



# Test Rig and Safety Area Specifications

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Final Design • October 29, 2022

- Wear eye protection at all times
- Read all warnings on label before use
- Critical dimensions are in blue
- Tolerance of all parts and dimensions need to be plus or minus 1/4"

NOTES:

Test table:  
3/4" x 48" x 96" plywood with a extended 36-1/2" x 36-1/2" x 51-1/2" triangle to support fan #2 at 45°. (see page .02 for elevation details) Table surface is 30" inches off the floor.

Raised Build Area:  
3" x 36" x 36" raised platform. Plywood construction. (see page .03 for details)

Raised Build Area Grid:  
4" x 4" box grid squares are located under 1/16" smooth acrylic. Mandatory fill cell in blue. (see page .03 for details)

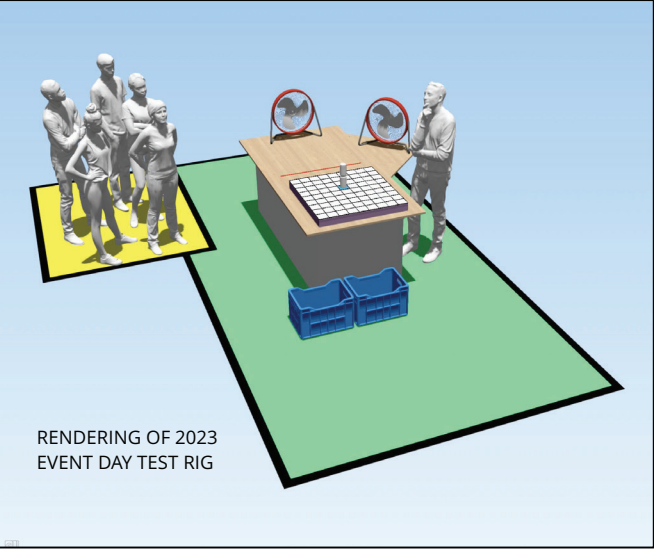
(2) 20" 3 Speed Industrial Fans:  
Maxx Air 20" 3 speed floor shroud fan. Fans are permanently affixed to the table surface and the fan shroud is permanently fixed at 90° to the table surface.

LINK:  
<https://www.homedepot.com/p/Maxx-Air-20-in-Floor-Shroud-Fan-H-VFF-20S-REDUPS/204409872>

NOTE:  
Anemometer wind speed measurements were taken at the front of the blue square. (see plan view page .01)

