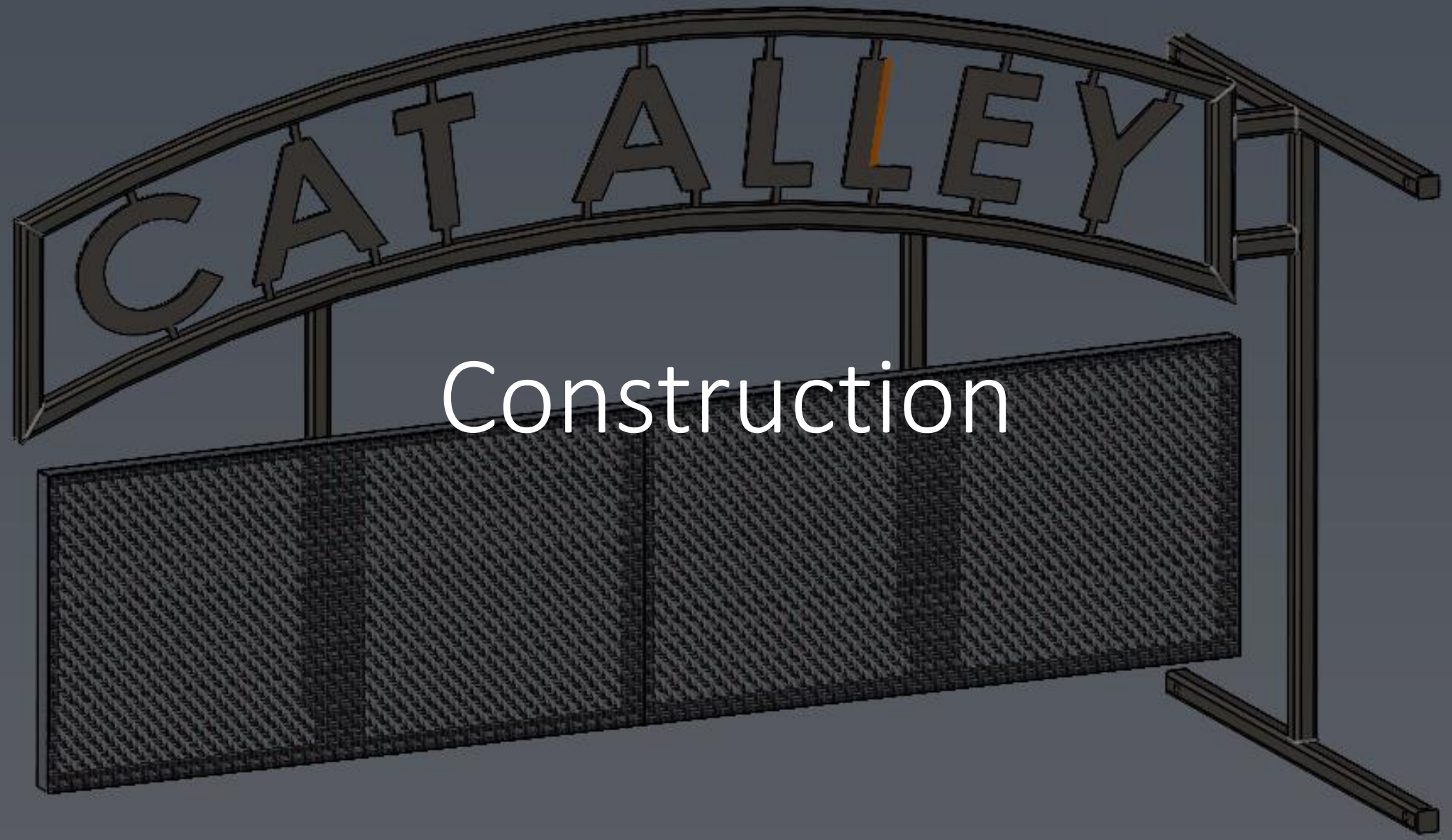
Cat Alley Sign



Construction

Materials

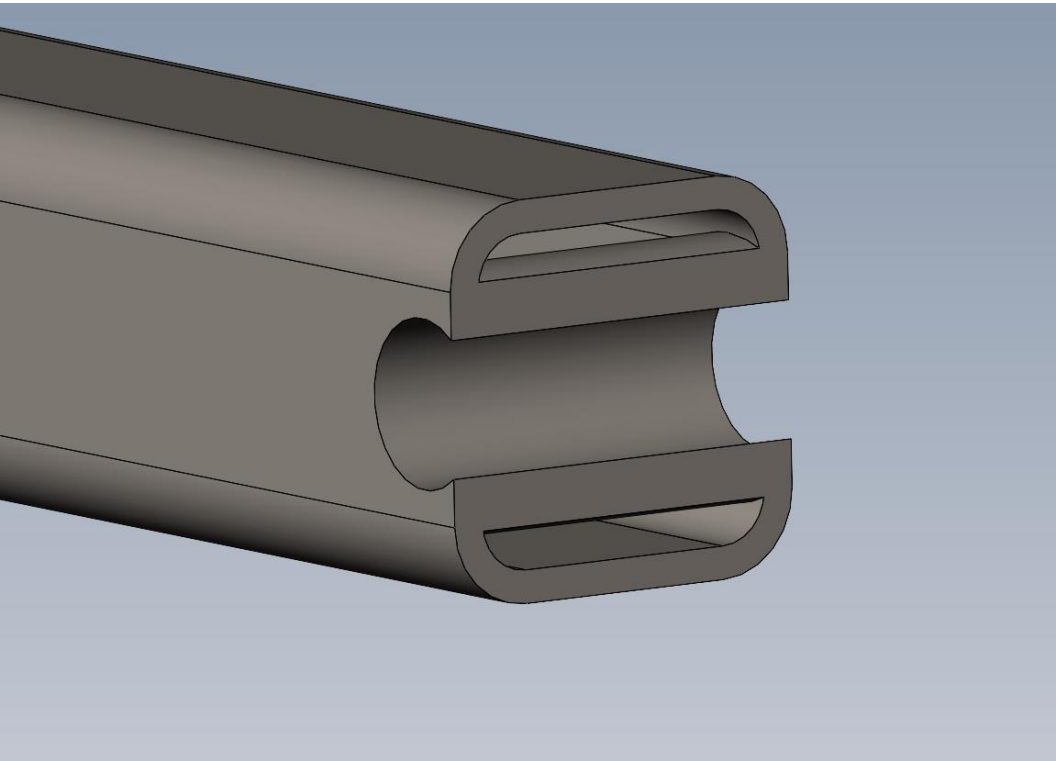
- Tube Steel (Low Carbon)
  - 1.5x1.5x0.125 ~311”
  - 1.5x1x0.125 ~56”
- Tube Bolt Spacers
  - OD 1”, ID 5/8” X 1.25” [4]
- Steel End Caps
  - 1.375”x1.375”x0.125” [4]
  - 1.375”x 0.875”x.125” [4]
- Gussets
  - 5” x 5” [2]
- Panel Bracket [4]
- Sleeve-All Anchors [4]
- M12x30 [4]
- M12 Nut [4]

