



U.S. Forest Service

M/V Chugach and the Forest Service Ranger Boats

Book 1: Conceptual Design Plan—Design

5/23/2022

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Notes

Conceptual design is a framework for establishing the underlying idea behind a design and a plan for how it will be expressed functionally and visually.

DESIGN CHALLENGES

- Relationships and Materials
 - Where the boat is placed in relationship to the existing boat display, the Nolan Center shed, and the needs of the ramp defined by the physical parameters
 - Materials to use for the enclosure of the Pavilion

DESIGN

- Meet or harken to existing details of the area
- Longevity
- Ramp layout exceeds ADA guidelines

INTENT

- To provide a fundable structure to protect and honor the history and interpretation of the M/V Chugach.

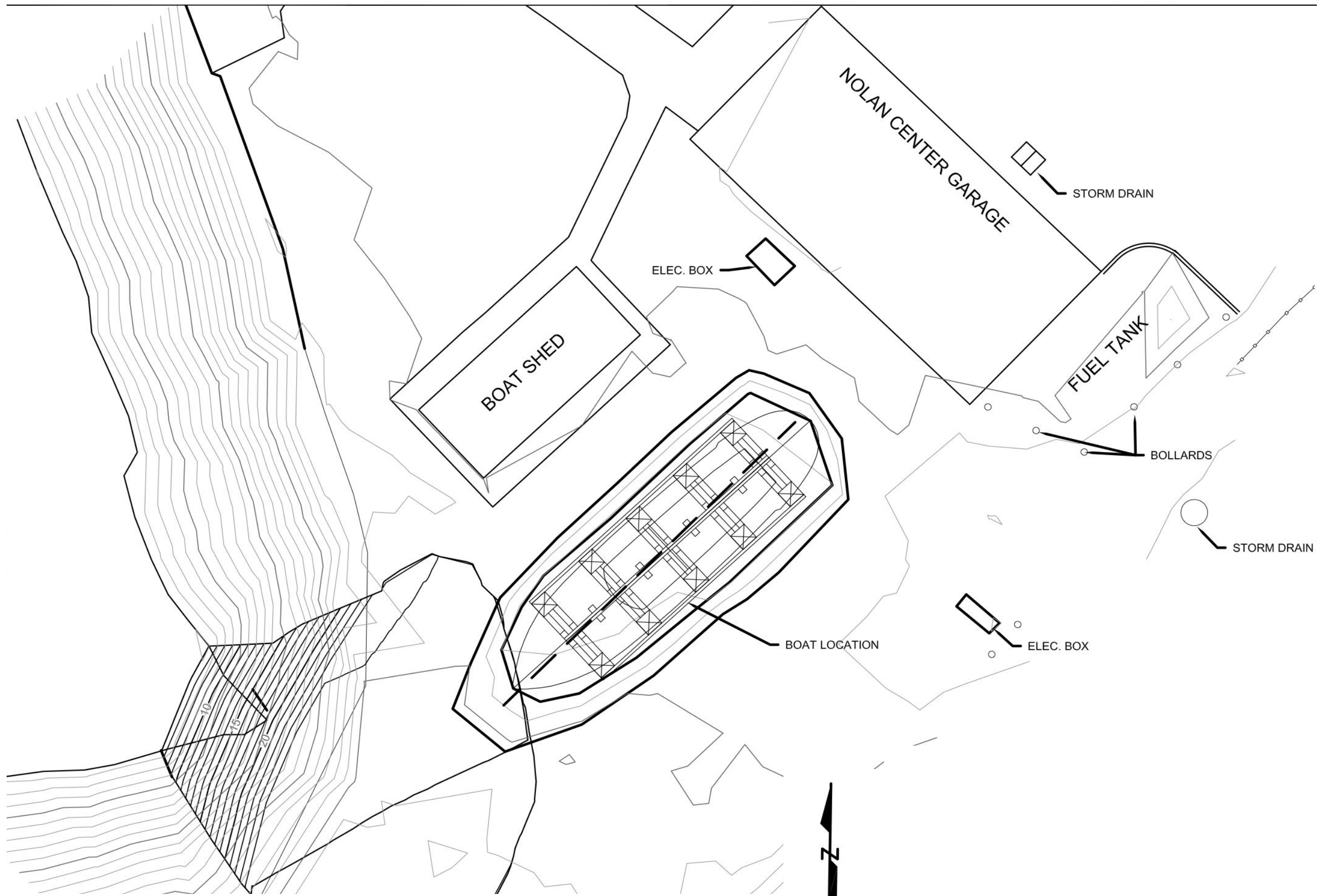
FUNCTION

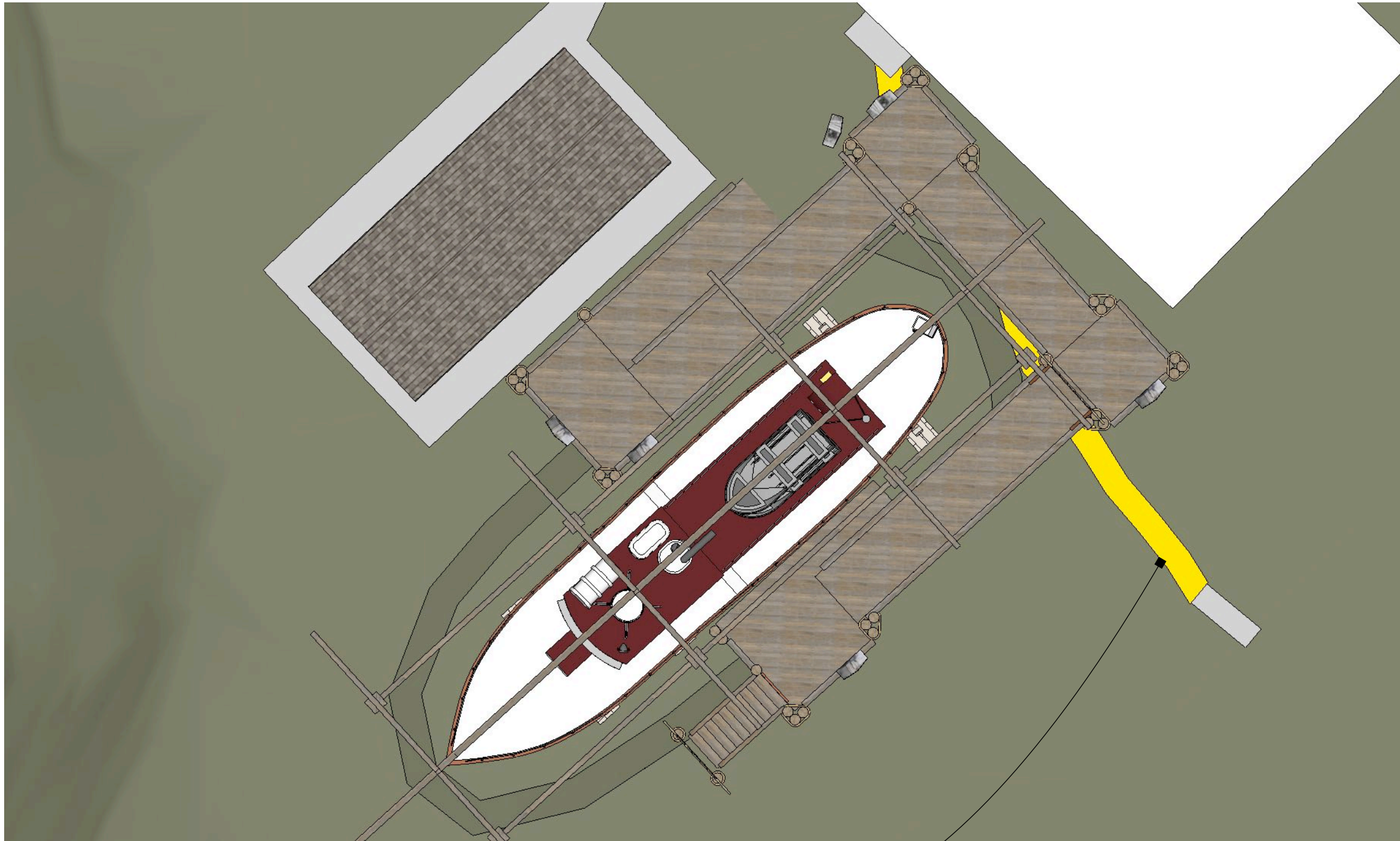
- To protect the boat during the summer months.
- To protect the boat from the elements in the winter.
- Provide some measure of security

MATERIALS

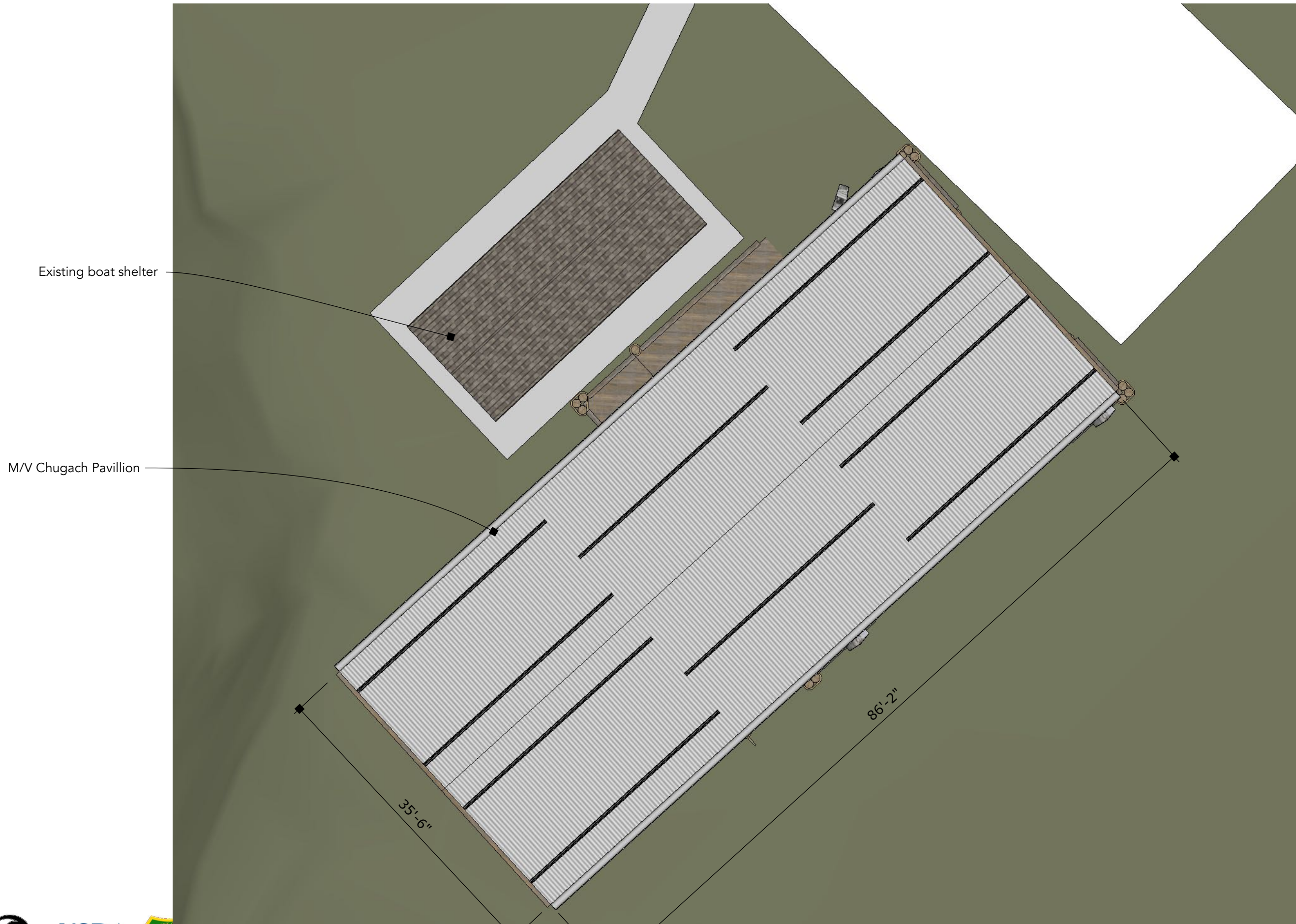
- Exterior grade lumber
- Skid resistant application to ramps and stairs
- Windows on roof will be Velux Brand or better (not shown)
- Roof material can be typical roofing tiles, standing seam or corrugated

This document is a conceptual design of the form and function of the pavilion for the M/V Chugach and its visitors. From this point, development and construction documents can be completed to bring the honoring of the M/V Chugach to fruition.





Denotes underground electrical conduit



Existing boat shelter

M/V Chugach Pavillion

35'-6"

86'-2"

M/V Chugach Pavilion/ **Conceptual Design Plan / Design**

NOTE:
All dimensions are for concept purposes only.

Site Plan
1/16"=1'0"



Roof to have snow guards to slow snow from falling off the slope of the roof

Corrugated roofing shown
Options:
Asphalt shingles
Standing seam roof

Snow strips

Option: Glass panel system by Velux for natural light

Exterior grade lumber construction

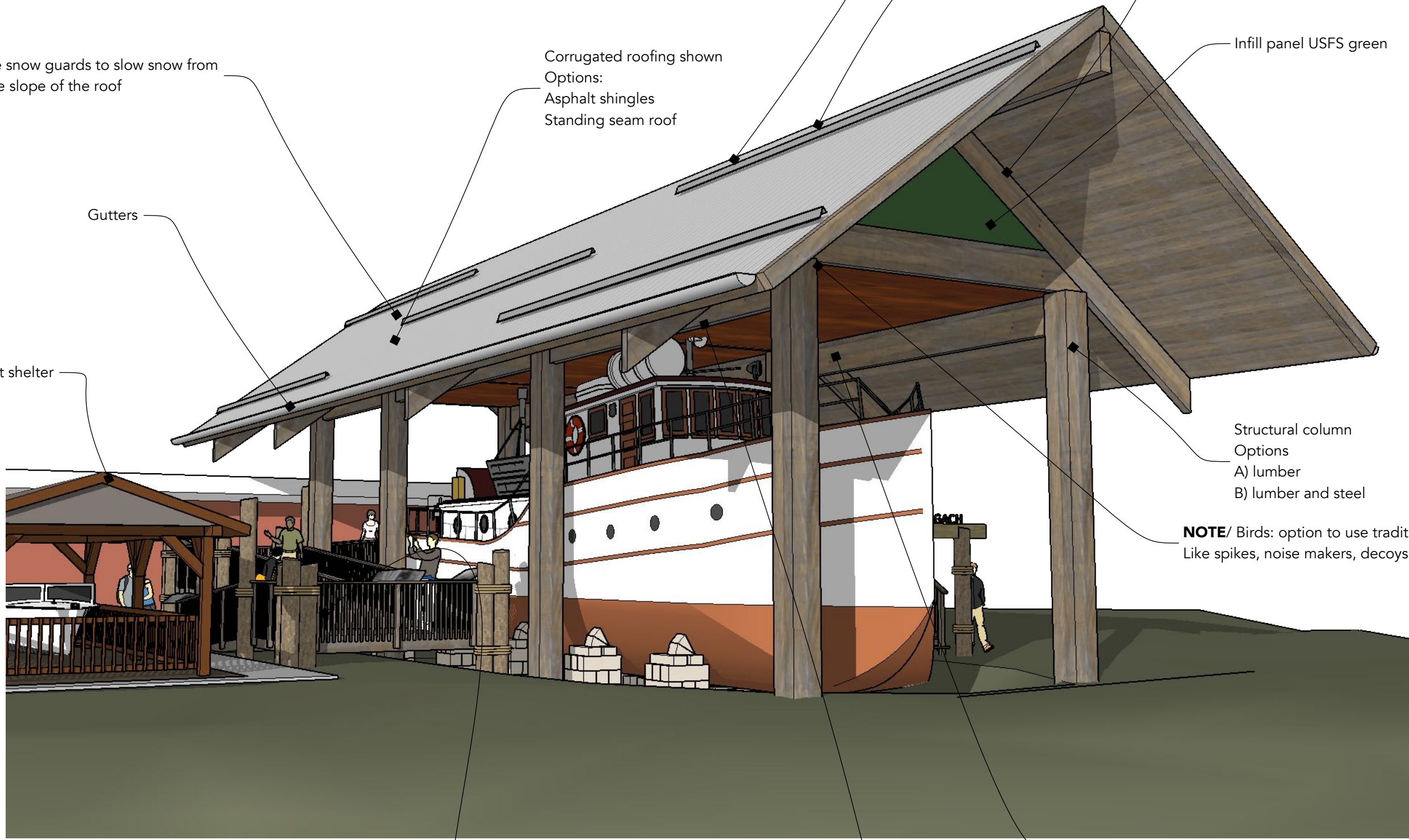
Infill panel USFS green

Gutters

Existing boat shelter

Structural column
Options
A) lumber
B) lumber and steel

NOTE/ Birds: option to use tradition methods
Like spikes, noise makers, decoys



Ramp system from ground to the deck of the boat

Understructure to avoid the M/V Chugach.
Actual to be determined in design development