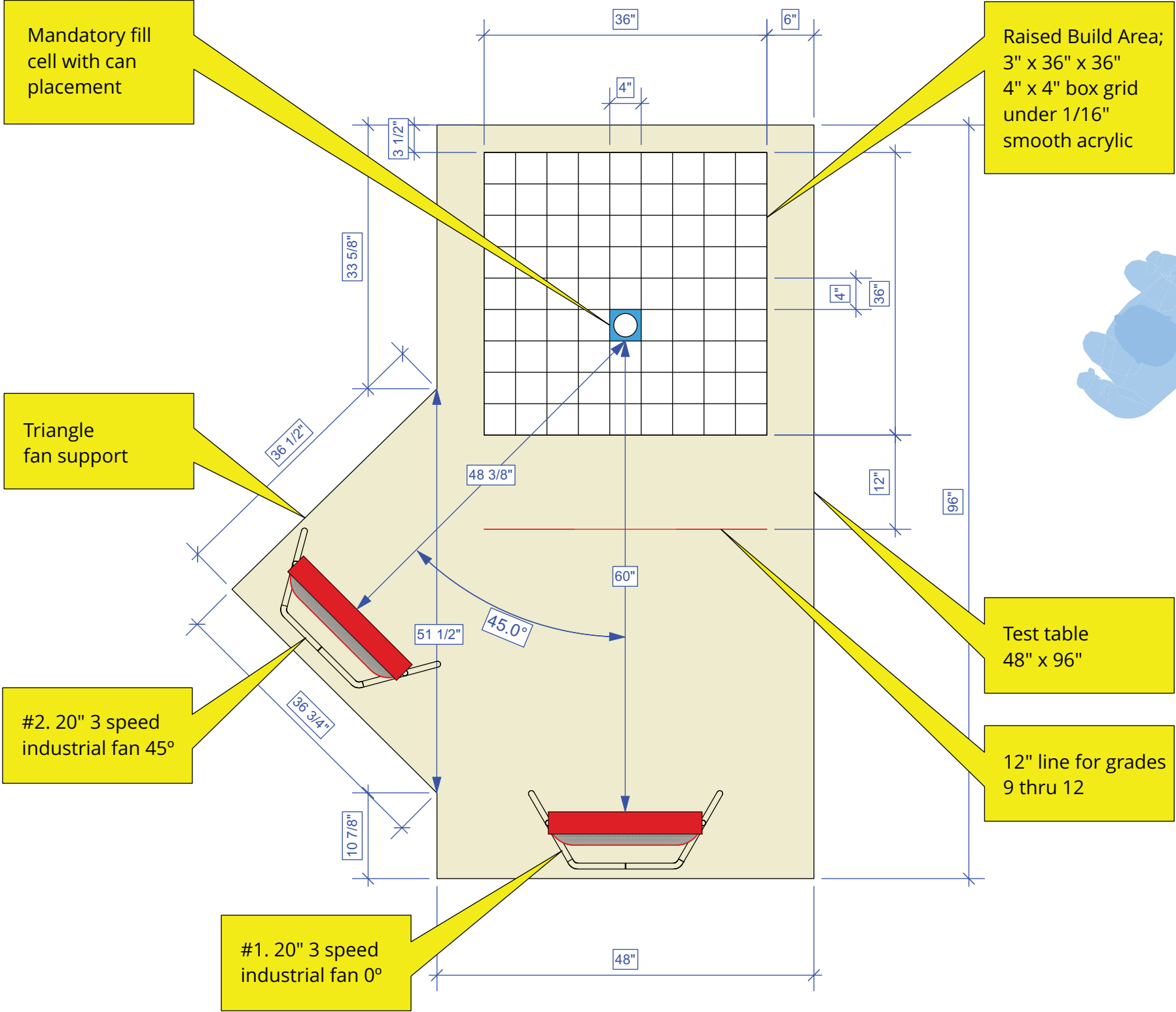
4-8 grade build-area position:  
low speed: 548 ft/min  
medium speed: 634 ft/min  
high speed: 759 ft/min

High school build-area position:  
low speed: 650 ft/min  
medium speed: 700 ft/min  
high speed: 788 ft/min



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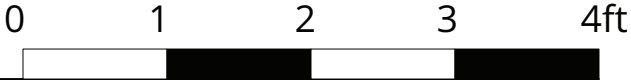
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(see Survive the Storm Rule Package for additional information)

The Tech Challenge 2023 Test Rig (ONLY) Plan View

SCALE: 3/4"=1'-0"



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NOTES:

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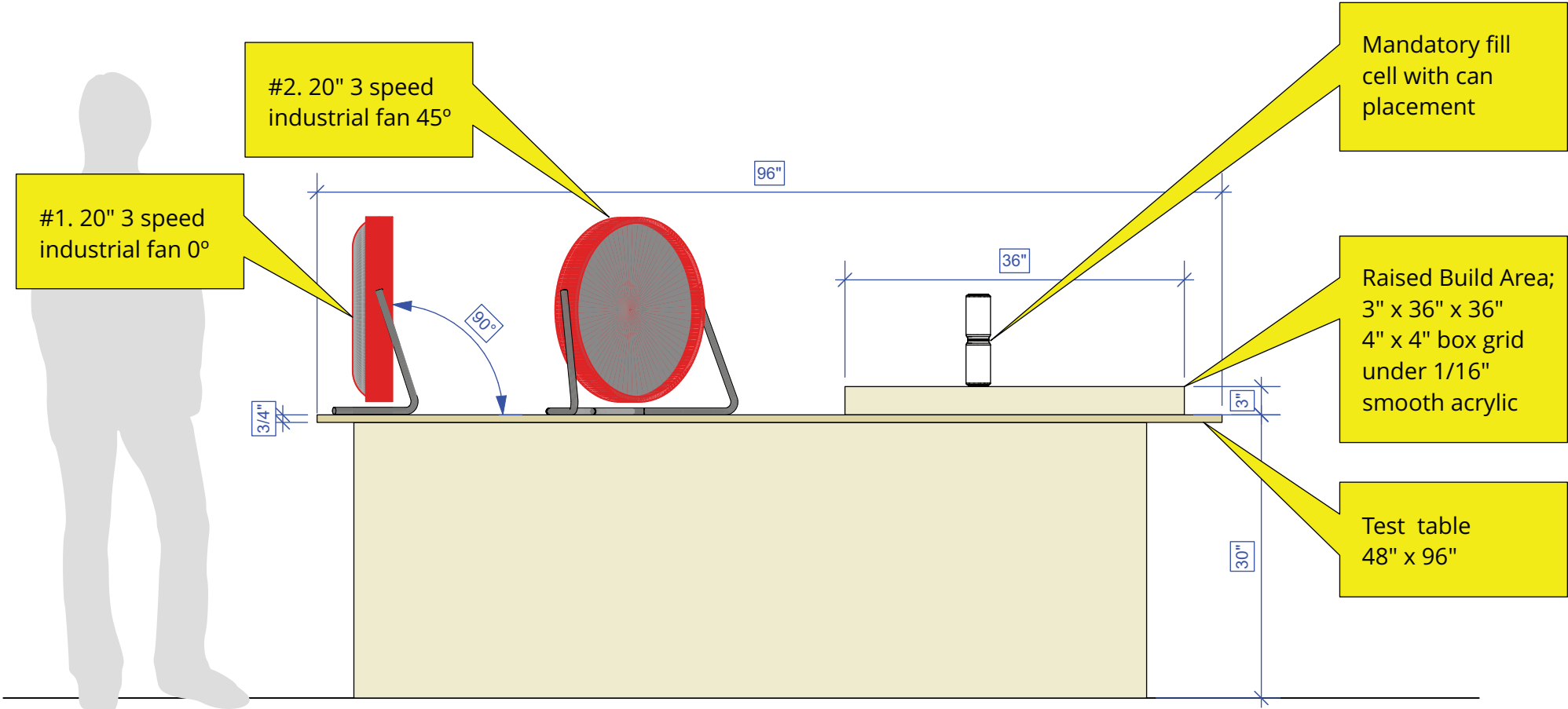
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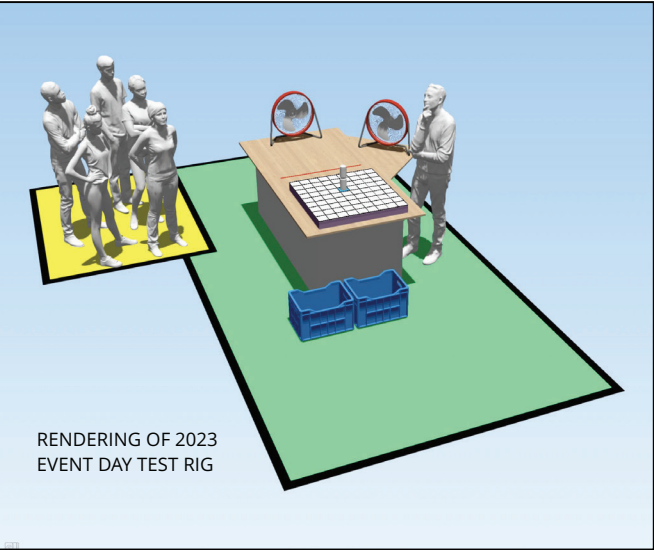
NOTE:  
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4-8 grade build-area position:  
low speed: 548 ft/min  
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high speed: 759 ft/min