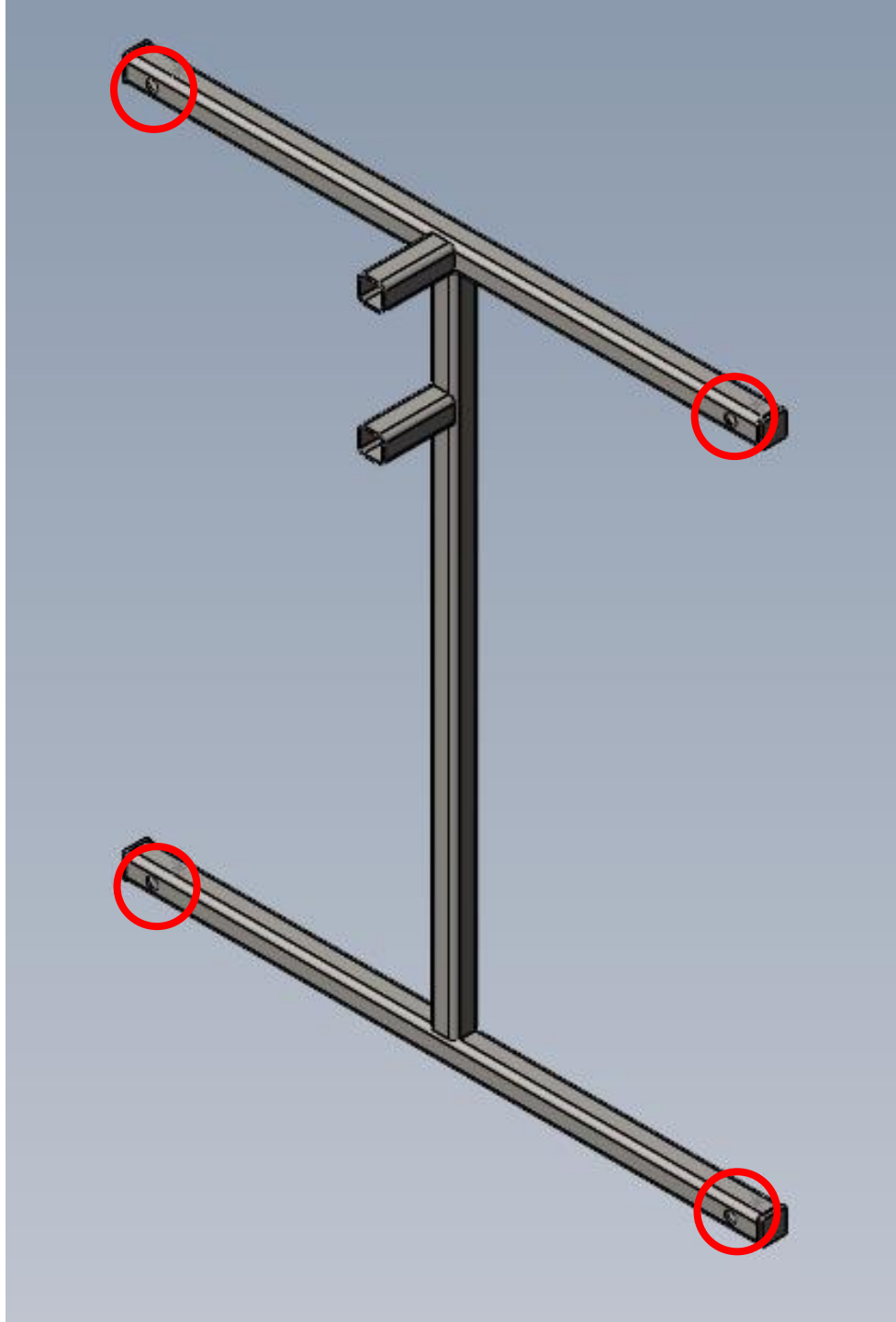
Sign BOM

Description	Quantity
1.5x1.5x0.125 X 4”	2
1.5x1.0x0.125 X 28”	2
1.5x1.5x0.125 X 36”	2
1.5x1.5x0.125 X 37.87”	1
1.5x1.5x0.125 X 82.5” (Bent)	2
1.5x1.5x0.125 X 13.63”	2
5”x5” Gusset	2
Tube Bolt Spacers (OD 1”, ID 5/8” X 1.25”)	4
Simpson Strong-Tie Sleeve-All Anchors	4
M12x1.75mm Thread 30mm long	4
M12x1.75mm Thread Nut	4

Wall Mount

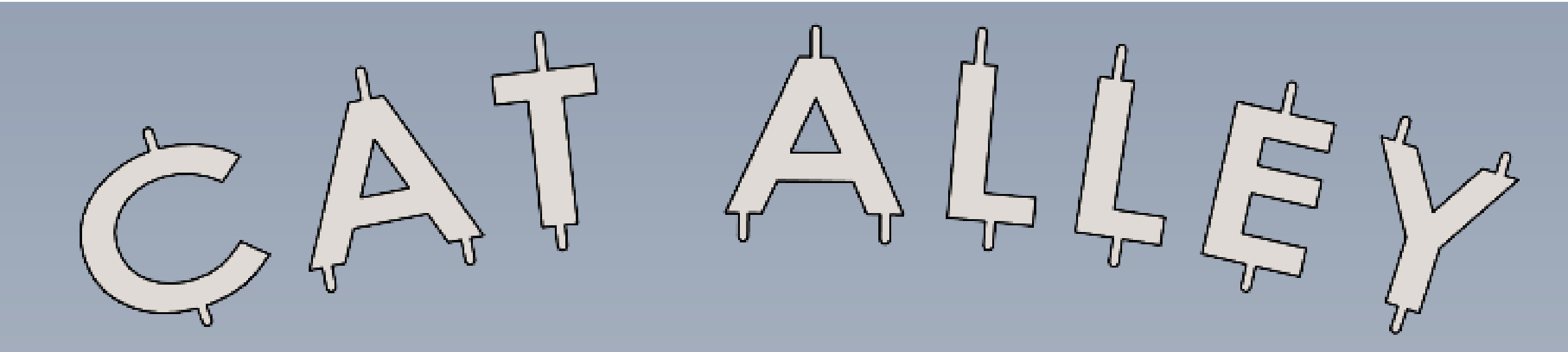
- Fixed to wall using four bolts
- Tube Bolt spacers inserted from ends to prevent crushing when load is applied