Under roof spot lighting for the M/V Chugach



Roof to have snow guards to slow snow from falling off the slope of the roof

Corrugated roofing shown
Options:
Asphalt shingles
Standing seam roof

Option: Glass panel system by Velux for natural light

Exterior grade lumber construction

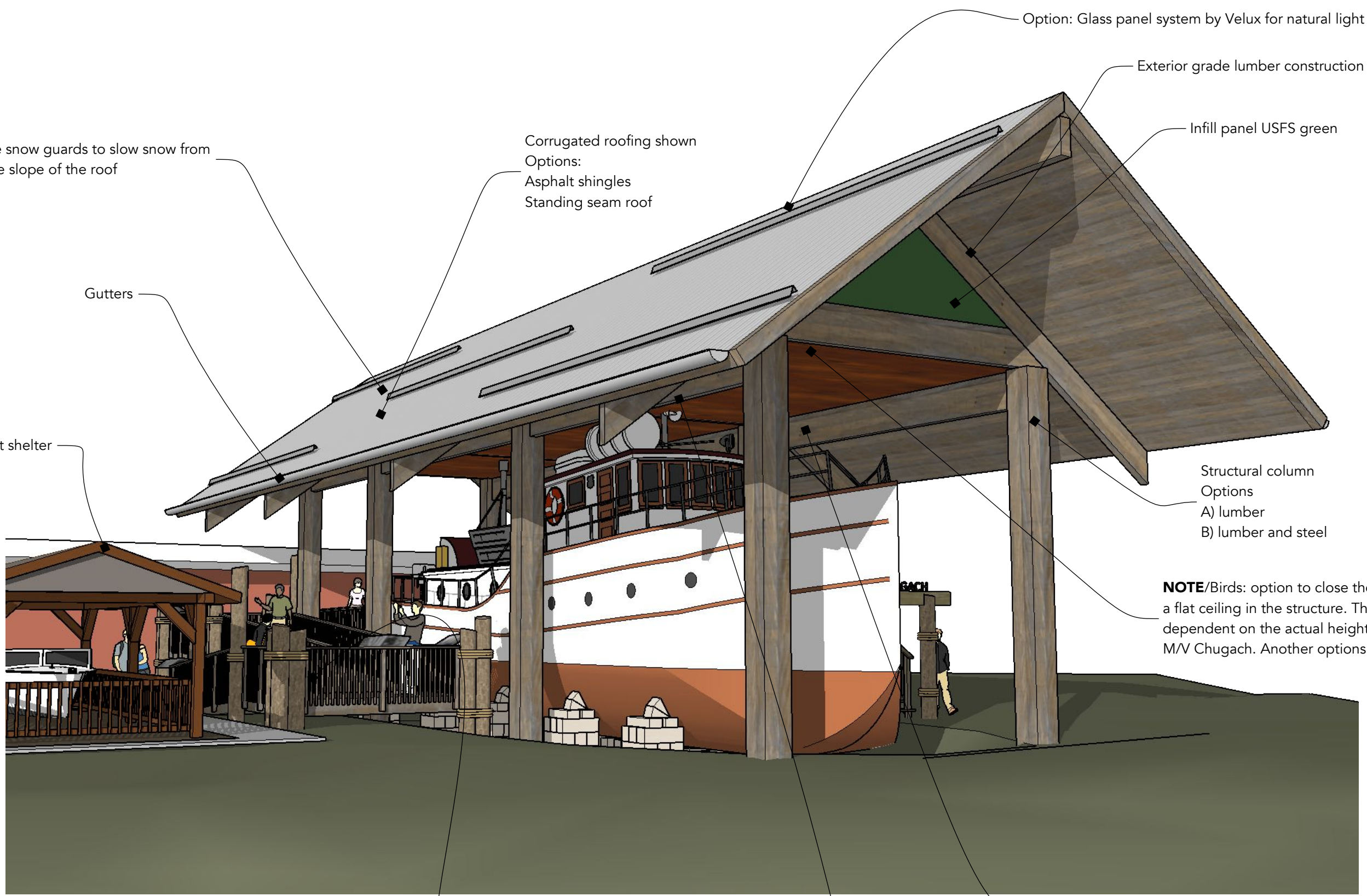
Infill panel USFS green

Gutters

Existing boat shelter

Structural column
Options
A) lumber
B) lumber and steel

NOTE/Birds: option to close the roof to have a flat ceiling in the structure. This is dependent on the actual height of the M/V Chugach. Another options is bird netting.

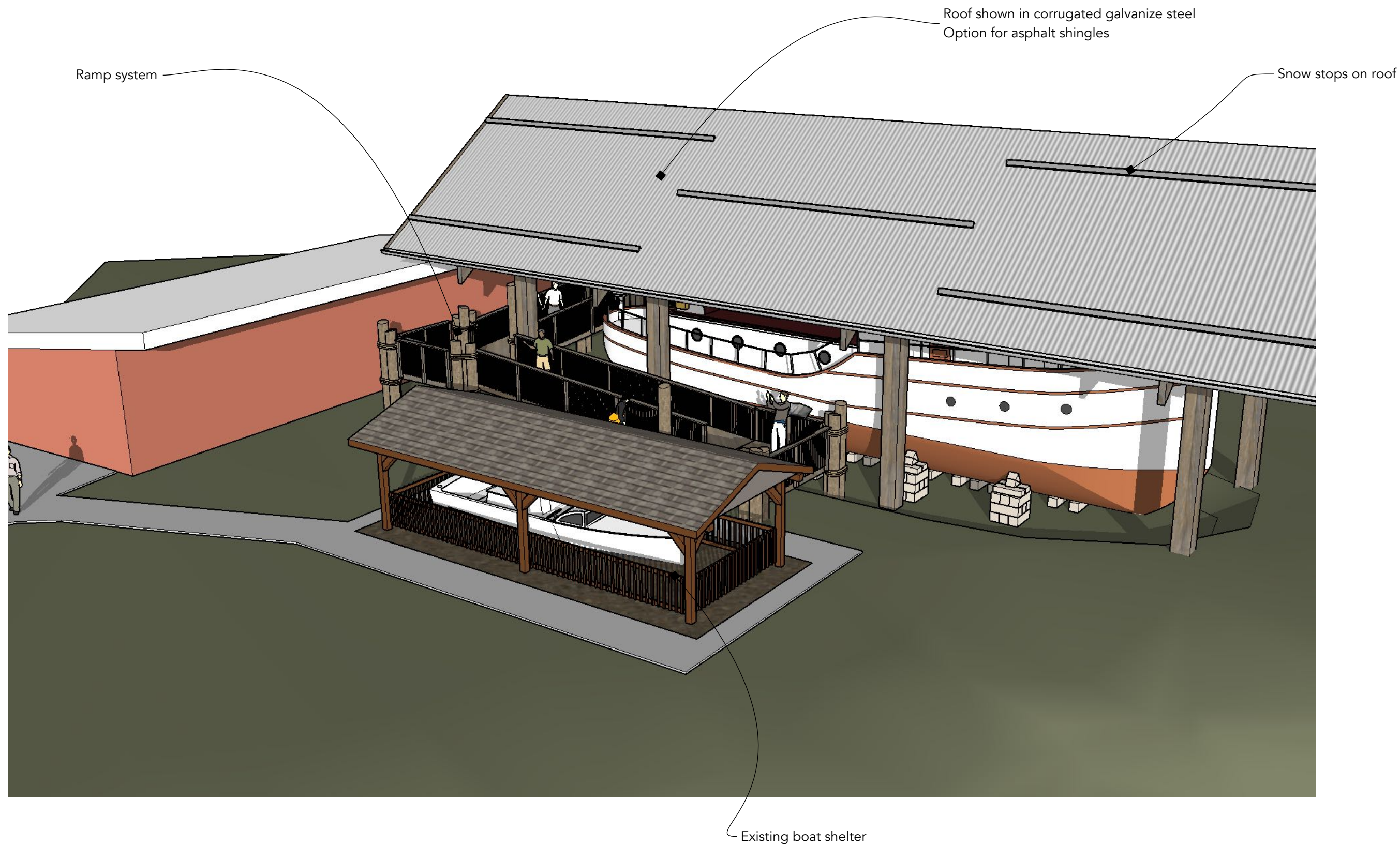


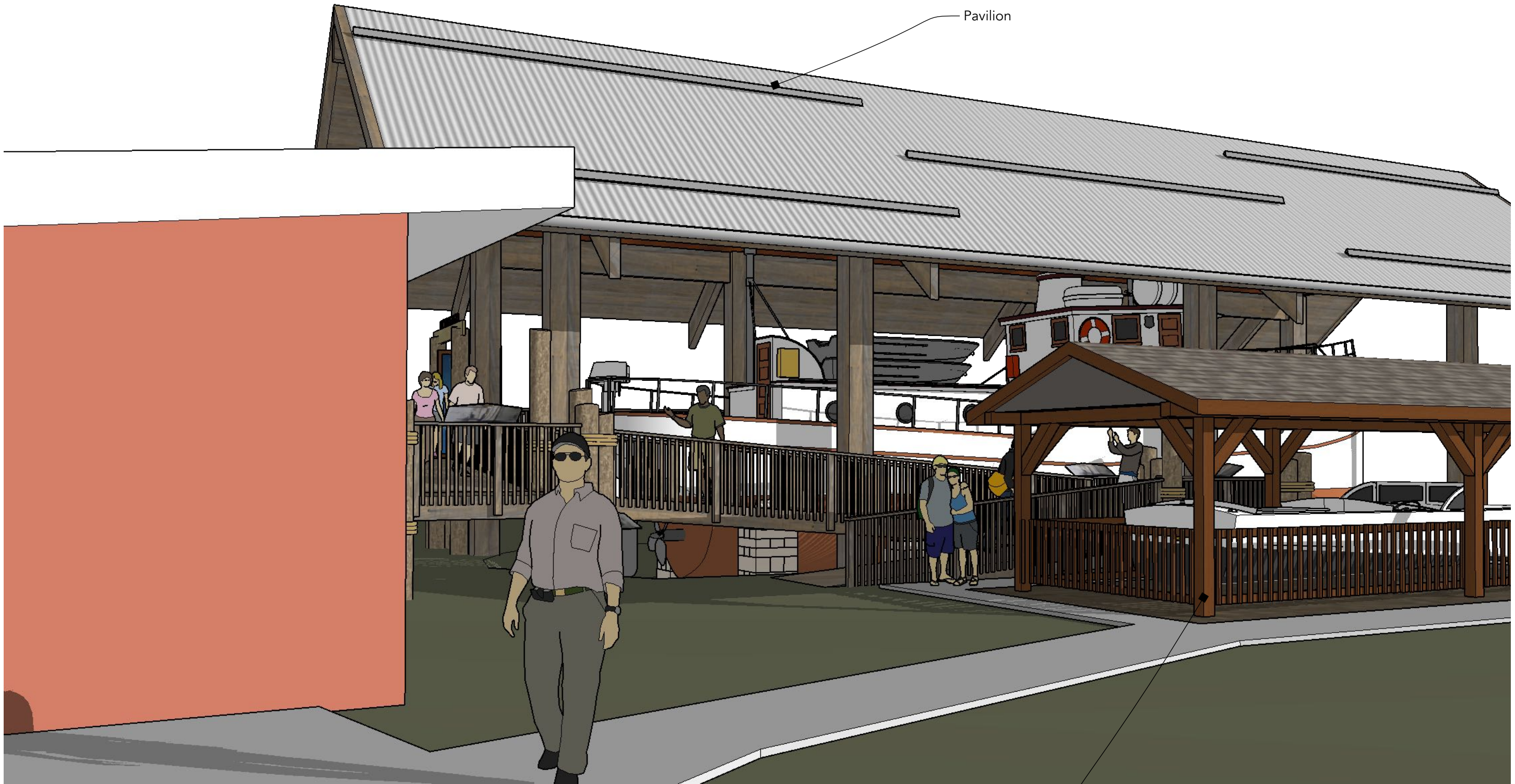
Ramp system from ground to the deck of the boat

Under roof spot lighting for the M/V Chugach

Understructure to avoid the M/V Chugach.
Actual to be determined in design development







