
National Park Service | U.S. Department of the Interior

NPS *UniGuide* Sign Standards

Visitor Information Sign System

VIS and Wayside Hardware Specification Manual



Office of NPS Identity | NPS *UniGuide* Sign Program
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Disclosure Statement NPS *UniGuide* Standards

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VIS System Overview

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Introduction



Signs are the most frequently used means of communicating with park visitors. The National Park Service UniGuide Sign Standards provide design and fabrication guidelines for a full range of park signs including Park Identity, Motorist Guidance and Visitor Information.

It is estimated that approximately 75% of all park signs fall into the Visitor Information (VIS) category. VIS Signs are designed to present information in a consistent, attractive, convenient, and flexible format. Such information may involve pedestrian or bicycle and (low-speed) motorist guidance, regulations, resource protection, instructions and general information, fee information, safety warnings, maps, and interpretation. VIS Signs may also be used to identify parks (or park areas, features, or facilities) when more monumental identification signs are not required.

The flexible system of post and frame hardware components may be configured in a variety of ways to hold modular sign panels and other accessories. VIS hardware is available in a range of durable materials to suit local conditions, all selected for vandal resistance, low maintenance, and long life-cycles.

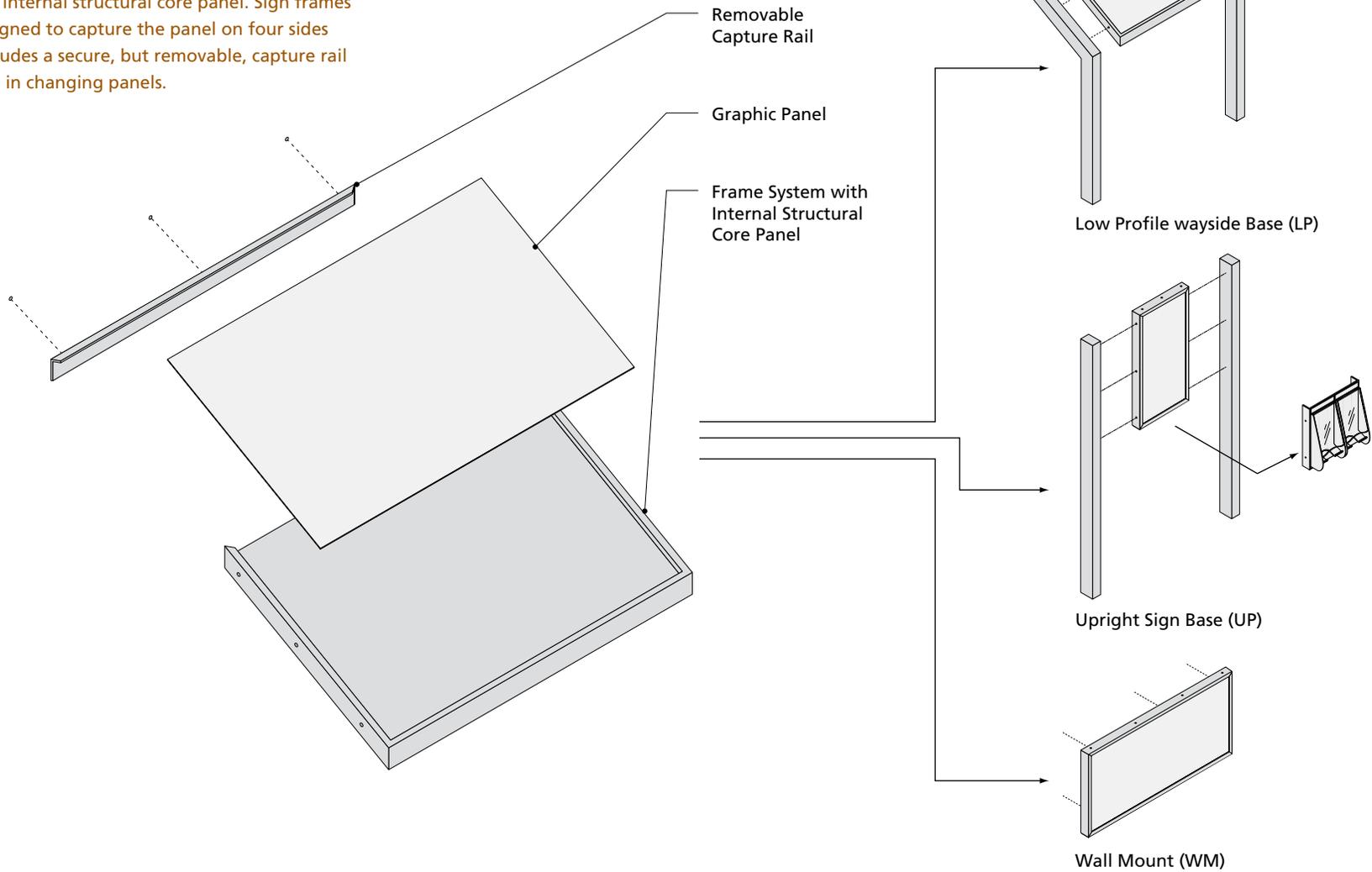
Sign frames are designed to hold graphic panels made from a variety of materials including porcelain enamel, fiberglass embedment, polycarbonate embedment, high pressure laminate, digitally printed adhesive vinyl on aluminum substrates with protective overlaminates, or computer cut retro-reflective sheeting.

Besides supporting sign panels, VIS hardware is designed to accommodate a number of accessories including bulletin cases, brochure holders, and posting displays.

This manual provides details and information on the specification and fabrication of VIS hardware.

VIS System Overview

The frame system can be attached to posts to create Low Profile wayside bases, Upright Sign Bases, or attached to wall for Wall Mount display. The flexible sign system consists of an aluminum extrusion or a break-formed steel frame system with an internal structural core panel. Sign frames are designed to capture the panel on four sides and includes a secure, but removable, capture rail for ease in changing panels.



VIS Hardware Assembly Series

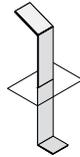
The chart to the right provides an overview of the base hardware available in the VIS system.

All VIS bases are available in a variety of material options including weathering steel, galvanized steel, and painted aluminum. Painted aluminum bases are available in three paint color finishes.

The material and finish appropriate for a specific base depends primarily on the sign's purpose and its location. Weathering steel is an excellent choice for low maintenance in many forested and desert sites; galvanized steel is very durable in coastal and other salt-water and corrosive environments; and painted aluminum may be a good choice for an urban environment.

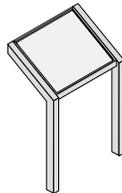
TS Series - Trailsides

Low to the ground, Trailsides are an excellent choice for plant ID markers, site markers, trail guides, and anywhere a small discreet sign is required.



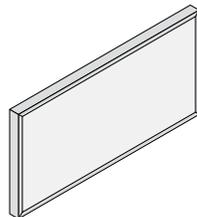
LP Series - Low Profile

The Low Profile base is the preferred style for NPS interpretive outdoor exhibits. Available in a variety of material finishes and sizes the base's simple, unadorned form makes it appropriate for any park landscape.



WM Series - Wall Mount

Wall Mount frames are designed to display information on vertical surfaces. Frames are available in a variety of materials and sizes.



UP Series - Uprights

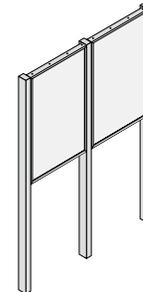
Designed to stand vertically so they attract attention, Upright bases typically provide practical information to visitors rather than site-specific interpretation. Like the Low Profile base, Upright bases are available in a variety of

material finishes and sizes. Bases can be fabricated as a single unit, double or triple inline unit, and tri-sided and four-sided units. The single unit and inline bases can be configured for one or two-sided display. All of the uprights, (in

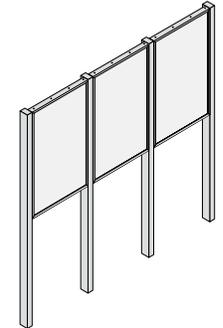
certain preset sizes) are available with or without a roof structure. Each base is designed to hold panels or other accessories including bulletin cases.



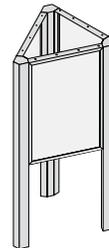
Upright Base



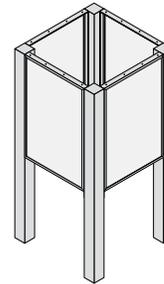
Upright Inline 2



Upright Inline 3



Upright Tri (Tri-Side)



Upright Quad (Four-Side)

VIS Hardware Base Material Options

VIS base hardware is available in three standard material options: weathering steel, galvanized steel, and painted aluminum. For painted aluminum bases there are three standard color choices.



Weathering Steel

Weathering steel is an excellent material option for many NPS sites. Over time, with exposure to the elements, the bases turn a golden brown.

The bases are virtually maintenance free and do not require painting once installed.

Weathering steel bases can last well over 15 years.

Bases shipped are not pre weathered. When they arrive the bases are black and begin the weathering process when exposed to the elements.



Galvanized Steel

Galvanized steel is an excellent choice for saltwater and other marine sites. Prior to final fabrication the base legs and frame are hot dipped galvanized which imparts a protective finish to the steel.

The bases are virtually maintenance free, show little if any sign of rust inhibition, and do not require painting once installed.

Galvanized steel bases can last well over 15 years.

When they arrive the bases have a shiny silver finish. Over time the bases patina to a dull grey.



Aluminum

Aluminum bases are a good all around choice for many NPS sites. Aluminum bases are primed and painted.

The bases are not maintenance free and do require occasional field cleaning and touch up to keep them looking good.

Aluminum bases are available in three standard paint colors. All bases are painted with a coarse spatter coat finish for added durability.

Standard Aluminum Paint Finish Colors



**NPS Dark Brown
Matthews Paint
MP63856 with
Spatter Finish**



**NPS Medium Grey
Matthews Paint
MP63850 with
Spatter Finish**



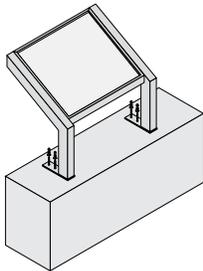
**NPS Brown
Matthews Paint
MP63848 with
Spatter Finish**

VIS Hardware Mounting Options

The chart to the right provides a basic overview of the hardware installation options available in the VIS system. Refer to the fabrication details for more information.

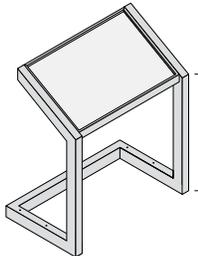
Cap Mount (CM)

Wall mounted bases use a modified baseplate that facilitates installation on low walls.



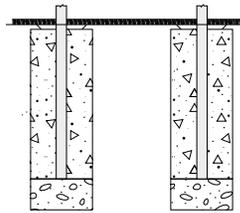
Sled Base (SB)

The sled base allows the frame and post to be free standing. For security the base can be mounted with threaded rods.



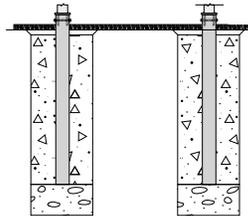
Direct Embedment (DE)

Direct embedment is the typical mounting method for all VIS hardware. Post depth is typically 30" to 36" and posts are secured with concrete.



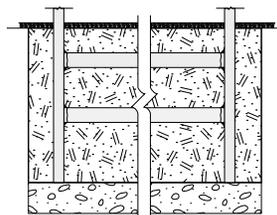
Direct Embedment Socket Mount (SM)

Socket mounting allows the VIS base to be removed. Oversized sleeves are secured in the ground and the base can slide in and out. This is an excellent choice for park areas with huge snowfall or flood conditions.



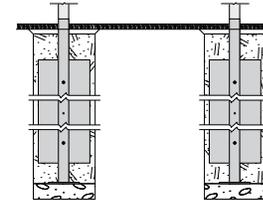
Direct Embedment Stabilizer Bars (SB)

Stabilizer bars are a mounting accessory for direct embedment. The bars are welded to each base leg and prevent racking due to loose and shifting soil. This is a good choice for seashore conditions.



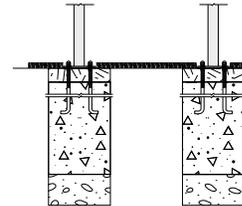
Direct Embedment Stabilizer Fins (SF)

Stabilizer fins are another mounting accessory for direct embedment. Plates are attached to each base leg. The fins allow installation of the base without the use of concrete.



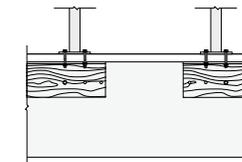
Baseplate Mount (BP)

Baseplate mounting allows installation with the base with a welded baseplate and j-bolt anchors. A good choice where deep footers are required or on existing concrete or hard surfaces.



Deck Mount (DM)

Deck mount hardware uses a baseplate and anchors to install the base on wooden decks and walkways. Deck mounts are typically custom and site specific.



VIS Panels

VIS graphic panels are designed to provide an attractive and consistent way to present a broad range of messages. This includes park and facility identity, park regulations, safety warnings, information, interpretation, pedestrian guidance, low speed motorist guidance, and other wayfinding information including maps. The modular grids and design

standards of VIS signs allows presentation of content in discrete, easily comprehended “eyefuls” which aids in visitor comprehension and retention of information.

Please refer to the *Visitor Information System, Panel Specification Manual* for more information.

Panels may be produced in: porcelain enamel, high pressure laminate, fused polycarbonate, fiberglass embedment, digitally printed adhesive vinyl, or computer cut retro-reflective sheeting.

Selection of material is based on life-cycle cost, budget, exposure to wear, and need for retro-reflective legends if viewed from an automobile. Production methods include digital printing, screen printing, and adhesive-backed computer-cut vinyl.

Park Identity and Entrance Signs



Park Fee Signs

Dry Tortugas National Park	
Entrance Fee (Valid for 7 Days with Receipt)	
Per Person (Age 16+)	\$20
Seasonal / Annual Passes	
Dry Tortugas Seasonal (July-September)	\$35
Interagency Annual (Multiple Federal Fee Areas)	\$80
Lifetime Passes (U.S. Citizens / Permanent Residents)	
Interagency Senior (Age 62+)	\$10
Interagency Access (Permanently Disabled)	Free

Informational Signs



Warning and Danger Signs

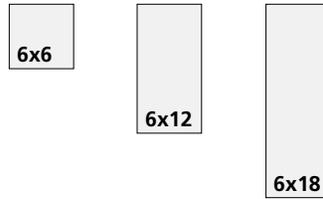


6" and 12" Series Panel Sizes

A modular system of panels is available to fit all the VIS hardware bases. Panel dimensions are specified by width(w) x height(h). Panels are specified in nominal dimensions. Fabricated panels are undercut by 1/16" on each side. For example, a 6" x 6" panel is 5 7/8" x 5 7/8". Post size is determined by panel or base size. Refer to the VIS Post Hardware charts in the fabrication details.

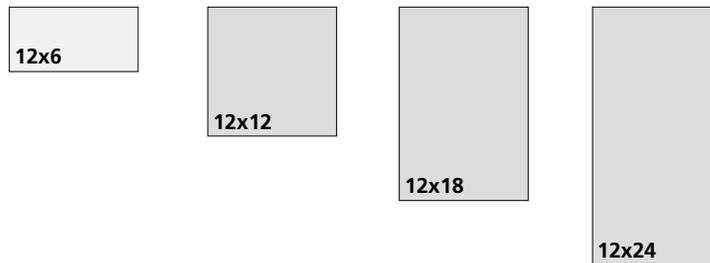
6" Series Panels

VIS Hardware Assembly Series: TS and UP

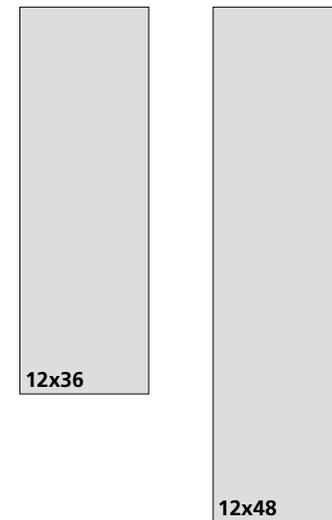


12" Series Panels

VIS Hardware Assembly Series: LP and UP



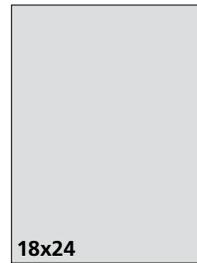
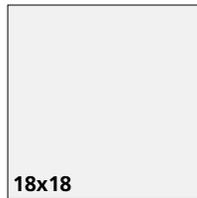
VIS Hardware Assembly: UP



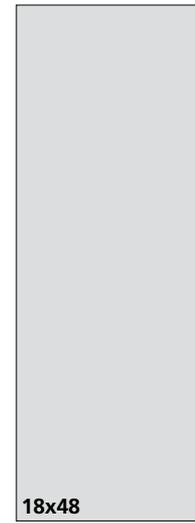
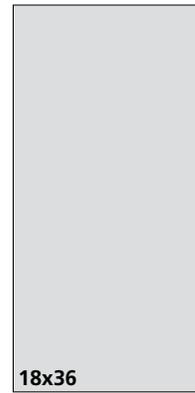
18" and 24" Series Panel Sizes

18" Series Panels

VIS Hardware Assembly Series: LP and UP

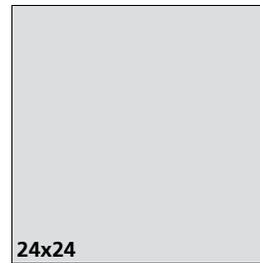
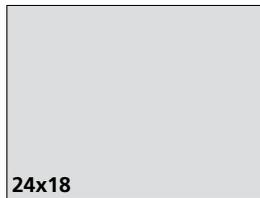
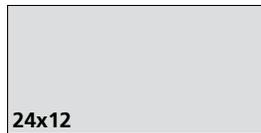


VIS Hardware Assembly Series: UP

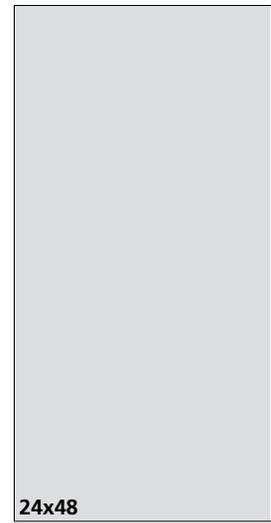
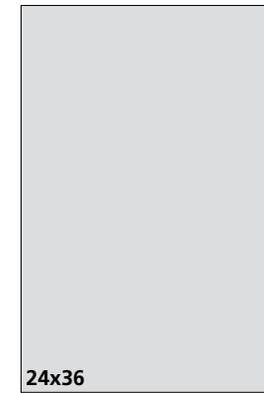


24" Series Panels

VIS Hardware Assembly Series: LP and UP



VIS Hardware Assembly Series: UP

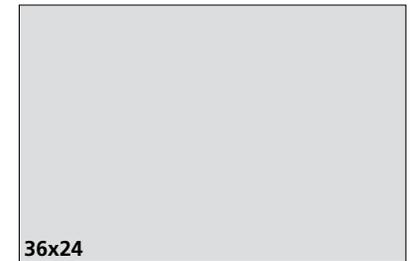
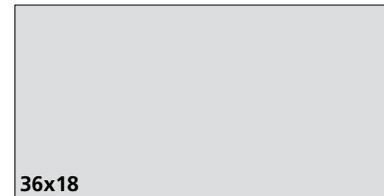


-  2x2 Post
-  2x3 Post

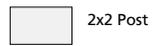
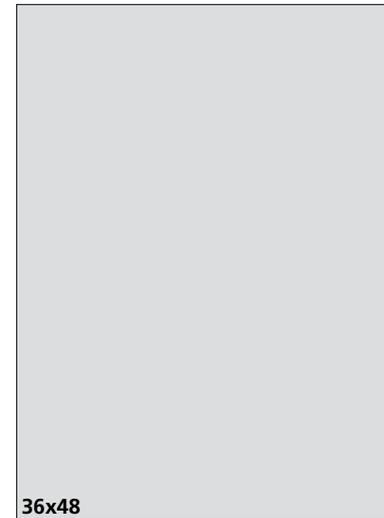
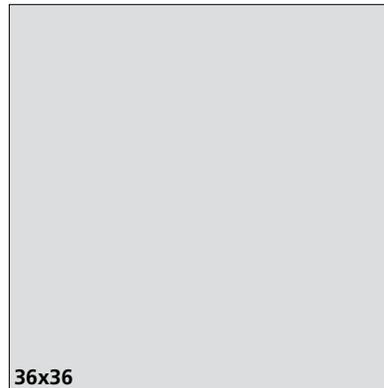
36" Series Panel Sizes

36" Series Panels

VIS Hardware Assembly Series: LP and UP



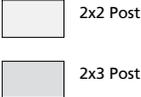
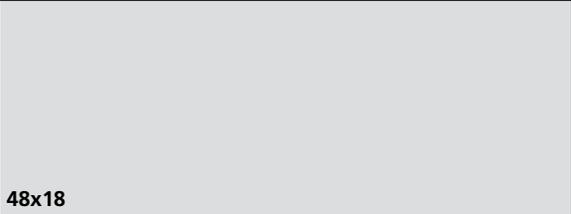
VIS Hardware Assembly Series: UP



48" Series Panel Sizes

48" Series Panels

VIS Hardware Assembly Series: LP and UP



VIS Hardware Assembly Codes

Although the VIS is a system of simple components, material choices, panel sizes, and mounting options offer a multitude of fabrication options. In order to adequately describe a base and its attributes a code system has been created to aid in specification of base hardware.

The code system provides the information necessary to describe the base, its size, mounting, and other options for fabrication. A sample specification code looks like this:

UP_24x36_WS_DE_PF_BC

The code breaks down as follows:

UP

This is the frame type. UP is the specification code for an upright base.

24x36

This is nominal frame size or bulletin case size. In this case a 24 x 36 bulletin case mounts to the base.

WS

This is the material type. This frame will be made from weathering steel.

DE

This is the mounting type. This frame will be a direct embed.

PF

This is the mounting accessory. This frame posts will have post fins for inground stabilization.

BC

This is the base accessory. In this case the base will have a bulletin case instead of a panel.

How to Specify a VIS Base

With the code system it is easy to specify the base type. For this exercise it is assumed all the decisions about the base have been made including the size, panel content, material mounting, and location.

Use the Code Charts on the page 16 to specify your base.

Step 1. Choose Base Type

From the VIS Hardware Assembly Chart choose the correct assembly code. If necessary refer to the VIS Hardware Assembly Descriptions on page 7.

Step 2. Choose Nominal Panel Size

If necessary refer to Panel Size Charts, beginning page 11.

Step 3. Choose Base Material

Weathering steel, galvanized steel, or painted aluminum.

Step 4. Choose Mounting Method

Step 5. Choose Mounting Accessory (If Required)

Step 6. Choose Base Accessory

This could be a bulletin case, brochure dispenser, or roof structure for a tri or quad upright.

Step 7. Additional Notes

Here you would indicate additional information for the fabricator including custom requests or modifications and colors.

VIS Hardware Assembly Codes Charts

VIS Hardware Assembly Type

Code	Descriptions
TS	Trailside Base
WM	Wall Mount
LP	Low Profile Wayside Base
UP	Upright Base
UPN2	Upright Inline 2 (Double)
UPN3	Upright Inline 3 (Triple)
UPTR	Upright Tri-Sided (Kiosk)
UPQU	Upright Quad-Sided (Kiosk)

VIS Material Options Chart

Code	Descriptions
WS	Weathering Steel
GS	Galvanized Steel
AL	Painted Aluminum

VIS Hardware Mounting Type

Code	Descriptions
DE	Direct Embedment
BP	Base Plate
SM	Socket Mount
SB	Sled Base (Free Standing)
DM	Deck Mount
WM	Wall Mount

VIS Hardware Mounting Accessory

Code	Descriptions
PF	Post Fins (Embed w/o Concrete)
SB	Stabilizer Bars (For Shifting Soils)

VIS Hardware Accessory

Code	Descriptions
BC	Bulletin Case
BH	Brochure Holder
MP	Miscellaneous posting
RS	Roof Structure (Upright Only)
SK	Strap Kit

Section I

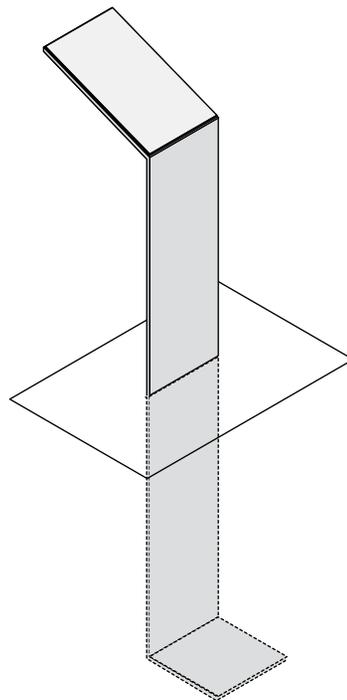
Trailside Series (TS)

Trailside Series Overview (TS)	18
Trailside Base Sizes	19
6" Series	

Trailside Series Overview (TS)

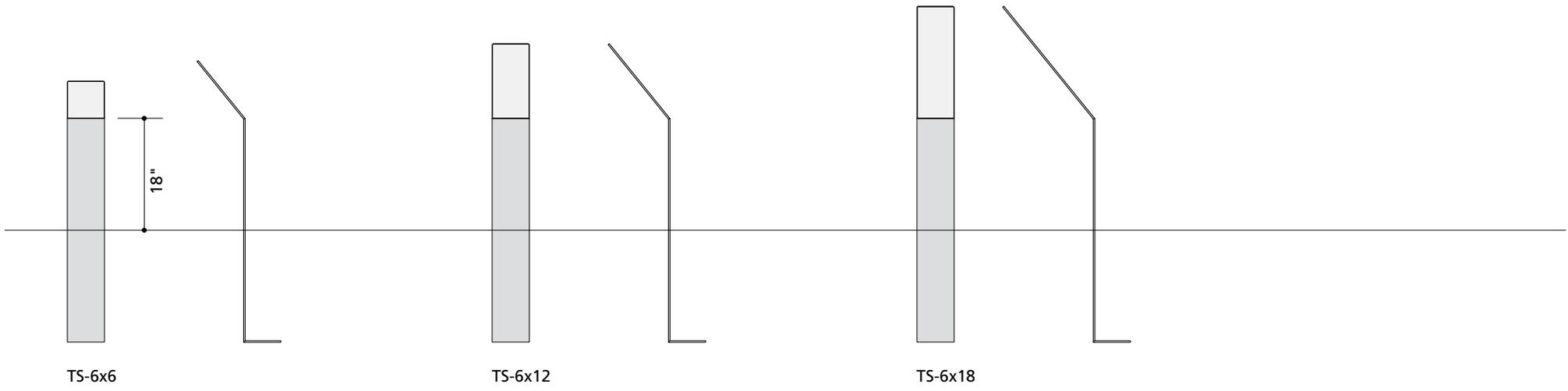
Small and simply formed, NPS “trailside” exhibits bases offer an unobtrusive way to provide brief interpretive message or important safety information with minimal impact on the landscape. Trailside bases are available in several materials

(weathering or galvanized steel, or painted aluminum) and can accommodate several types of graphic panels, attached with stainless steel barrel nuts as shown on page 58. The final assembly is mounted by direct embedment into the ground.



6" Series

Scale: 1/2" = 1'



Section II

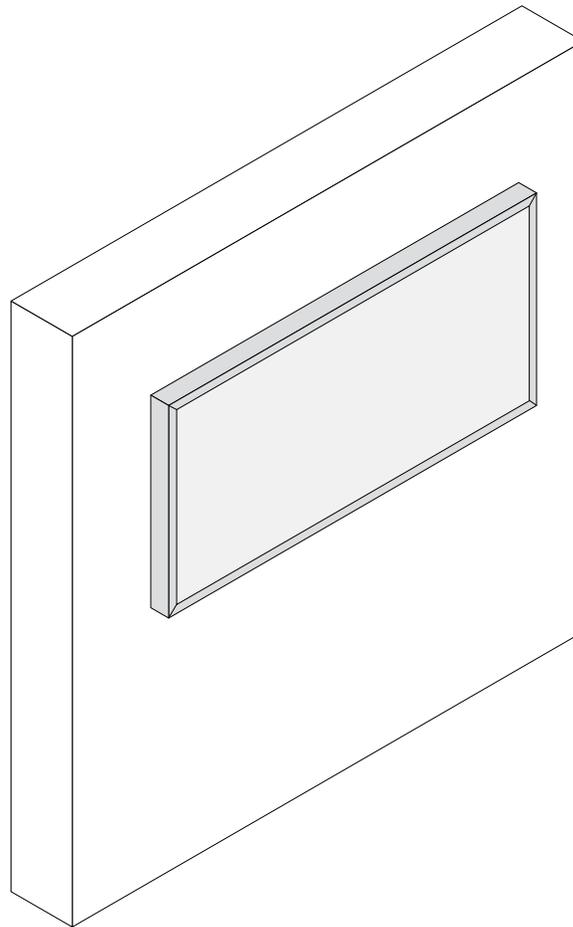
Wall Mount Series (WM)

Wall Mount Series Overview (WM)	21
Wall Mount Frame Sizes	22
12" Series	
18" Series	
24" Series	
36" Series	
48" Series	

Wall Mount Series Overview (WM)

When possible and permitted, graphic panels may be mounted on walls or buildings rather than on a free-standing exhibit base by using the frame assembly illustrated here. These frames are available in weathering or galvanized steel,

or in painted aluminum, along with all required mounting hardware (see page 63 for mounting details). The top frame member is secured by a replaceable set screw which can be easily removed to allow panel replacement.

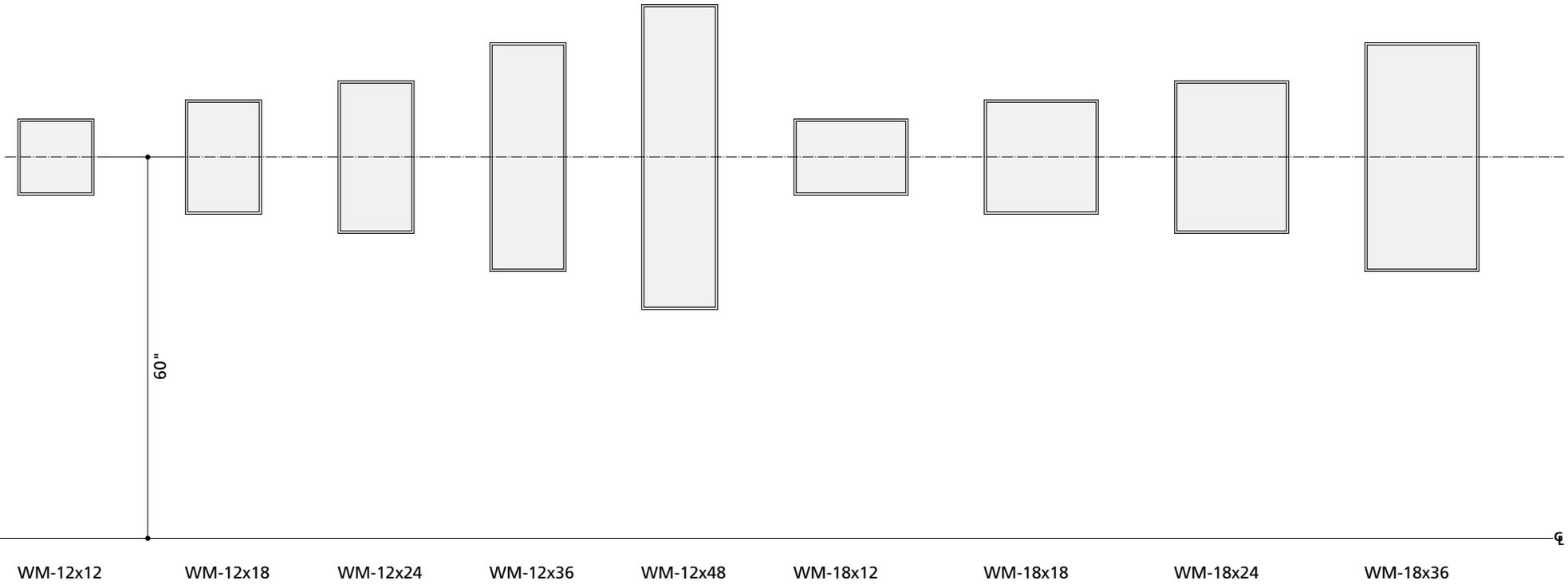


12" Series

Scale: 1/2" = 1'

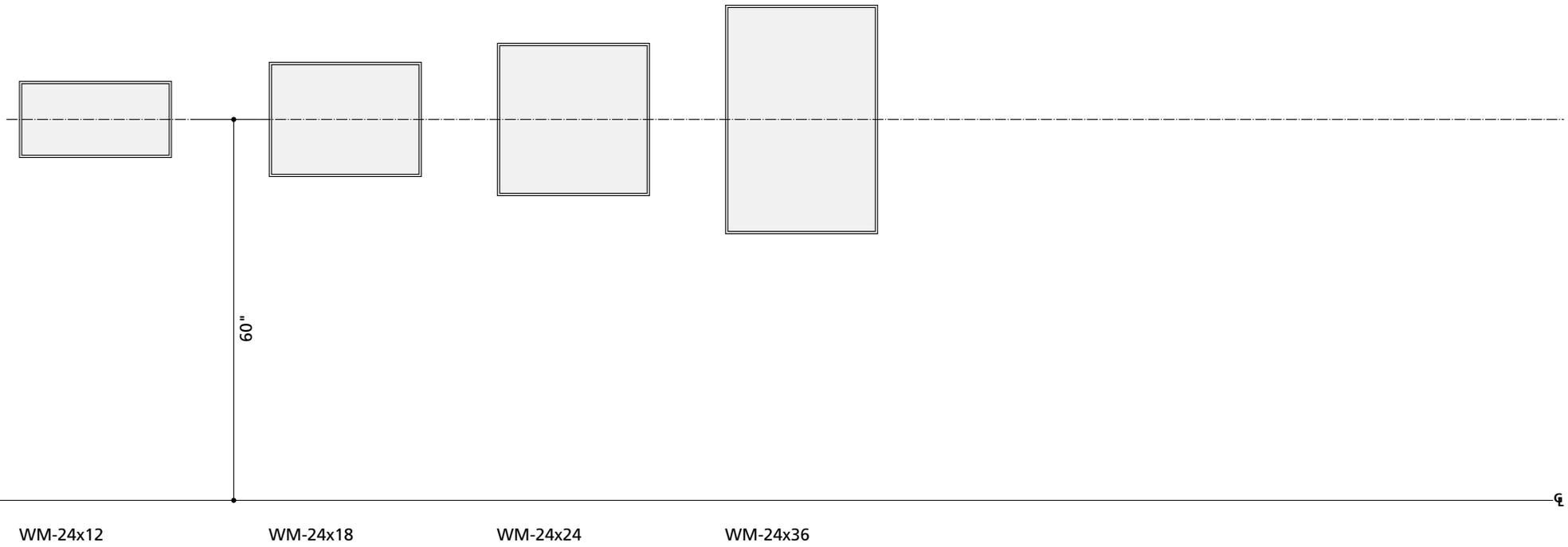
18" Series

Scale: 1/2" = 1'



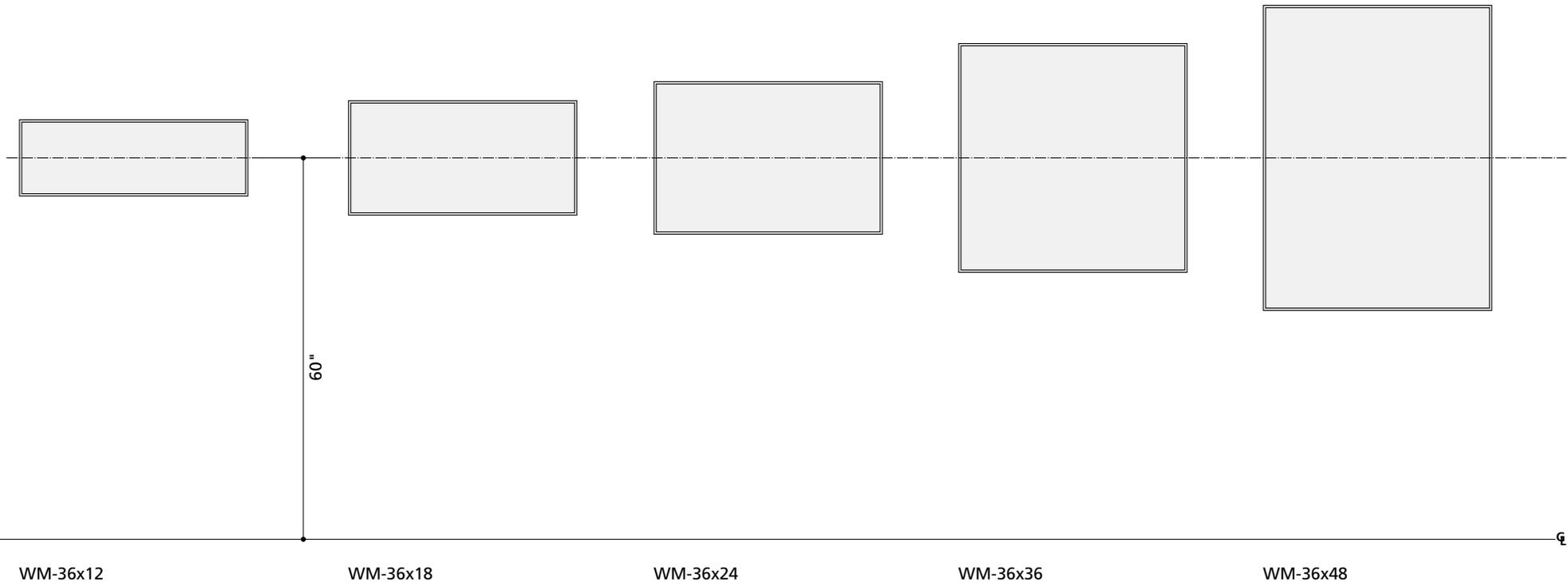
24" Series

Scale: 1/2" = 1'



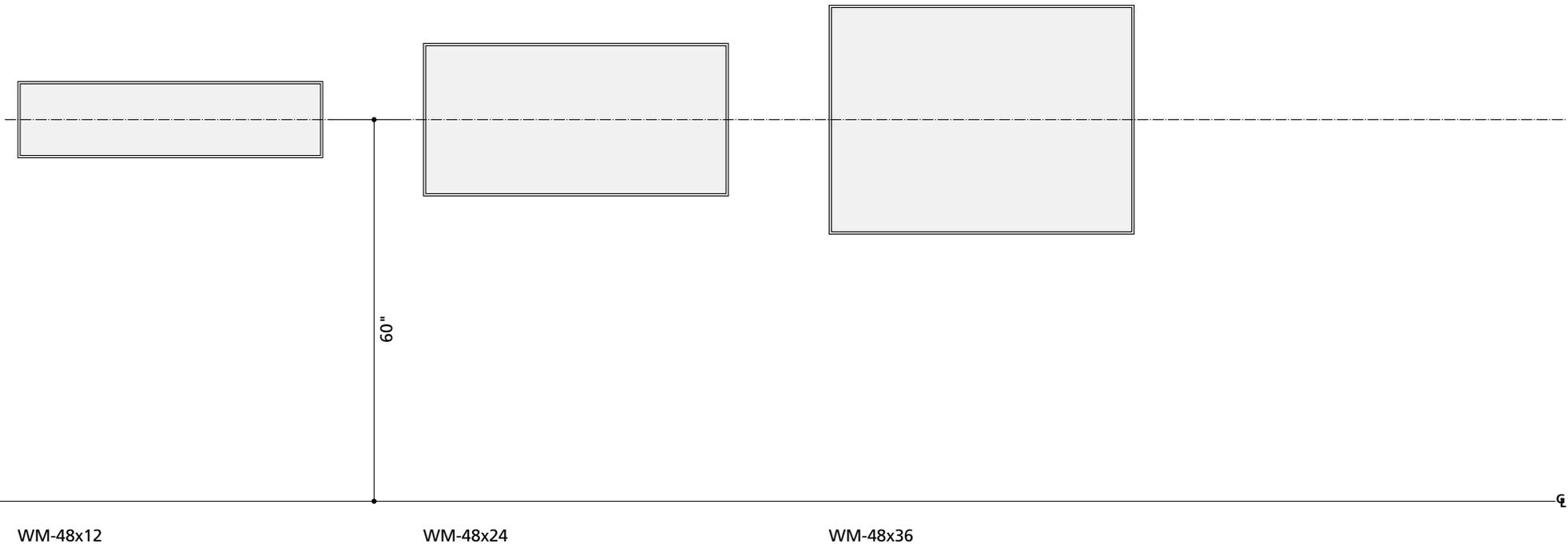
36" Series

Scale: 1/2" = 1'



48" Series

Scale: 1/2" = 1'



Section III

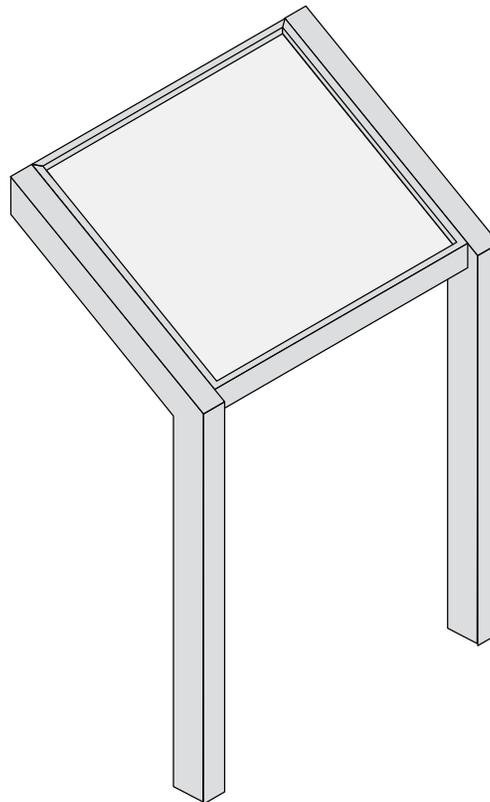
Low Profile Series / Wayside Series (LP)

Low Profile Overview (LP)	27
Low Profile Base Sizes	28
6" Series	
12" Series	
18" Series	
24" Series	
36" Series	
48" Series	

Low Profile Series Overview (LP)

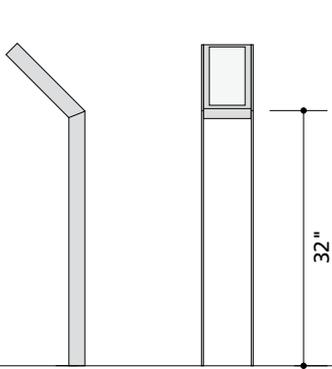
NPS “low-profile” wayside exhibit bases are designed to diminish their presence on the landscape by using the least material required to securely hold an exhibit panel. Panels are positioned at a 45-degree angle to permit visitors a clear view of the feature that the exhibit interprets. Bases are available in three materials, appropriate to a variety of landscapes: weathering steel for forested or desert environments; galvanized steel for coastal zones; and painted aluminum (in three standard colors) for urban

areas. The first two materials require little maintenance. The legs of most wayside bases are directly embedded into the ground, although other mounting methods are available to accommodate site conditions. As illustrated on the following pages, NPS waysides bases come in a wide range of panel sizes which are held within a full-frame assembly. The top frame member is secured by a replaceable set screw which can be easily removed to allow panel replacement.

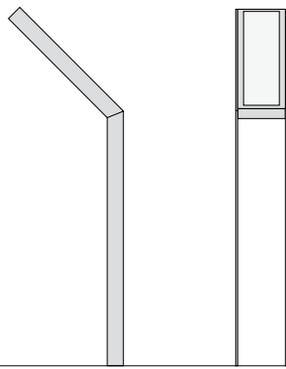


6" Series

Scale: 1/2" = 1'



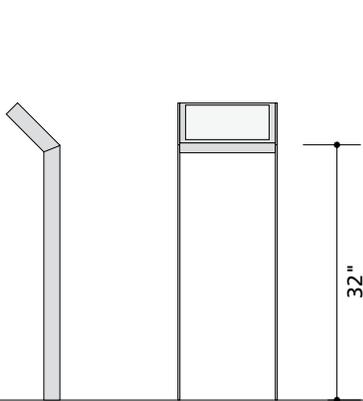
LP-6x12
Barstock Post



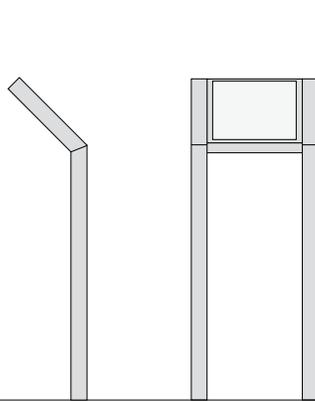
LP-6x12
Barstock Post

12" Series

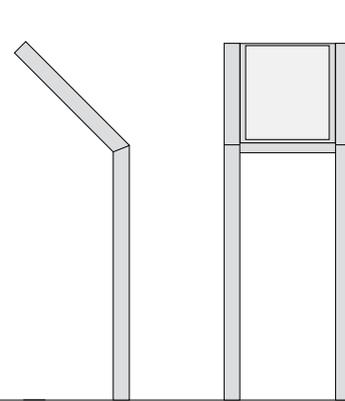
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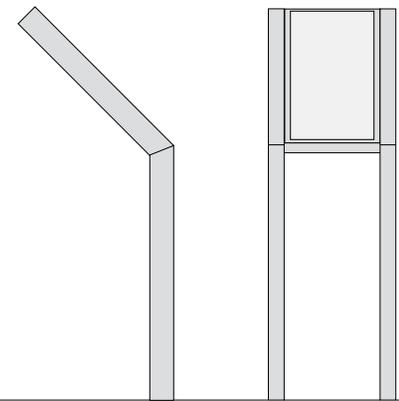
LP-12x6
Barstock Post



LP-12x12
*Barstock Post
2x2 Post*



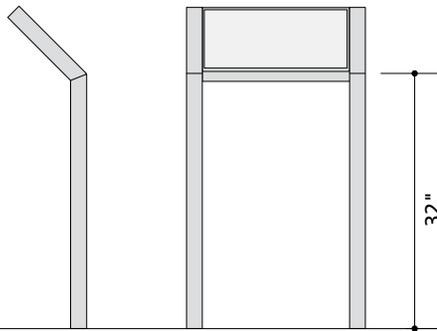
LP-12x18
2x2 Post



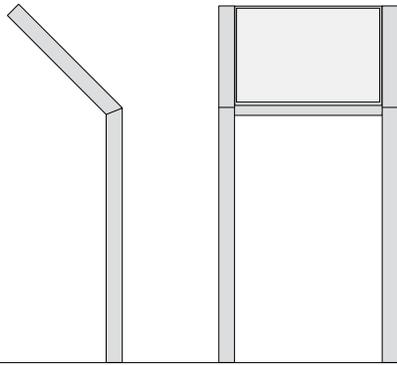
LP-12x18
2x3 Post

18" Series

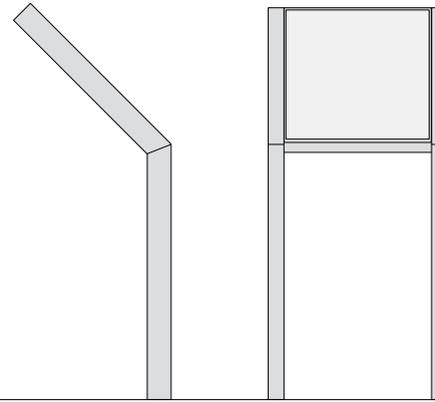
Scale: 1/2" = 1'



LP-18x12
Barstock Post
2x2 Post



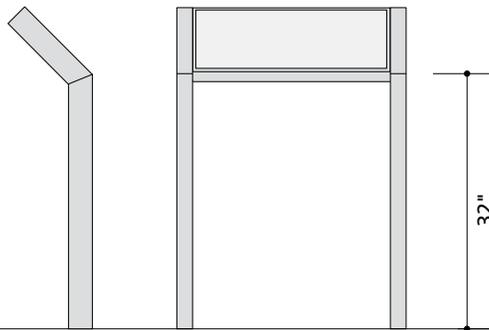
LP-18x18
2x2 Post



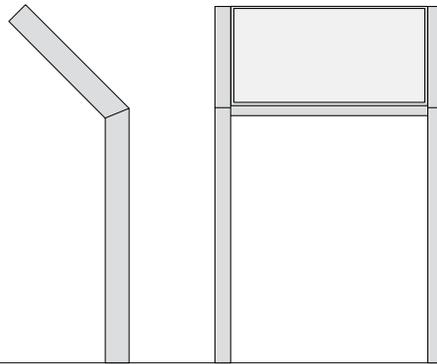
LP-18x24
2x3 Post

24" Series

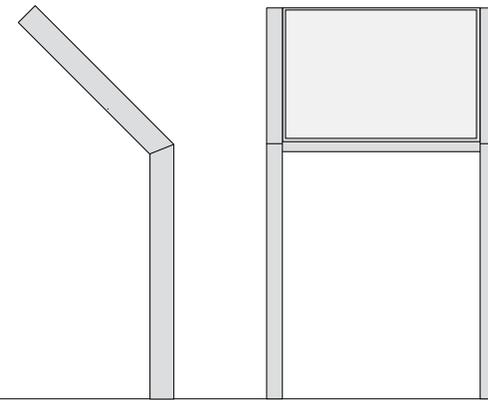
Scale: 1/2" = 1'



LP-24x12
2x3 Post



LP-24x18
2x3 Post



LP-24x24
2x3 Post

36" Series

Scale: 1/2" = 1'



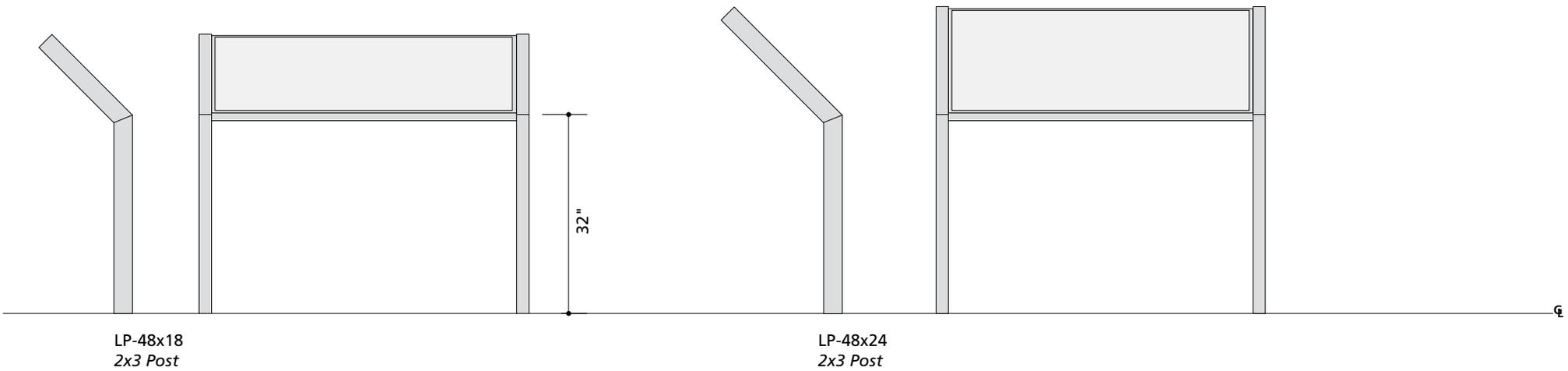
LP-36x12
2x3 Post

LP-36x18
2x3 Post

LP-36x24
2x3 Post

48" Series

Scale: 1/2" = 1'



LP-48x18
2x3 Post

LP-48x24
2x3 Post

Section IV

Upright Series Architecture (UP)

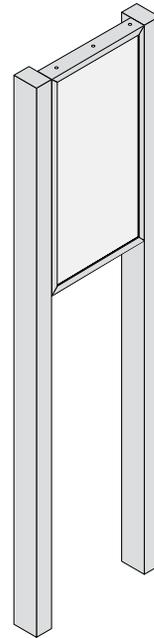
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12" Series		36" Series	
18" Series			
24" Series		Upright Quad-Sided Series Overview (UPQU)	43
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		36" Series	
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Upright Inline 3 Base Sizes	40	Upright Tri Series	
24" Series		UprightQuad Series	
36" Series			

Upright Series Overview (UP)

NPS “upright” bases—which are designed to stand vertically so they attract attention—typically present more general information than the interpretive messages their “low-profile” counterparts offer. Upright bases are typically used at trailheads or boat ramps, near visitor centers, in parking areas or campgrounds, and at similar points of assembly or access. Bases are available in three materials, appropriate to a variety of landscapes: weathering steel for forested or desert environments; galvanized steel for coastal zones; and painted aluminum (in three standard

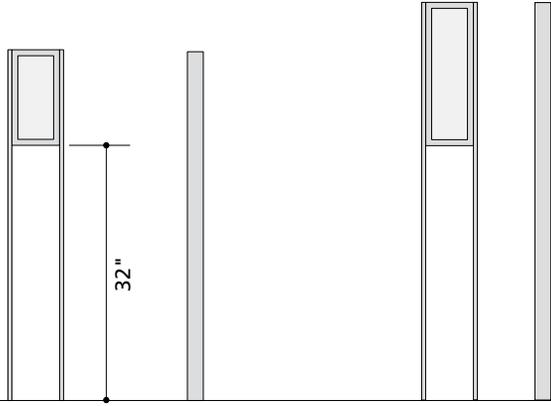
colors) for urban areas. The first two materials require little maintenance. The legs of most upright bases are directly embedded into the ground, although other mounting methods are available to accommodate site conditions. As illustrated on the following pages, NPS upright bases come in a wide range of panel sizes which are held within a full-frame assembly. The top frame member is secured by a replaceable set screw which can be easily removed to allow panel replacement.

This illustration shows a single exhibit panel. (Note: The single panel shown here can be “double-sided” in order to have two display surfaces.) The Upright Series hardware can also support a bulletin case or other accessories (on one or both sides) as illustrated elsewhere in this manual.



6" Series

Scale: 1/2" = 1'

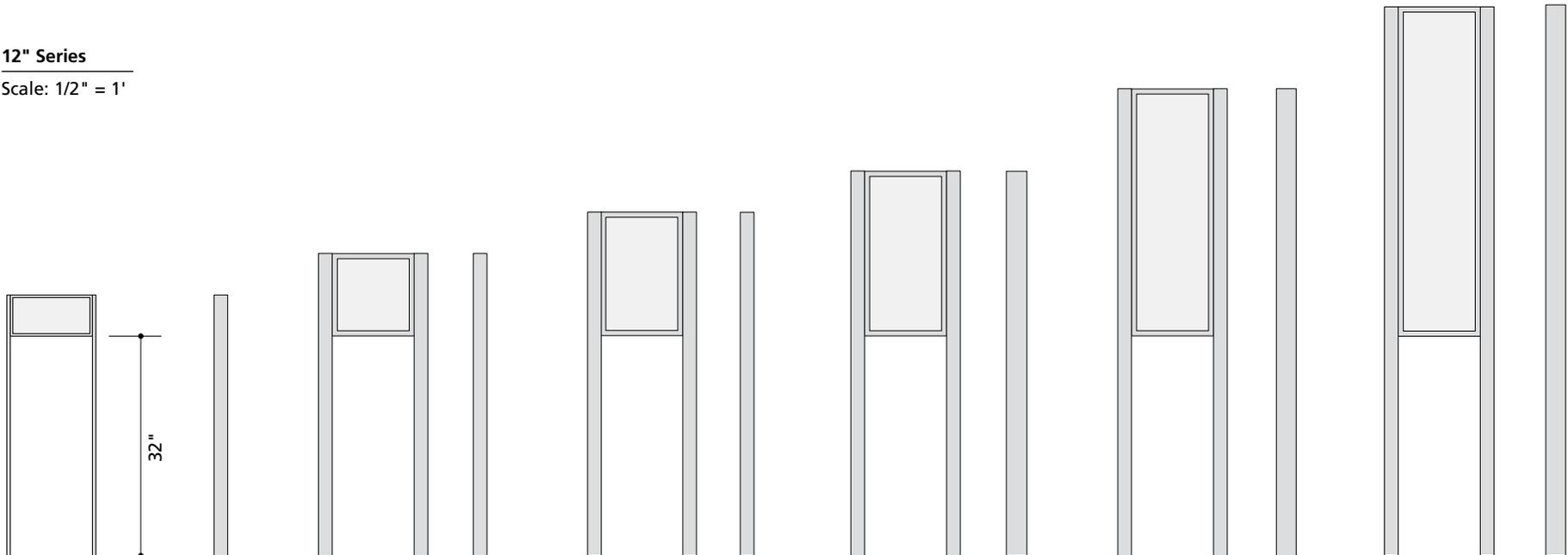


UP-6x12
Barstock Post

UP-6x18
Barstock Post

12" Series

Scale: 1/2" = 1'



UP-12x6
Barstock Post

UP-12x12
Barstock Post
2x2 Post

UP-12x18
Barstock Post
2x2 Post

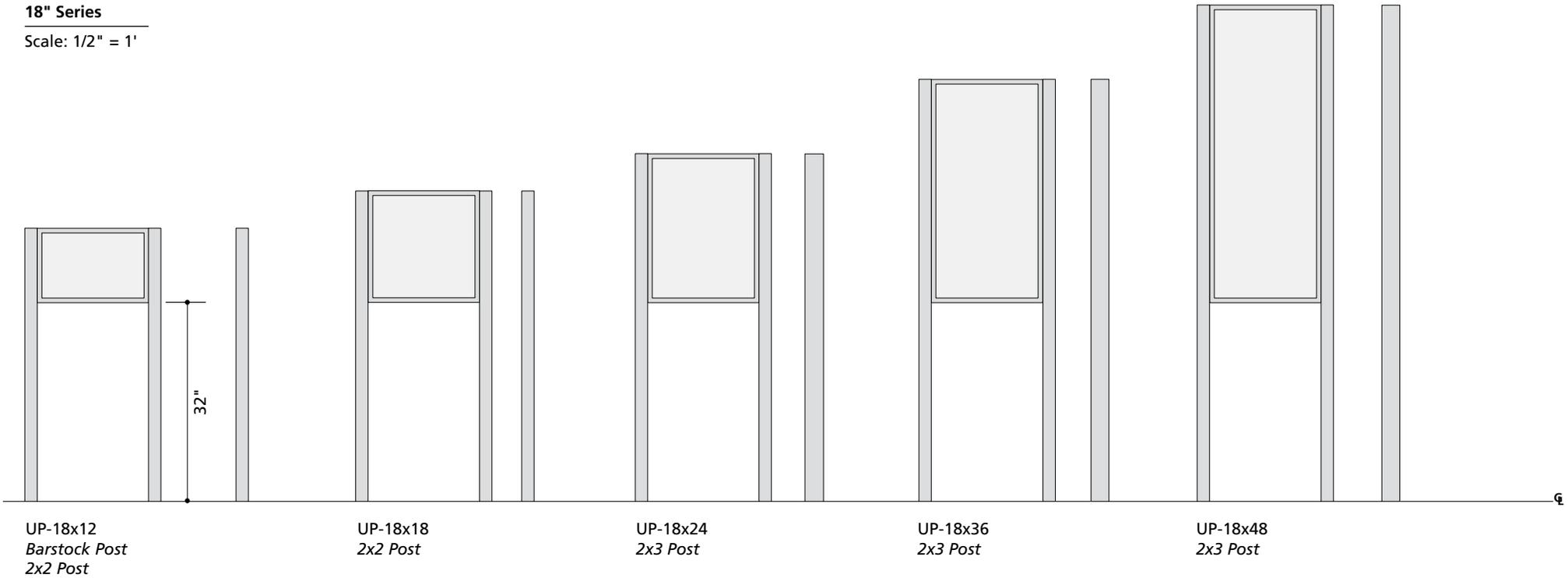
UP-12x24
2x3 Post

UP-12x36
2x3 Post

UP-12x48
2x3 Post

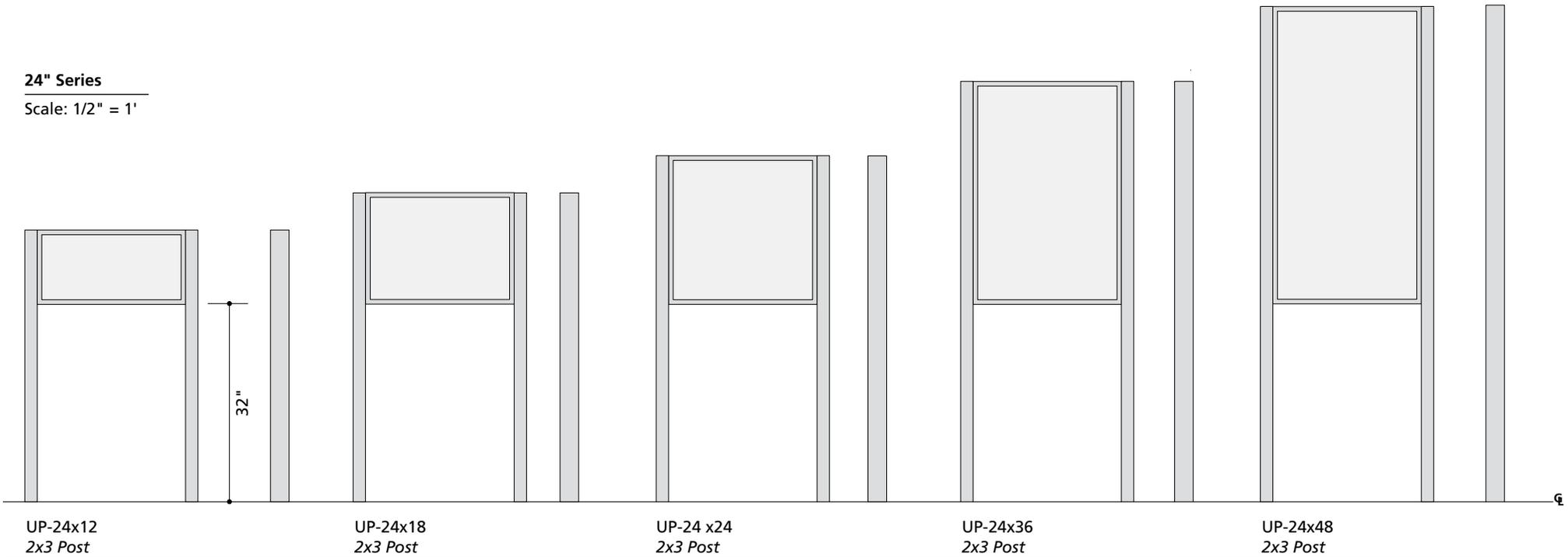
18" Series

Scale: 1/2" = 1'



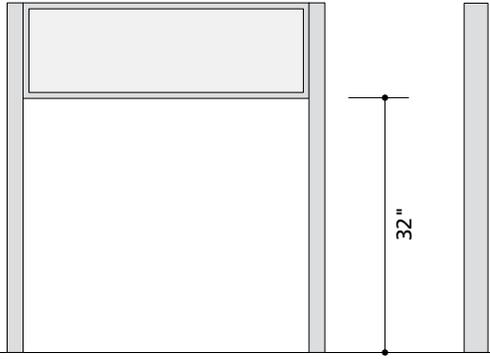
24" Series

Scale: 1/2" = 1'



36" Series

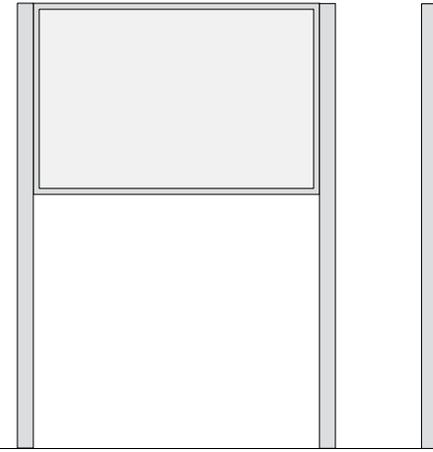
Scale: 1/2" = 1'



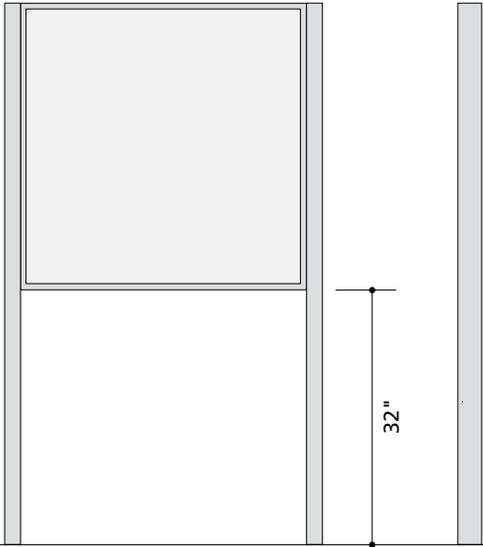
UP-36x12
2x3 Post



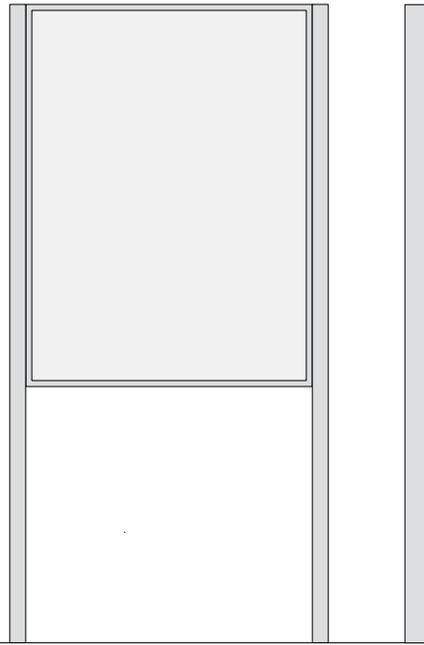
UP-36x18
2x3 Post



UP-36x24
2x3 Post



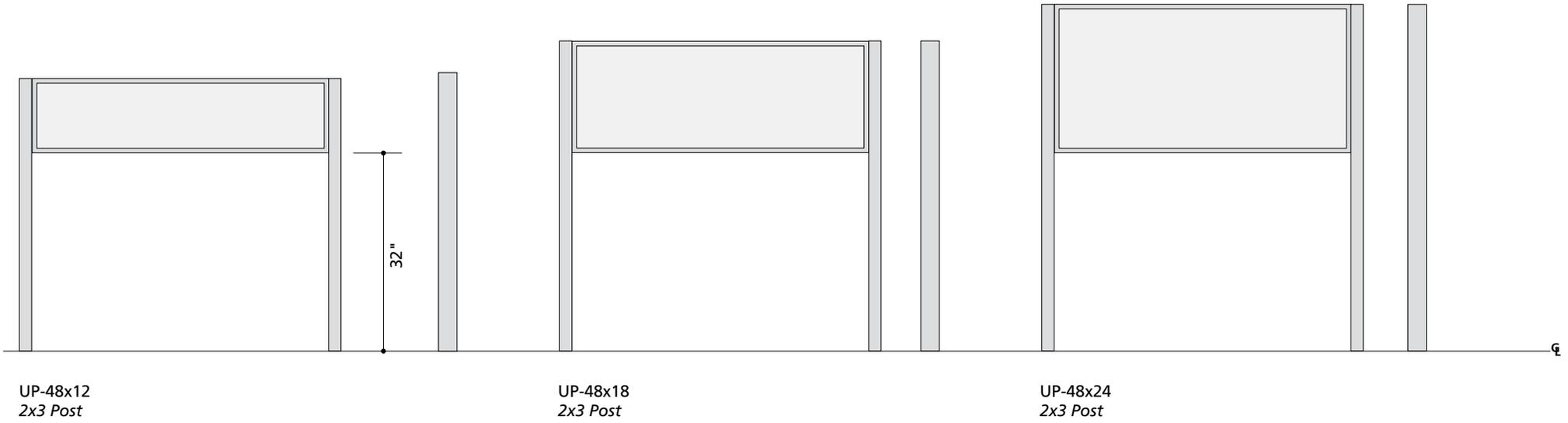
UP-36x36
2x3 Post



UP-36x48
2x3 Post

48" Series

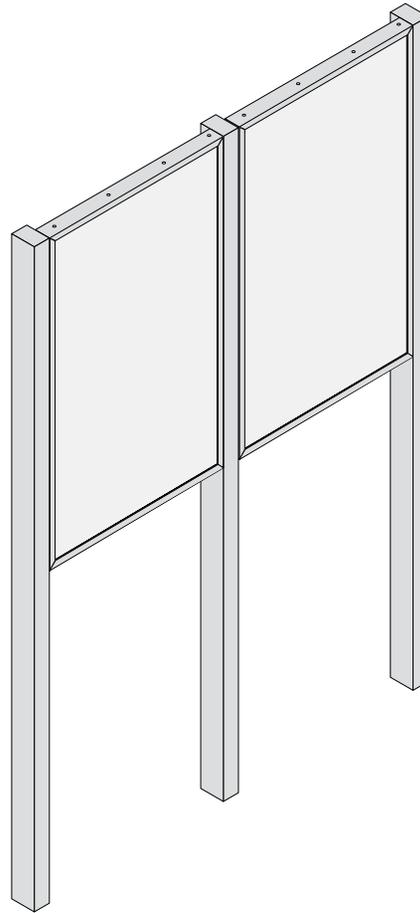
Scale: 1/2" = 1'



Upright Inline 2 Series Overview (UPN2)

When more information needs to be displayed than a single exhibit can accommodate, two upright panels can be used. The material and color options for this configuration are the same as those available for the single panel assembly presented on page 31.

As with a single panel assembly, the Inline 2 Series hardware can also support a bulletin case or other accessories instead of—or in addition to—an exhibit panel. Both sides of the assembly can carry panels or accessories.

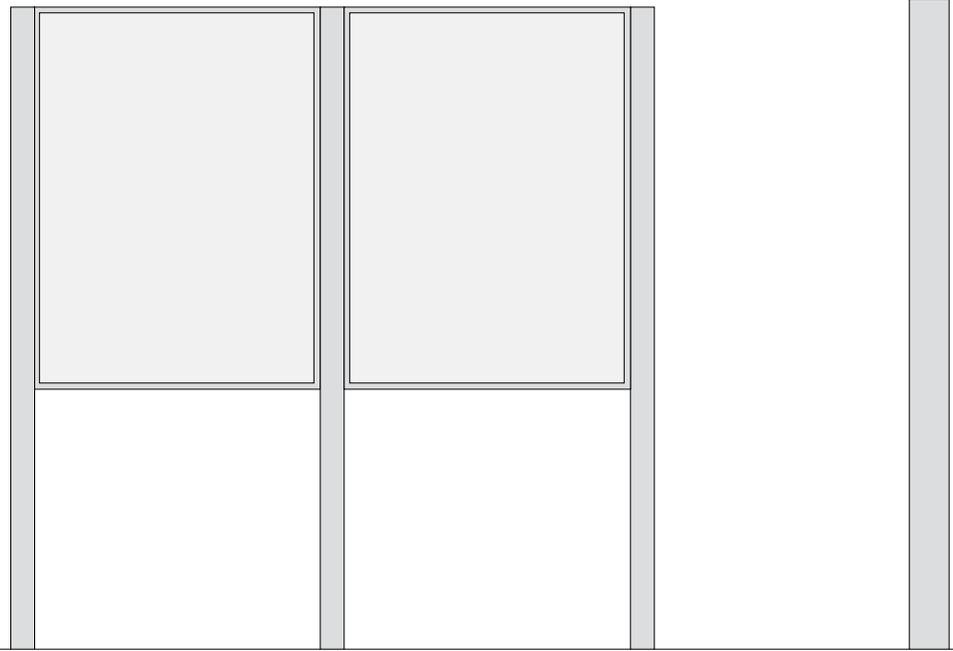
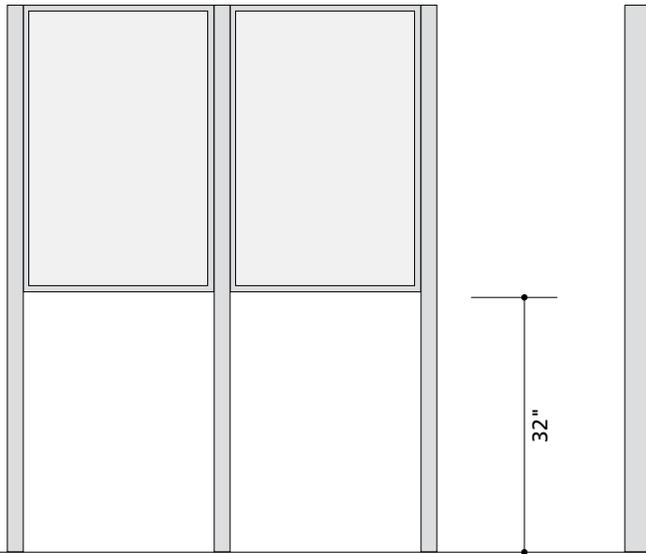


24" Series

Scale: 1/2" = 1'

36" Series

Scale: 1/2" = 1'



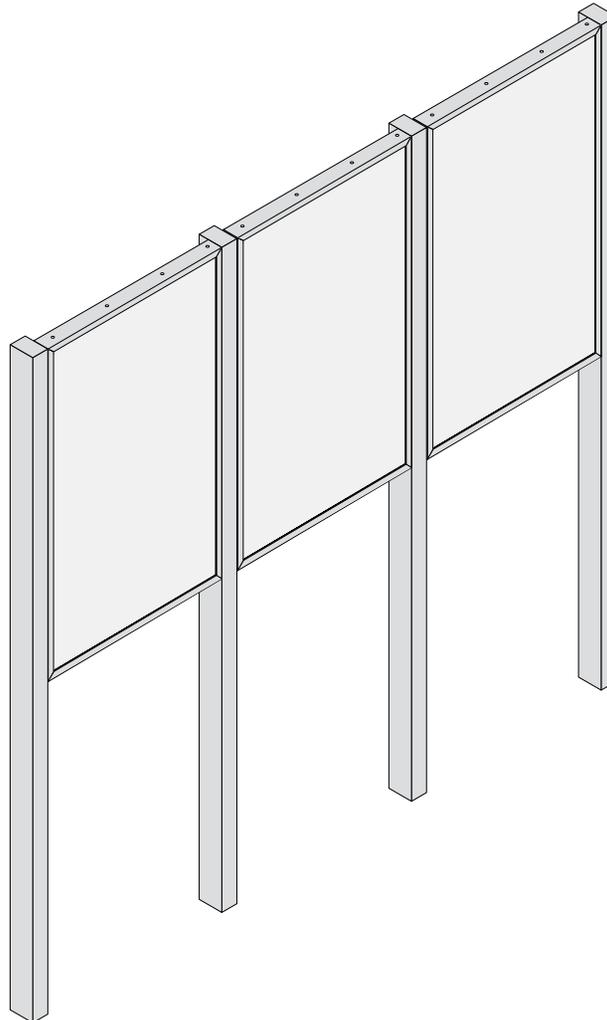
UPN2-24x36
2x3 Posts

UPN2-36x48
3x5 Posts

Upright Inline 3 Series Overview (UPN3)

When more information needs to be displayed than one or two exhibits can accommodate, three upright panels can be used. The material and color options for this configuration are the same as those available for the single panel assembly presented on page 31.

As with a single panel assembly, the Inline 3 Series hardware can also support a bulletin case or other accessories instead of—or in addition to—an exhibit panel. Both sides of the assembly can carry panels or accessories.



36" Series

Scale: 1/2" = 1'

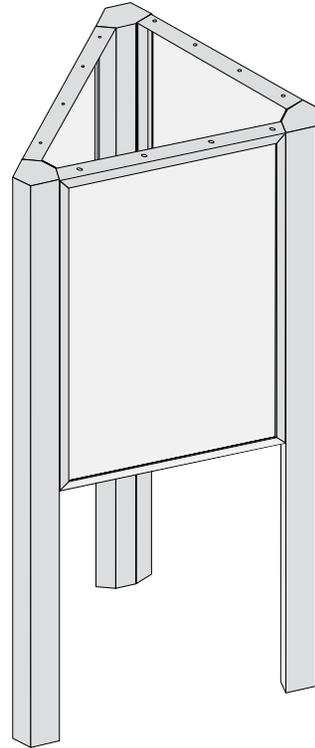


UPN3-36x48
3x5 Posts

Upright Tri-Side Series Overview (UPTR)

Arranging three upright panels in a triangular form (or four in a square as illustrated on page 42) will make them a bit less obvious that presenting them inline, and can make viewing them by multiple visitors somewhat easier. As with the Inline Series, the Tri Series can support only exhibit panels, or a bulletin case and other accessories in addition

to—or instead of—exhibit panels. The Upright Tri Series, like all NPS hardware, is typically embedded directly into the ground, although other mounting methods are available to accommodate site conditions. The Tri Series is available in weathering or galvanized steel, or in painted aluminum.