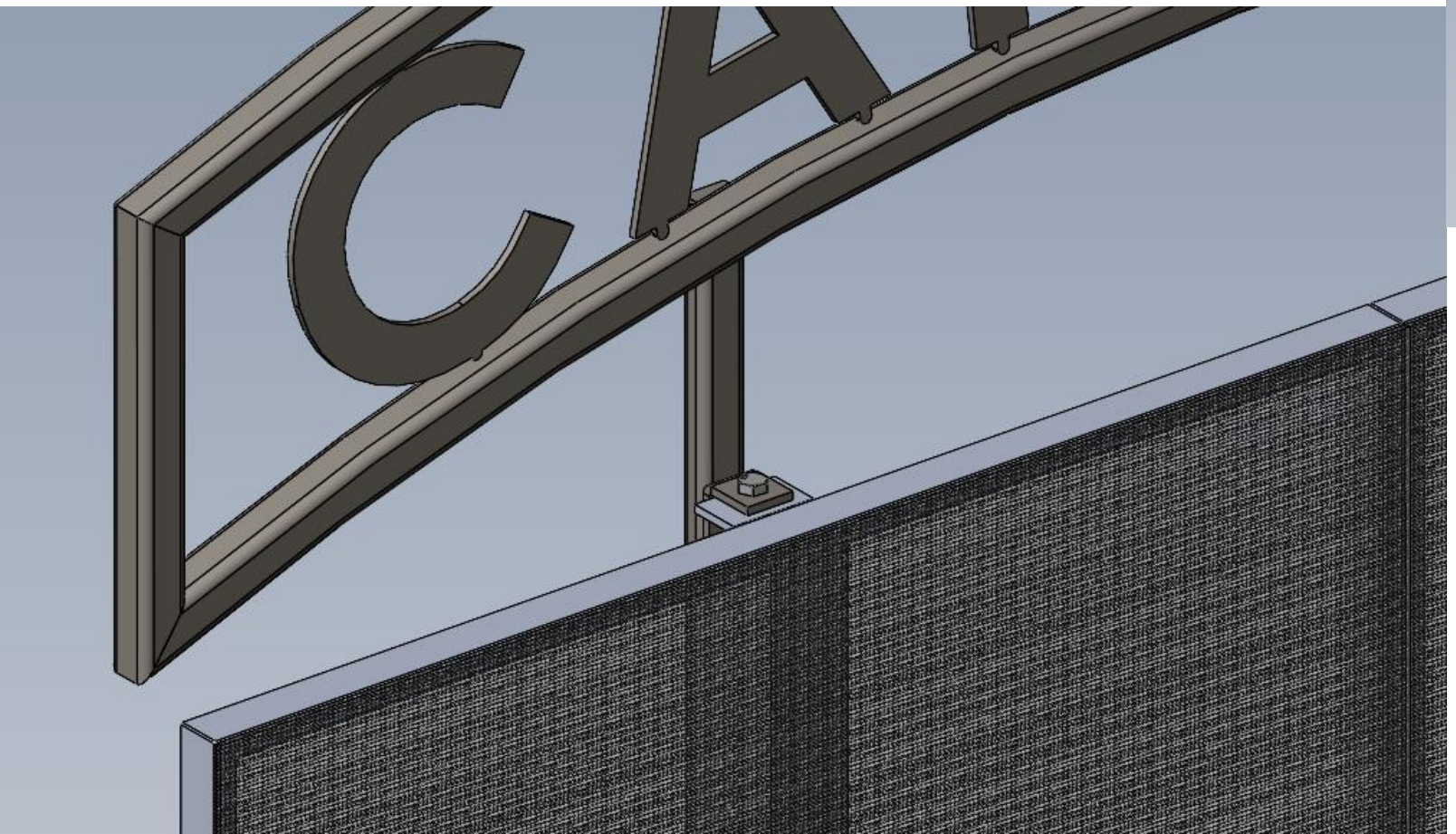


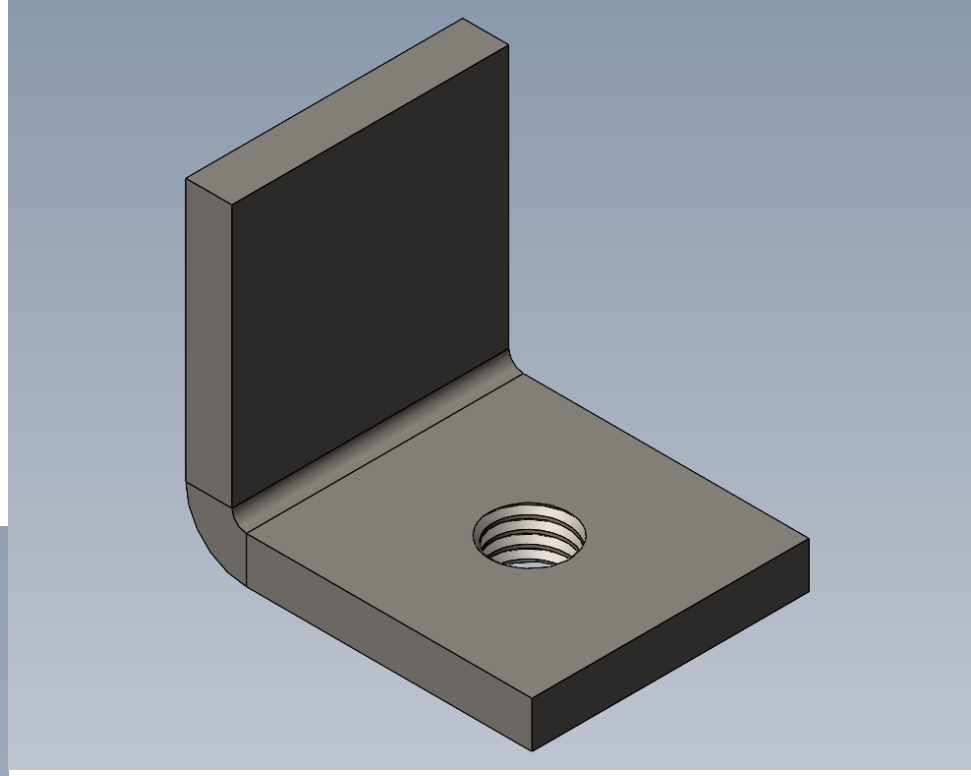
Lettering

- Water jet
- ~0.25” thick
- Font to be determined
- Tabs welded to inside of frame