Pavilion

Existing boat shelter

Spot lights to highlight the M/V Chugach under the roof



Graphic/ 3.4

Graphic/ 3.1

Ramp

Pier pilings with rope or stranded cable accents



M/V Chugach Pavilion/ **Conceptual Design Plan / Design**

Sketch D
NTS







Security door with graphic infill panels

Ramp system

Graphics/ 3.5



Security gate

Graphic/ 3.6





Security gate with graphic infill

Platform to access the boat

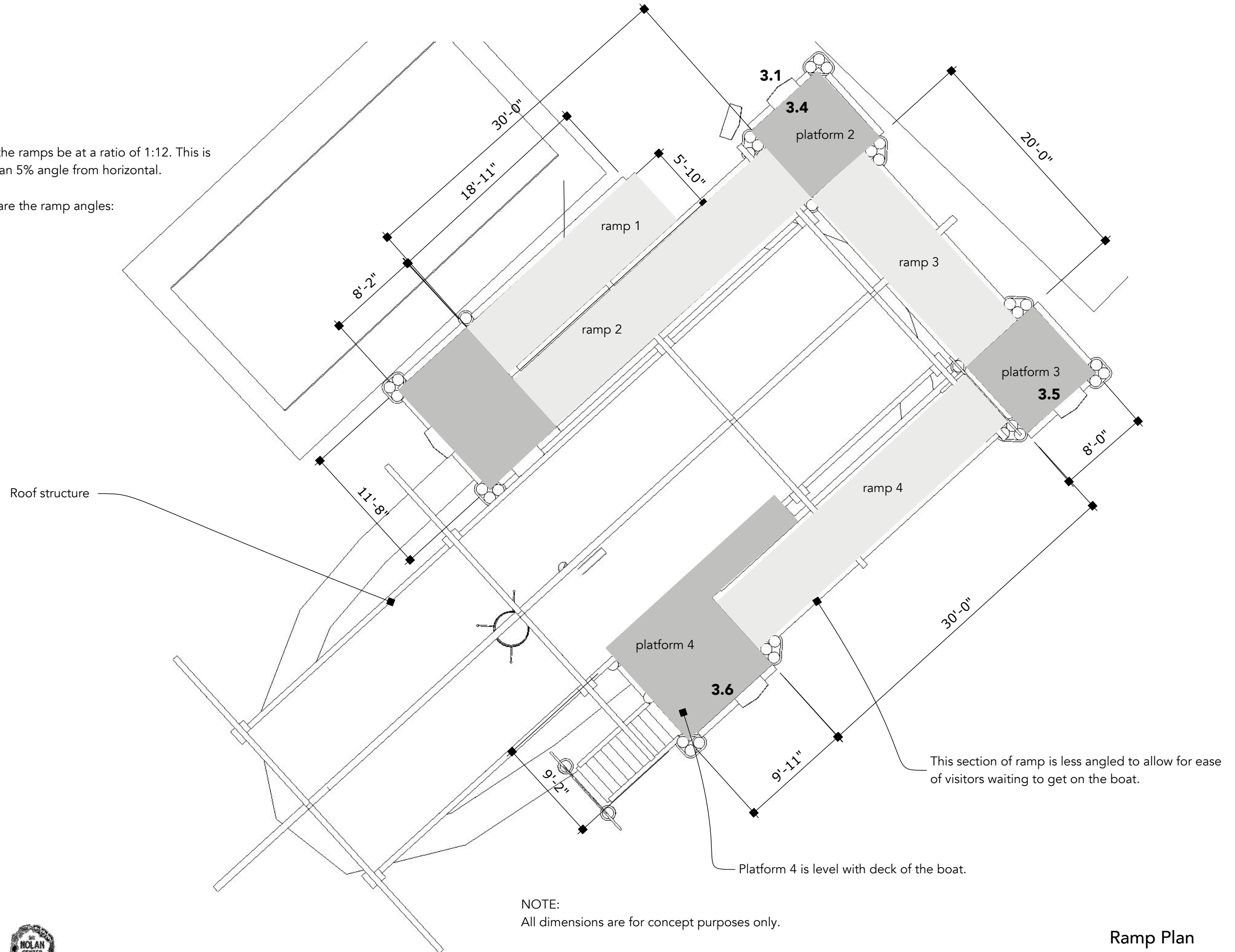


Security door

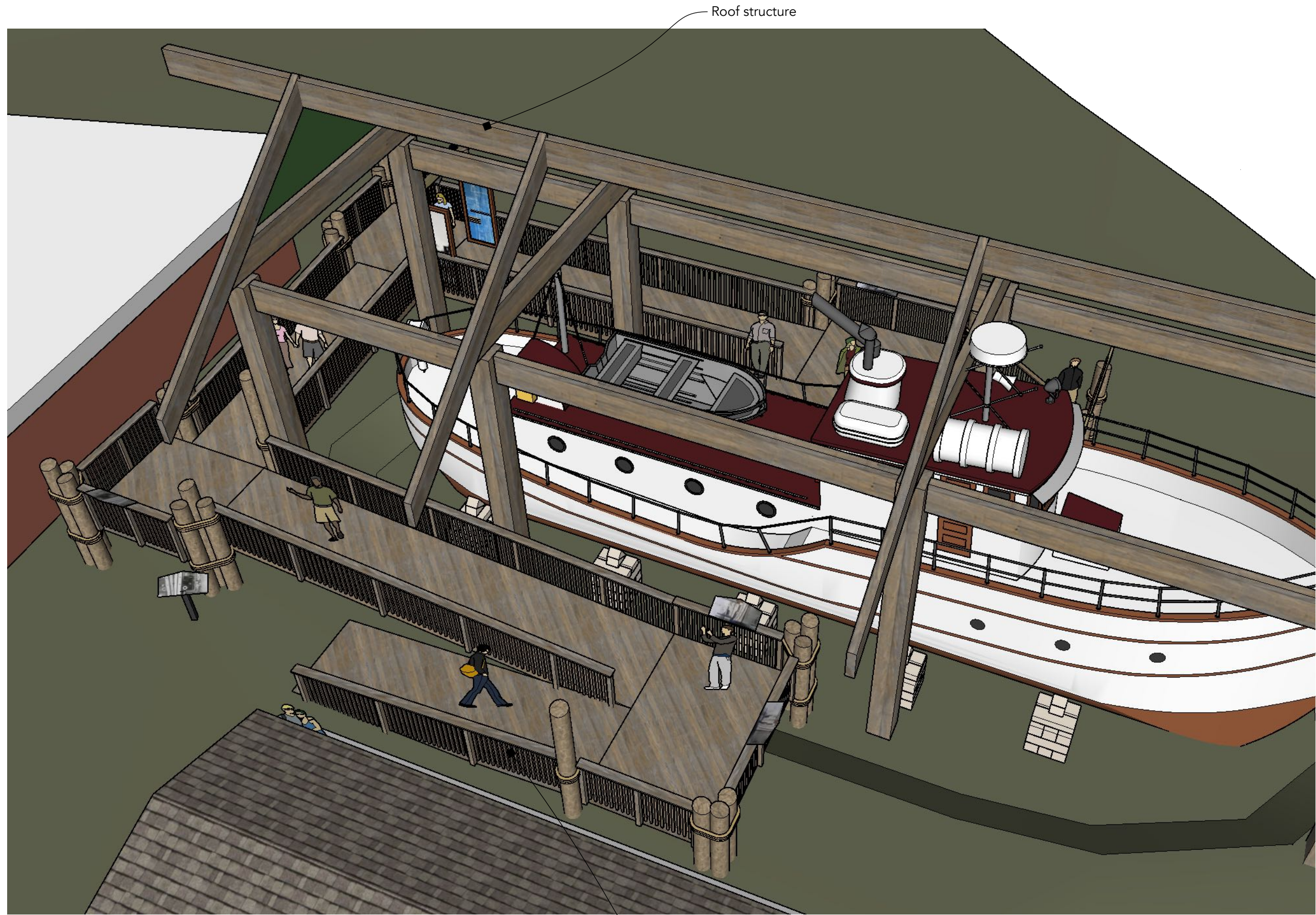
ADA requires the ramps be at a ratio of 1:12. This is roughly less than 5% angle from horizontal.

The following are the ramp angles:

- Ramp 1: 4.8%
- Ramp 2: 4.8%
- Ramp 3: 4.8%
- Ramp 4: 0.7%

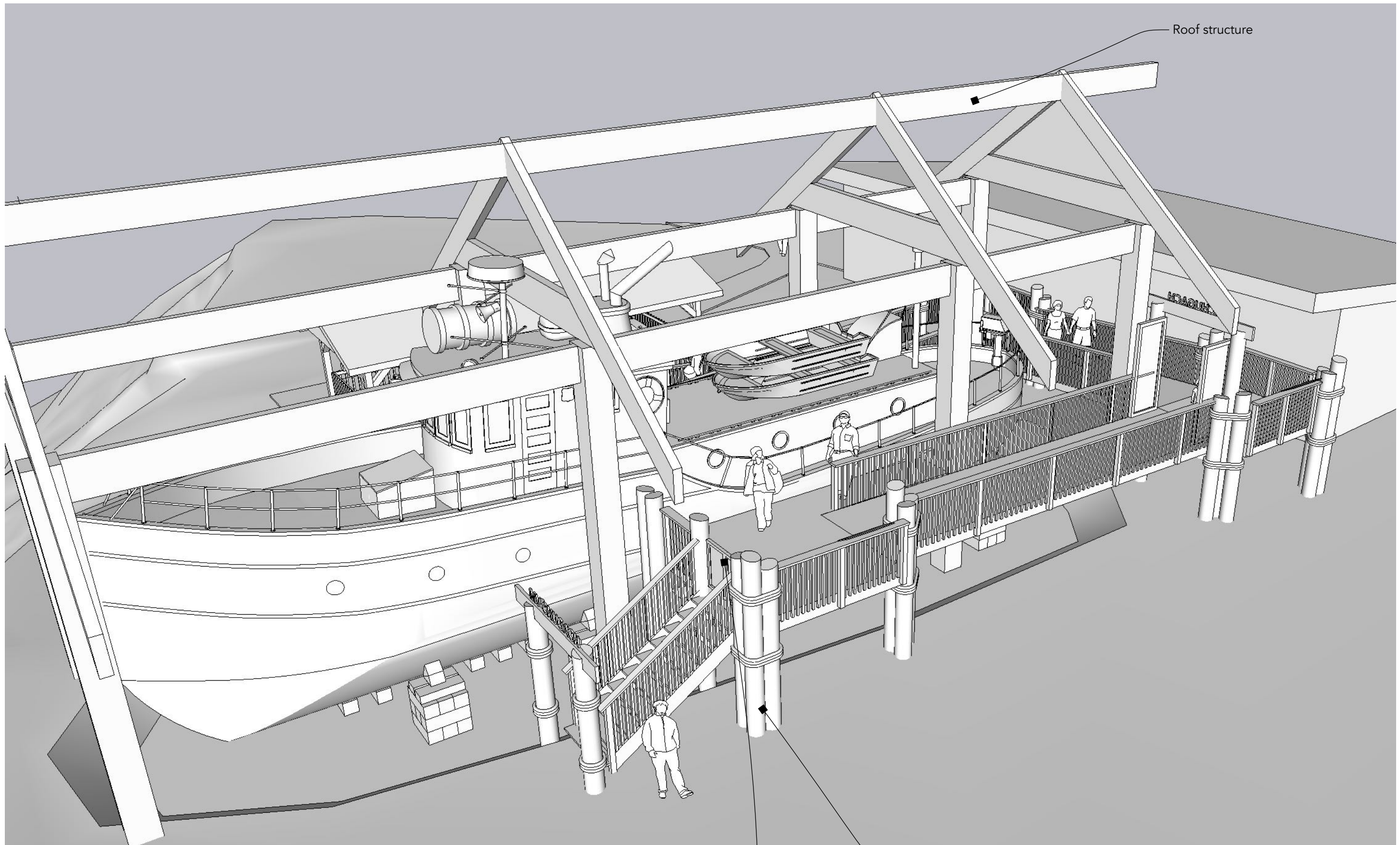


NOTE:
All dimensions are for concept purposes only.



Roof structure

Ramp system



Roof structure

Ramp system

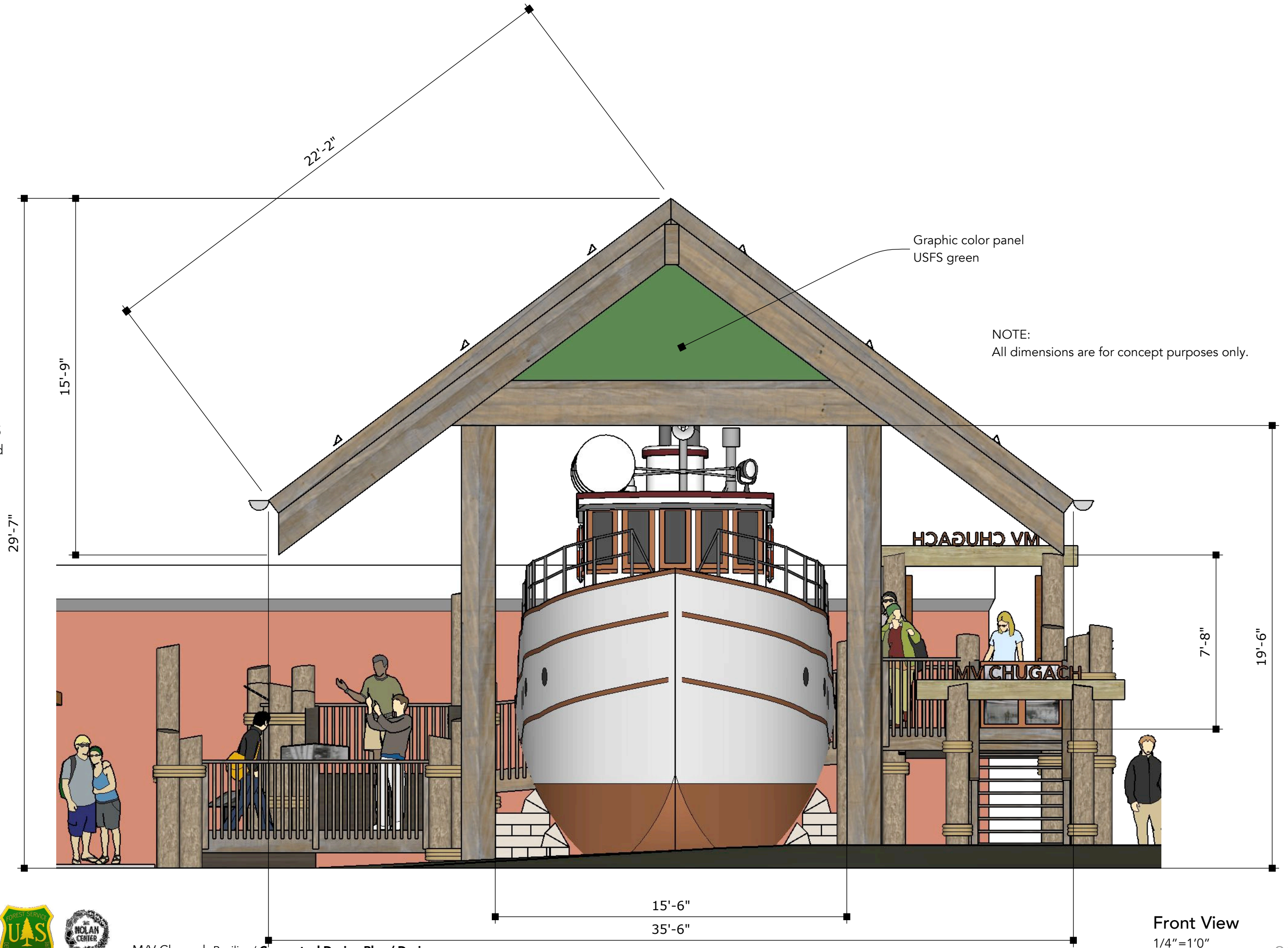
Security gate with graphic infill



M/V Chugach Pavilion/ Conceptual Design Plan / Design

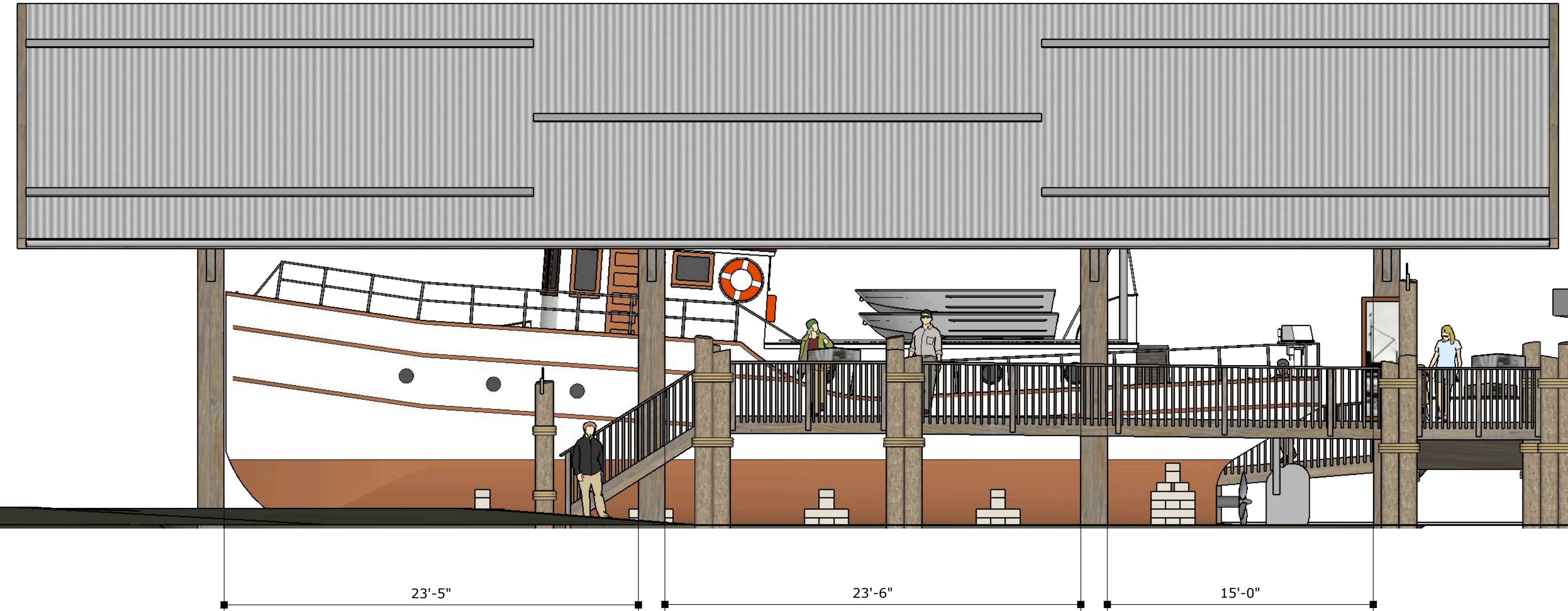
Sketch L
NTS

The boat is about 62 feet (19 m) long, 14.5 feet (4.4 m) wide, and is estimated to displace 40 tons.