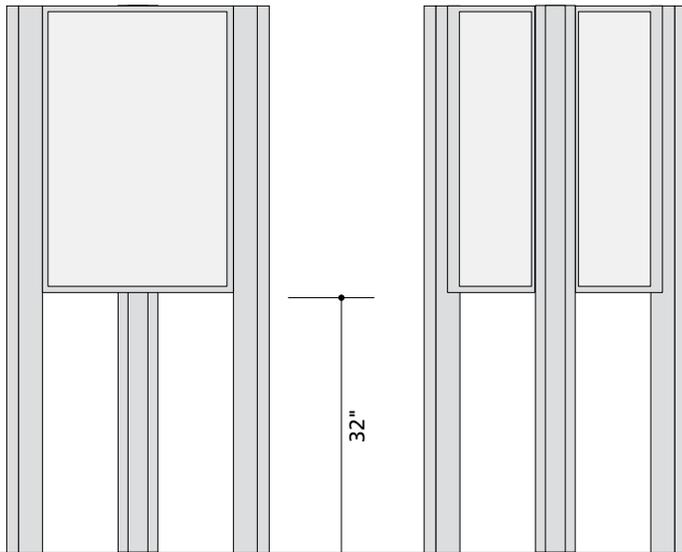


24" Series

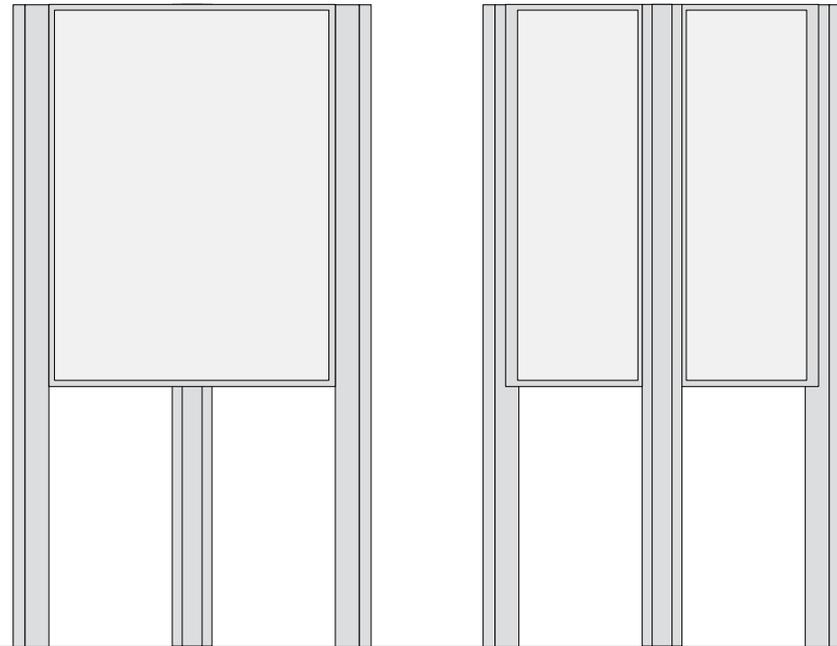
Scale: 1/2" = 1'

36" Series

Scale: 1/2" = 1'



UPTR-24x36
Custom Posts

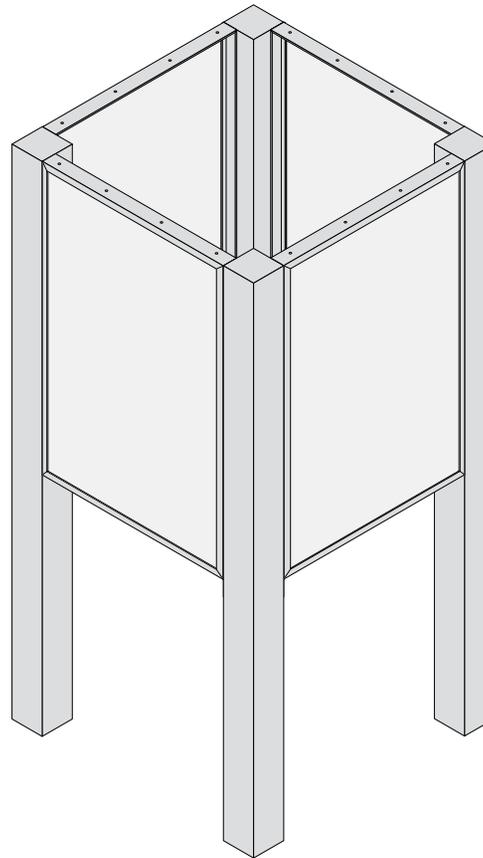


UPTR-36x48
Custom Posts

Upright Quad-Sided Series Overview (UPQU)

Upright panels can be arranged in a triangle (as illustrated on page 40) or four panels can be arranged in a square as shown here. Both can be used to support only exhibit panels, or a bulletin case and other accessories in addition to—or instead of—exhibit panels. Both the Upright Tri and the Quad Series,

like all NPS hardware, is typically embedded directly into the ground, although other mounting methods are available to accommodate site conditions. Both are also available in weathering or galvanized steel, or in painted aluminum.

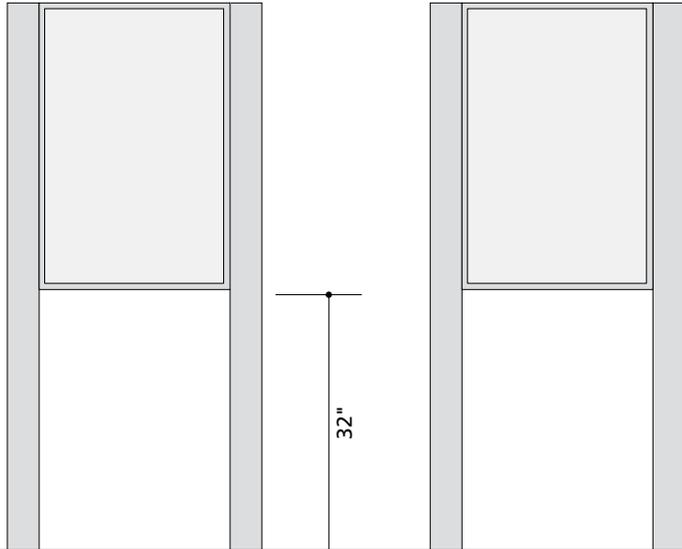


24" Series

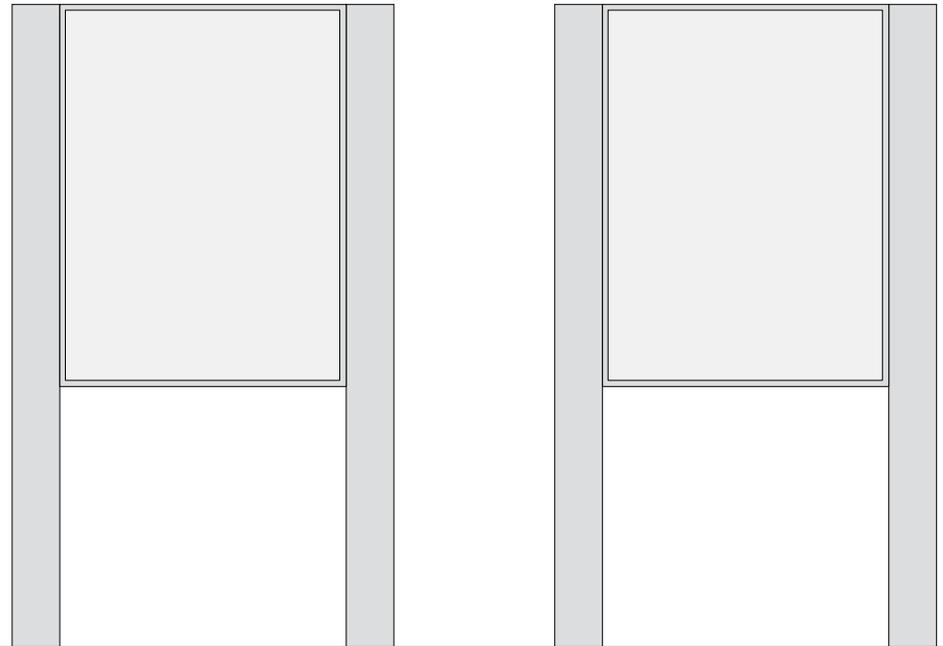
Scale: 1/2" = 1'

36" Series

Scale: 1/2" = 1'



UPQU-24x36
4x4 Posts

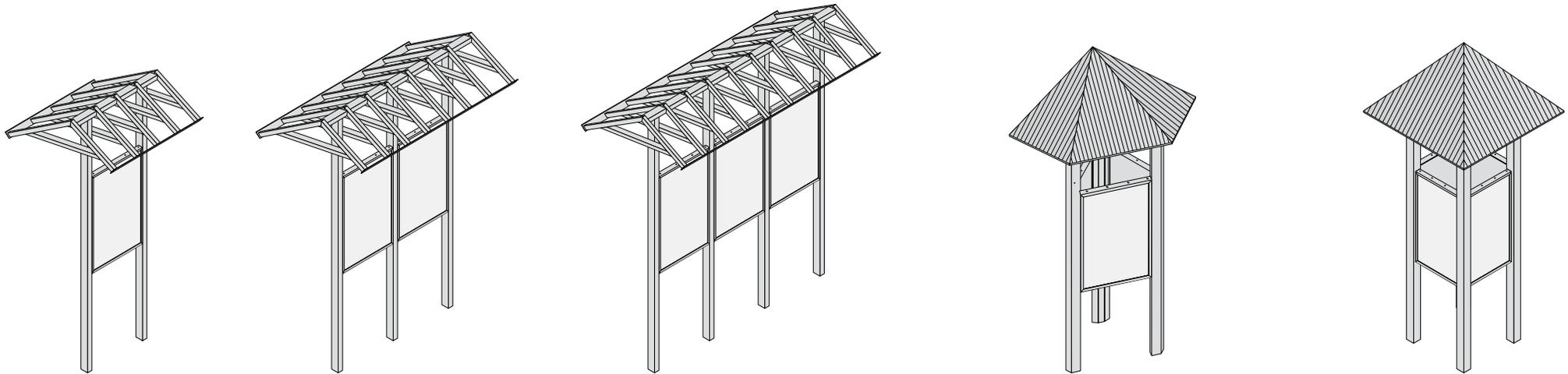


UPQU-36x48
6x6 Posts

Upright Roof Overview

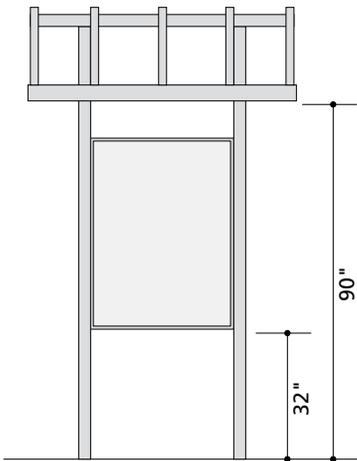
Single, inline, tri, or quad upright exhibits (in 36 x 48 panel sizes) can include a roof structure to protect panels, bulletin cases, and other accessories, and to provide shade for park visitors. Inline assemblies are typically delivered with the roof substructure (as shown below) but without roof

surface materials, which are obtained and applied by a park. However, the Tri and the Quad Series can be ordered with an aluminum roof (also see below) finished to match the other parts of the structure. (Note: all roofed structures are currently available only in painted aluminum.)

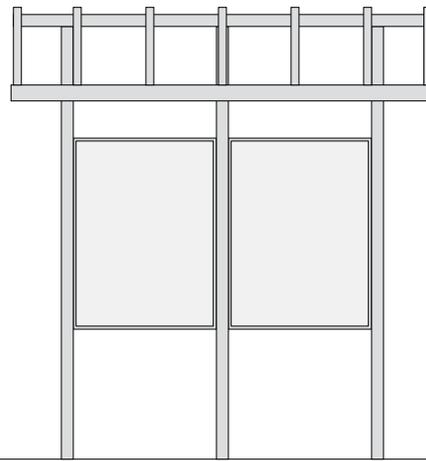


36" Series

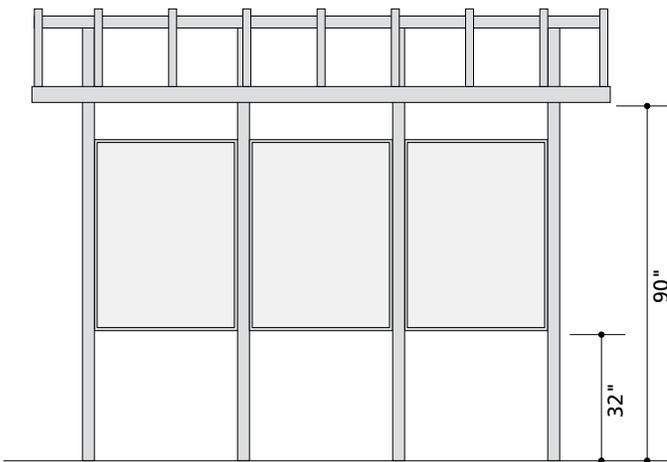
Scale: 1/2" = 1'



UP-36x48 with Roof
3x5 Post



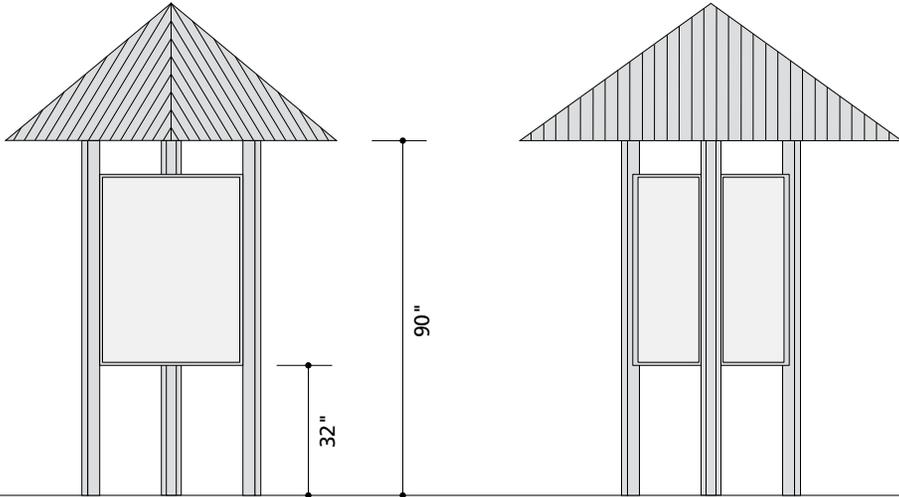
UPN2-36x48 with Roof
3x5 Post



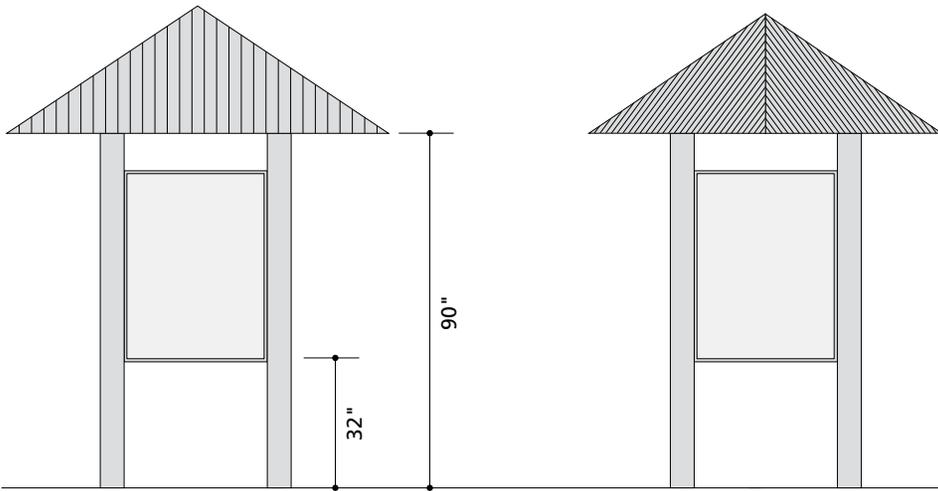
UPN3-36x48 with Roof
3x5 Post

36" Series

Scale: 1/4" = 1'



UPTR-36x48 with Roof
Custom Post



UPQU-36x48 with Roof
6x6 Post

Section V

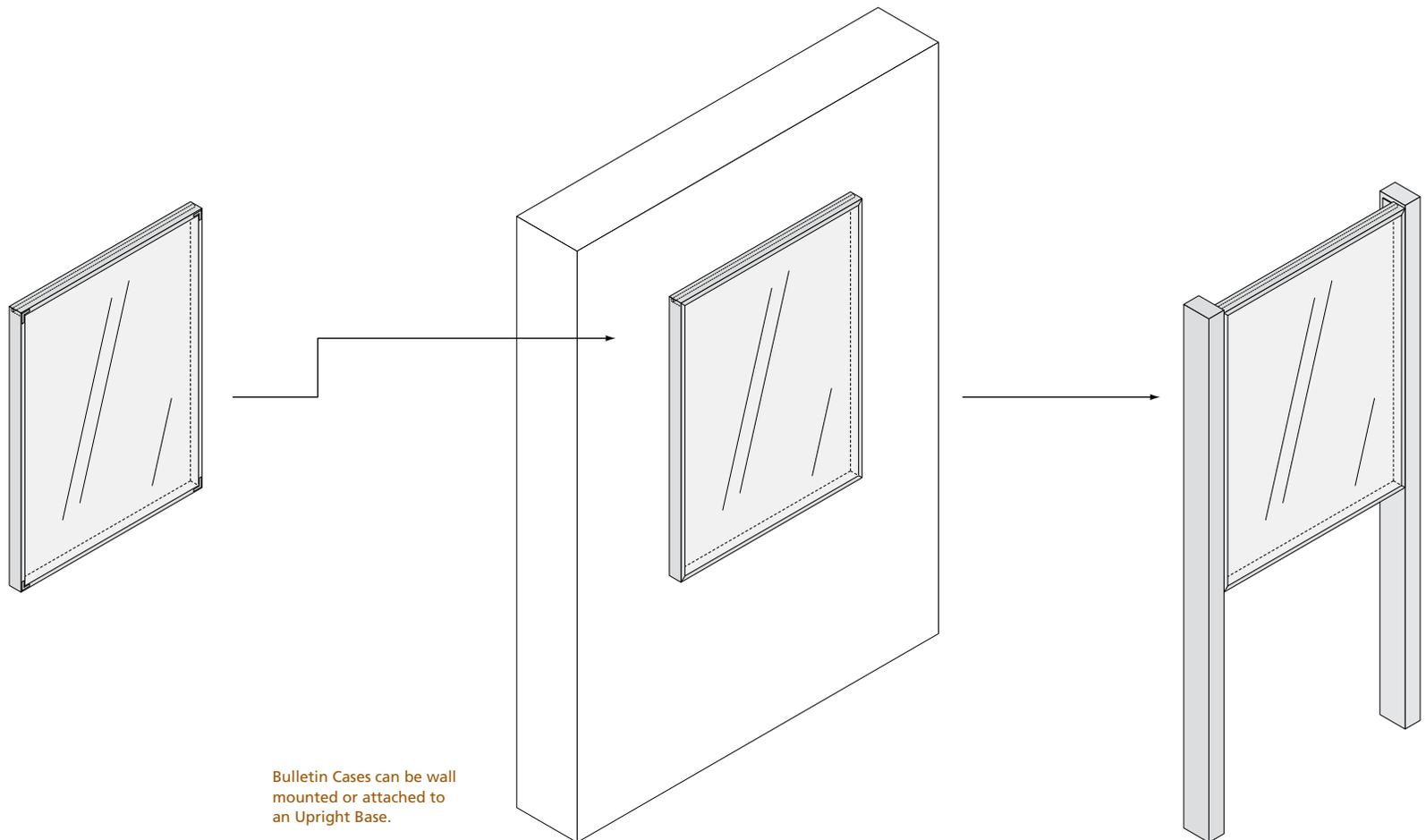
VIS Hardware Accessories

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Miscellaneous Posting Overview	54

VIS Hardware Accessory Overview

The VIS System offers a set of accessories, including a bulletin case as shown below, and holders for brochures or miscellaneous postings as illustrated on the next page.

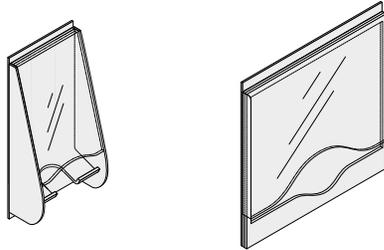
The bulletin case can be mounted on a wall, or attached to a free-standing vertical base. For more information about the bulletin case see page 51.



Bulletin Cases can be wall mounted or attached to an Upright Base.

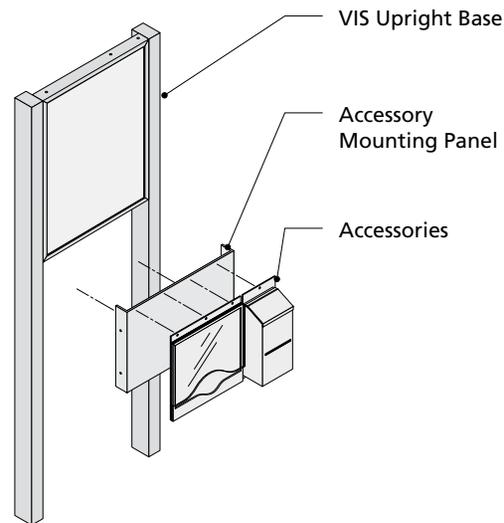
VIS Hardware Accessory Overview - Continued

Upright accessories include a brochure holder and miscellaneous posting.



Brochure Holder (BH)

Miscellaneous Posting (MP)



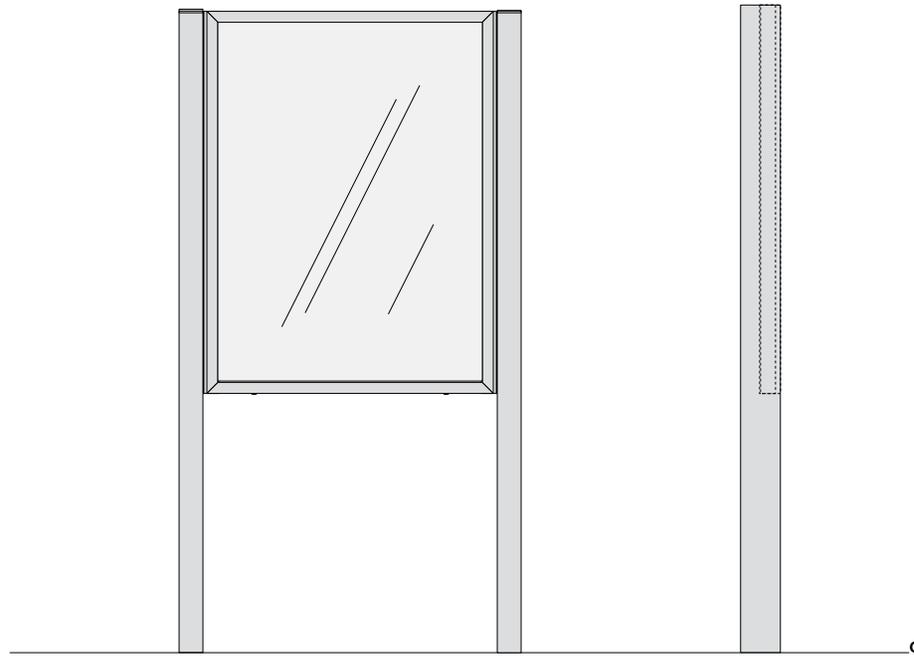
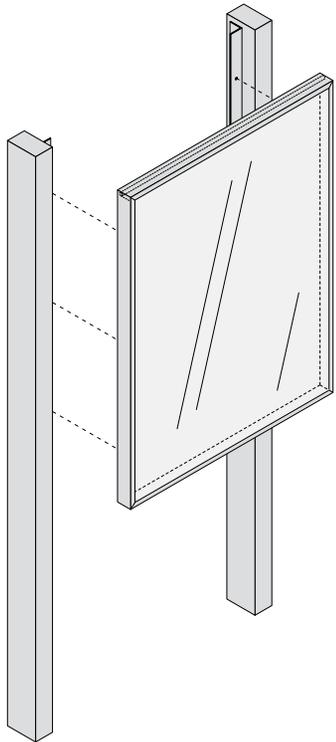
Accessories are attached to an upright base using an accessory mounting panel.

The accessory mounting panel is securely attached to the post legs and each accessory mounts using tamper proof hardware. This is available for all accessories.

Bulletin Case

Visitor information that needs to be posted quickly or changed frequently is best presented in a bulletin case. Designed to be installed on legs or attached directly to a wall, the standard NPS bulletin case features a continuous-hinge door with double locks, 3/16" clear Lexan fronts, and a back

panel of powder-coated steel against which information can be held by magnets. The bulletin case is soundly constructed to provide maximum protection from the elements and is ventilated to reduce interior condensation.



24" Series

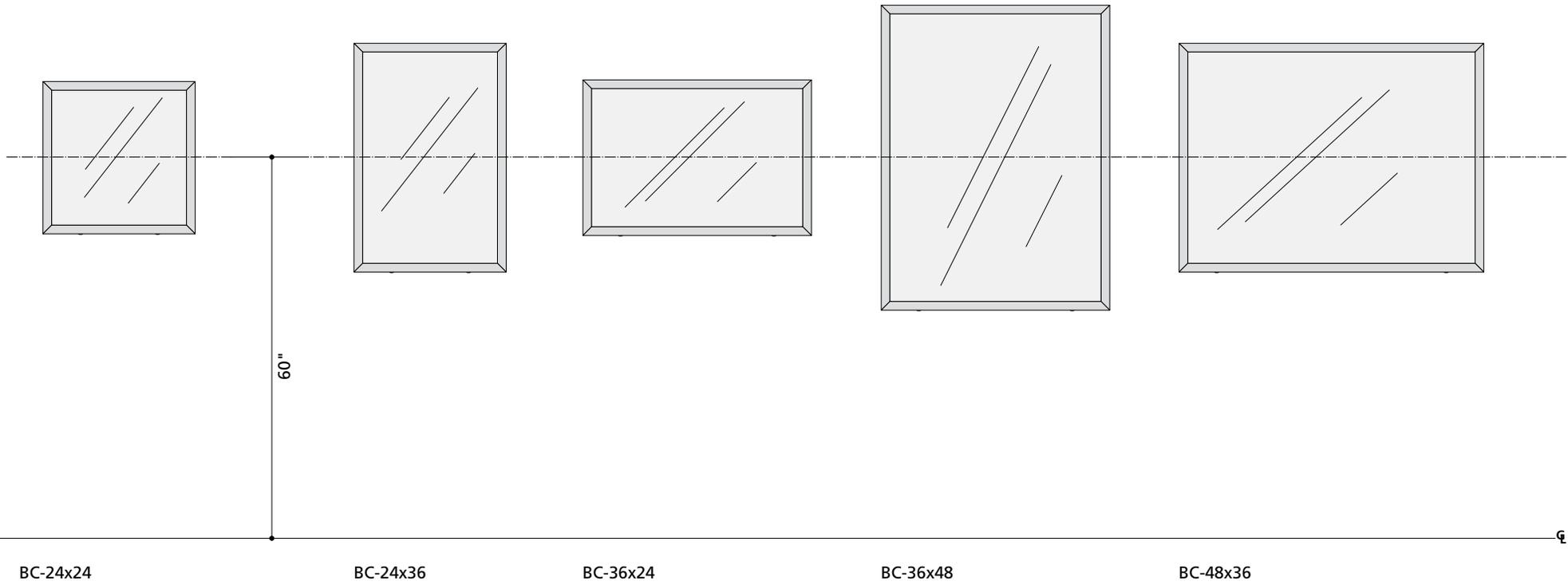
Scale: 1/2" = 1'

36" Series

Scale: 1/2" = 1'

48" Series

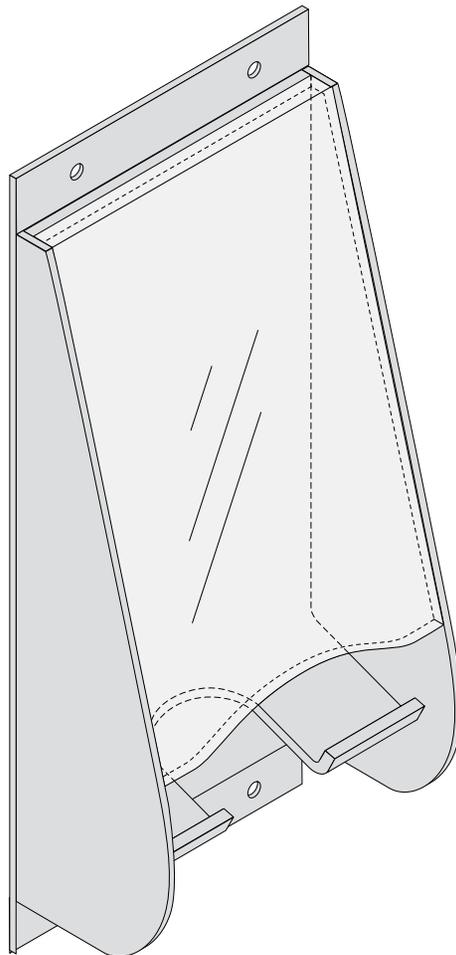
Scale: 1/2" = 1'



Brochure Holder

The standard NPS brochure holder is designed to make official park folders (or trail guides) readily available while providing them with limited protection from the elements. The holder can be used alone to carry between 25 and 40

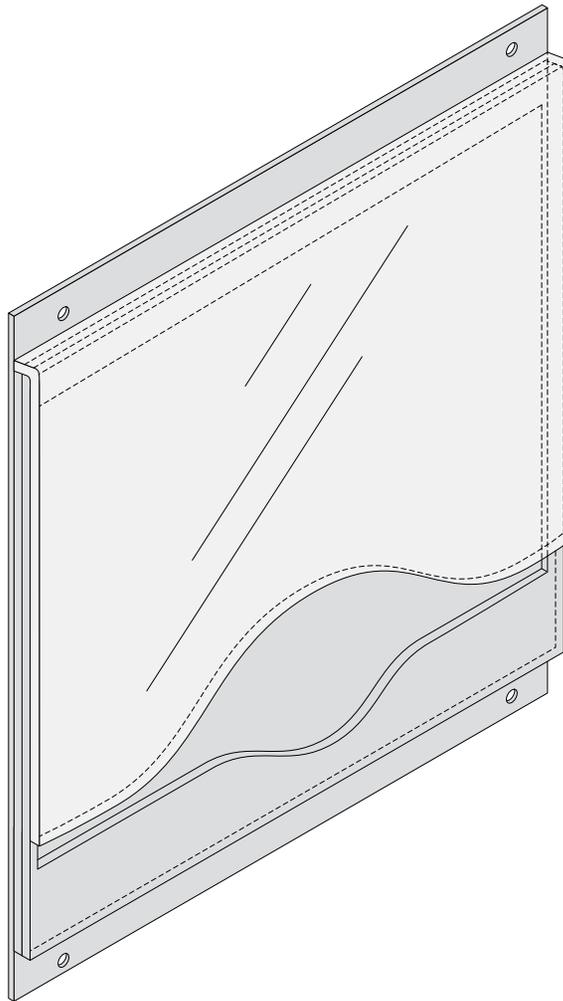
brochures (depending on their thickness), or can be used in multiples to accommodate more. A clear Lexan cover allows the top brochure to be easily seen by visitors.



Miscellaneous Posting

Designed to hold an 8.5 x 11 inch sheet, the miscellaneous posting holder allows information to be printed by computer on paper or card stock and easily mounted for viewing. The Lexan cover provides limited protection from the elements,

allowing posting to be displayed for weeks or longer. Such postings could include schedules that change periodically, timely information about closures or emergencies, or other messages that need to be displayed quickly.

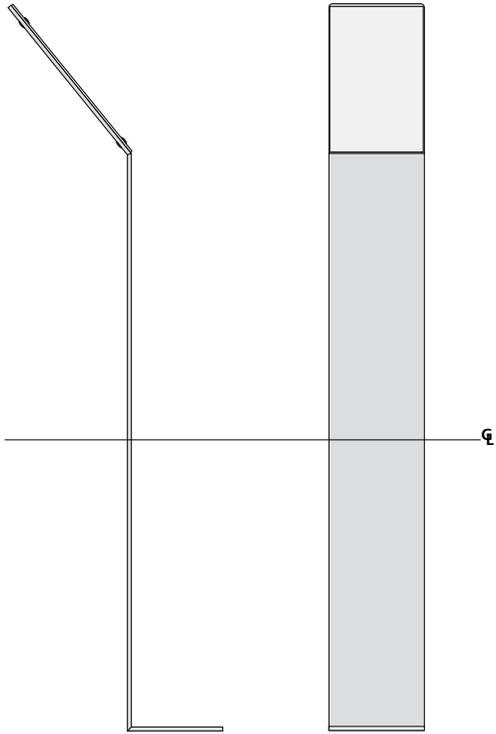
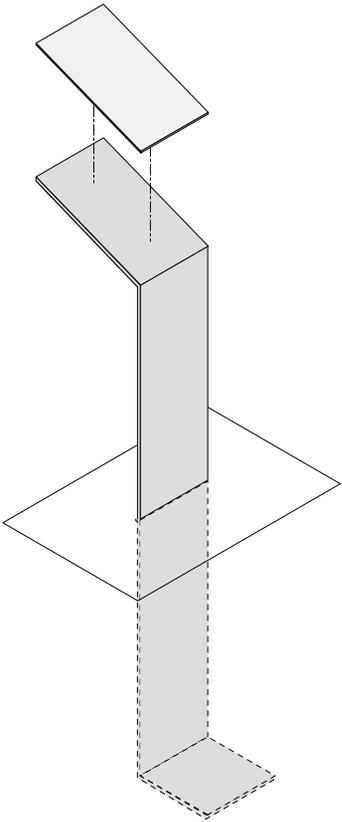


Section VI

VIS Fabrication Detail Drawings

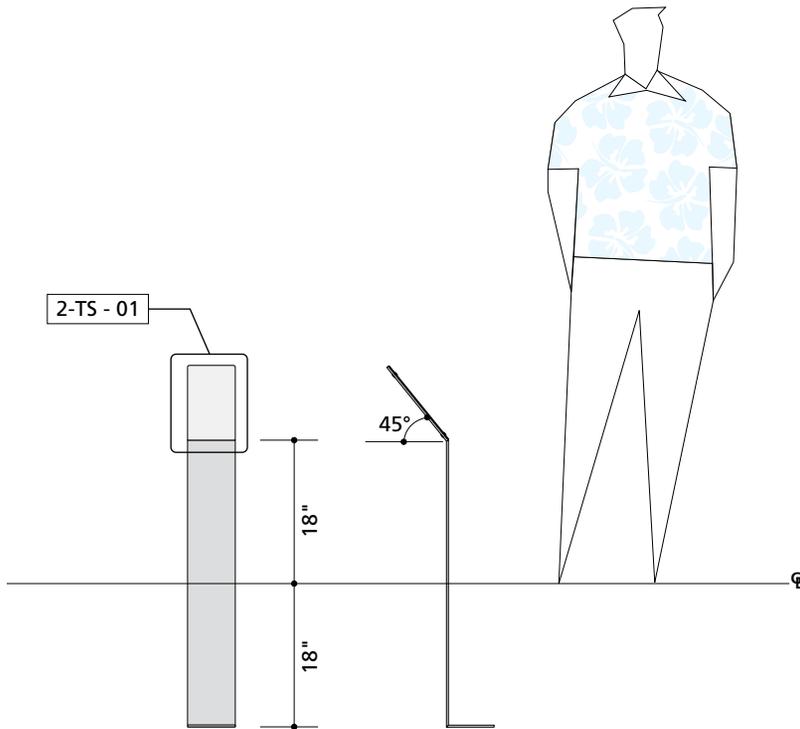
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Trailside (TS)



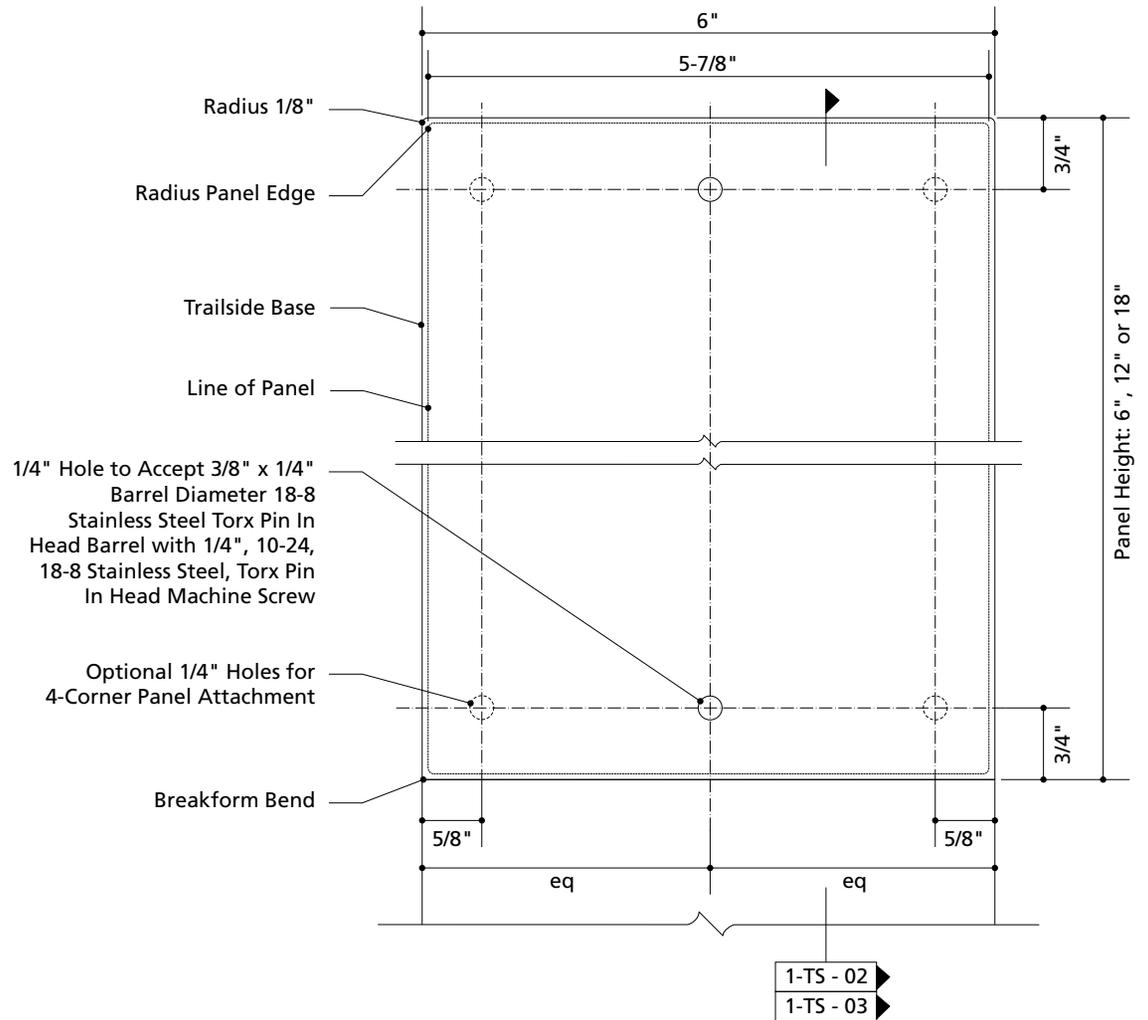
Trailside (TS)

Steel and Aluminum Fabrication



1-TS - 01 Trail Side Front and Side Elevation

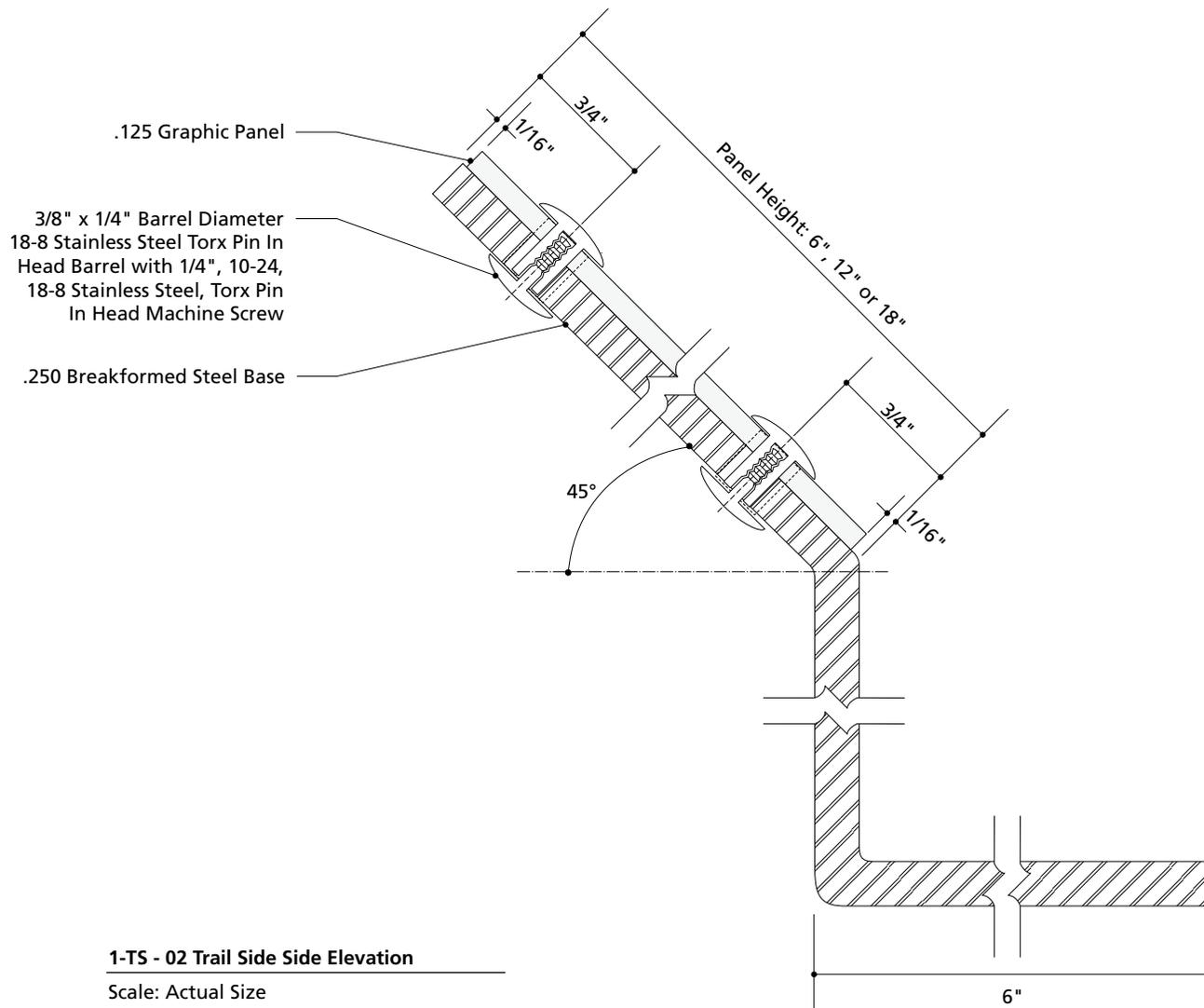
Scale: 1/2" = 1' - 0"



2-TS - 01 Panel Attachment Detail

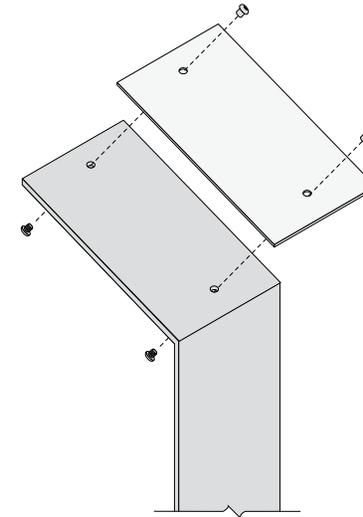
Trailside (TS)

Steel Fabrication



1-TS - 02 Trail Side Side Elevation

Scale: Actual Size

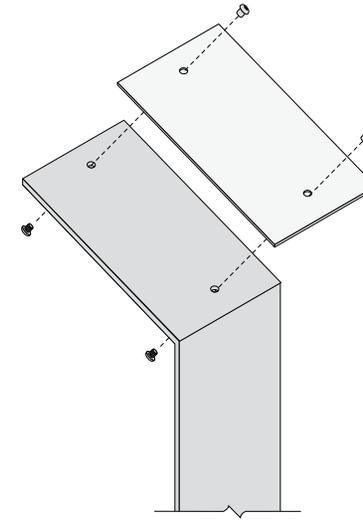
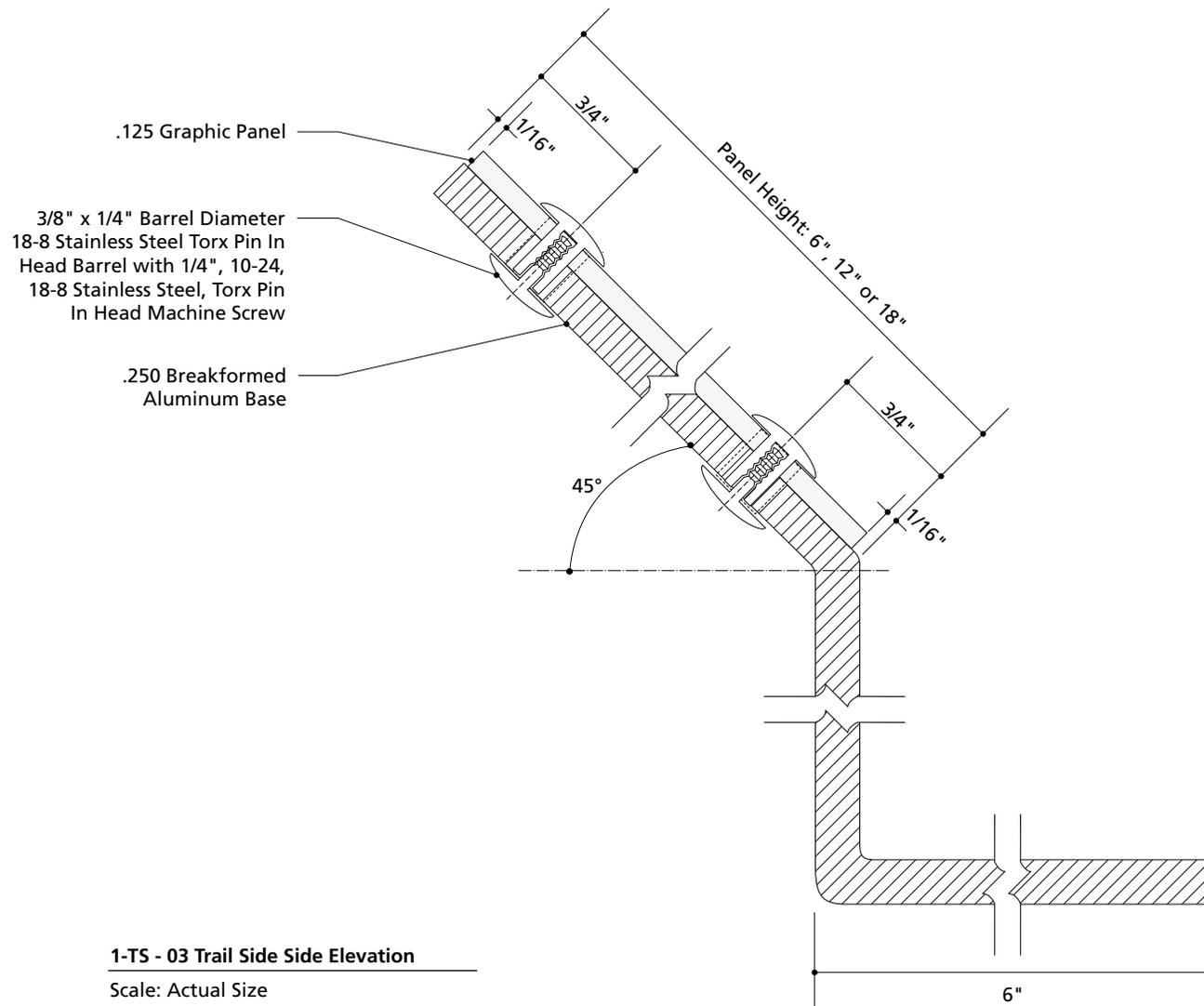


2-TS - 02 Connection Detail

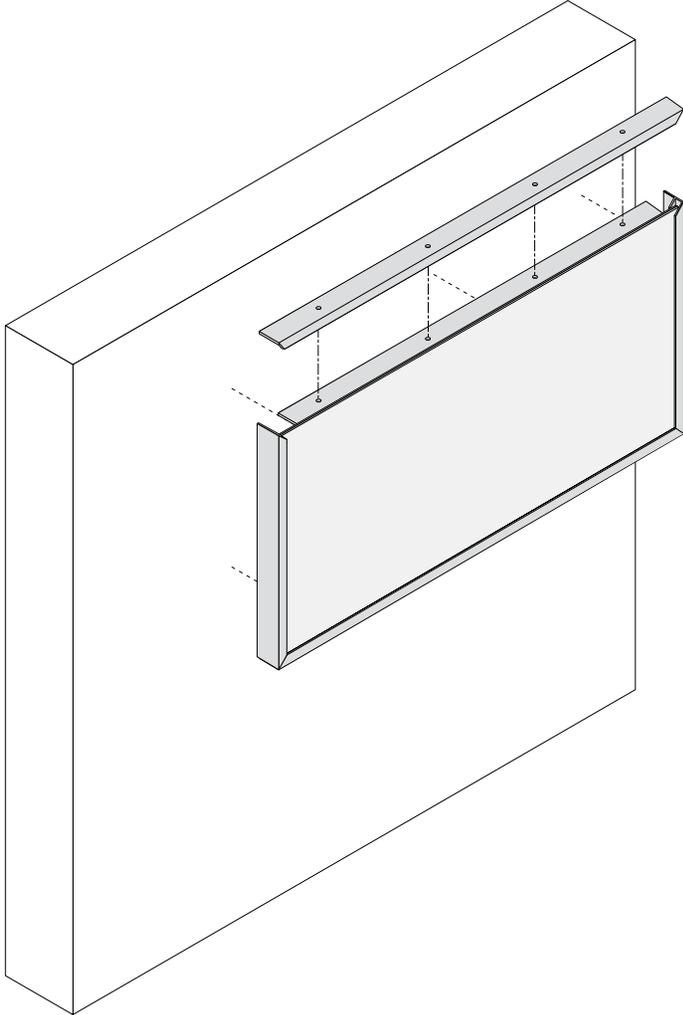
Scale: 1-1/2" = 1' - 0"

Trailside (TS)

Aluminum Fabrication

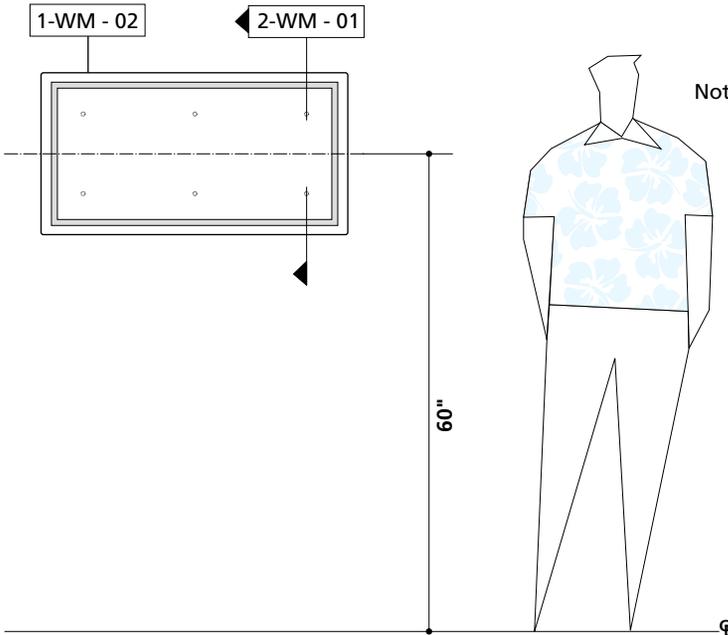


Wall Mount (WM)



Wall Mount (WM)

Steel Fabrication



1-WM - 01 Wall Mount Elevation

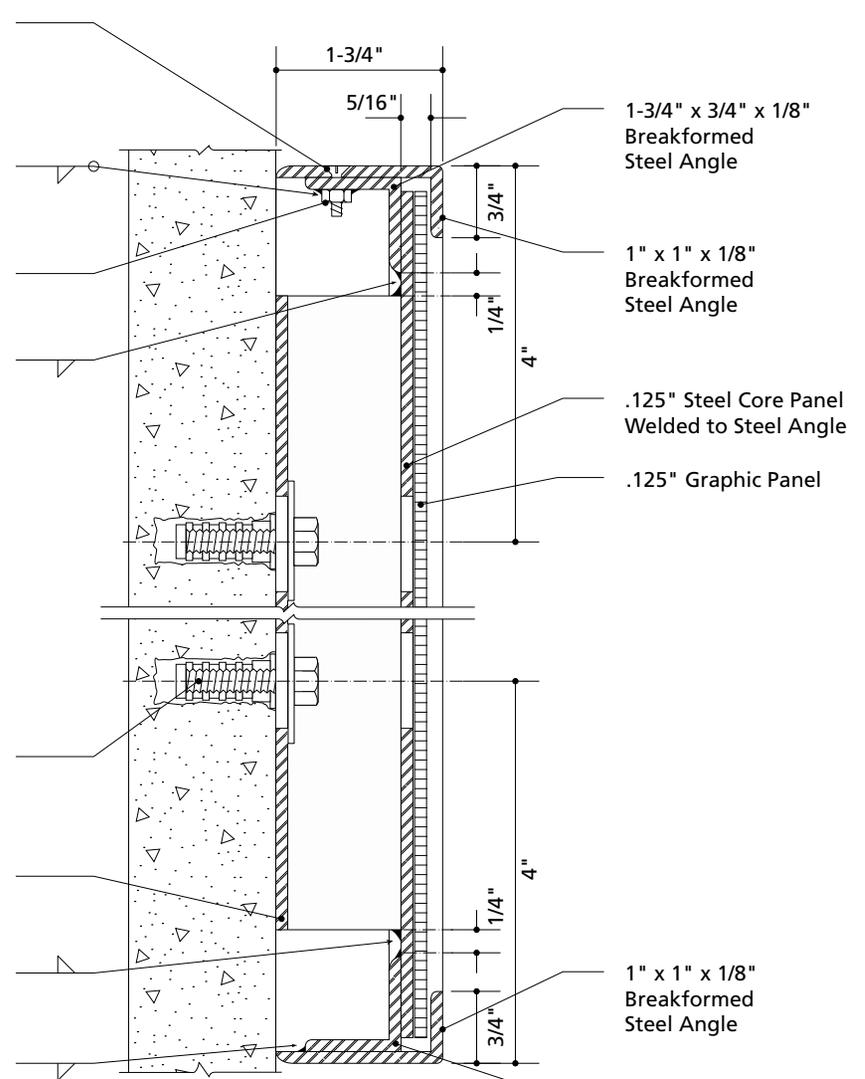
Scale: 1/2" = 1'-0"

1/4"-20x3/8" 18-8 Stainless Steel Counter Sunk Flathead, Phillips Machine Screw.
Note: Top of Frame is Connected by Screw and is Removable

1/4"-20, 18-8 Stainless Steel Machine Screw Nut Welded to Steel Angle

5/16"-18 x 2" Long Zinc Plated Wej-it Stud

.125" Steel Continuous C-Channel Welded to Core Panel
Note: Channel Length Based on Sign Size

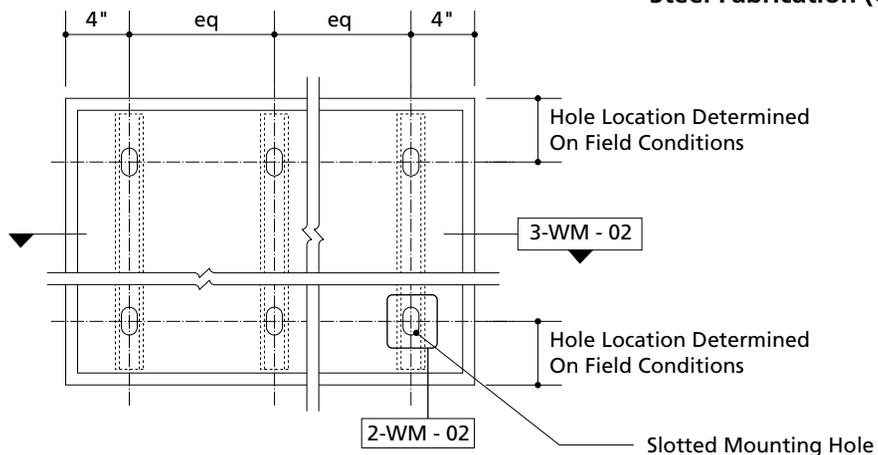


2-WM - 01 Side Section Cut

Scale: 1/2 Actual Size

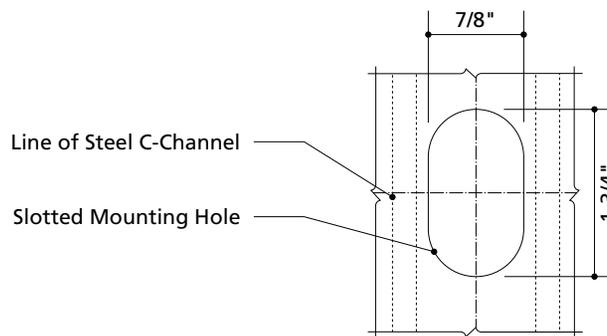
Wall Mount (WM)

Steel Fabrication (Continued)



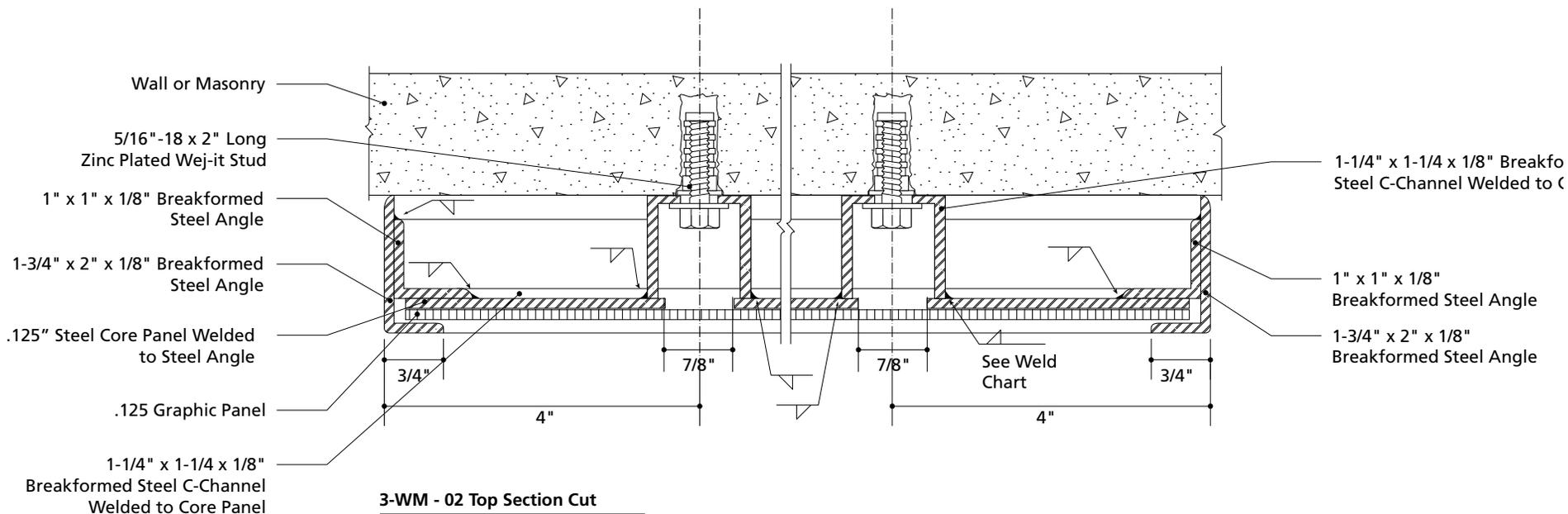
1-WM - 02 Frame Mounting Hole Locations

Scale: 1" = 1'-0"



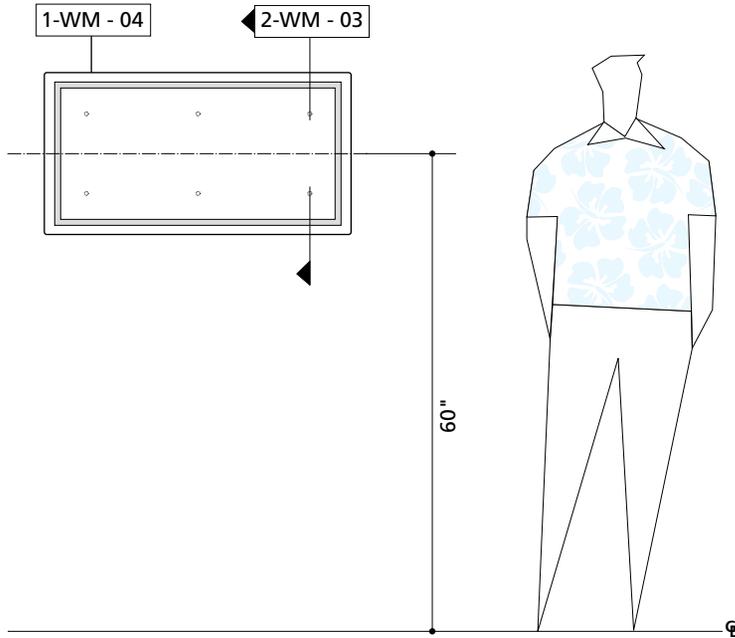
2-WM - 02 Detail at Slotted Hole

Scale: 1/2 Actual Size



Wall Mount (WM)

Aluminum Fabrication



1-WM - 03 Wall Mount Elevation

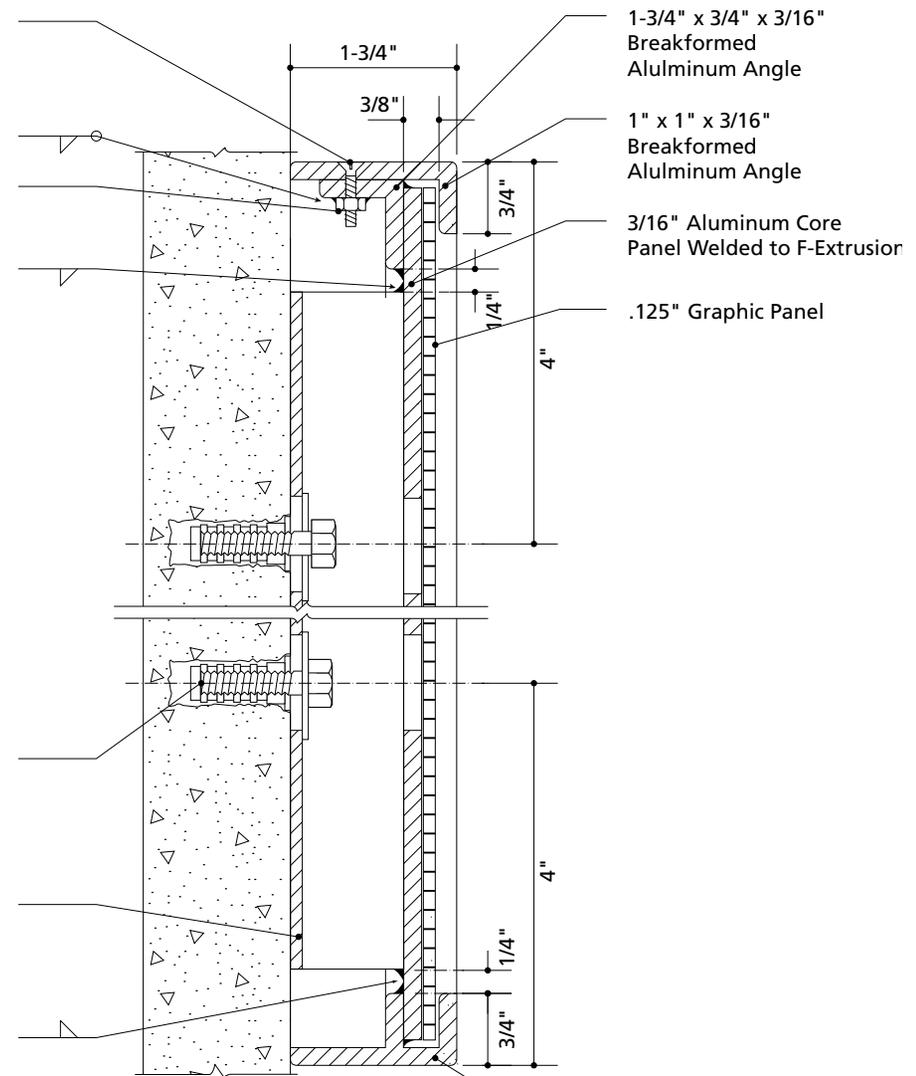
Scale: 1/2" = 1'-0"

1/4"-20 x 5/8" Long 6061-T6 Aluminum, Counter Sunk Flat Head, Phillips Head Machine Screw.
Note: Top of Frame is Connected by Screw and is Removable

1/4"-20, 6061-T6 Aluminum Hex Nut Welded to Aluminum Angle

5/16"-18 x 2" Long Zinc Plated Wej-it Stud

.125" Aluminum Continuous C-Channel Welded to Core Panel
Note: Channel Height Based on Sign



2-WM - 03 Side Section Cut

Scale: 1/2 Actual Size

1-3/4" x 3/4" x 3/16" Breakformed Aluminum Angle

1" x 1" x 3/16" Breakformed Aluminum Angle

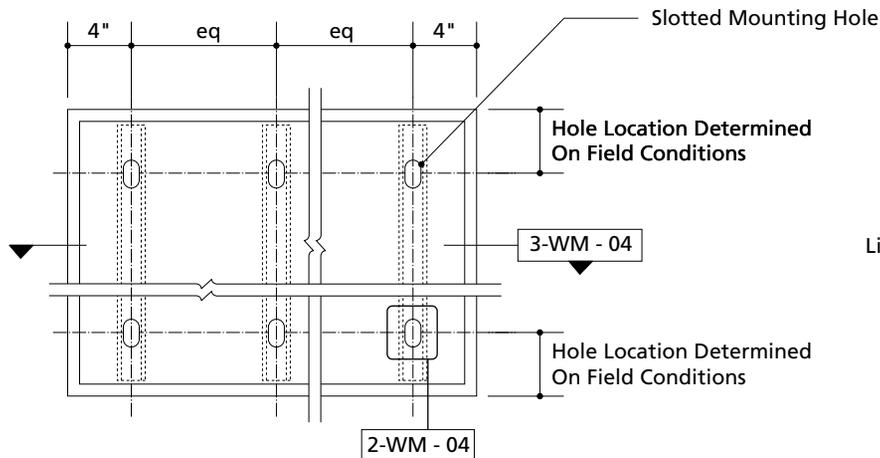
3/16" Aluminum Core Panel Welded to F-Extrusion

.125" Graphic Panel

NPS Standard 3/16" Aluminum

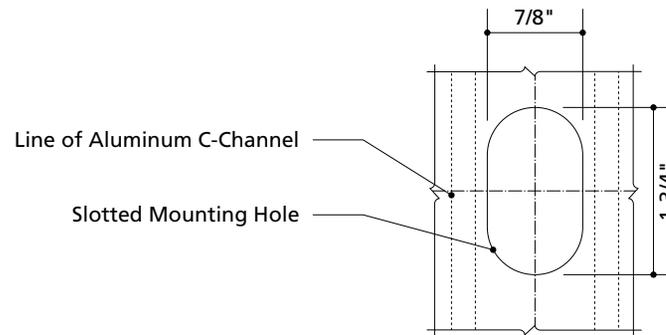
Wall Mount (WM)

Aluminum Fabrication (Continued)



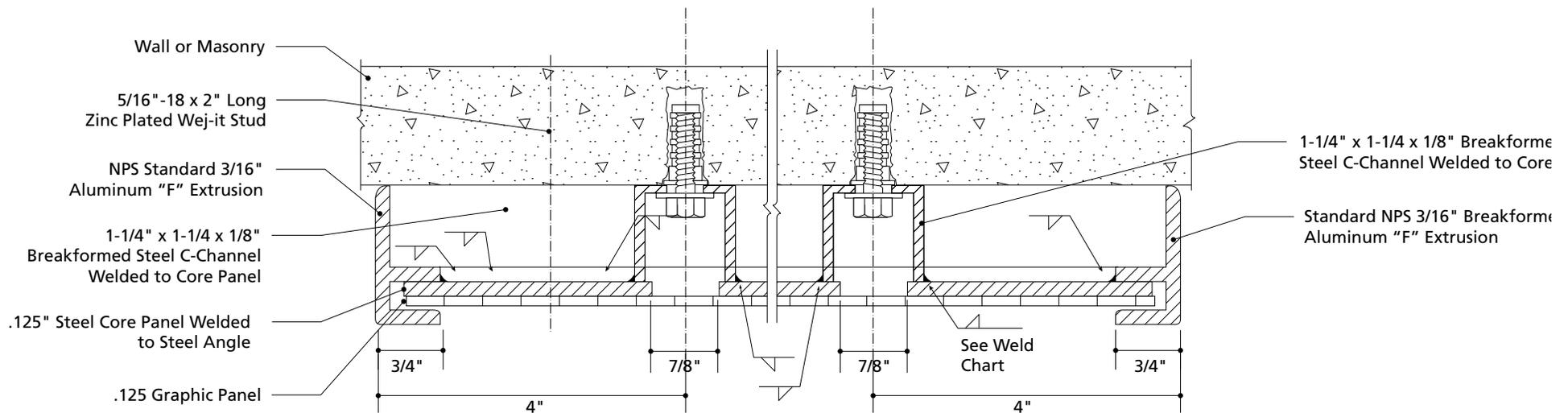
1-WM - 04 Frame Mounting Hole Locations

Scale: 1" = 1'-0"

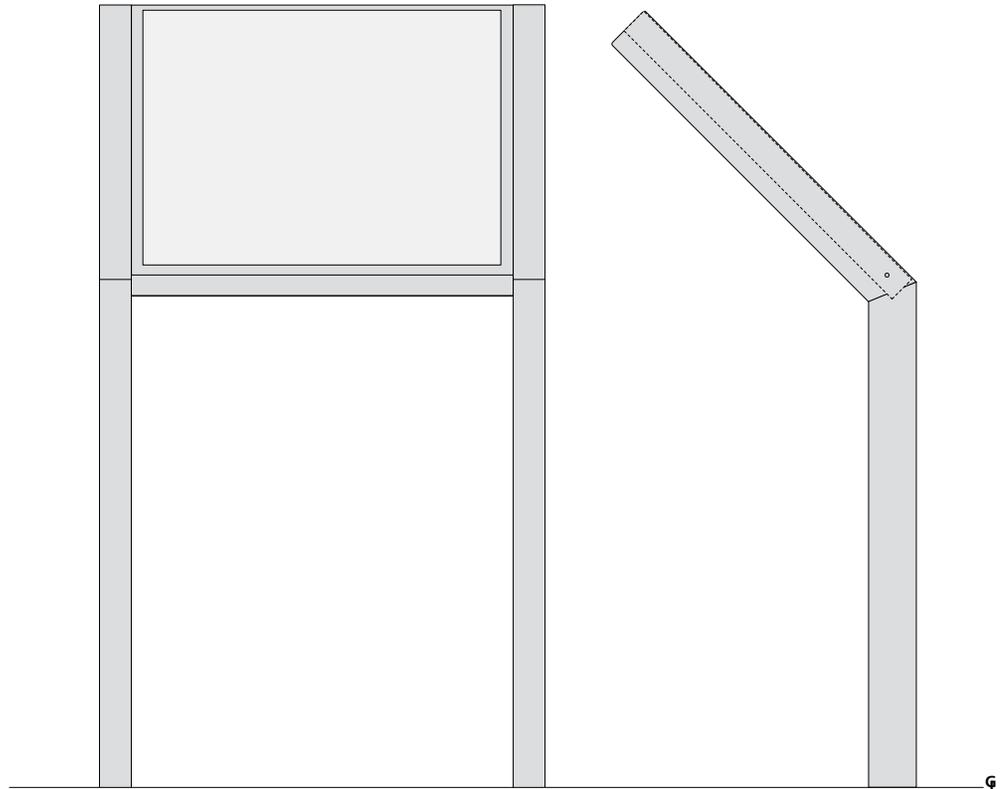
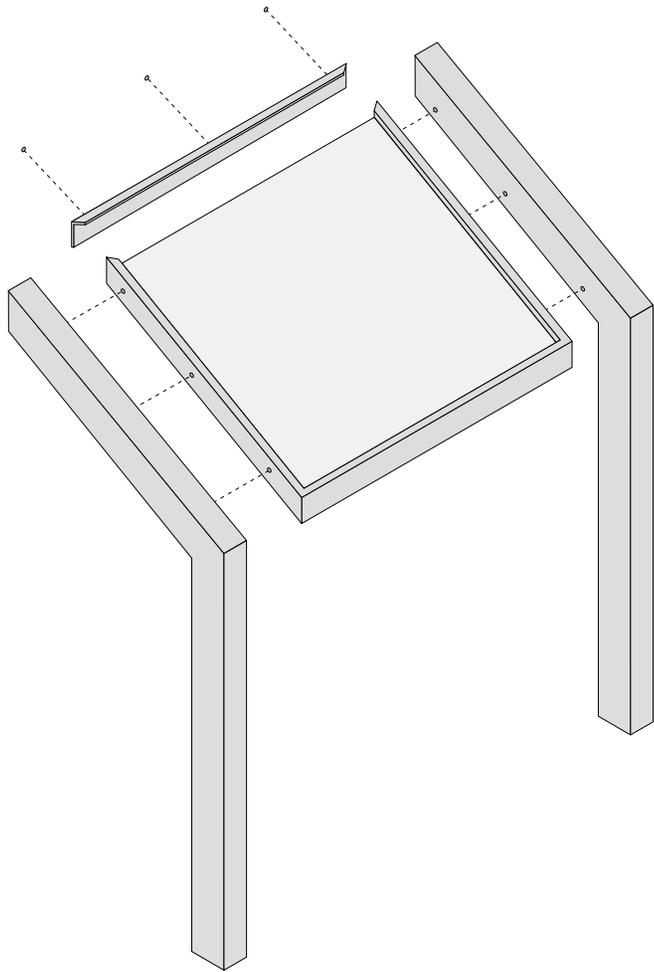


2-WM - 04 Detail at Slotted Hole

Scale: 1/2 Actual Size

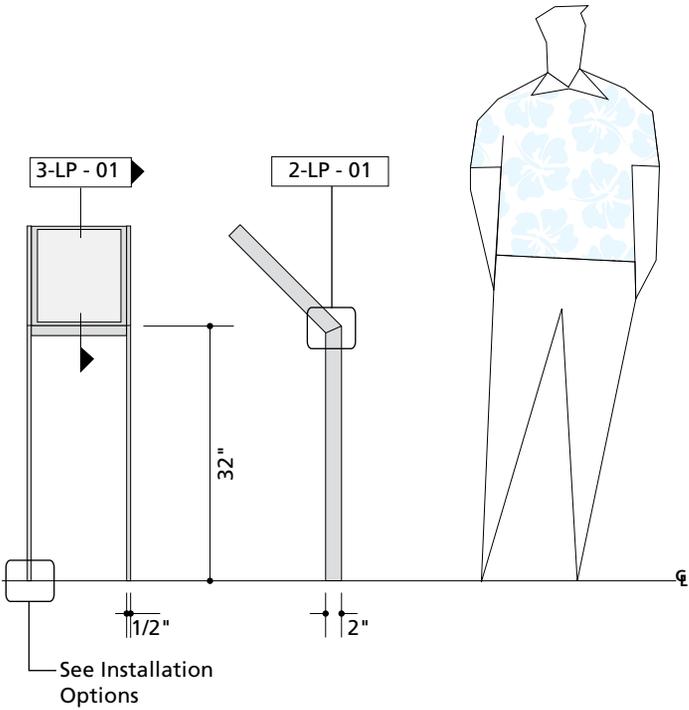


Low Profile (LP)