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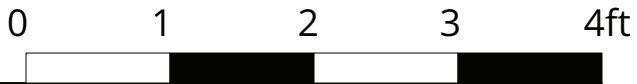


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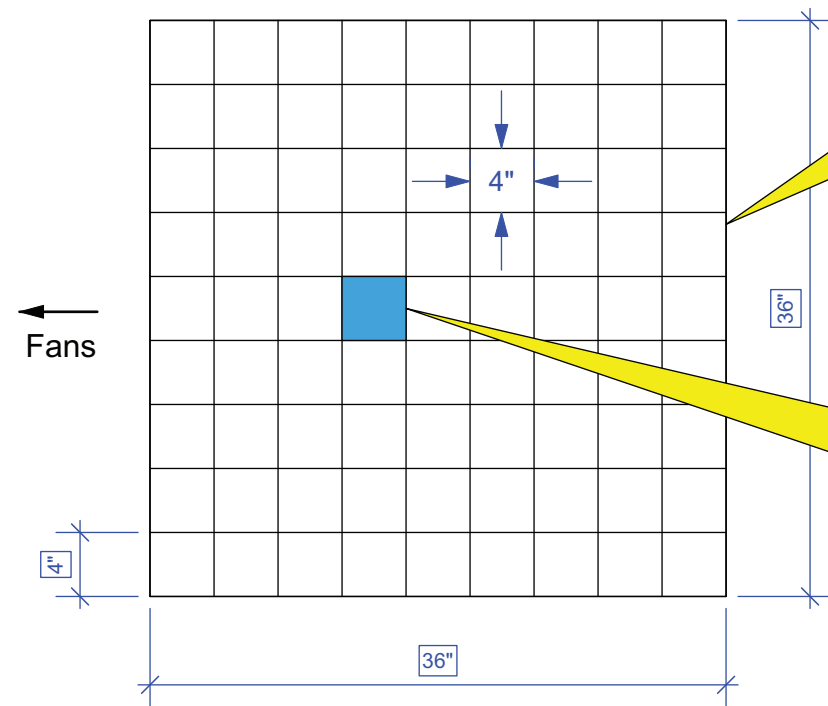


The Tech Challenge 2023    Test Rig (ONLY)    Elevation View

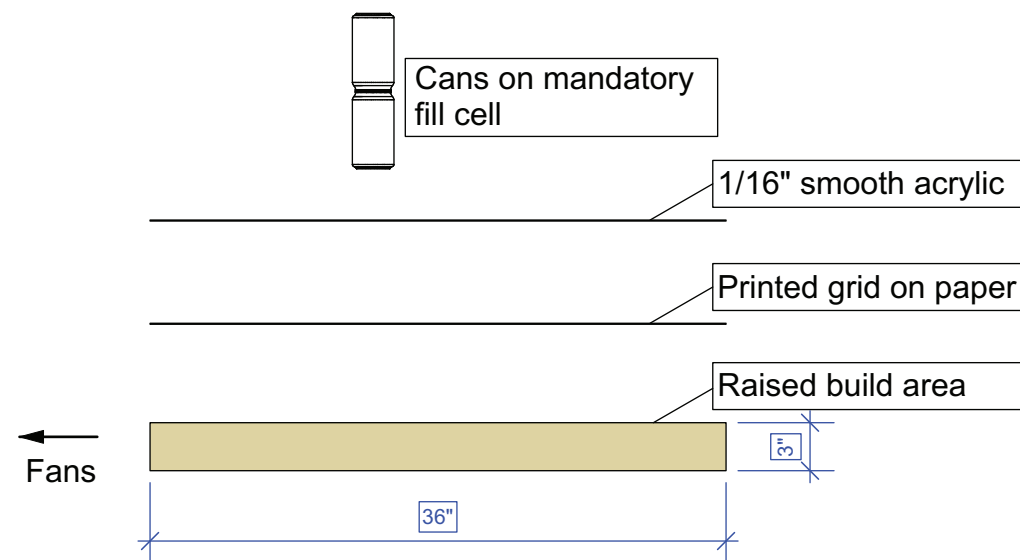
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Plan View