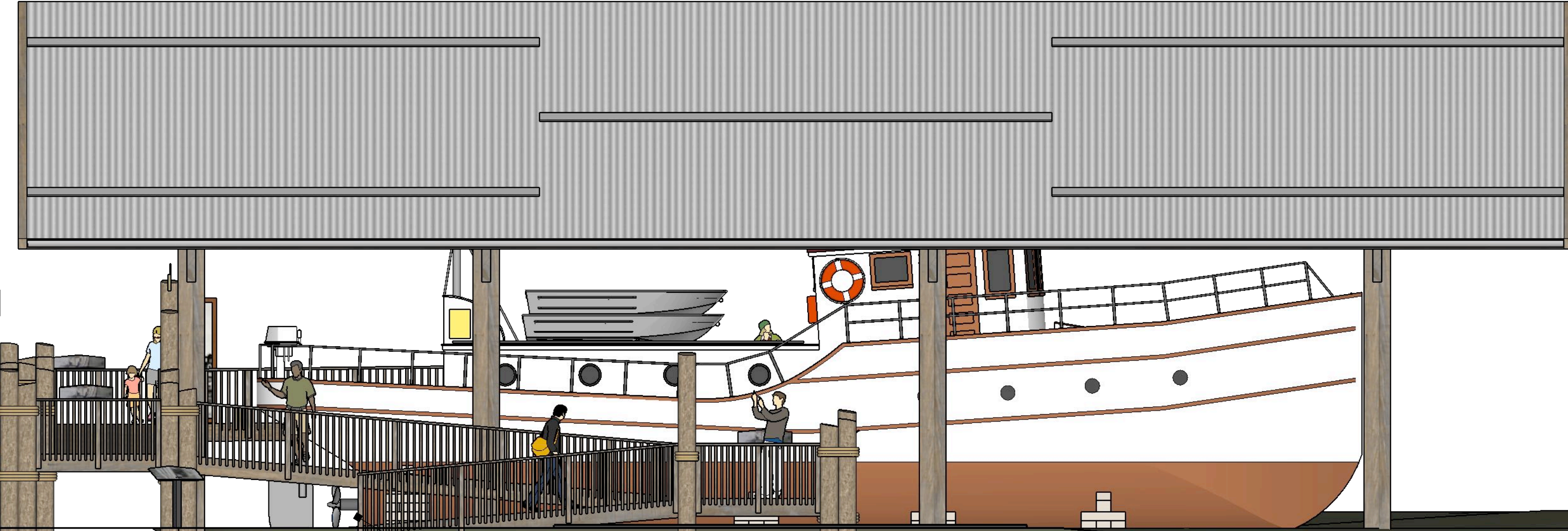
NOTE:
All dimensions are for concept purposes only.

87'-2"

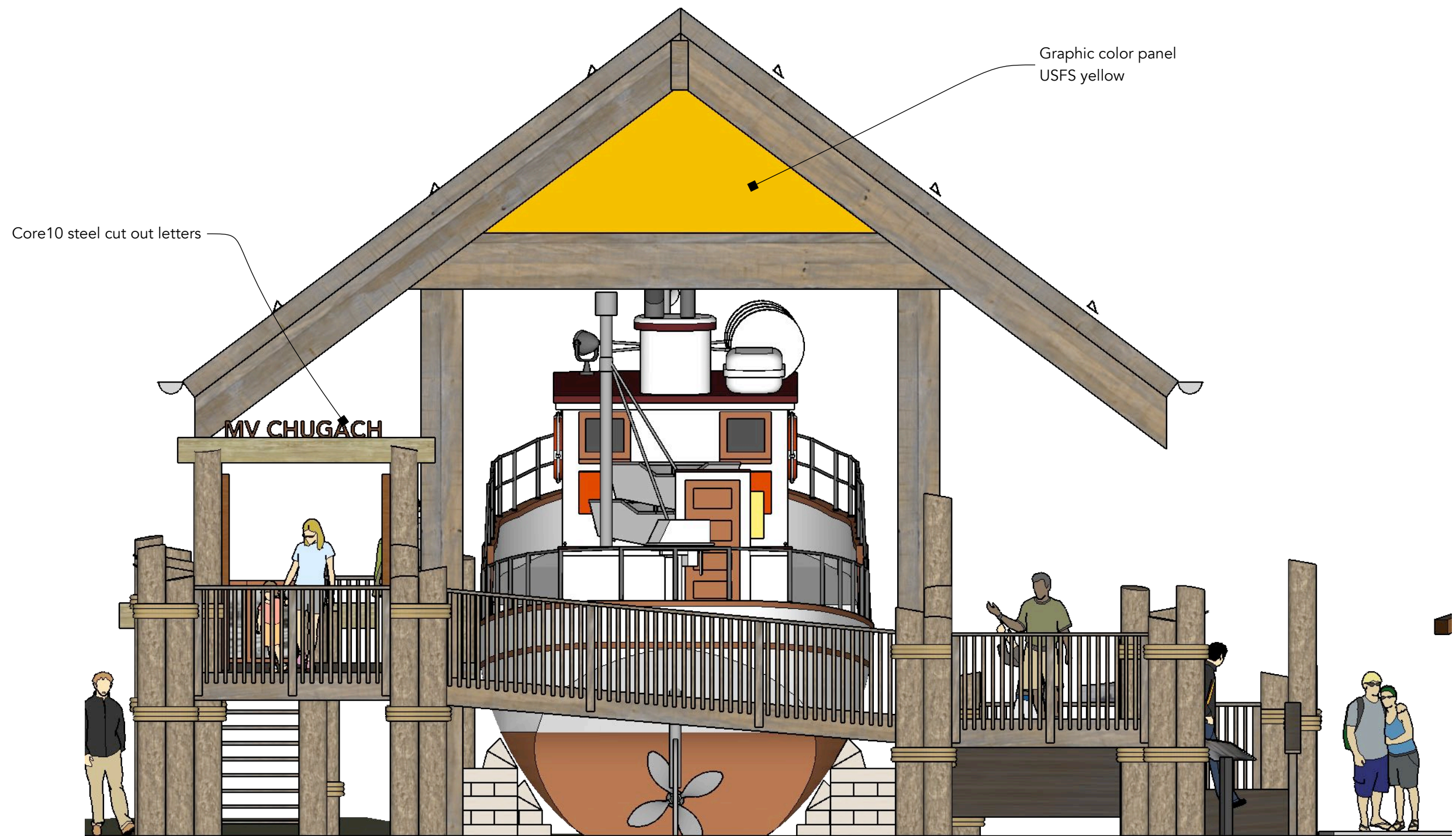


NOTE:
All dimensions are for concept purposes only.





Ramp system



Notes

Conceptual design options for closure of the Pavilion

We spoke with architects, engineers and manufacturers in Alaska, Hawaii, California, Oregon, Washington, and North Carolina. Extensive research for each option for was done through existing manufacturers.

Shown are several options that solve some of the issues, but one only is a course that we recommend taking.

While the original idea of a graphic enclosure (**option A**) presented a wonderful graphic opportunity, manufacturers we spoke with did not recommend it for use in Wrangell, AK. We have shown it for continuity and documentation.

The second option (**option B**) is viable though a bit robust for its application. A standard roll-up door is used on all sides of the structure. While this provides security and weather protection, it doesn't provide any measure of interpretation nor view of the artifact when the pavilion is closed.

Option C is an enclosure concept that is similar to bifold doors. This provides a good security choice but is a total custom solution.

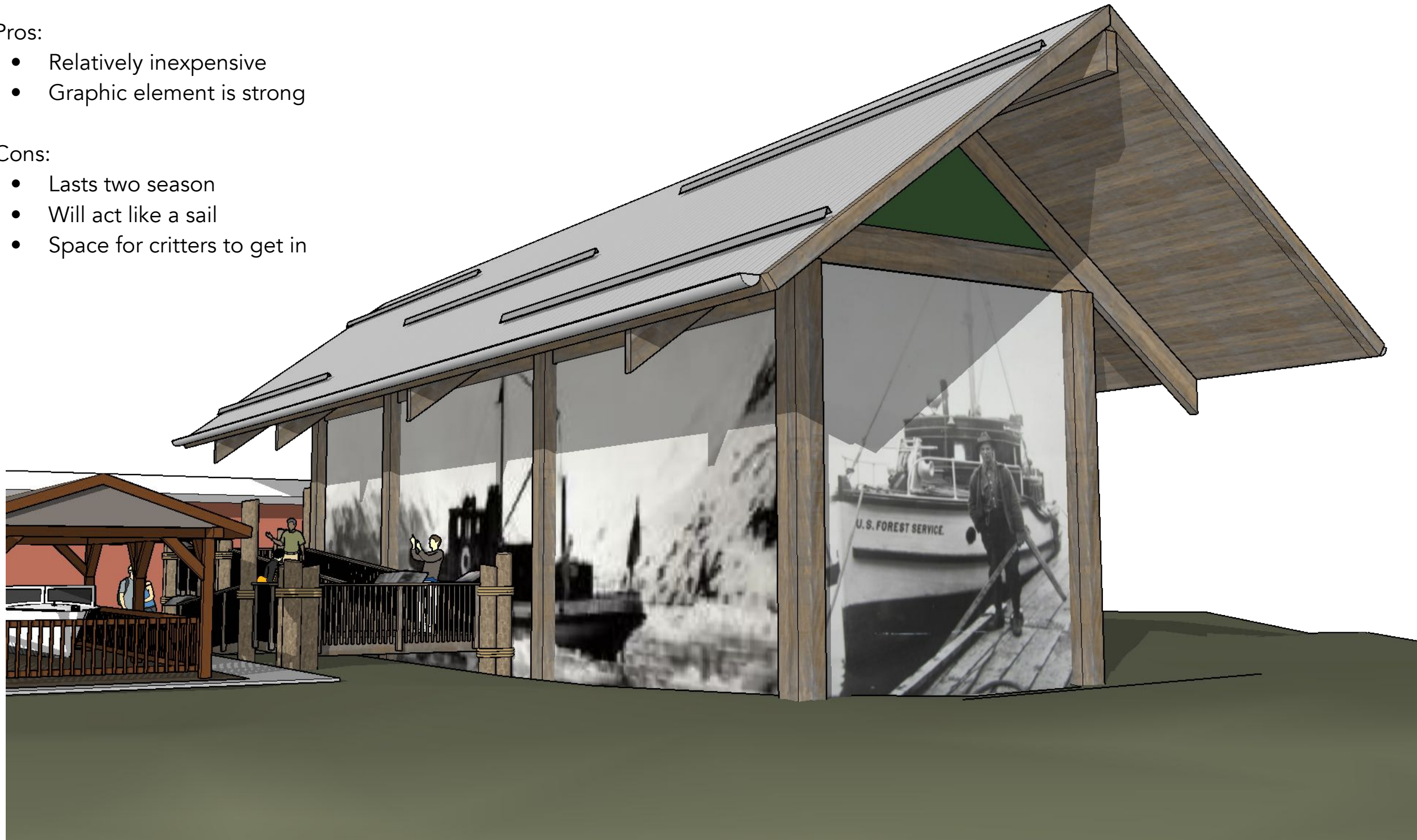
Option D is our choice that solves many issues with protecting the boat while remaining available for viewing when it is closed. There is the option of having the short side doors open like a garage door. This idea was met with positive responses when checking feasibility with Jeld-Wen Doors and Windows.

Pros:

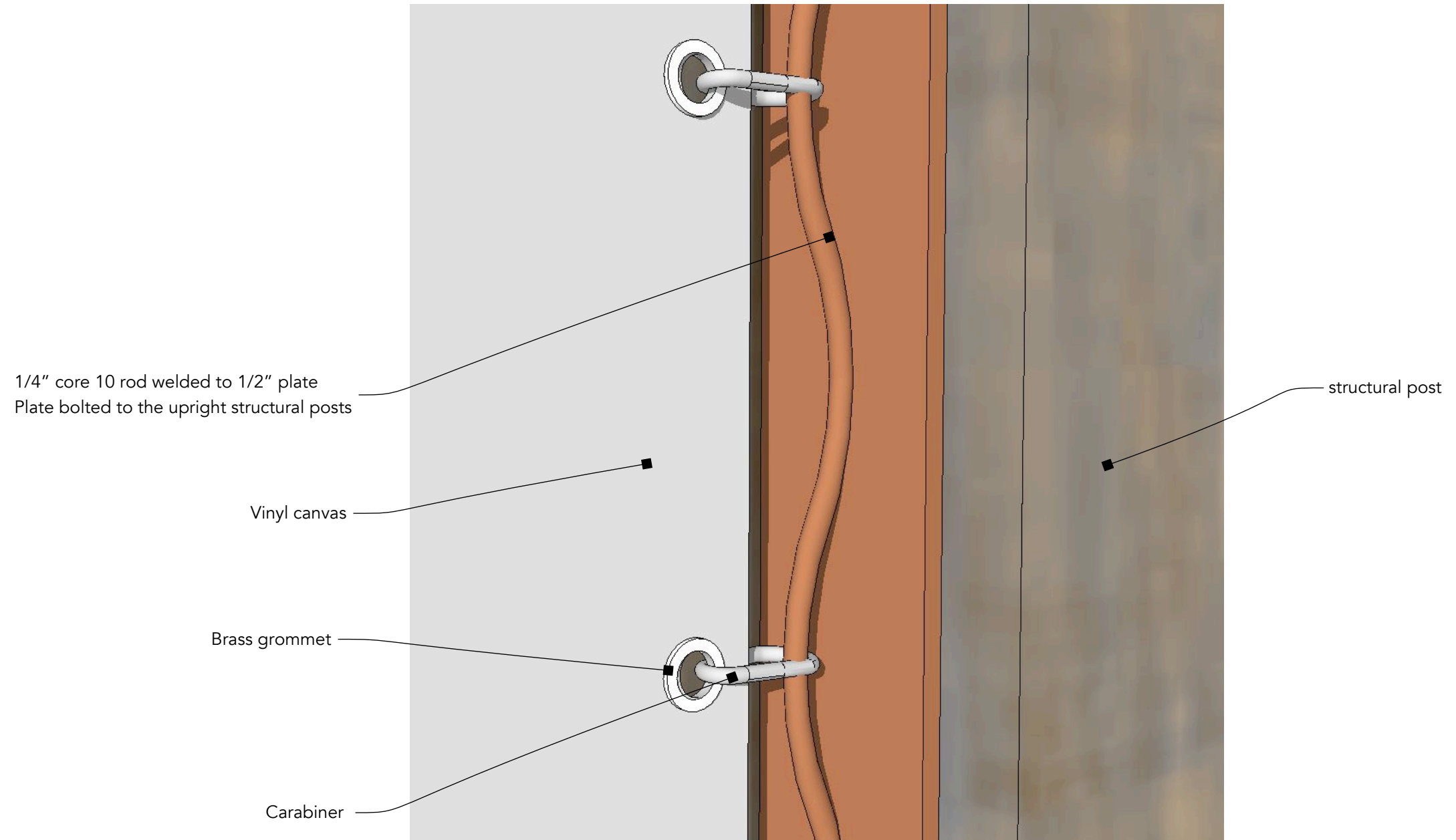
- Relatively inexpensive
- Graphic element is strong

Cons:

- Lasts two season
- Will act like a sail
- Space for critters to get in



During off season a water proof graphic will be installed. These are rolled up and fit under the cross brace of the structure. Images tbd



Pros:

- Very secure
- Weather 'proof'

Cons:

- Fundability
- Roof line will need to be developed further



Foundation not shown, to be developed.
Typical of all options.

