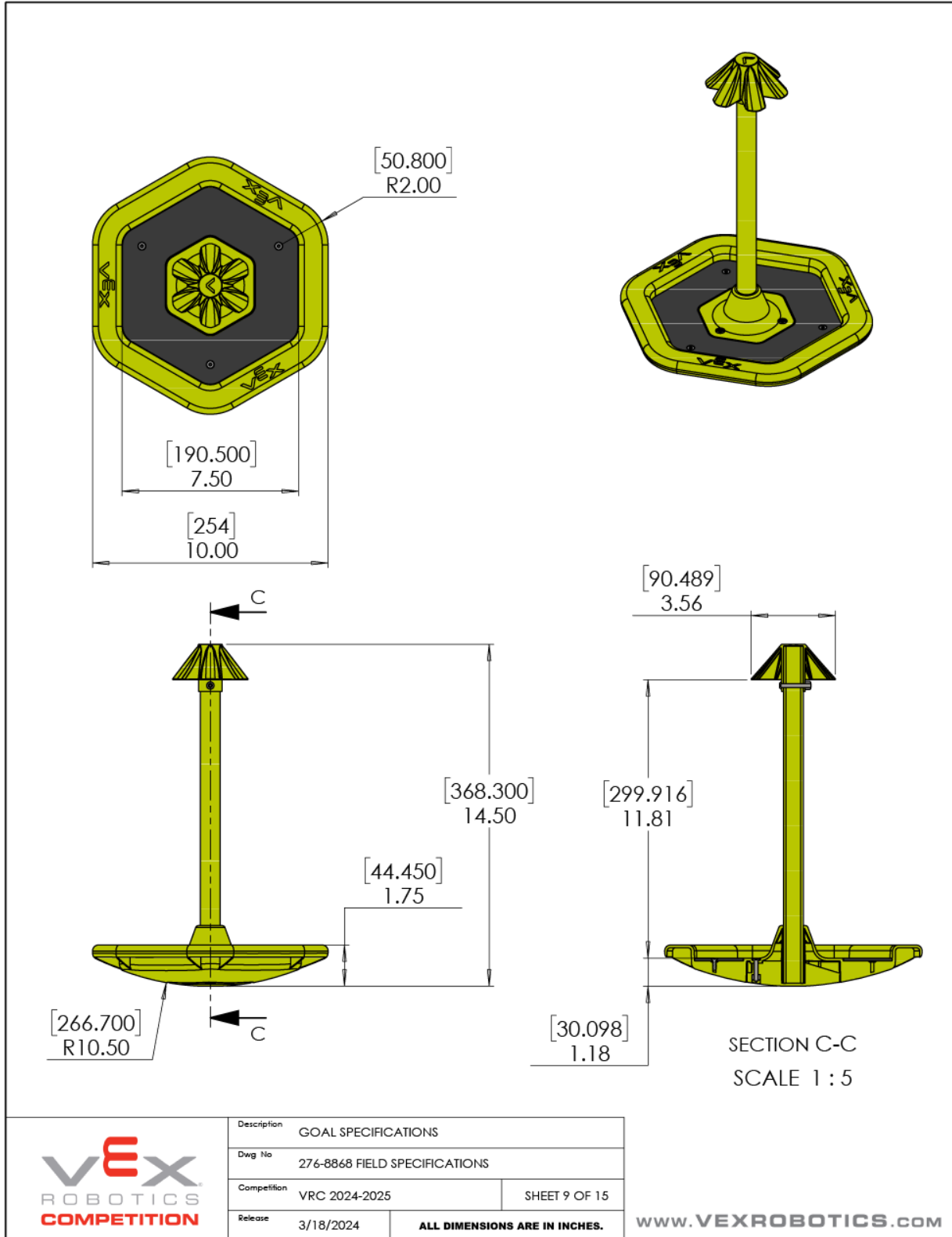


	Description		FIELD HARDWARE DIFFERENCES
	Dwg No		276-8868 FIELD SPECIFICATIONS
	Competition	VRC 2024-2025	SHEET 7 OF 15
	Release	3/18/2024	ALL DIMENSIONS ARE IN INCHES.
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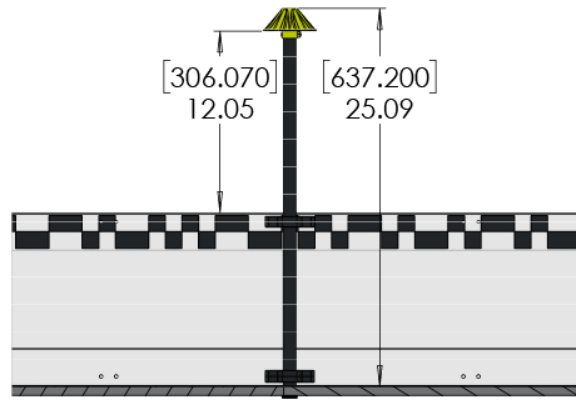