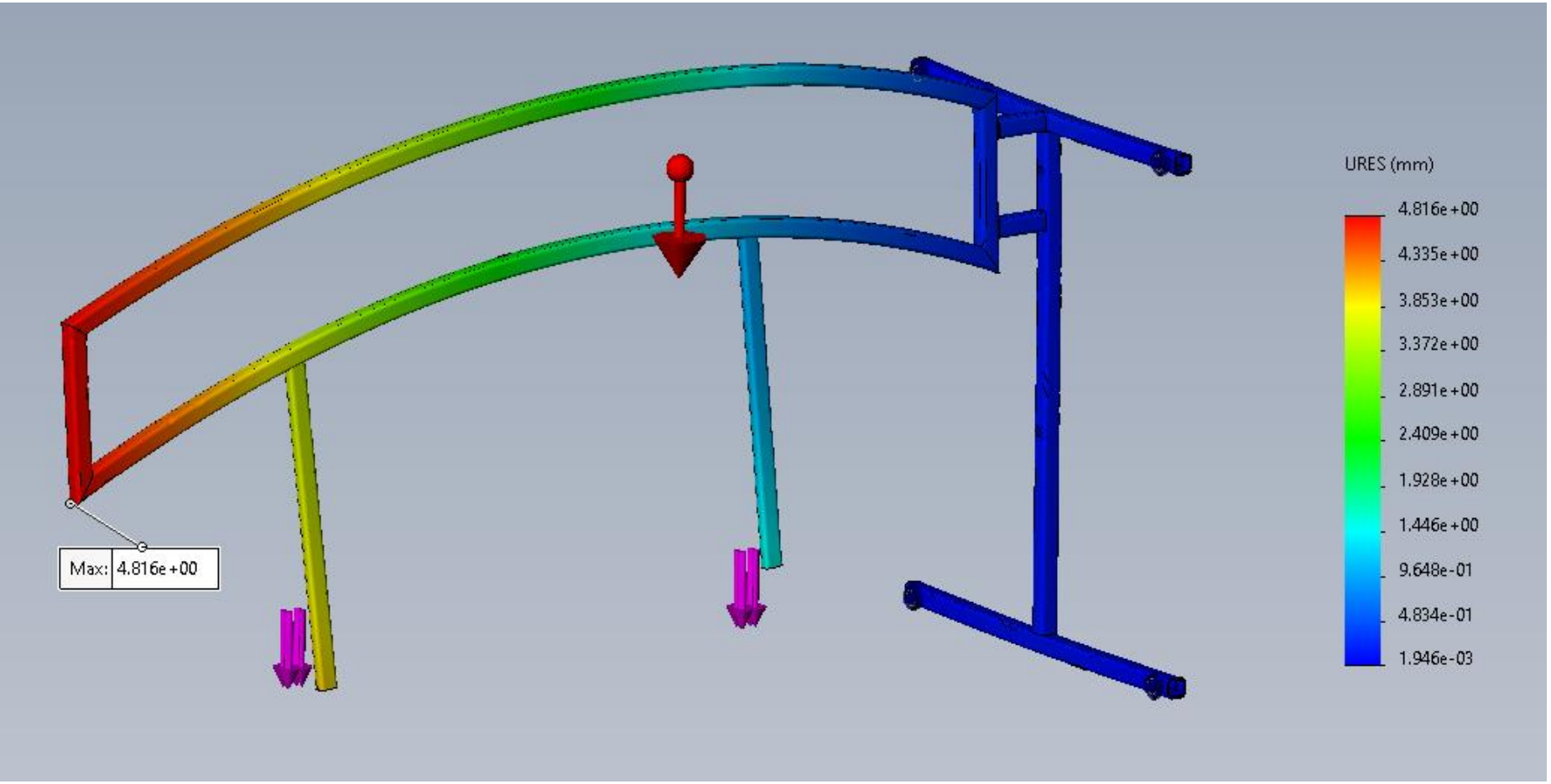


Panel Brackets





Stress Analysis- Basic Deflection



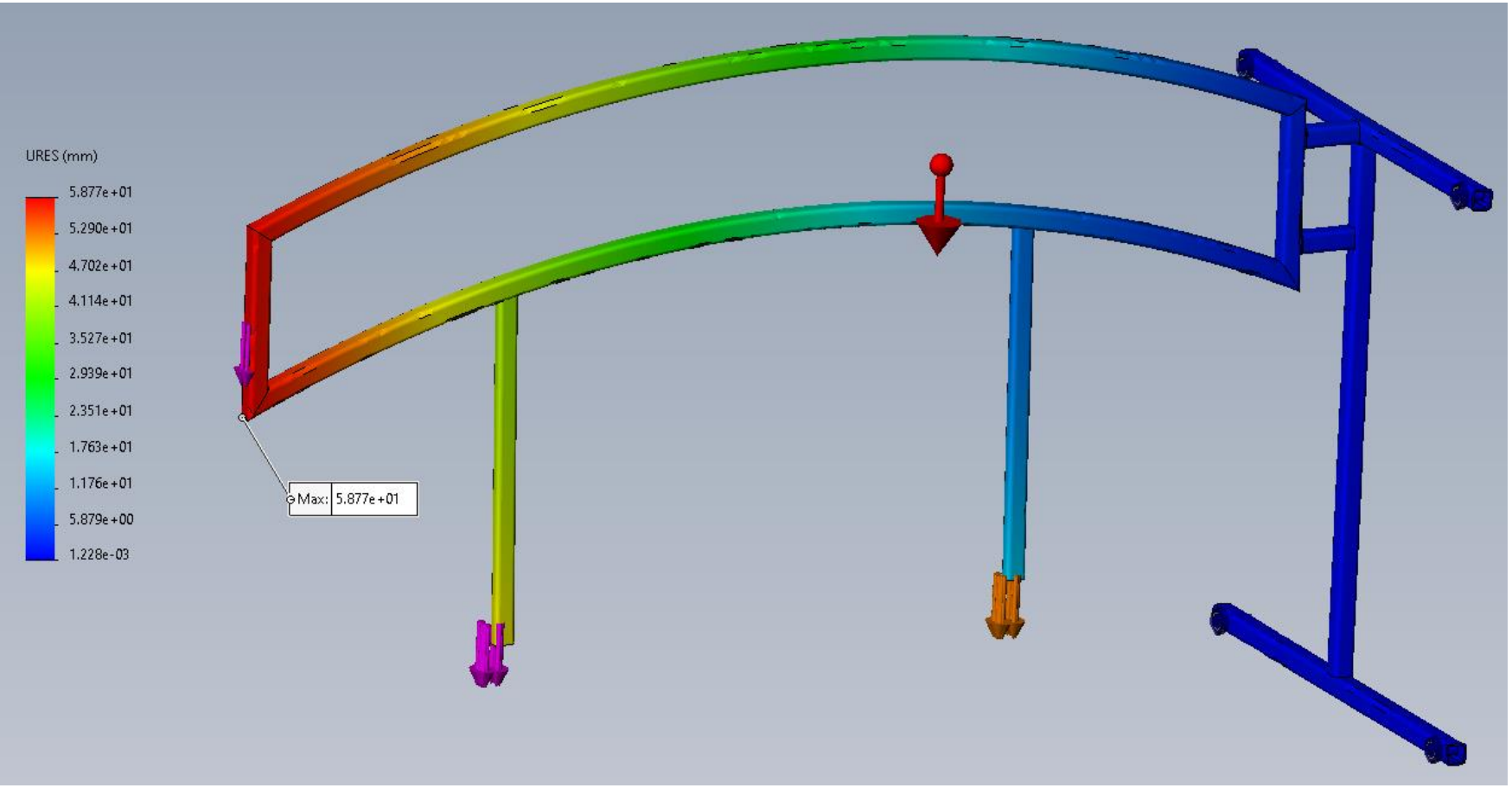
Constraints:
Constrained at bolts locations to simulate being attached to the side of the building, as well as a virtual wall to mimic the wall.

Loads:
Gravity at its center of gravity, and the weight of the LED panels on each extension arm

Max deviation:
4.82mm

Material: AISI 1010

Worst Case-Person Hanging off Sign



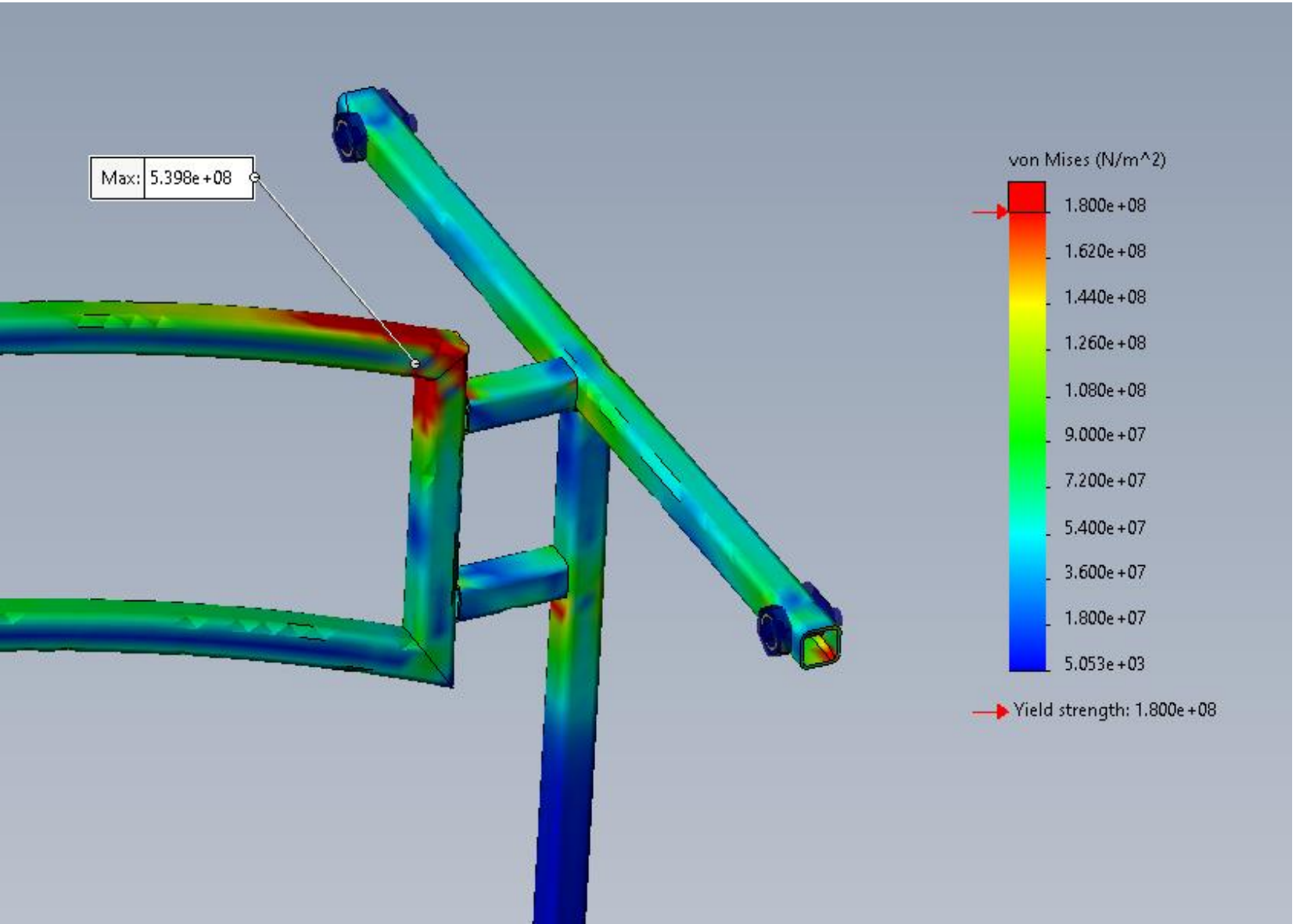
Constraints:
Constrained at bolts locations to simulate being attached to the side of the building, as well as roller support to mimic being against the wall.