During off season roll down doors will
be used. These are rolled up and fit
under the cross brace of the structure.
Color TBD

Pros:

- Very secure
- Weather 'proof'

Cons:

- Custom
- Fundability



During the off season a bifold door system will be used. These fit under the cross brace of the structure between the structural posts.

Pros:

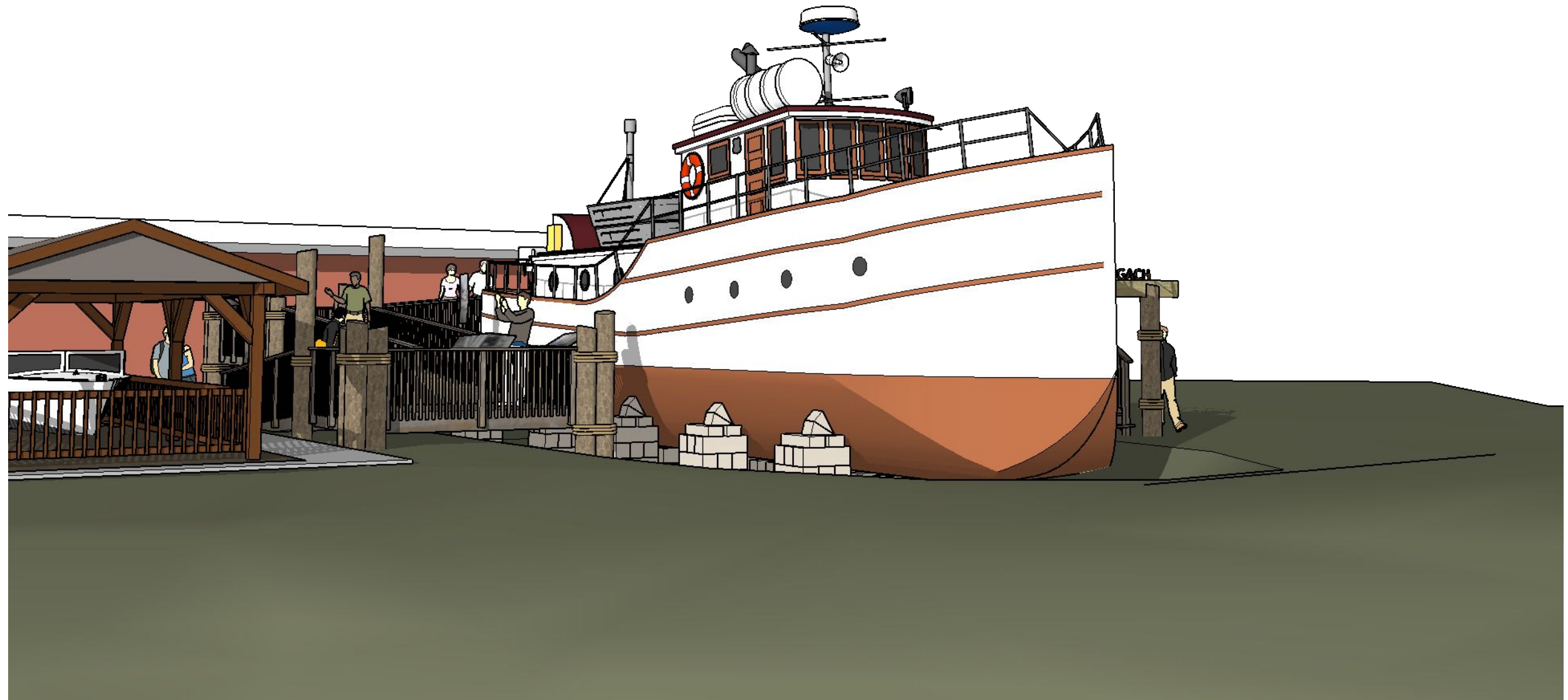
- Very secure
- Weather 'proof'
- You can see the boat in the all seasons

Cons:

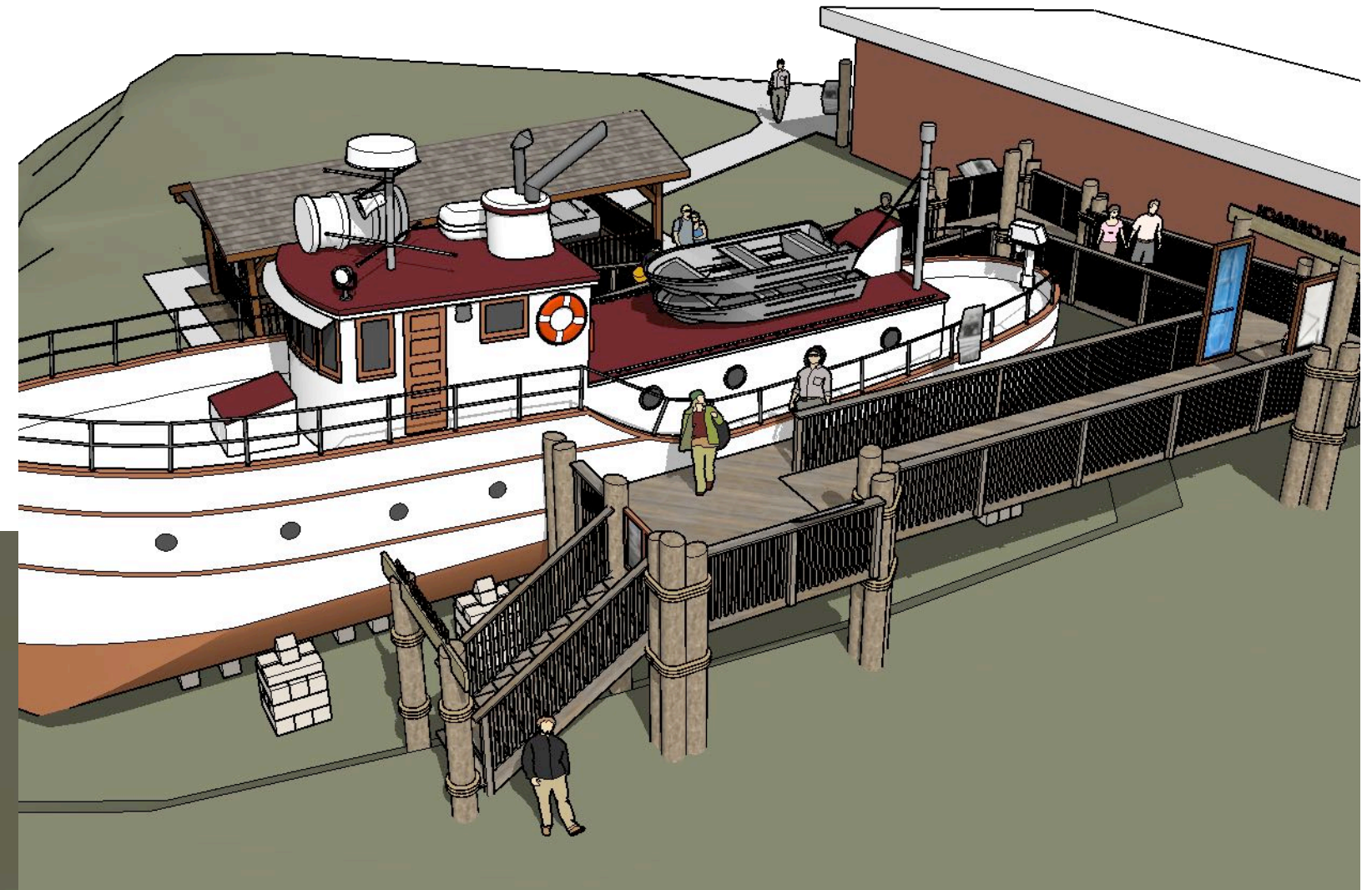
- Fundability

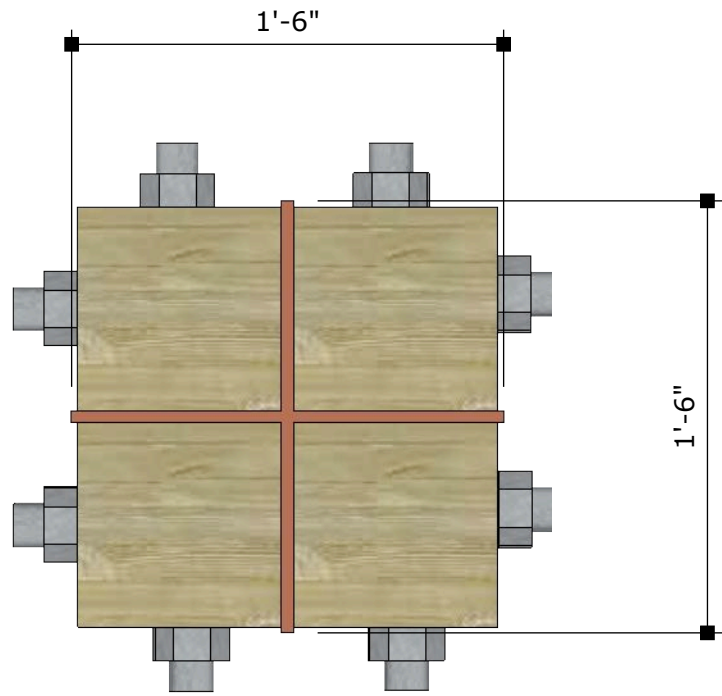


This option shows the M/V Chugach in the pavilion enclosed in glass



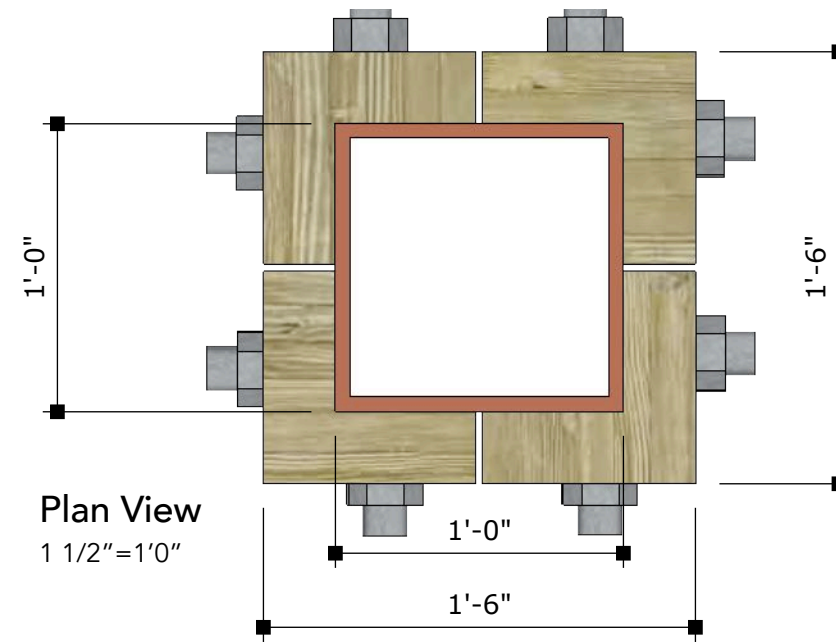
This option shows the M/V Chugach with just the ramp structure.



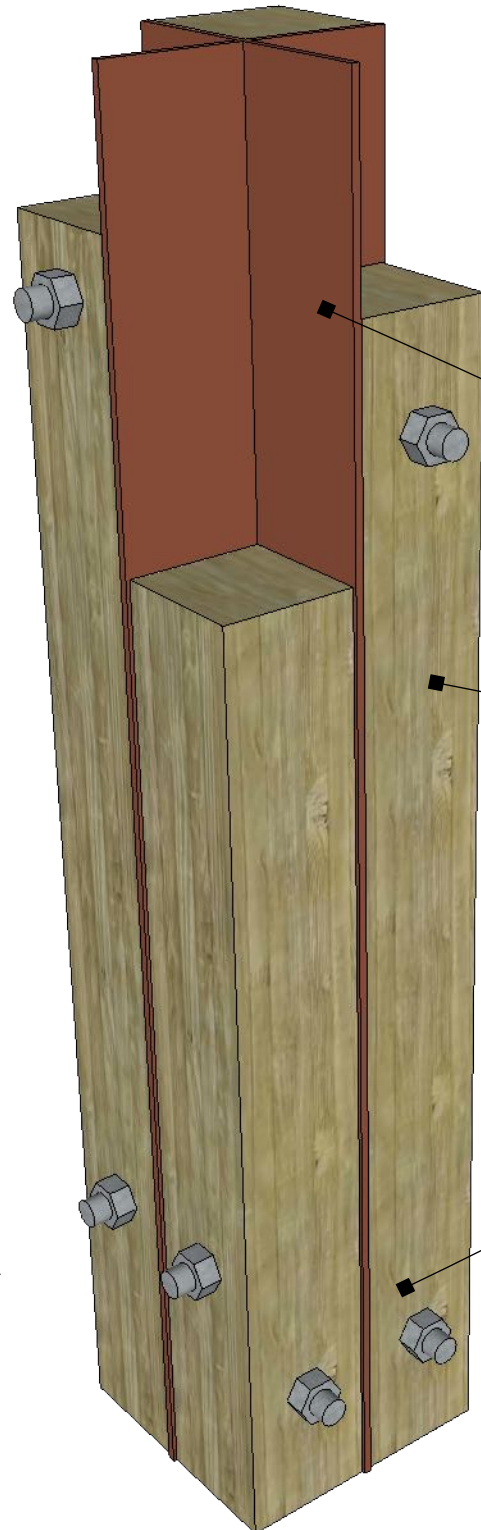


Plan View
1 1/2"=1'0"