	Description RING SPECIFICATIONS	
	Dwg No 276-8868 FIELD SPECIFICATIONS	
	Competition VRC 2024-2025	Sheet 1 of 1
	Release 3/18/2024	ALL DIMENSIONS ARE IN INCHES.

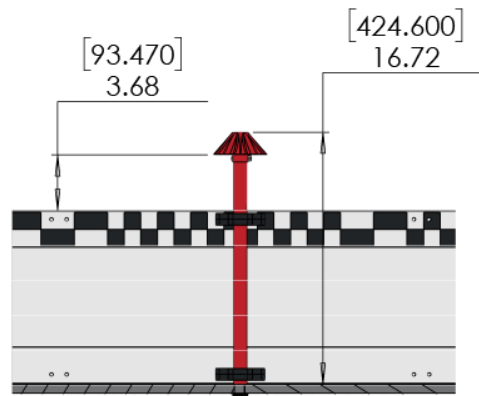
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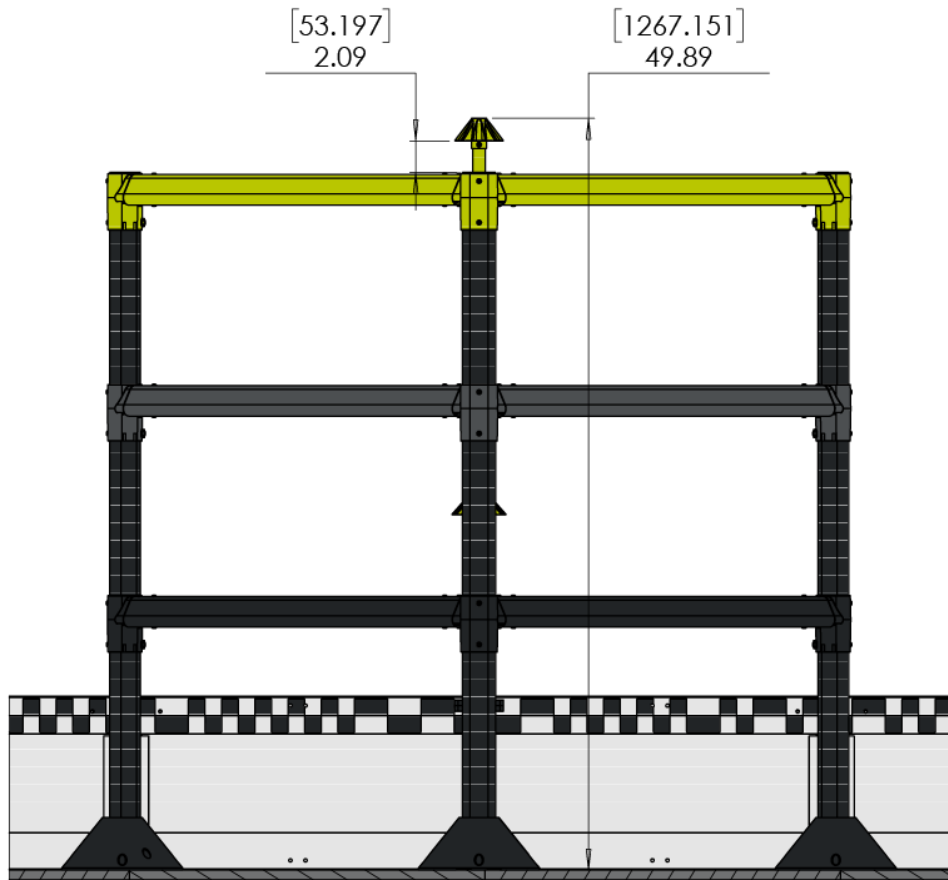
NEUTRAL STATIONARY GOALS:




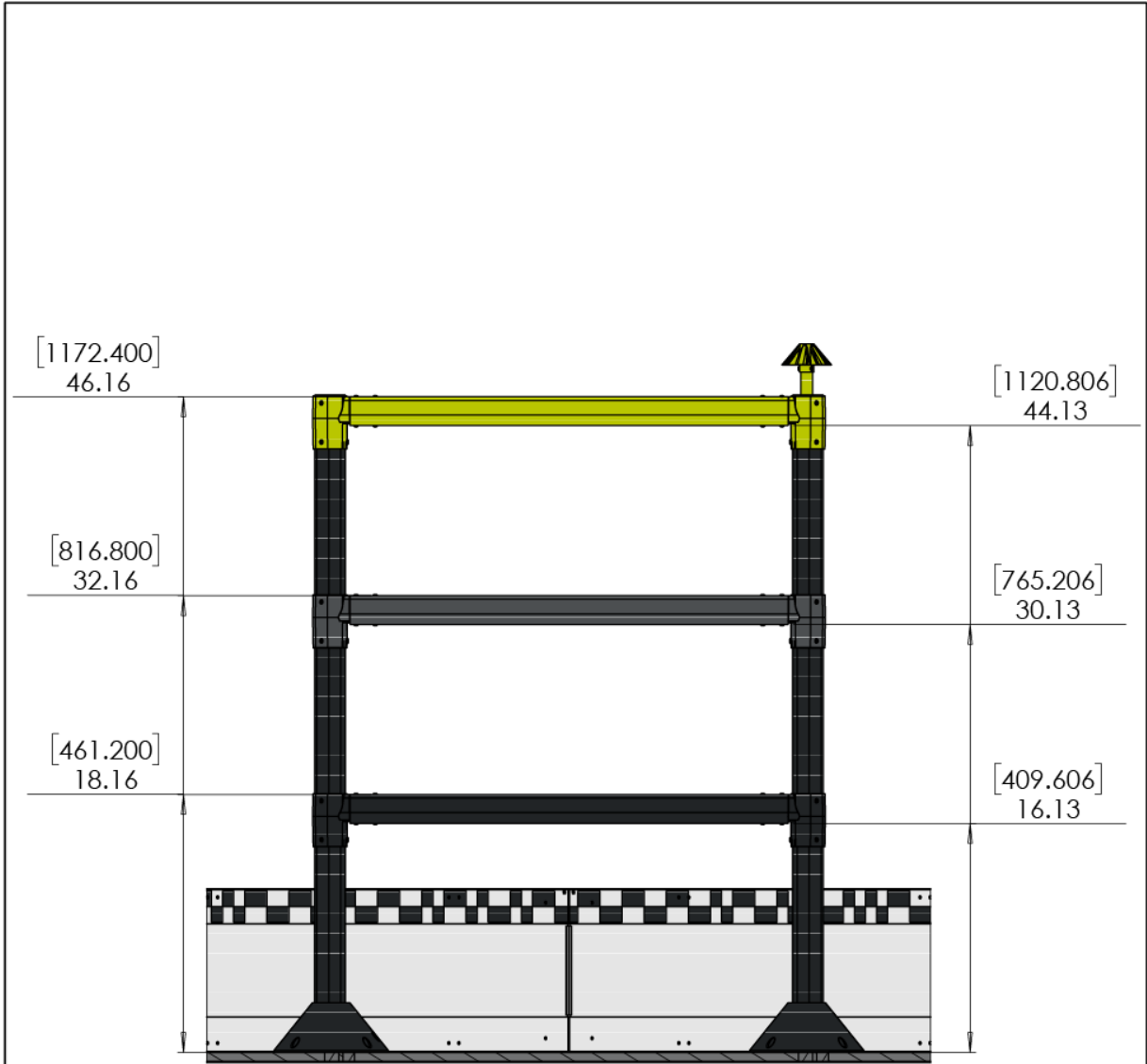
ALLIANCE SPECIFIC STATIONARY GOALS:



	Description GOAL SPECIFICATIONS (2)	
	Dwg No 276-8868 FIELD SPECIFICATIONS	
	Competition VRC 2024-2025	SHEET 10 OF 15
	Release 3/18/2024	ALL DIMENSIONS ARE IN INCHES.
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	Description GOAL SPECIFICATIONS (3)	
	Dwg No 276-8868 FIELD SPECIFICATIONS	
	Competition VRC 2024-2025	SHEET 11 OF 15
	Release 3/18/2024	ALL DIMENSIONS ARE IN INCHES. WWW.VEXROBOTICS.COM



	Description LADDER SPECIFICATIONS	
	Dwg No 276-8868 FIELD SPECIFICATIONS	
	Competition VRC 2024-2025	SHEET 12 OF 15
	Release 3/18/2024	ALL DIMENSIONS ARE IN INCHES.
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