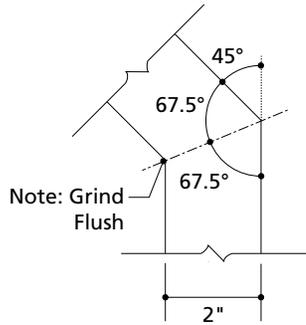
Low Profile (LP): Barstock Post

Steel Fabrication



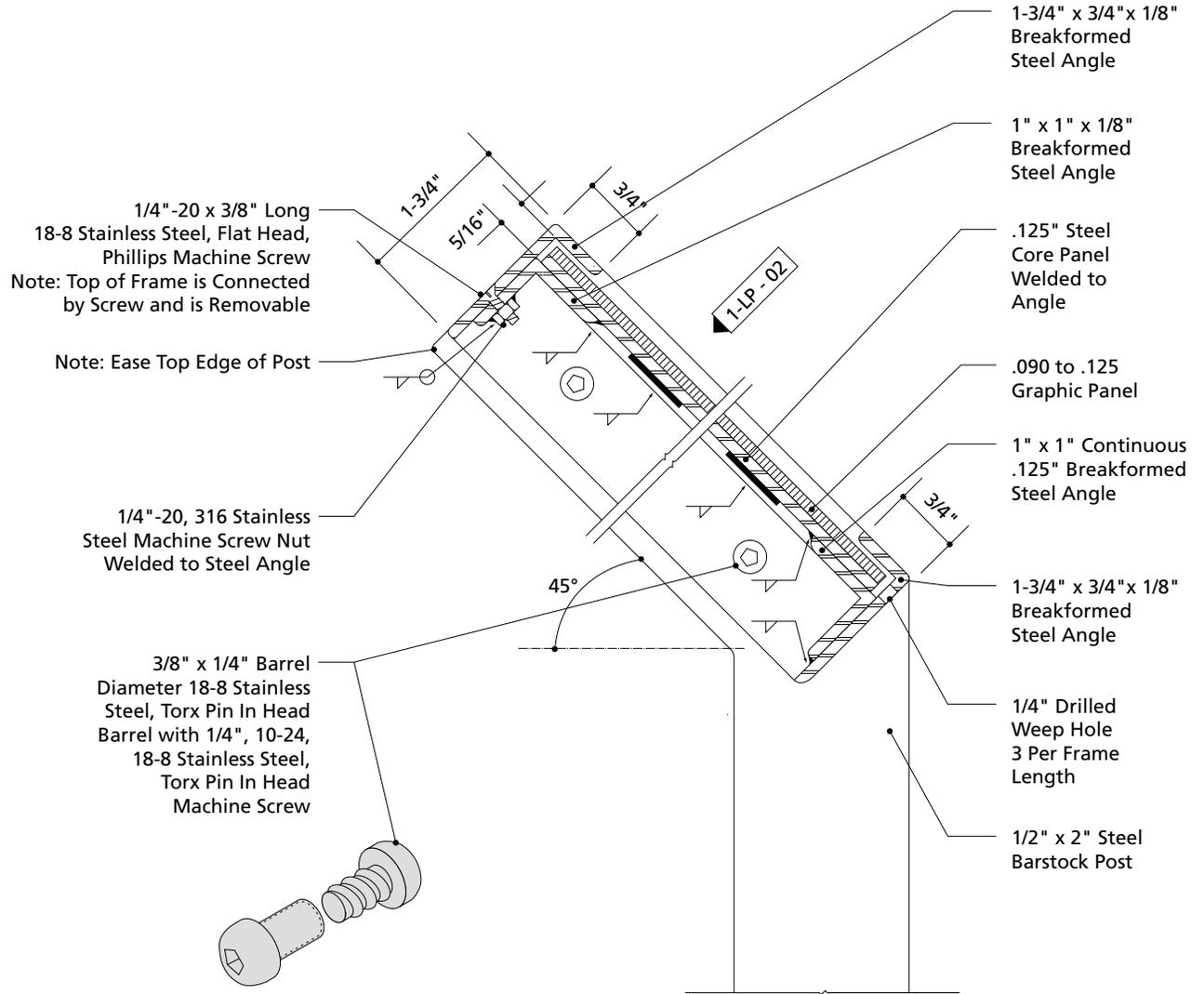
1-LP - 01 Low Profile Elevation

Scale: 1/2" = 1' - 0"



2-LP - 01 Post Detail

Scale: 3" = 1' - 0"

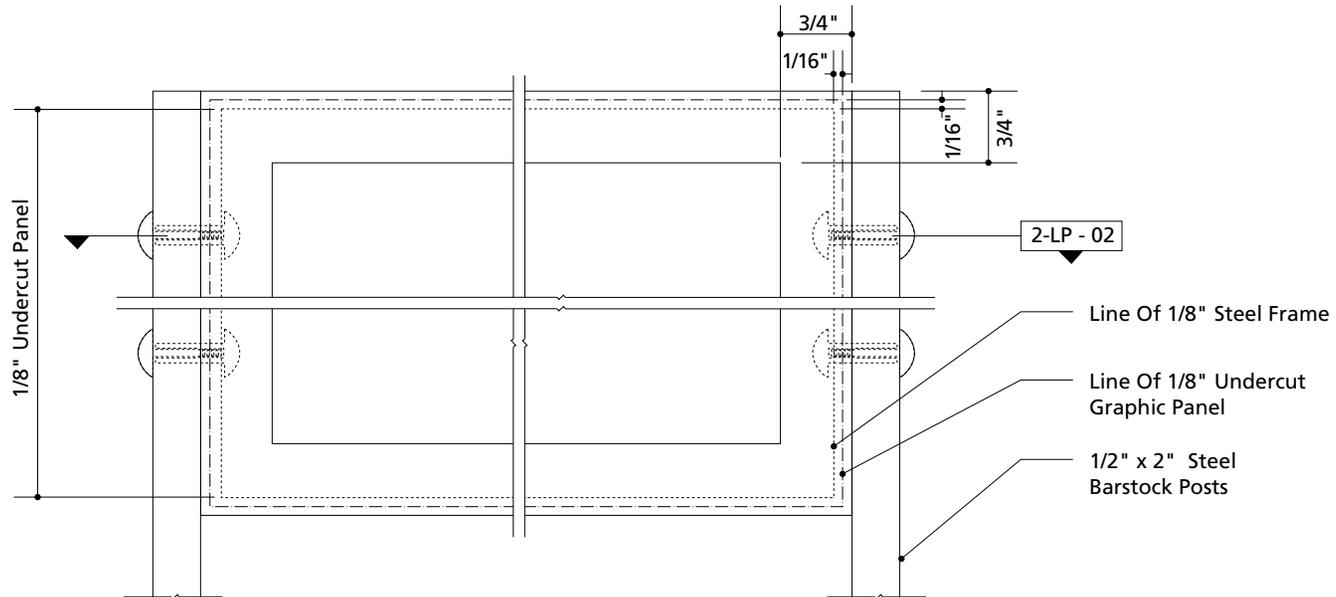


3-LP - 01 Side Section Cut

Scale: 1/2 Actual Size

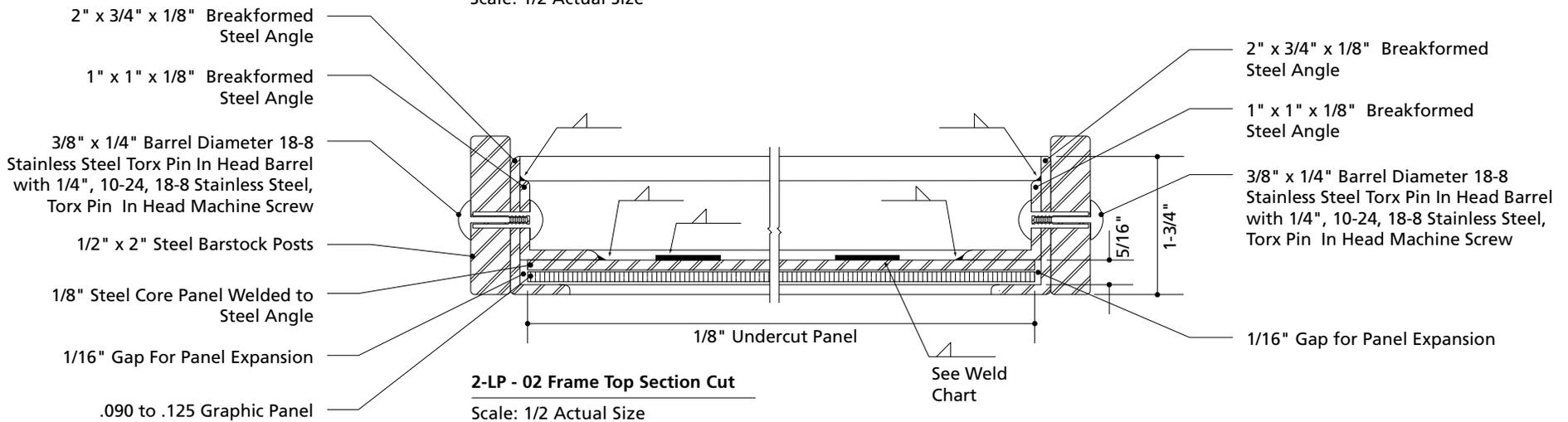
Low Profile (LP): Barstock Post

Steel Fabrication (Continued)



1-LP - 02 Frame Front Elevation

Scale: 1/2 Actual Size

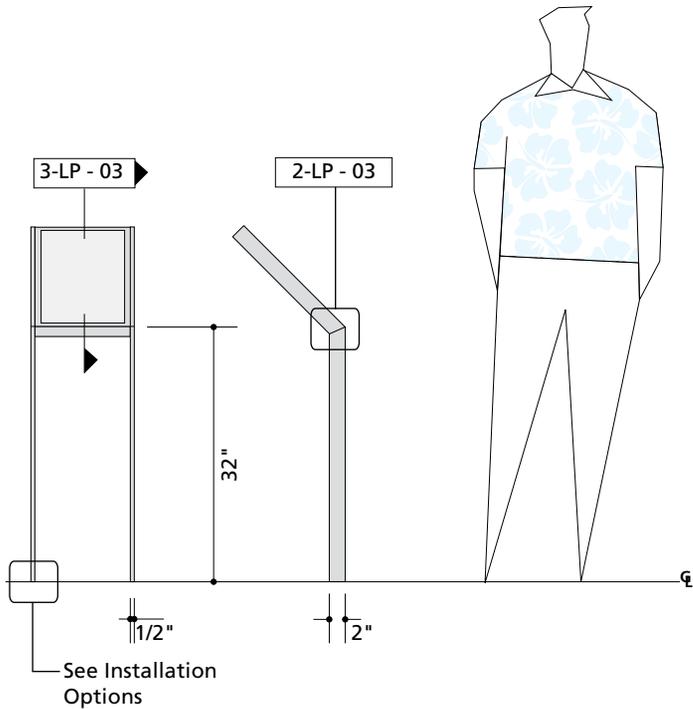


2-LP - 02 Frame Top Section Cut

Scale: 1/2 Actual Size

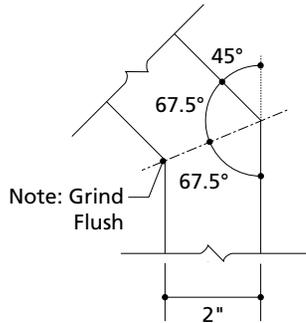
Low Profile (LP): Barstock Post

Aluminum Fabrication



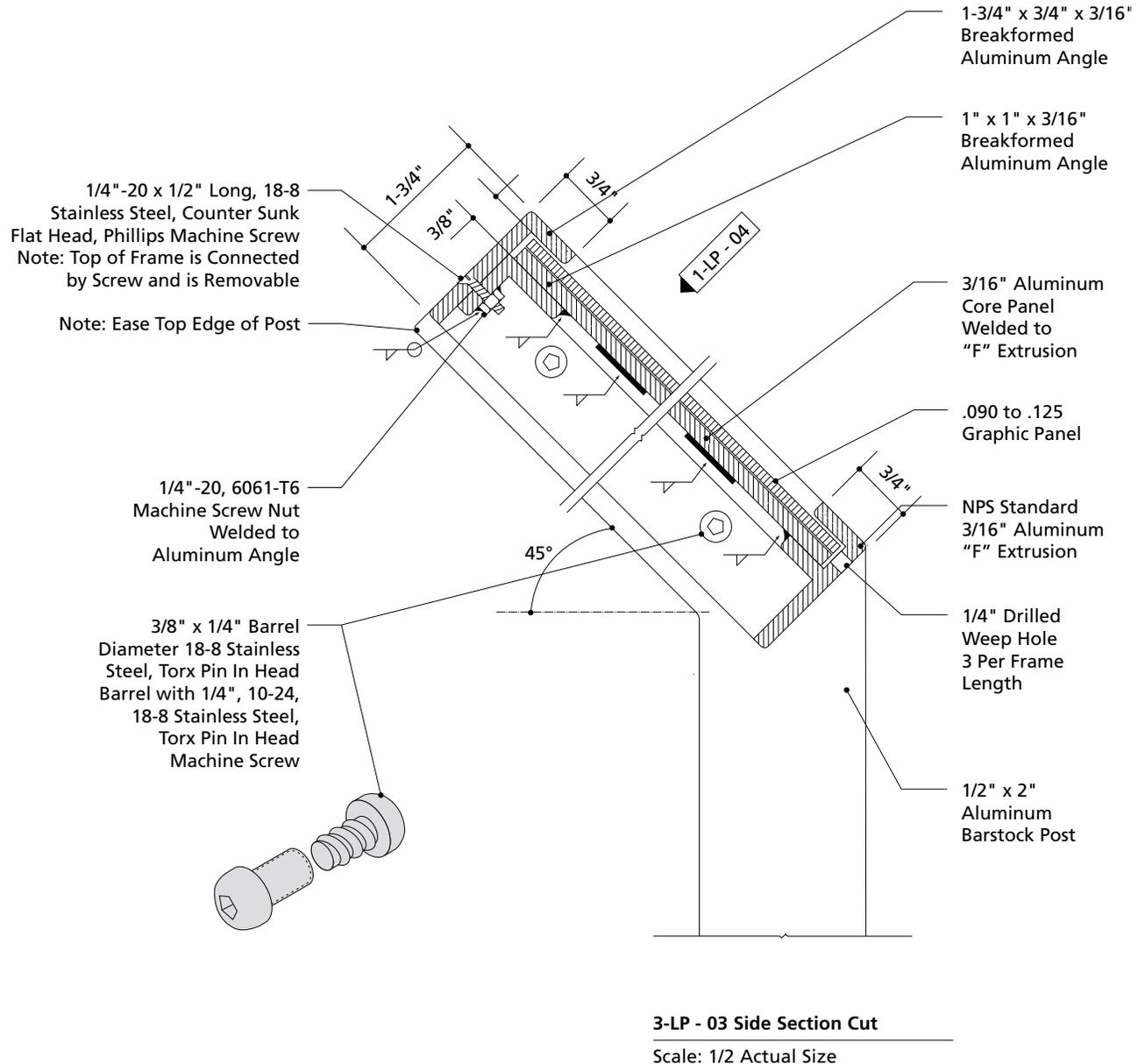
1-LP - 03 Low Profile Elevation

Scale: 1/2" = 1' - 0"



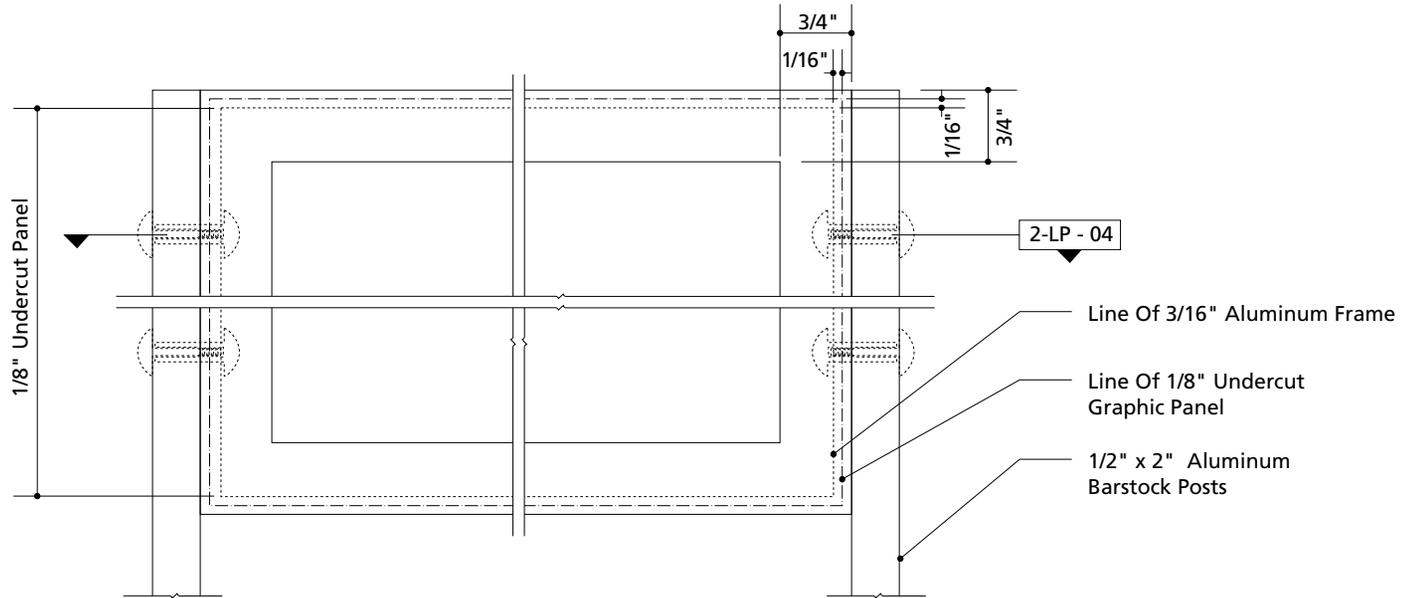
2-LP - 03 Post Detail

Scale: 3" = 1' - 0"



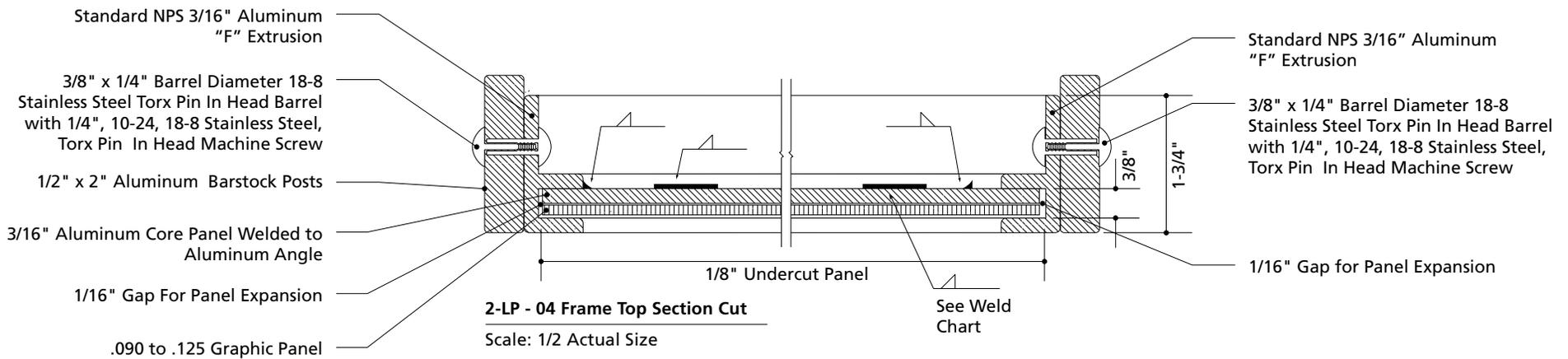
Low Profile (LP): Barstock Post

Aluminum Fabrication (Continued)



1-LP - 04 Frame Front Elevation

Scale: 1/2 Actual Size

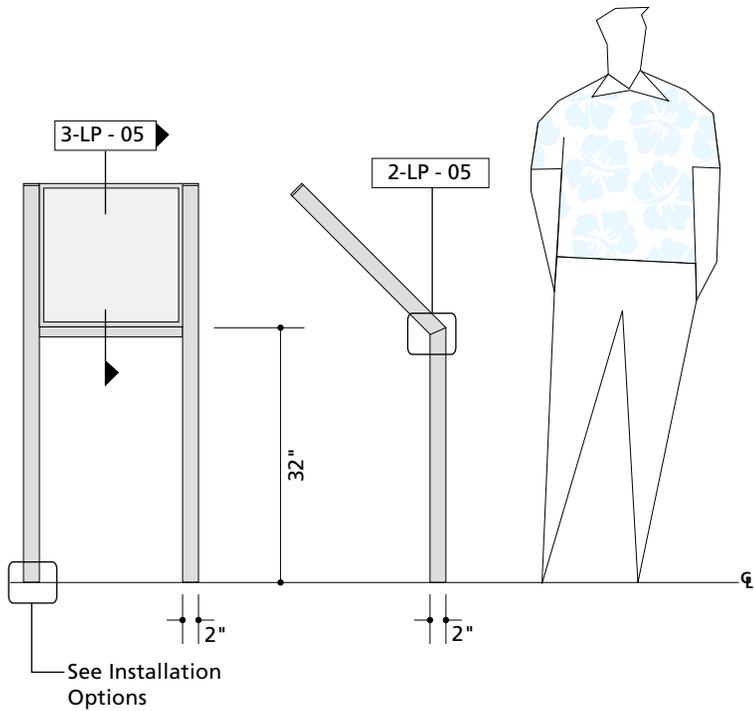


2-LP - 04 Frame Top Section Cut

Scale: 1/2 Actual Size

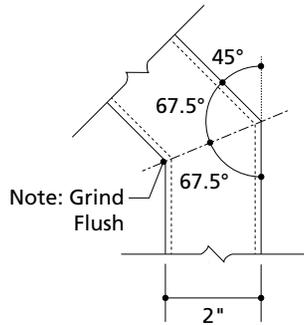
Low Profile (LP): 2" x 2" Post

Steel Fabrication



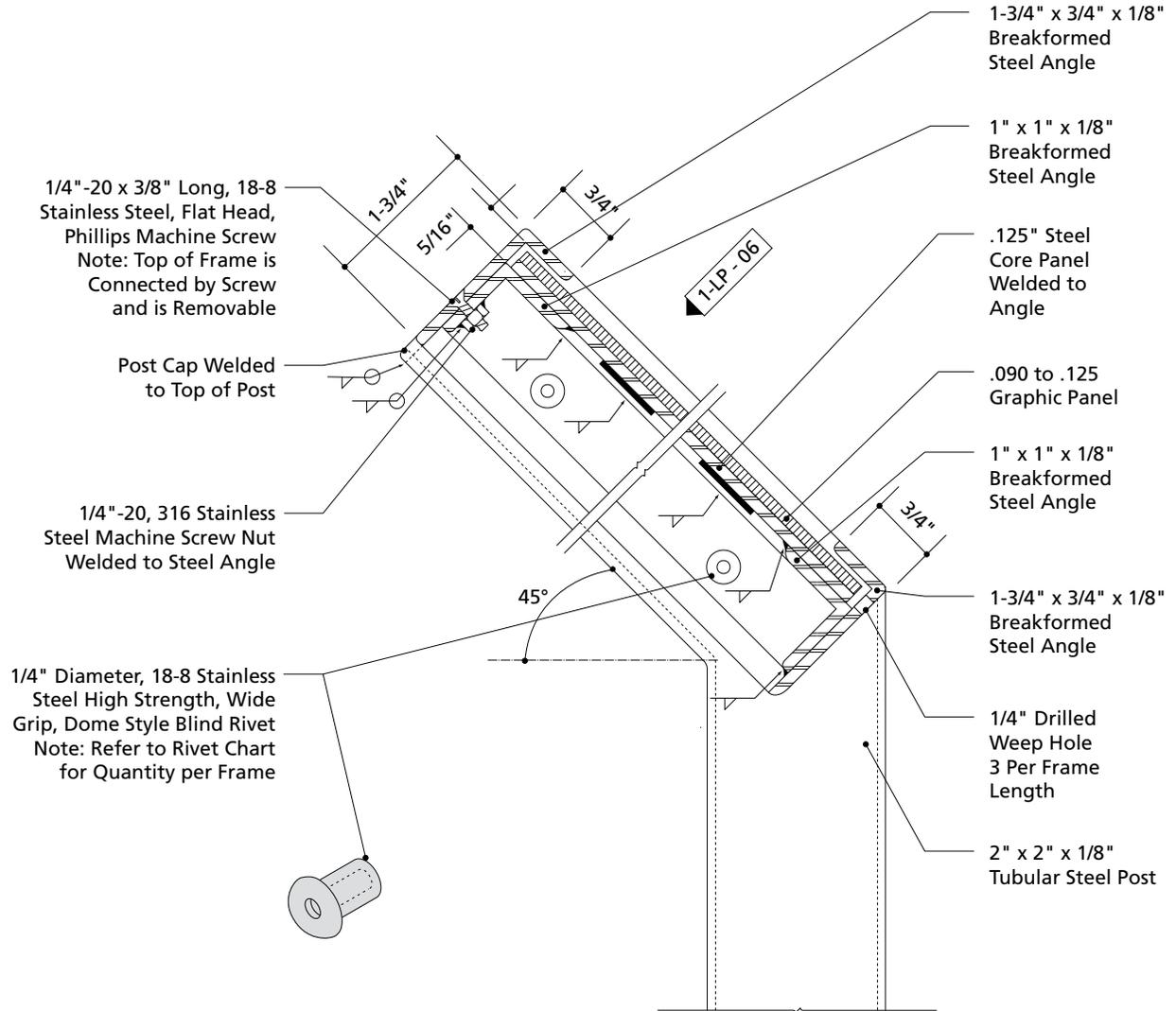
1-LP - 05 Low Profile Elevation

Scale: 1/2" = 1' - 0"



2-LP - 05 Post Detail

Scale: 3" = 1' - 0"

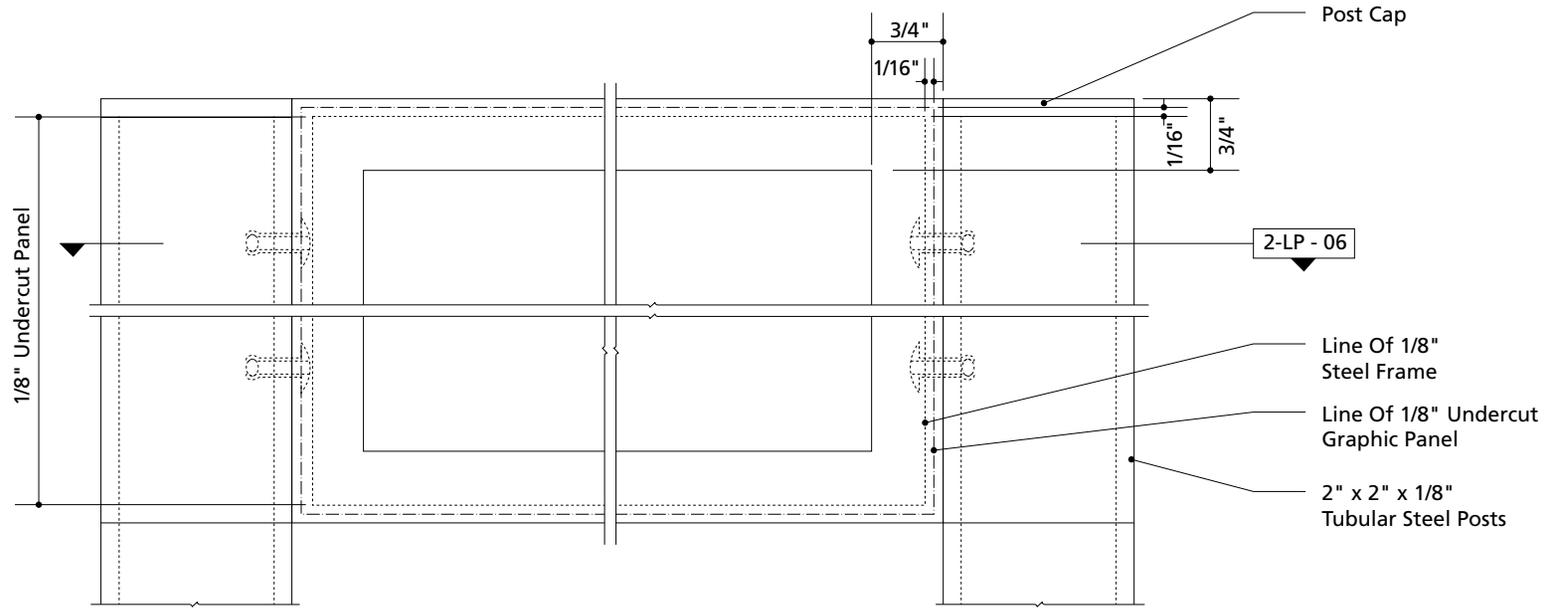


3-LP - 05 Side Section Cut

Scale: 1/2 Actual Size

Low Profile (LP): 2" x 2" Post

Steel Fabrication (Continued)



1-LP - 06 Frame Front Elevation

Scale: 1/2 Actual Size

2" x 3/4" x 1/8"
Breakformed Steel Angle

1" x 1" x 1/8"
Breakformed Steel Angle

1/4" Diameter, 18-8 Stainless
Steel High Strength, Wide
Grip, Dome Style Blind Rivet

2" x 2" Tubular Steel Posts

1/8" Steel Core Panel
Welded to Steel Angle

1/16" Gap For Panel
Expansion

.090 to .125 Graphic Panel

2-LP - 06 Frame Top Section

Scale: 1/2 Actual Size

See Weld
Chart

2" x 3/4" x 1/8"
Breakformed Steel Angle

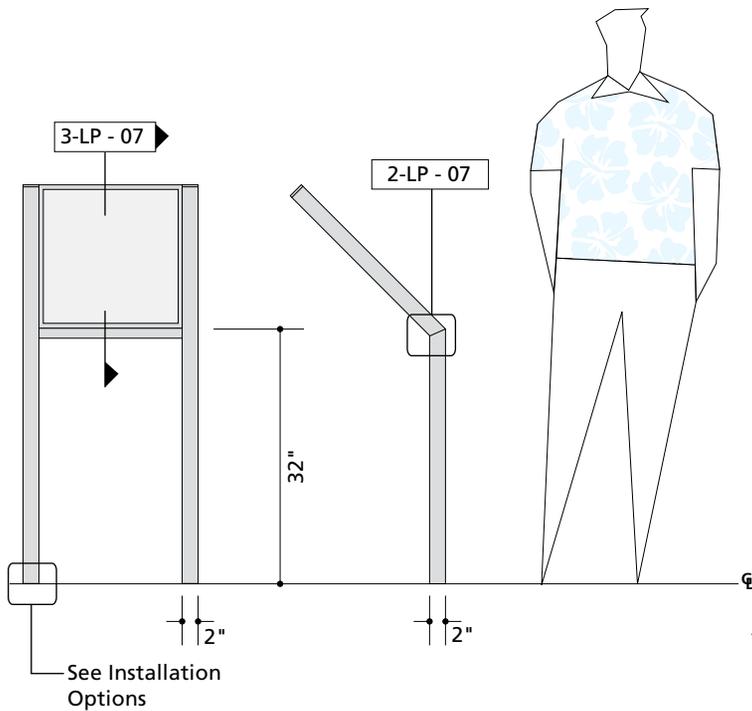
1" x 1" x 1/8"
Breakformed Steel Angle

1/4" Diameter, 18-8 Stainless
Steel High Strength, Wide
Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart
for Quantity per Frame

1/16" Gap for
Panel Expansion

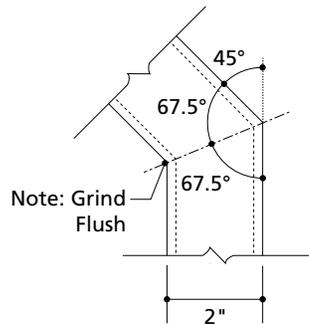
Low Profile (LP): 2" x 2" Post

Aluminum Fabrication



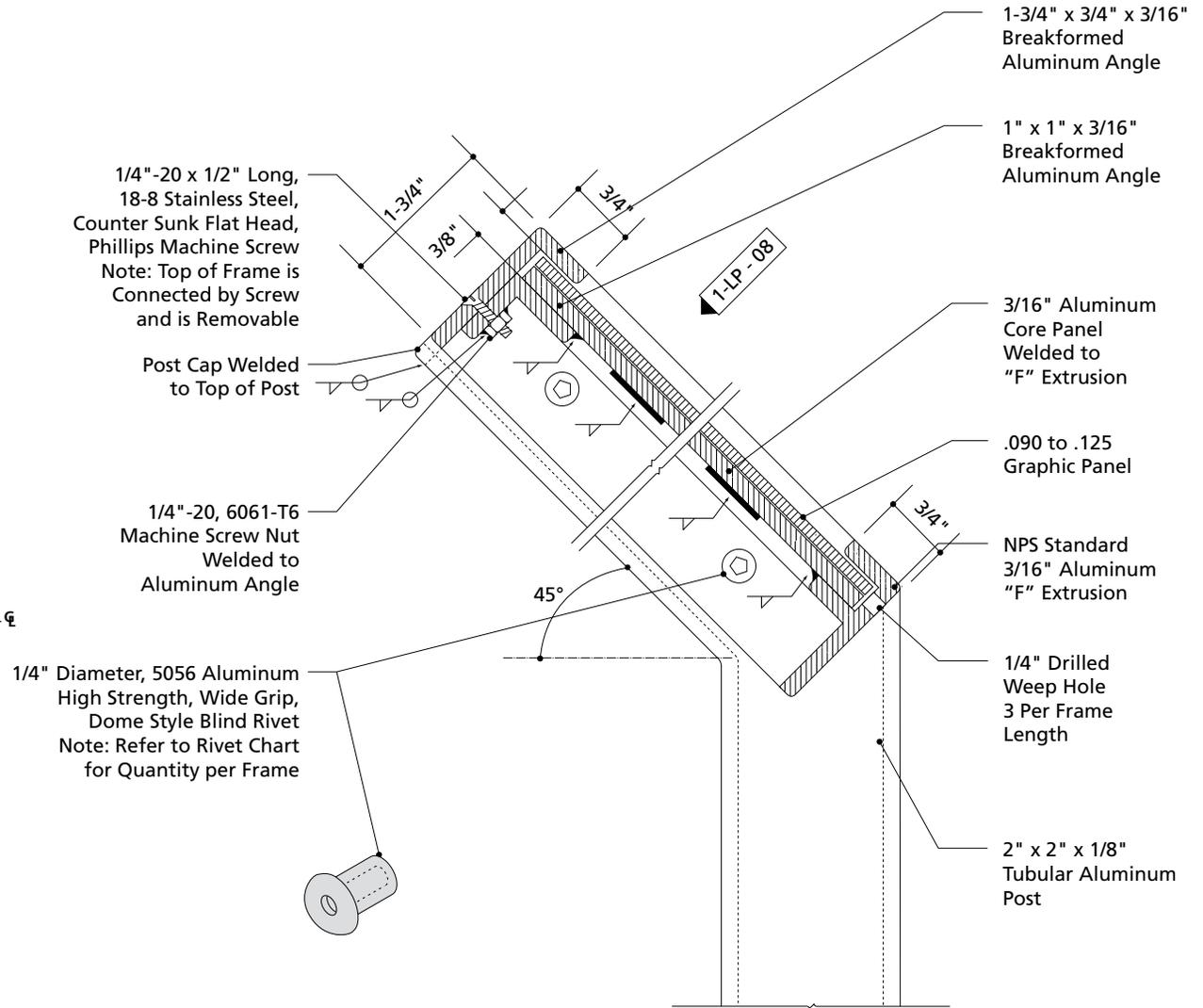
1-LP - 07 Low Profile Elevation

Scale: 1/2" = 1' - 0"



2-LP - 07 Post Detail

Scale: 3" = 1' - 0"

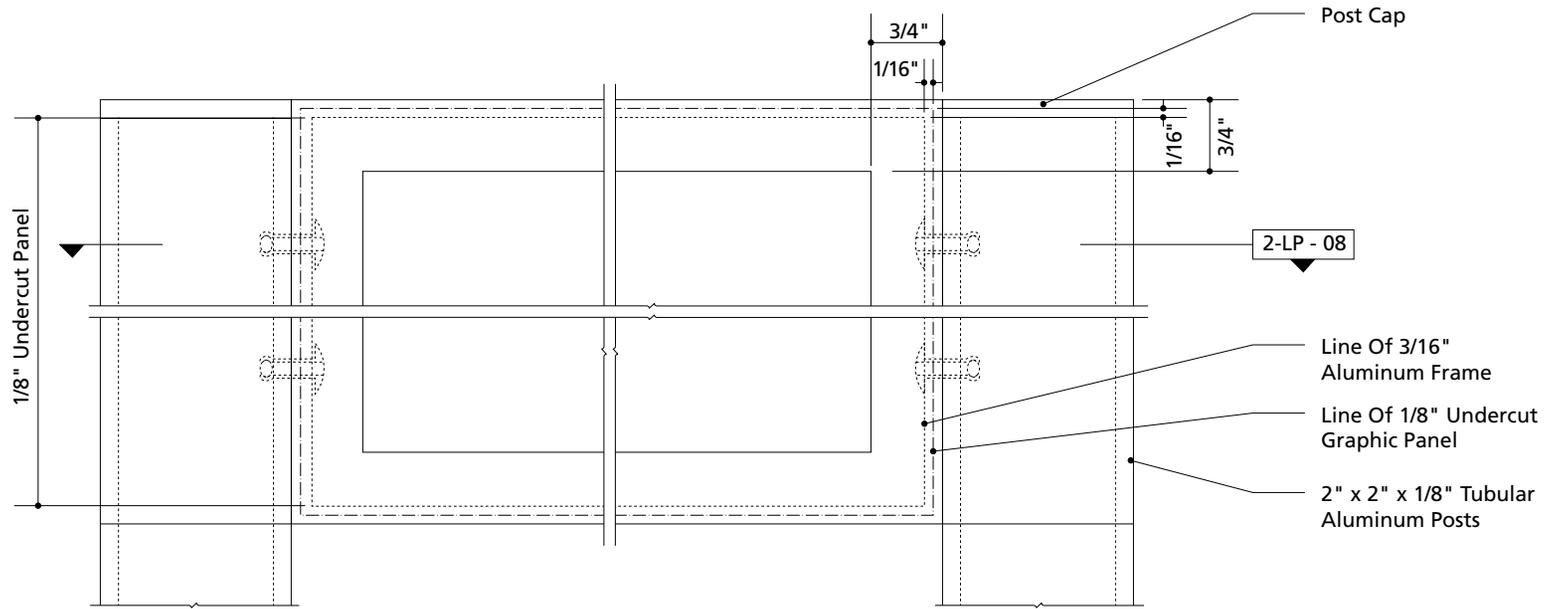


3-LP - 07 Side Section Cut

Scale: 1/2 Actual Size

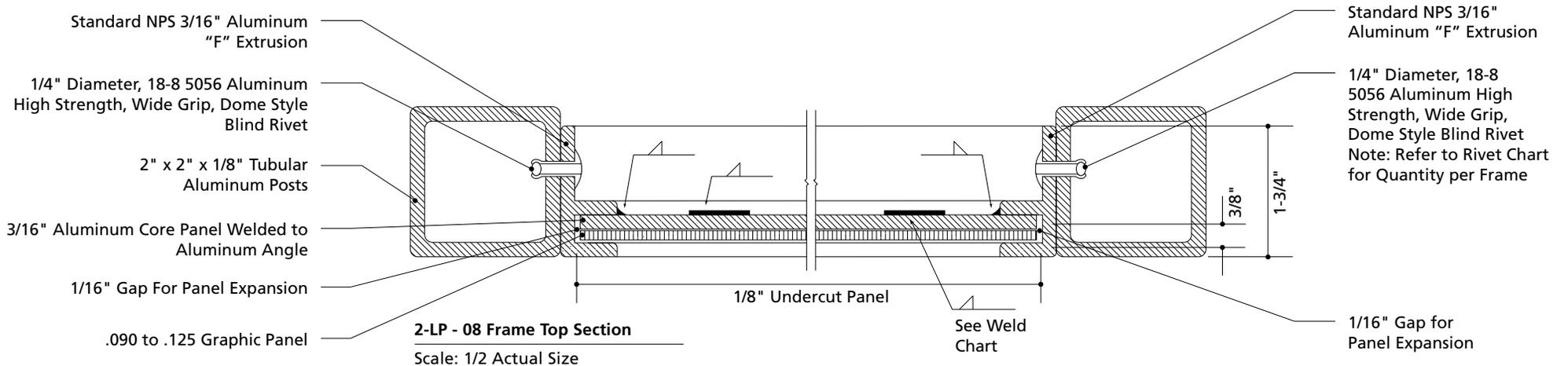
Low Profile (LP): 2" x 2" Post

Aluminum Fabrication (Continued)



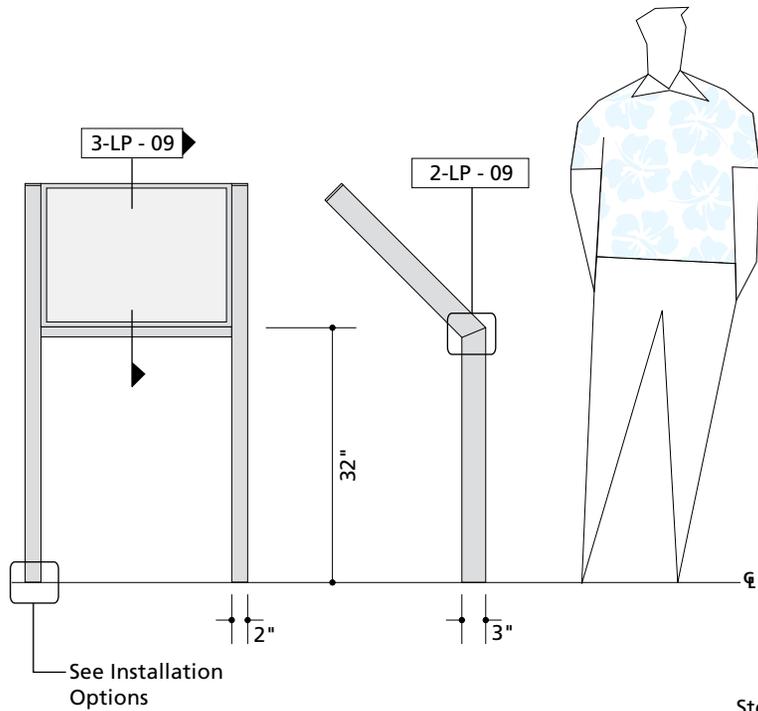
1-LP - 08 Frame Front Elevation

Scale: 1/2 Actual Size



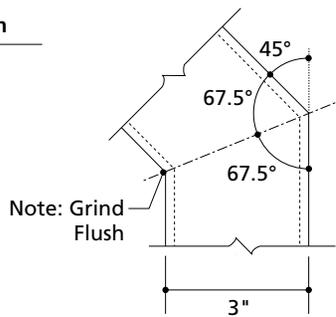
Low Profile (LP): 2" x 3" Post

Steel Fabrication



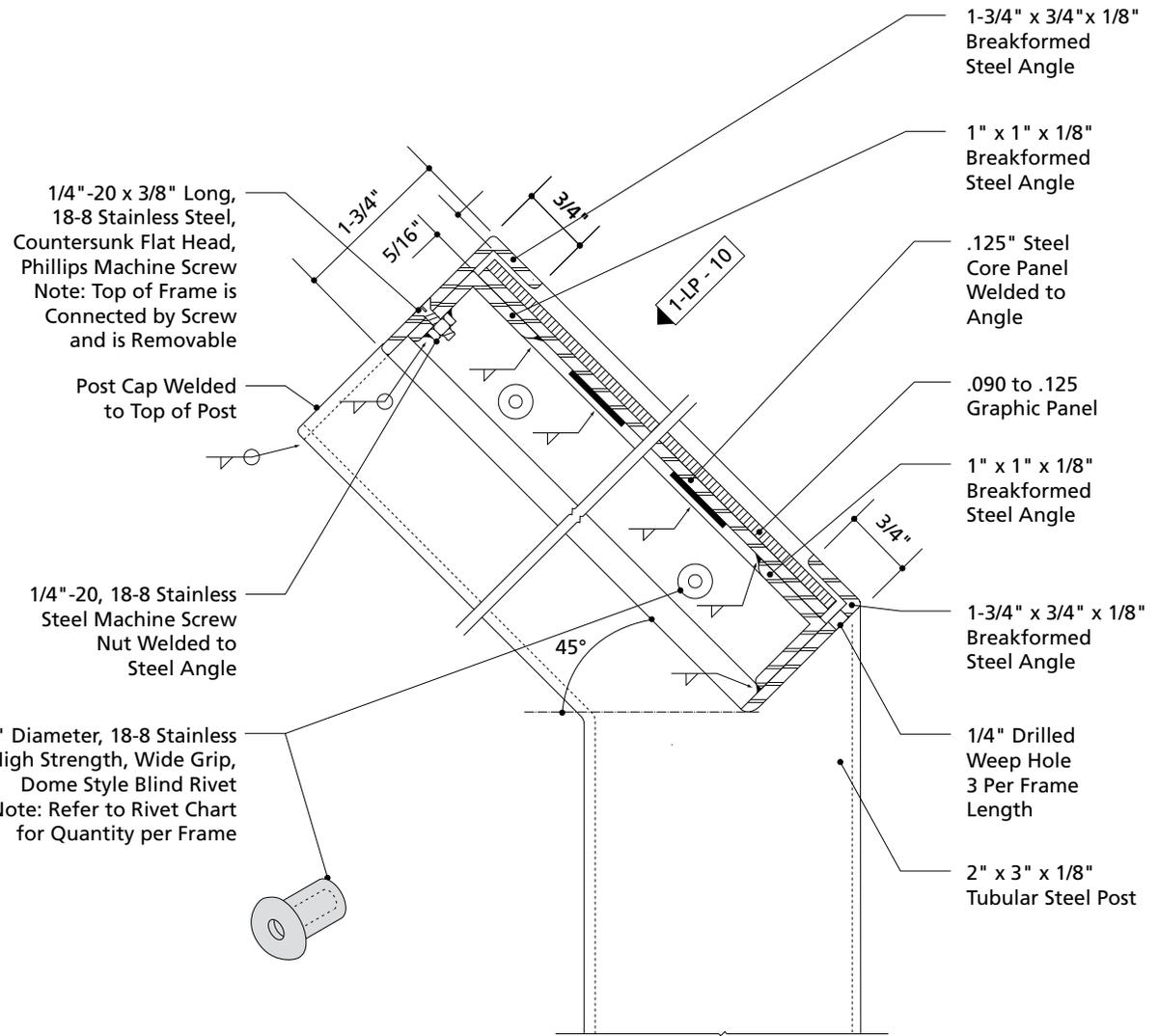
1-LP - 09 Low Profile Elevation

Scale: 1/2" = 1' - 0"



2-LP - 09 Post Detail

Scale: 3" = 1' - 0"

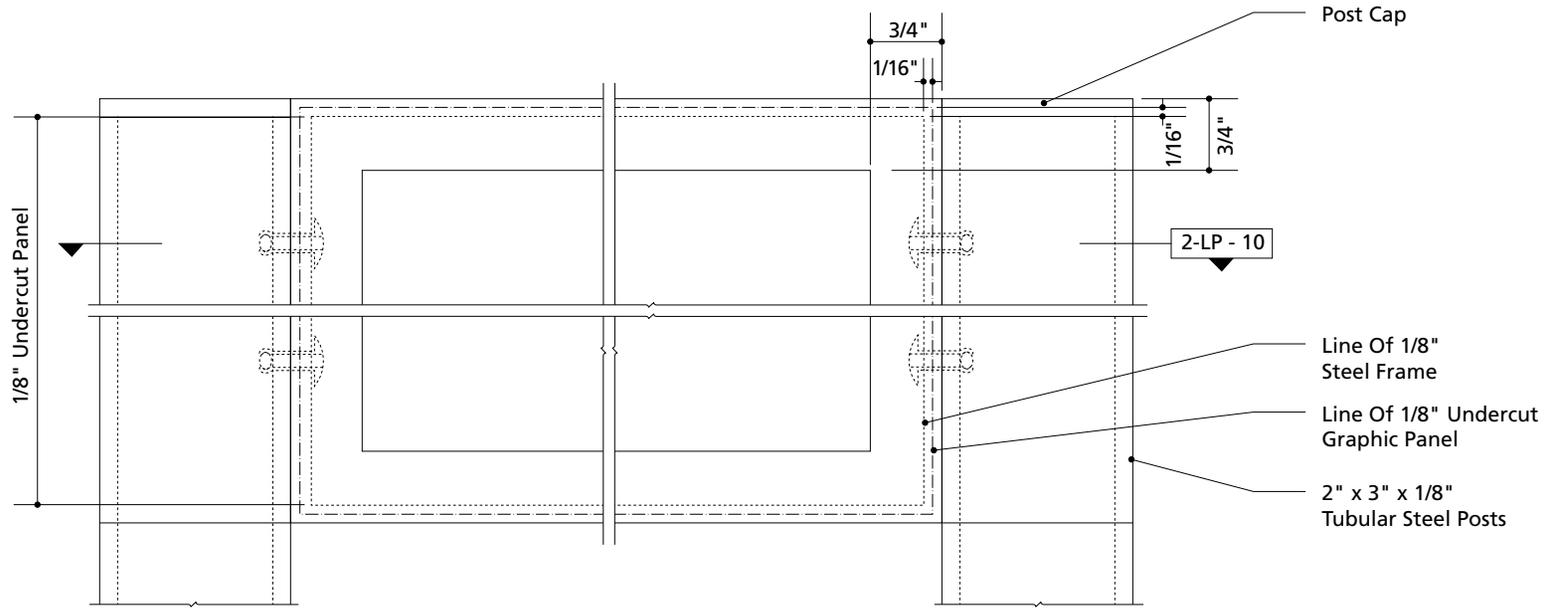


3-LP - 09 Side Section Cut

Scale: 1/2 Actual Size

Low Profile (LP): 2" x 3" Post

Steel Fabrication (Continued)



1-LP - 10 Frame Front Elevation

Scale: 1/2 Actual Size

2" x 3/4" x 1/8"
Breakformed Steel Angle

1" x 1" x 1/8"
Breakformed Steel Angle

1/4" Diameter, 18-8 Stainless
Steel High Strength, Wide
Grip, Dome Style Blind Rivet

2" x 3" Tubular Steel Posts

1/8" Steel Core Panel
Welded to Steel Angle

1/16" Gap For Panel
Expansion

.090 to .125 Graphic Panel

2-LP - 10 Frame Top Section

Scale: 1/2 Actual Size

Post Cap

Line Of 1/8"
Steel Frame

Line Of 1/8" Undercut
Graphic Panel

2" x 3" x 1/8"
Tubular Steel Posts

2" x 3/4" x 1/8"
Breakformed Steel Angle

1" x 1" x 1/8"
Breakformed Steel Angle

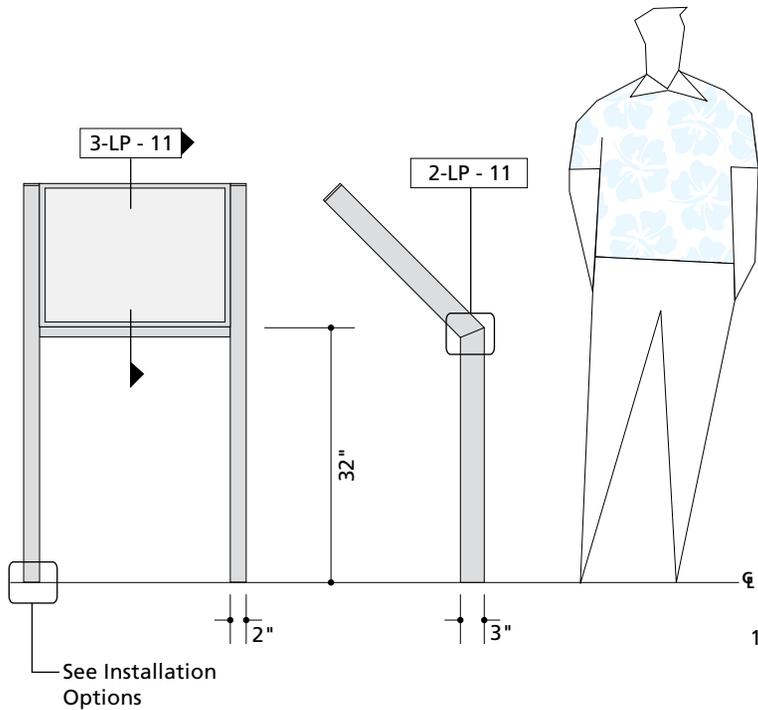
1/4" Diameter, 18-8 Stainless
Steel High Strength, Wide
Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart
for Quantity per Frame

1/16" Gap for
Panel Expansion

See Weld
Chart

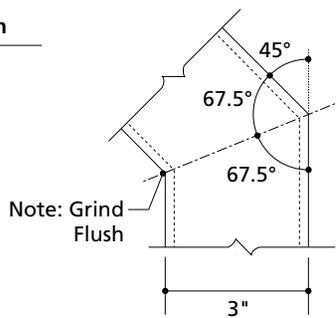
Low Profile (LP): 2" x 3" Post

Aluminum Fabrication



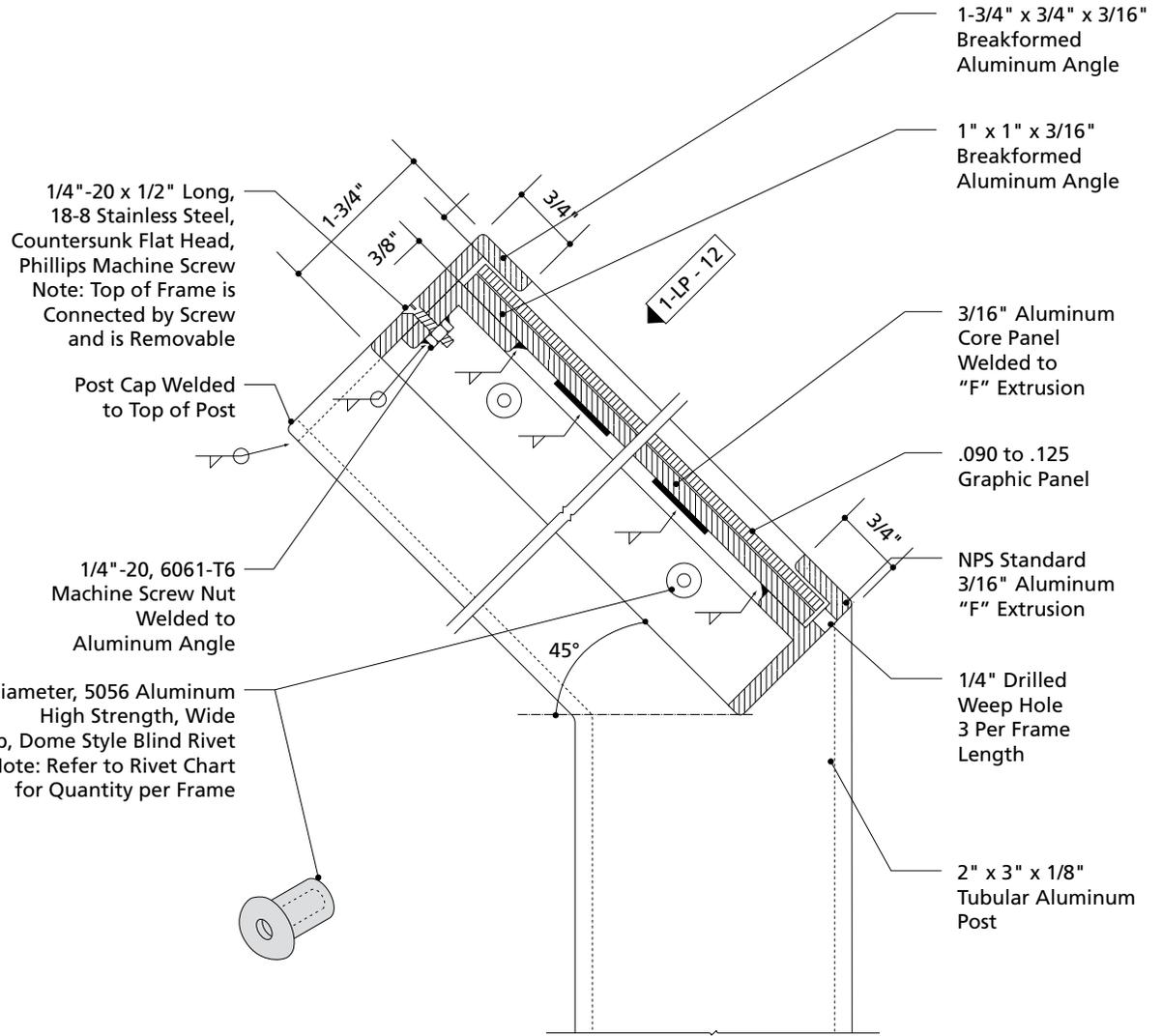
1-LP - 11 Low Profile Elevation

Scale: 1/2" = 1' - 0"



2-LP - 11 Post Detail

Scale: 3" = 1' - 0"

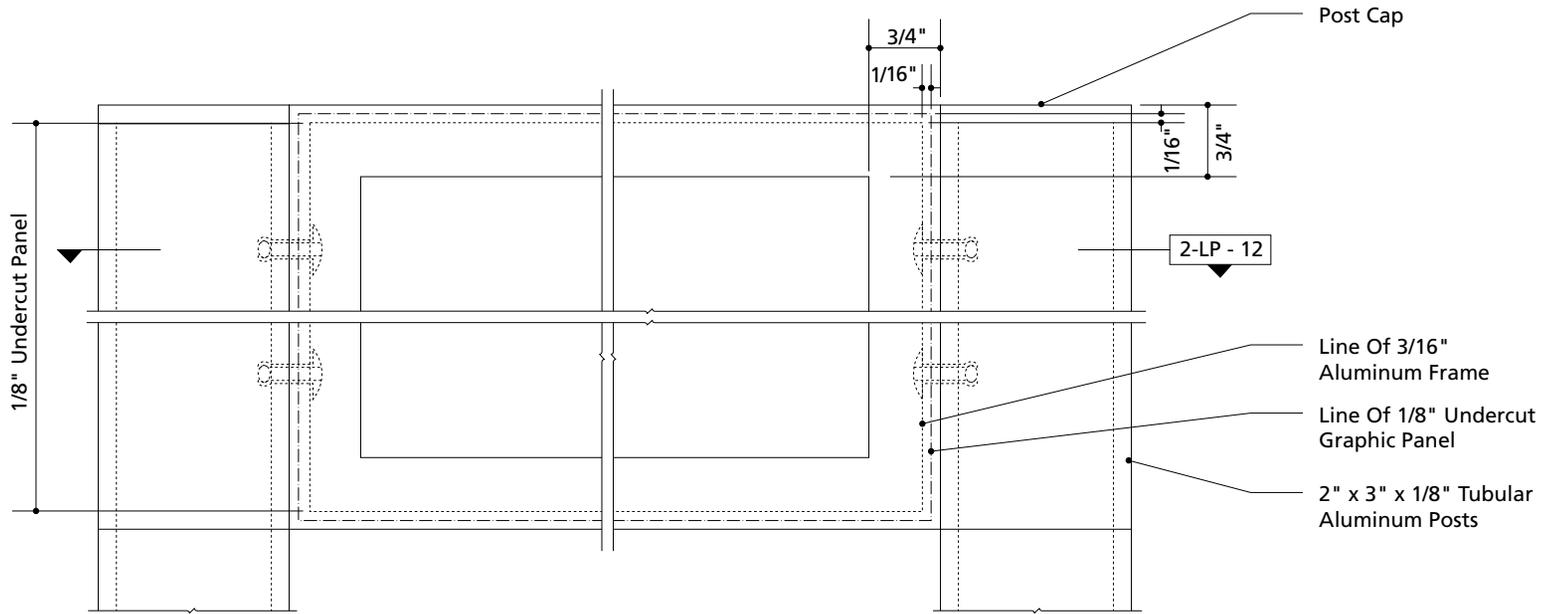


3-LP - 11 Side Section Cut

Scale: 1/2 Actual Size

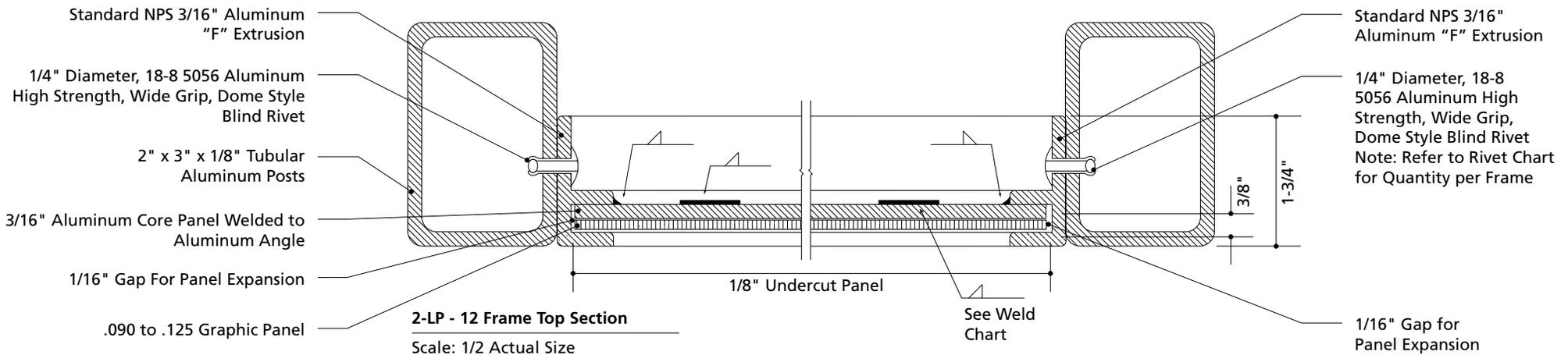
Low Profile (LP): 2" x 3" Post

Aluminum Fabrication (Continued)



1-LP - 12 Frame Front Elevation

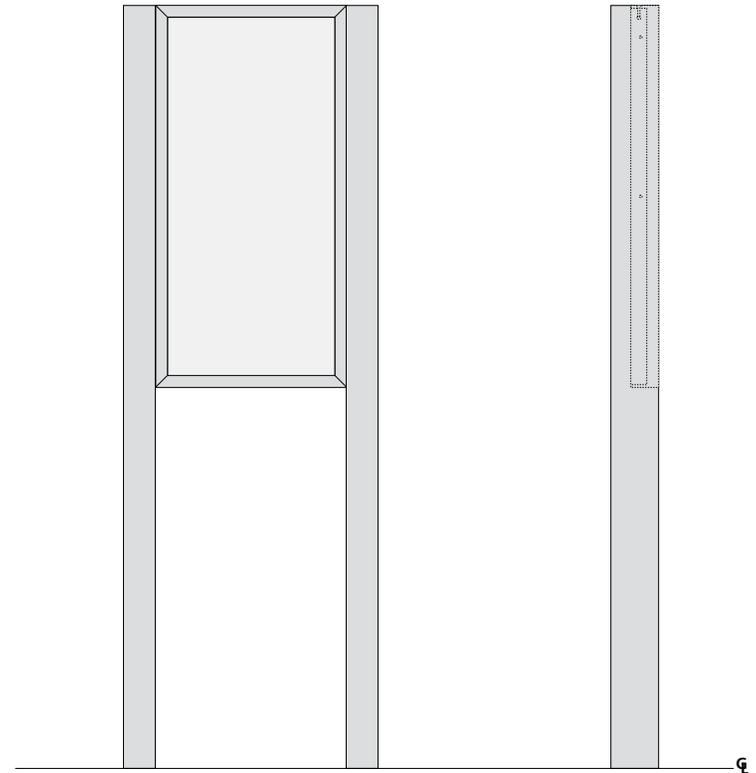
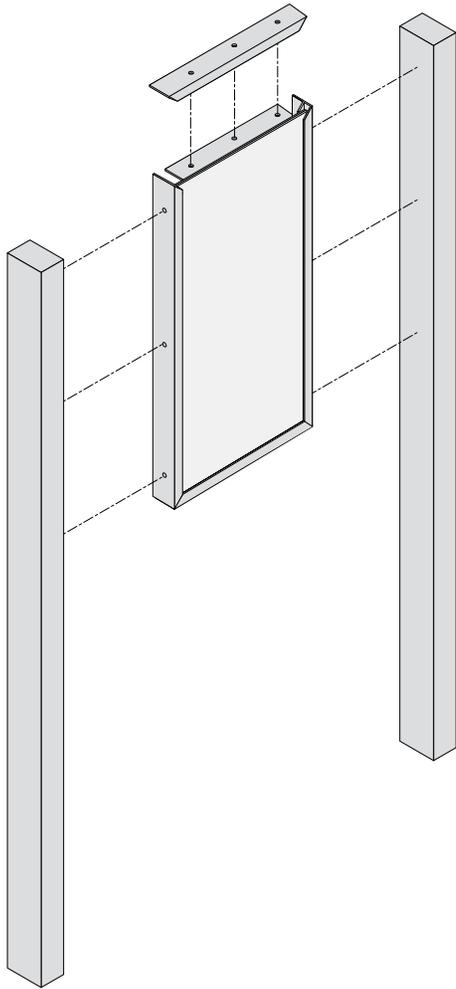
Scale: 1/2 Actual Size



2-LP - 12 Frame Top Section

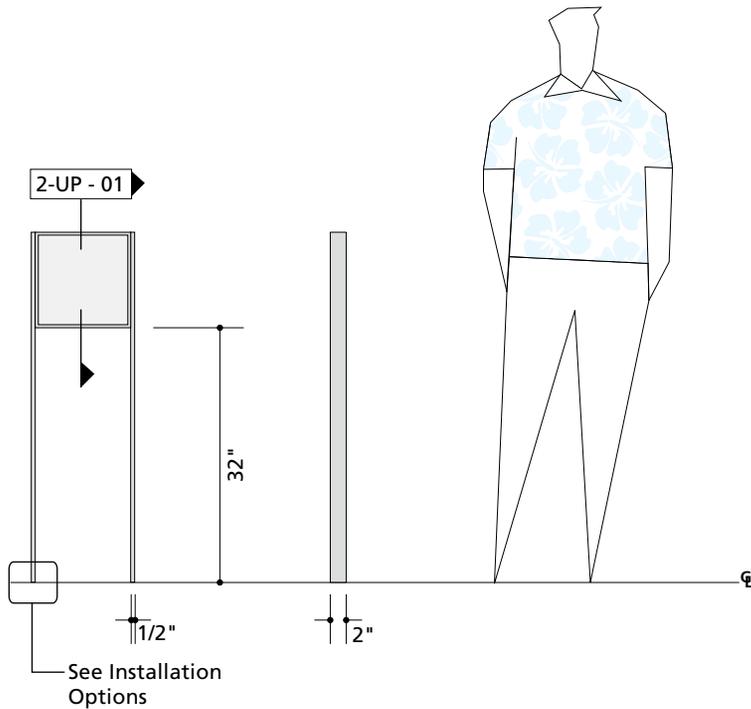
Scale: 1/2 Actual Size

Upright Series (UP)



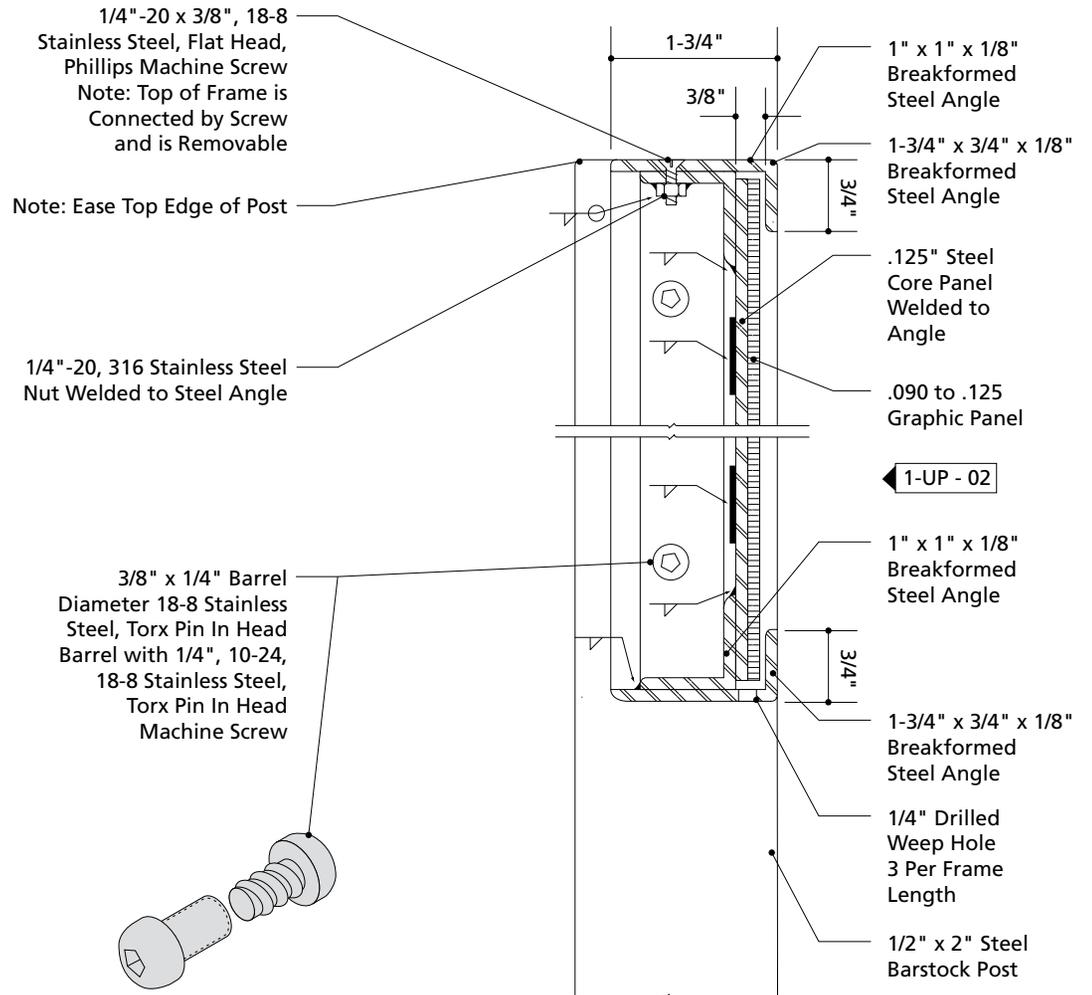
Upright Series (UP): Barstock Post

Single-sided Steel Fabrication



1-UP - 01 Upright Elevation

Scale: 1/2" = 1' - 0"

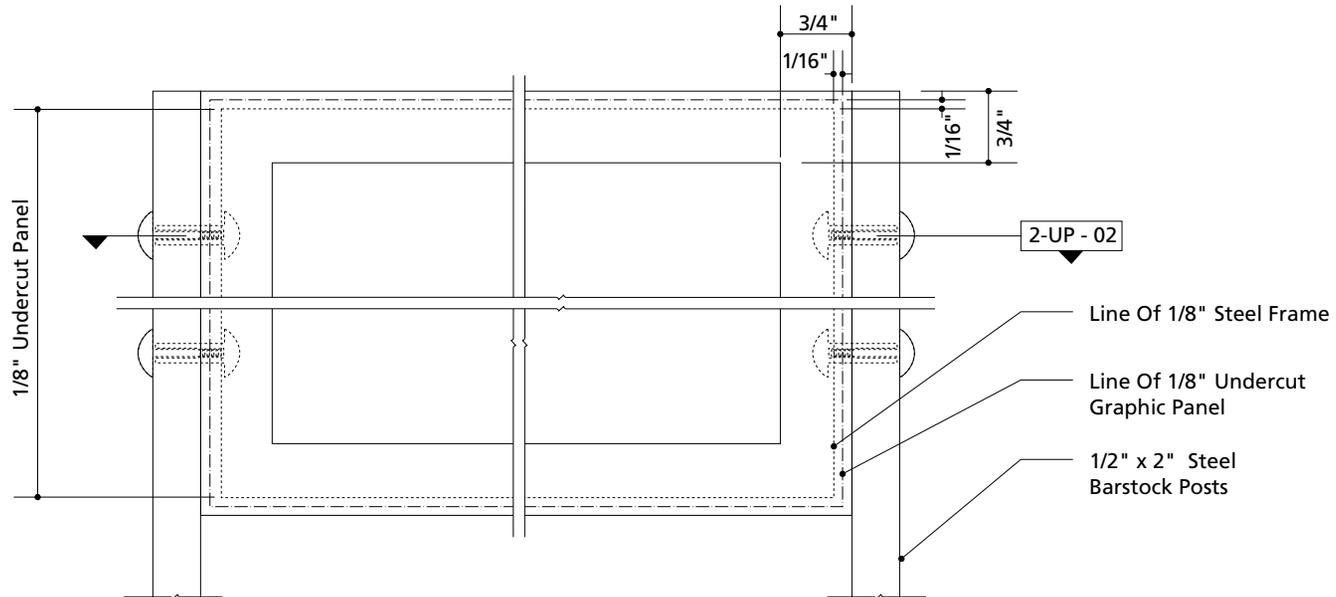


2-UP - 01 Side Section Cut

Scale: 1/2 Actual Size

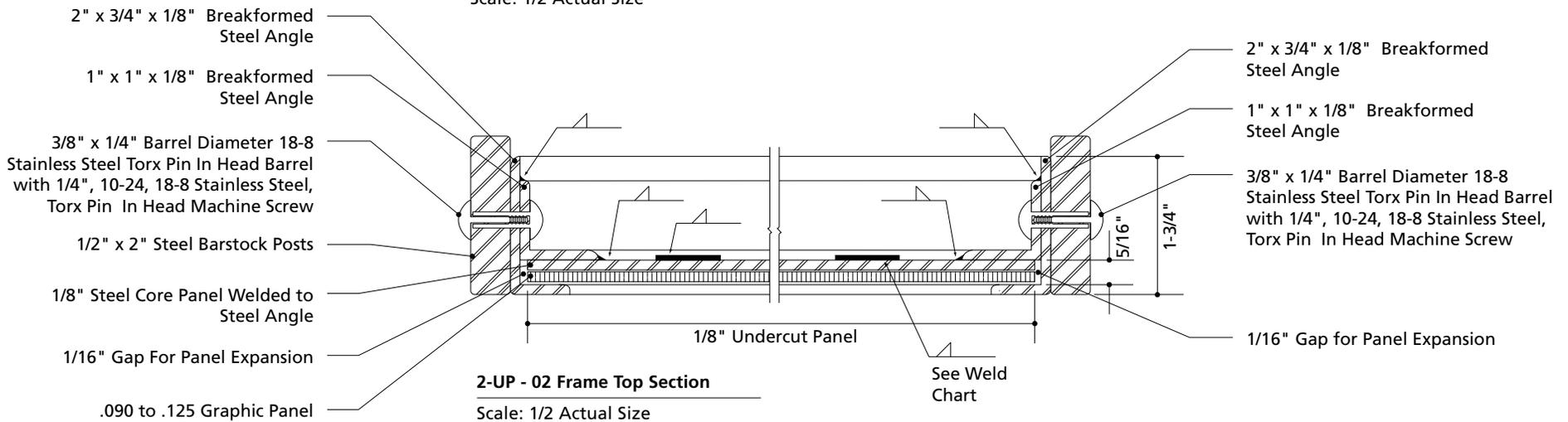
Upright Series (UP): Barstock Post

Single-sided Steel Fabrication (Continued)



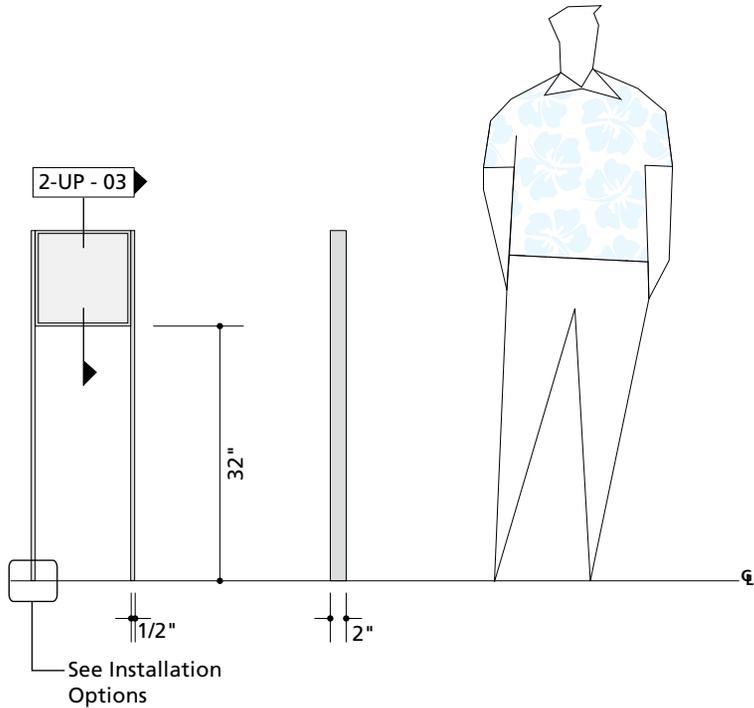
1-UP - 02 Frame Front Elevation

Scale: 1/2 Actual Size



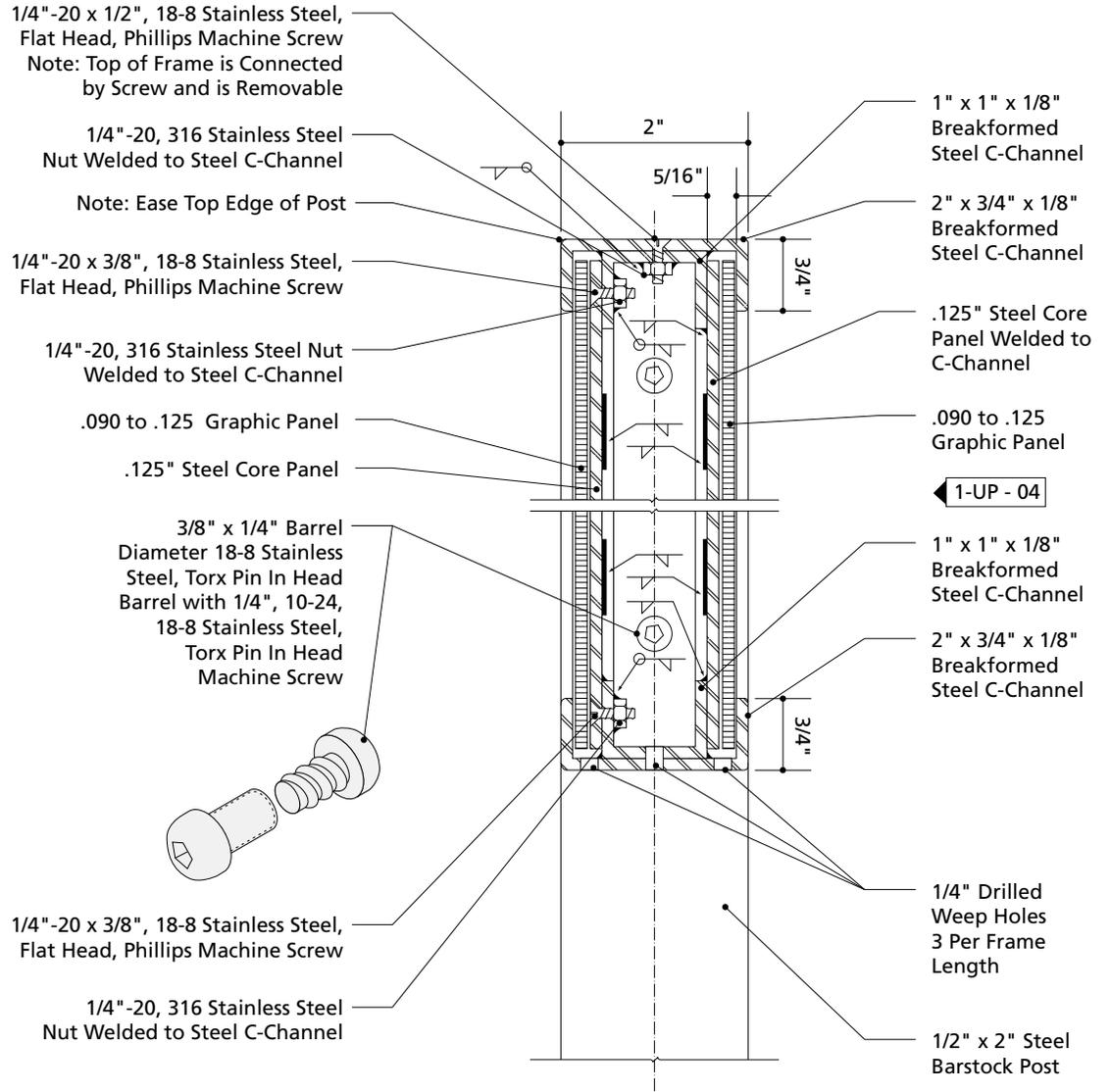
Upright Series (UP): Barstock Post

Double-sided Steel Fabrication



1-UP - 03 Upright Elevation

Scale: 1/2" = 1' - 0"