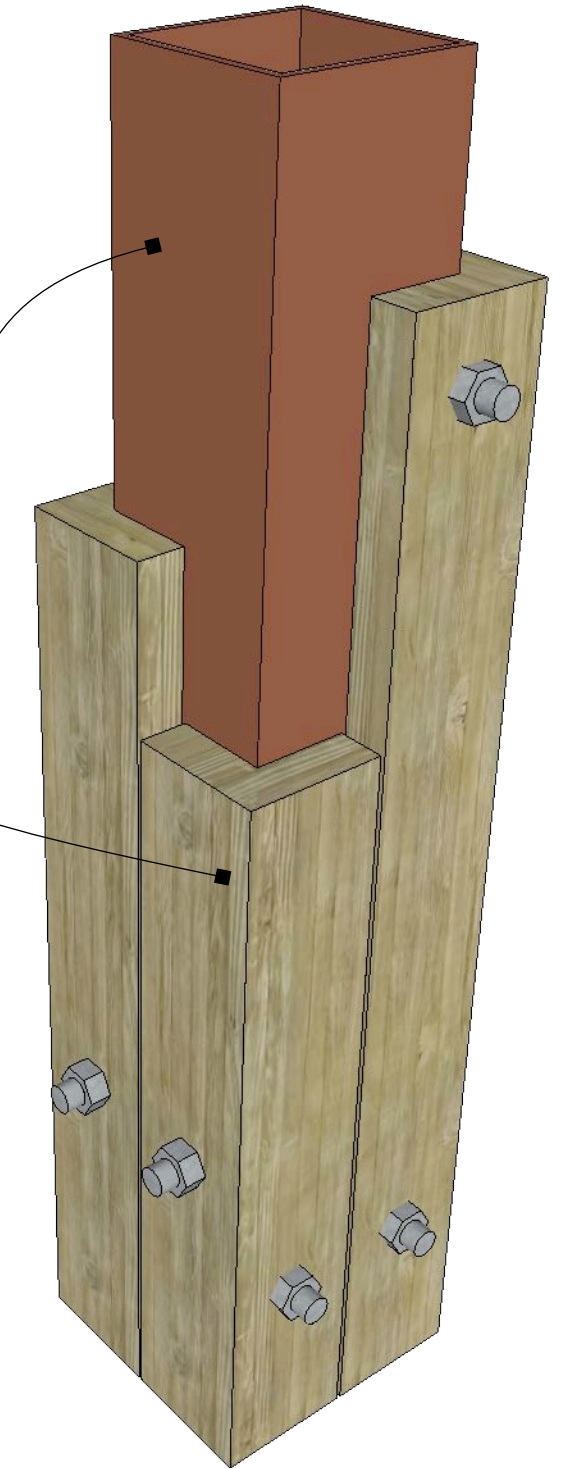
Rear View
1/4"=1'0"



Plan View
1 1/2"=1'0"



Option A

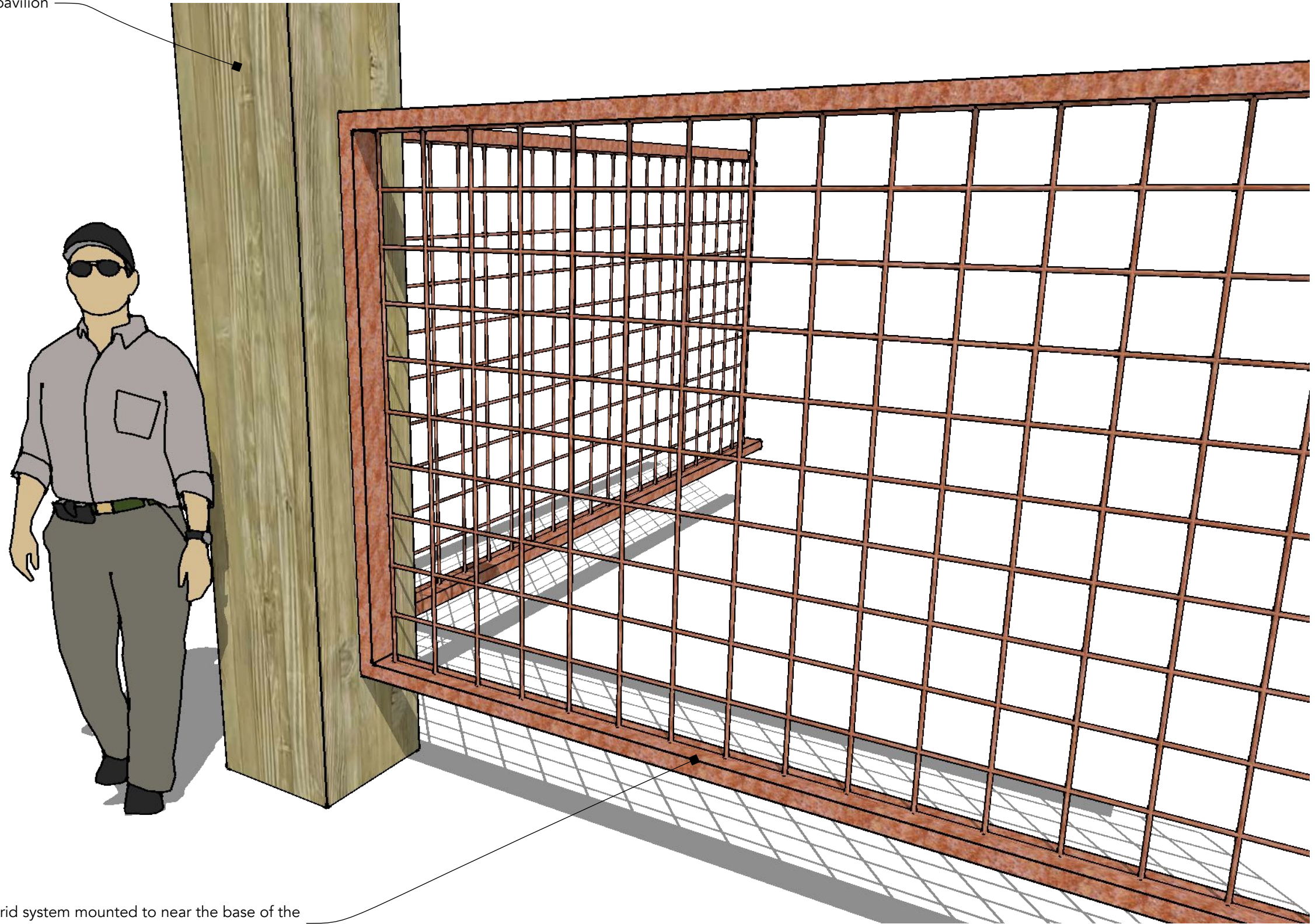


Option B

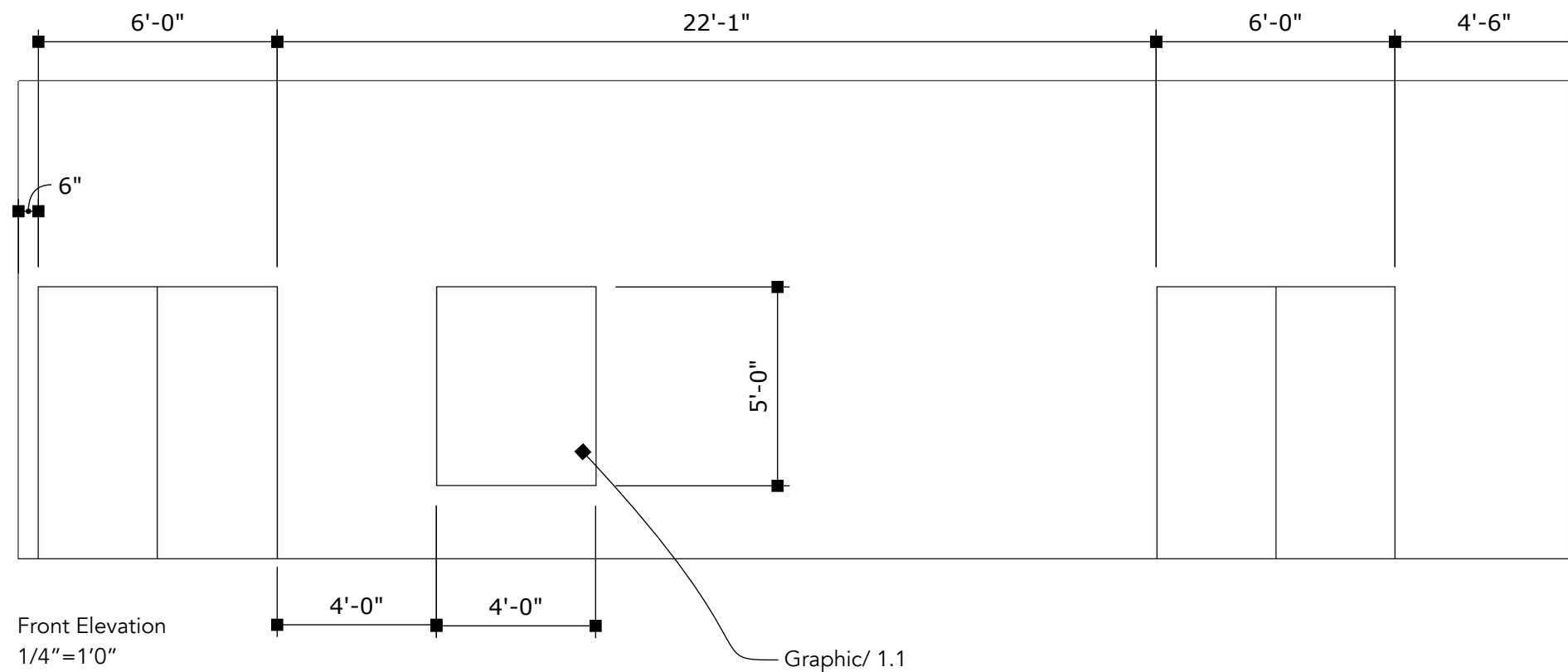
NOTE:
All dimensions are for concept purposes only.

Post Options

Structure post of the pavilion



Grid system mounted to near the base of the pavilion structure.



Front Elevation
1/4"=1'0"

Graphic/ 1.1

Custom Structural Series

The Sky is the Limit with this Extensive Line of Custom Structural Skylights

The Custom Structural Pinnacle Series offers maximum design flexibility and convenient on-site assembly. By utilizing ball and socket and pre-drilled construction, Pinnacle Series glass is always driven by your build's unique glazing and energy needs and available in a wide array of finish options.

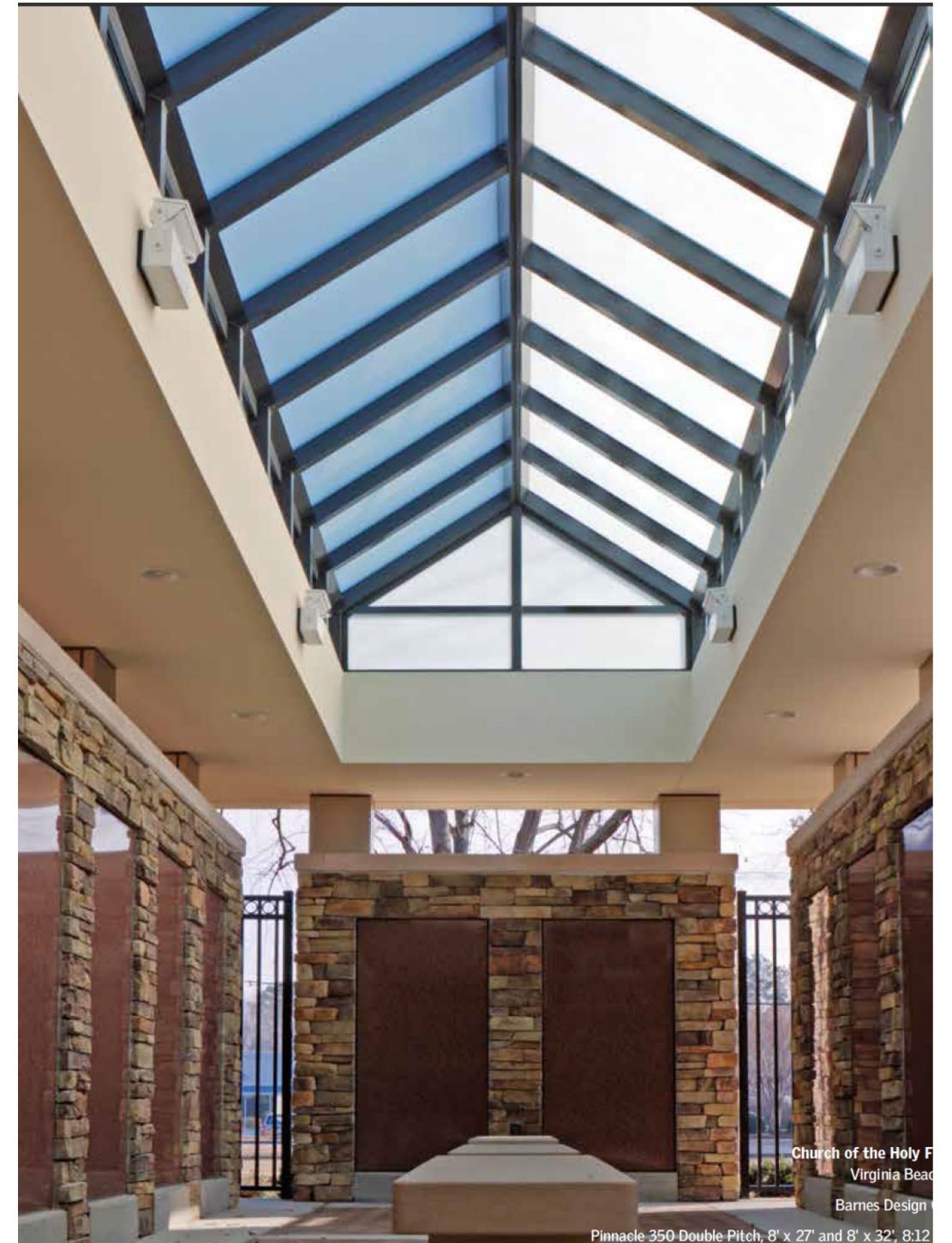


Custom Structural Pinnacle Series

Available in pitched and pyramid systems, the Custom Structural Pinnacle Series offers maximum design flexibility and convenient on-site assembly by utilizing ball and socket and pre-drilled construction.

[See all solutions >](#)

<https://commercial.veluxusa.com/products/metal-framed/custom>



Church of the Holy Family
Virginia Beach
Barnes Design

Pinnacle 350 Double Pitch, 8' x 27' and 8' x 32', 8:12

Roof detail option for glass at the apex of the roof





Rolling Steel Service Doors 610



Rolling steel door model 610 is a perennial best-seller for good reason. The standard features exceed the norm for quality and a myriad of options allow for true customization. The Model 610 is built with a standard galvanized steel curtain, or an optional stainless steel or aluminum curtain. The standard curtain slat is the attractive C-187 curved profile, with additional slat options available in curved and flat. Finishes range from four standard colors to approximately 200 powder coat colors or matched to your specification. A host of other options — including motor operation, pass doors, exhaust ports, between-jambs mounting, cylinder locks and special usage packages — allow the 610 to be adapted to any environment.