Loads:
Gravity at its center of gravity, the weight of the LED panels on each extension arm, as well as the weight of a 200 lb person hanging off the end.

Max deviation:
59mm

Material: AISI 1010
Note: Sign Has a high likelihood of failure

Worst Case-Stress

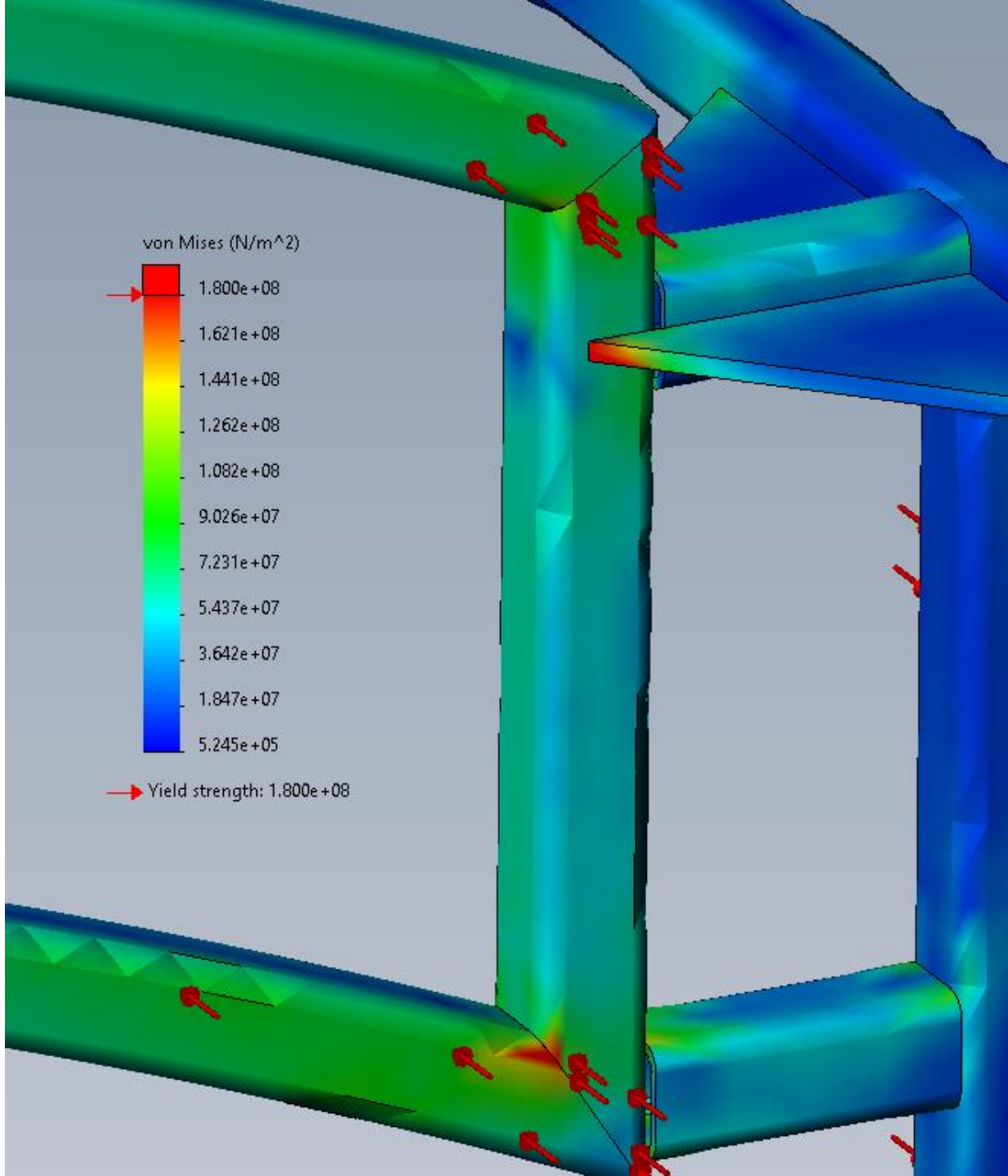


Frame has a high likelihood for failure

Any point which is red is at or above yield stress

Hurricane Stress Cont.

By adding gussets to the frame, we can reduce the stress on the frame.



Bolts

Anchors of choice:

Simpson Strong-Tie Sleeve-All

- 5/8” Diameter
- 6” Long
- Min mounting depth 2-3/4”