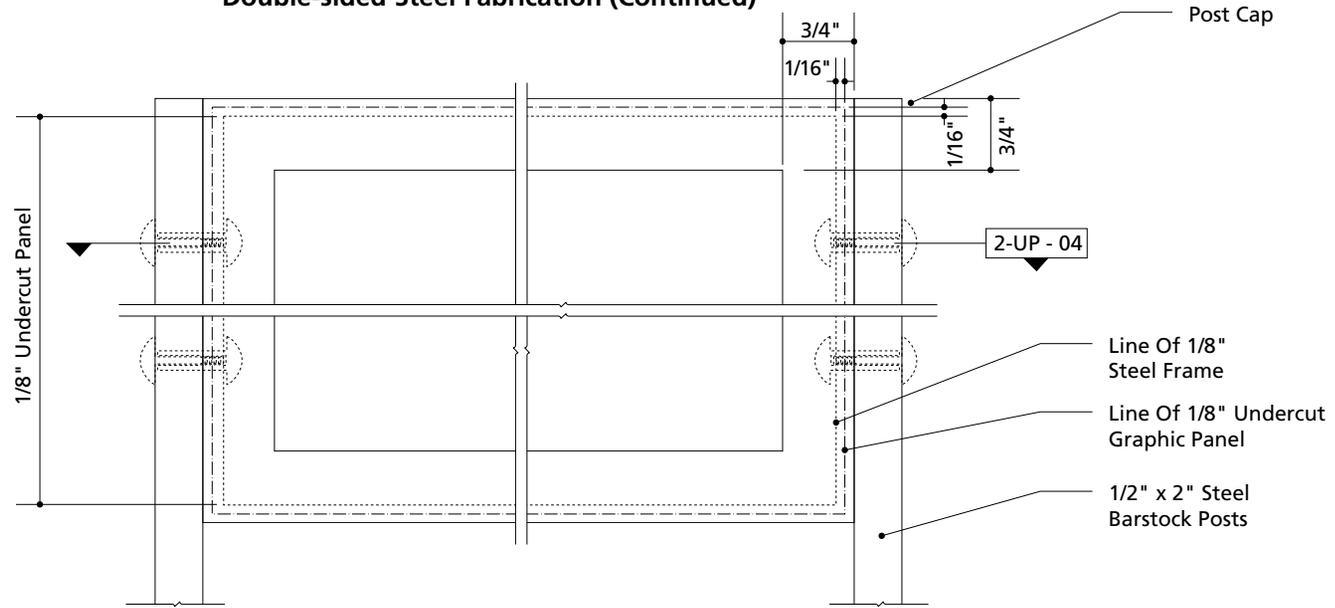


2-UP - 03 Side Section Cut

Scale: 1/2 Actual Size

Upright Series (UP): Barstock Post

Double-sided Steel Fabrication (Continued)



1-UP - 04 Frame Front Elevation

Scale: 1/2 Actual Size

- 1/8" Steel Core Panel Welded to Steel C-Channel
- .090 to .125 Graphic Panel
- 2" x 3/4" x 1/8" Breakformed Steel C-Channel
- 1" x 1" x 1/8" Breakformed Steel C-Channel
- 1/2" x 2" Steel Barstock Posts
- 1/4" Diameter, 18-8 Stainless Steel High Strength, Wide Grip, Dome Style Blind Rivet
- 1/4"-20 x 3/8", 18-8 Stainless Steel, Flat Head, Phillips Machine Screw
- 1/4"-20, 316 Stainless Steel Nut Welded to Steel C-Channel
- 1/8" Steel Core Panel
- 1/16" Gap For Panel Expansion
- .090 to .125 Graphic Panel

- Post Cap
- 2-UP - 04
- Line Of 1/8" Steel Frame
- Line Of 1/8" Undercut Graphic Panel
- 1/2" x 2" Steel Barstock Posts
- 2" x 3/4" x 1/8" Breakformed Steel C-Channel
- 1" x 1" x 1/8" Breakformed Steel C-Channel
- 1/4"-20, 316 Stainless Steel Nut Welded to Steel C-Channel
- 3/8" x 1/4" Barrel Diameter 18-8 Stainless Steel Torx Pin In Head Barrel with 1/4", 10-24, 18-8 Stainless Steel, Torx Pin In Head Machine Screw
- 1/16" Gap for Panel Expansion
- 1/4"-20 x 3/8", 18-8 Stainless Steel, Flat Head, Phillips Machine Screw

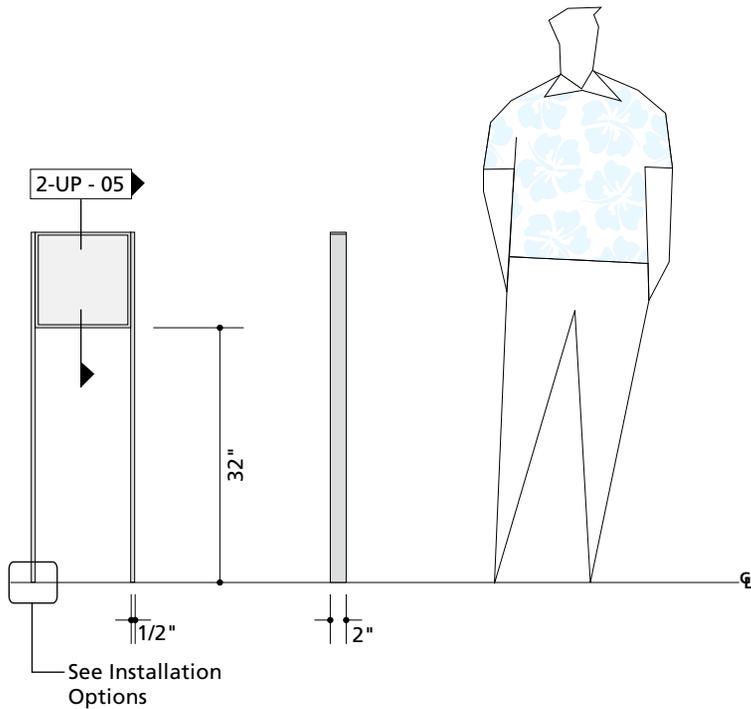
2-UP - 04 Frame Top Section

Scale: 1/2 Actual Size

See Weld Chart

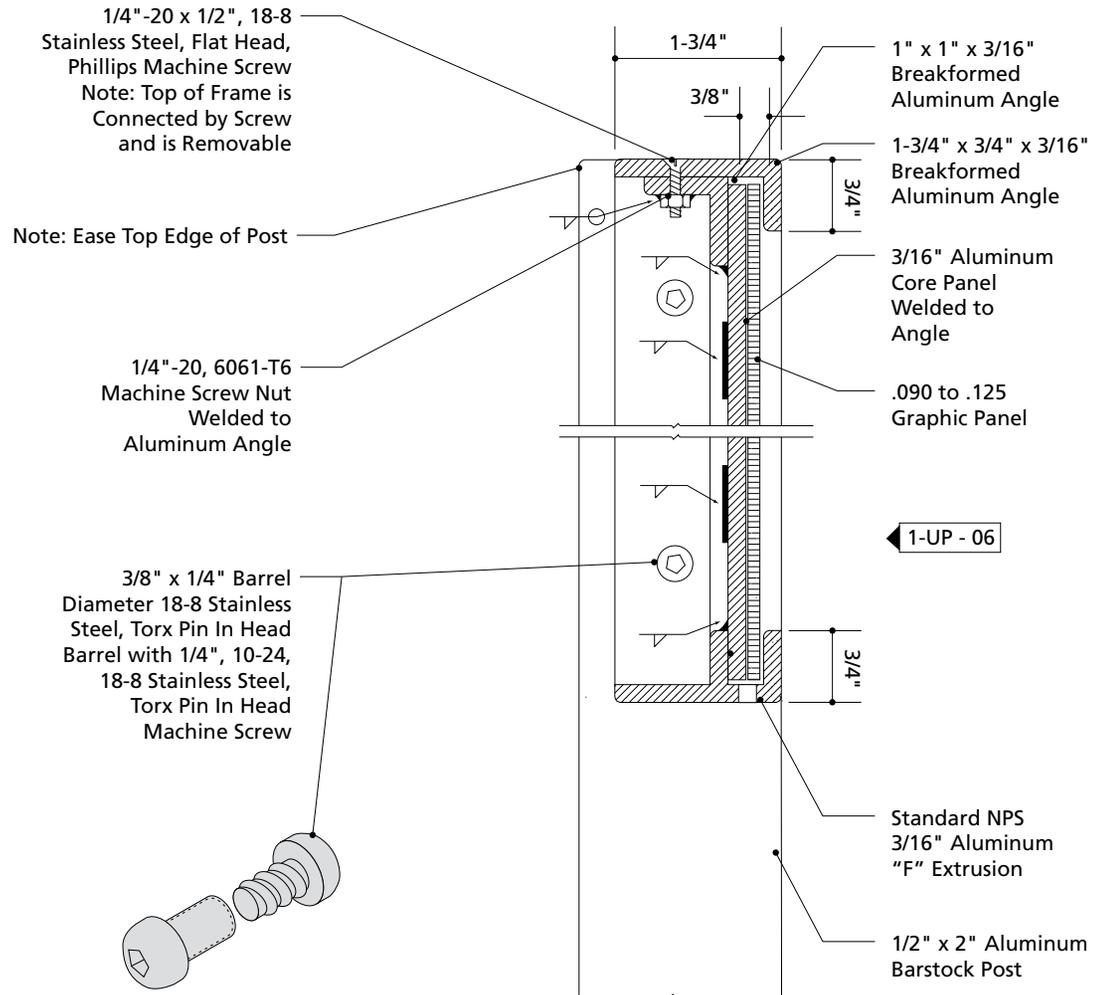
Upright Series (UP): Barstock Post

Single-sided Aluminum Fabrication



1-UP - 05 Upright Elevation

Scale: 1/2" = 1' - 0"

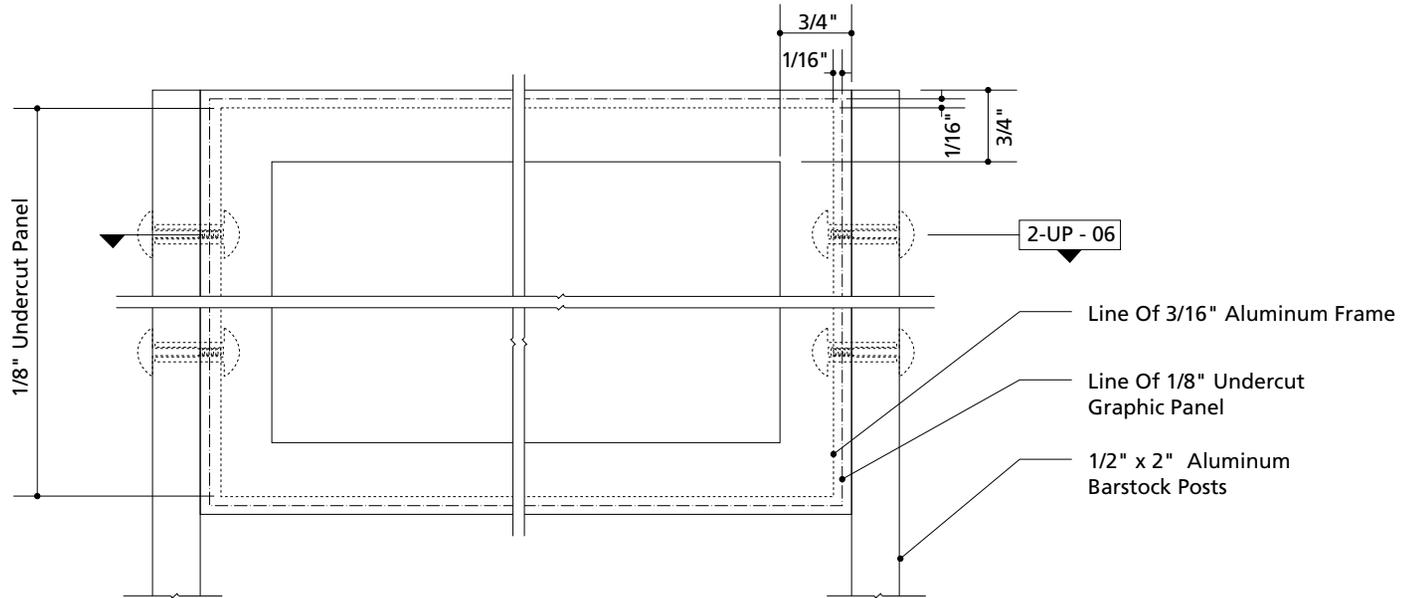


2-UP - 05 Side Section Cut

Scale: 1/2 Actual Size

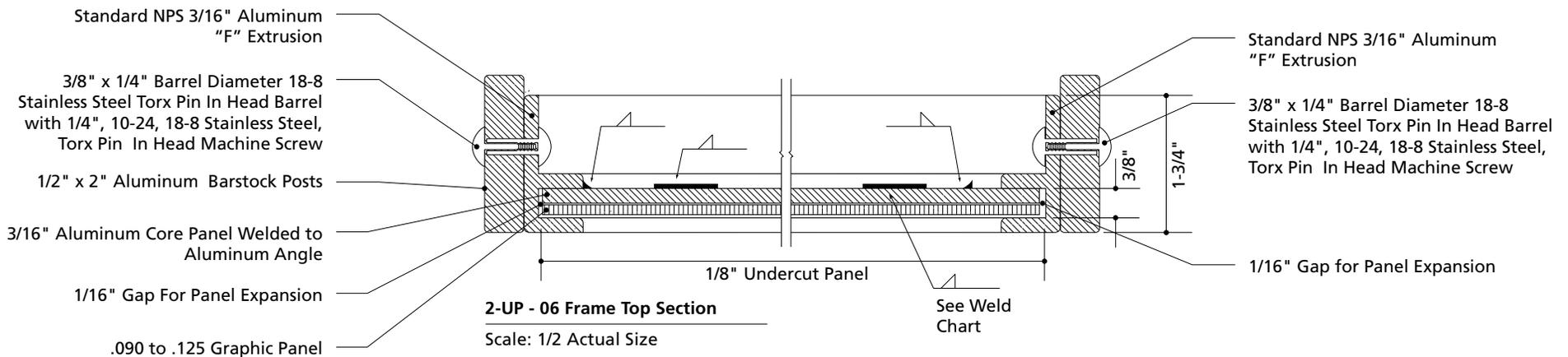
Upright Series (UP): Barstock Post

Single-sided Aluminum Fabrication (Continued)



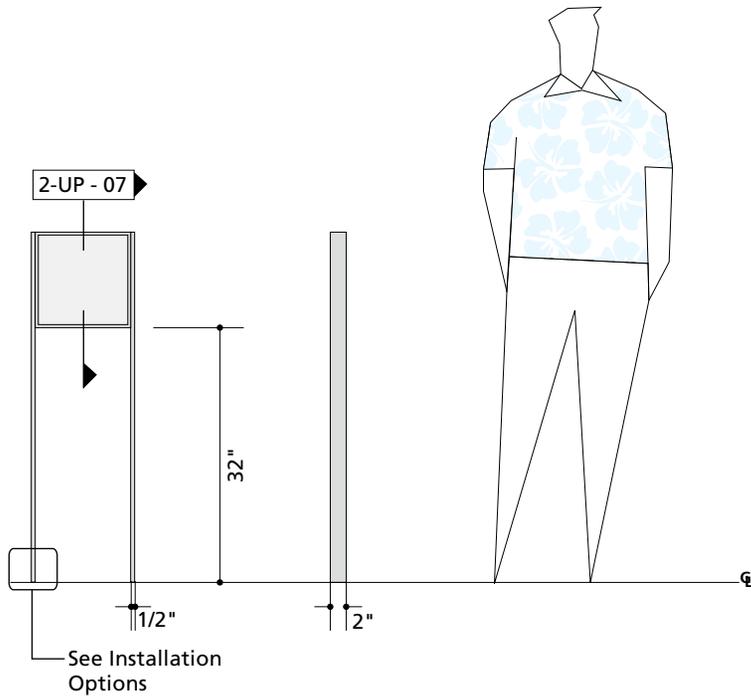
1-UP - 06 Frame Front Elevation

Scale: 1/2 Actual Size



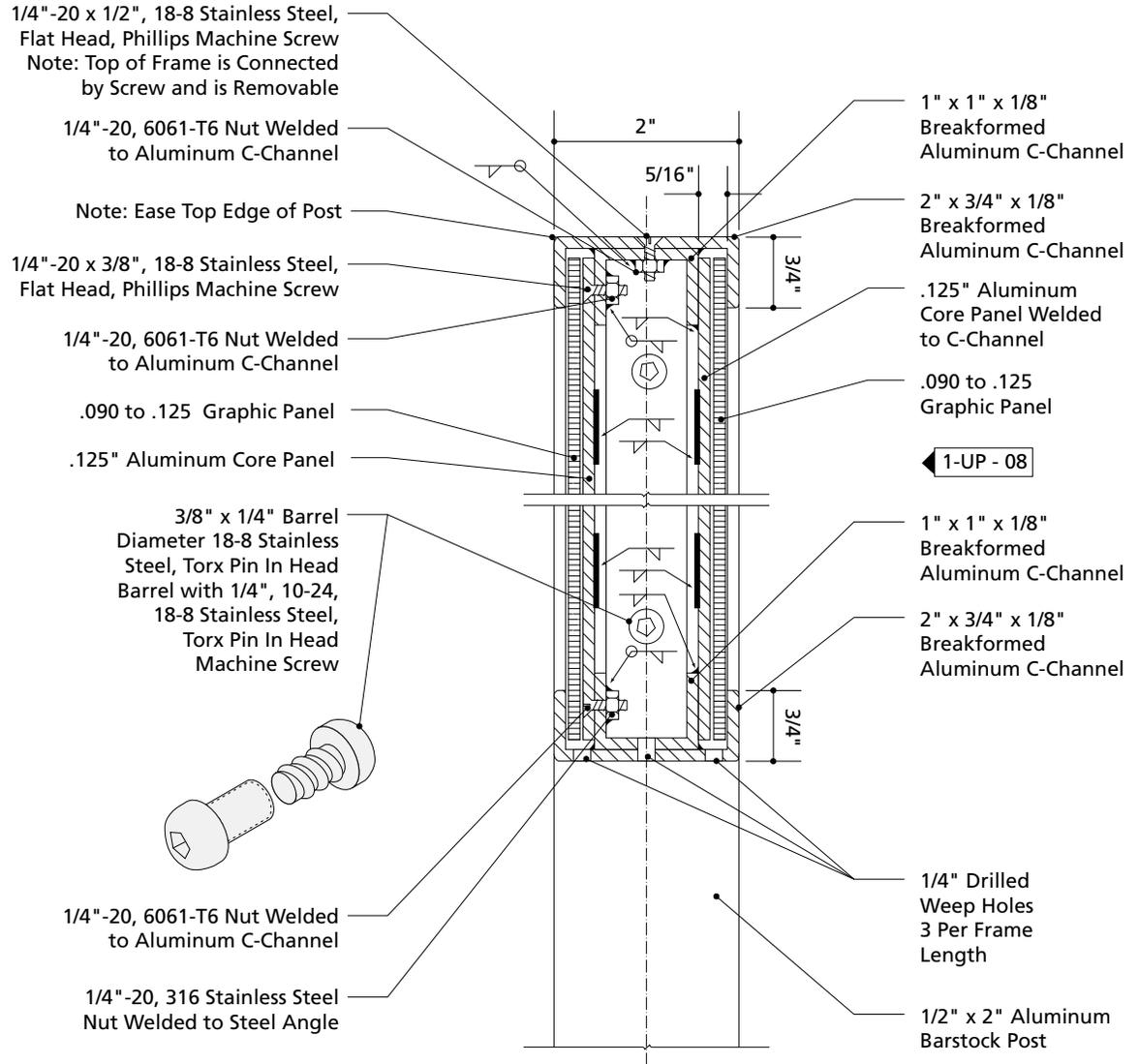
Upright Series (UP): Barstock Post

Double-sided Aluminum Fabrication



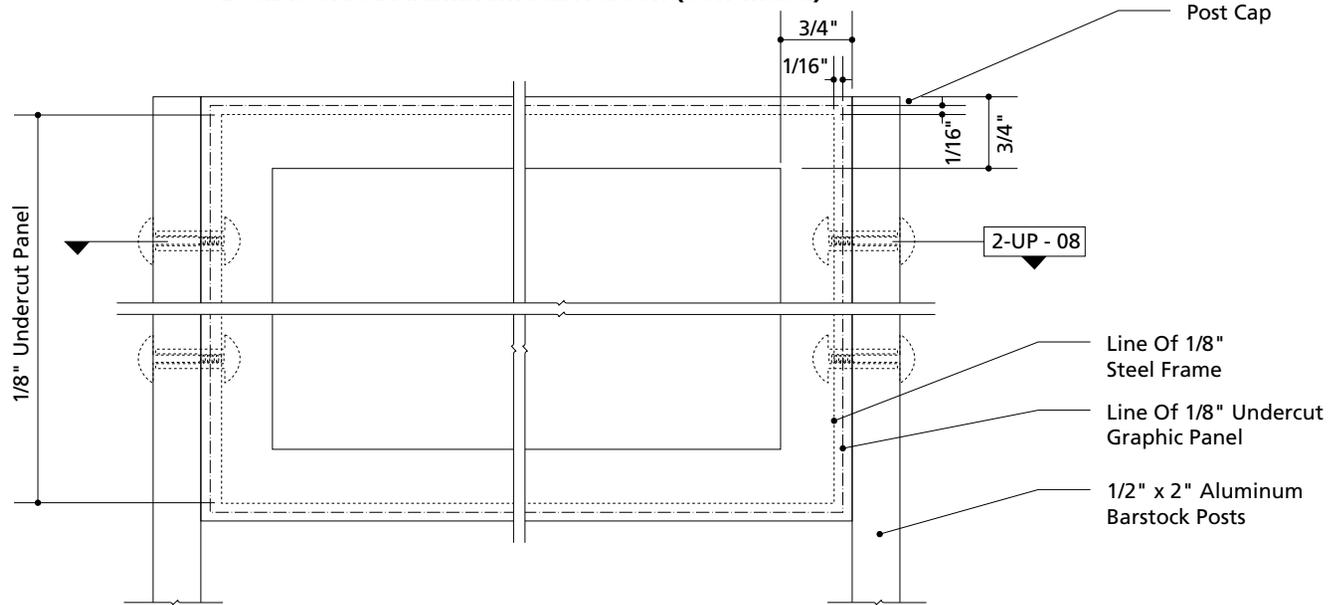
1-UP - 07 Upright Elevation

Scale: 1/2" = 1' - 0"



Upright Series (UP): Barstock Post

Double-sided Aluminum Fabrication (Continued)



- 1/8" Aluminum Core Panel Welded to Aluminum C-Channel
- .090 to .125 Graphic Panel
- 2" x 3/4" x 1/8" Breakformed Aluminum C-Channel
- 1" x 1" x 1/8" Breakformed Aluminum C-Channel
- 1/2" x 2" Aluminum Barstock Posts
- 1/4" Diameter, 18-8 Stainless Steel High Strength, Wide Grip, Dome Style Blind Rivet
- 1/4"-20 x 3/8", 18-8 Stainless Steel, Flat Head, Phillips Machine Screw
- 1/4"-20, 5056 Nut Welded to Aluminum C-Channel
- 1/8" Aluminum Core Panel
- 1/16" Gap For Panel Expansion
- .090 to .125 Graphic Panel

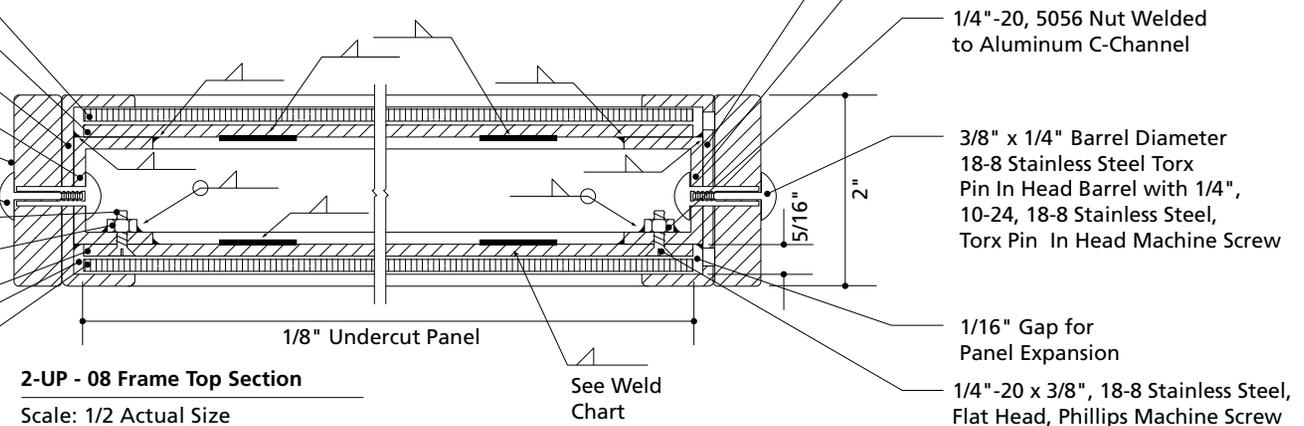
1-UP - 08 Frame Front Elevation

Scale: 1/2 Actual Size

- 2" x 3/4" x 1/8" Breakformed Aluminum C-Channel
- 1" x 1" x 1/8" Breakformed Aluminum C-Channel
- 1/4"-20, 5056 Nut Welded to Aluminum C-Channel
- 3/8" x 1/4" Barrel Diameter 18-8 Stainless Steel Torx Pin In Head Barrel with 1/4", 10-24, 18-8 Stainless Steel, Torx Pin In Head Machine Screw
- 1/16" Gap for Panel Expansion
- 1/4"-20 x 3/8", 18-8 Stainless Steel, Flat Head, Phillips Machine Screw

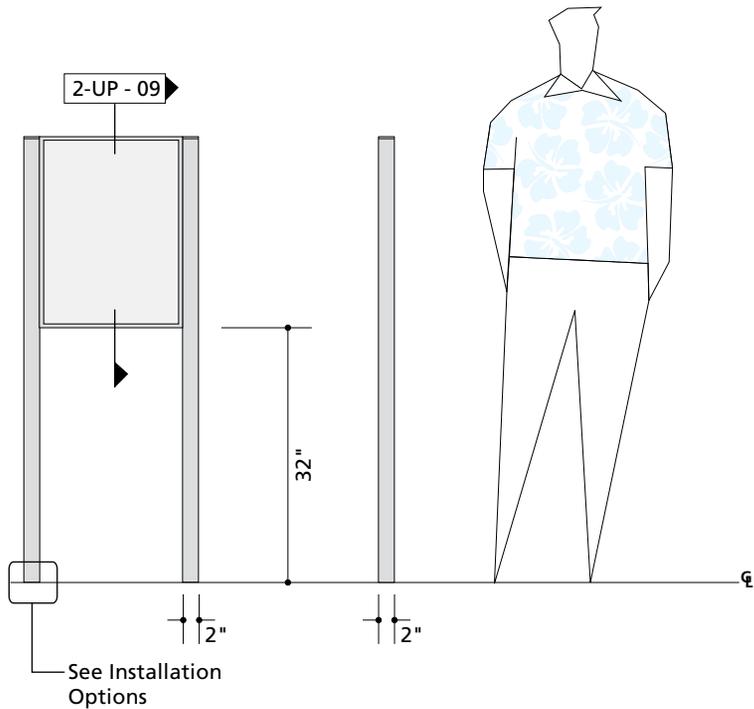
2-UP - 08 Frame Top Section

Scale: 1/2 Actual Size



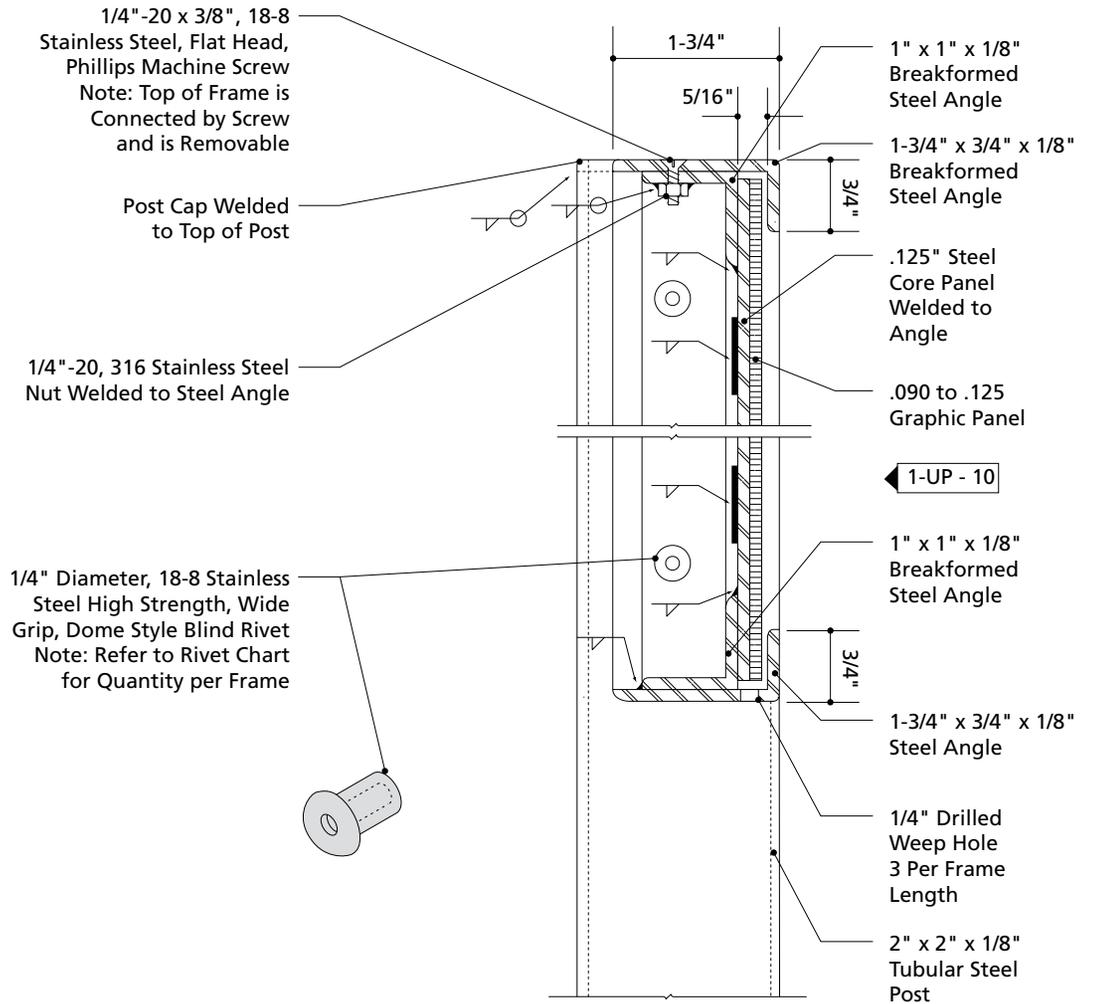
Upright Series (UP): 2" x 2" Post

Single-sided Steel Fabrication



1-UP - 09 Upright Elevation

Scale: 1/2" = 1' - 0"

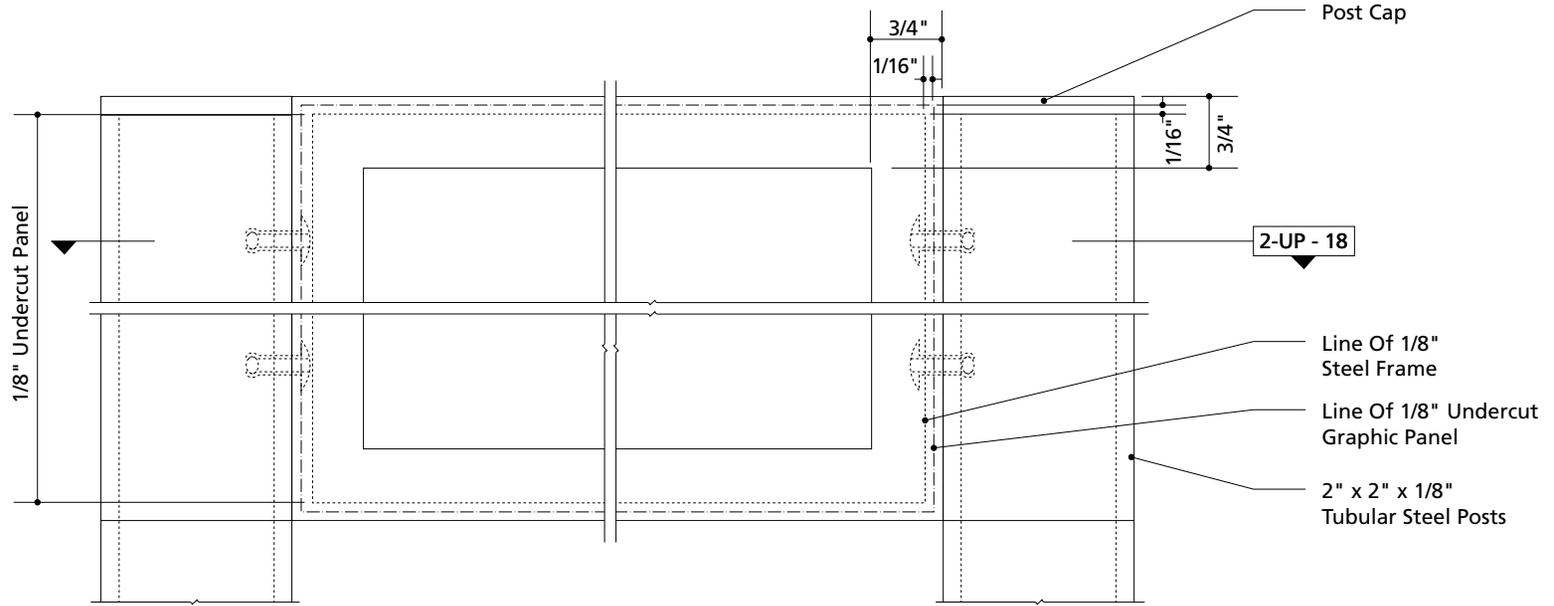


2-UP - 09 Side Section Cut

Scale: 1/2 Actual Size

Upright Series (UP): 2" x 2" Post

Single-sided Steel Fabrication (Continued)



1-UP - 18 Frame Front Elevation

Scale: 1/2 Actual Size

2" x 3/4" x 1/8"
Breakformed Steel Angle

1" x 1" x 1/8"
Breakformed Steel Angle

1/4" Diameter, 18-8 Stainless
Steel High Strength, Wide
Grip, Dome Style Blind Rivet

2" x 2" Tubular Steel Posts

1/8" Steel Core Panel
Welded to Steel Angle

1/16" Gap For Panel
Expansion

.090 to .125 Graphic Panel

2-UP - 18 Frame Top Section

Scale: 1/2 Actual Size

2" x 3/4" x 1/8"
Breakformed Steel Angle

1" x 1" x 1/8"
Breakformed Steel Angle

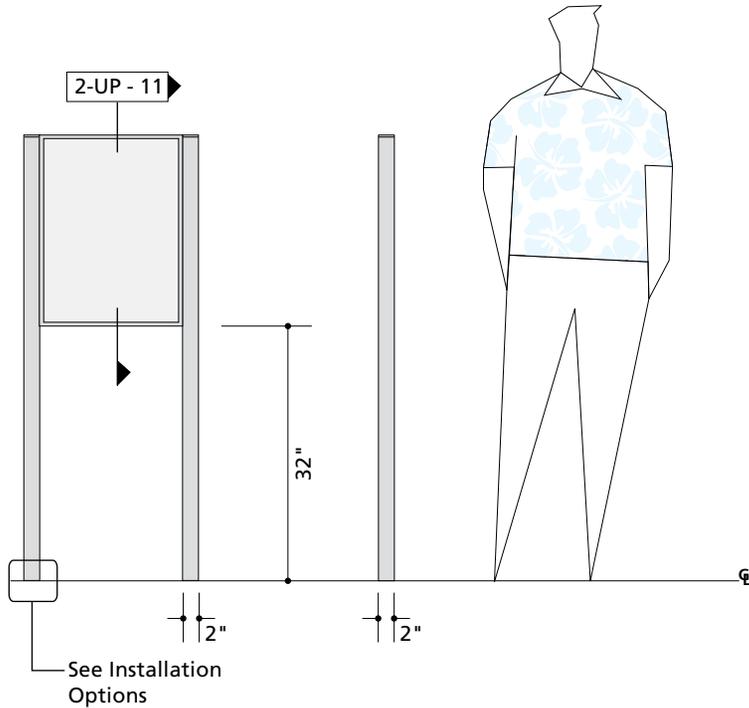
1/4" Diameter, 18-8 Stainless
Steel High Strength, Wide
Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart
for Quantity per Frame

1/16" Gap for
Panel Expansion

See Weld
Chart

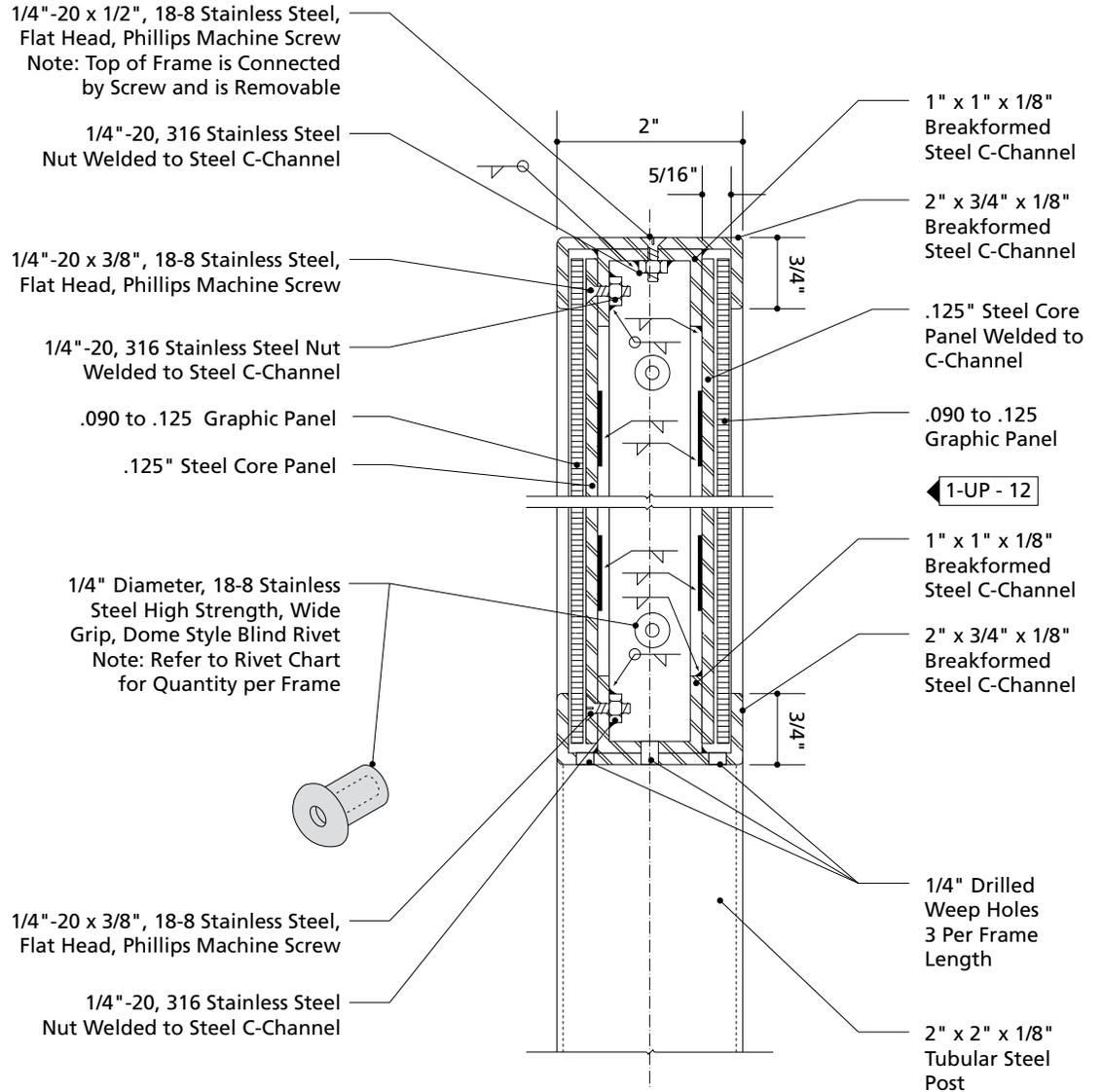
Upright Series (UP): 2" x 2" Post

Double-sided Steel Fabrication



1-UP - 11 Upright Elevation

Scale: 1/2" = 1' - 0"

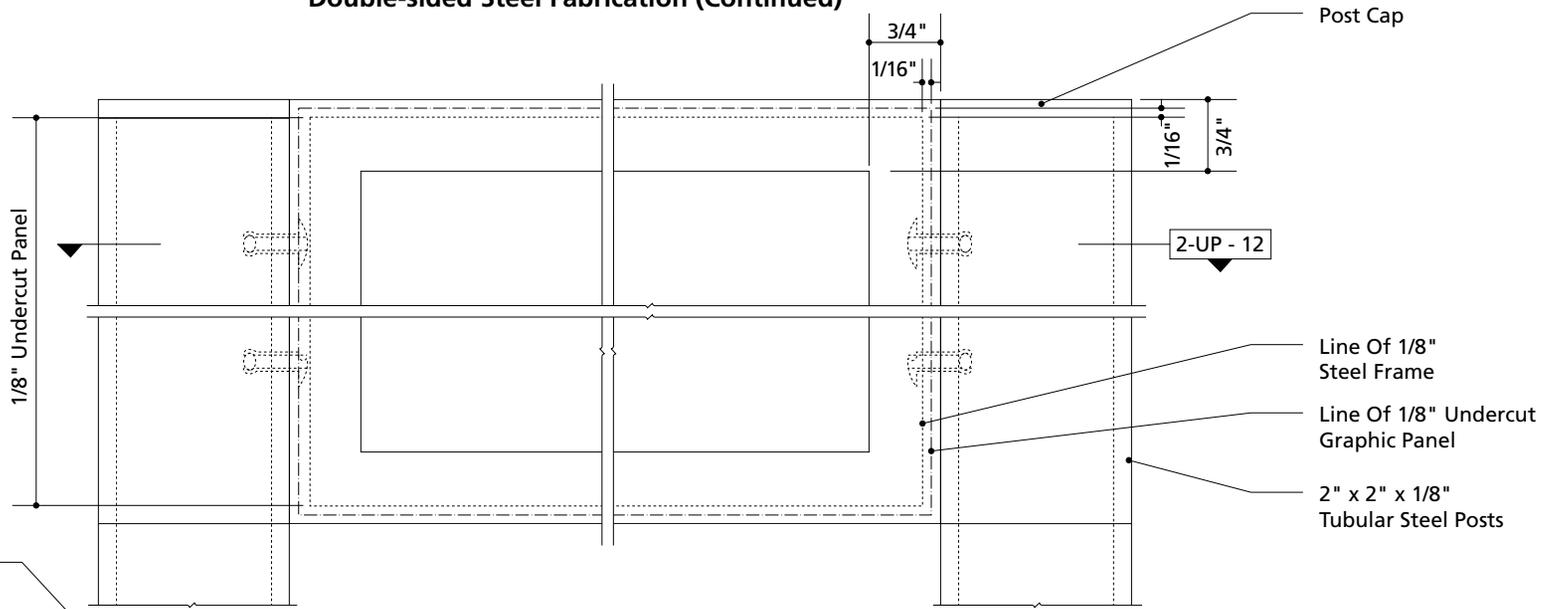


2-UP - 11 Side Section Cut

Scale: 1/2 Actual Size

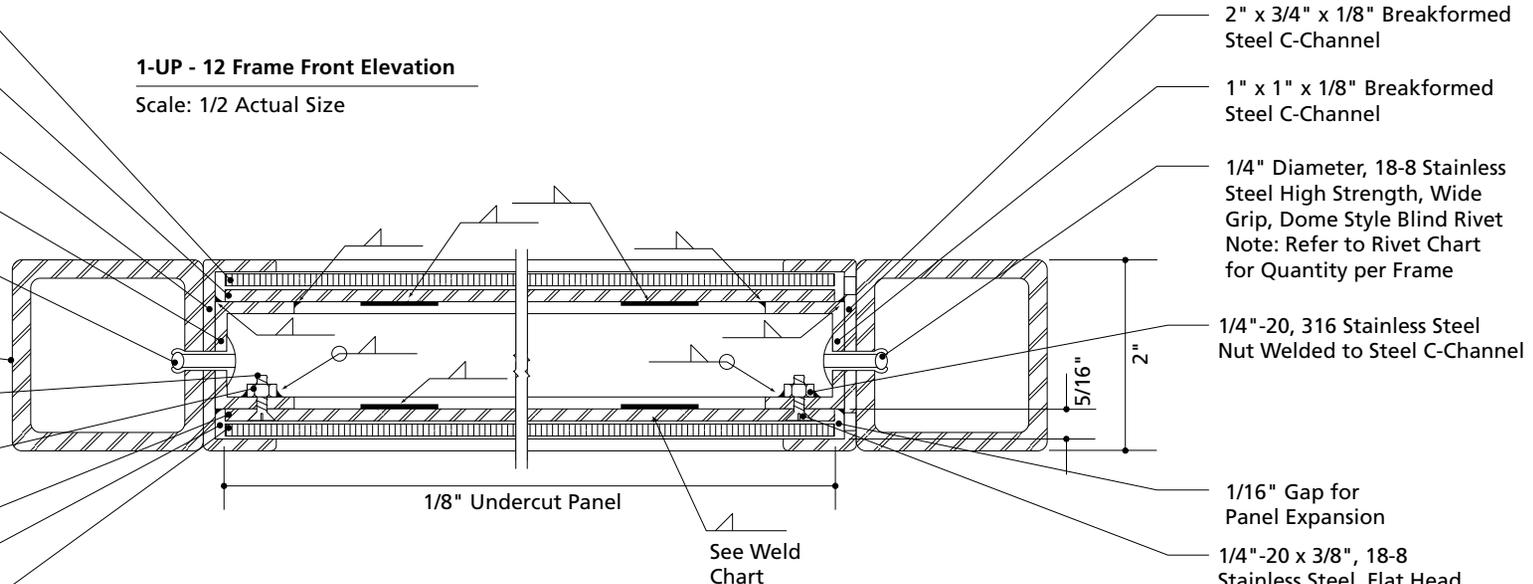
Upright Series (UP): 2" x 2" Post

Double-sided Steel Fabrication (Continued)



1-UP - 12 Frame Front Elevation
Scale: 1/2 Actual Size

- 1/8" Steel Core Panel Welded to Steel C-Channel
- .090 to .125 Graphic Panel
- 2" x 3/4" x 1/8" Breakformed Steel C-Channel
- 1" x 1" x 1/8" Breakformed Steel C-Channel
- 1/4" Diameter, 18-8 Stainless Steel High Strength, Wide Grip, Dome Style Blind Rivet
- 2" x 2" Tubular Steel Posts
- 1/4"-20 x 3/8", 18-8 Stainless Steel, Flat Head, Phillips Machine Screw
- 1/4"-20, 316 Stainless Steel Nut Welded to Steel C-Channel
- 1/8" Steel Core Panel
- 1/16" Gap For Panel Expansion
- .090 to .125 Graphic Panel

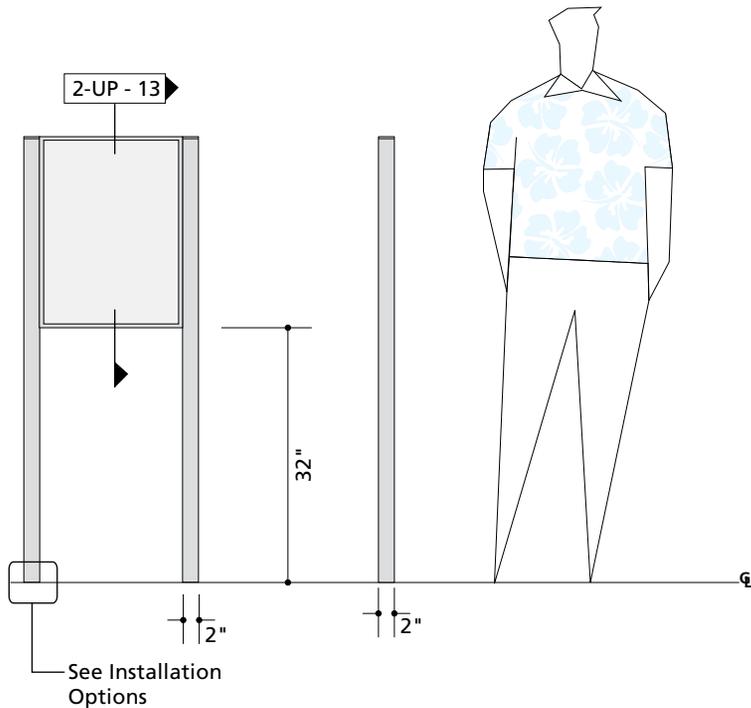


2-UP - 12 Frame Top Section
Scale: 1/2 Actual Size

- Post Cap
- 3/4"
- 1/16"
- 1/16"
- 3/4"
- 2-UP - 12
- Line Of 1/8" Steel Frame
- Line Of 1/8" Undercut Graphic Panel
- 2" x 2" x 1/8" Tubular Steel Posts
- 2" x 3/4" x 1/8" Breakformed Steel C-Channel
- 1" x 1" x 1/8" Breakformed Steel C-Channel
- 1/4" Diameter, 18-8 Stainless Steel High Strength, Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame
- 1/4"-20, 316 Stainless Steel Nut Welded to Steel C-Channel
- 1/16" Gap for Panel Expansion
- 1/4"-20 x 3/8", 18-8 Stainless Steel, Flat Head, Phillips Machine Screw

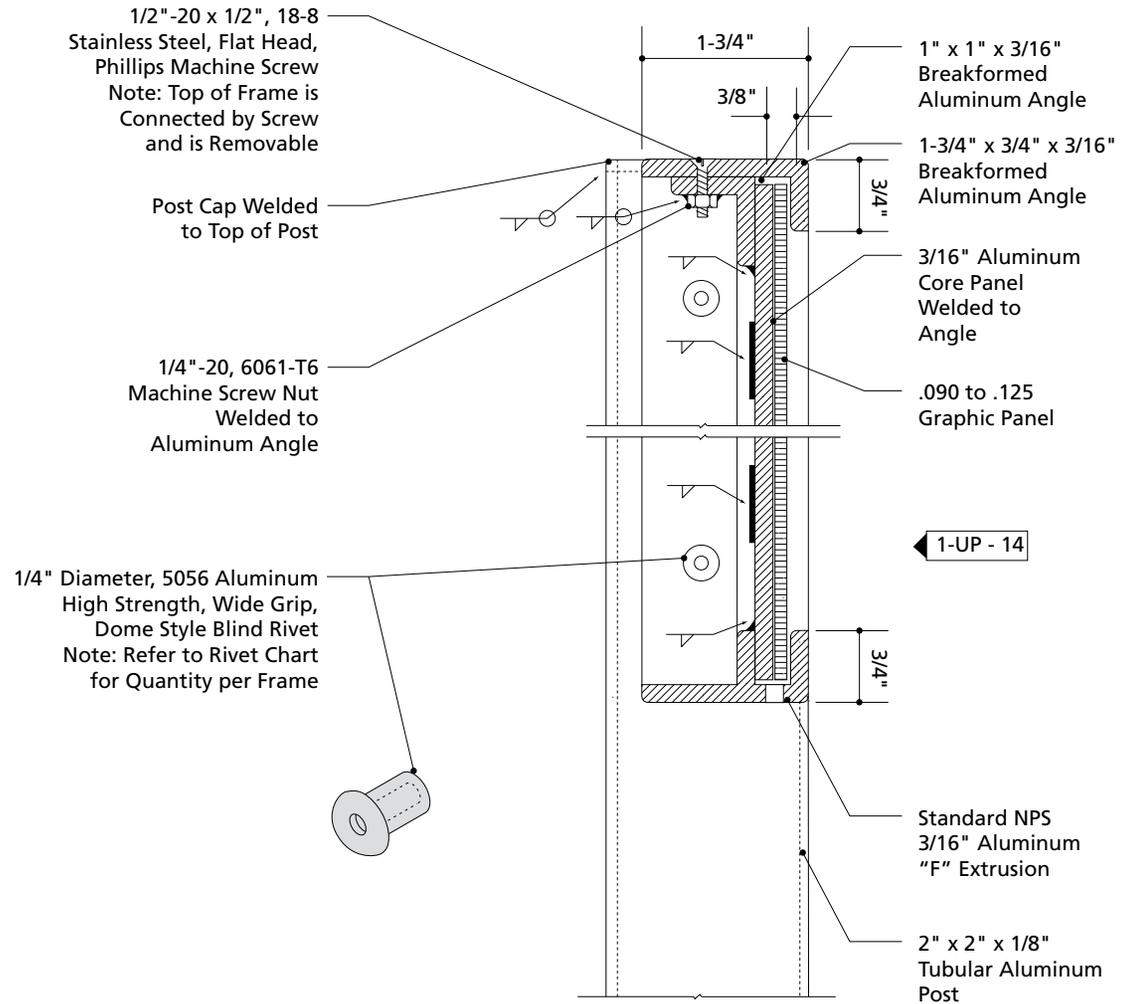
Upright Series (UP): 2" x 2" Post

Single-sided Aluminum Fabrication



1-UP - 13 Upright Elevation

Scale: 1/2" = 1' - 0"

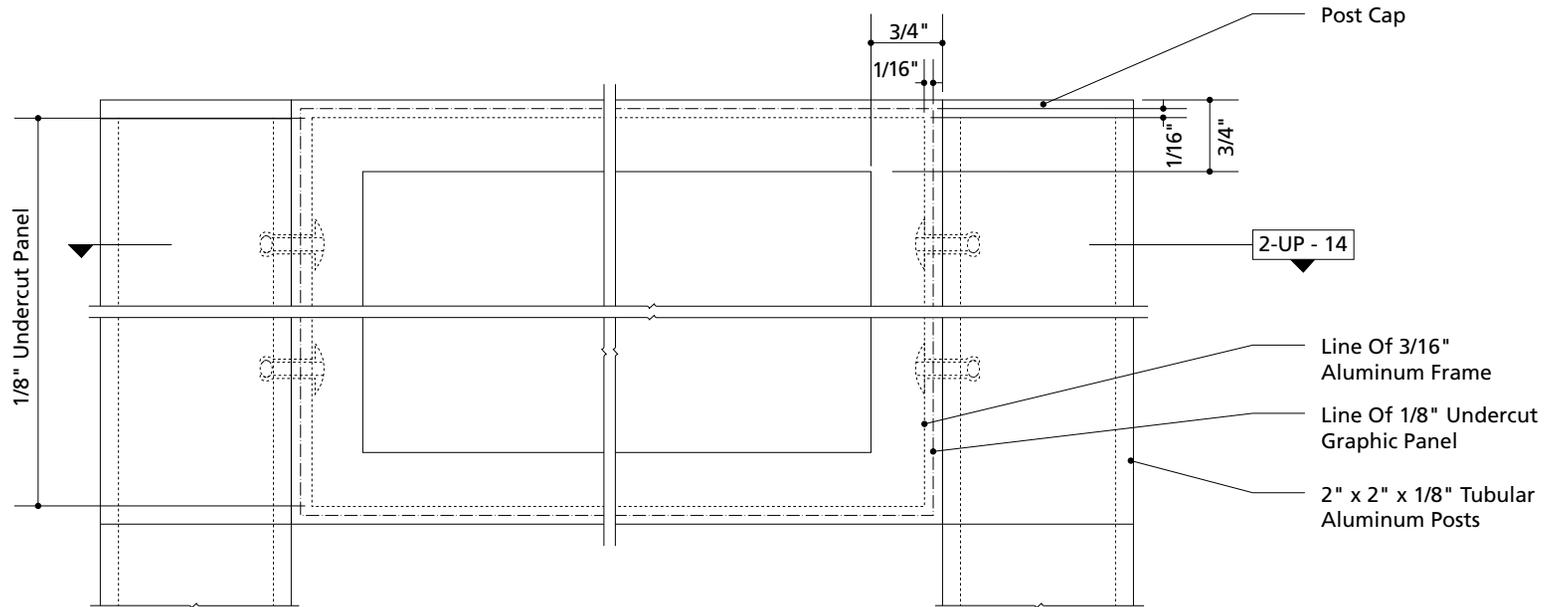


2-UP - 13 Side Section Cut

Scale: 1/2 Actual Size

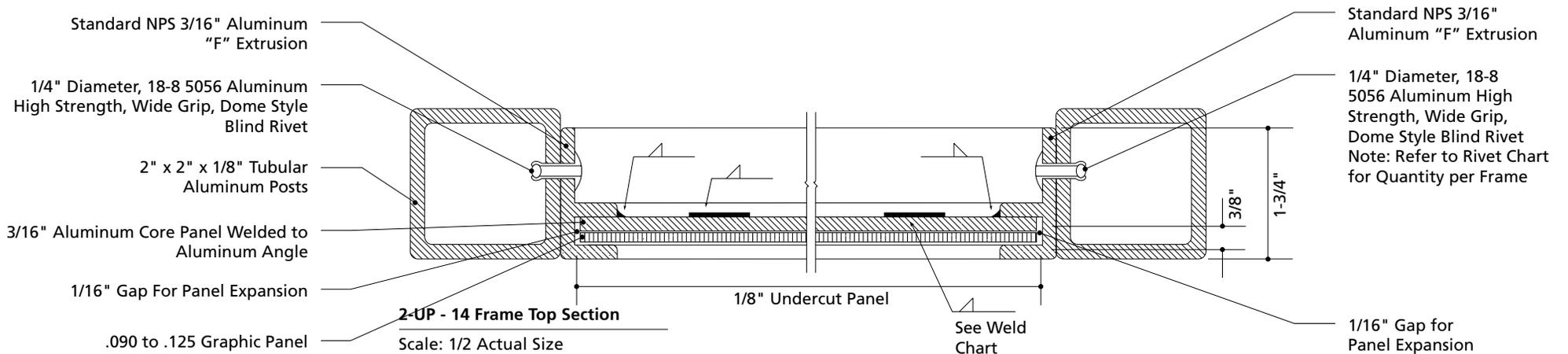
Upright Series (UP): 2" x 2" Post

Single-sided Aluminum Fabrication (Continued)



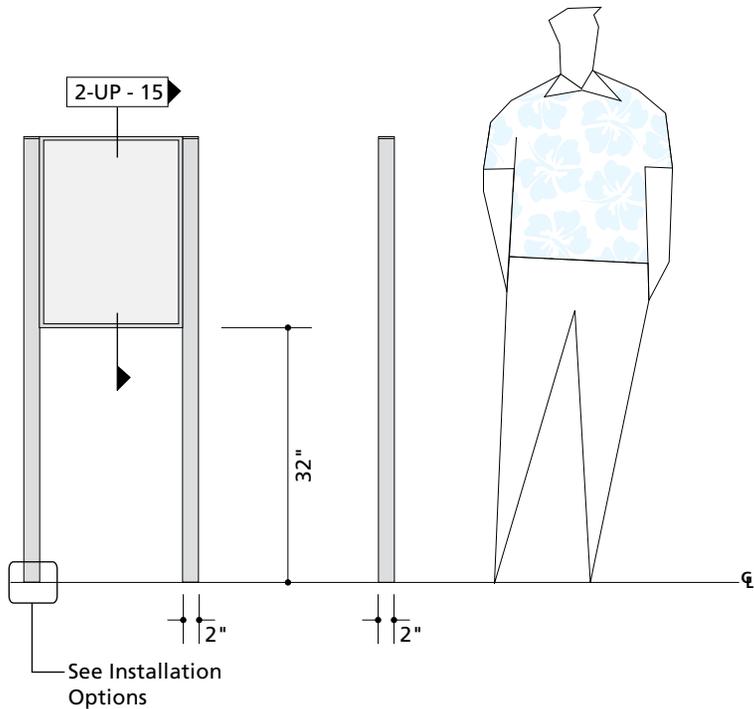
1-UP - 14 Frame Front Elevation

Scale: 1/2 Actual Size



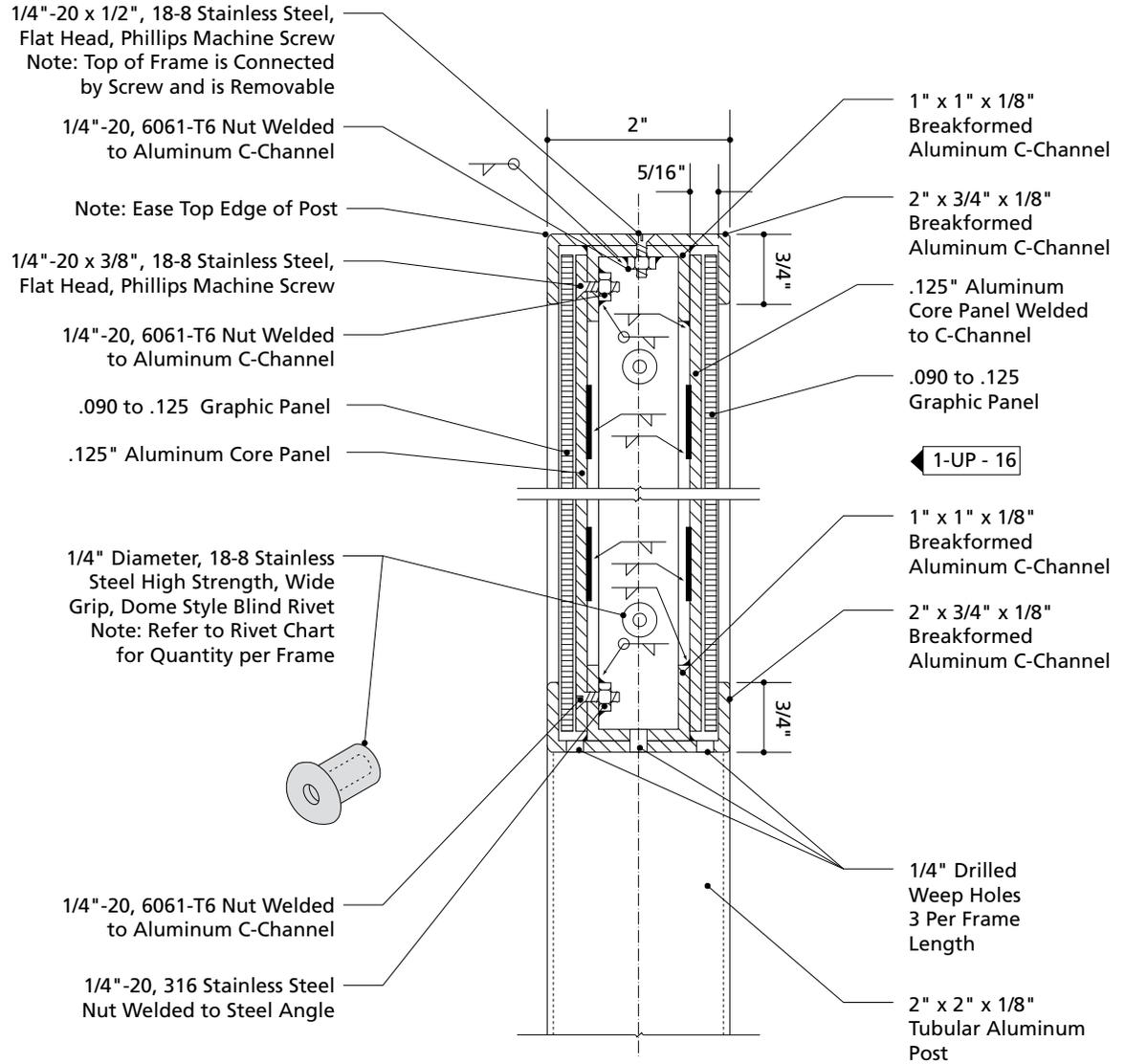
Upright Series (UP): 2" x 2" Post

Double-sided Aluminum Fabrication



1-UP - 15 Upright Elevation

Scale: 1/2" = 1' - 0"

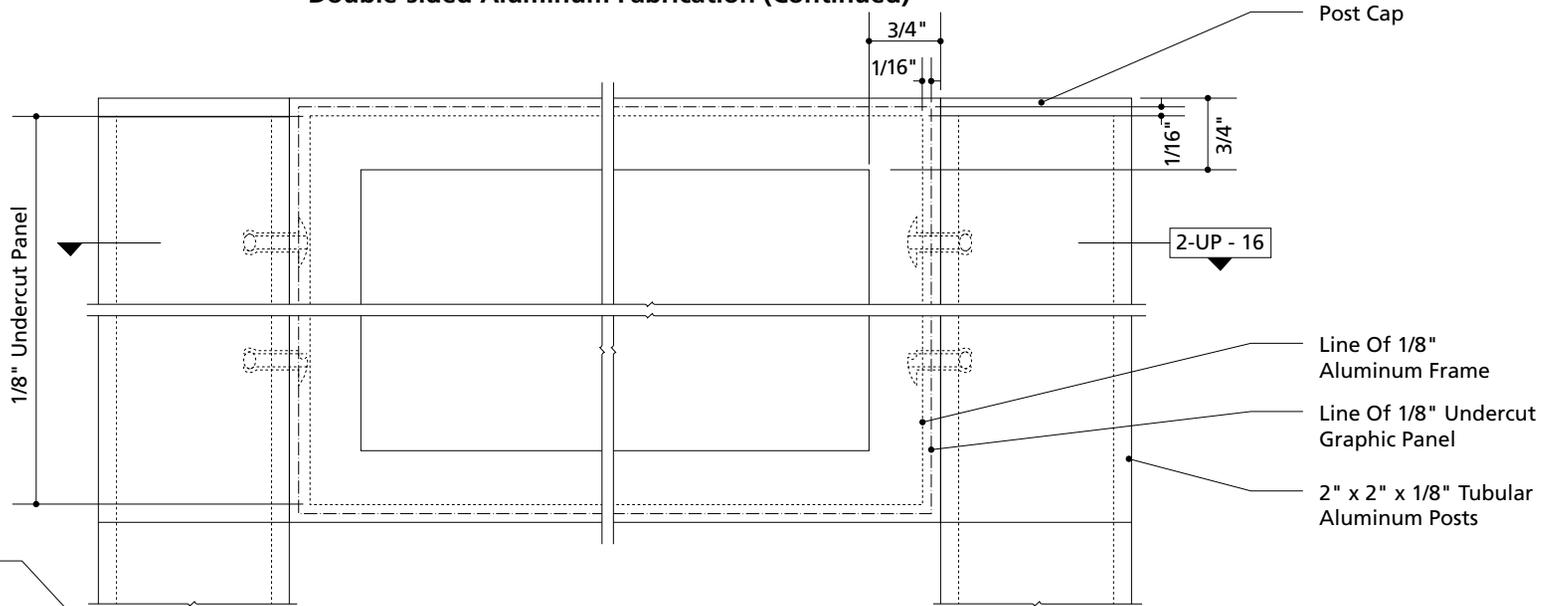


2-UP - 15 Side Section Cut

Scale: 1/2 Actual Size

Upright Series (UP): 2" x 2" Post

Double-sided Aluminum Fabrication (Continued)



1-UP - 16 Frame Front Elevation

Scale: 1/2 Actual Size

1/8" Aluminum Core Panel
Welded to Aluminum C-Channel

.090 to .125 Graphic Panel

2" x 3/4" x 1/8" Breakformed
Aluminum C-Channel

1" x 1" x 1/8" Breakformed
Aluminum C-Channel

1/4" Diameter, 5056 Aluminum
High Strength, Wide Grip,
Dome Style Blind Rivet

2" x 2" Tubular Aluminum Posts

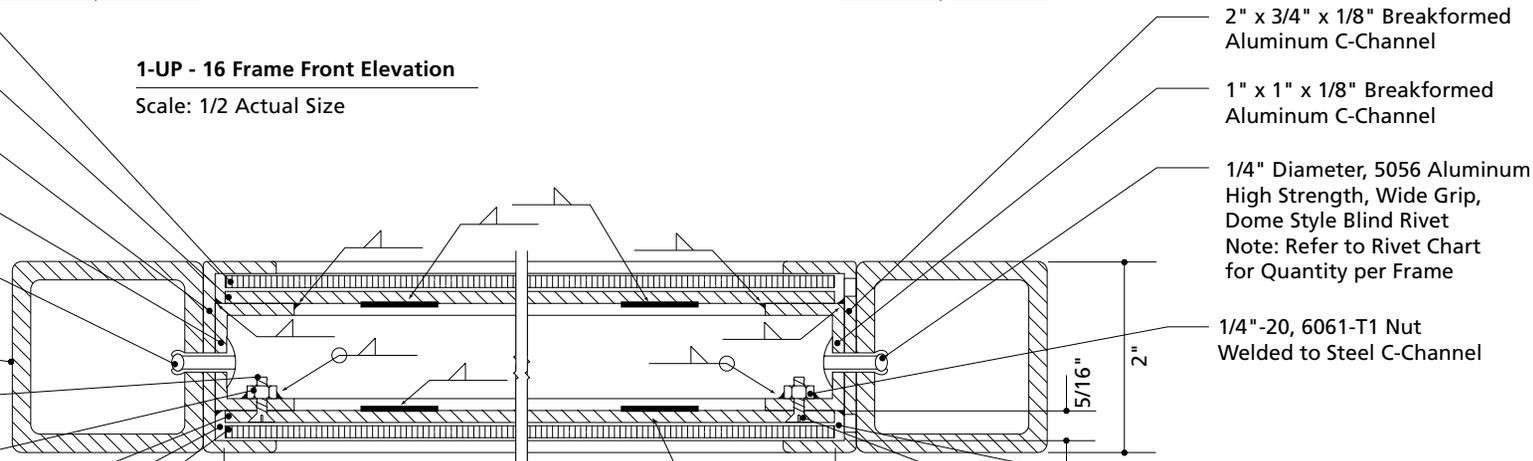
1/4"-20 x 3/8", 18-8 Stainless Steel,
Flat Head, Phillips Machine Screw

1/4"-20, 6061-T1 Nut
Welded to Steel C-Channel

1/8" Aluminum Core Panel

1/16" Gap For Panel
Expansion

.090 to .125 Graphic Panel



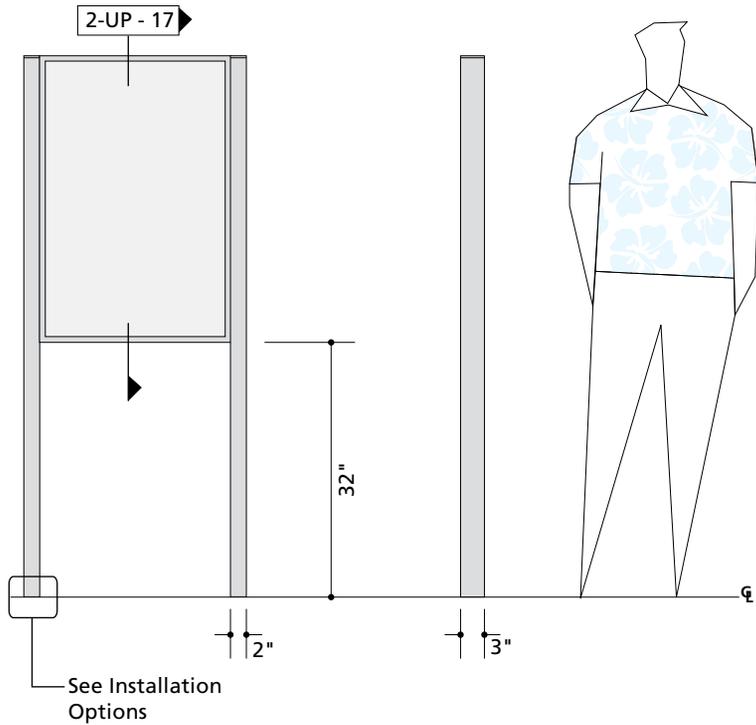
2-UP - 16 Frame Top Section

Scale: 1/2 Actual Size

UP - 16

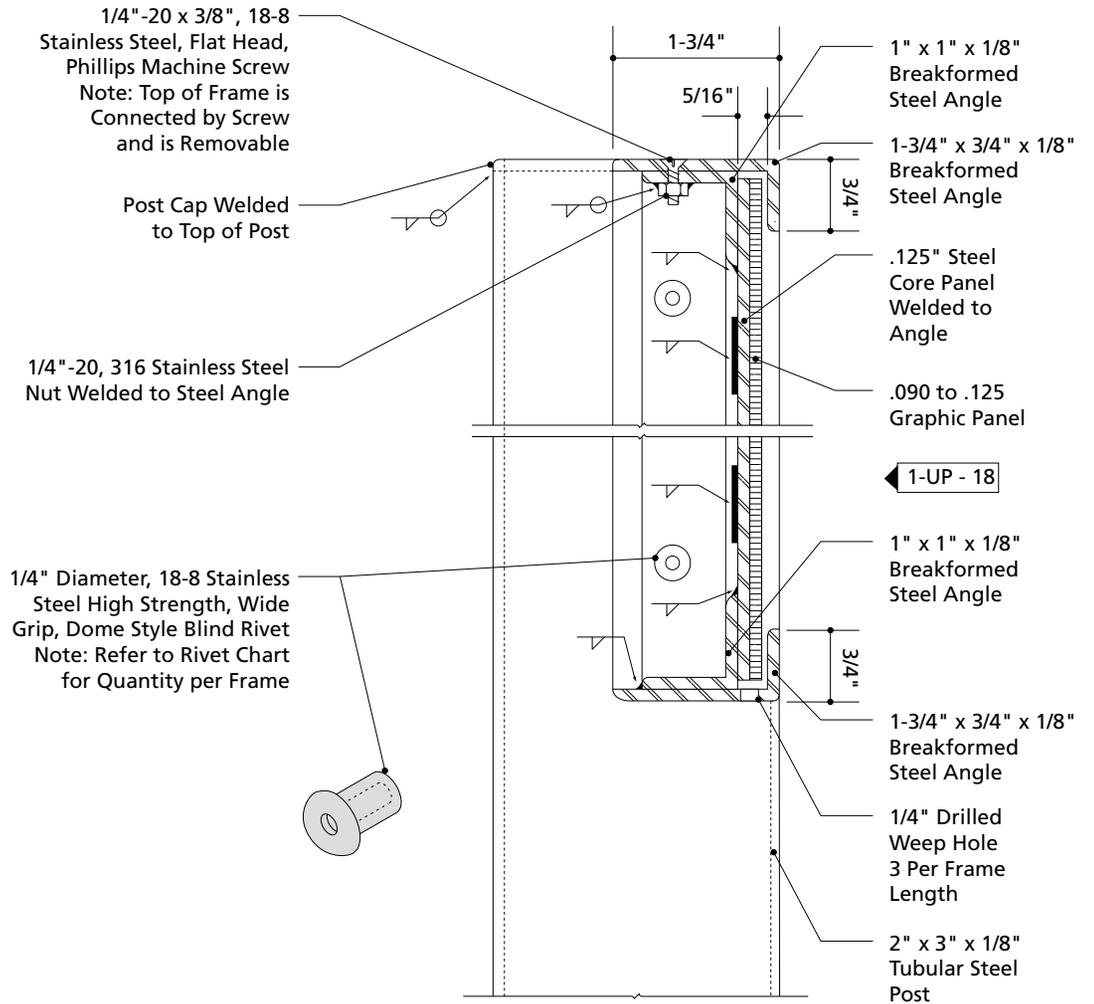
Upright Series (UP): 2" x 3" Post

Single-sided Steel Fabrication



1-UP - 17 Upright Elevation

Scale: 1/2" = 1' - 0"