[Rolling Steel Doors](#)

[Where to Buy](#)





Roofing Options

Products

Sort by



Dura Grip - High Performance Non-Slip Epoxy Paint

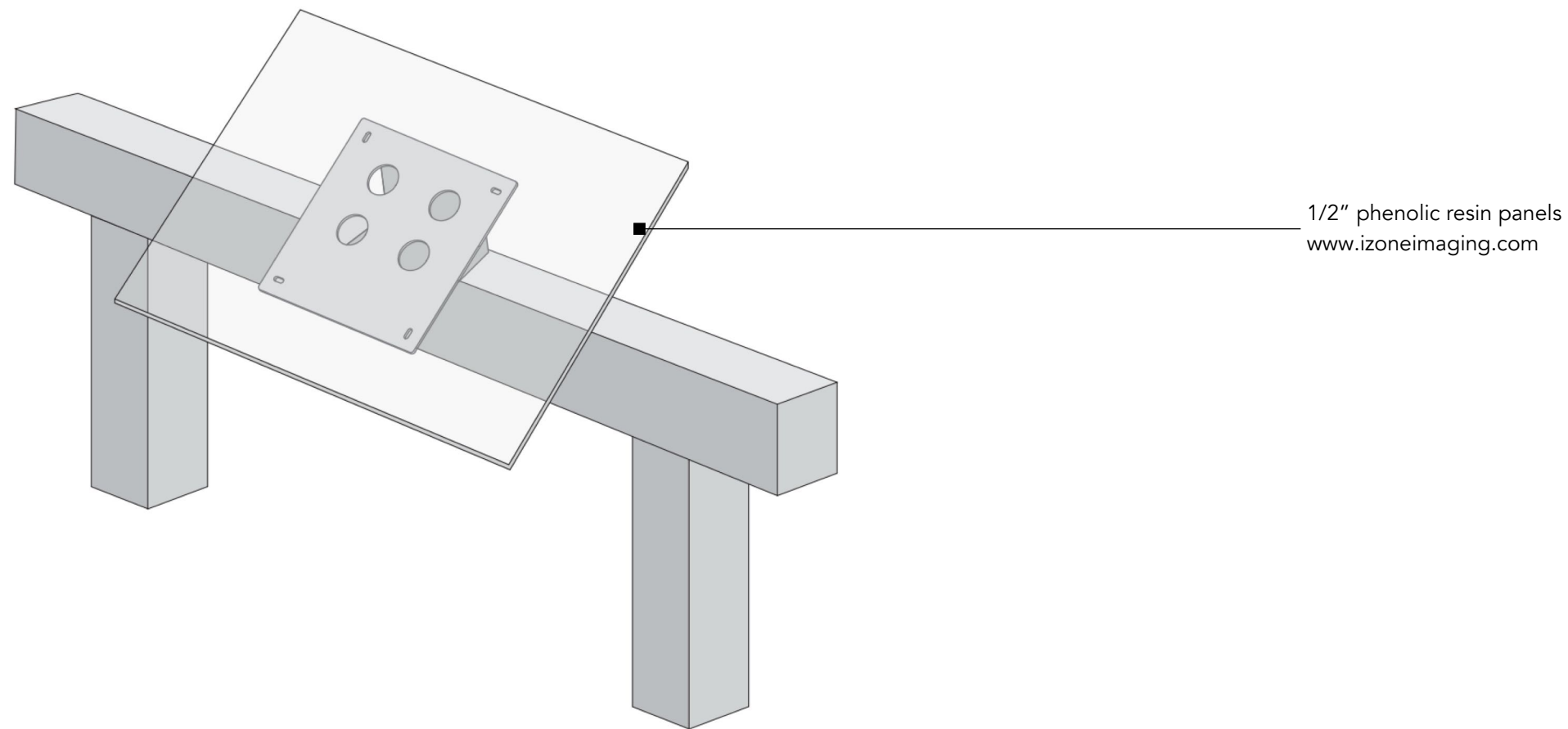
Dura Grip High-Performance Non-Slip Epoxy Paint is an anti-slip surface coating specifically designed to provide a UV resistant **highly durable**, barefoot-friendly textured paint finish on a variety of...



Tuff Grip or Tuff Grip Extreme - Aggressive Traction Non-Skid Floor Paint

Tuff Grip is high-performance non-skid paint coating specifically designed to provide an aggressive and highly textured anti-slip finish on a variety of surface types including metal,...

https://slipdoctors.com/collections/all/wood_unfinished-wood?sort_by>manual&view=list



Heel Mount - *Wooden Rails*

- > **For flat or slanted wood railing**
- > **Large holes** in face plate to access the mounting holes in the heel
- > **Mount plate size determined by panel size.**

<https://izoneimaging.com/signs-and-wayfinding/>

https://izoneimaging.com/wp-content/uploads/2021/04/Rail_Mount.pdf

Option for rail mount graphics

Single Pedestal

In-Ground Mount and Surface Mount All Aluminum Construction

> Standard Posts

3" x 3" post

In-Ground Mount: 60" long

Surface Mount: 44.5" long

* Custom post lengths available

* Standard and custom color options available

> Standard Mount Plates

✓ 6" x 6"

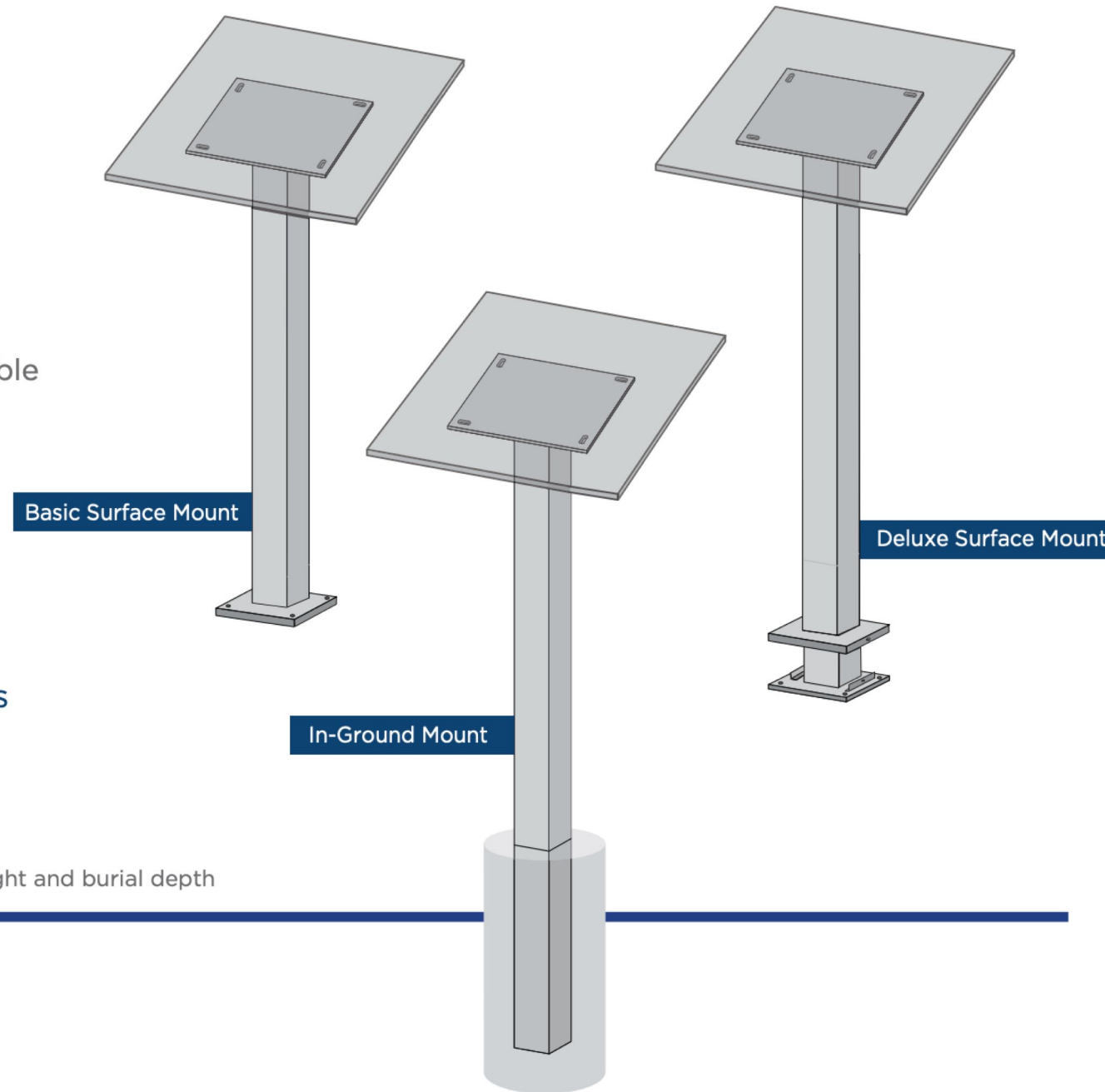
✓ 12" x 18"

✓ 12" x 12"

✓ 16" x 20"

> 45° or 30° Mount Options

> Basic and Deluxe Surface Mount Options



* Post length is determined by panel height, installation height and burial depth

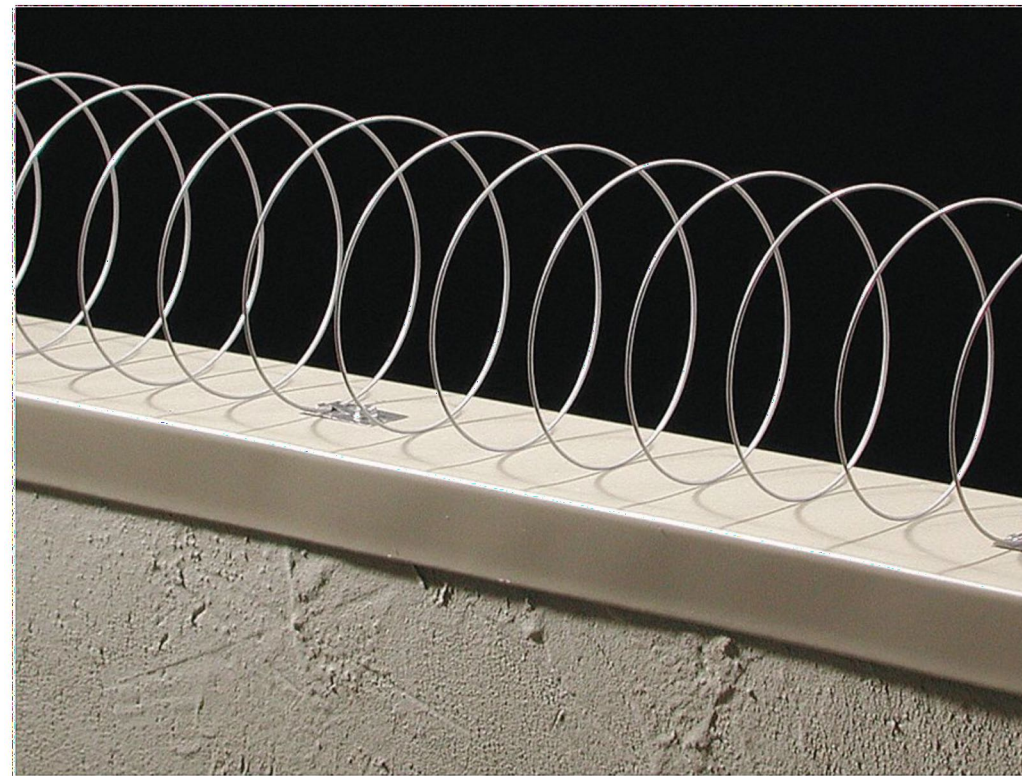
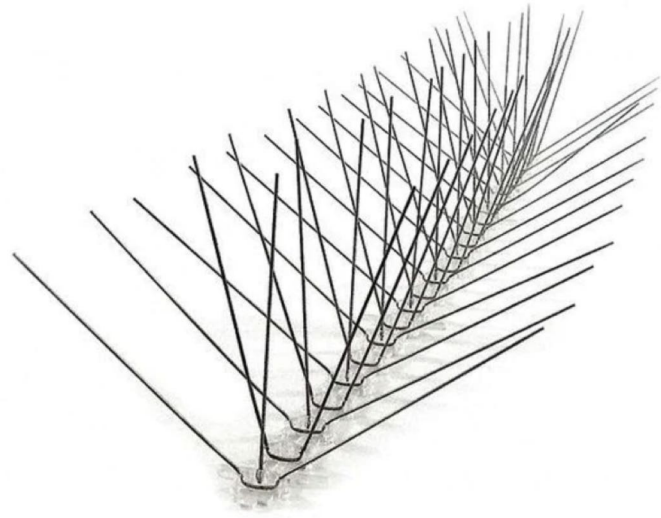


Toll Free 888.464.9663
Local 254.778.0722
Fax 254.778.0938
Email info@izoneimaging.com

izoneimaging.com

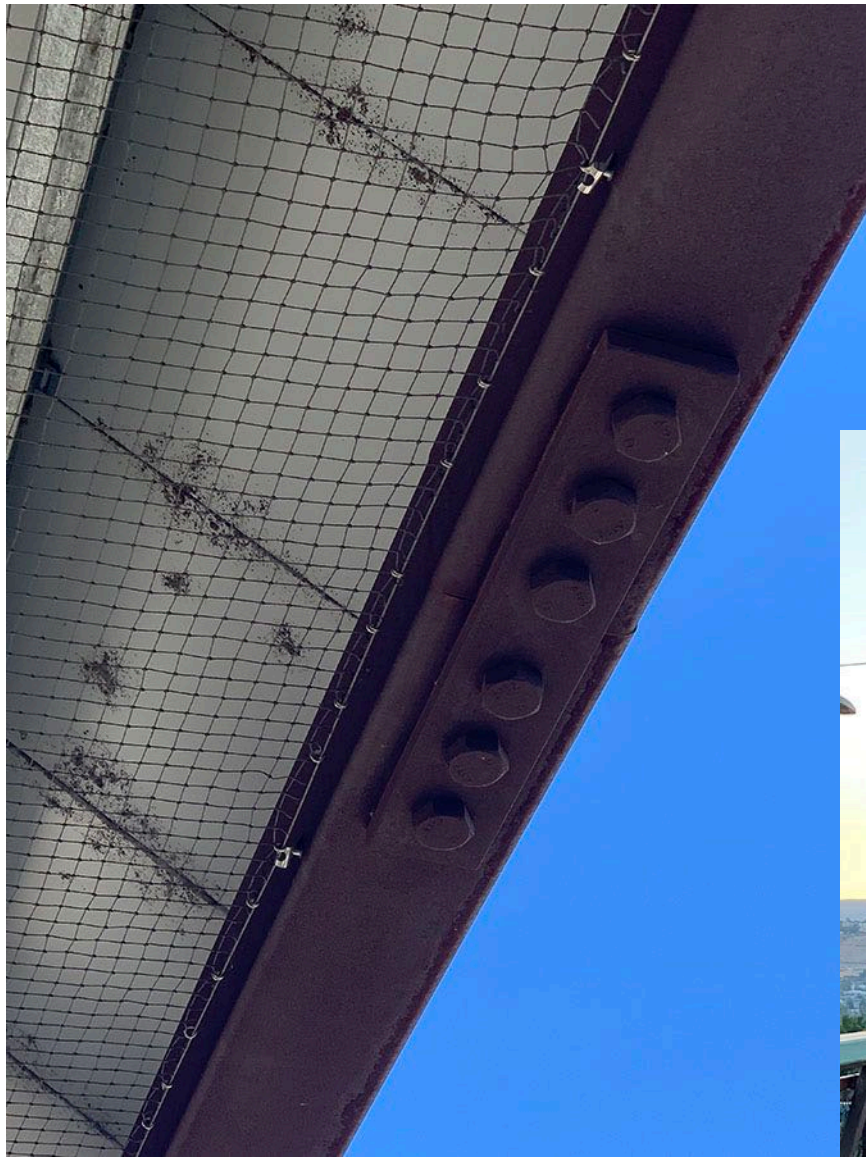


Extra Wide Stainless Steel Spikes, 100ft.



Bird Repeller, 1110 Vac





Example from pedestrian walkway in Wenatchee Washington

Flame Proof Net, Black, 3/4", 50 x 100 ft.