Side View

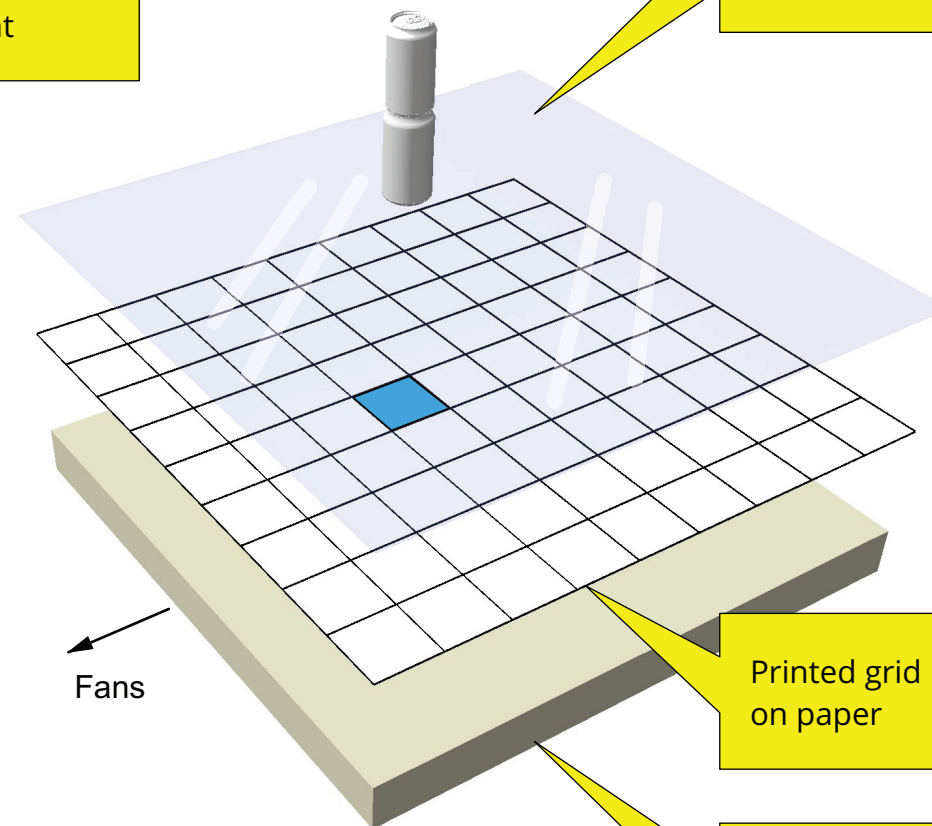
Raised Build Area;  
3" x 36" x 36"  
4" x 4" box grid  
under 1/16"  
smooth acrylic

Mandatory fill  
cell with can  
placement

Smooth Acrylic  
1/16" x 36" x 36"

Printed grid  
on paper

Raised Build Are  
3" x 36" x 36"



Perspective View

(see Survive the Storm Rule Package  
for additional information)

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#### NOTES:

##### Test table:

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##### NOTE:

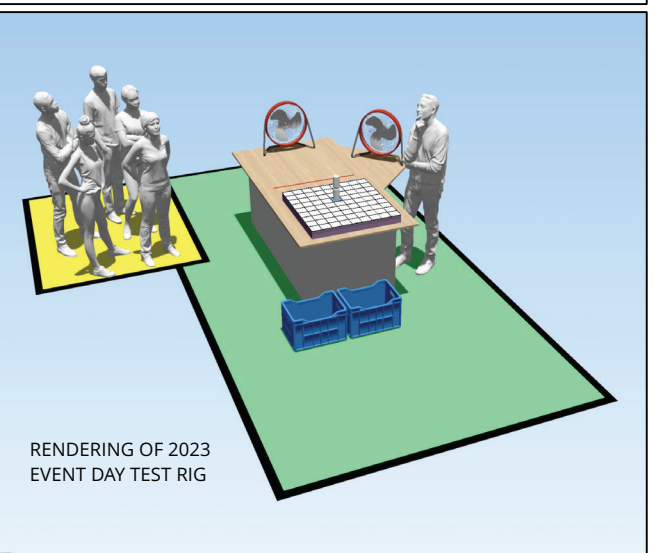
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##### 4-8 grade build-area position:

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high speed: 759 ft/min

##### High school build-area position:

low speed: 650 ft/min  
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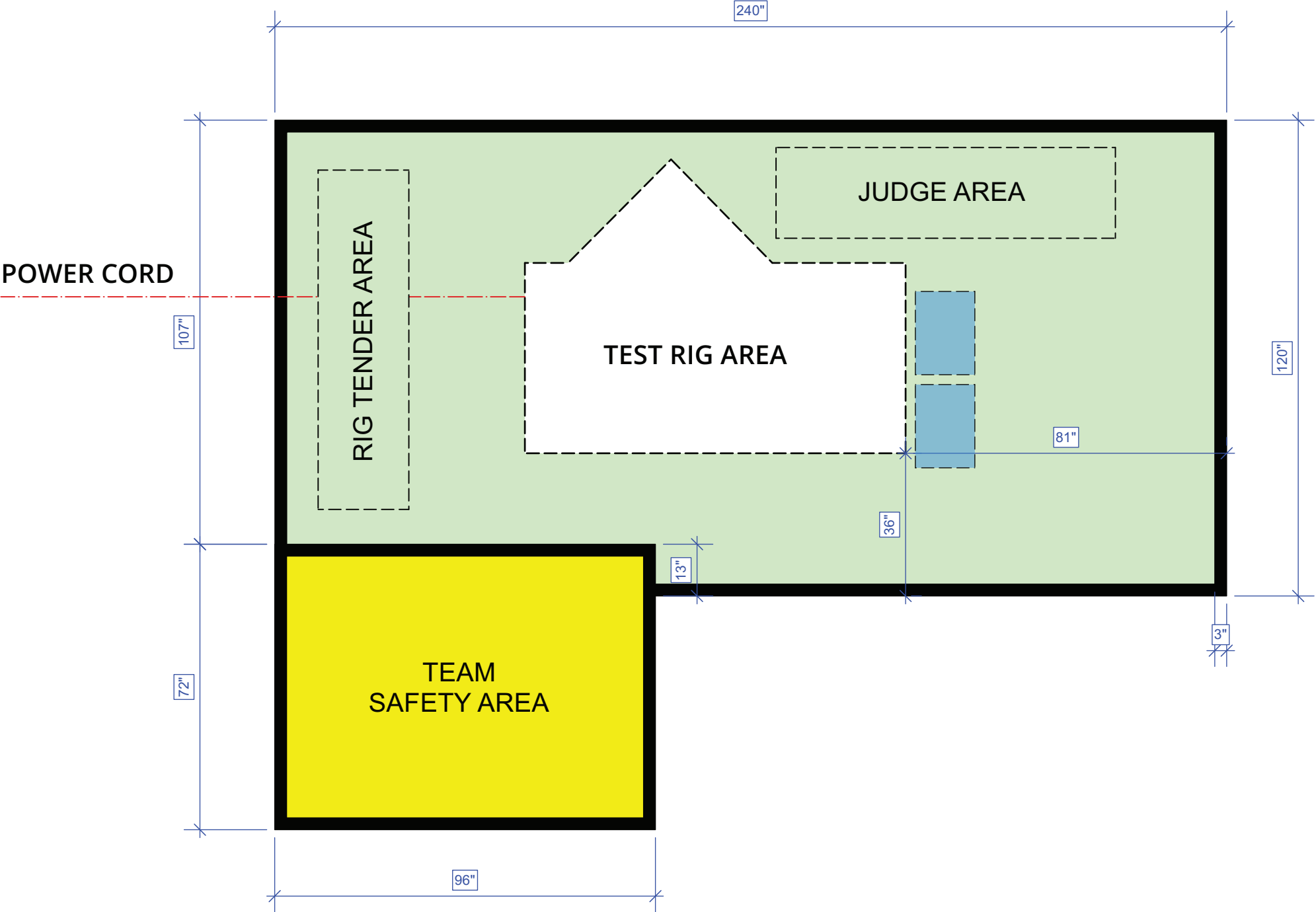