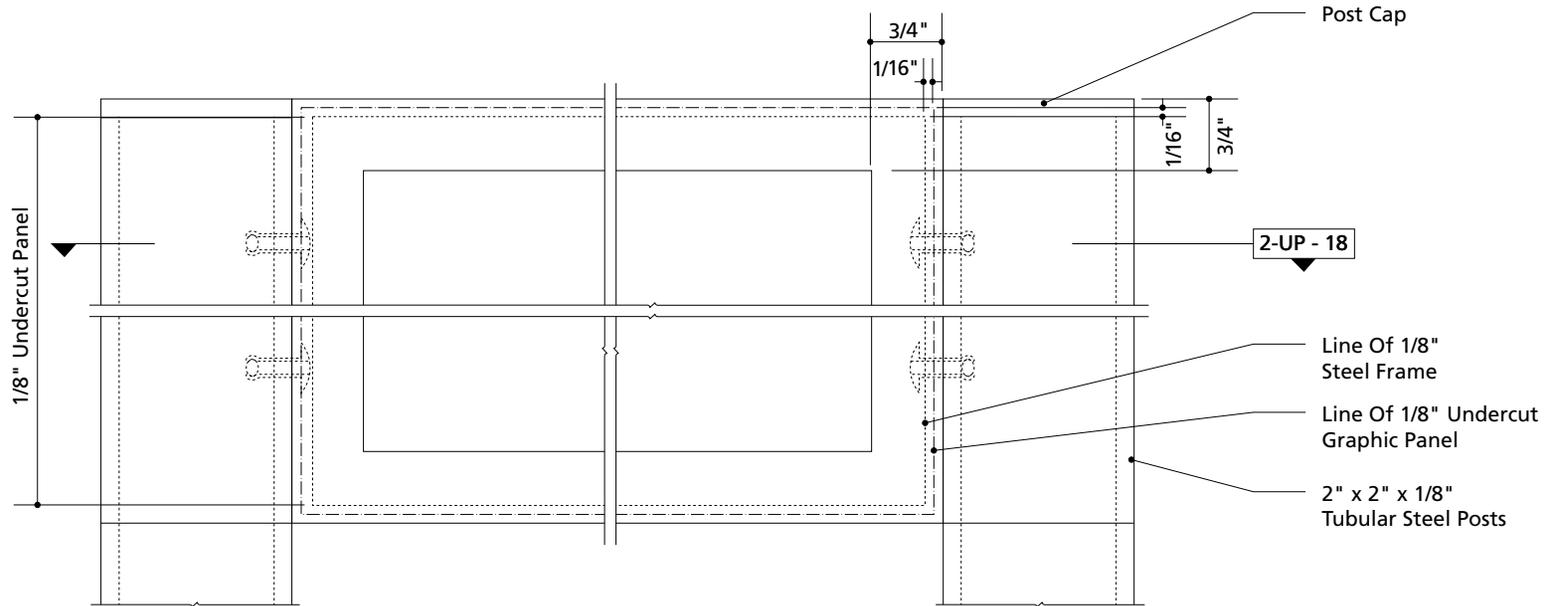


2-UP - 17 Side Section Cut

Scale: 1/2 Actual Size

Upright Series (UP): 2" x 3" Post

Single-sided Steel Fabrication (Continued)



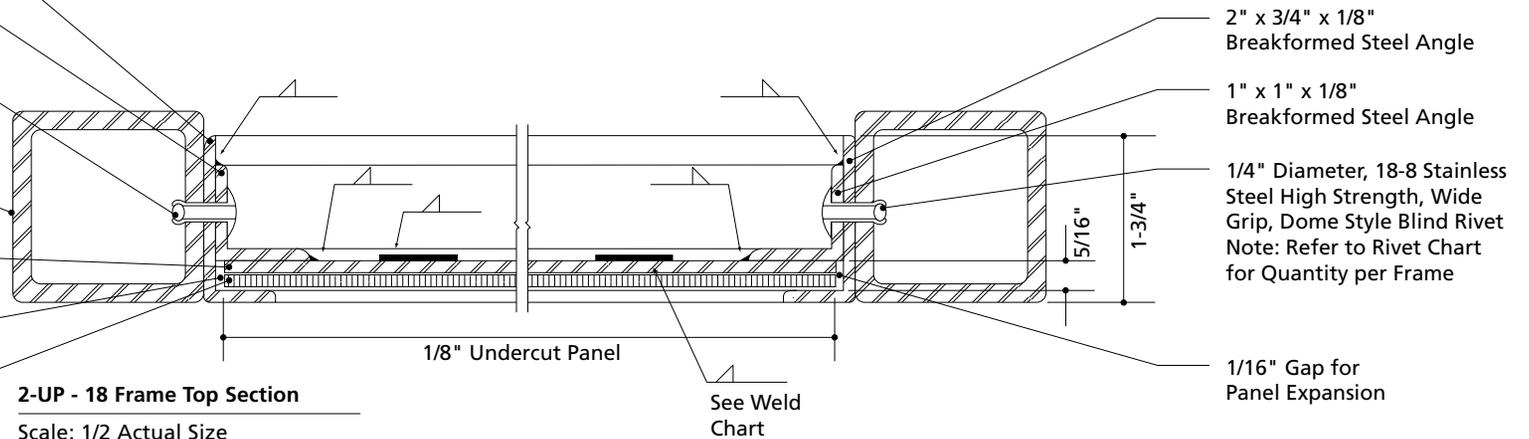
1-UP - 18 Frame Front Elevation

Scale: 1/2 Actual Size

- 2" x 3/4" x 1/8" Breakformed Steel Angle
- 1" x 1" x 1/8" Breakformed Steel Angle
- 1/4" Diameter, 18-8 Stainless Steel High Strength, Wide Grip, Dome Style Blind Rivet
- 2" x 2" Tubular Steel Posts
- 1/8" Steel Core Panel Welded to Steel Angle
- 1/16" Gap For Panel Expansion
- .090 to .125 Graphic Panel

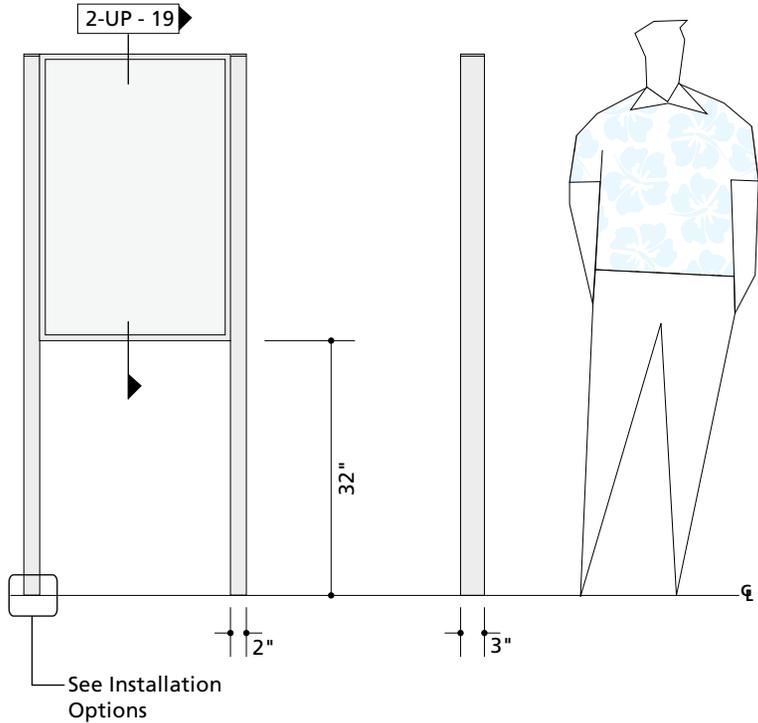
2-UP - 18 Frame Top Section

Scale: 1/2 Actual Size



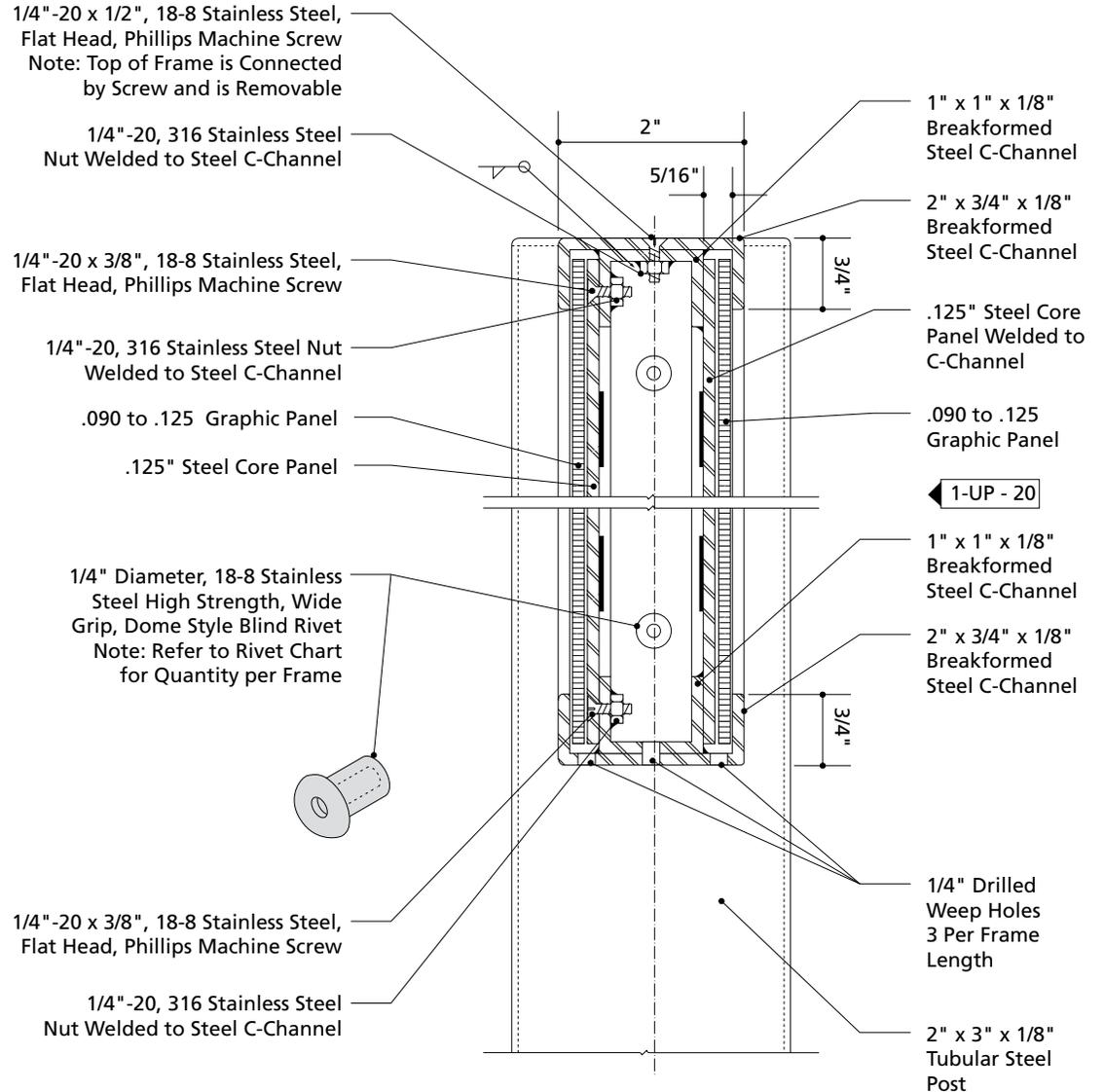
Upright Series (UP): 2" x 3" Post

Double-sided Steel Fabrication



1-UP - 19 Upright Elevation

Scale: 1/2" = 1' - 0"

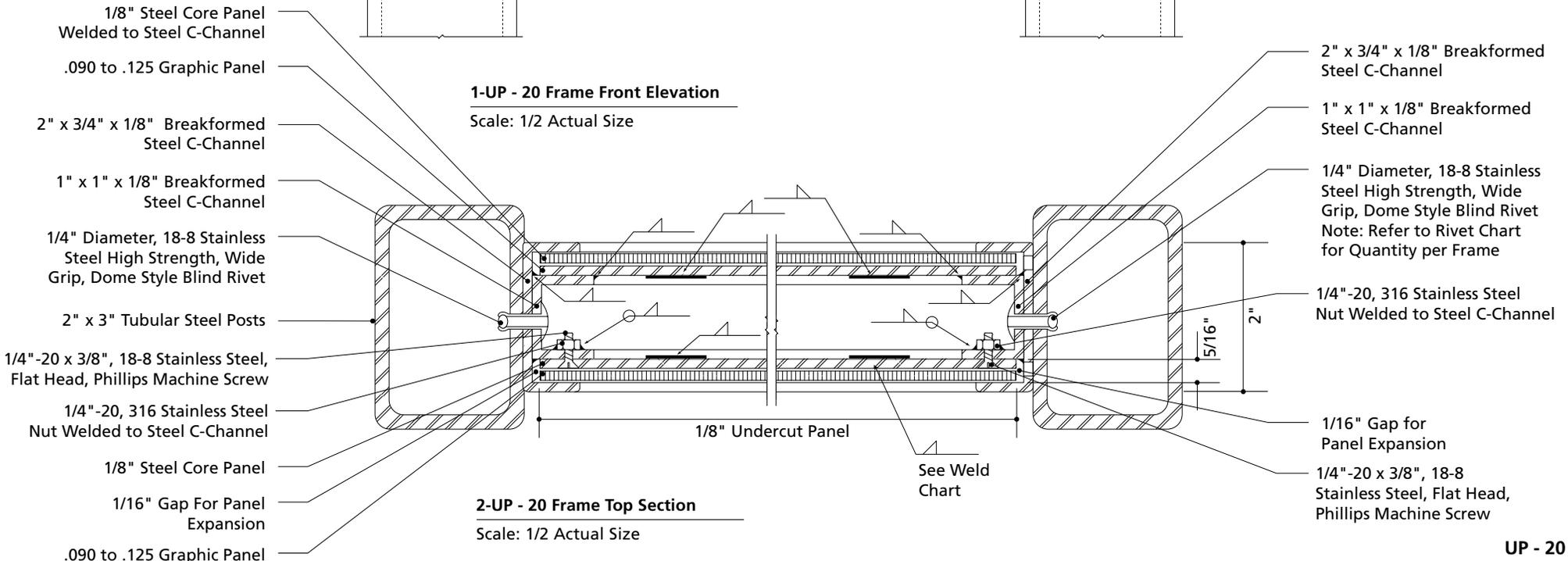
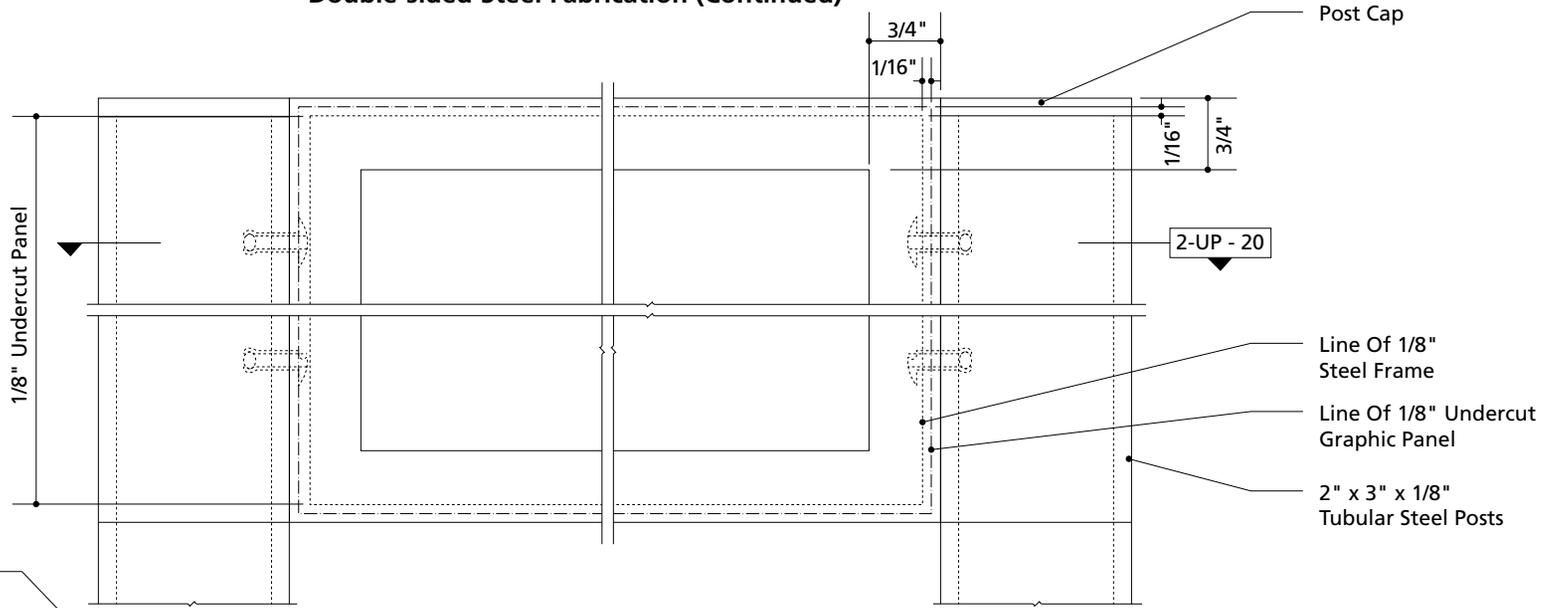


2-UP - 19 Side Section Cut

Scale: 1/2 Actual Size

Upright Series (UP): 2" x 3" Post

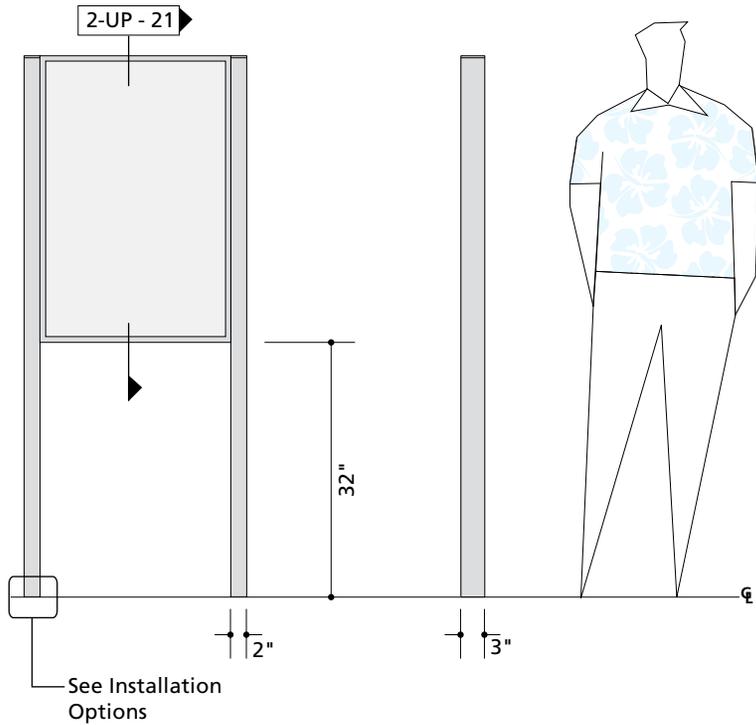
Double-sided Steel Fabrication (Continued)



UP - 20

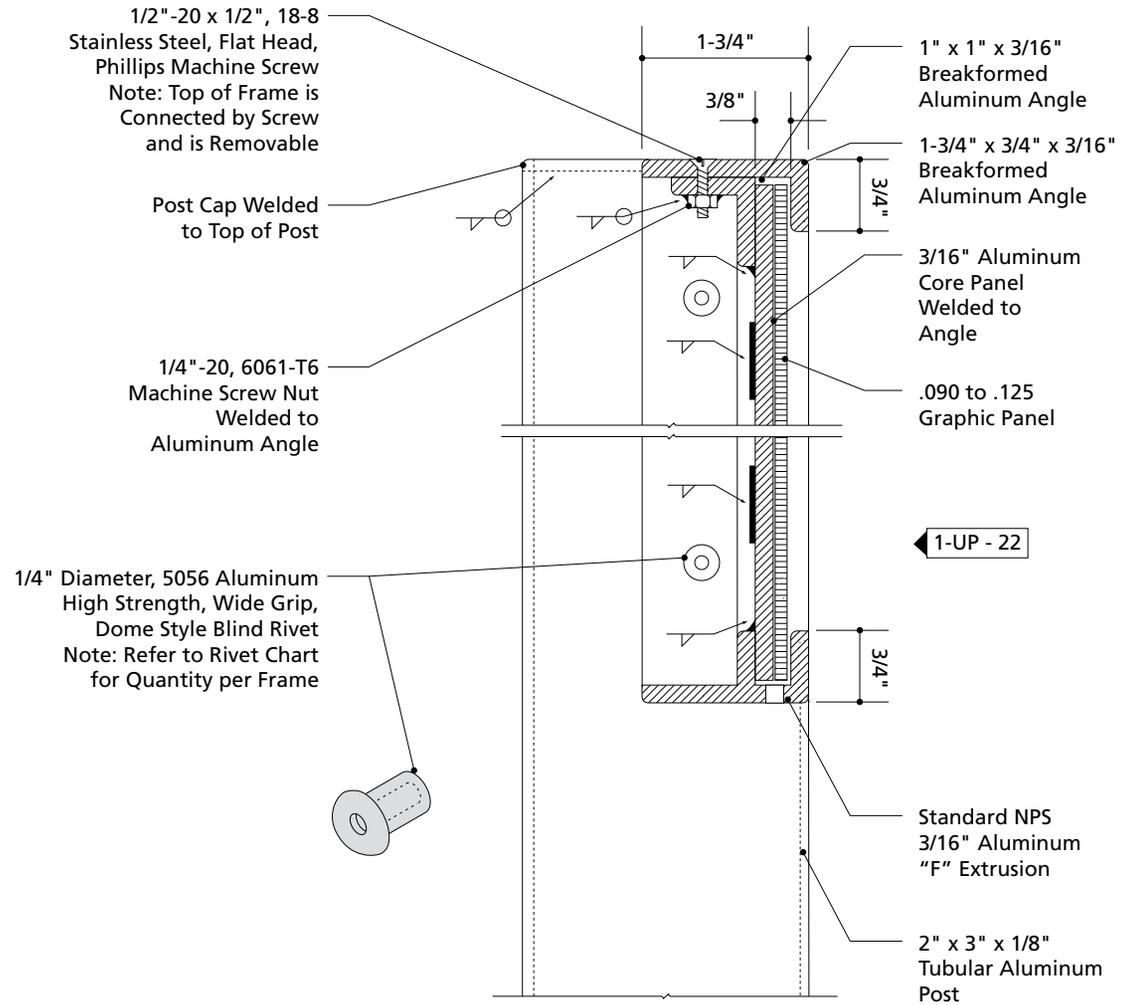
Upright Series (UP): 2" x 3" Post

Single-sided Aluminum Fabrication



1-UP - 21 Upright Elevation

Scale: 1/2" = 1' - 0"

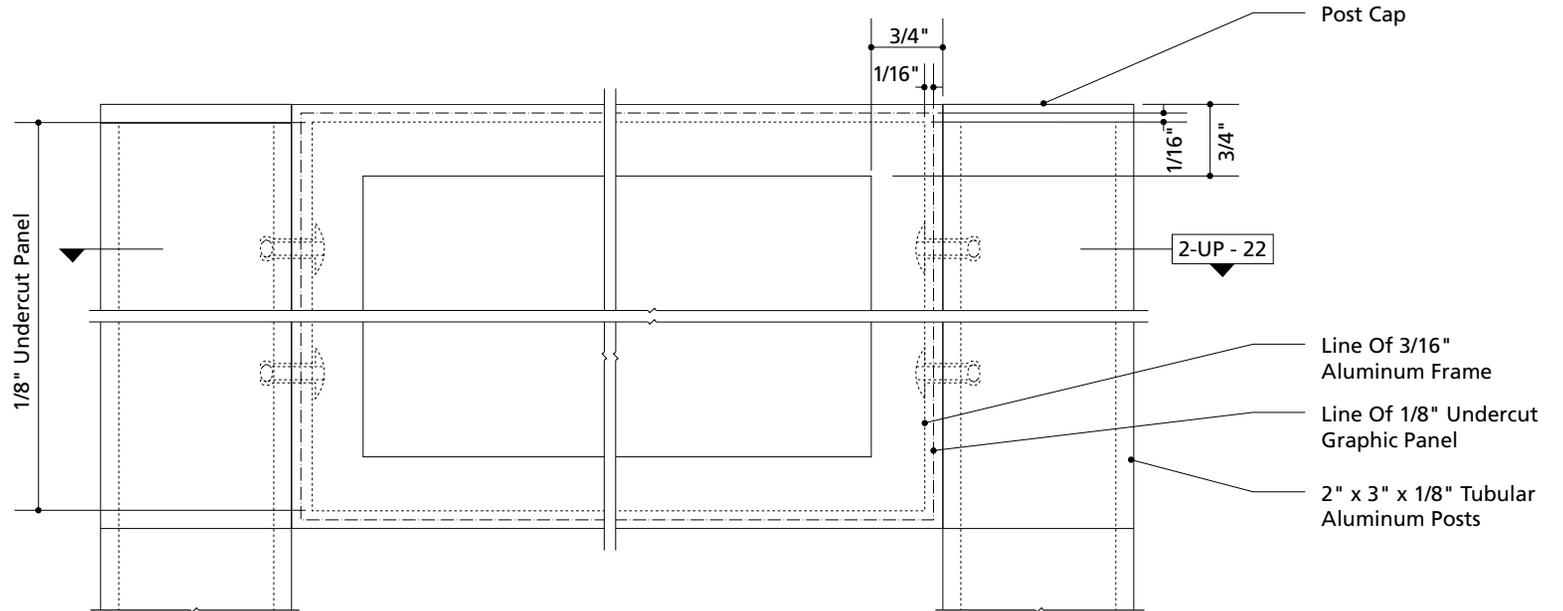


2-UP - 21 Side Section Cut

Scale: 1/2 Actual Size

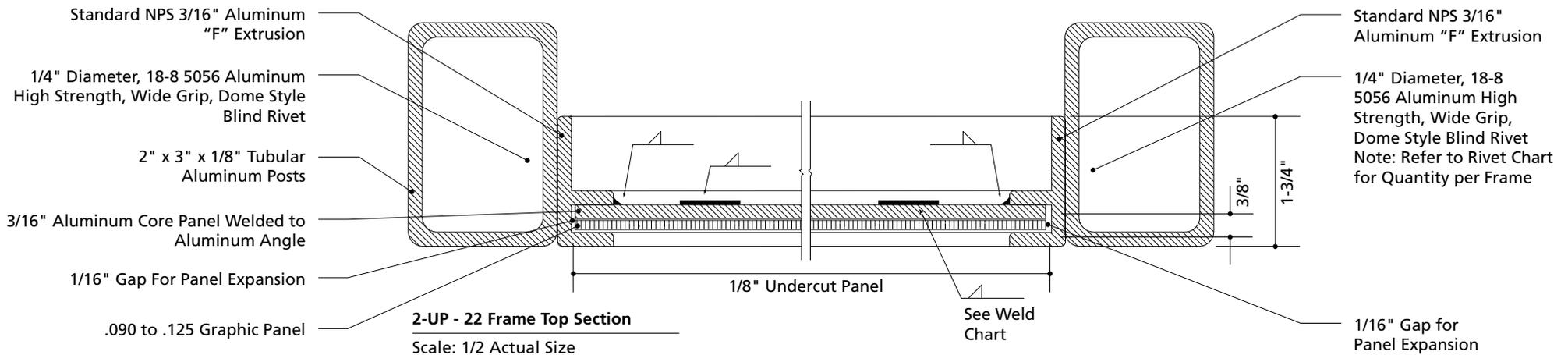
Upright Series (UP): 2" x 3" Post

Single-sided Aluminum Fabrication (Continued)



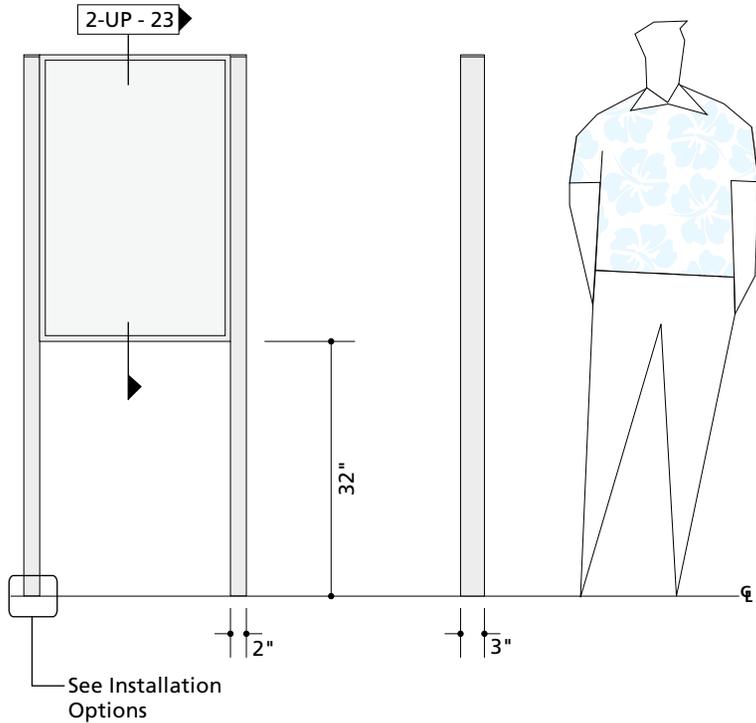
1-UP - 22 Frame Front Elevation

Scale: 1/2 Actual Size



Upright Series (UP): 2" x 3" Post

Double-sided Aluminum Fabrication



1-UP - 23 Upright Elevation

Scale: 1/2" = 1' - 0"

1/4"-20 x 1/2", 18-8 Stainless Steel, Flat Head, Phillips Machine Screw
 Note: Top of Frame is Connected by Screw and is Removable

1/4"-20, 6061-T6 Nut Welded to Aluminum C-Channel

Note: Ease Top Edge of Post

1/4"-20 x 3/8", 18-8 Stainless Steel, Flat Head, Phillips Machine Screw

1/4"-20, 6061-T6 Nut Welded to Aluminum C-Channel

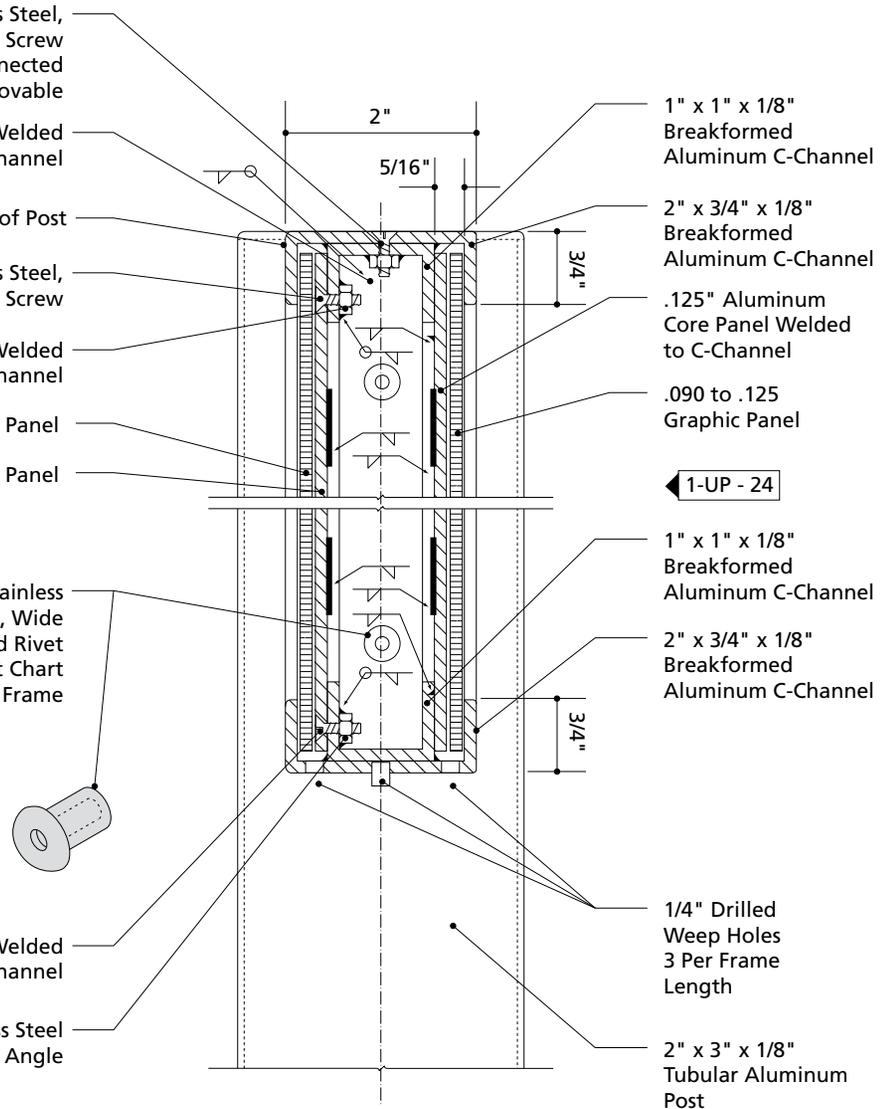
.090 to .125 Graphic Panel

.125" Aluminum Core Panel

1/4" Diameter, 18-8 Stainless Steel High Strength, Wide Grip, Dome Style Blind Rivet
 Note: Refer to Rivet Chart for Quantity per Frame

1/4"-20, 6061-T6 Nut Welded to Aluminum C-Channel

1/4"-20, 316 Stainless Steel Nut Welded to Steel Angle

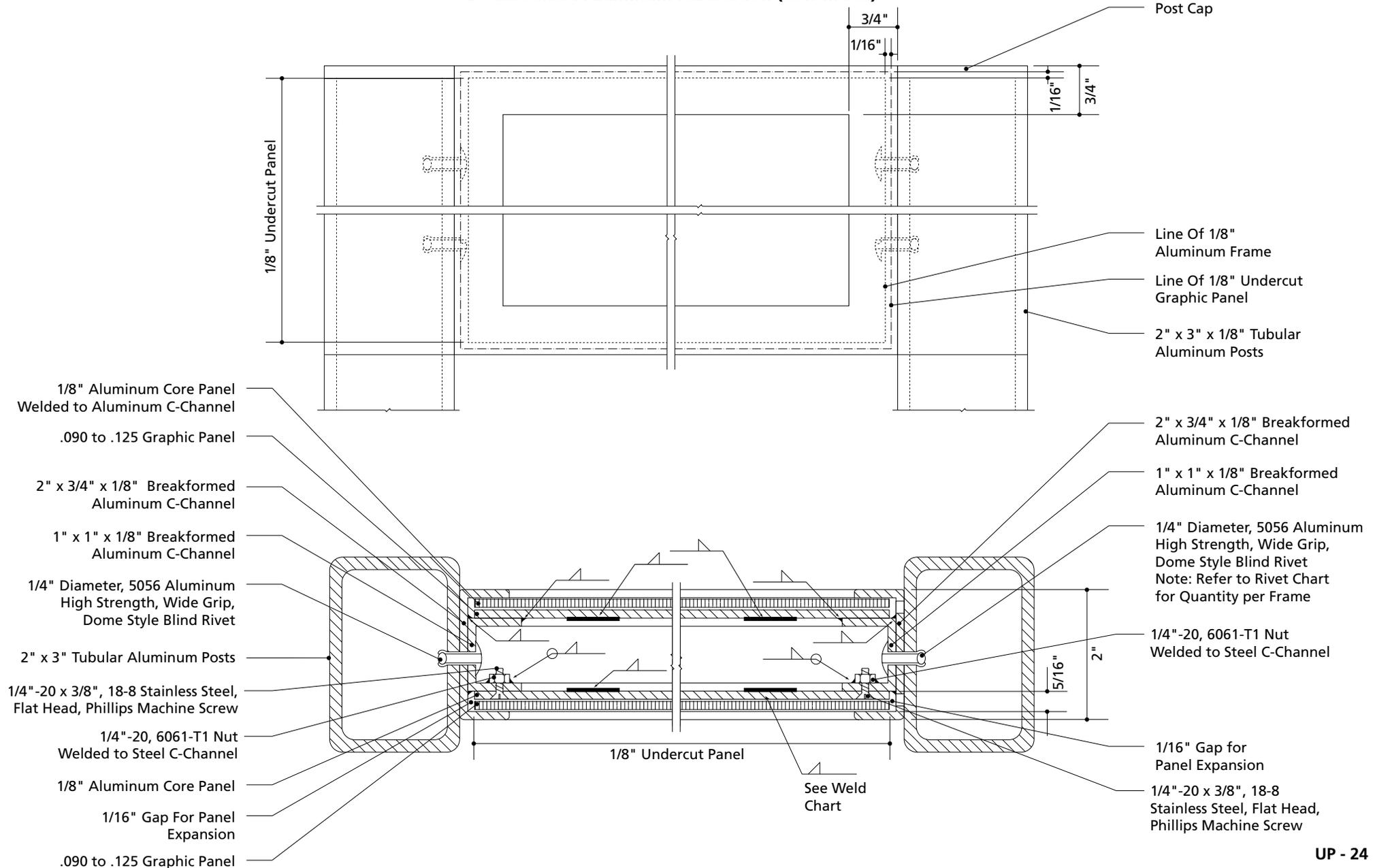


2-UP - 23 Side Section Cut

Scale: 1/2 Actual Size

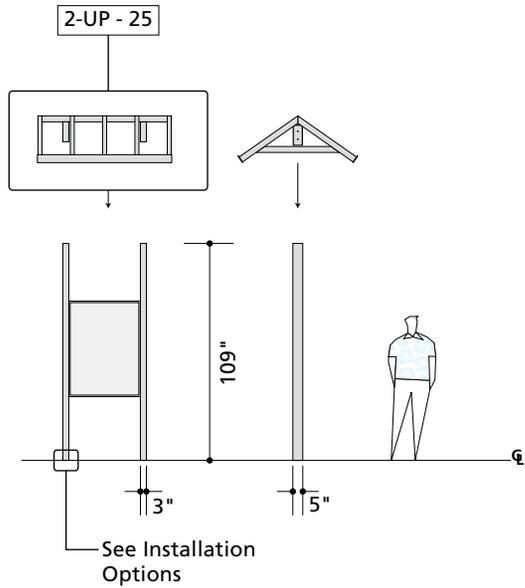
Upright Series (UP): 2" x 3" Post

Double-sided Aluminum Fabrication (Continued)



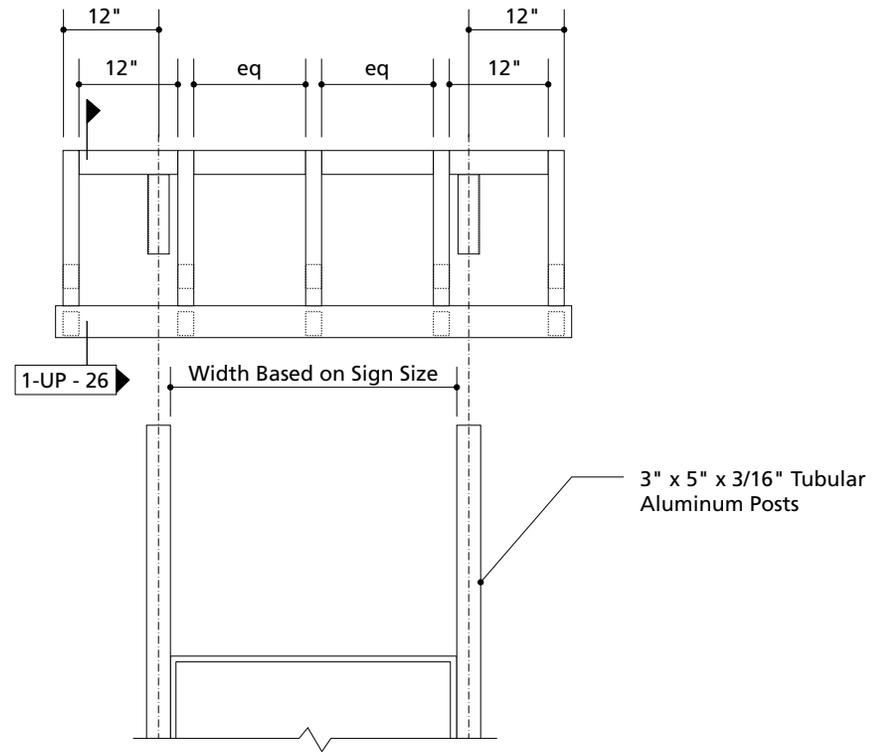
Upright Series (UP) with Roof

Aluminum Fabrication



1-UP - 25 36" x 48" Upright with Roof Elevation

Scale: 1/8" = 1'-0"

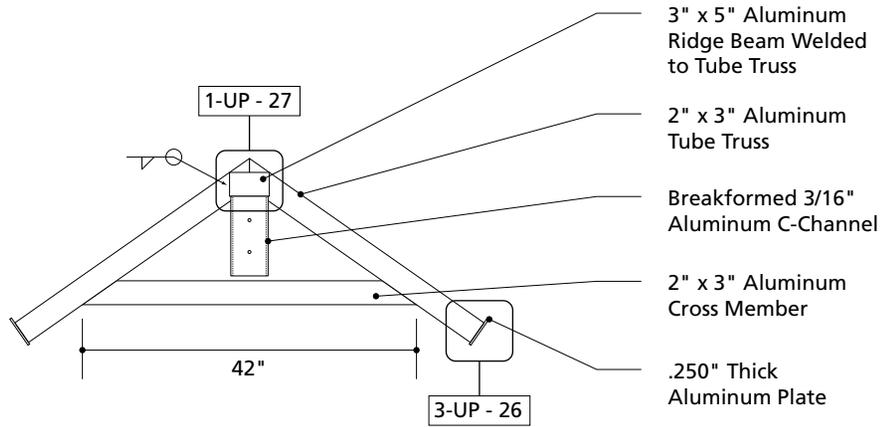


2-UP - 25 Roof Front Elevation

Scale: 1/2" = 1'-0"

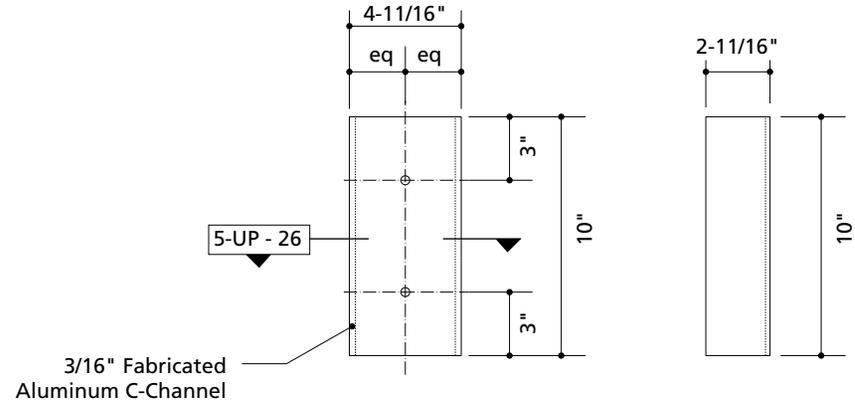
Upright Series (UP) with Roof

Aluminum Fabrication (Continued)



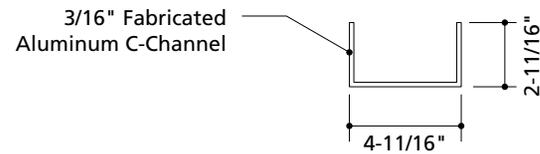
1-UP 26 Roof Cross Section

Scale: 1/2" = 1'-0"



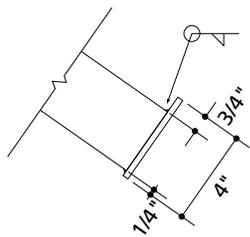
2-UP - 26 C-Channel Front and Side Elevation

Scale: 1/2" = 1'-0"



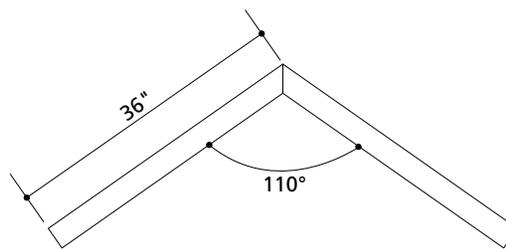
5-UP - 26 C-Channel Section Cut

Scale: 1/2" = 1'-0"



3-UP - 26 Truss-Plate Connection Detail

Scale: 1-1/2" = 1'-0"

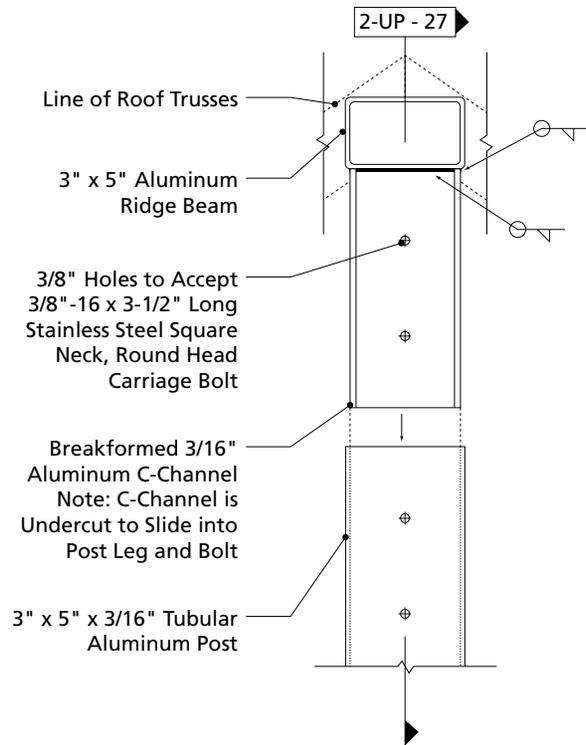


4-UP - 26 Aluminum Tube Truss Detail

Scale: 1/2" = 1'-0"

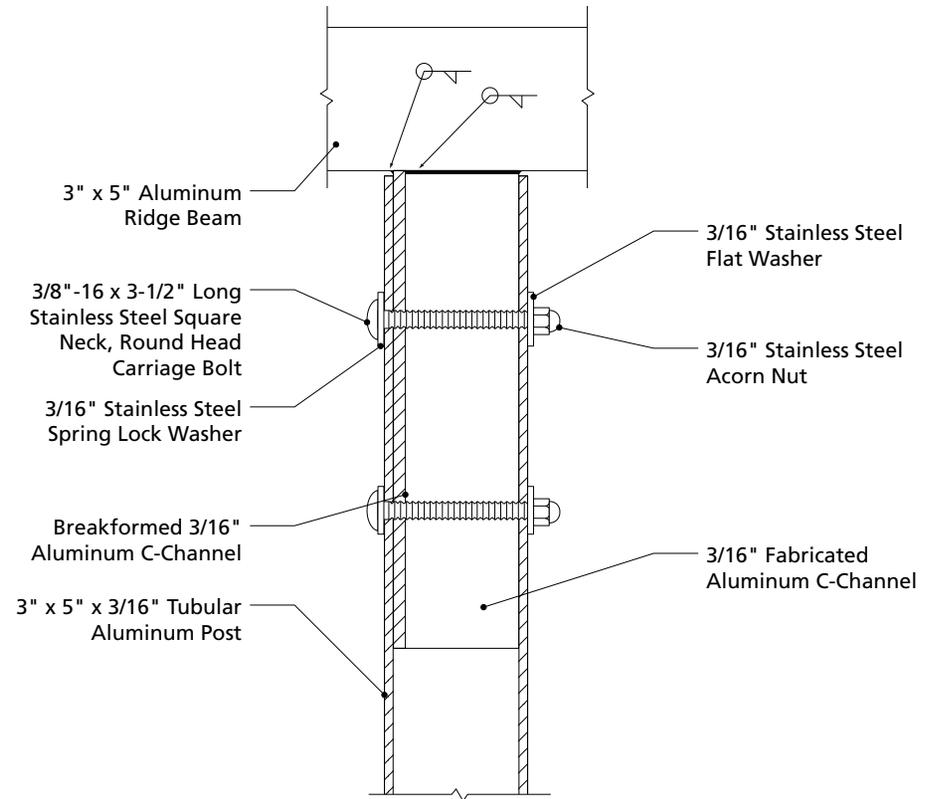
Upright Series (UP) with Roof

Aluminum Fabrication (Continued)



1-UP - 27 Post/Truss Cross Section

Scale: 1-1/2" = 1'-0"

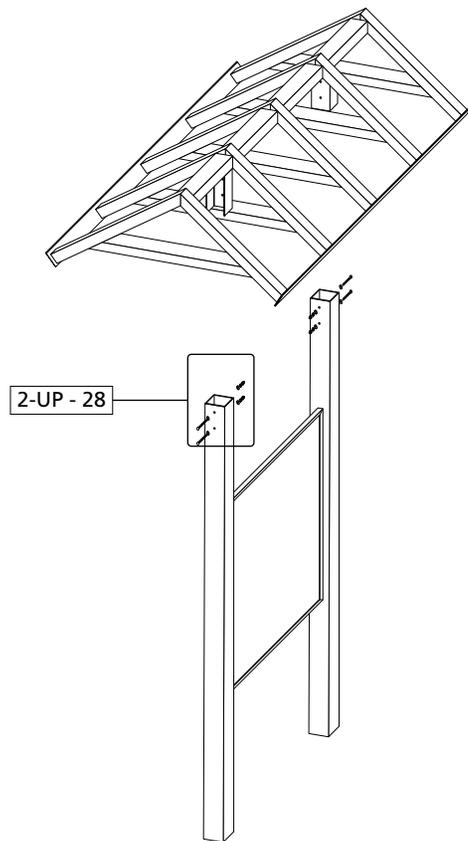


2-UP - 27 Post Connection Cross Section

Scale: 3" = 1'-0"

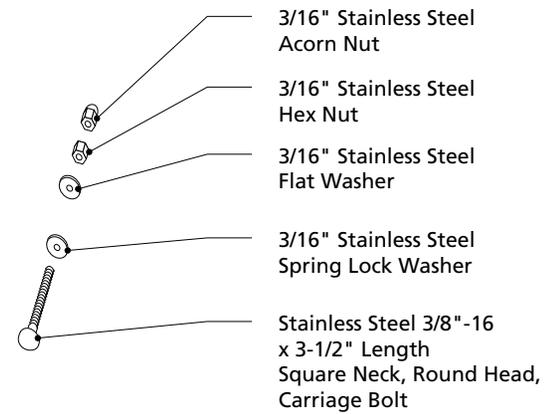
Upright Series (UP) with Roof

Aluminum Fabrication (Continued)



1-UP - 28 Exploded View

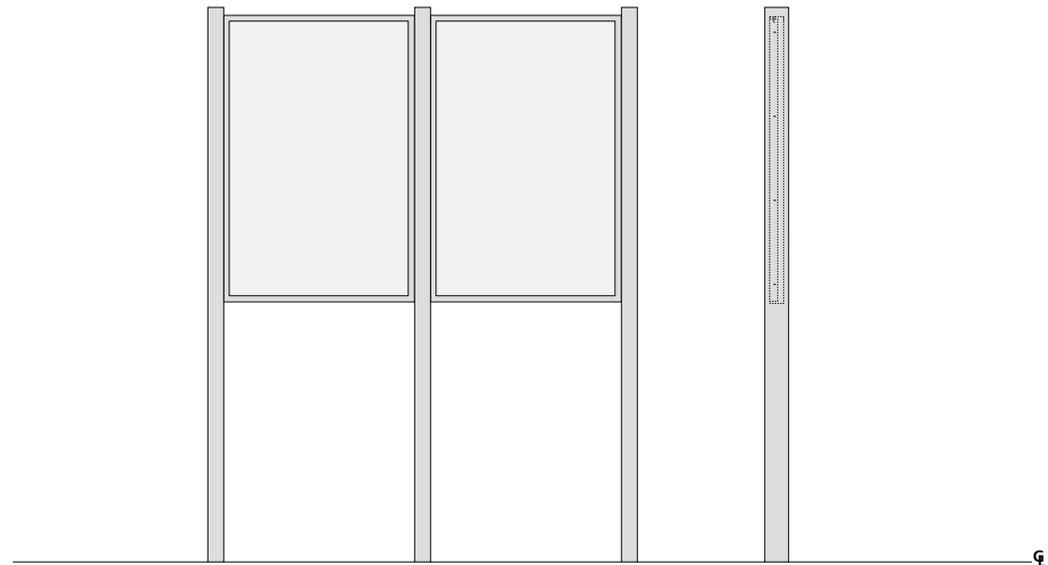
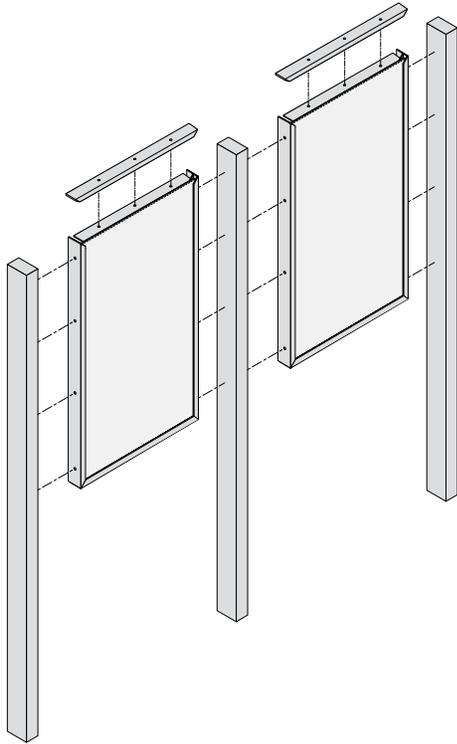
Scale: 1/4" = 1'-0"



2-UP - 28 Connection Hardware

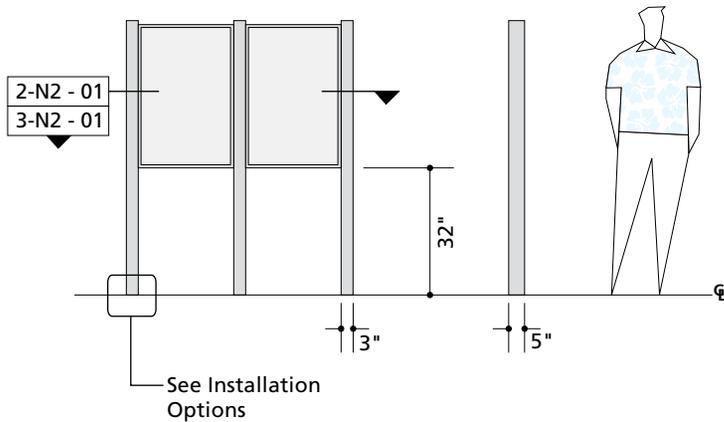
Scale: 3" = 1'-0"

Upright Inline 2 Series (UPN2)



Upright Inline 2 Series (UPN2)

Steel Fabrication

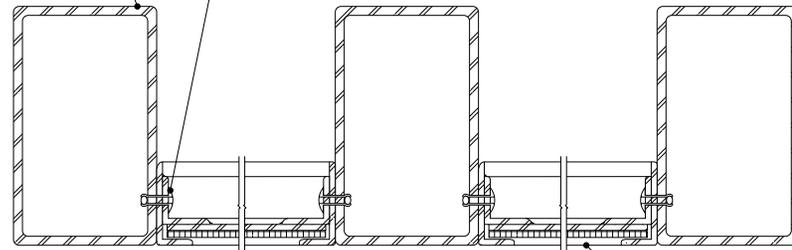


1-N2 - 01 Upright Inline 2 Elevation

Scale: 1/4" = 1'-0"

3" x 5" x 3/16"
Tubular Steel Posts

1/4" Diameter, 18-8 Stainless Steel High Strength,
Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

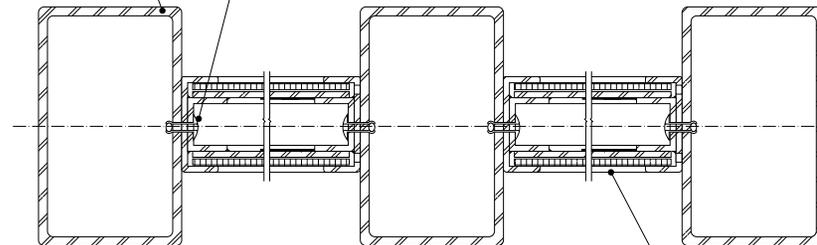


2-N2 - 01 Single-sided Steel Top Section Cut

Scale: 3" = 1'-0"

3" x 5" x 3/16"
Tubular Steel Posts

1/4" Diameter, 18-8 Stainless Steel High Strength,
Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

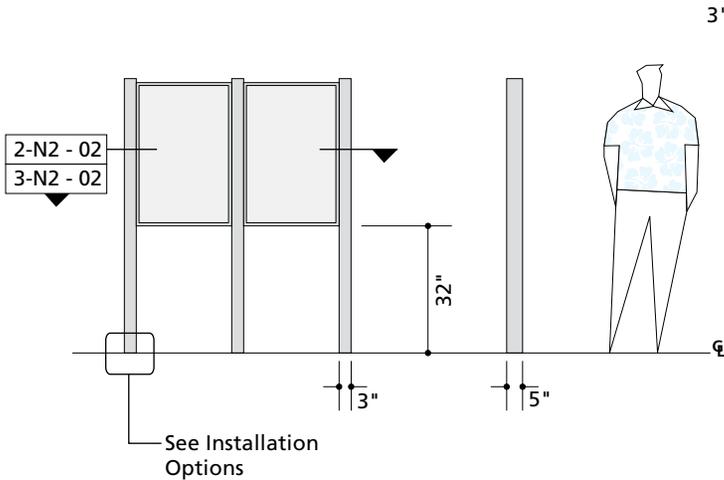


3-N2 - 01 Double-sided Steel Top Section Cut

Scale: 3" = 1'-0"

Upright Inline 2 Series (UPN2)

Aluminum Fabrication

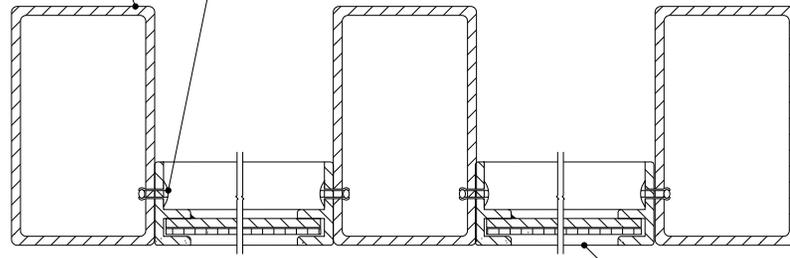


1-N2 - 02 Upright Inline 2 Elevation

Scale: 1/4" = 1'-0"

3" x 5" x 3/16" Tubular Aluminum Posts

1/4" Diameter, 5056 Aluminum High Strength, Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

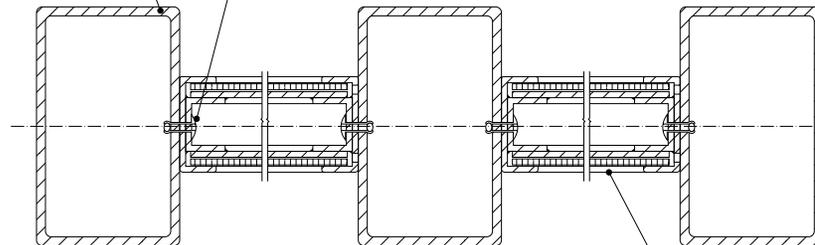


2-N2 - 02 Single-sided Steel Top Section Cut

Scale: 3" = 1'-0"

3" x 5" x 3/16" Tubular Aluminum Posts

1/4" Diameter, 5056 Aluminum High Strength, Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

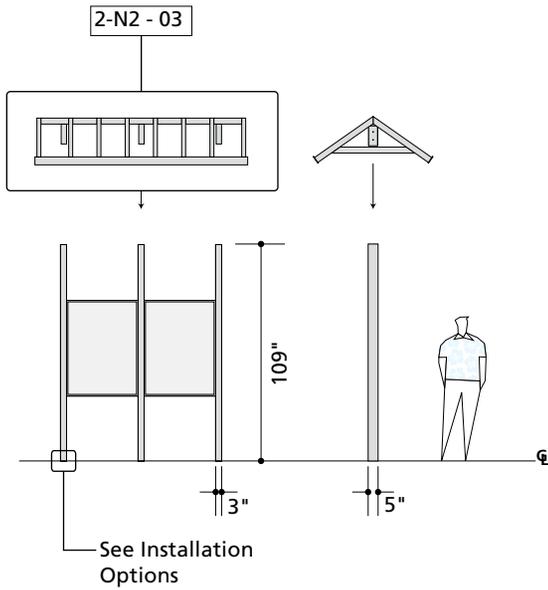


3-N2 - 02 Double-sided Steel Top Section Cut

Scale: 3" = 1'-0"

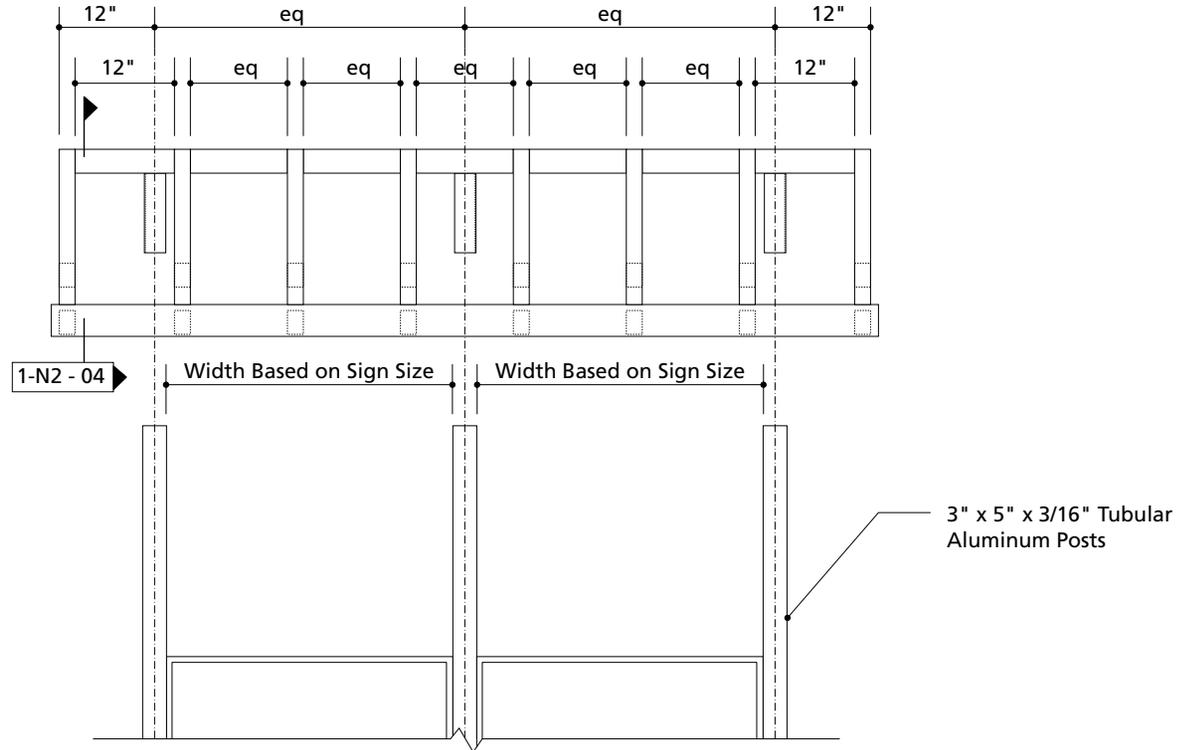
Upright Inline 2 Series (UPN2) with Roof

Aluminum Fabrication



1-N2 - 03 36" x 48" Upright Inline 2 with Roof Elevation

Scale: 1/8" = 1'-0"

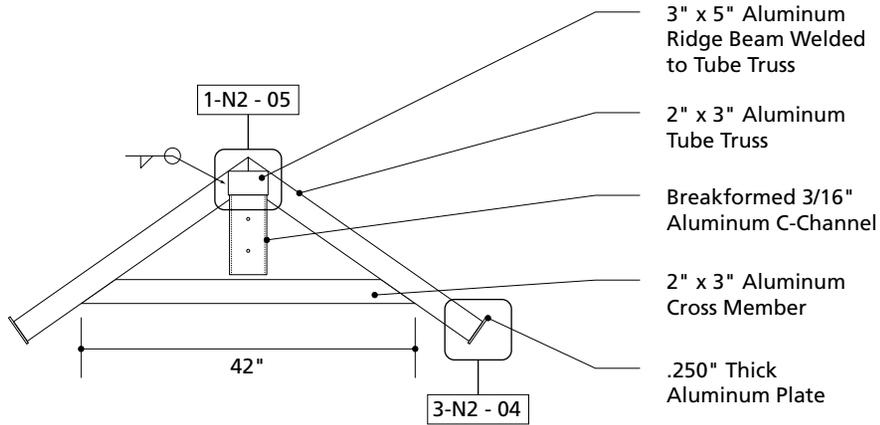


2-N2 - 03 Roof Front Elevation

Scale: 1/2" = 1'-0"

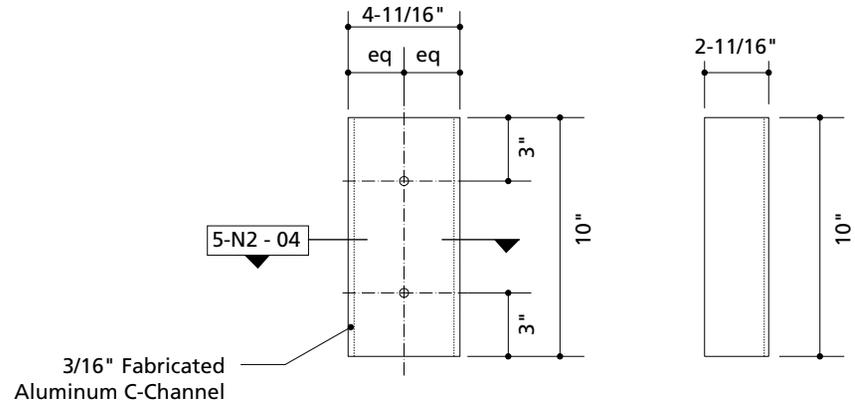
Upright Inline 2 Series (UPN2) with Roof

Aluminum Fabrication (Continued)



1-UP 26 Roof Cross Section

Scale: 1/2" = 1'-0"



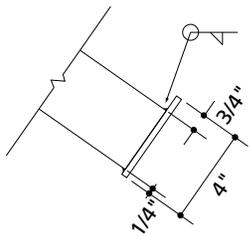
2-N2 - 04 C-Channel Front and Side Elevation

Scale: 1/2" = 1'-0"



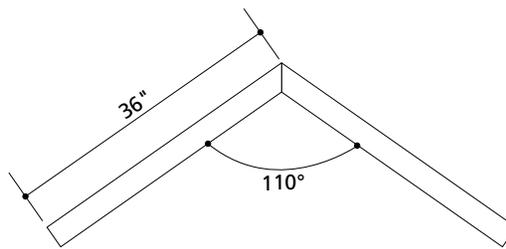
5-N2 - 04 C-Channel Section Cut

Scale: 1/2" = 1'-0"



3-N2 - 04 Truss-Plate Connection Detail

Scale: 1-1/2" = 1'-0"

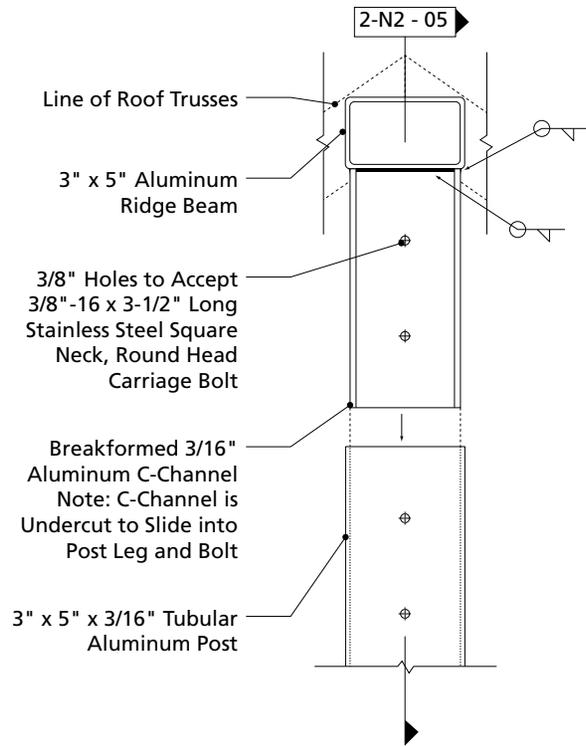


4-N2 - 04 Aluminum Tube Truss Detail

Scale: 1/2" = 1'-0"

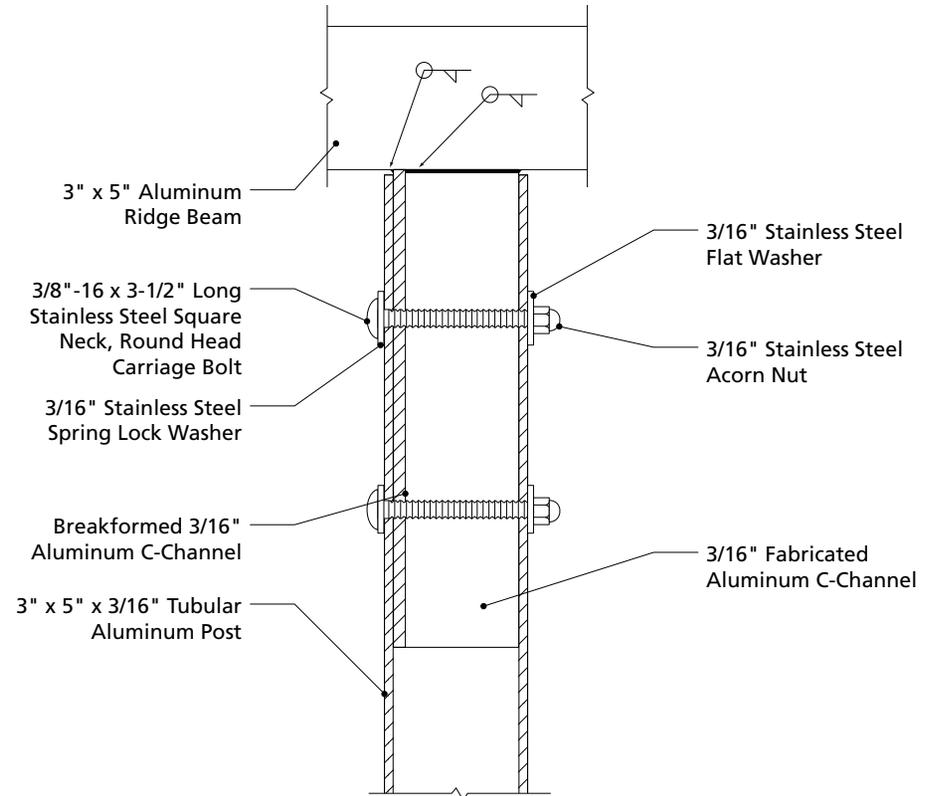
Upright Inline 2 Series (UPN2) with Roof

Aluminum Fabrication (Continued)



1-N2 - 05 Post/Truss Cross Section

Scale: 1-1/2" = 1'-0"

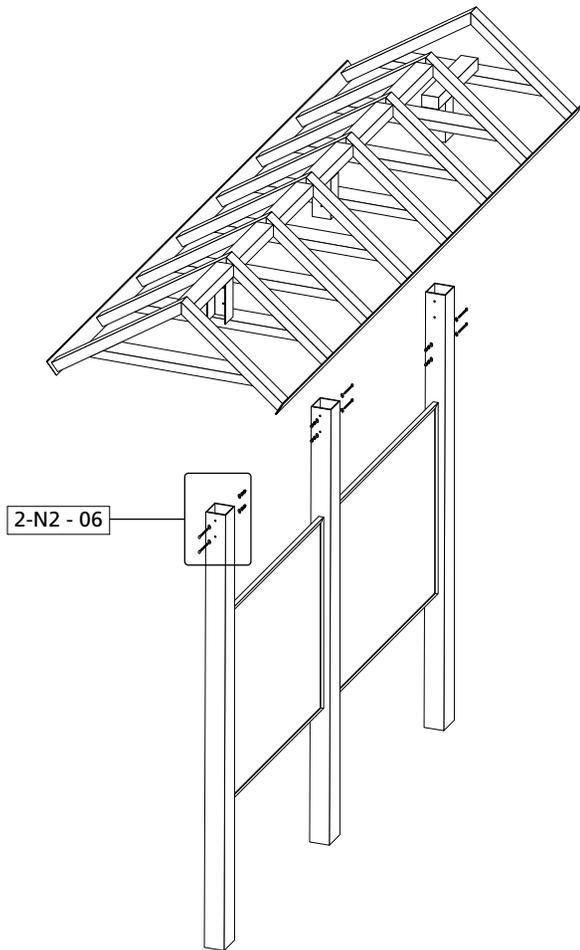


2-N2 - 05 Post Connection Cross Section

Scale: 3" = 1'-0"

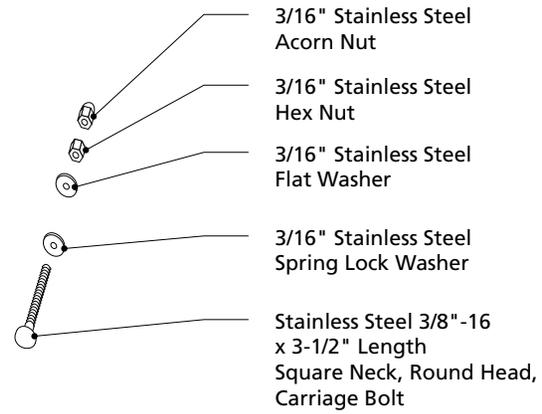
Upright Inline 2 Series (UPN2) with Roof

Aluminum Fabrication (Continued)



1-N2 - 06 Exploded View

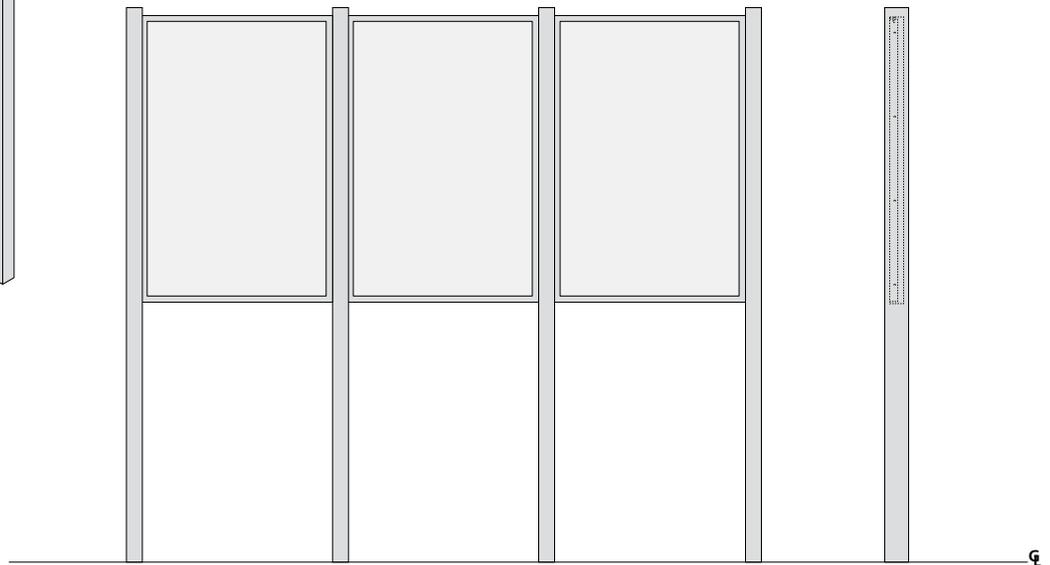
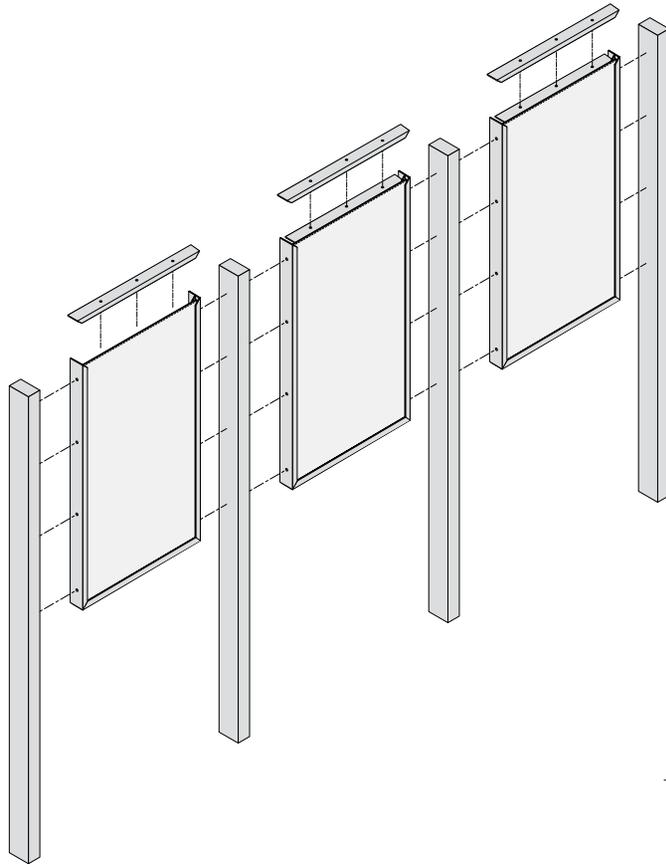
Scale: 1/4" = 1'-0"