- Ultimate Tension Load: 18.7kN
- Ultimate Shear Load: 37.9kN

- Allowable tension load: 4.7kN
- Allowable Shear load: 9.5kN

Allowable Load based on a safety factor of 4.0

Force Calculations for Sign & LED Panels

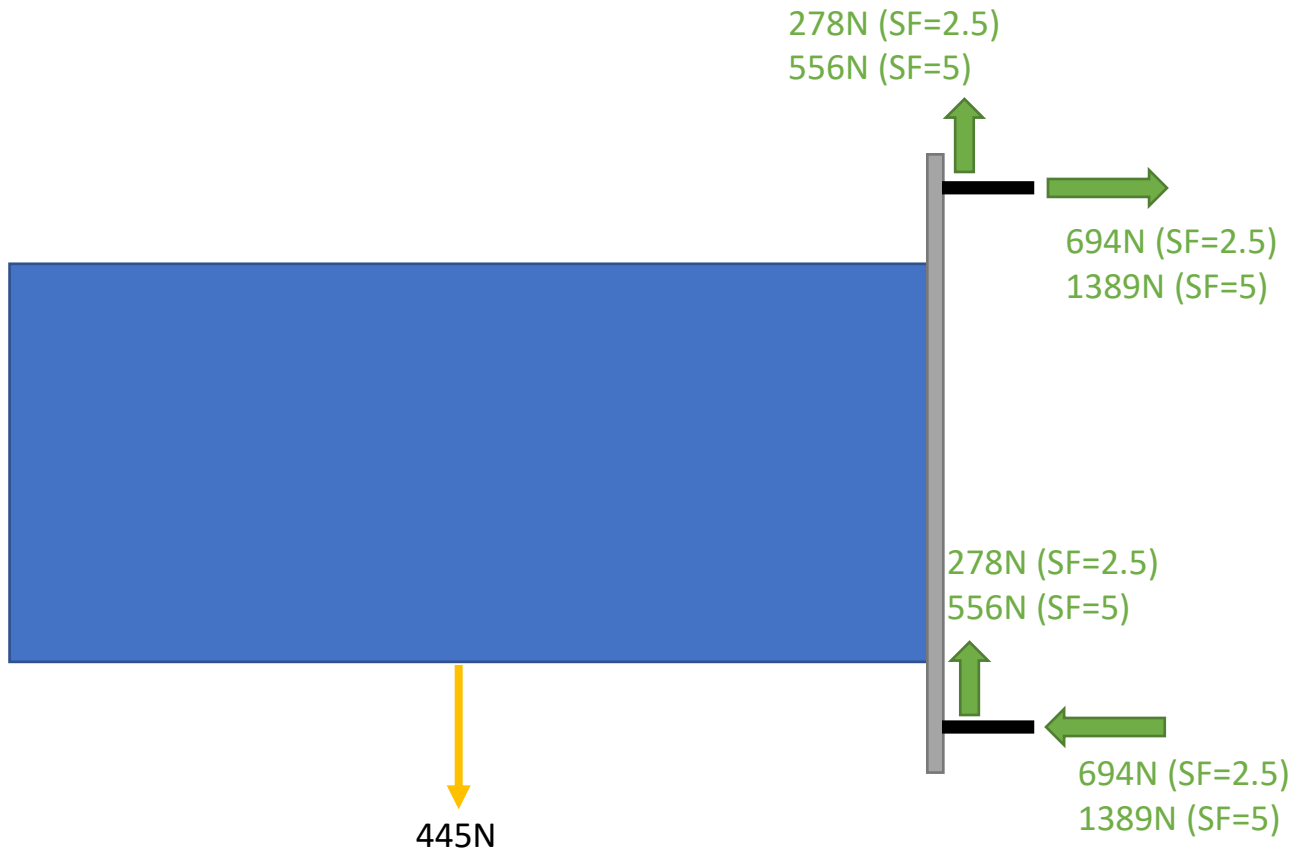
- LED Panels & sign weight = ~445N
- Safety Factor calculated at 2.5 and 5

Calculations:

- Moment calculations about the bottom bolt give tension force
- Reaction calculations give shear force

Results:

- The bolts selected pass for both a safety factor of 2.5 and 5



Force Calculations for Worst Case

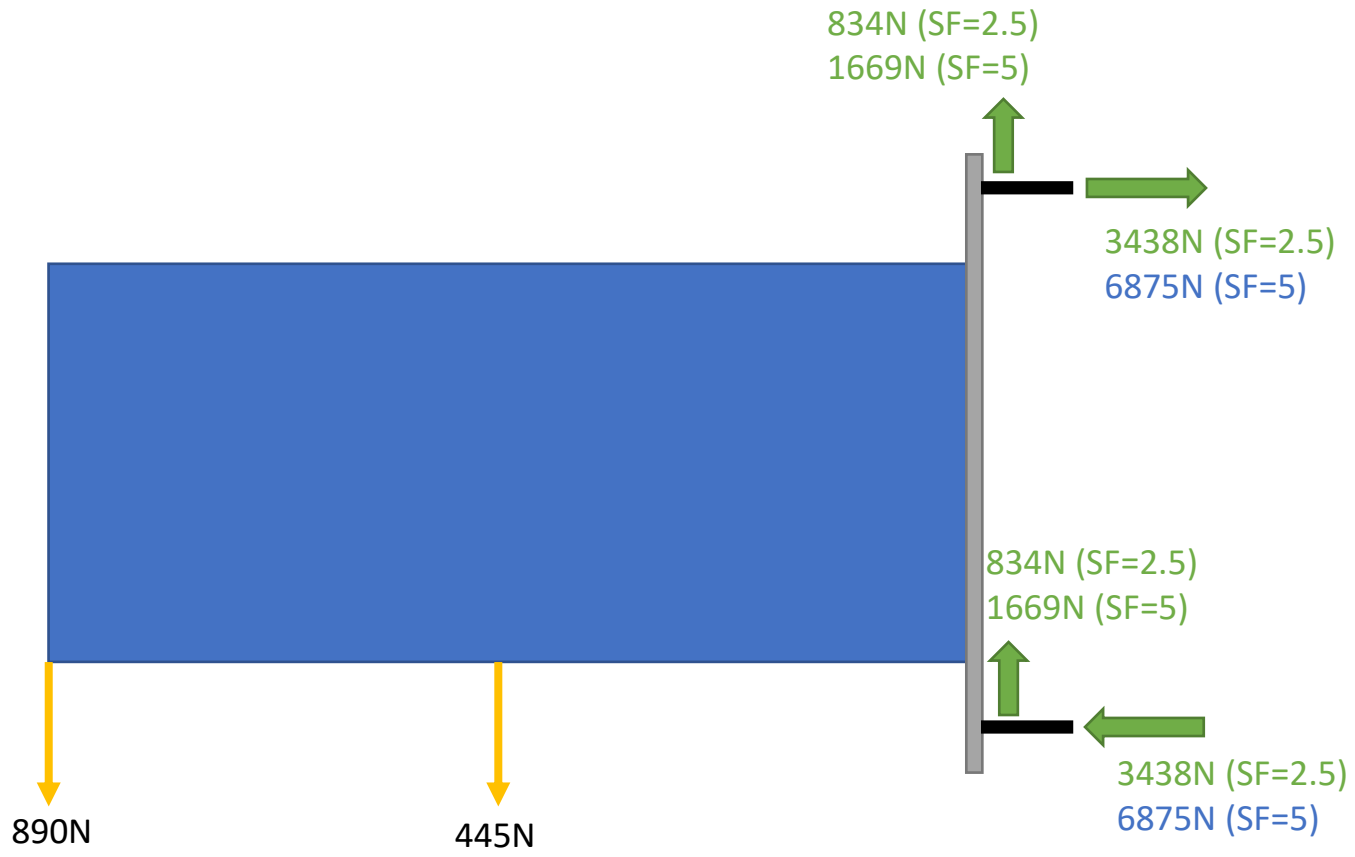
- Person hanging off the end of the sign (~2 meters out)
- Safety Factor calculated at 2.5 and 5
- Person's weight 200 lbs = 890N