## The Tech Challenge 2023 Raised Build Area Assorted Views

SCALE: 1"=1'-0"

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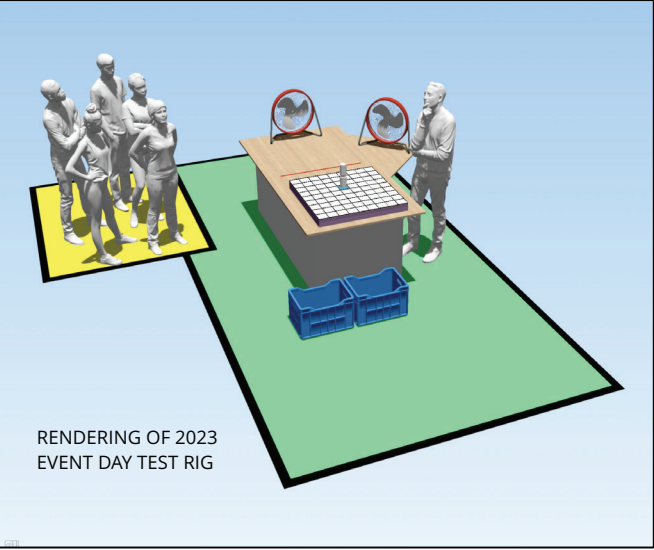
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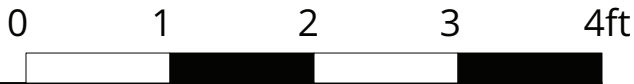
High school build-area position:  
low speed: 650 ft/min  
medium speed: 700 ft/min  
high speed: 788 ft/min



RENDERING OF 2023  
EVENT DAY TEST RIG

The Tech Challenge 2023 Safety Area Plan View

SCALE: 3/4"=1'-0"