2-N2 - 06 Connection Hardware

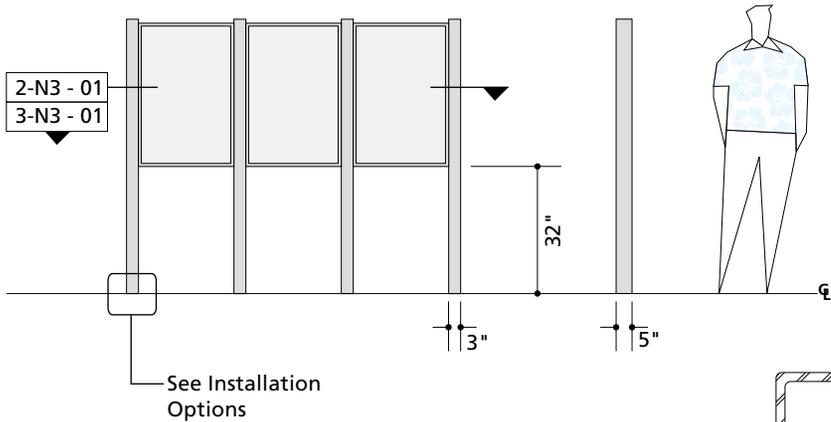
Scale: 3" = 1'-0"

Upright Inline 3 Series (UPN3)



Upright Inline 3 Series (UPN3)

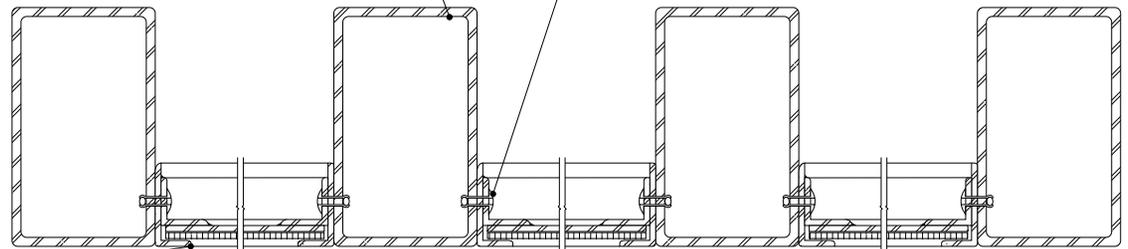
Steel Fabrication



1-N3 - 01 Upright Inline 3 Elevation
Scale: 1/4" = 1'-0"

3" x 5" x 3/16"
Tubular Steel Posts

1/4" Diameter, 18-8 Stainless Steel High Strength,
Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

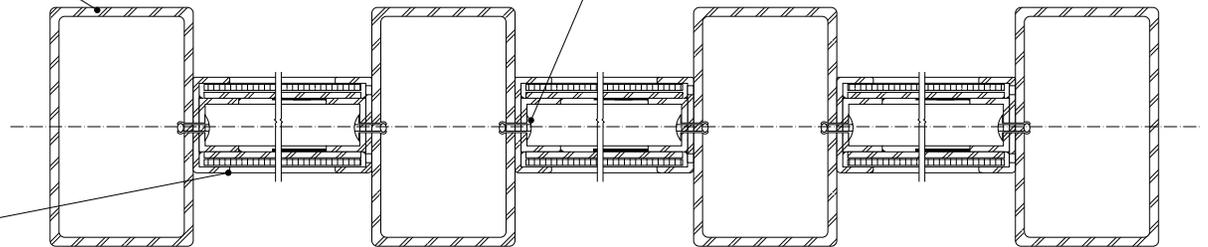


See Upright Single-sided
Steel Fabrication
Frame Drawing for Details

2-N3 - 01 Single-sided Steel Top Section Cut
Scale: 3" = 1'-0"

3" x 5" x 3/16"
Tubular Steel Posts

1/4" Diameter, 18-8 Stainless Steel High Strength,
Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

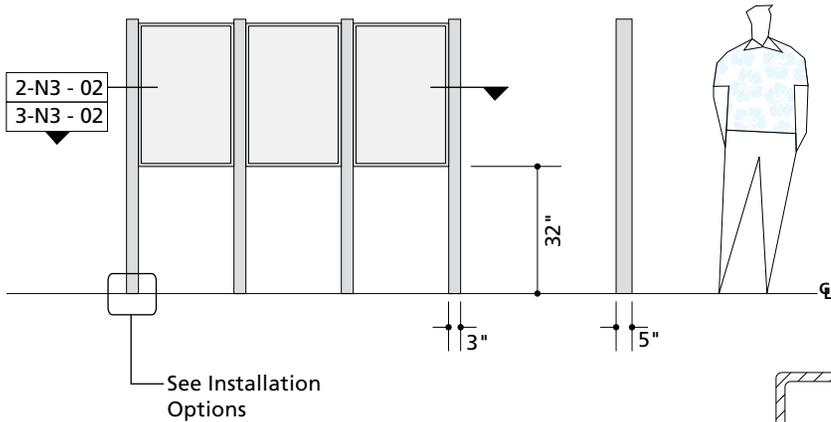


See Upright Double-sided
Steel Fabrication
Frame Drawing for Details

3-N3 - 01 Double-sided Steel Top Section Cut
Scale: 3" = 1'-0"

Upright Inline 3 Series (UPN3)

Aluminum Fabrication

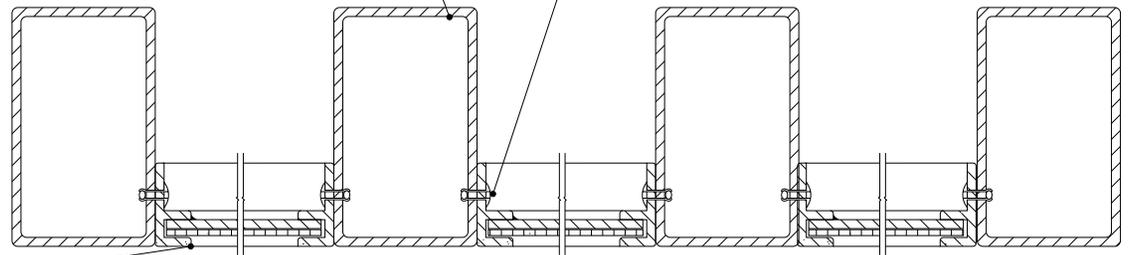


1-N3 - 02 Upright Inline 3 Elevation

Scale: 1/4" = 1'

3" x 5" x 3/16" Tubular Aluminum Posts

1/4" Diameter, 5056 Aluminum High Strength, Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame



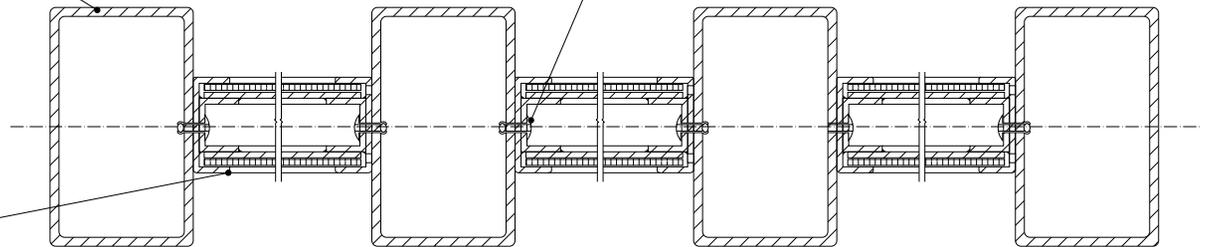
See Upright Single-sided Aluminum Fabrication Frame Drawing for Details

2-N3 - 02 Single-sided Steel Top Section Cut

Scale: 3" = 1'-0"

3" x 5" x 3/16" Tubular Aluminum Posts

1/4" Diameter, 15056 Aluminum High Strength, Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame



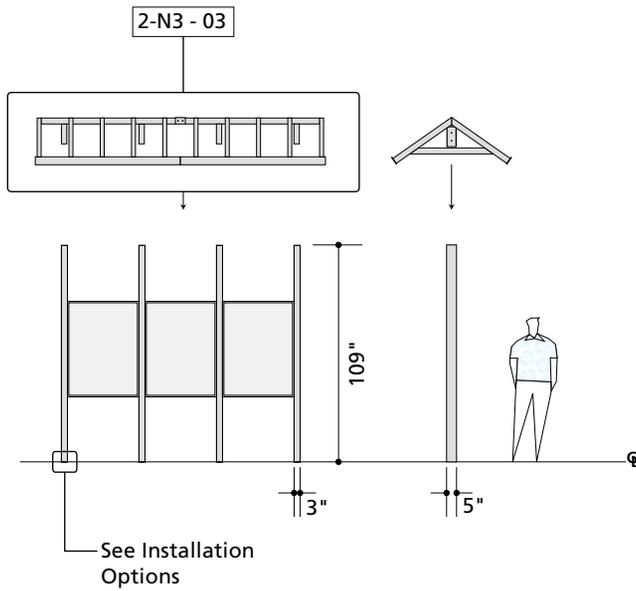
See Upright Double-sided Aluminum Fabrication Frame Drawing for Details

3-N3 - 02 Double-sided Steel Top Section Cut

Scale: 3" = 1'-0"

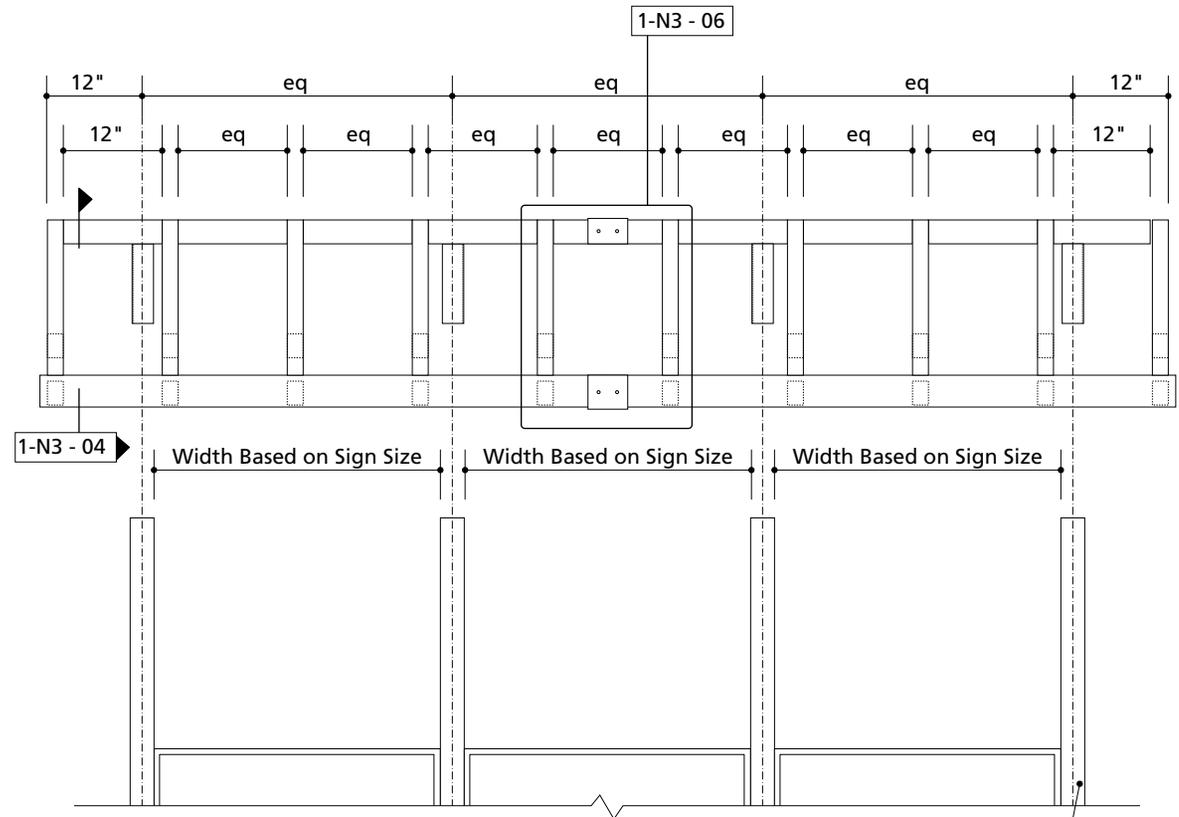
Upright Inline 3 Series (UPN3) with Roof

Aluminum Fabrication



1-N3 - 03 36" x 48" Upright Inline 3 with Roof Elevation

Scale: 1/8" = 1'-0"



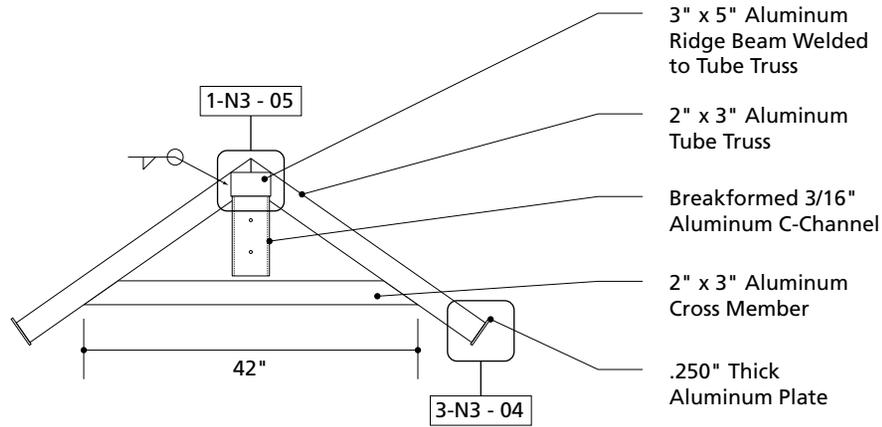
2-N3 - 03 Roof Front Elevation

Scale: 1/2" = 1'-0"

3" x 5" x 3/16" Tubular Aluminum Posts

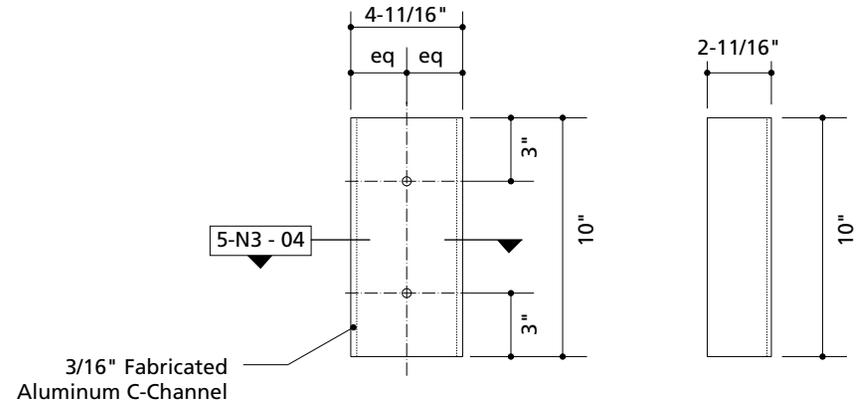
Upright Inline 3 Series (UPN3) with Roof

Aluminum Fabrication (Continued)



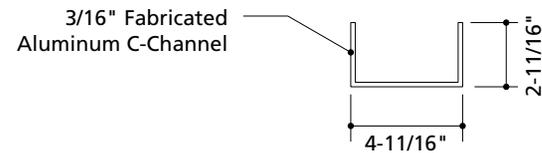
1-UP 26 Roof Cross Section

Scale: 1/2" = 1'-0"



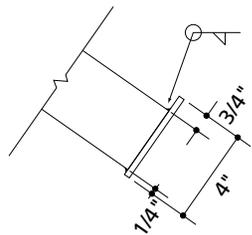
2-N3 - 04 C-Channel Front and Side Elevation

Scale: 1/2" = 1'-0"



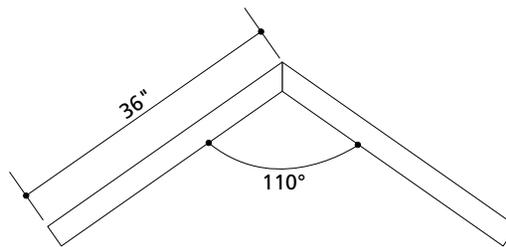
5-N3 - 04 C-Channel Section Cut

Scale: 1/2" = 1'-0"



3-N3 - 04 Truss-Plate Connection Detail

Scale: 1-1/2" = 1'-0"

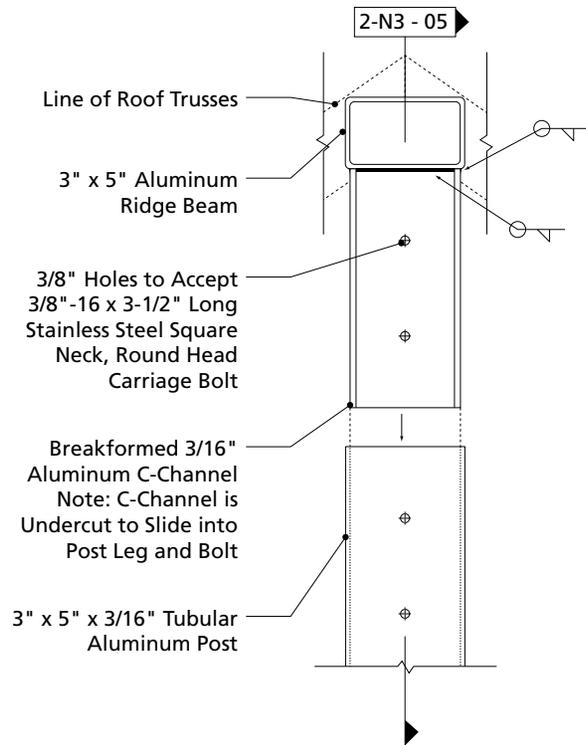


4-N3 - 04 Aluminum Tube Truss Detail

Scale: 1/2" = 1'-0"

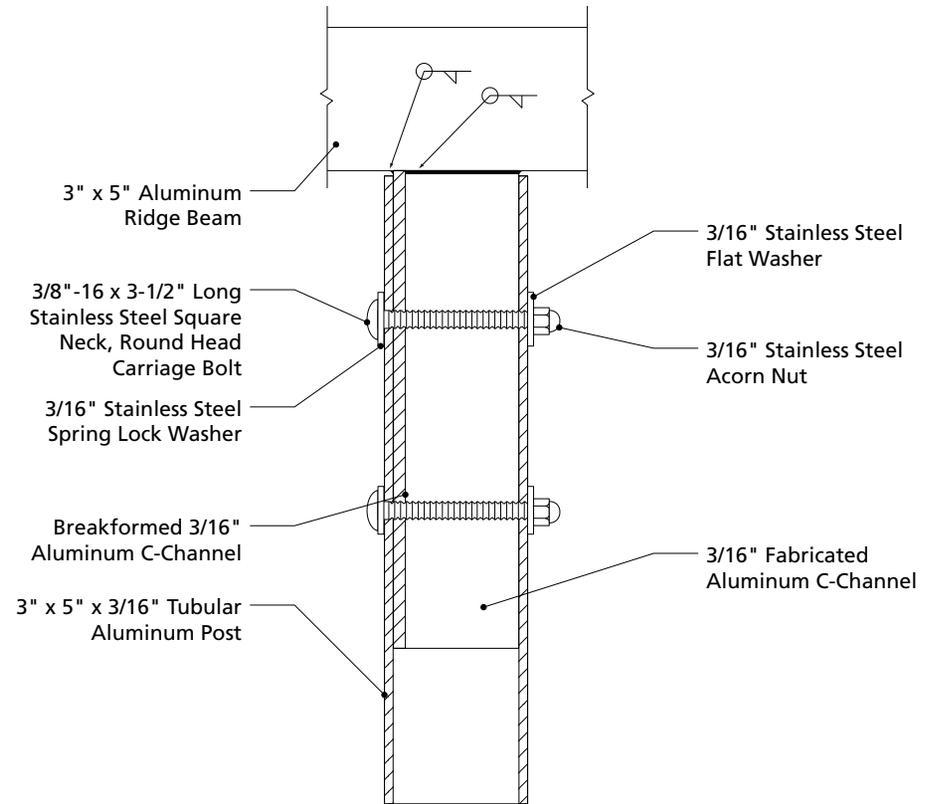
Upright Inline 3 Series (UPN3) with Roof

Aluminum Fabrication (Continued)



1-N3 - 05 Post/Truss Cross Section

Scale: 1-1/2" = 1'-0"

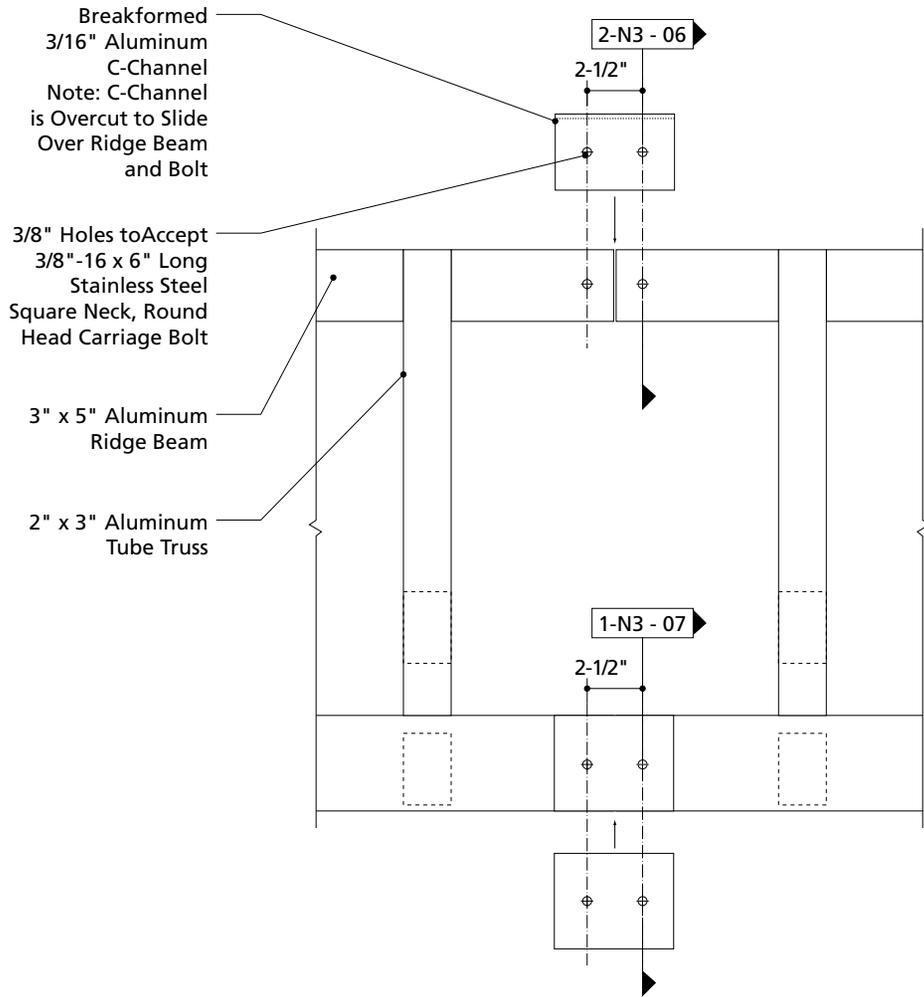


2-N3 - 05 Post Connection Cross Section

Scale: 3" = 1'-0"

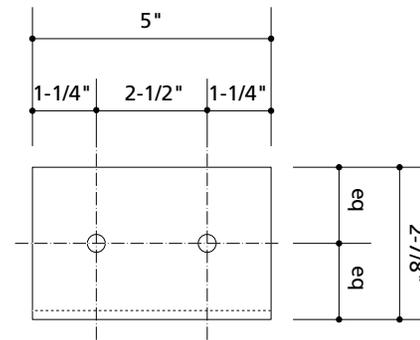
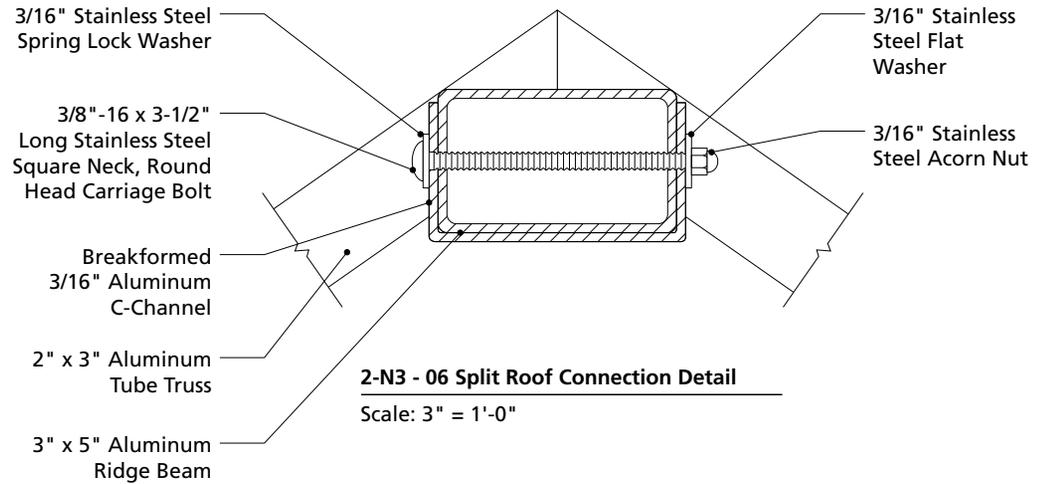
Upright Inline 3 Series (UPN3) with Roof

Aluminum Fabrication (Continued)



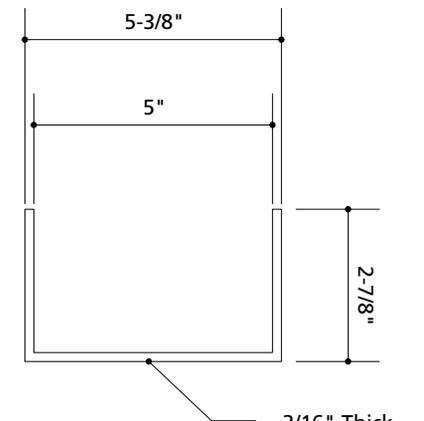
1-N3 - 06 Split Roof Connection Front Elevation

Scale: 1-1/2" = 1'-0"



3-N3 - 06 C-Channel Front and Side Elevations

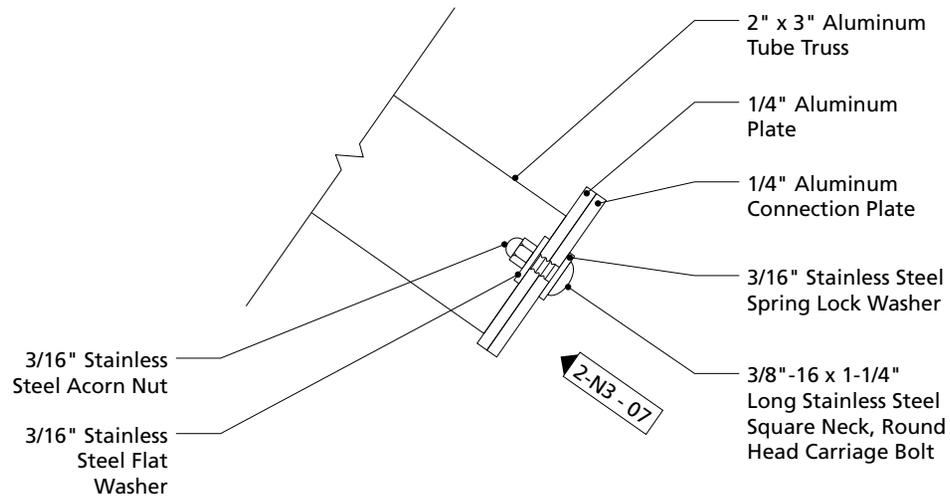
Scale: 1-1/2" = 1'-0"



3/16" Thick Aluminum Breakformed C-Channel

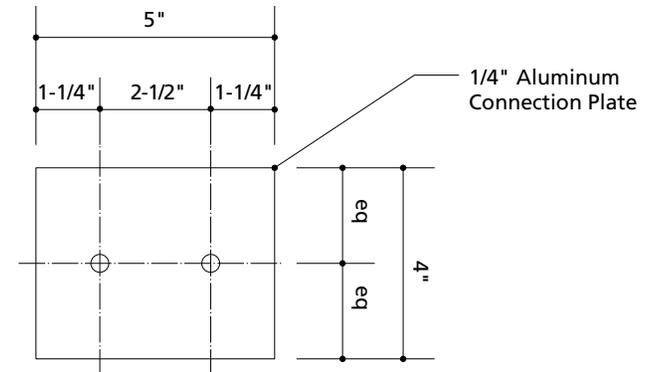
Upright Inline 3 Series (UPN3) with Roof

Aluminum Fabrication (Continued)



1-N3 - 07 Split Roof Connection Detail

Scale: 3" = 1'-0"

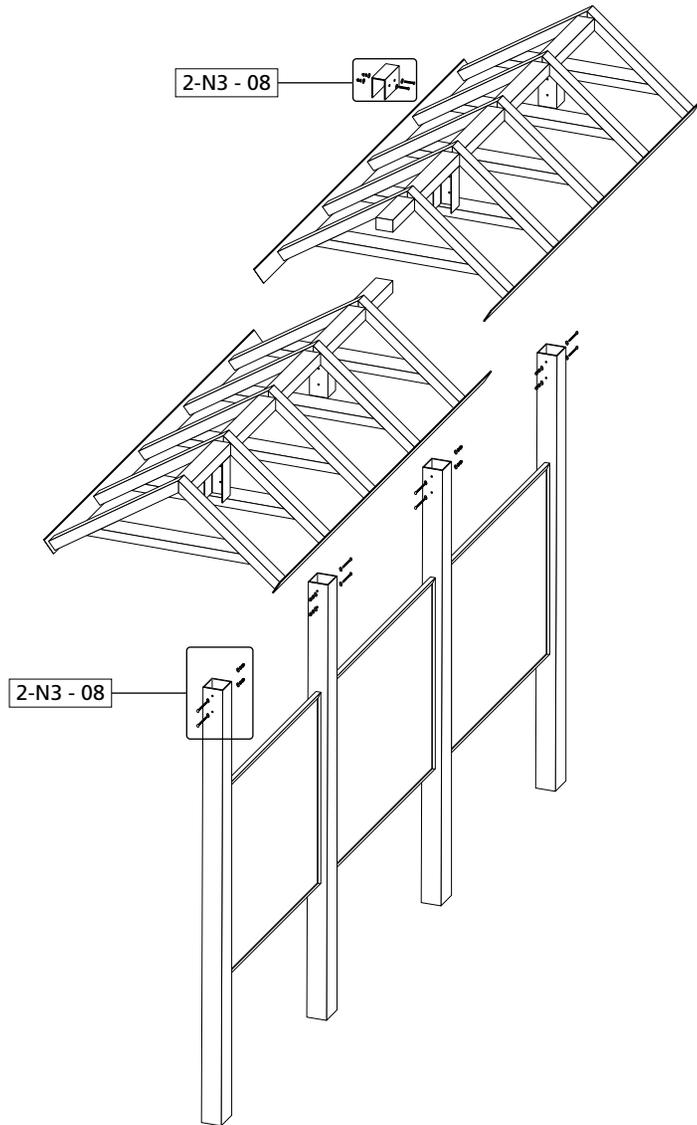


2-N3 - 07 Connection Plate Elevation

Scale: 3" = 1'-0"

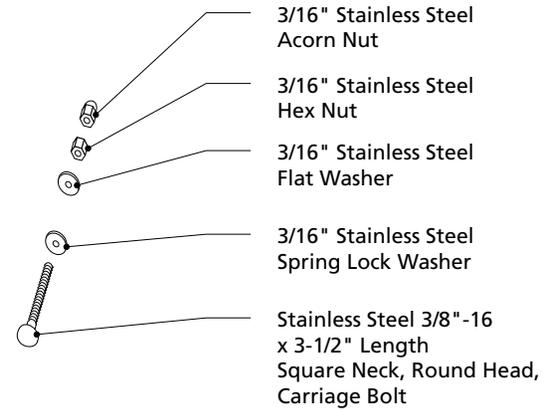
Upright Inline 3 Series (UPN3) with Roof

Aluminum Fabrication (Continued)



1-N3 - 08 Exploded View

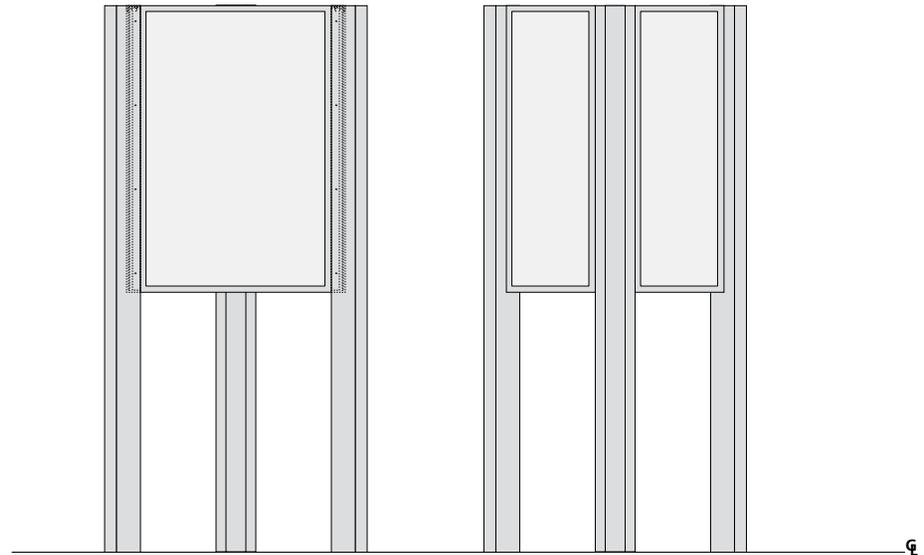
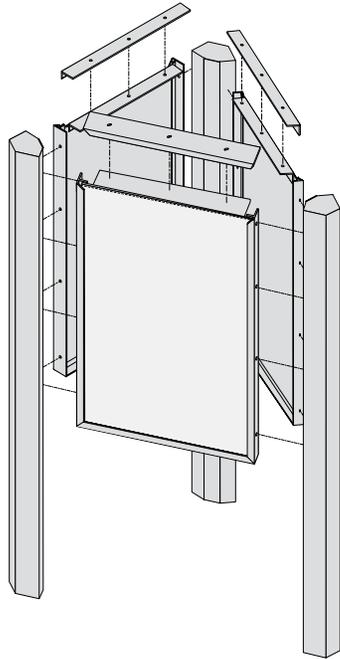
Scale: 1/4" = 1'-0"



2-N3 - 08 Connection Hardware

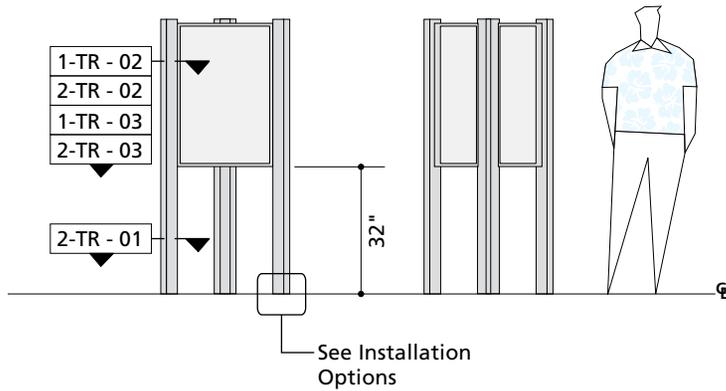
Scale: 3" = 1'-0"

Upright Tri-Sided Series (UPTR)



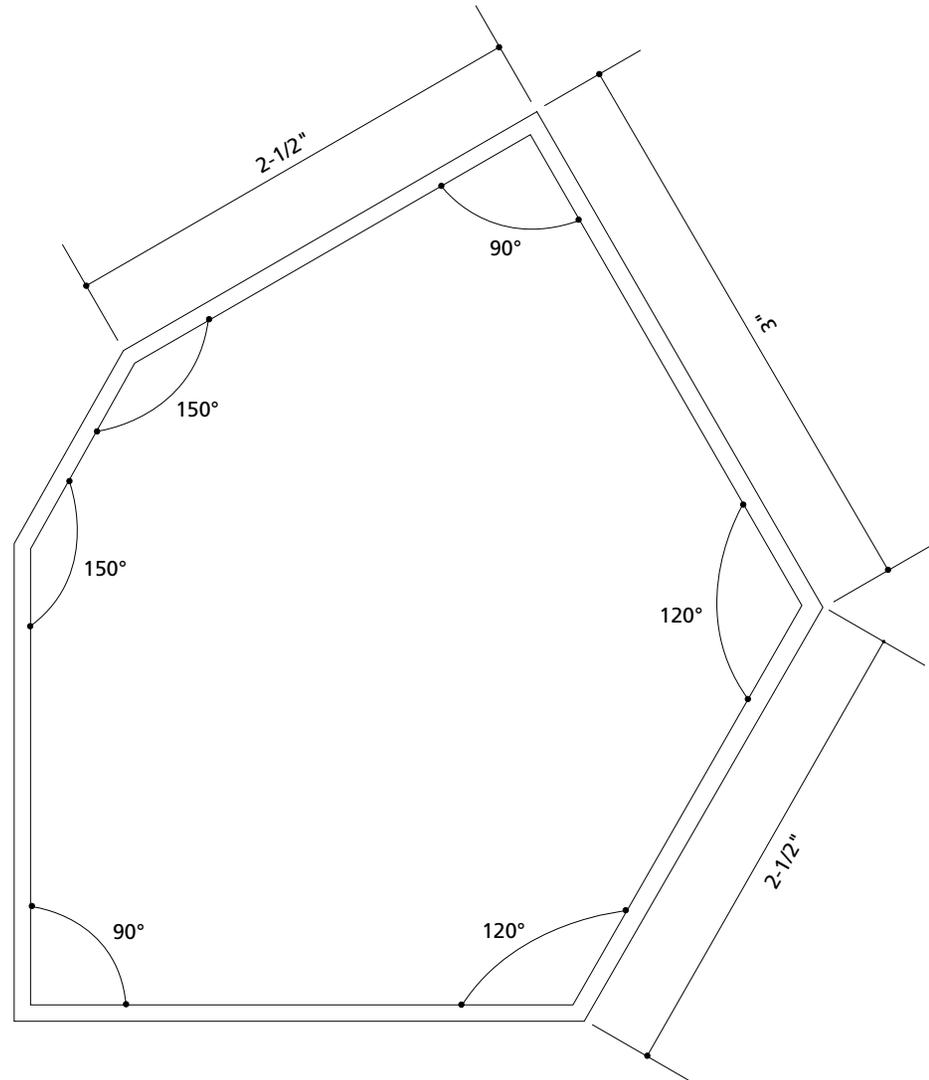
Upright Tri-Sided Series (UPTR)

Post Fabrication



1-TR - 01 Upright Tri-Sided Elevation

Scale: 1/4" = 1'-0"

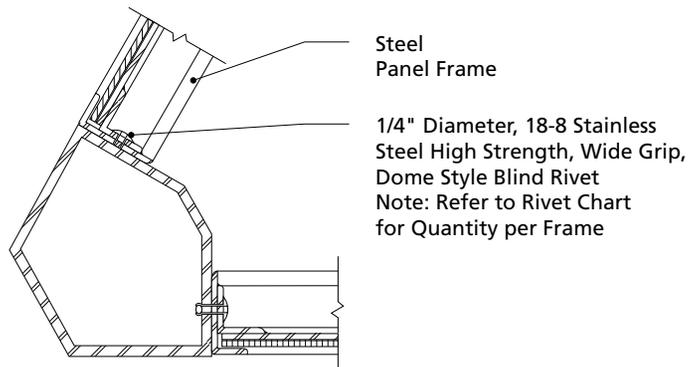


2-TR - 01 Post Dimension, Plan View

Scale: Actual Size

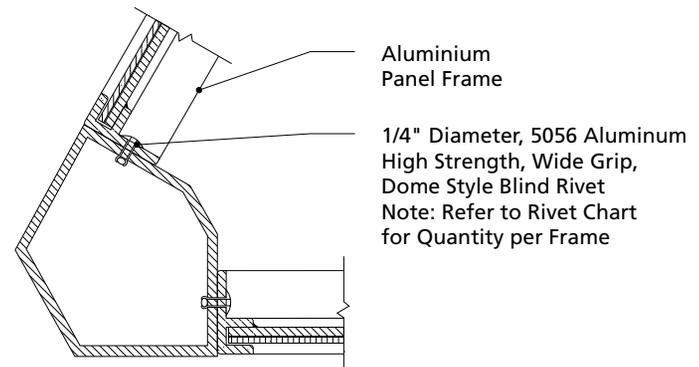
Upright Tri-Sided Series (UPTR)

Steel Fabrication



1-TR - 02 Steel Frames Top Section Cut

Scale: 3" = 1'-0"

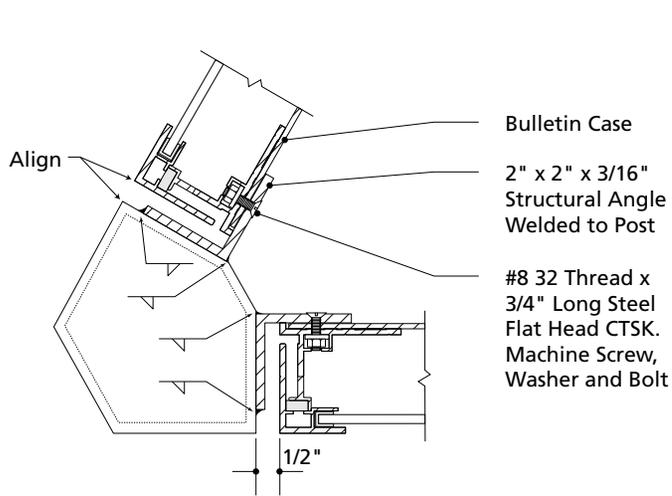


2-TR - 02 Aluminum Frames Top Section Cut

Scale: 3" = 1'-0"

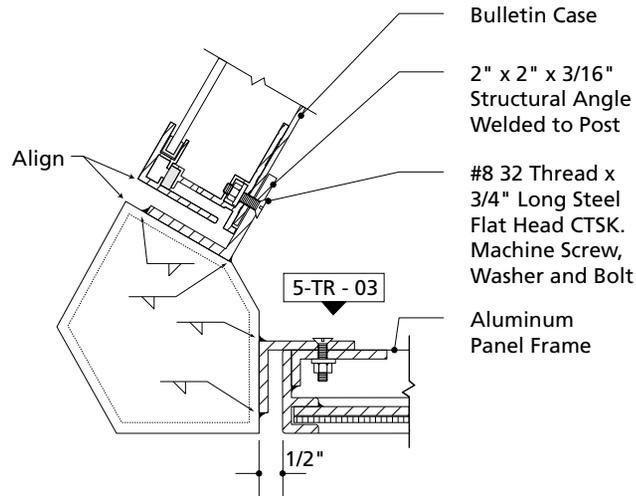
Upright Tri-Sided Series (UPTR)

Aluminum Fabrication



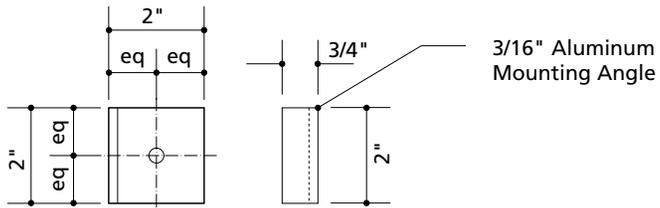
1-TR - 03 Bulletin Cases Top Cross Section

Scale: 3" = 1'-0"



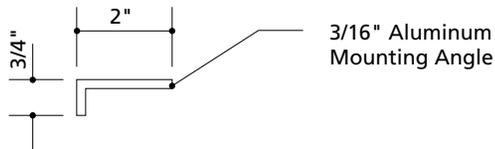
2-TR - 03 Bulletin Cases, Panel Frames Top Cross Section

Scale: 3" = 1'-0"



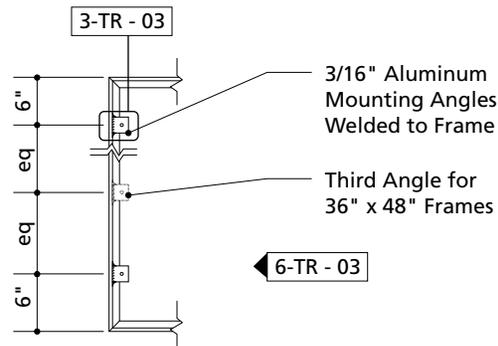
3-TR - 03 Mounting Angle Front and Side Elevations

Scale: 3" = 1'-0"



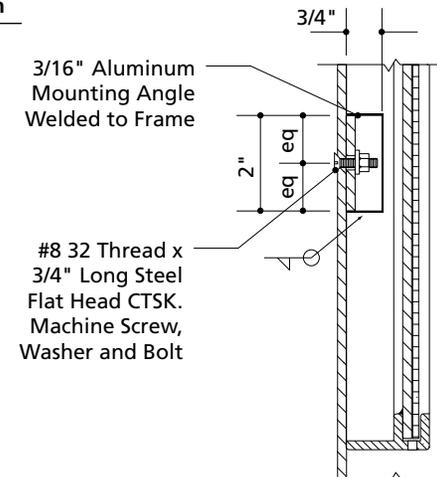
4-TR - 03 Mounting Angle Plan View

Scale: 3" = 1'-0"



5-TR - 03 Frame Back, Mounting Detail

Scale: 1/2" = 1'-0"

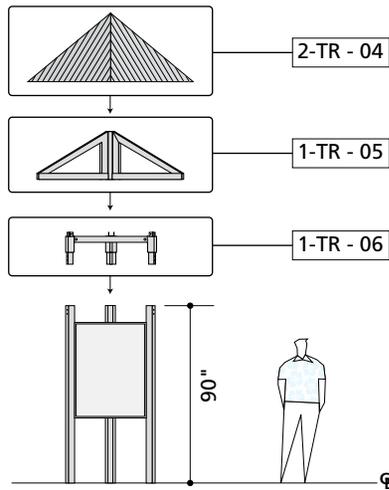


6-TR - 03 Frame Side Section

Scale: 3" = 1'-0"

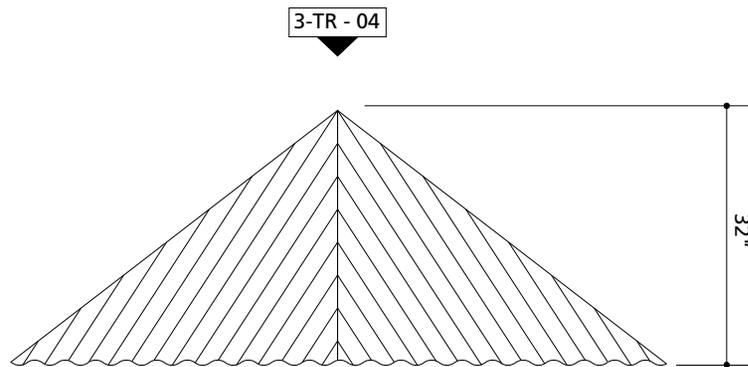
Upright Tri-Sided Series (UPTR) with Roof

Aluminum Fabrication



1-TR - 04 36" 48" Upright Tri-Sided Elevation

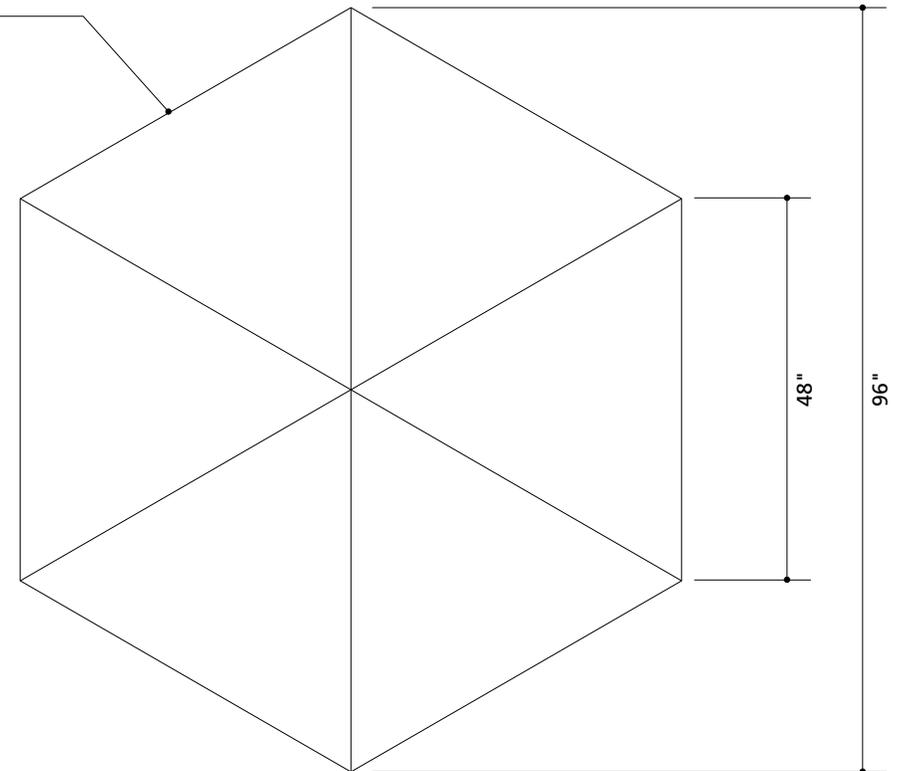
Scale: 1/8" = 1'-0"



2-TR - 04 Roof Cap Elevation

Scale: 1/2" = 1'-0"

3/16" Corrugated Sheet Aluminum

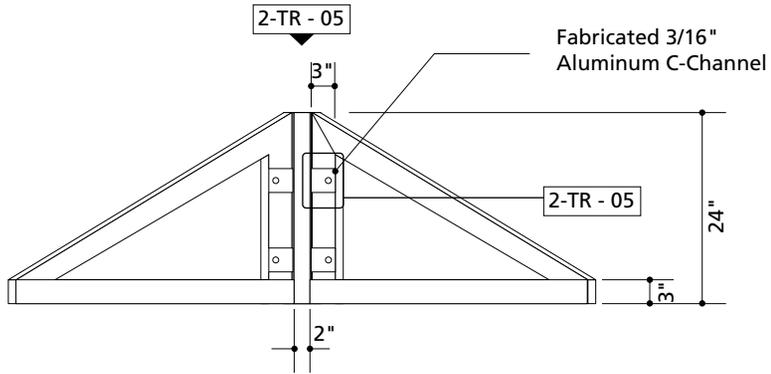


3-TR - 04 Roof Cap Plan View

Scale: 1/2" = 1'-0"

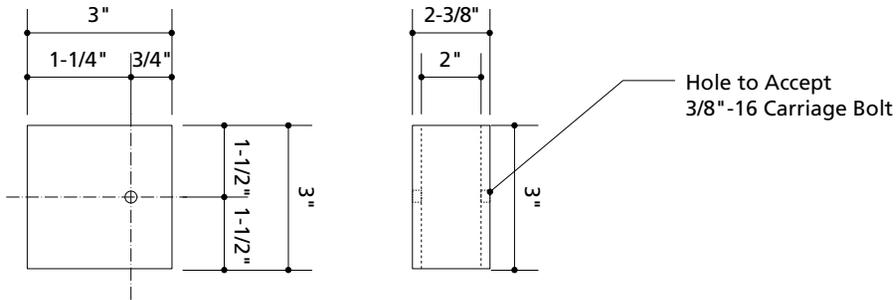
Upright Tri-Sided Series (UPTR) with Roof

Aluminum Fabrication (Continued)



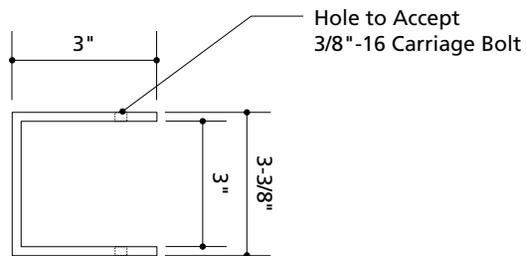
1-TR - 05 Spider Roof Elevation

Scale: 1/2" = 1'-0"



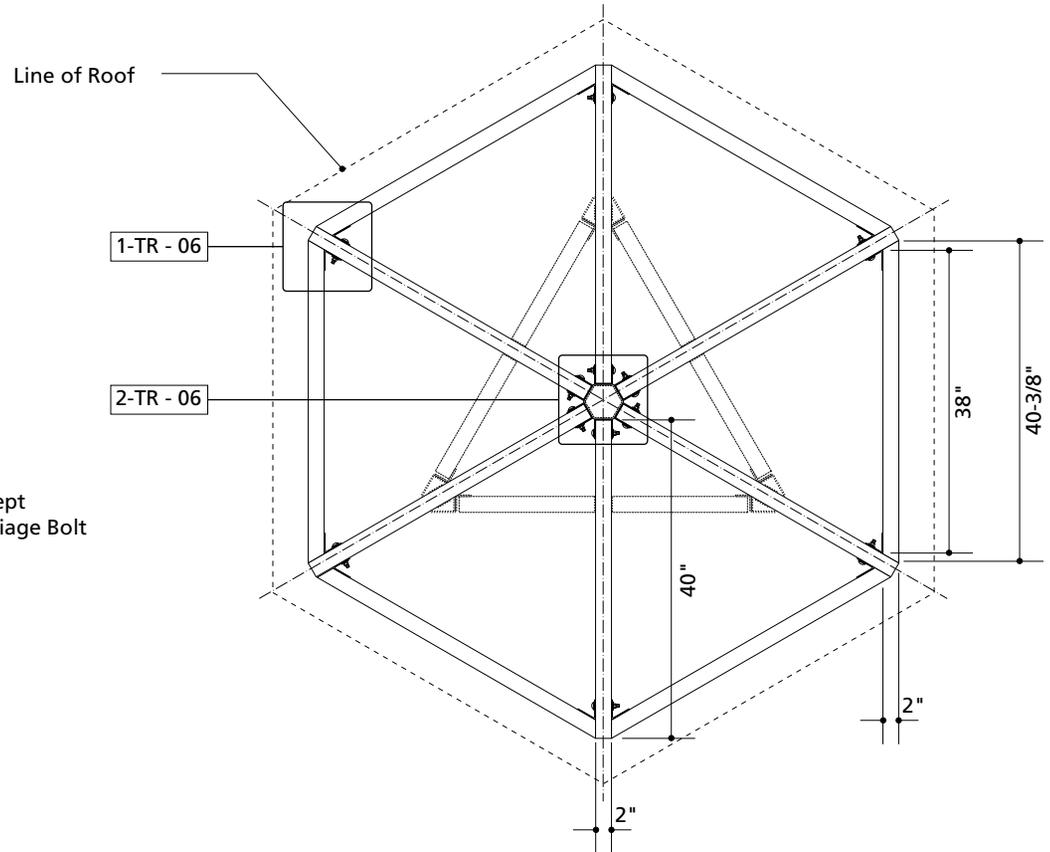
1-TR - 05 C-Channel Front and Side Elevations

Scale: 3" = 1'-0"



1-TR - 05 C-Channel Plan View

Scale: 3" = 1'-0"

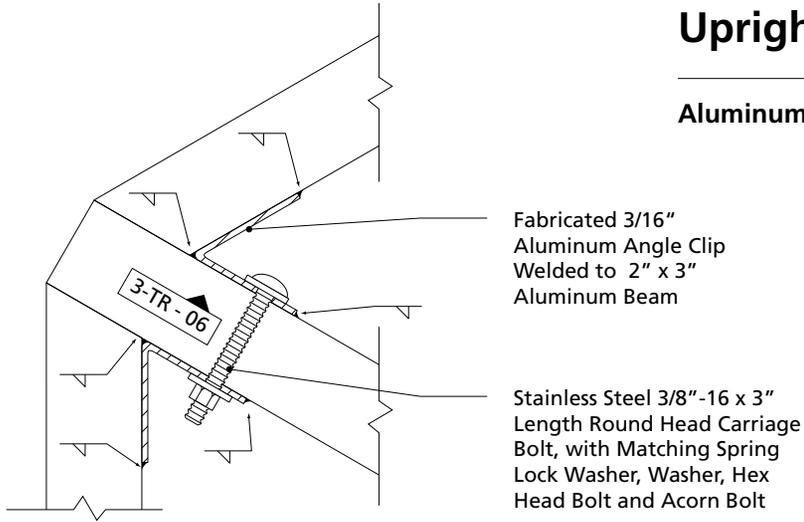


2-TR - 05 Spider Roof Plan View

Scale: 1/2" = 1'-0"

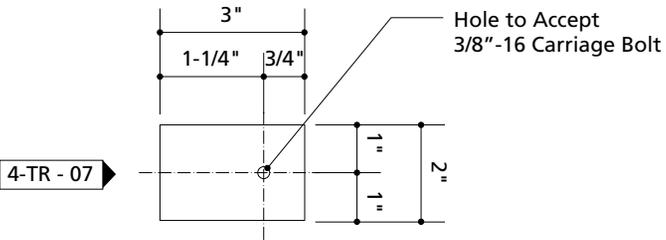
Upright Tri-Sided Series (UPTR) with Roof

Aluminum Fabrication (Continued)



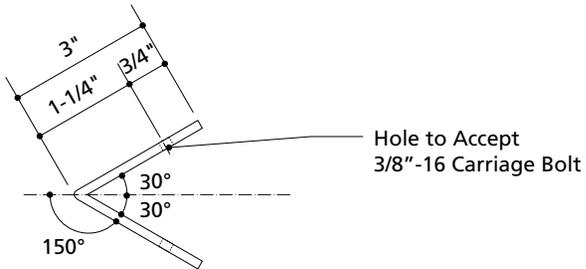
1-TR - 06 Connection Detail

3" = 1'-0"



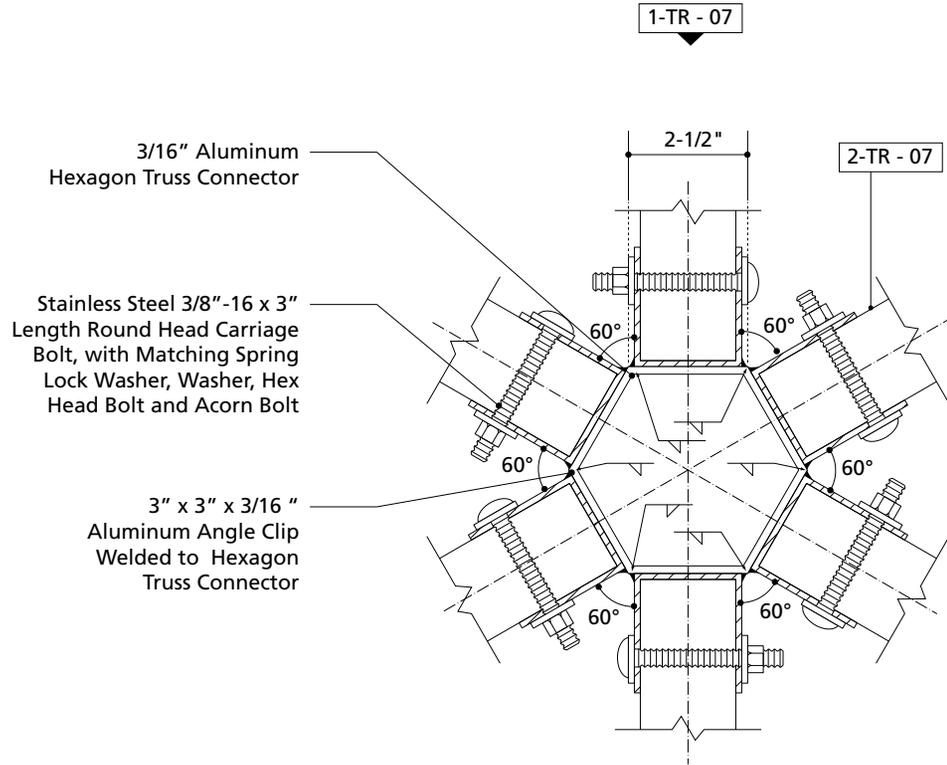
3-TR - 06 Angle Clip Front Elevation

Scale: 3" = 1'-0"



4-TR - 06 Angle Clip Plan View

Scale: 3" = 1'-0"

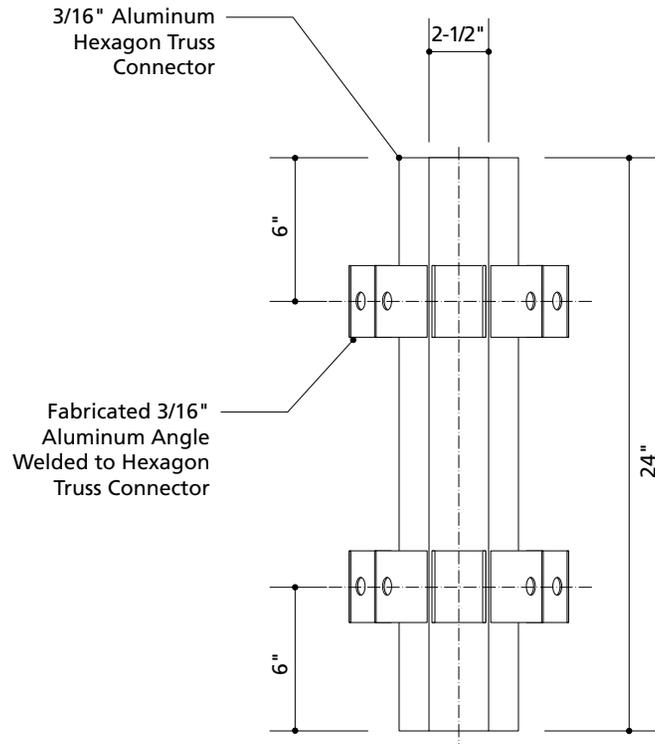


2-TR - 06 Connection Detail

3" = 1'-0"

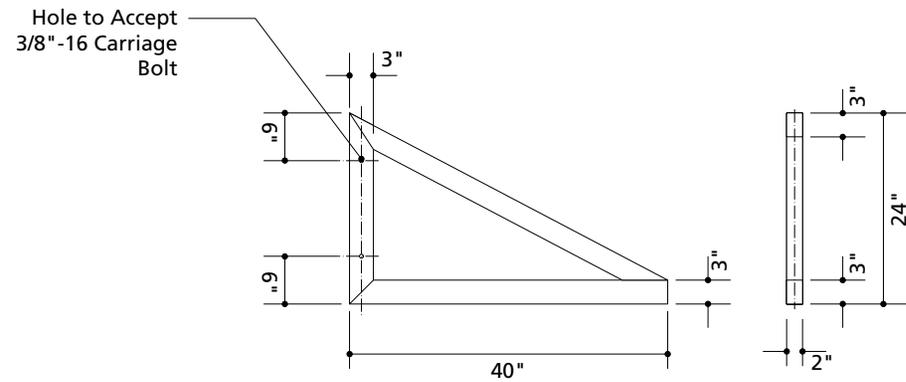
Upright Tri-Sided Series (UPTR) with Roof

Aluminum Fabrication (Continued)



1- TR - 07 Hexagon Truss Connector Elevation

1-1/2" = 1'-0"

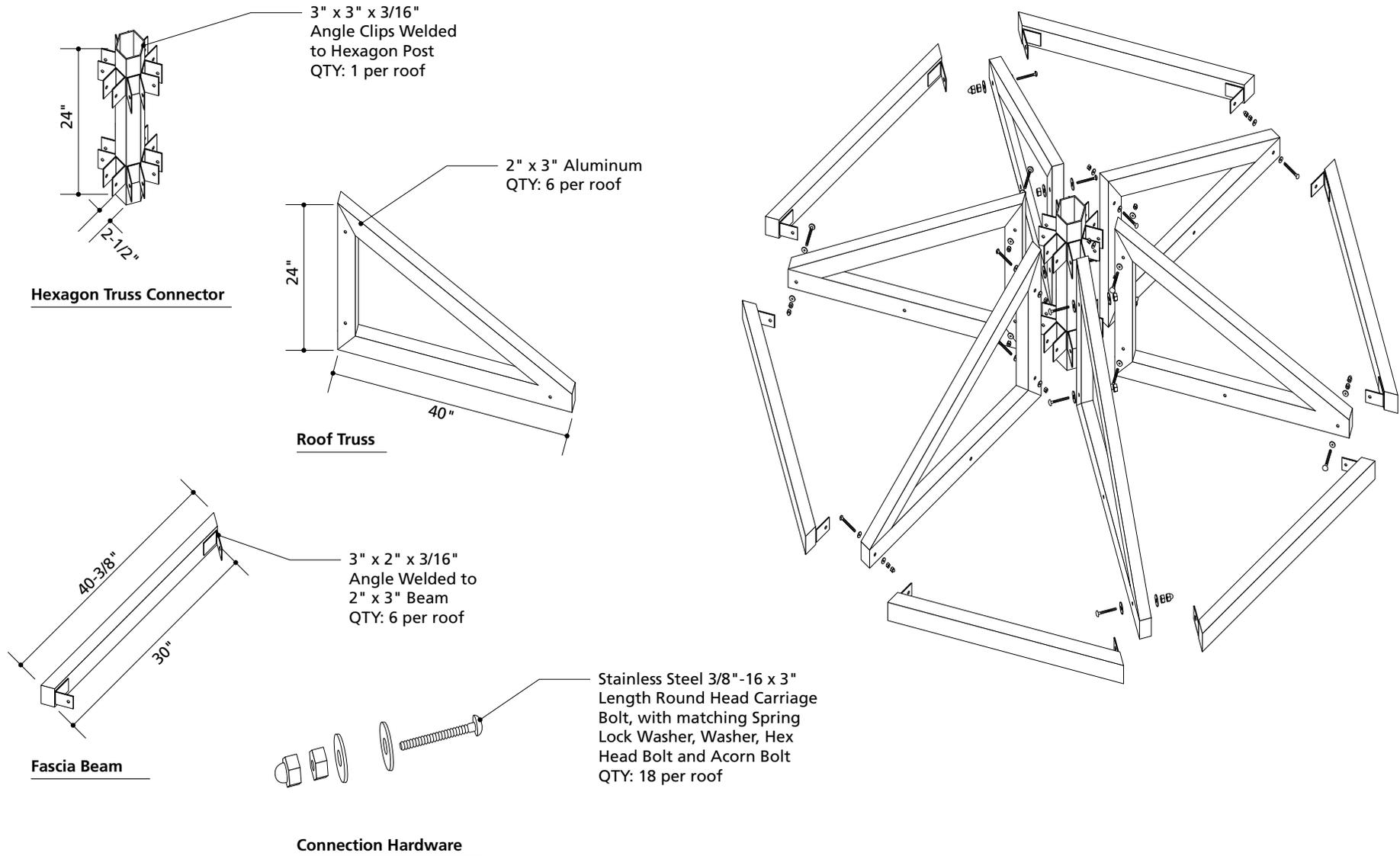


2- TR - 07 Roof Truss Front and Side Elevations

1/2" = 1'-0"

Upright Tri-Sided Series (UPTR) with Roof

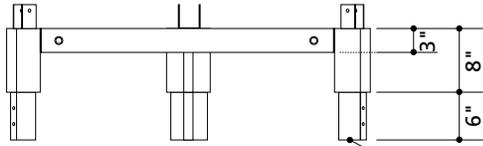
Aluminum Fabrication (Continued)



Upright Tri-Sided Series (UPTR) with Roof

Aluminum Fabrication (Continued)

2-TR - 09

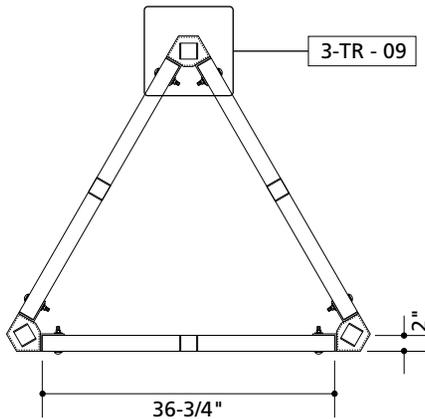


Note: Post Bottom is Undercut to Slide Into Upright Posts

1-TR - 09 Roof Base Elevation

Scale: 1/2" = 1'-0"

3-TR - 09



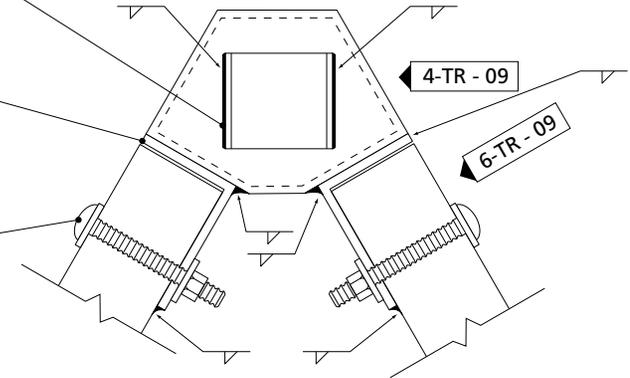
2-TR - 09 Roof Base Plan View

Scale: 1/2" = 1'-0"

Fabricated 3/16" Aluminum C-Channel Welded to Aluminum Post

Fabricated 3/16" Aluminum Angle Welded to Hexagon Post

Stainless Steel 3/8" - 16 x 3" Length Round Head Carriage Bolt, with Matching Spring Lock Washer, Washer, Hex Head Bolt and Acorn Bolt

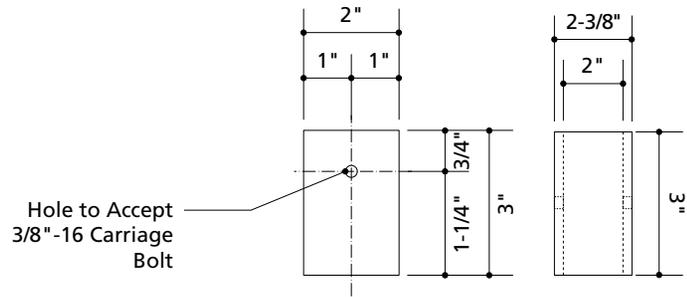


3-TR - 09 Connection Detail

Scale: 3" = 1'-0"

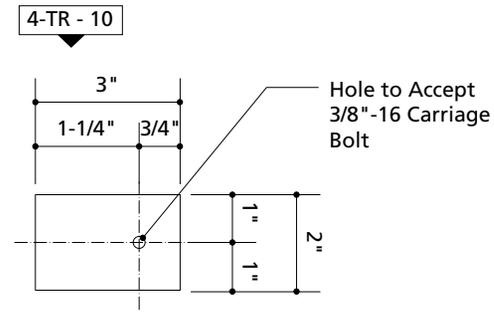
Upright Tri-Sided Series (UPTR) with Roof

Aluminum Fabrication (Continued)



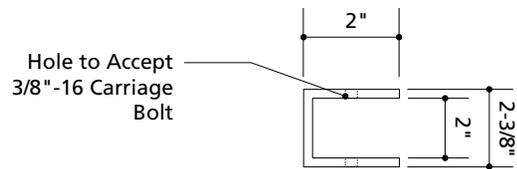
1-TR - 10 C-Channel Front and Side Elevations

Scale: 3" = 1'-0"



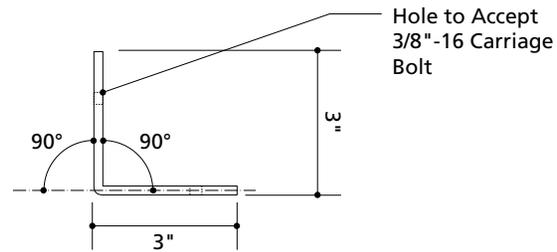
3-TR - 10 Angle Clip Front Elevation

Scale: 3" = 1/2" = 1'-0"



2-TR - 10 C-Channel Plan View

Scale: 3" = 1'-0"

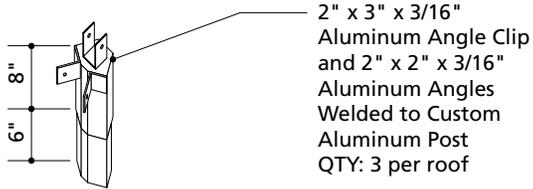


4-TR - 10 Angle Clip Plan View

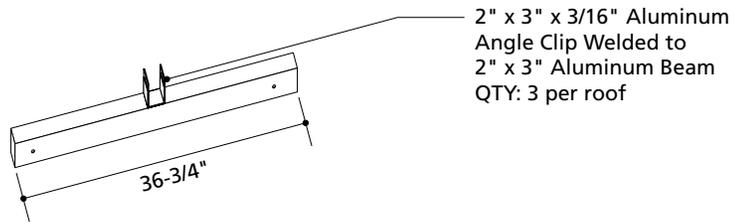
Scale: 3" = 1/2" = 1'-0"

Upright Tri-Sided Series (UPTR) with Roof

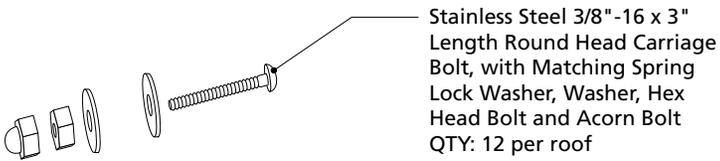
Aluminum Fabrication (Continued)



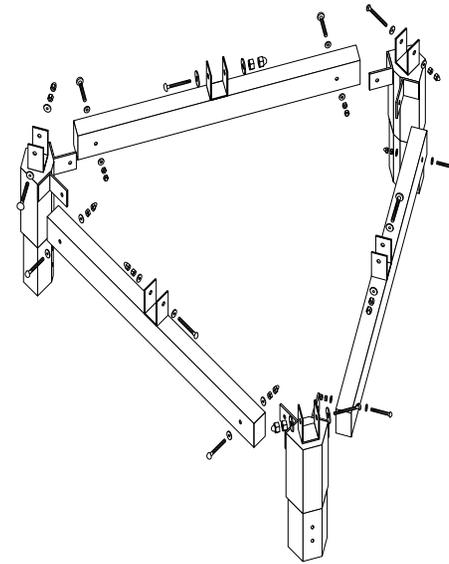
Post Extender



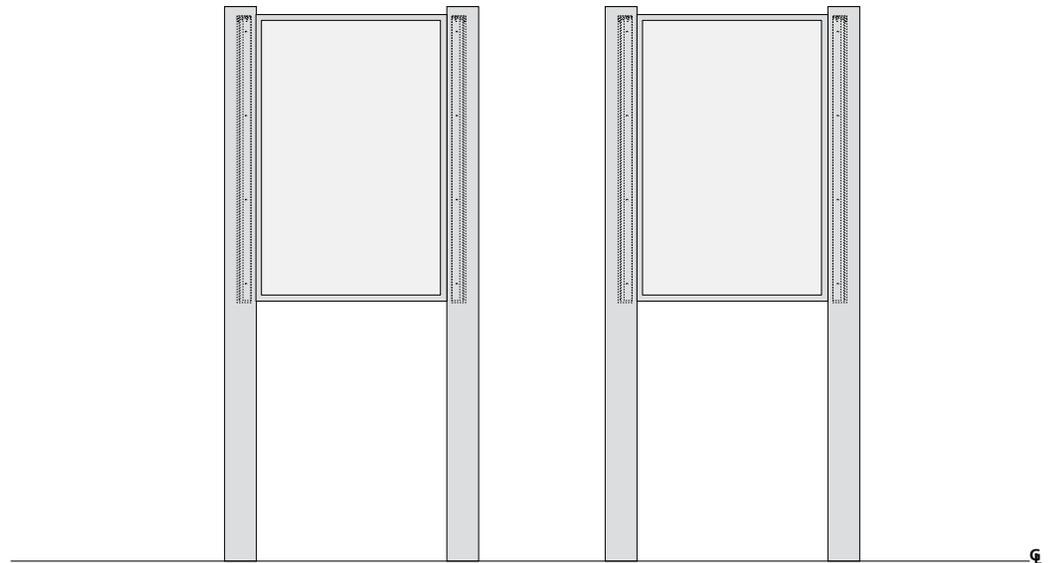
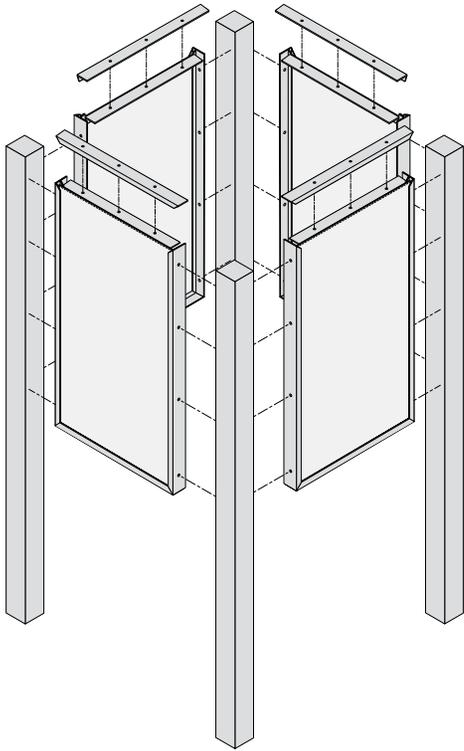
Fascia Beam



Connection Hardware

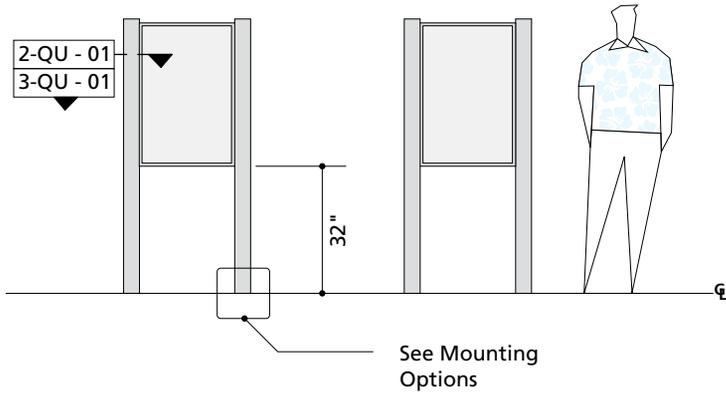


Upright Quad Series (UPQU)