Calculations:

- Moment calculations about the bottom bolt give tension force
- Reaction calculations give shear force

Results:

- Bolts can withstand the loads with a safety factor of 2.5
- Force from a safety factor of 5 falls outside the allowable force, but within the ultimate force (blue)



Force Calculations- Hurricane

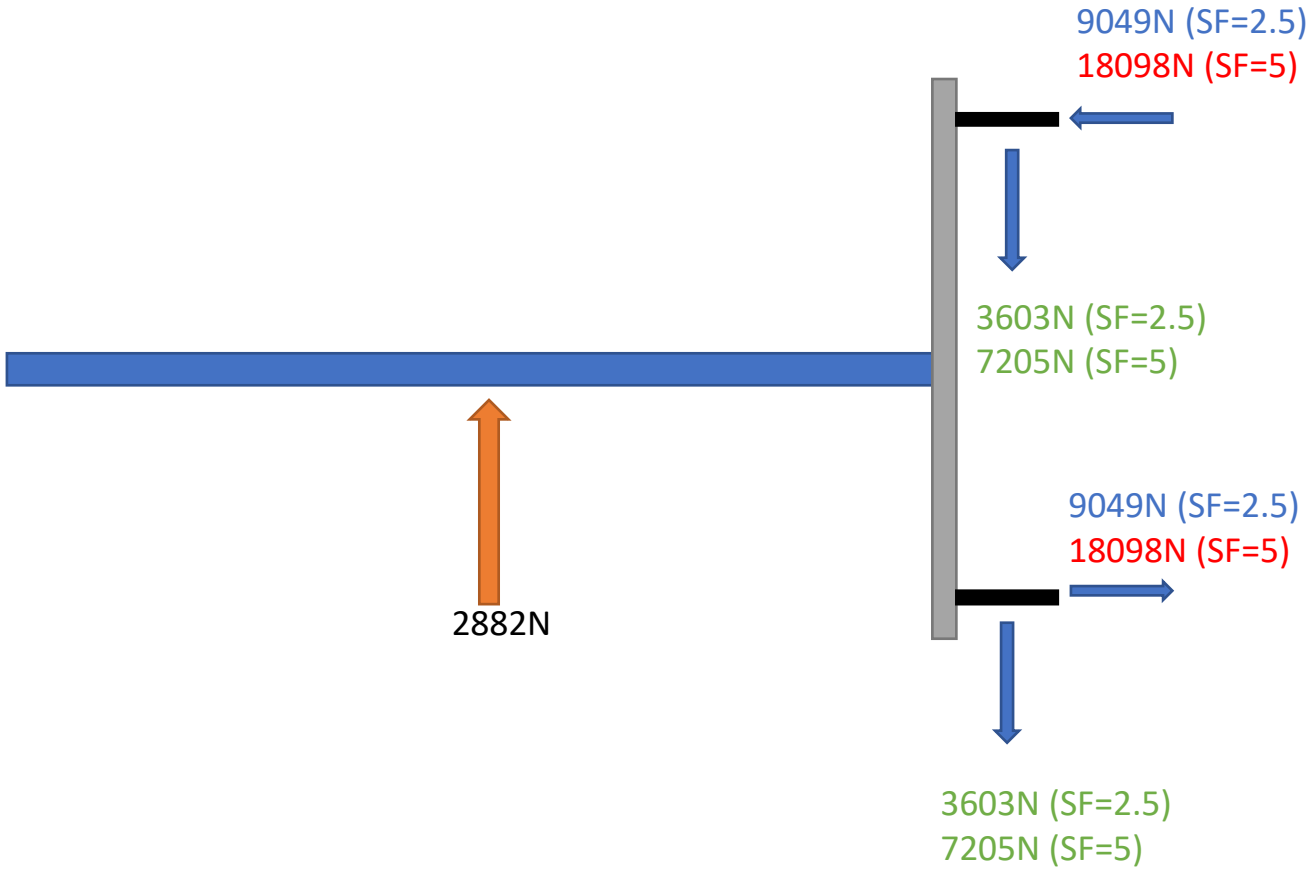
- Safety Factor = 2.5 & 5
- Category 2 Hurricane (Saffir-Simpson Wind Scale)
  - Winds of 177 km/h (49.17 m/s)

Calculations:

- Moment calculations about bottom bolt give tension force
- Reaction calculations give shear force

Results:

- Force from a safety factor of 2.5 falls outside the allowable force, but within the ultimate force (blue)
- Force from a safety factor of 5 falls outside the ultimate tension force (red)



LED Panel Specs

Transparent LED Screen P3.9-7.8 | Clear ICE LED Screen

Product Code: 50
Availability: In Stock

$739.00

10 or more $679.00
50 or more $649.00
100 or more $599.00

Available Options

* Controll System

Assembled/LAN/BUILT IN

* Assembly Parts

High Quality assembly (Meanwell) (+$135.00)

Pixel Pitch	3.96mm
Module Size	500*125mm
Physical Density	32256dos/m²
LED Chip	SMD1820
Module Resolution	126*64
Module Power	300v
Cadinet Size	1000*500mm
Scan Type	1/7
Average Power	120W/Cabinet
Refresh Rate	3840Hz ≤ refresh rate ≤1920Hz
Grey Level	65536dos/m²
Max Power	295W/Cabinet
Cabinet Weight	7Kg
Brightness	>=3000cd/m²
Drive IC	MY9866
Viewing Angle	140-160 degrees
Light Transmittance	62.17%

FEATURES

★ Aluminum cabinet, excellent heat dissipation, stable performance
★ Thin design of small pixel pitch cabinet , cabinet weight 8KG, >70% see-through
★ IP ration IP65, it used for both outdoor /indoor
★ High permeability, using double-sided hardened PC, permeability≥48%
★ For fixed installation and rental ,support for the front maintenance
★ Cabinet with the special lock system, fast installation

Package Content.:
1PCS 500mm X 1000mm Transparent Ice Screen
Controll Card & Power Integrated for Upgrade please choose in option
Rolling/Flightcase or Special Request send us an email