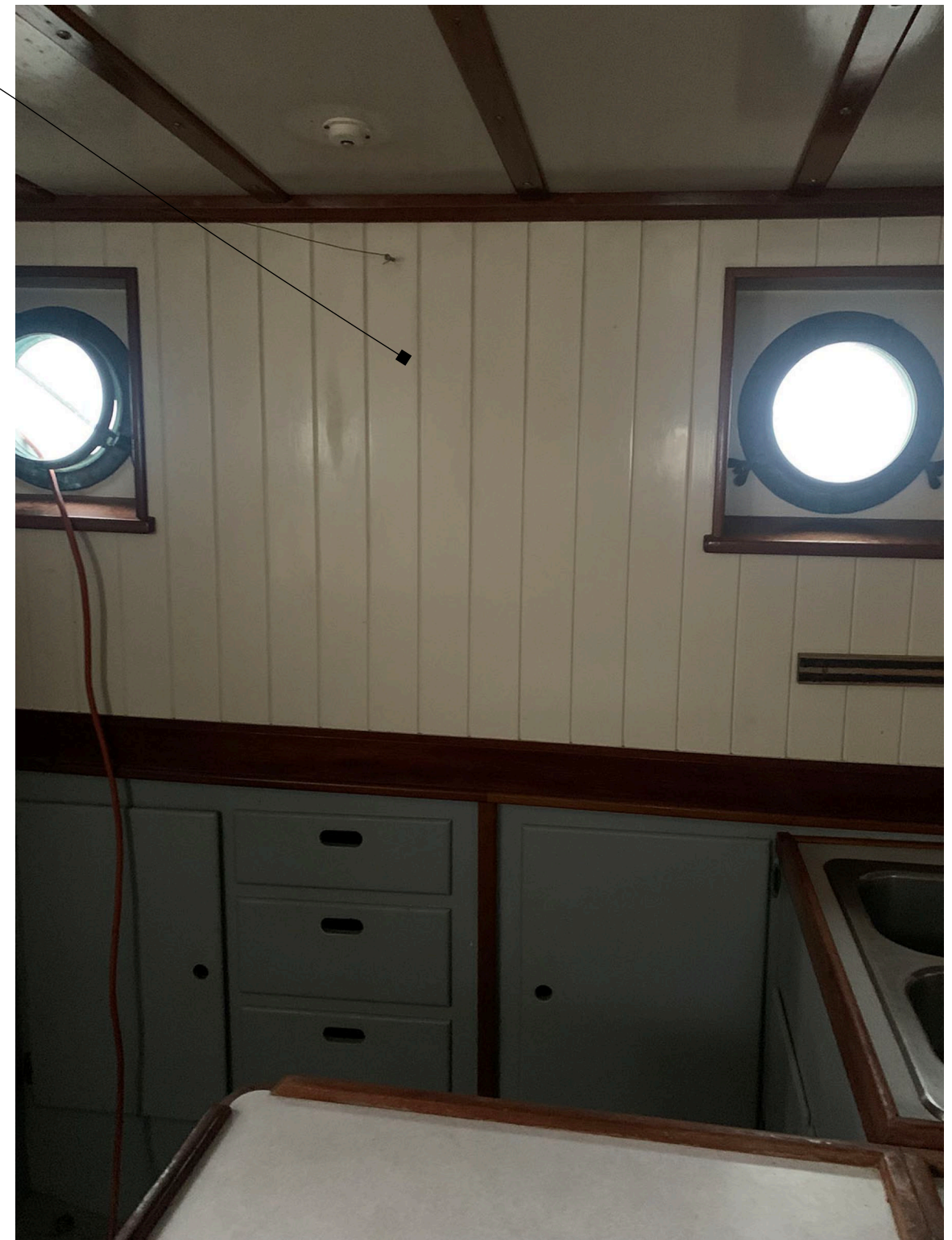


NOTE: An option for a hard ceiling is stainless steel mesh.



Locate graphic centered between the windows left and right, mount on center to the windows

Locate graphic on center left and right. Mount at approximately the same height as bulletin board



Graphic 4.1

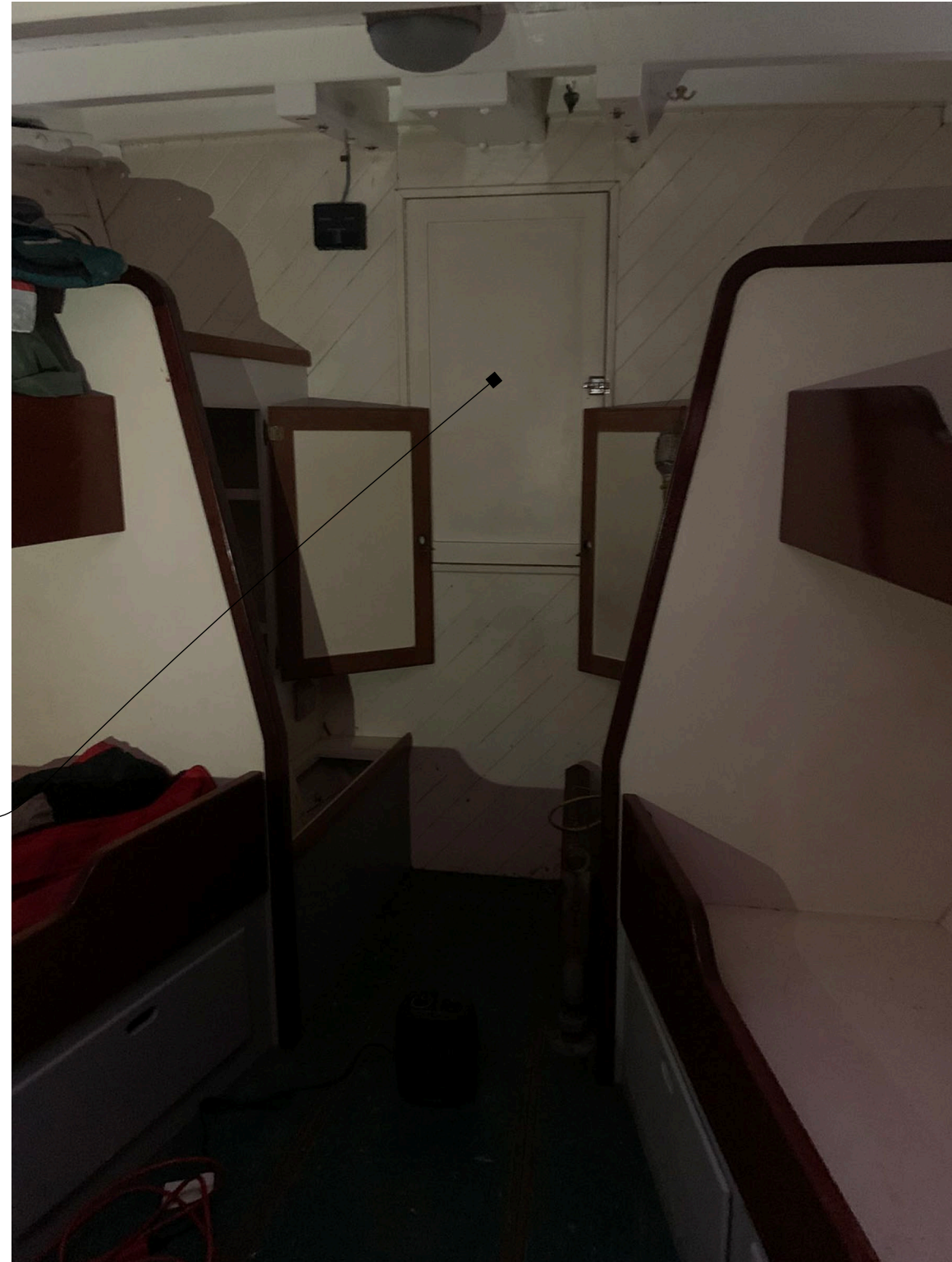
Graphic 4.2



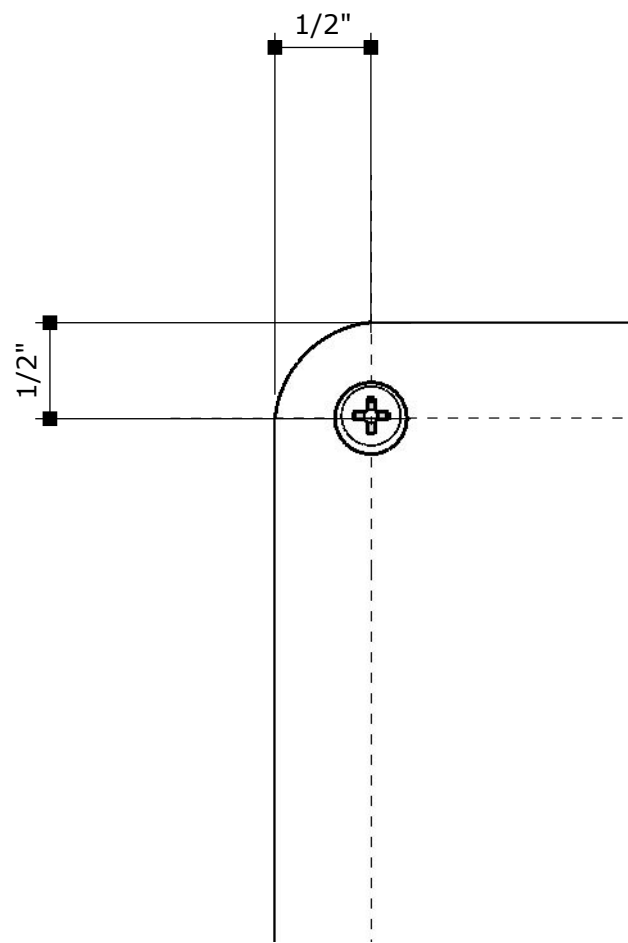
Locate graphic
Left/ right and up/down

Located graphic in the
Center of the door panel

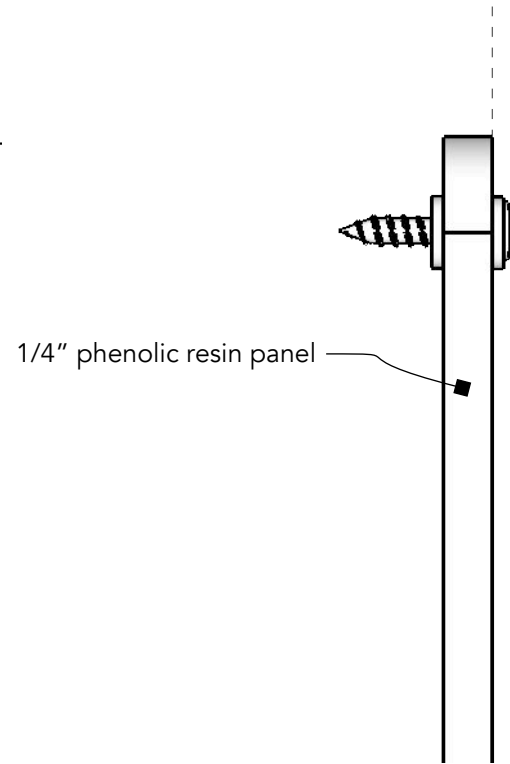
Graphic 4.3



Graphic 4.4



Front Elevation
Full Size



Side Elevation
Full Size

1/8" stainless steel wood screw

1/16" silicone washer

1/4" phenolic resin panel

Sketch 1
Front View

1/16" silicone washer

Fasten to interior of Chucach

Sketch 2
Back View

Title (Workhorses)
Font: Noto Serif, 110pt
Style: Bold, caps

W

Subhead
Font: Noto Sans, 96 pt
Style: Regular

On the

Introduction
Font: Noto Sans, 40 pt
Style: Bold

Unique to the

Heading-1
Font: Noto Serif, 48pt
Style: Bold

The Mobile

Body
Font: Noto Sans, 24 pt
Style: Bold

U.S. Forest Service rangers

Caption
Font: Noto Serif, 18pt
Style: Italic

*R. Baker takes the skiff ashore
from the M/V Chugach in 1965.*

Photo Credit
Font: Noto Sans, 12pt
Style: Regular

Photo credit



Palette 1: Ramp Graphics

PANTONE OR CMYK	100%	Grayscale	
PANTONE 7692			77%
C 81, M 37, Y 0, K 0			59%
C 60, M 40, Y 18, K 0			55%
PANTONE Warm Gray 3			34%
PANTONE 427			22%
Black			100%

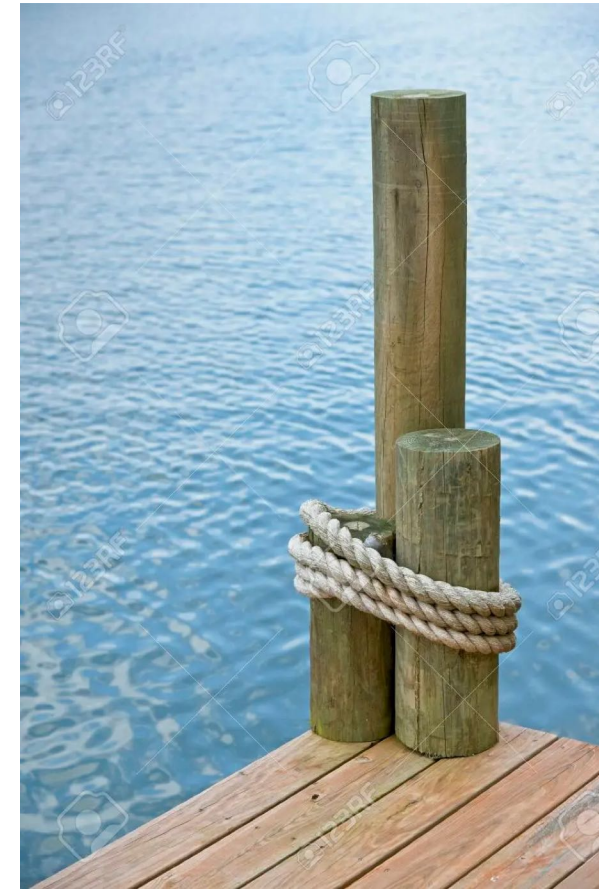
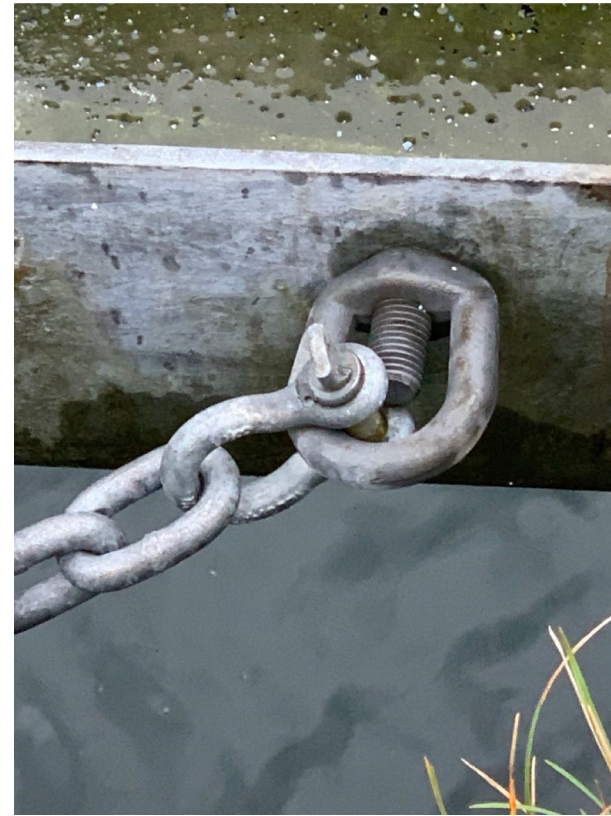
Palette 2: Interior

PANTONE OR CMYK	100%	Grayscale	
PANTONE 370			58%
PANTONE 577			34%
PANTONE 7698			66%
PANTONE 403			56%
C 6, M 3, Y 25, K 7			18%
Black			100%

Palette 3: Ramp

PANTONE OR CMYK	100%	Grayscale	
PANTONE 470			71%
PANTONE 476			77%
PANTONE 7698			66%
PANTONE 7536			45%
PANTONE 7499			14%
Black			100%







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