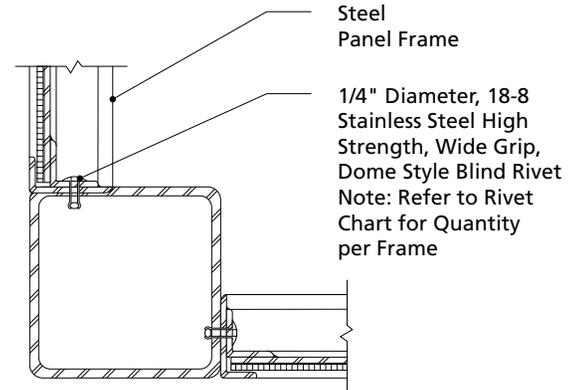
Upright Quad Series (UPQU)

Steel Fabrication



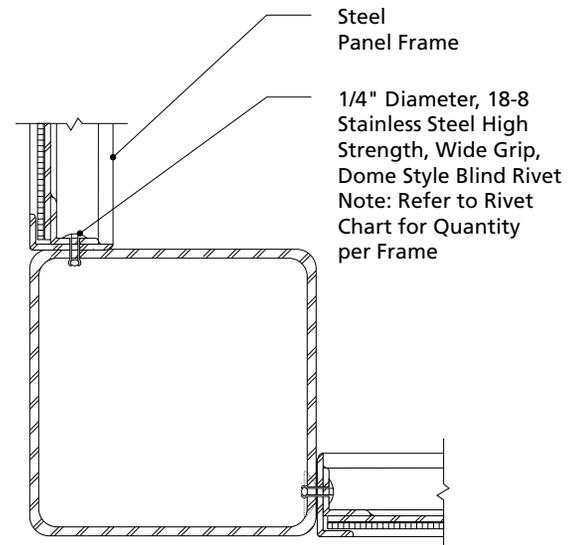
1-QU - 01 Upright Quad Elevation

Scale: 1/4" = 1'-0"



2-QU - 01 Steel Panel Frames, 4" x 4" Post

Scale: 3" = 1'-0"

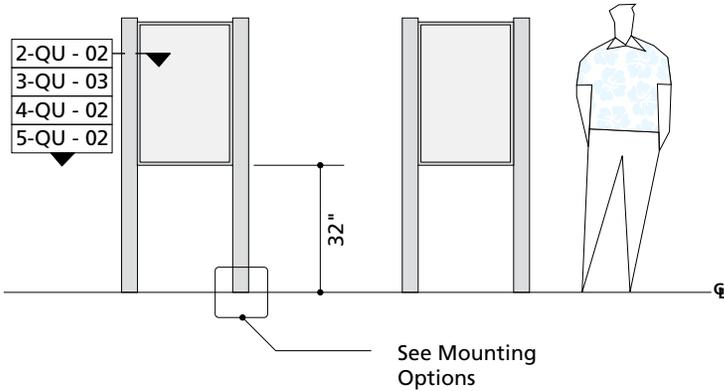


3-QU - 01 Steel Panel Frames, 6" x 6" Post

Scale: 3" = 1'-0"

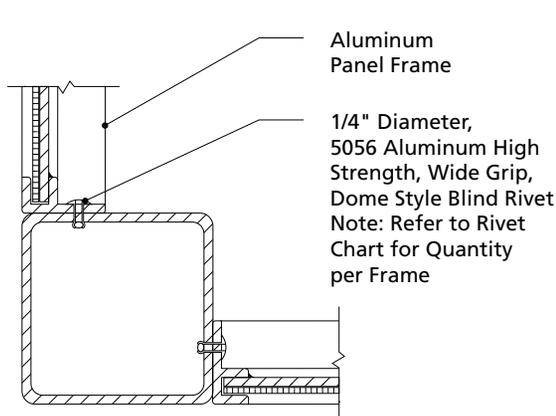
Upright Quad Series (UPQU)

Aluminum Fabrication



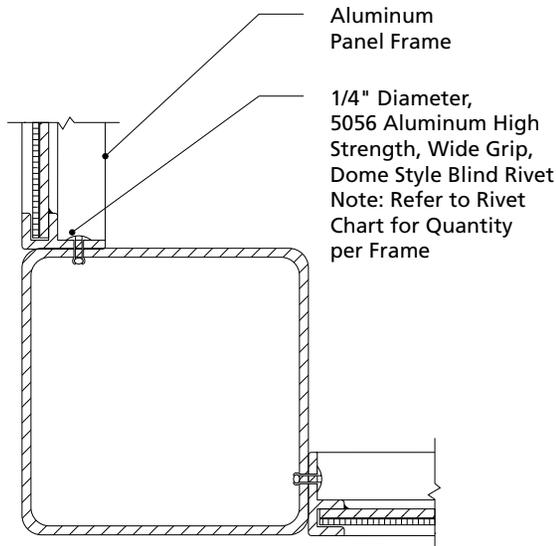
1-QU - 02 Upright Quad Elevation

Scale: 1/4" = 1'-0"



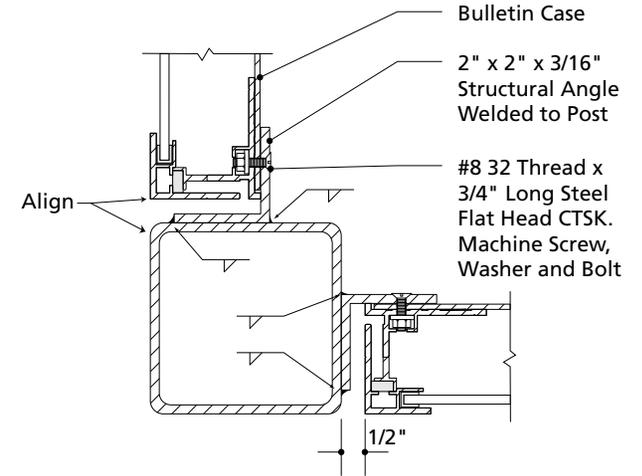
2-QU - 02 Aluminum Panel Frames, 4" x 4" Post

Scale: 3" = 1'-0"



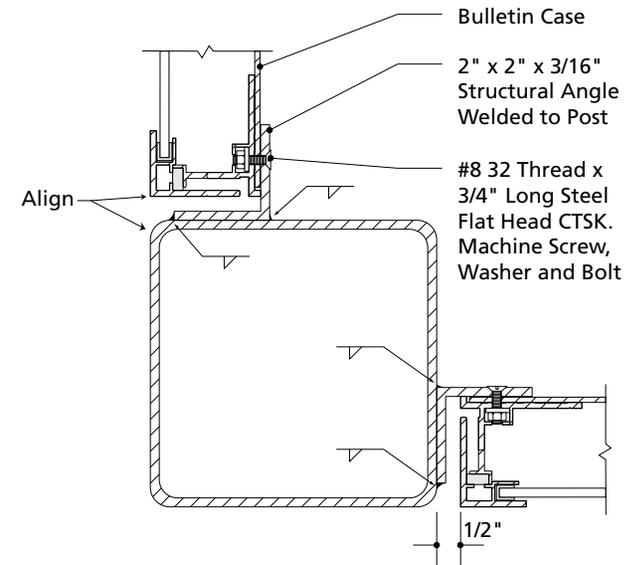
4-QU - 02 Aluminum Panel Frames, 6" x 6" Post

Scale: 3" = 1'-0"



3-QU - 02 Bulletin Cases, 4" x 4" Post

Scale: 3" = 1'-0"

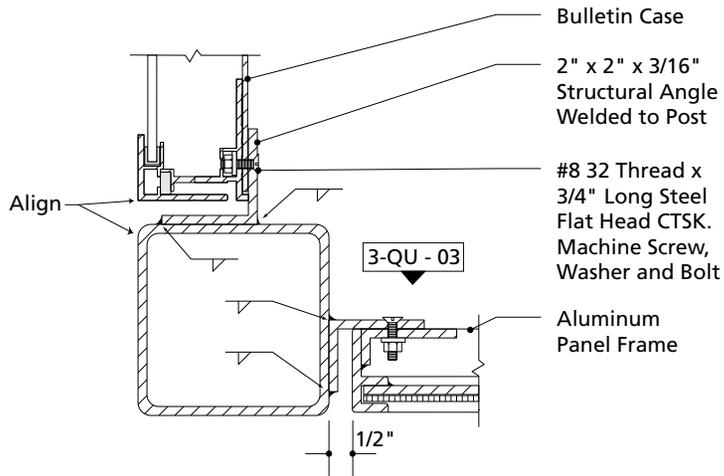


5-QU - 02 Bulletin Cases, 6" x 6" Post

Scale: 3" = 1'-0"

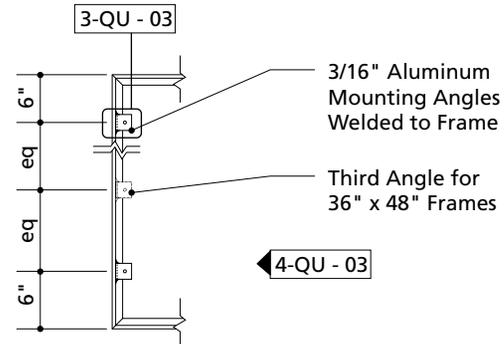
Upright Quad Series (UPQU)

Aluminum Fabrication (Continued)



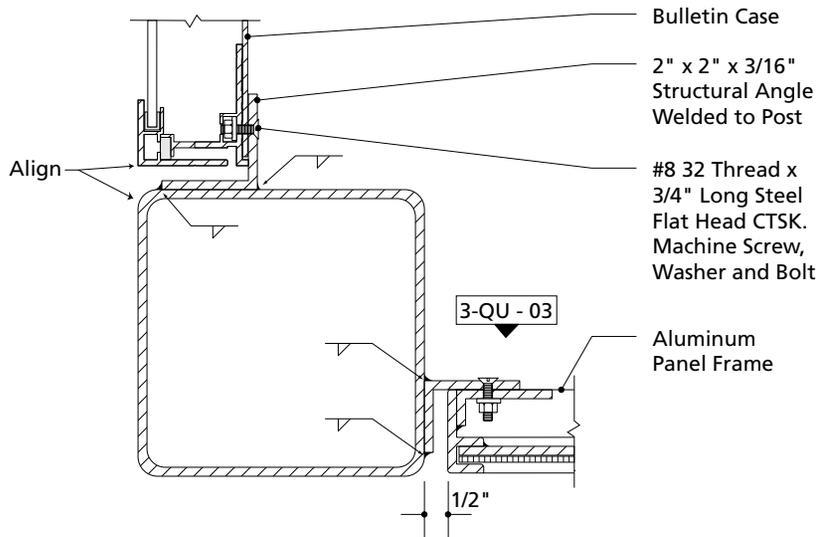
1-QU - 03 Bulletin Cases and Panel Frames, 4" x 4" Post

Scale: 3" = 1'-0"



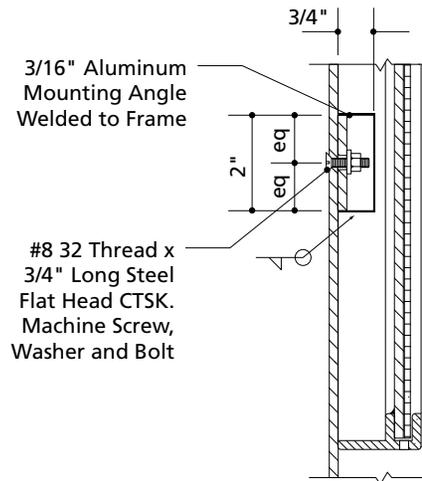
3-QU - 03 Frame Back, Mounting Detail

Scale: 1/2" = 1'-0"



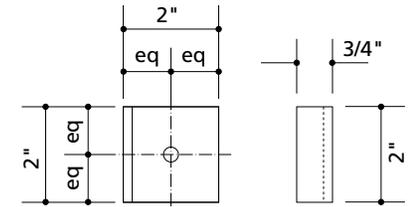
2-QU - 03 Bulletin Cases and Panel Frames, 6" x 6" Post

Scale: 3" = 1'-0"



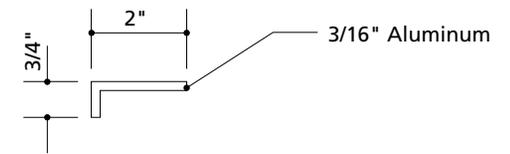
4-QU - 03 Frame Side Section

Scale: 3" = 1'-0"



3-QU - 03 Mounting Angle Front and Side Elevations

Scale: 3" = 1'-0"

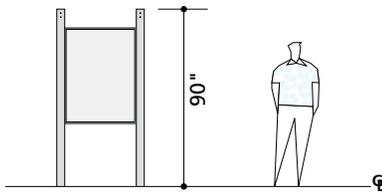
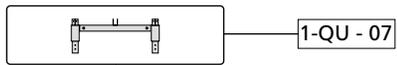
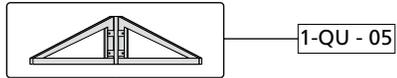
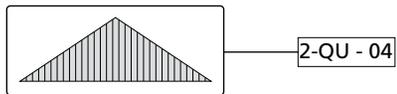


5-QU - 03 Mounting Angle Plan View

Scale: 3" = 1'-0"

Upright Quad Series (UPQU) with Roof

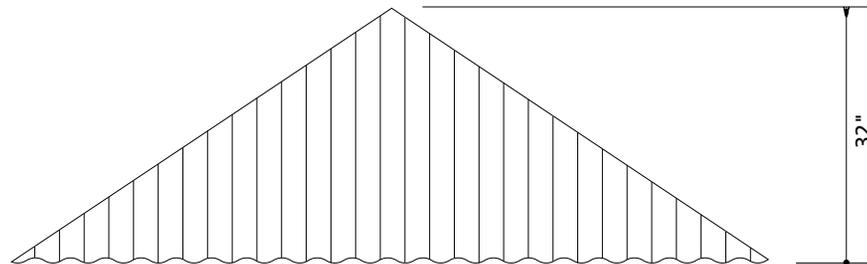
Aluminum Fabrication



1-QU - 04 36" 48" Upright Tri-Sided Elevation

Scale: 1/8" = 1'-0"

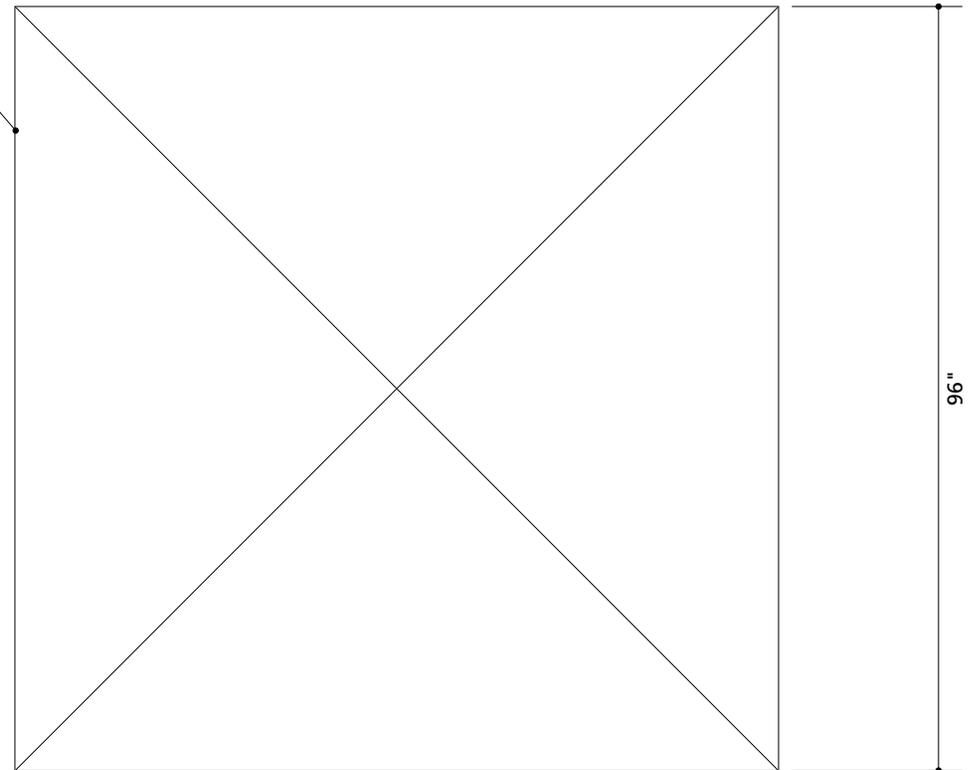
3-QU - 04



2-QU - 04 Roof Cap Elevation

Scale: 1/2" = 1'-0"

3/16" Corrugated Sheet Aluminum

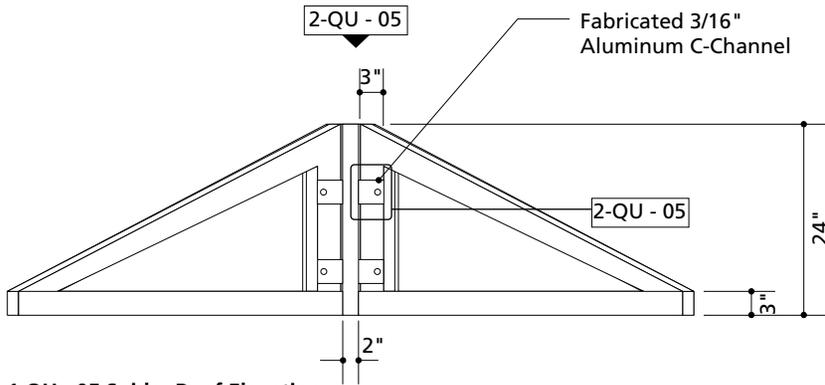


3-QU - 04 Roof Cap Plan View

Scale: 1/2" = 1'-0"

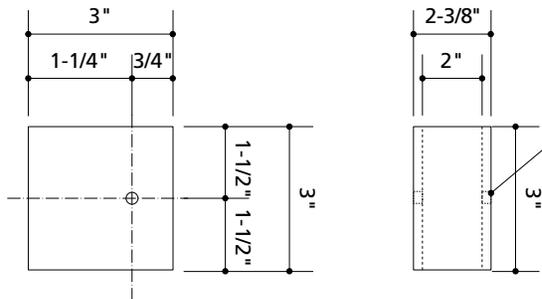
Upright Quad Series (UPQU) with Roof

Aluminum Fabrication (Continued)



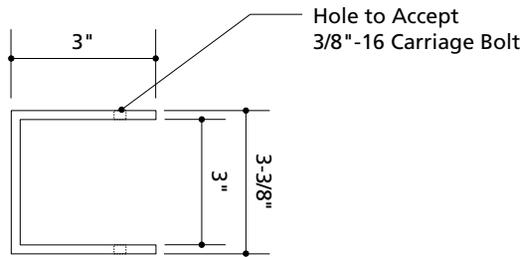
1-QU - 05 Spider Roof Elevation

Scale: 1/2" = 1'-0"



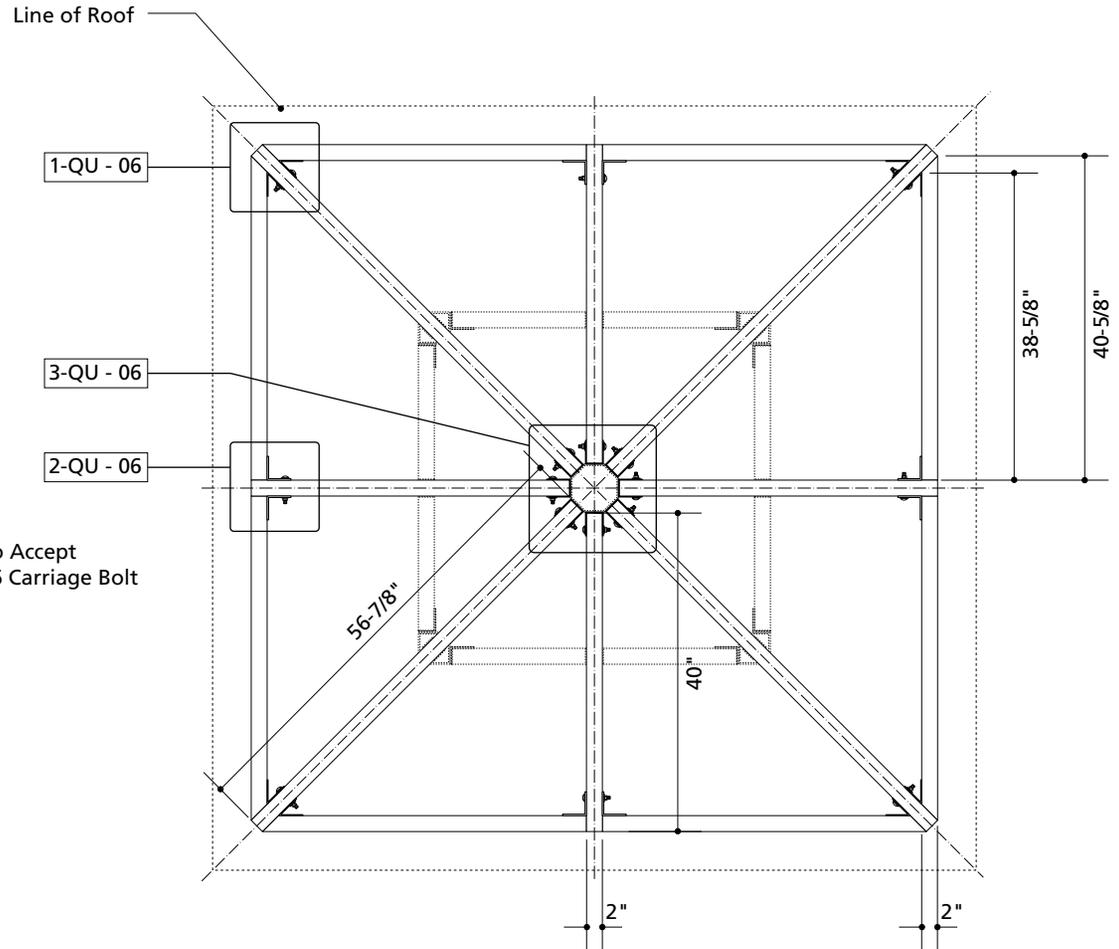
1-QU - 05 C-Channel Front and Side Elevations

Scale: 3" = 1'-0"



1-QU - 05 C-Channel Plan View

Scale: 3" = 1'-0"

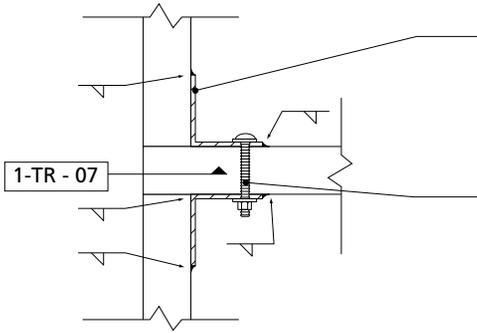


2-QU - 05 Spider Roof Plan View

Scale: 1/2" = 1'-0"

Upright Quad Series (UPQU) with Roof

Aluminum Fabrication (Continued)

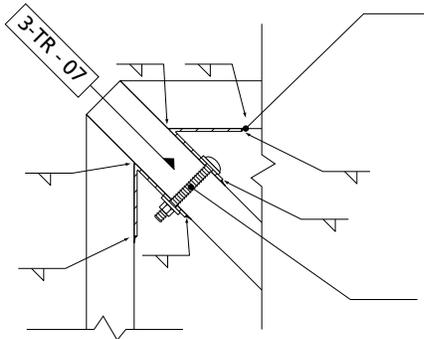


Fabricated 3/16" Aluminum Angle Clip Welded to 2" x 3" Aluminum Beam

Stainless Steel 3/8"-16 x 3" Round Head Carriage Bolt, with Matching Spring Washer, Washer and Hex Head Bolt

1-QU - 06 Connection Detail at Middle

1-1/2" = 1'-0"

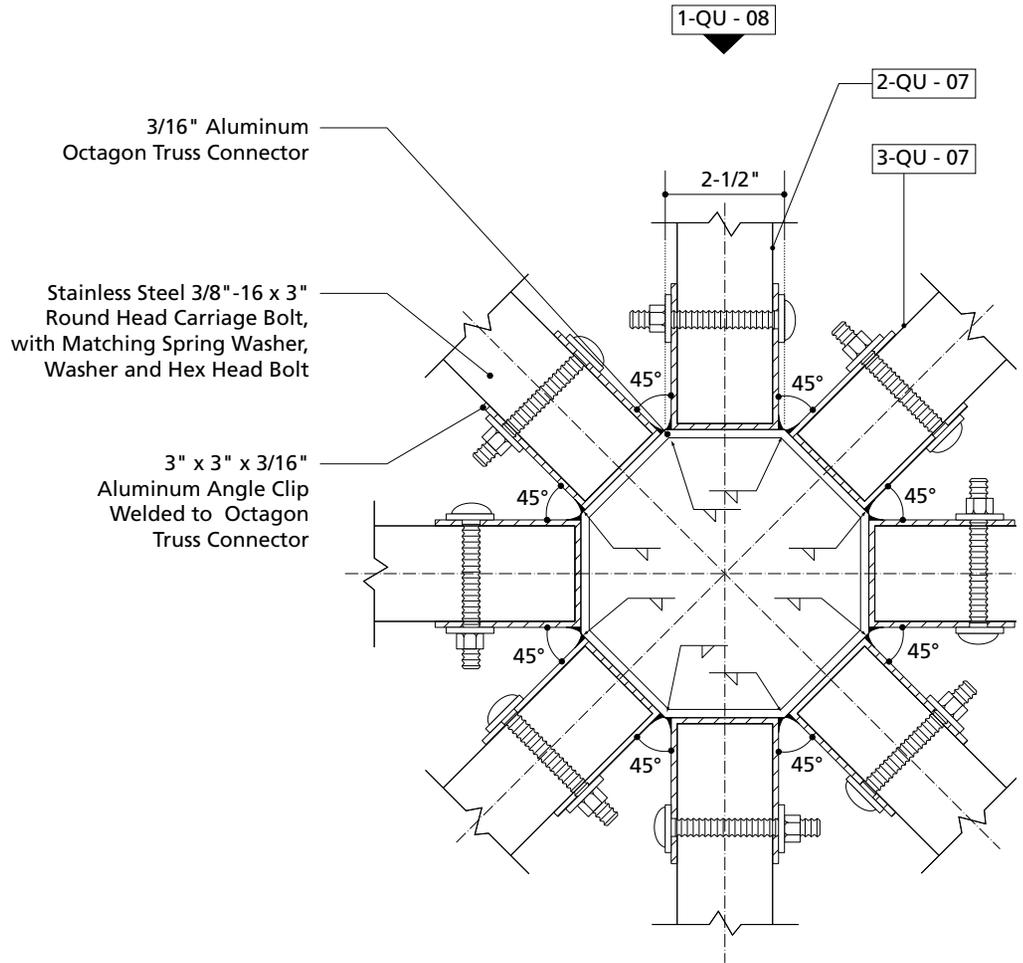


Fabricated 3/16" Aluminium Angle Clip Welded to 2" x 3" Aluminum Beam

Stainless Steel 3/8"-16 x 3" Round Head Carriage Bolt, with Matching Spring Washer, Washer and Hex Head Bolt

2-QU - 06 Connection Detail at Corner

1-1/2" = 1'-0"



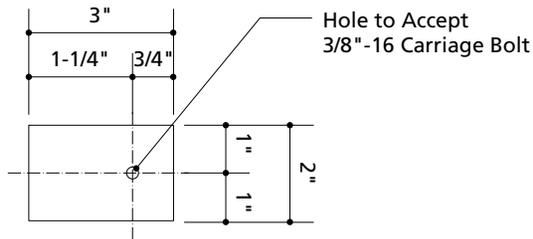
3-QU - 06 Connection Detail at Center

3" = 1'-0"

Upright Quad Series (UPQU) with Roof

Aluminum Fabrication (Continued)

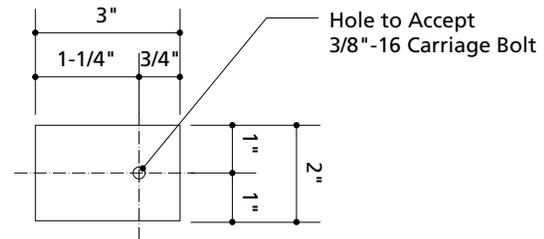
2-TR - 07



1-TR - 07 Angle Clip Front Elevation

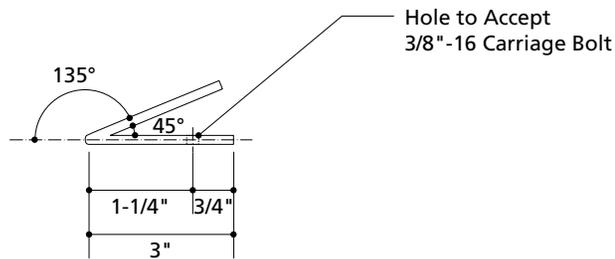
Scale: 3" = 1'-0"

4-TR - 07



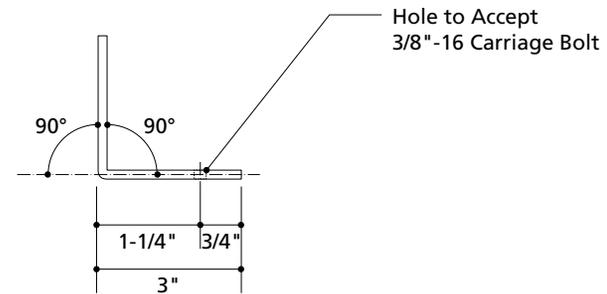
3-TR - 07 Angle Clip Front Elevation

Scale: 3" = 1'-0"



2-TR - 07 Angle Clip Plan View

Scale: 3" = 1'-0"

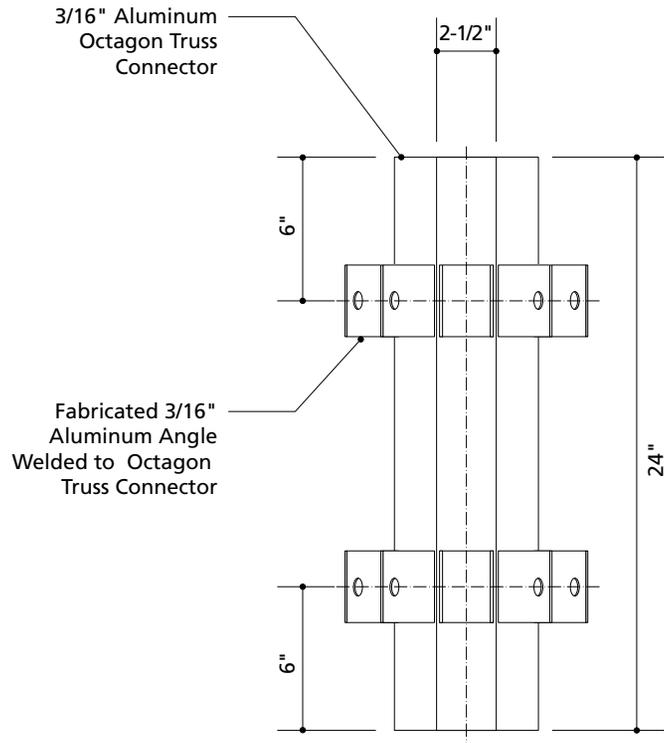


4-TR - 07 Angle Clip Plan View

Scale: 3" = 1'-0"

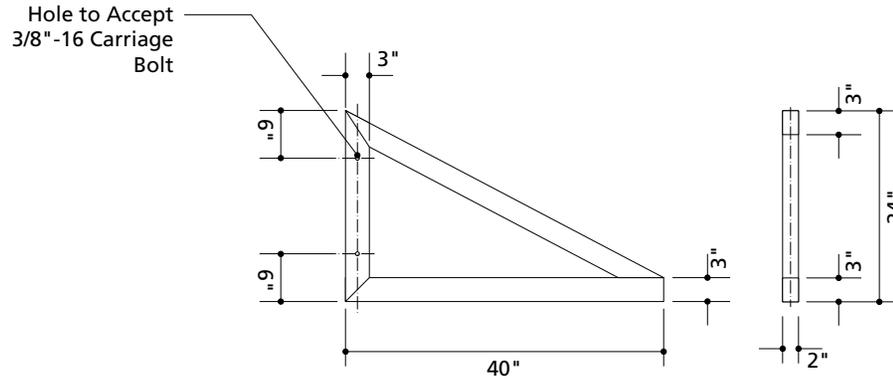
Upright Quad Series (UPQU) with Roof

Aluminum Fabrication (Continued)



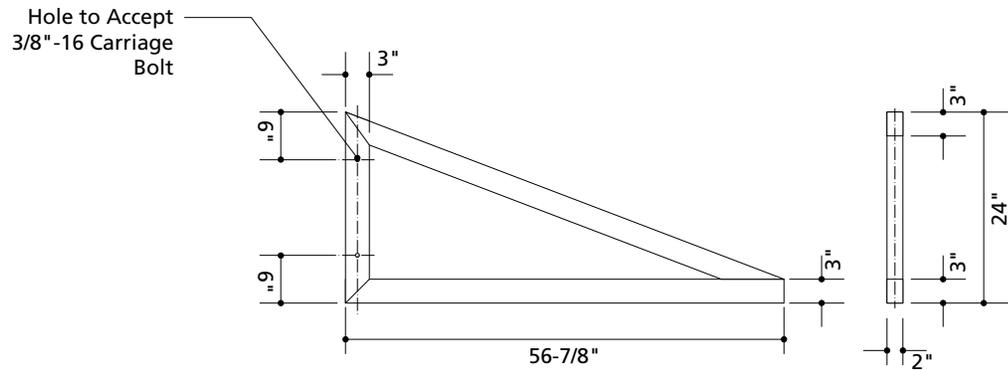
1-QU - 08 Octagon Truss Connector Elevation

1-1/2" = 1'-0"



2-QU - 08 Roof Structure Front and Side Elevations

1/2" = 1'-0"

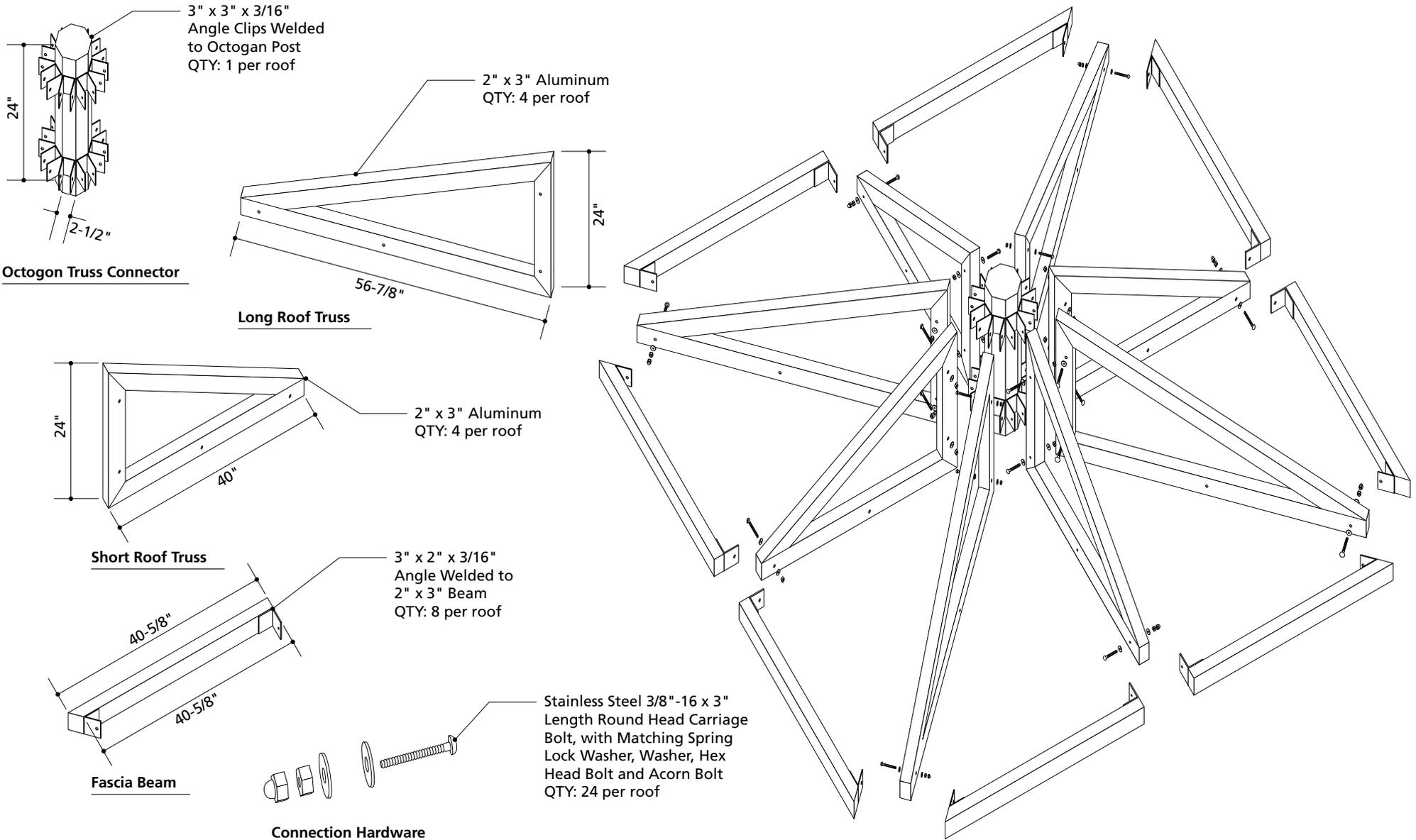


3-QU - 08 Roof Structure Front and Side Elevations

1/2" = 1'-0"

Upright Quad Series (UPQU) with Roof

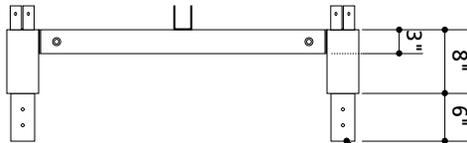
Aluminum Fabrication (Continued)



Upright Quad Series (UPQU) with Roof

Aluminum Fabrication (Continued)

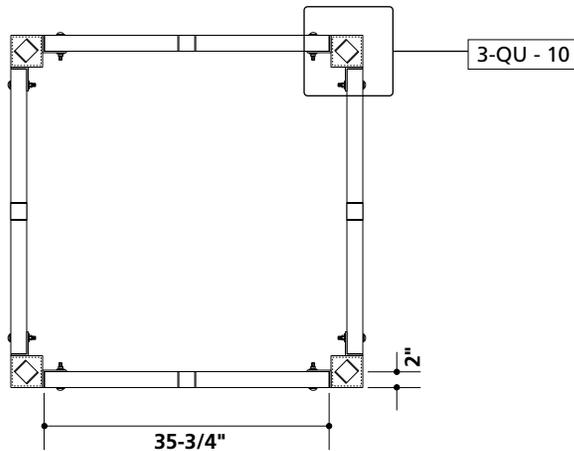
2-QU - 10



1-QU - 10 Roof Base Elevation

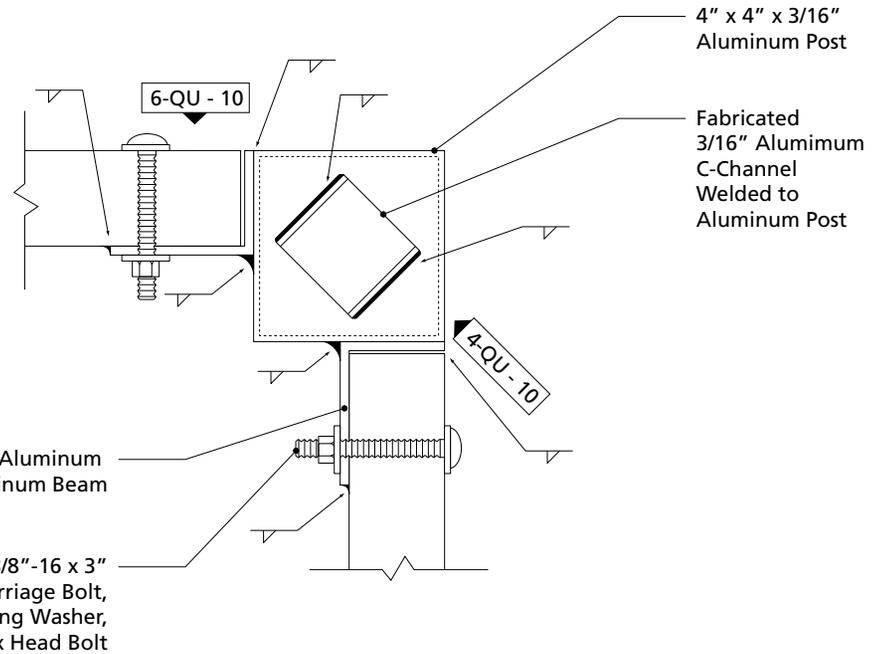
Scale: 1/2" = 1'

Note: Post Bottom is Undercut to Slide Into Upright Posts



2-QU - 10 Roof Base Plan View

Scale: 1/2" = 1'

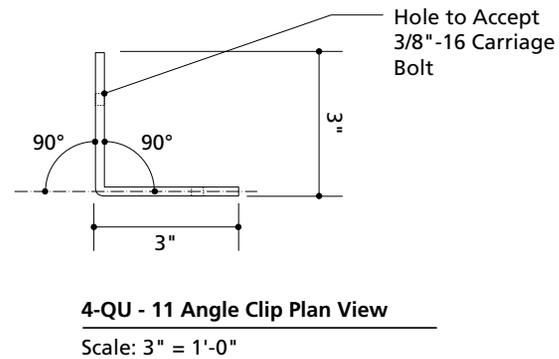
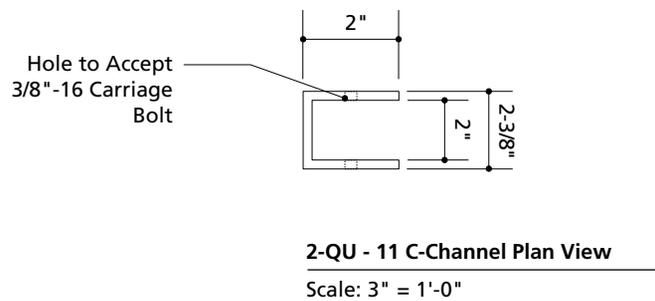
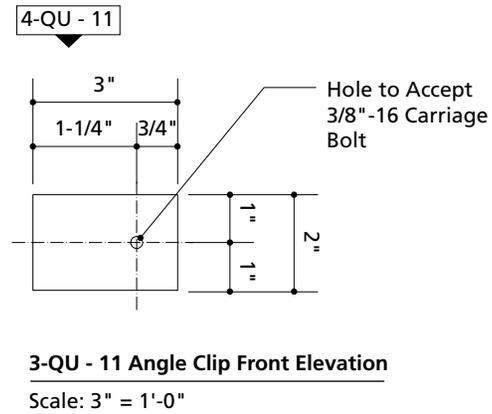
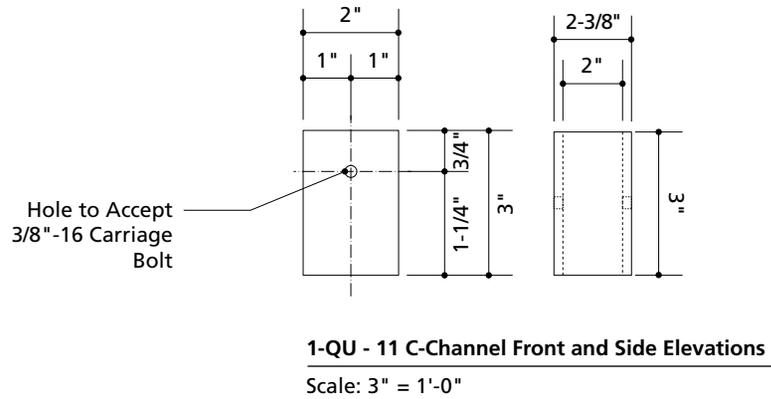


3-QU - 10 Connection Detail

Scale: 3" = 1'

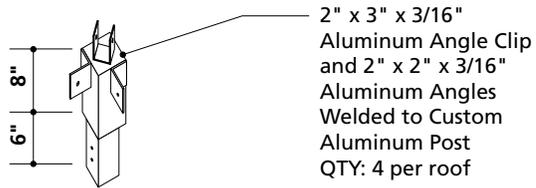
Upright Quad Series (UPQU) with Roof

Aluminum Fabrication (Continued)



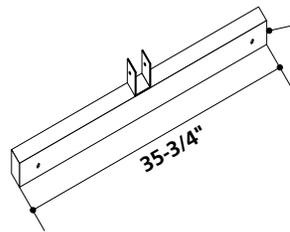
Upright Quad Series (UPQU) with Roof

Aluminum Fabrication (Continued)



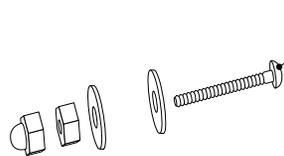
2" x 3" x 3/16"
Aluminum Angle Clip
and 2" x 2" x 3/16"
Aluminum Angles
Welded to Custom
Aluminum Post
QTY: 4 per roof

Post Extender



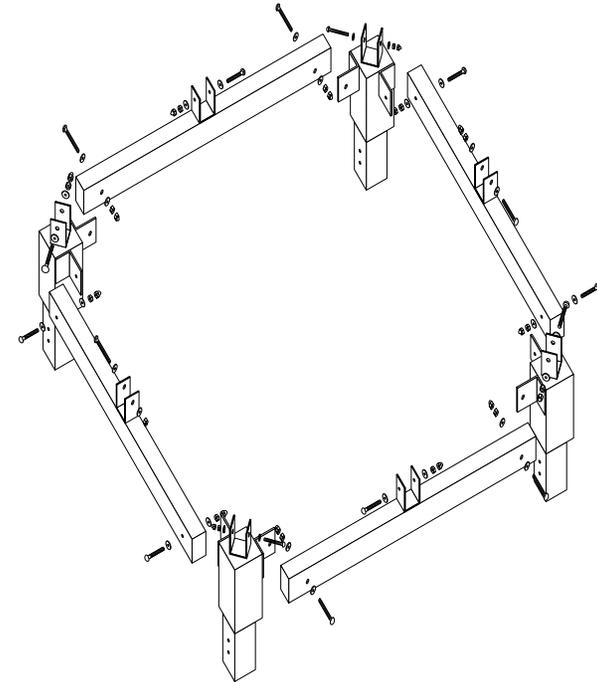
2" x 3" x 3/16" Aluminum
Angle Clip Welded to
2" x 3" Aluminum Beam
QTY: 4 per roof

Fascia Beam

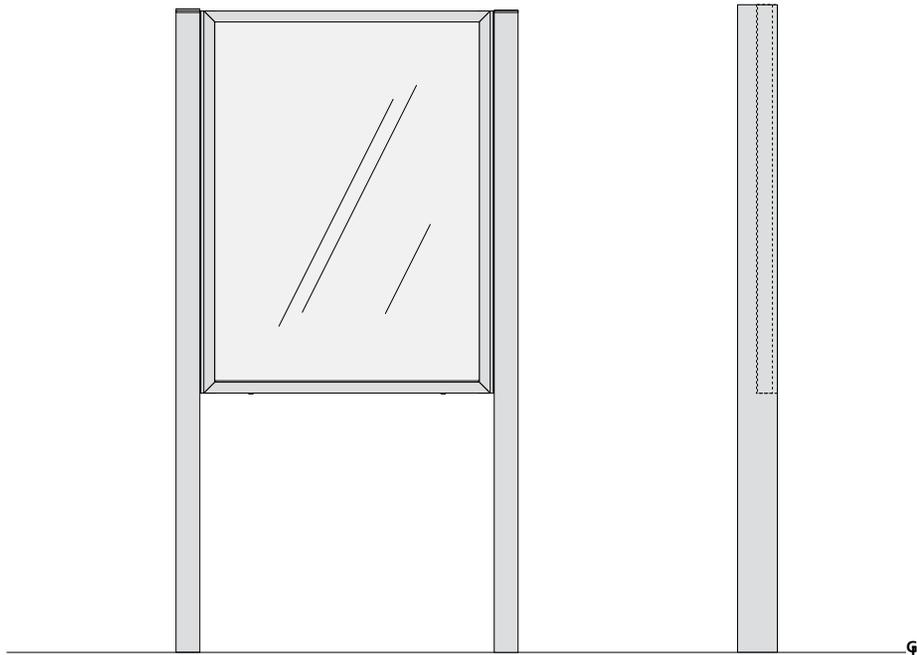
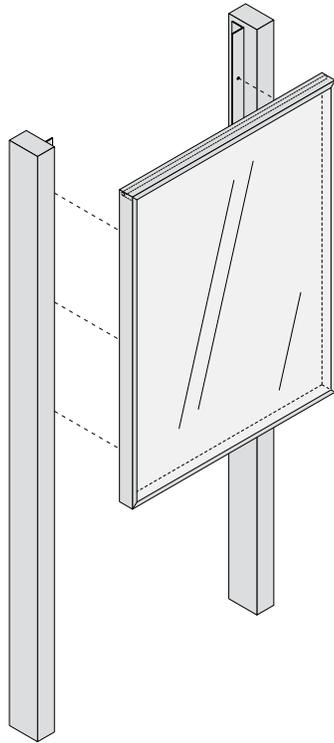


Stainless Steel
3/8"-16 x 3" Length
Round Head Carriage Bolt,
Washers, Hex Head Bolt
and Acorn Bolt
QTY: 16 per roof

Connection Hardware

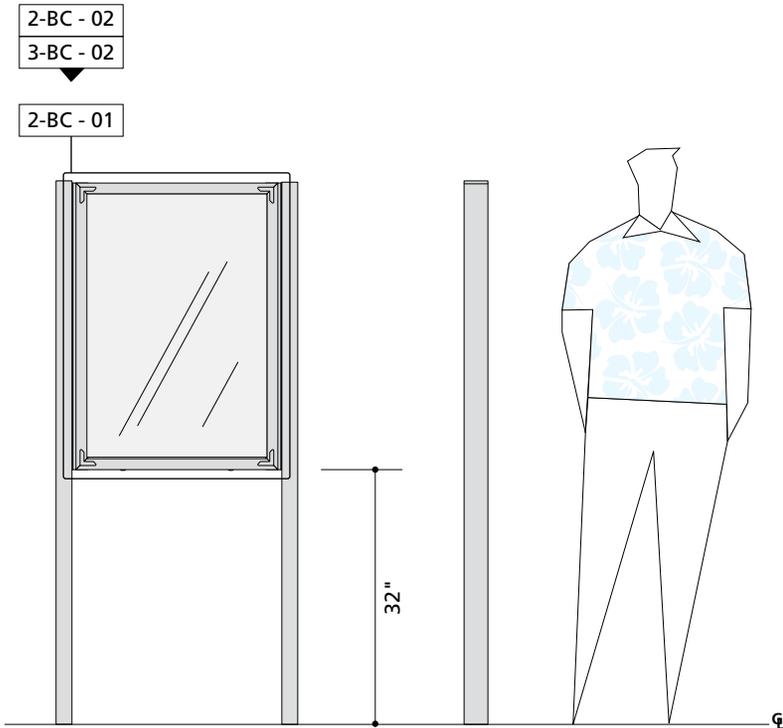


Bulletin Case with Posts (BC)



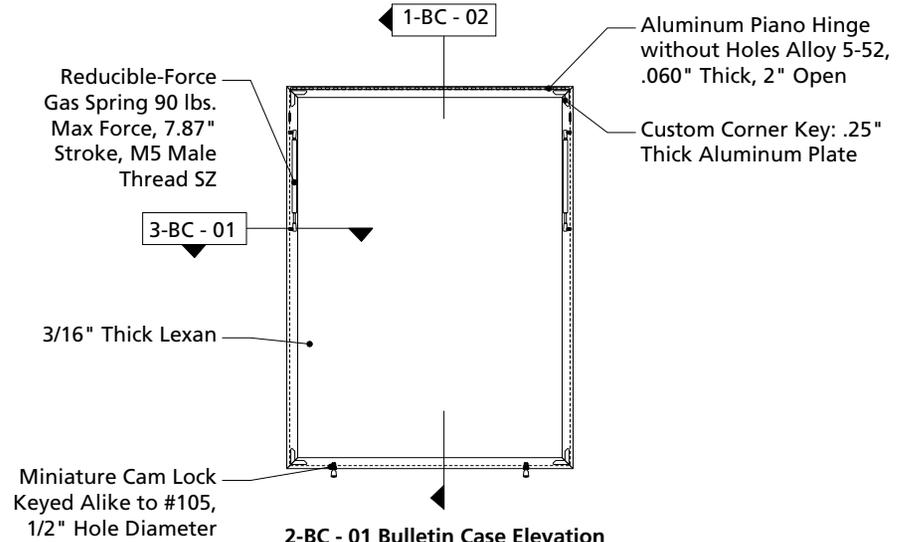
Bulletin Case with Posts (BC)

Aluminum Fabrication



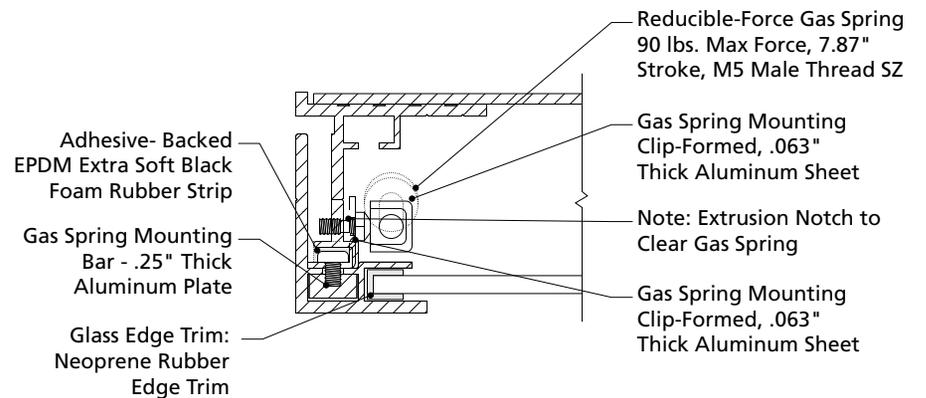
1-BC - 01 Bulletin Case Elevation

Scale: 1/2" = 1'-0"



2-BC - 01 Bulletin Case Elevation

Scale: 1/2" = 1'-0"

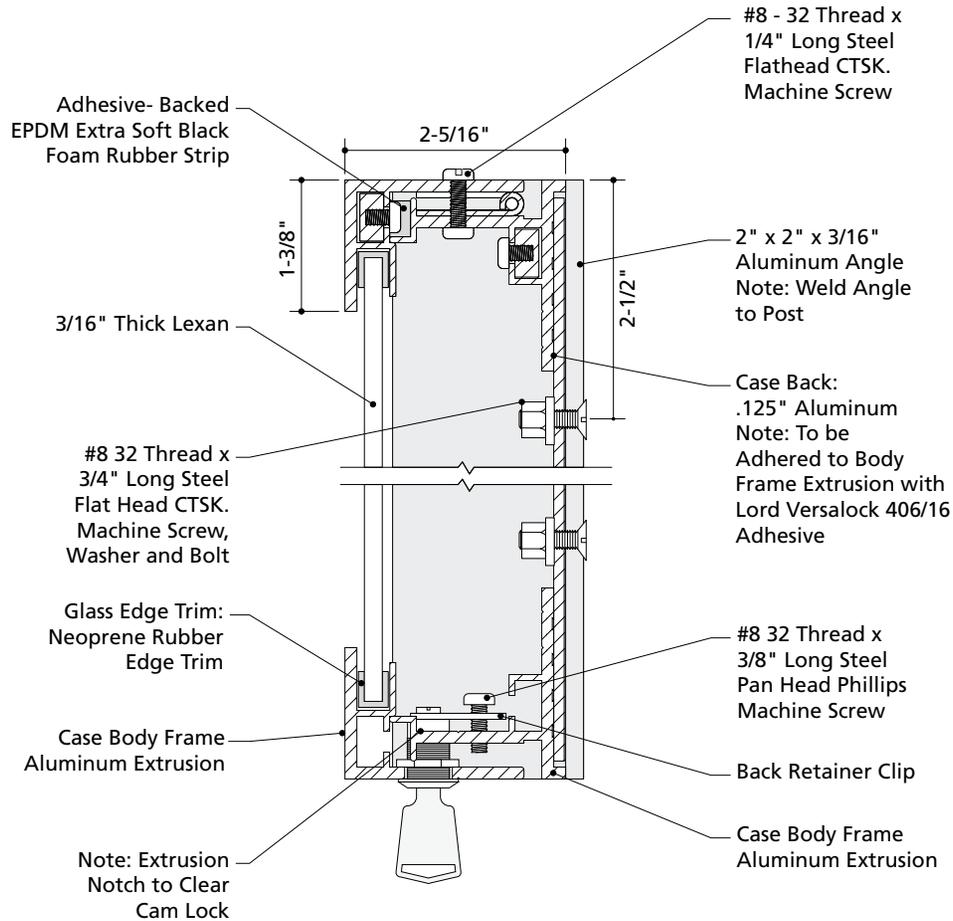


3-BC - 01 Bulletin Case Section

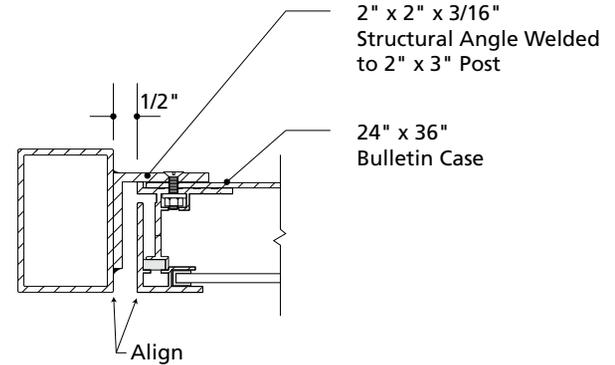
Scale: 1/2 Actual Size

Bulletin Case with Posts (BC)

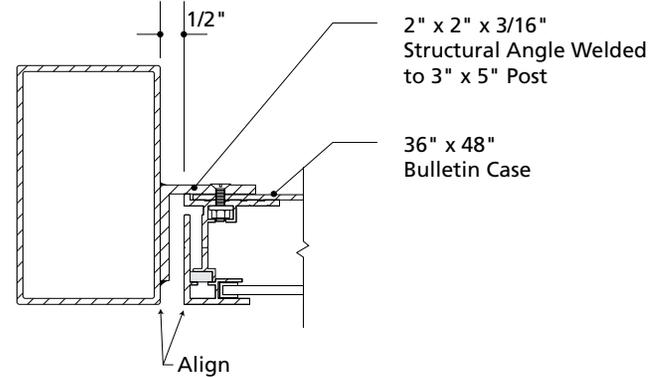
Aluminum Fabrication (Continued)



1-BC - 02 Bulletin Case Section
Scale: 1/2 Actual Size

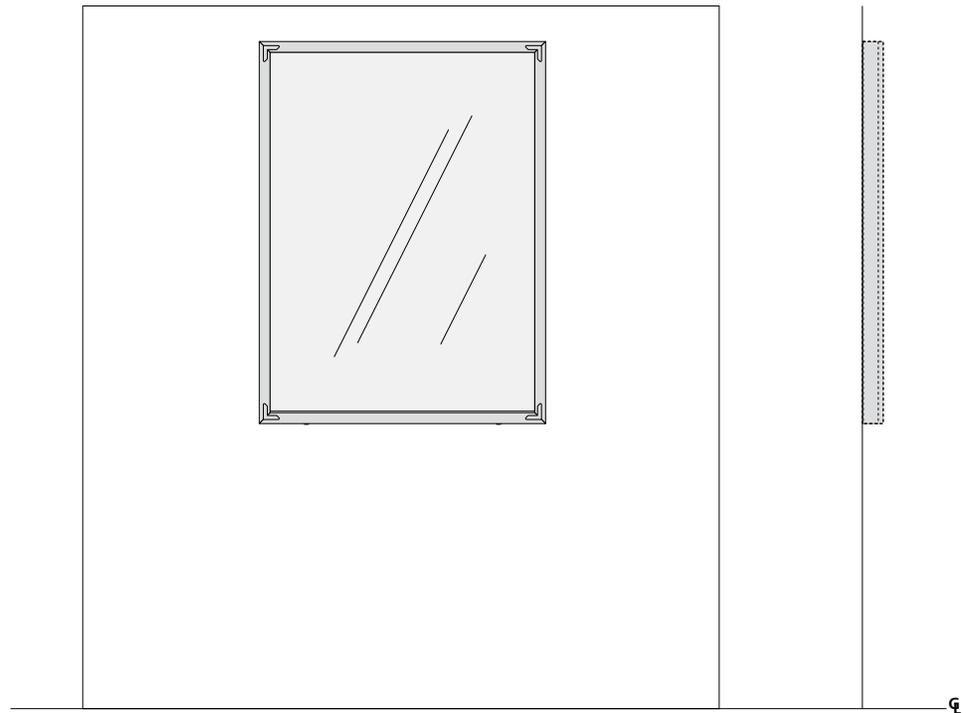
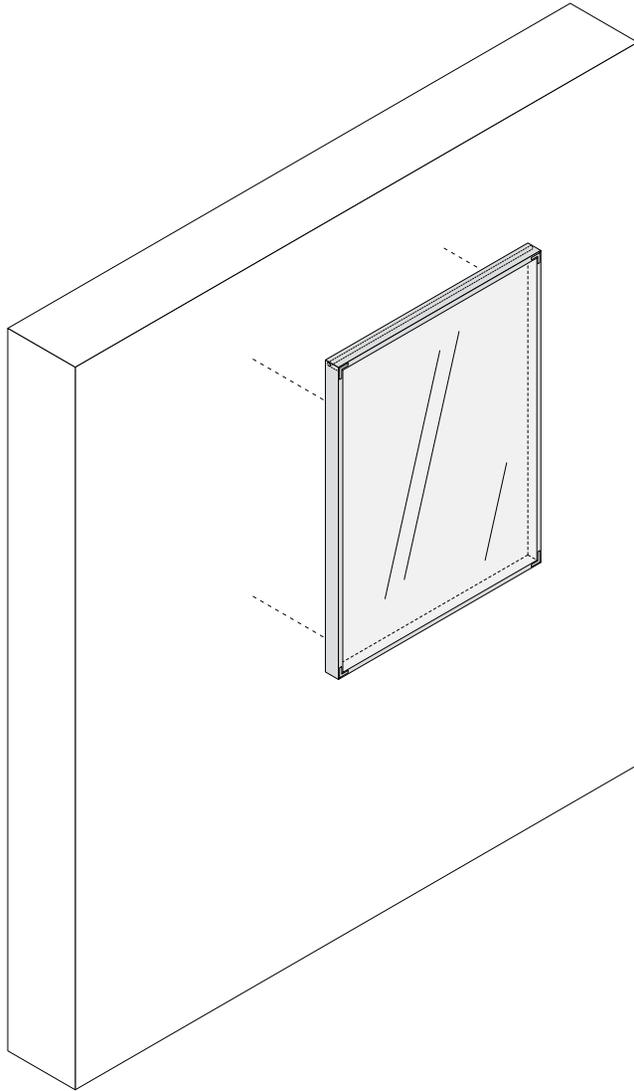


2-BC - 02 24" x 36" Bulletin Case, Plan View
Scale: 3" = 1'-0"



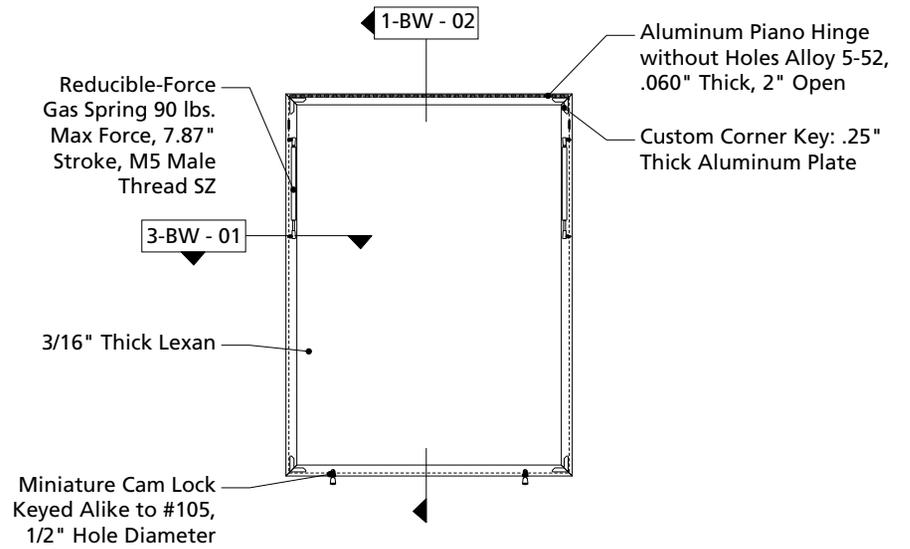
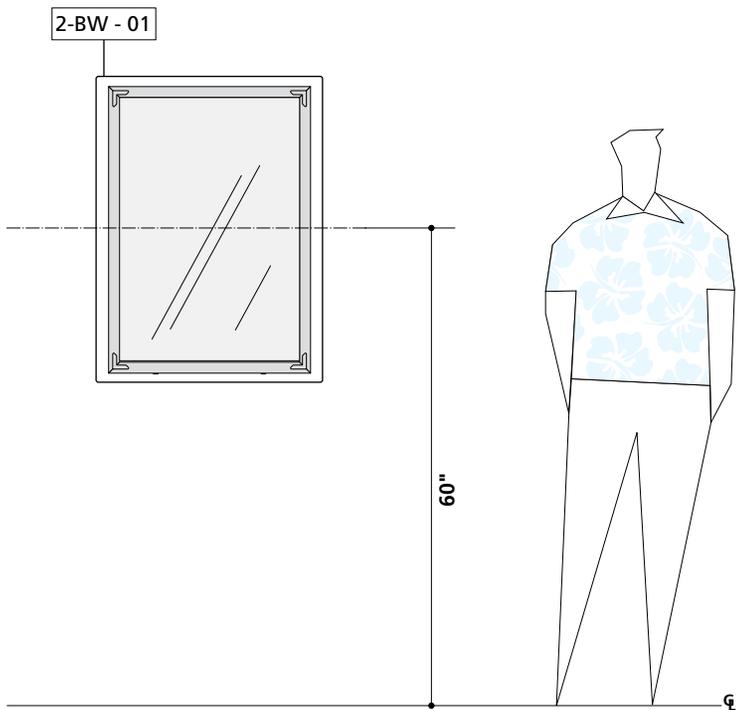
3-BC - 02 36" x 48" Bulletin Case, Plan View
Scale: 3" = 1'-0"

Bulletin Case Wall Mount (BC)



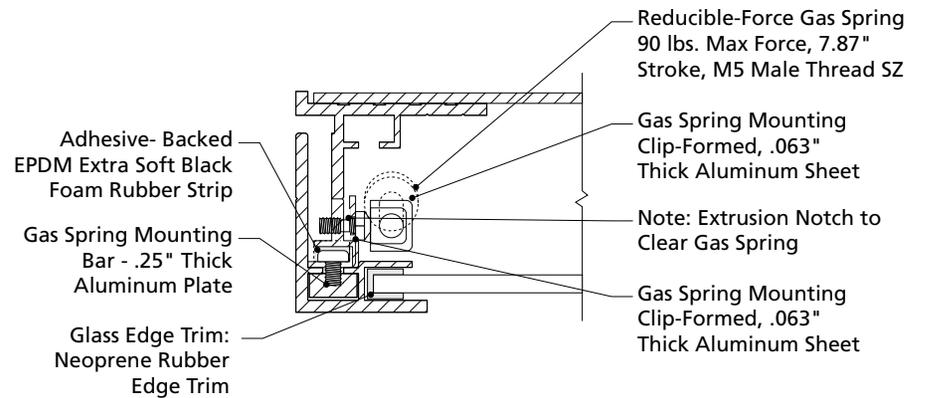
Bulletin Case Wall Mount (BC)

Aluminum Fabrication



2-BW - 01 Bulletin Case Elevation

Scale: 1/2" = 1'-0"

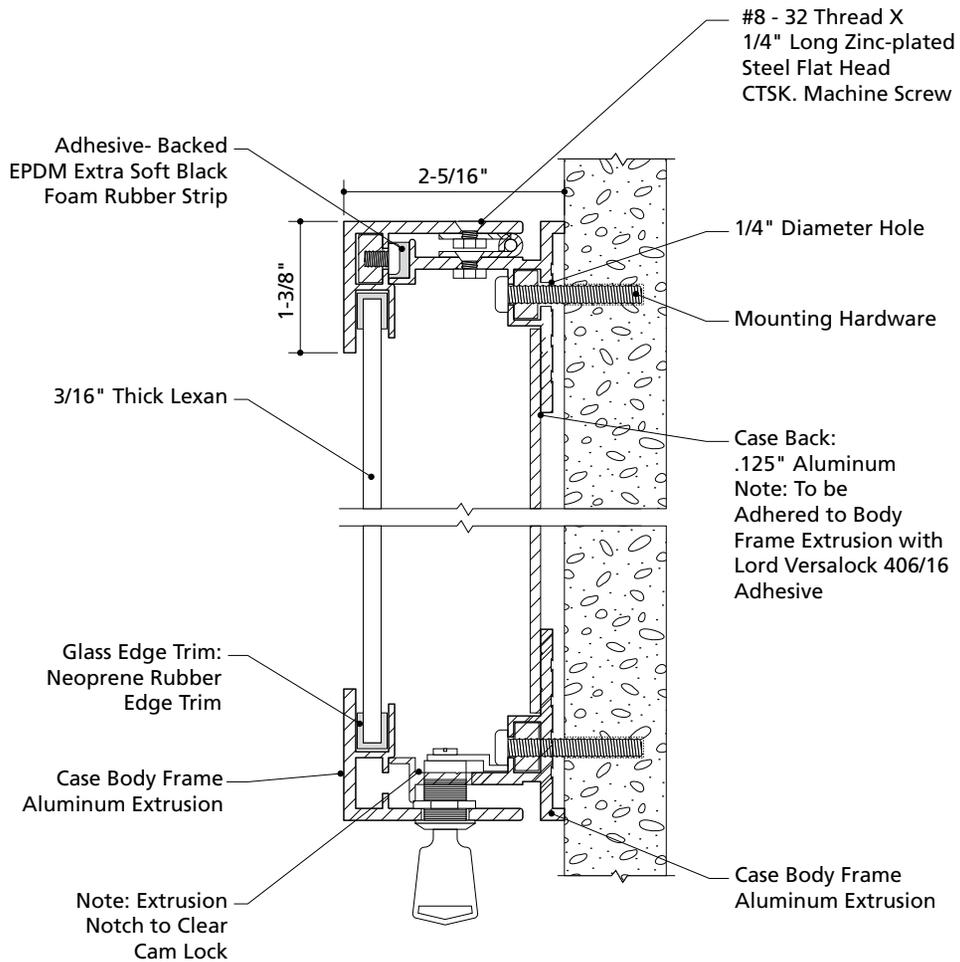


3-BW - 01 Bulletin Case Section

Scale: 1/2 Actual Size

Bulletin Case Wall Mount (BC)

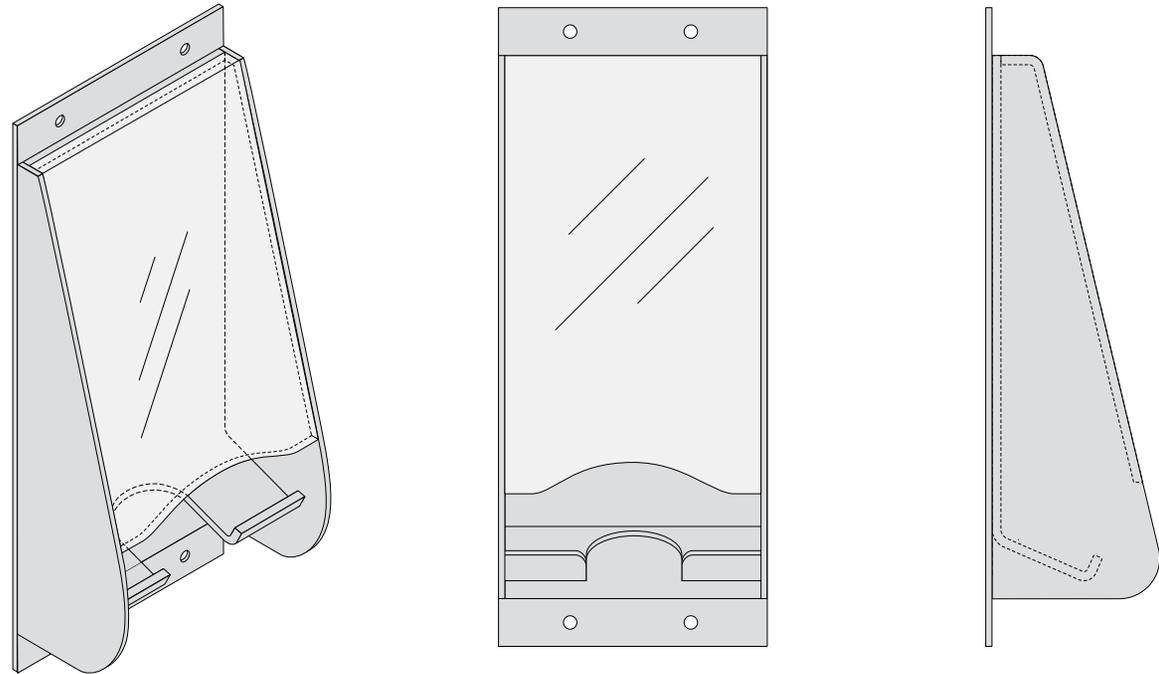
Aluminum Fabrication (Continued)



1-BW - 02 Bulletin Case Section

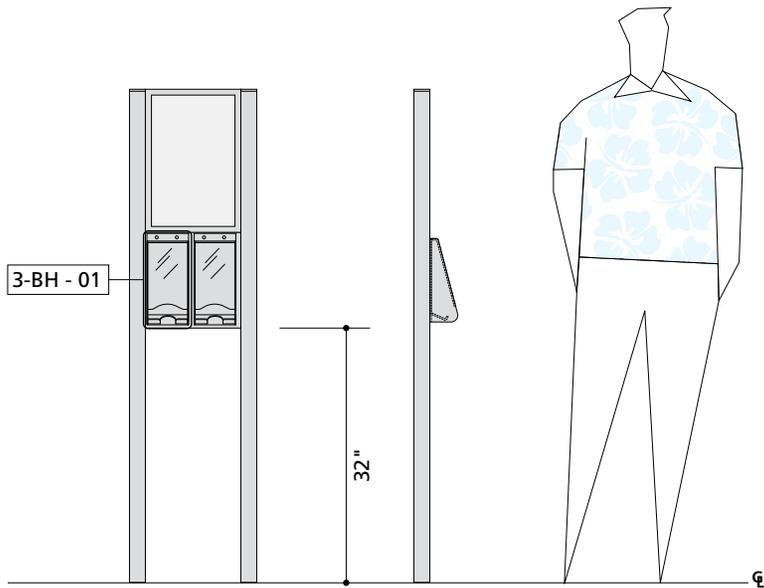
Scale: 1/2 Actual Size

Brochure Holder (BH)



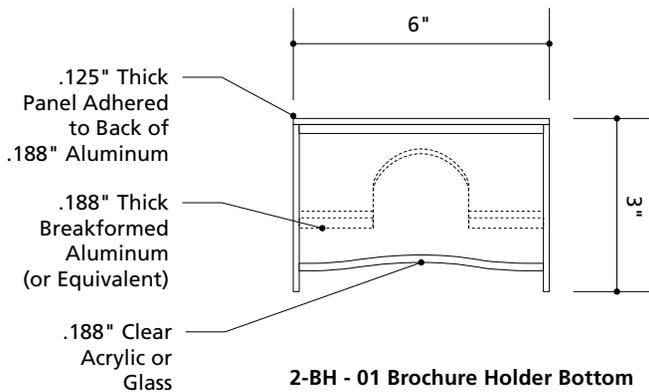
Brochure Holder (BH)