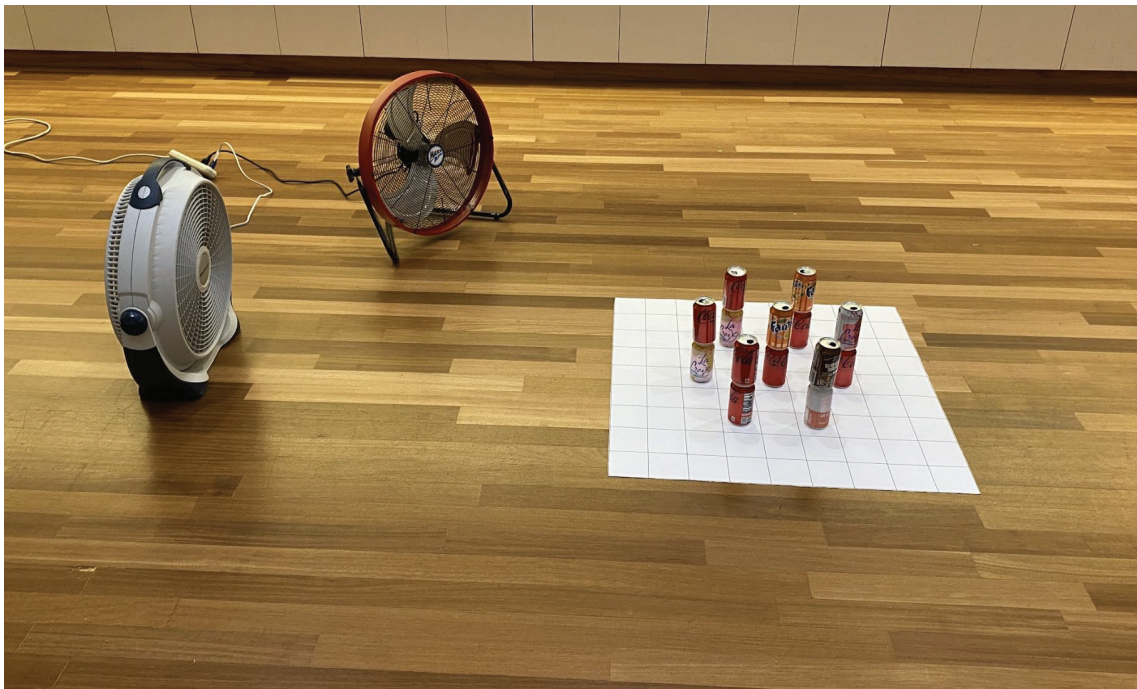
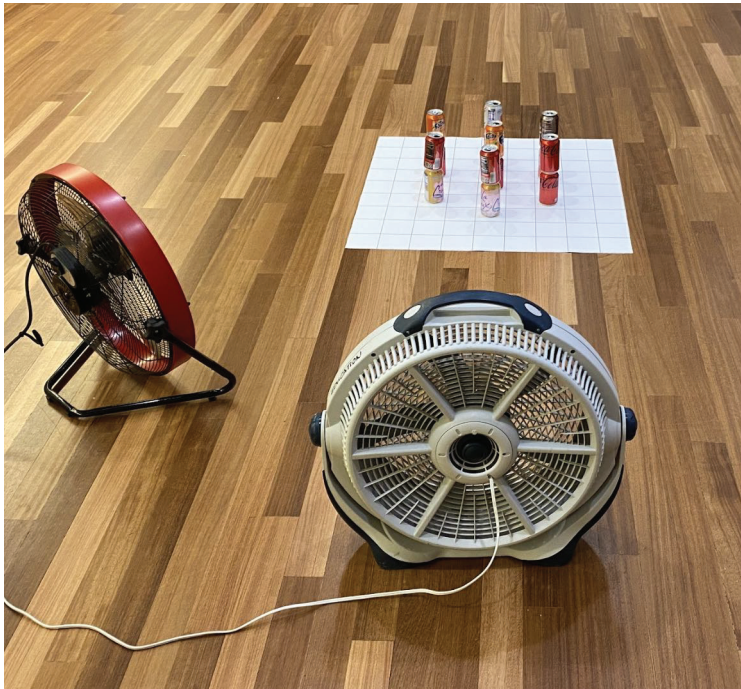


(see Survive the Storm Rule Package  
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Sample of home built test area

(see Survive the Storm Rule Package for additional information)

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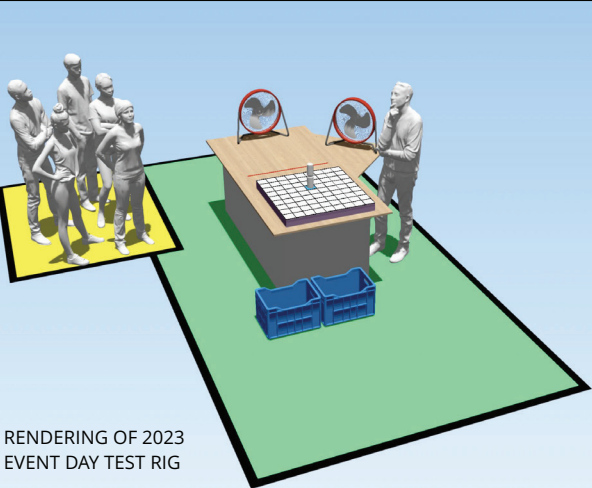
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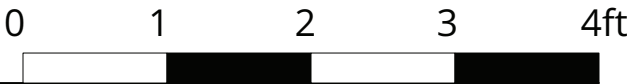
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RENDERING OF 2023  
EVENT DAY TEST RIG



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