Fabrication Using Accessory Add-On Panel Mounting



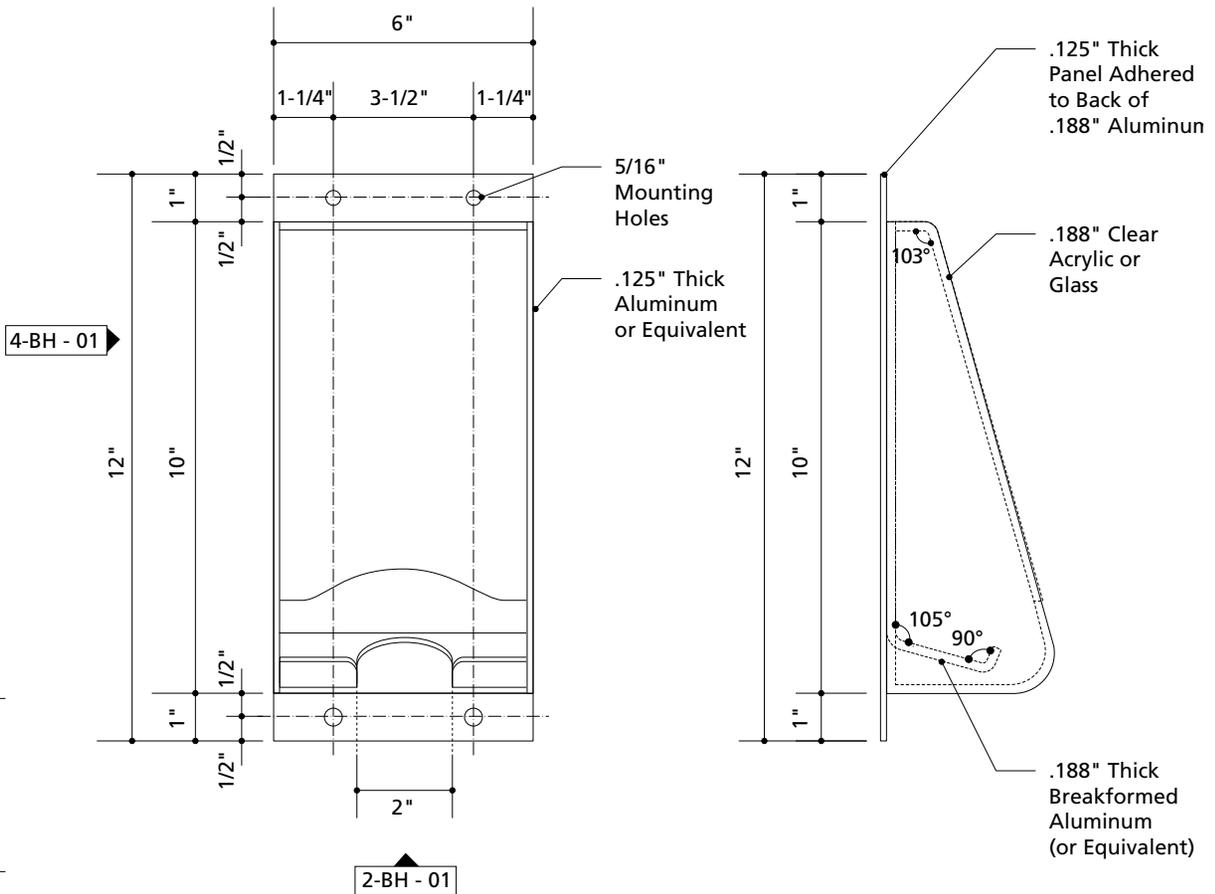
1-BH - 01 UP with Brochure Holder Elevation

Scale: 1/2" = 1'-0"



2-BH - 01 Brochure Holder Bottom

Scale: 3" = 1'-0"



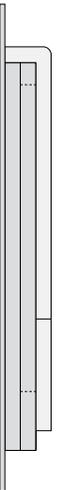
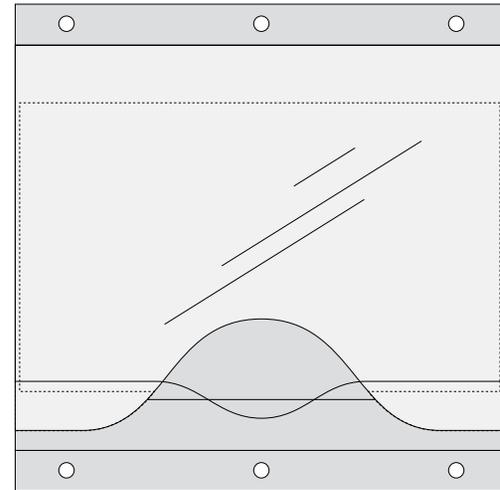
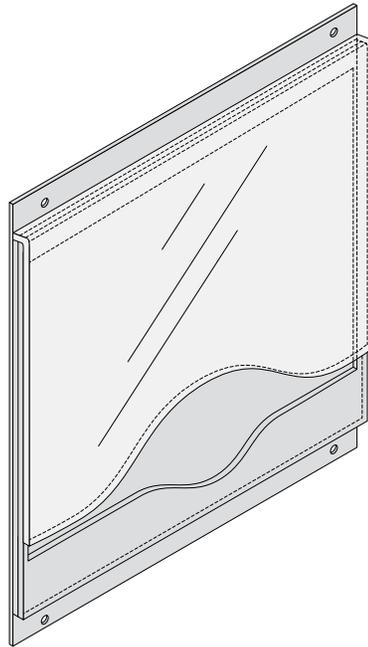
3-BH - 01 Front Elevation

Scale: 3" = 1'-0"

4-BH - 01 Side Elevation

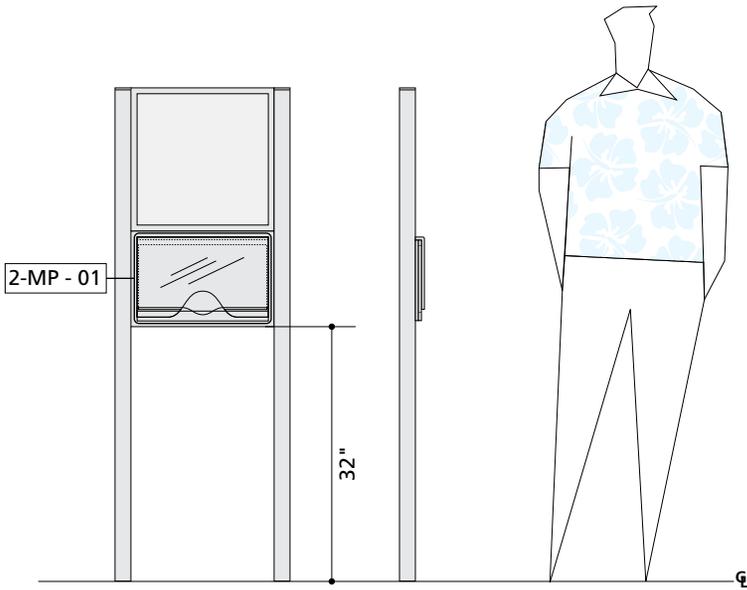
Scale: 3" = 1'-0"

Miscellaneous Posting (MP)



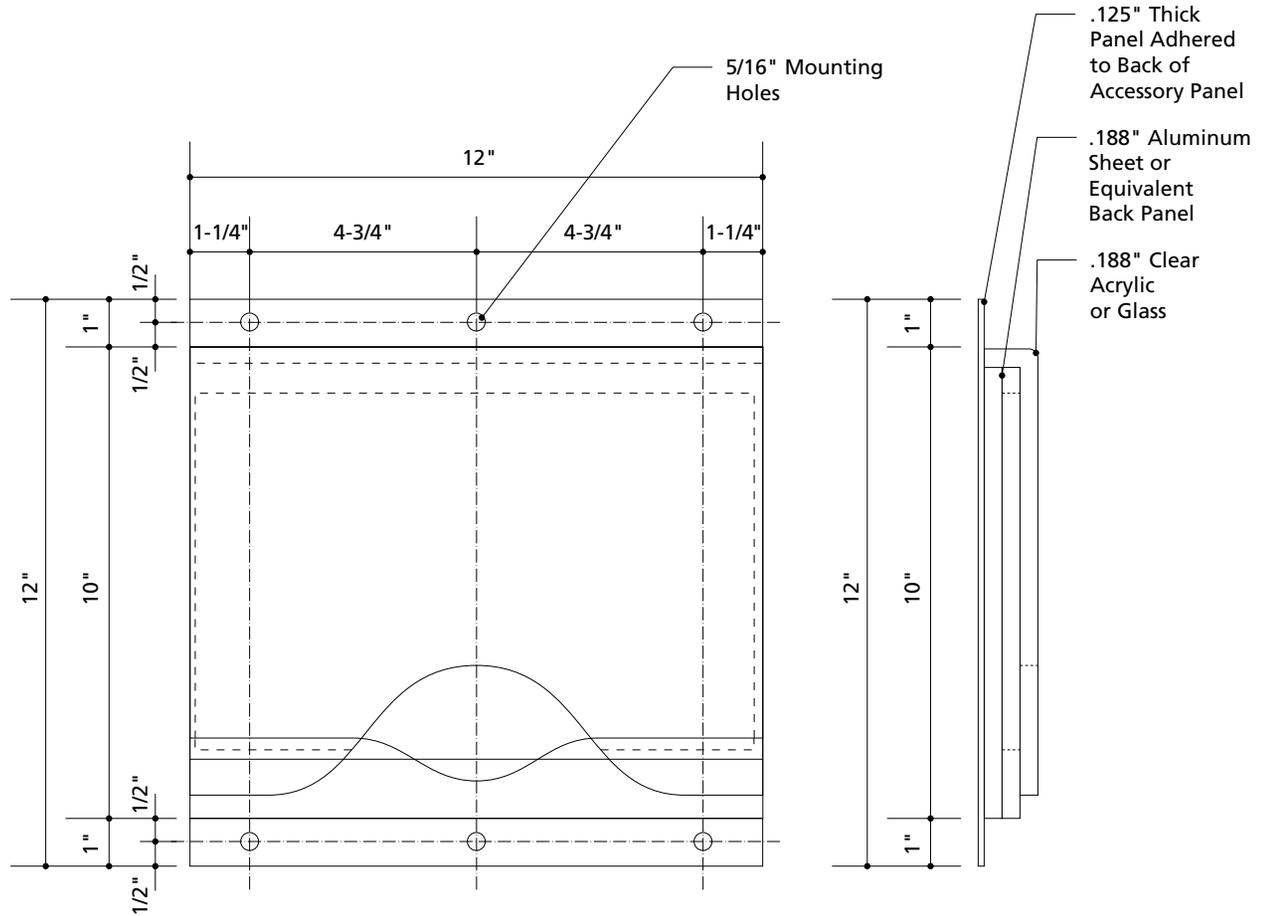
Miscellaneous Posting (MP)

Fabrication Using Accessory Add-On Panel Mounting



1-MP - 01 Upright with Miscellaneous Post Display

Scale: 1/2" = 1'-0"



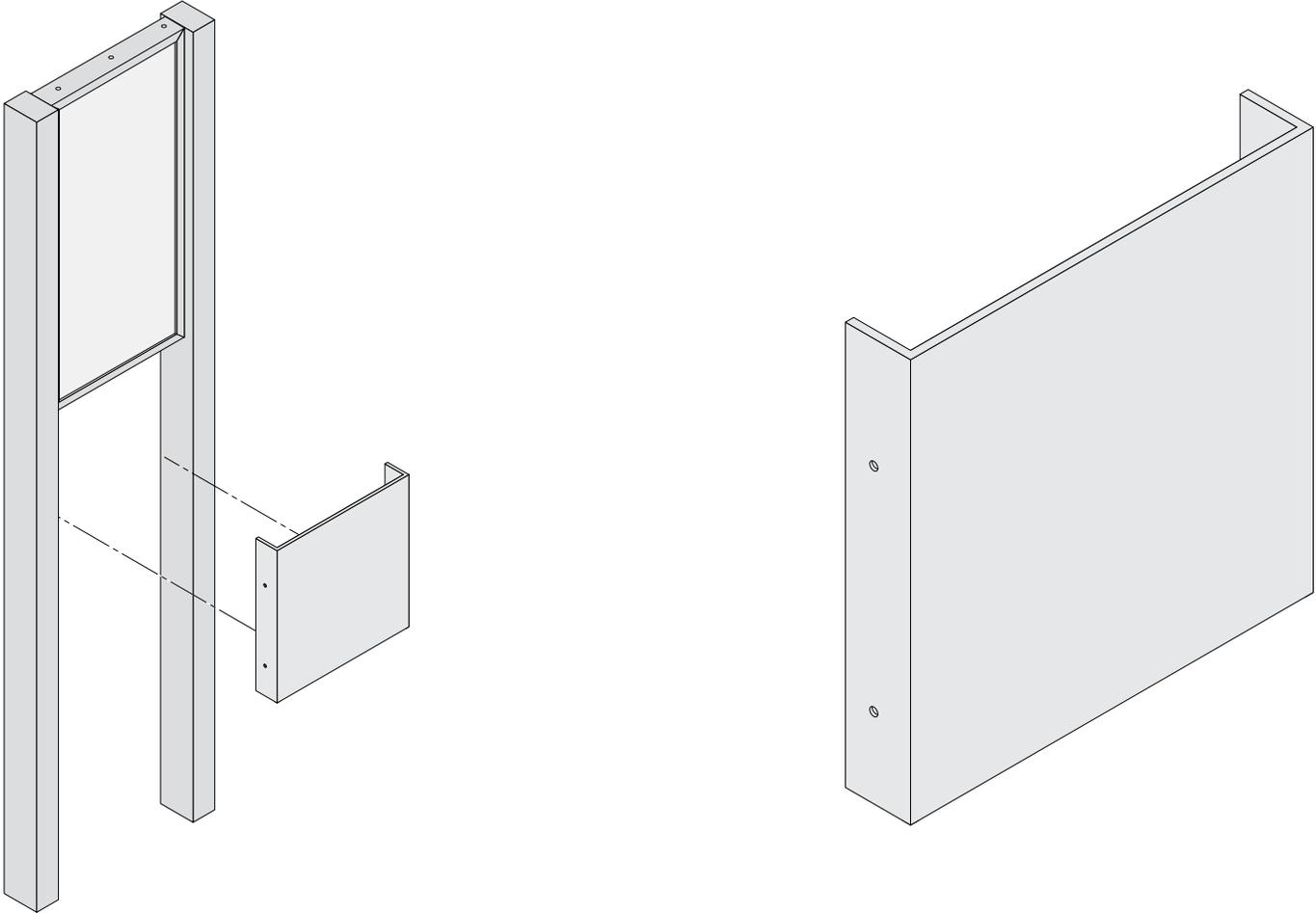
2-MP - 01 Front Elevation

Scale: 3" = 1'-0"

3-MP - 01 Side Elevation

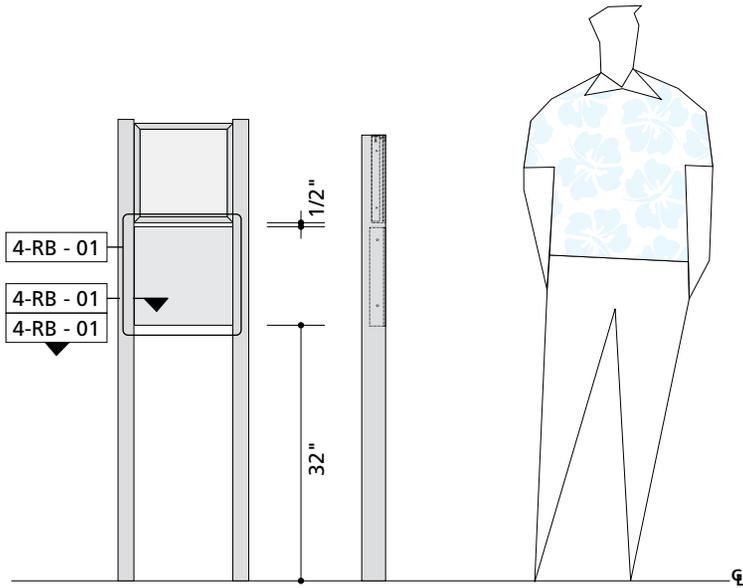
Scale: 3" = 1'-0"

Accessory Add-On Panel



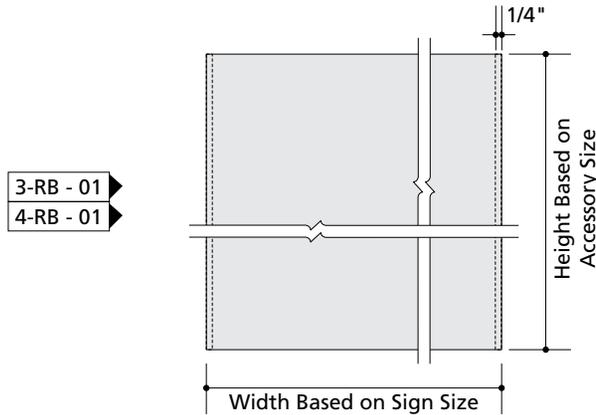
Accessory Add-On Panel

Aluminum and Steel Fabrication



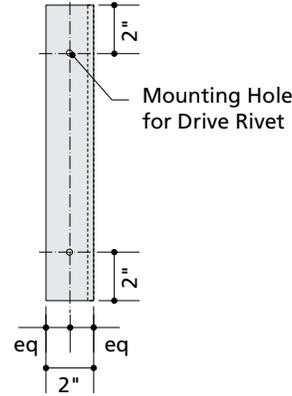
1-MP - 01 Upright with Accessory Add On Panel Elevation

Scale: 1/2" = 1'-0"



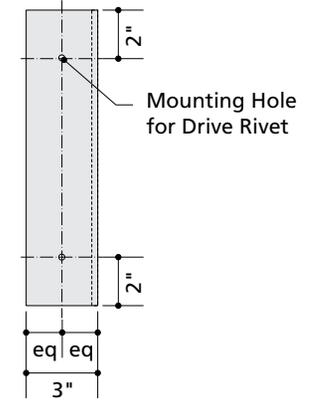
2-MP - 01 Front Elevation

Scale: 1-1/2" = 1'-0"



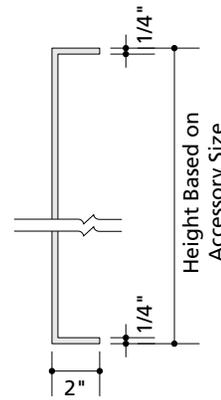
3-MP - 01 Side Elevation (2" x 2" Post)

Scale: 1-1/2" = 1'-0"



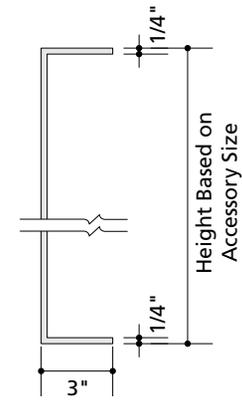
4-MP - 01 Side Elevation (2" x 3" Post)

Scale: 1-1/2" = 1'-0"



5-MP - 01 Plan View (2" x 2" Post)

Scale: 1-1/2" = 1'-0"

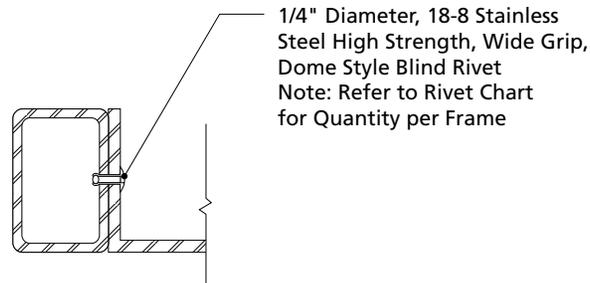


6-MP - 01 Plan View (2" x 3" Post)

Scale: 1-1/2" = 1'-0"

Accessory Add-On Panel

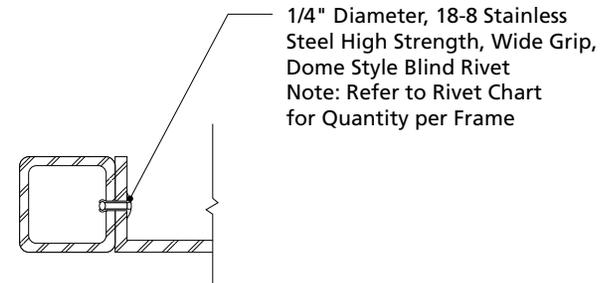
Aluminum and Steel Fabrication (Continued)



1/4" Diameter, 18-8 Stainless Steel High Strength, Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

1-MP - 01 2" x 2" Steel Post Connection

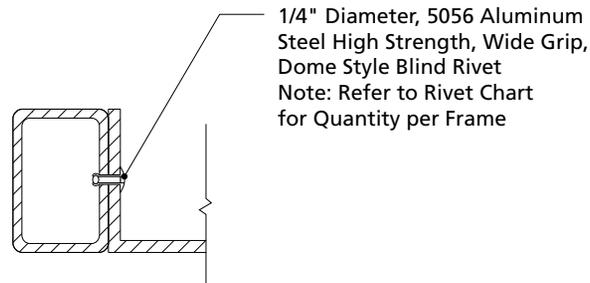
Scale: 3" = 1'-0"



1/4" Diameter, 18-8 Stainless Steel High Strength, Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

2-MP - 01 2" x 3" Steel Post Connection

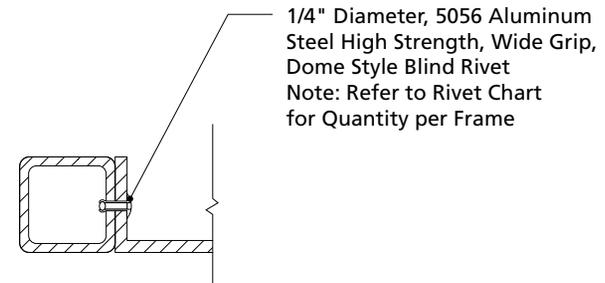
Scale: 3" = 1'-0"



1/4" Diameter, 5056 Aluminum Steel High Strength, Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

3-MP - 01 2" x 2" Aluminum Post Connection

Scale: 3" = 1'-0"



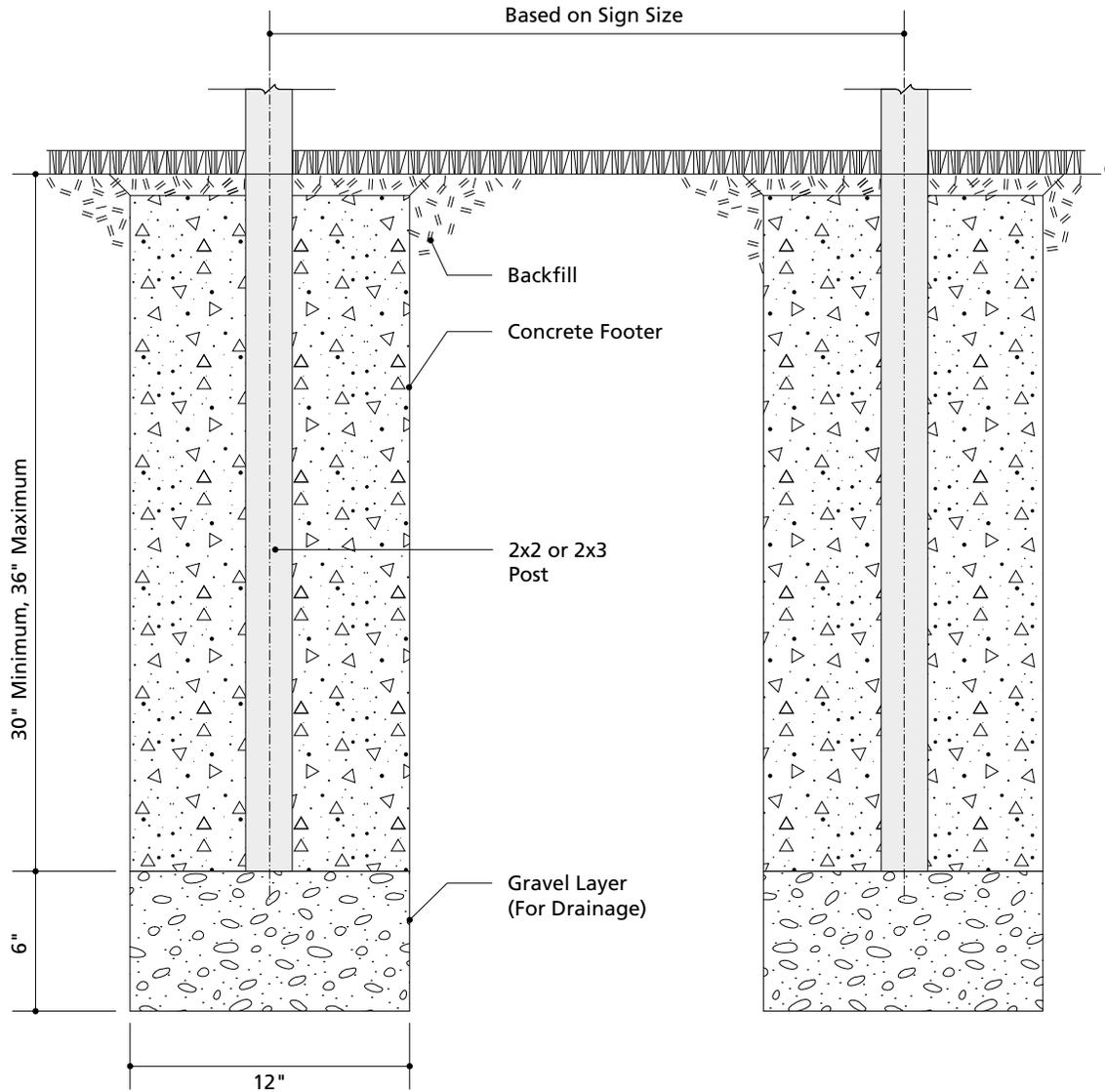
1/4" Diameter, 5056 Aluminum Steel High Strength, Wide Grip, Dome Style Blind Rivet
Note: Refer to Rivet Chart for Quantity per Frame

4-MP - 01 2" x 3" Aluminum Post Connection

Scale: 3" = 1'-0"

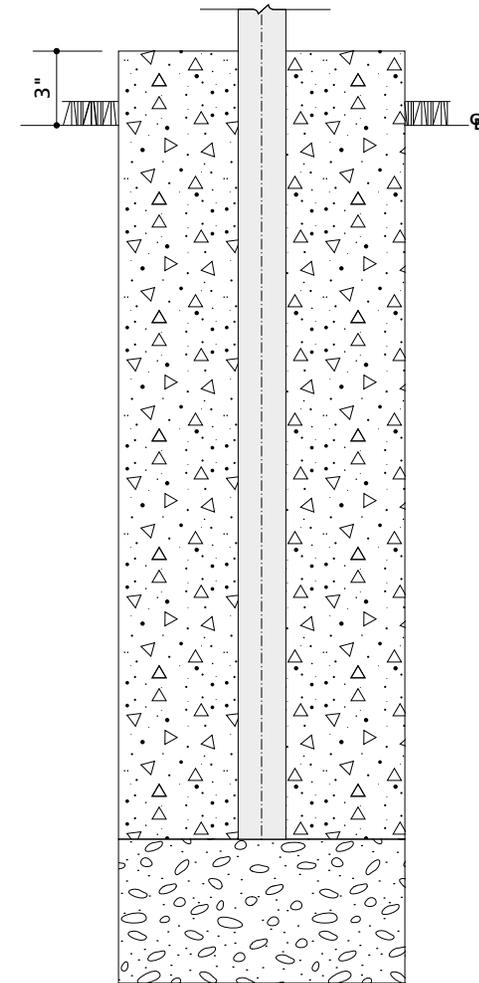
Installation Options

Direct Embedment (DE)



1-IO - 01 Direct Embedment

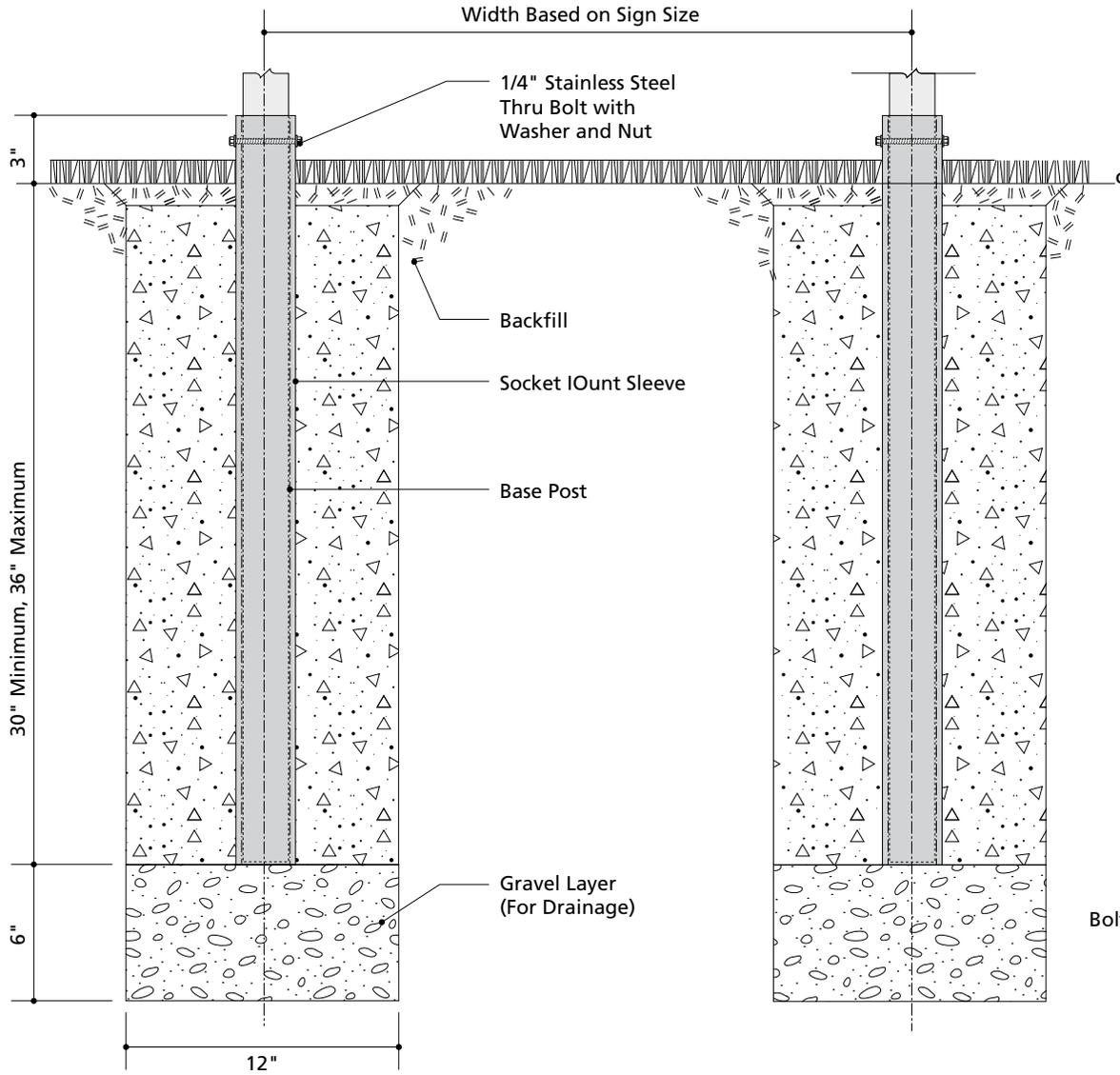
Scale: 1-1/2" = 1'-0"



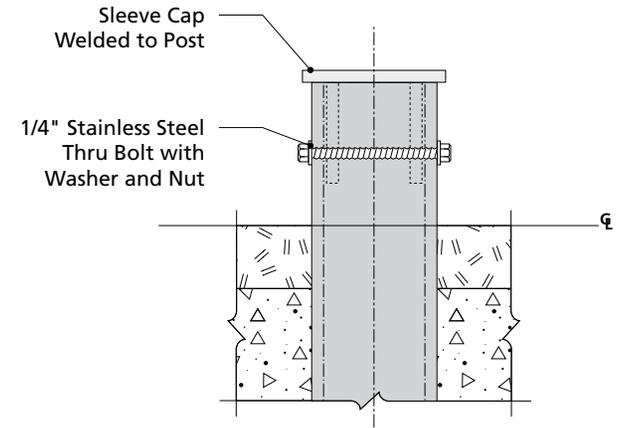
2-IO - 01 Direct Embedment with Mooring

Scale: 1-1/2" = 1'-0"

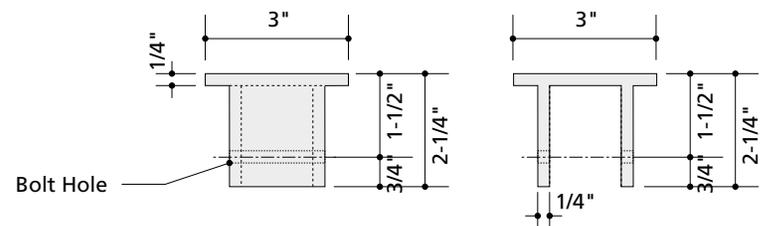
Direct Embedment with Socket Mount (SM)



1-IO - 02 Direct Embedment with Socket Mount
 Scale: 1-1/2" = 1'-0"

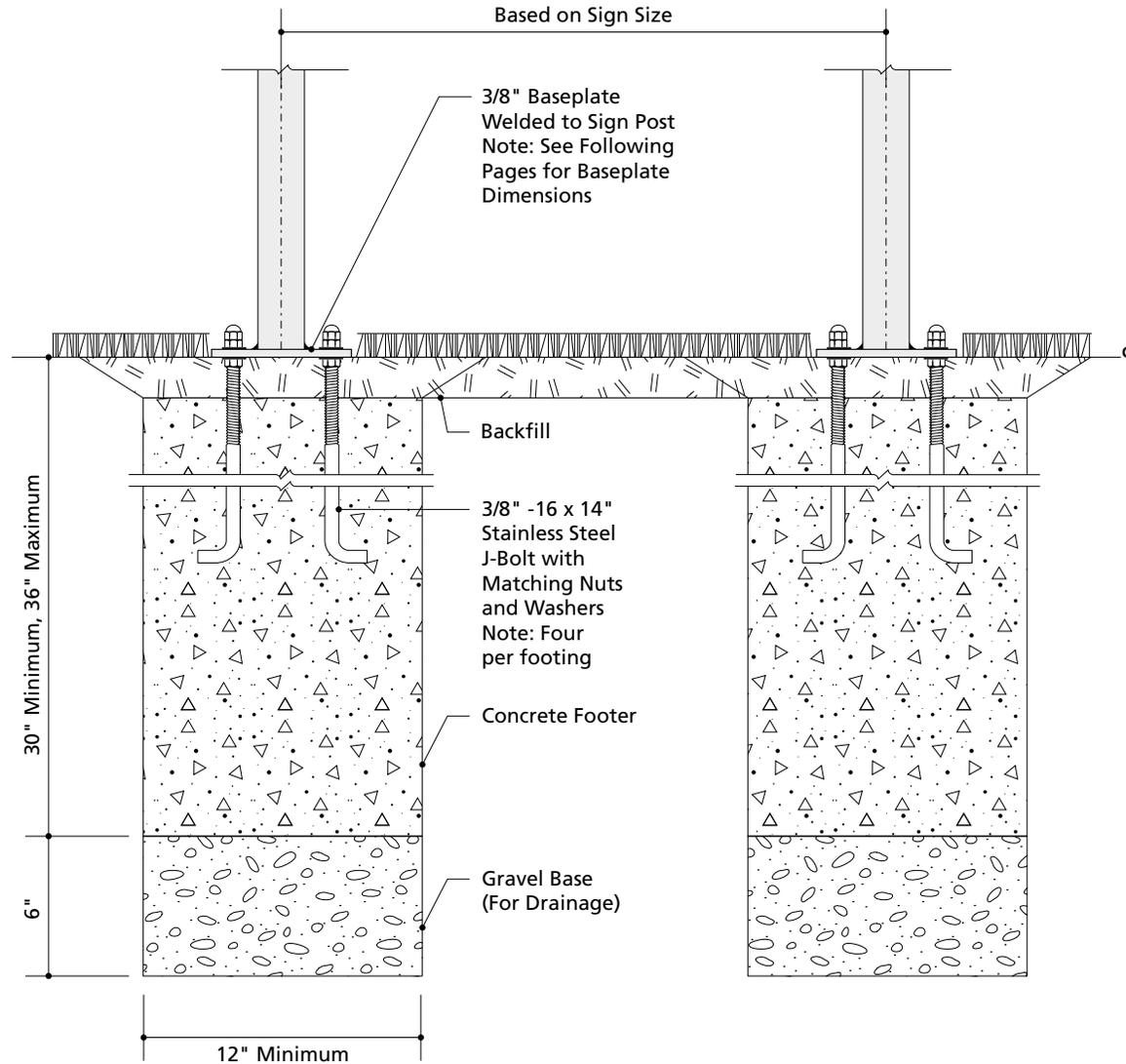


2-IO - 01 Socket Cap Detail
 Scale: 3" = 1'-0"



2-IO - 01 Socket Cap Front and Side Elevations
 Scale: 3" = 1'-0"

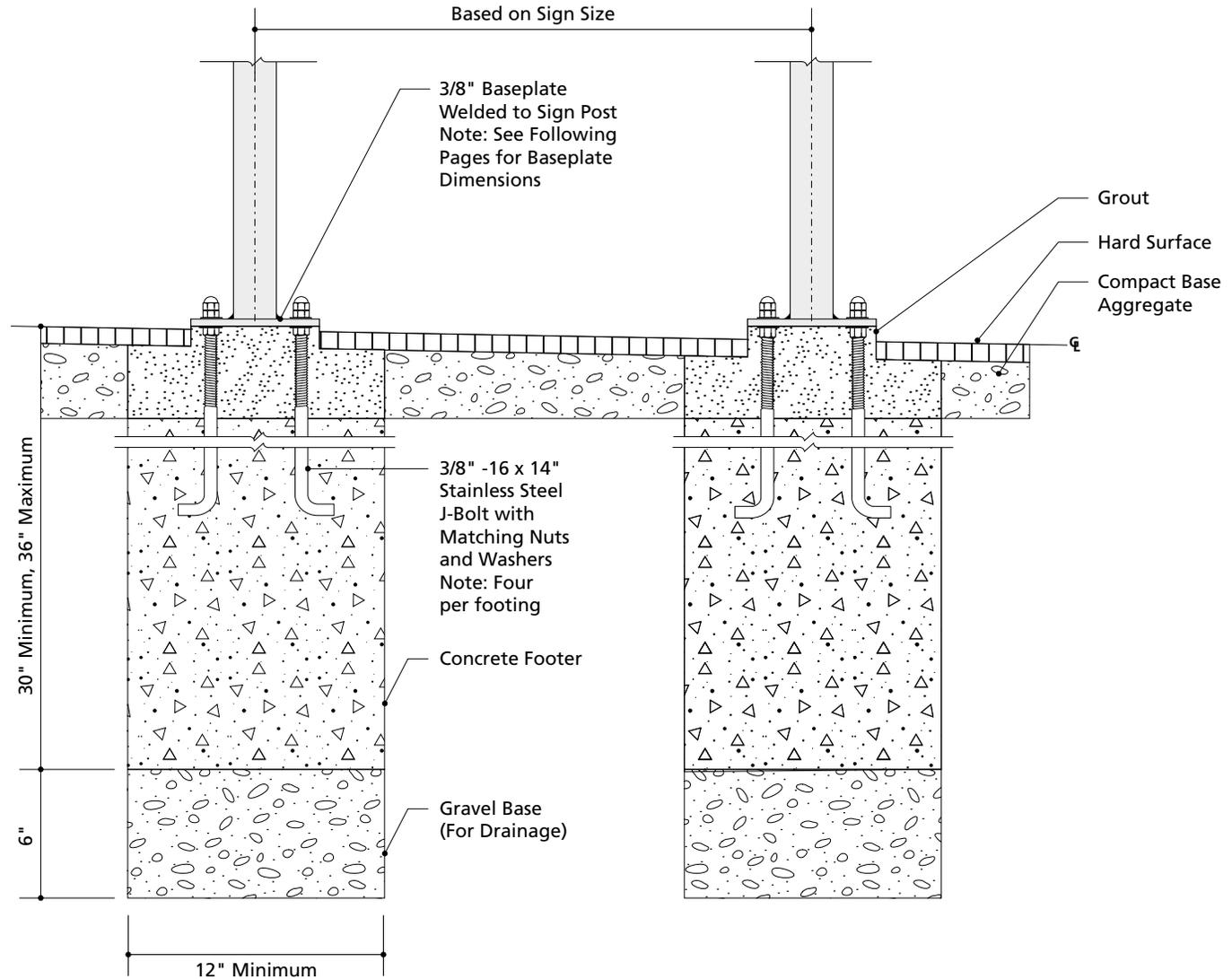
Upright Series Baseplate Mount (BP): Landscape



1-IO - 03 Baseplate Mount: Landscape, Elevation

Scale: 1-1/2" = 1'-0"

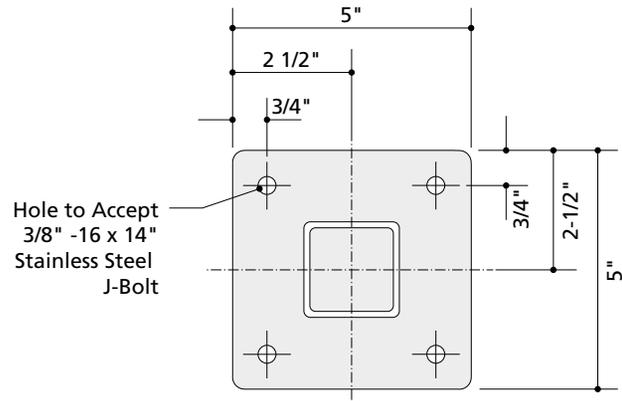
Upright Series Baseplate Mount (BP): Hard Surface



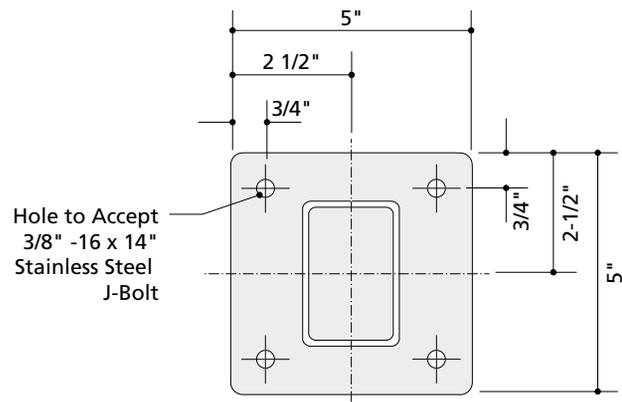
1-IO - 04 Baseplate Mount: Hard Surface, Elevation

Scale: 1-1/2" = 1'-0"

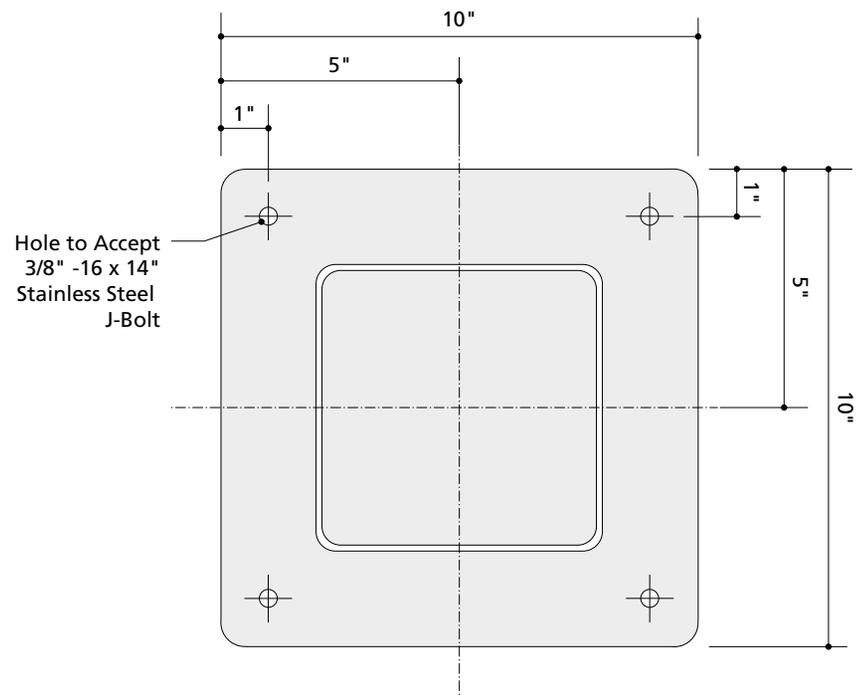
Baseplates



1-IO - 05 Baseplate Plan View, 2" x 2" Post
Scale: 3" = 1'-0"

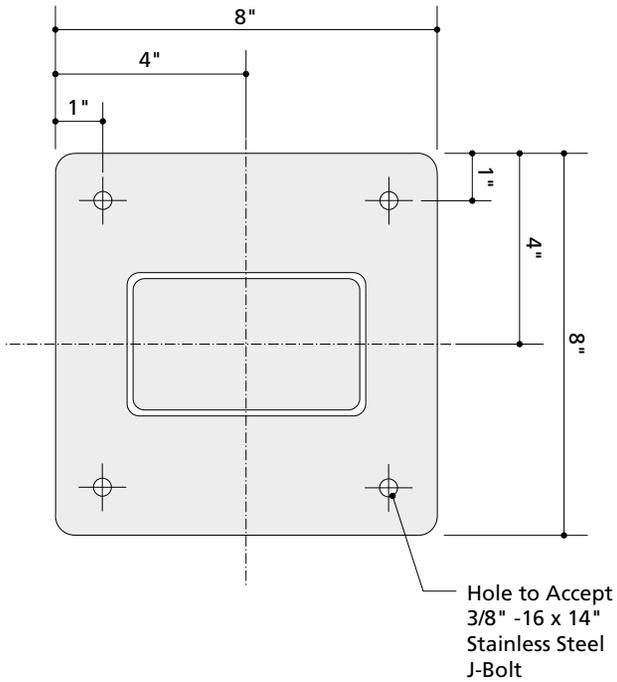


2-IO - 05 Baseplate Plan View, 2" x 3" Post
Scale: 3" = 1'-0"

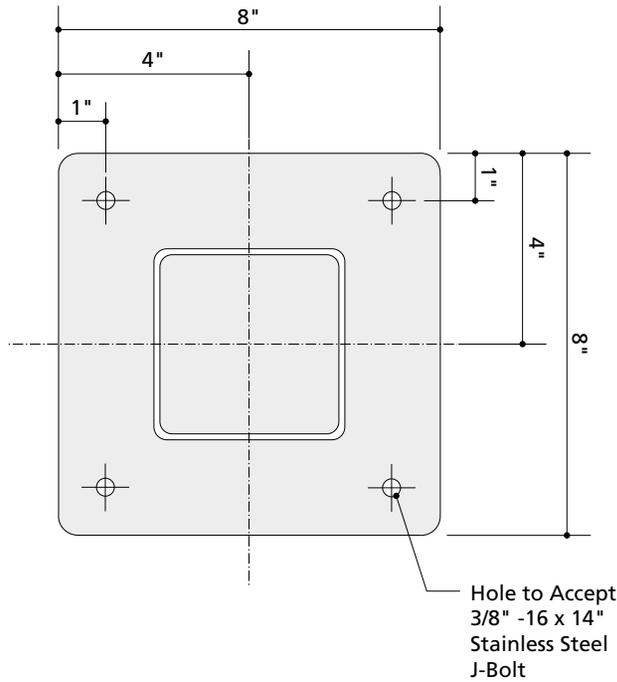


3-IO - 05 Baseplate Plan View, 6" x 6" Post
Scale: 3" = 1'-0"

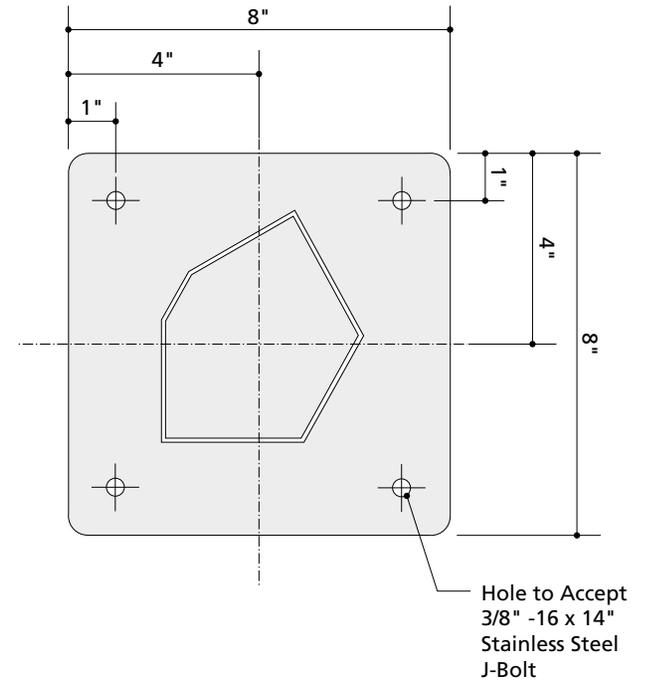
Baseplates



1-IO - 06 Baseplate Plan View, 3" x 5" Post
Scale: 3" = 1'-0"

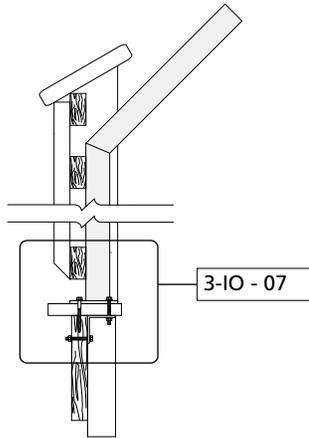


2-IO - 06 Baseplate Plan View, 4" x 4" Post
Scale: 3" = 1'-0"



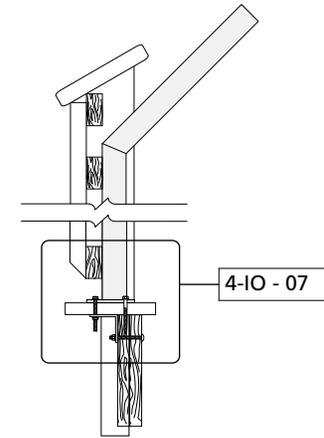
3-IO - 06 Baseplate Plan View, UP Tri Post
Scale: 3" = 1'-0"

Deck Mount (DM)



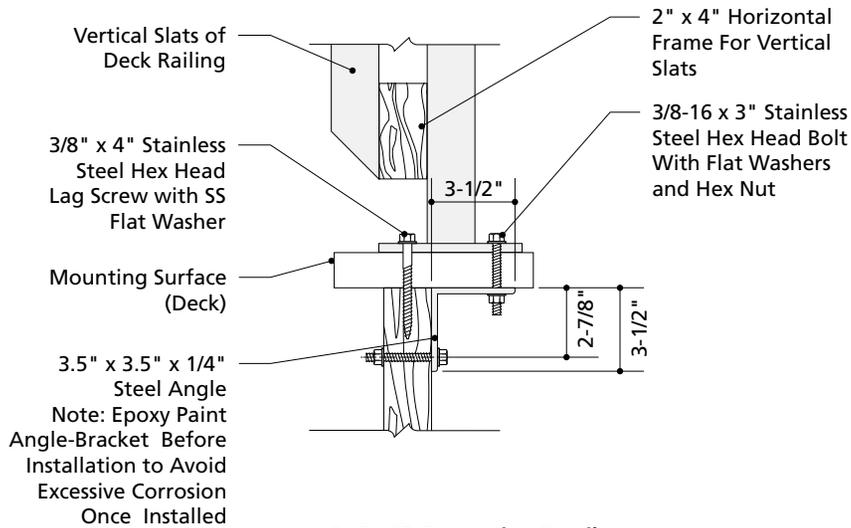
1-IO - 07 Deck Mount Inside of Post, Side Elevation

Scale: 1/2" = 1'-0"



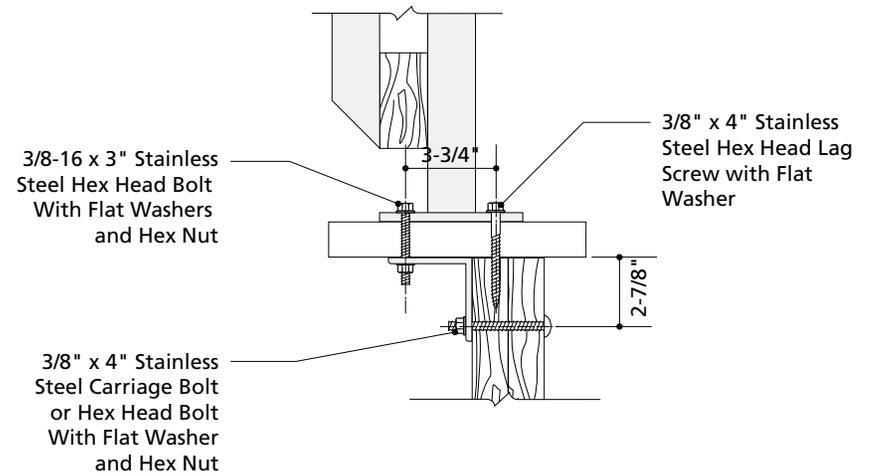
2-IO - 07 Deck Mount Outside of Post, Side Elevation

Scale: 1/2" = 1'-0"



3-IO - 07 Connection Detail

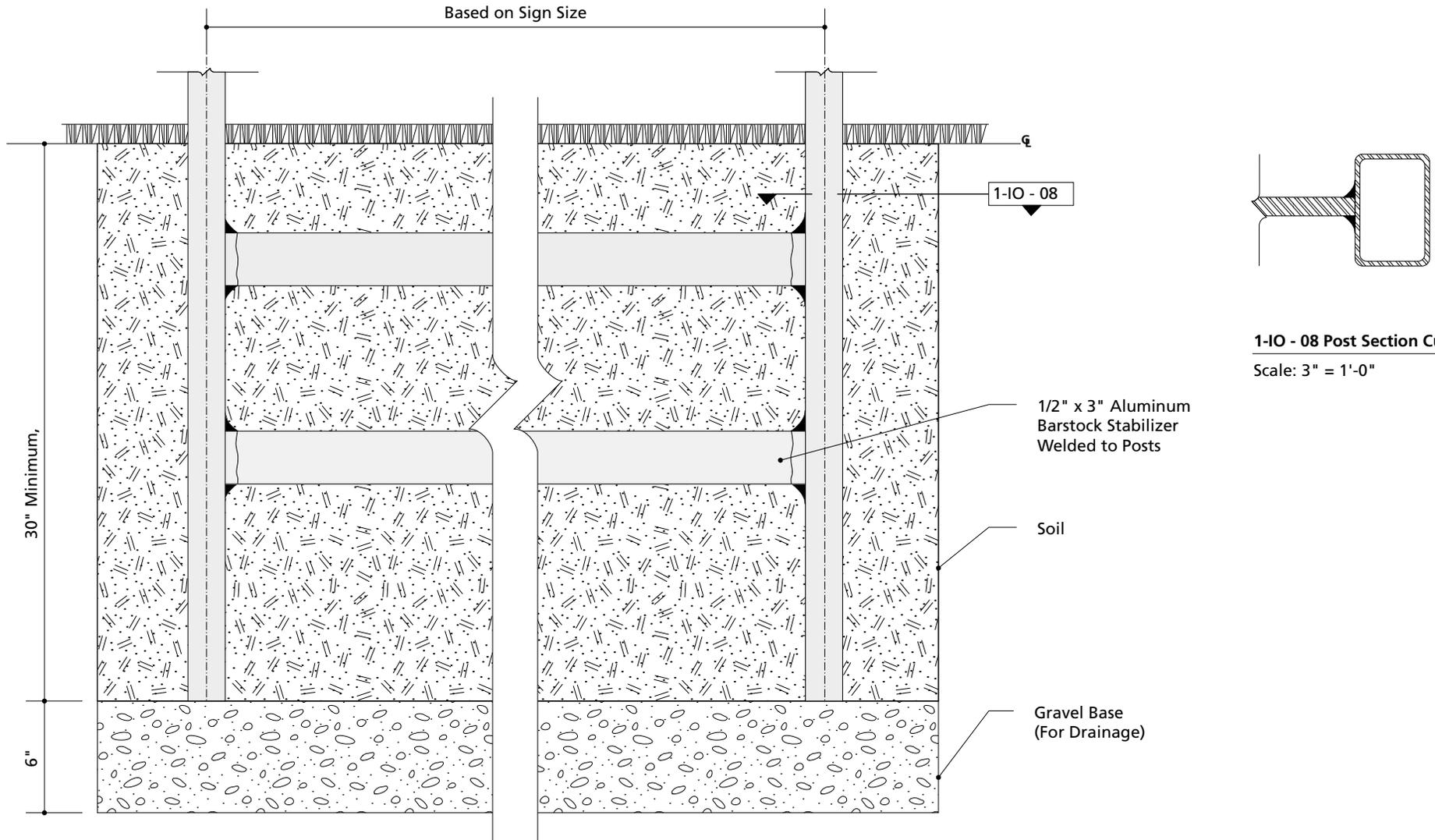
Scale: 1-1/2" = 1'-0"



4-IO - 07 Connection Detail

Scale: 1-1/2" = 1'-0"

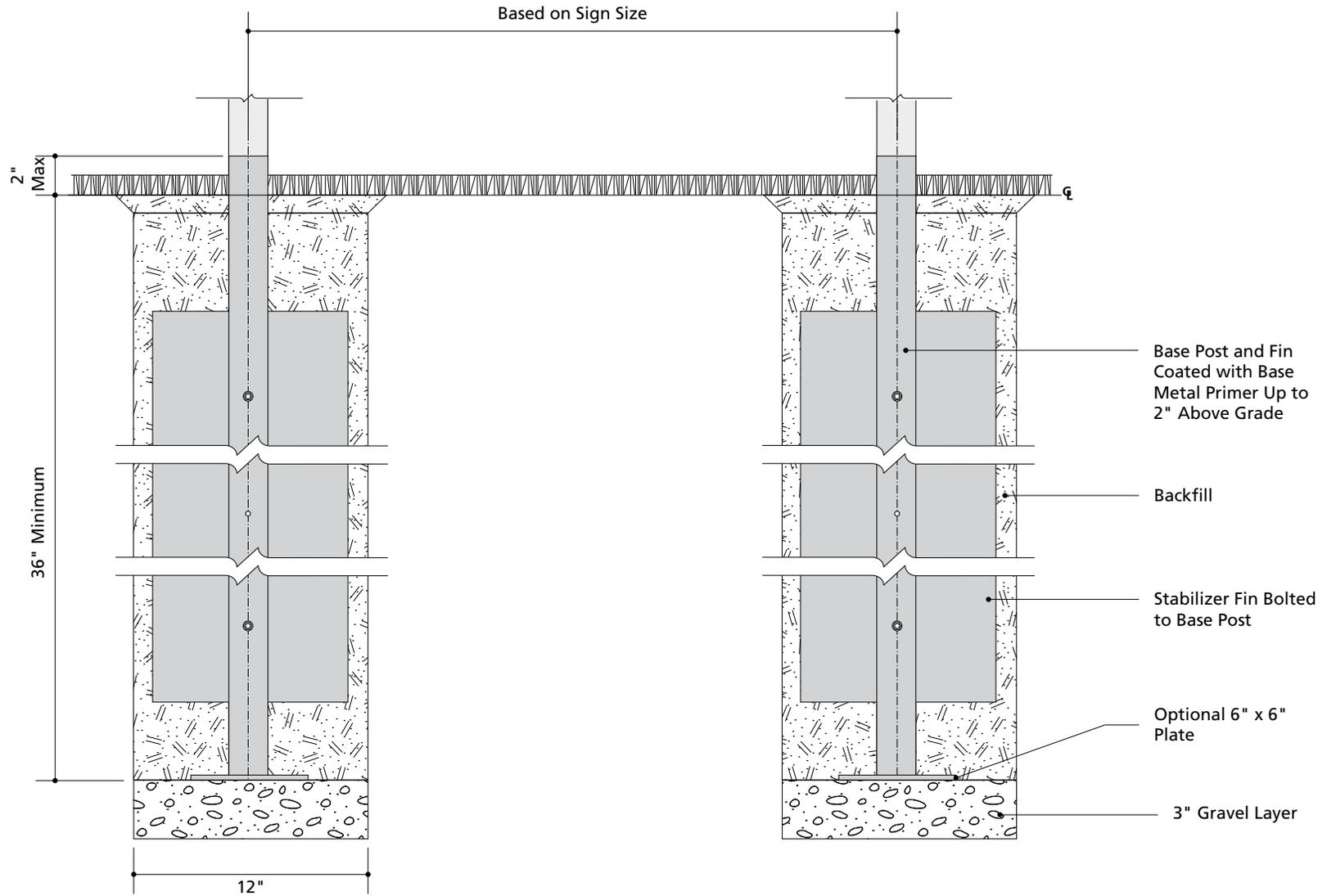
Direct Embed with Stabilizer Bars (SB)



1-IO - 08 Direct Embed with Stabilizer Bars

Scale: 1-1/2" = 1'-0"

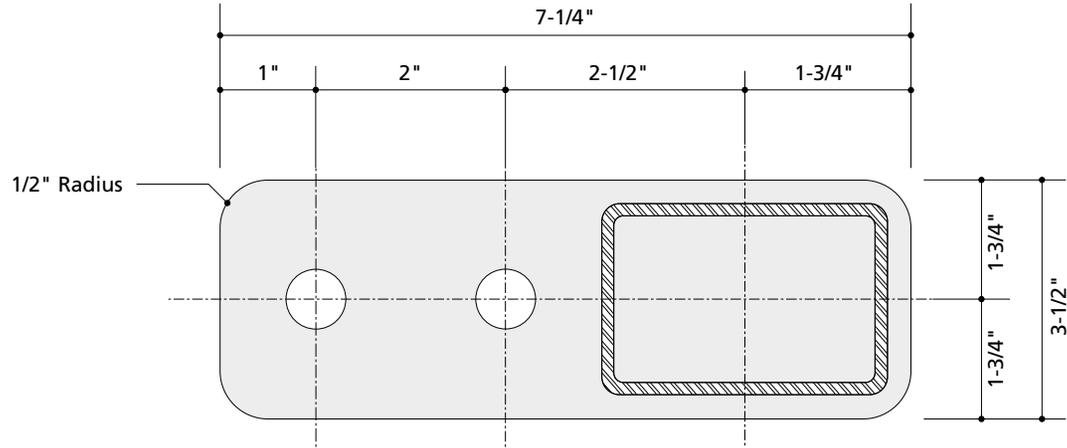
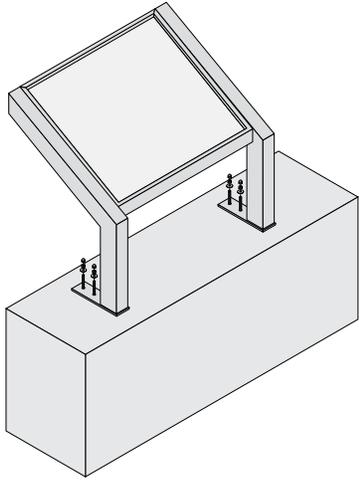
Direct Embed with Stabilizer Fins (SF)



1-IO - 09 Upright Direct Embed with Stabilizer Fins

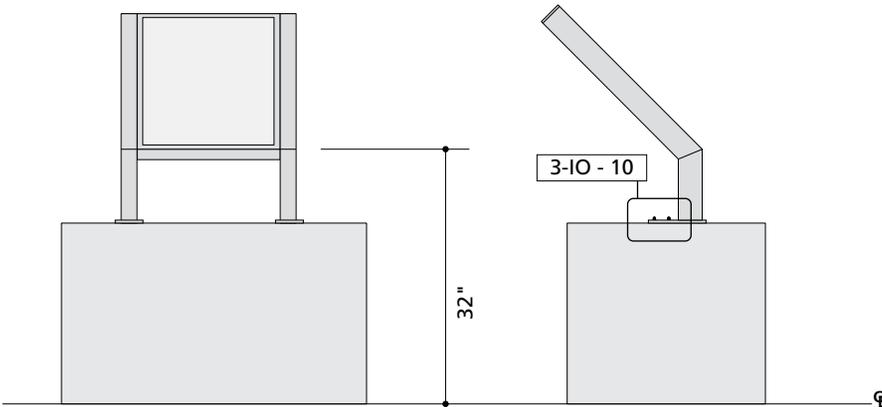
Scale: 1.5" = 1'-0"

Low Profile Series Wall Cap Mount (CM)



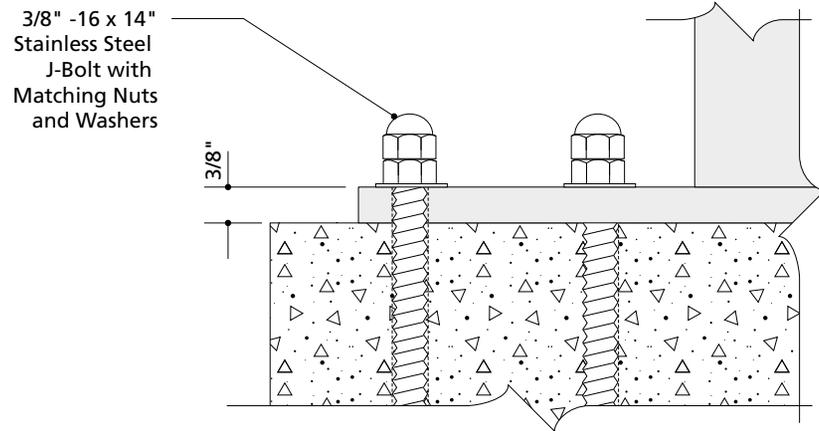
2-IO - 10 Baseplate Plan View

Scale: 1/2 Actual Size



1-IO - 10 Low Profile Wall Cap Mount Elevationz

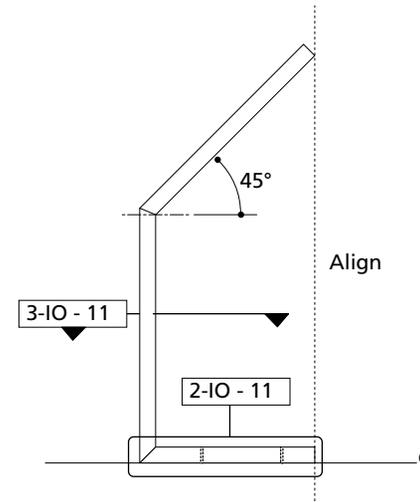
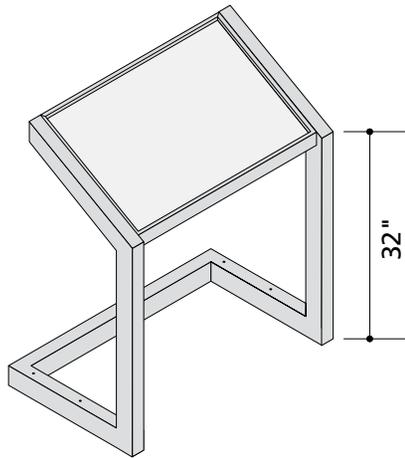
Scale: 1/2" = 1'-0"



3-IO - 10 Mounting Detail

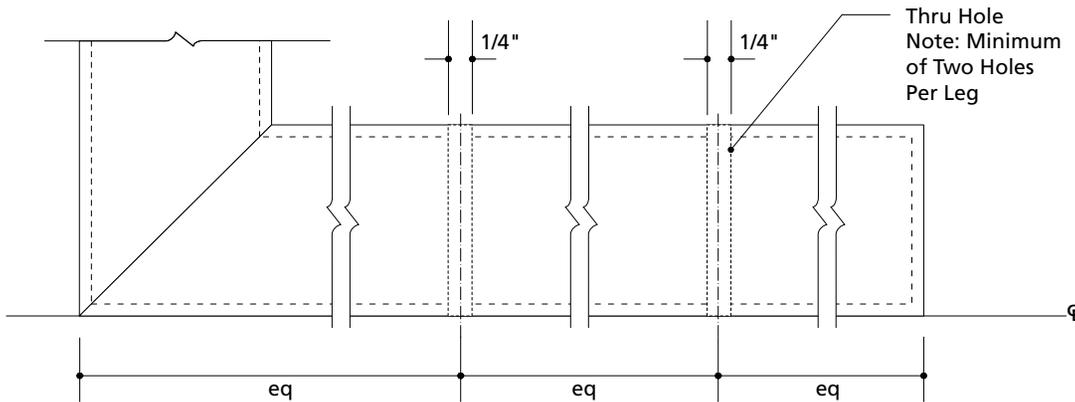
Scale: 1/2 Actual Size

Low Profile Series Sled Base (SB)



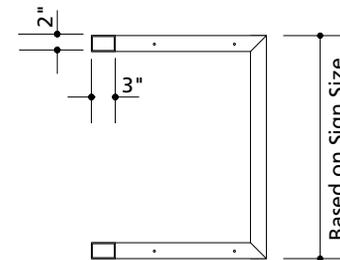
1-IO - 11 Low Profile Sled Base Side Elevation

Scale: 1/2" = 1' 0"



2-IO - 10 Mounting Hole Detail

Scale: 1/2 Actual Size

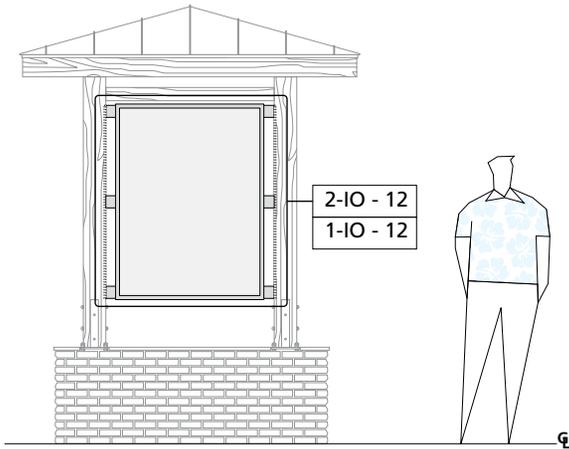


3-IO - 11 Top Section

Scale: 1/2" = 1' 0"

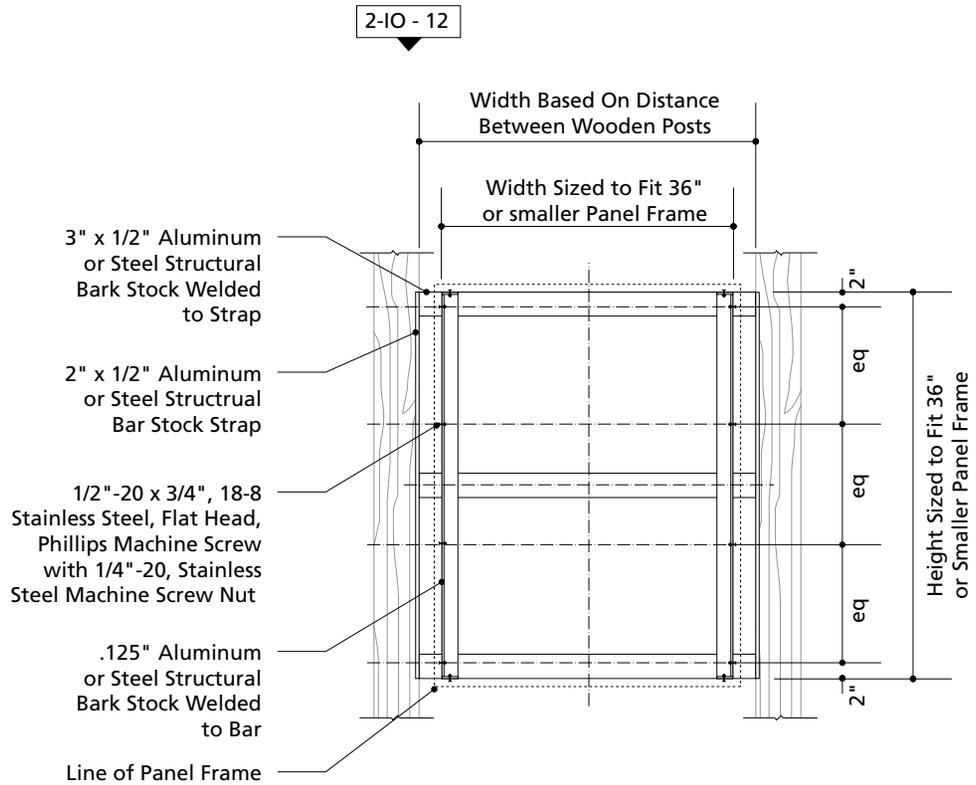
Strap Kit (SK)

Aluminum and Steel Fabrication



1-IO - 12 Wood Kiosk with Strap Kit Elevation

Scale: 1/2" = 1'-0"

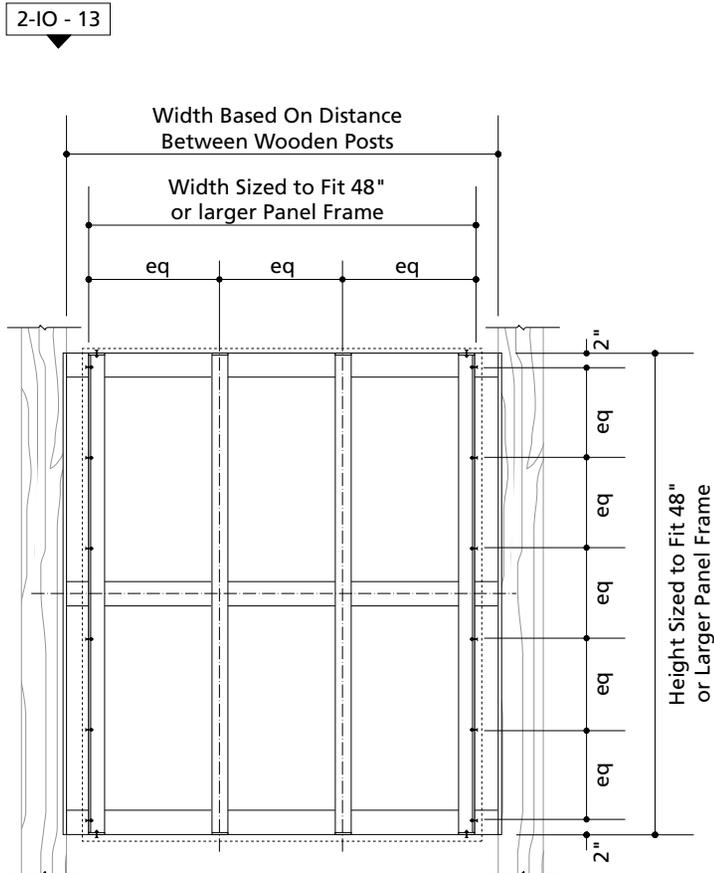


2-IO - 12 Strap Elevation (36" or Smaller Panels)

Scale: 1/2" = 1'-0"

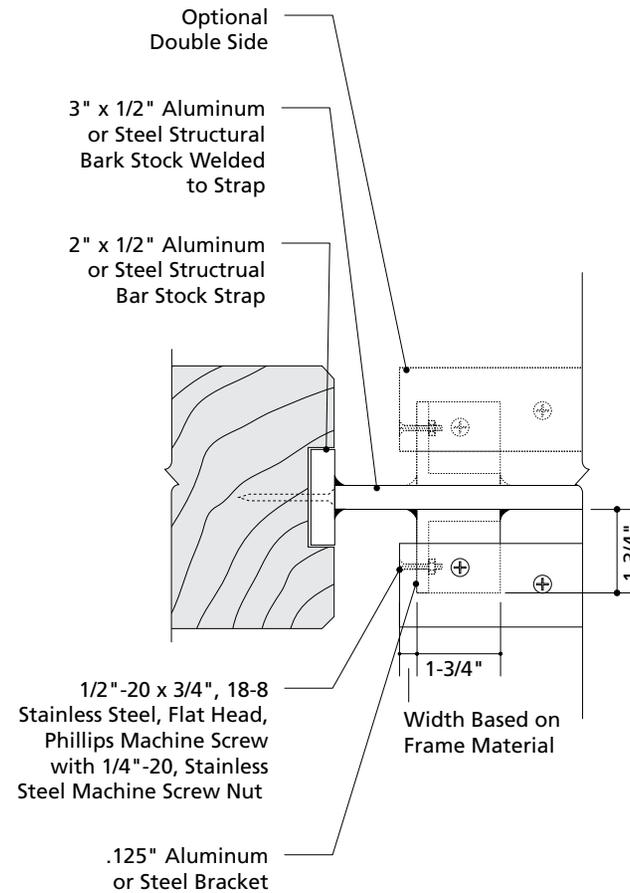
Strap Kit

Aluminum and Steel Fabrication Continued



1-IO - 13 Strap Elevation (48" or Larger Panels)

Scale: 1/2"=1'-0"



2-IO - 13 Strap Connection Detail, Plan View

Scale: 3"=1'-0"

Reference Charts

VIS Post Size Charts

Low Profile Hardware Post Chart

Panel Width

		6	12	18	24	36	48
Panel Height	6	NA	2 x 2	2 x 2	2 x 3	2 x 3	2 x 3
		BS	BS	BS			
	12	NA	2 x 2	2 x 2	2 x 3	2 x 3	2 x 3
		BS	BS	BS			
	18	NA	2 x 2	2 x 2	2 x 3	2 x 3	2 x 3
		BS	BS	BS			
	24	NA	2 x 3	2 x 3	2 x 3	2 x 3	2 x 3

Upright Hardware Post Chart

Panel Width

		6	12	18	24	36	48
Panel Height	6	NA	2 x 2	2 x 2	2 x 3	2 x 3	NA
		BS	BS	BS			
	12	2 x 2	2 x 2	2 x 2	2 x 3	2 x 3	2 x 3
		BS	BS	BS			
	18	2 x 2	2 x 2	2 x 2	2 x 3	2 x 3	2 x 3
		BS	BS	BS			
	24	NA	2 x 3	2 x 3	2 x 3	2 x 3	2 x 3
	36	NA	2 x 3	2 x 3	2 x 3	2 x 3	NA
48	NA	2 x 3	2 x 3	2 x 3	2 x 3	NA	

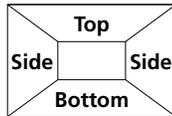
Panel Size

		24 x 36	36 x 48
Kiosk Type	n2	2 x 3	3 x 5
	n3	2 x 3	3 x 5
	Quad	4 x 4	6 x 6

VIS Weld and Rivets Charts

		Panel Width					
		6	12	18	24	36	48
Panel Height	12						
	18						
	24	N/A					
	36	N/A					N/A
	48	N/A					N/A

		Panel Width					
		6	12	18	24	36	48
Panel Height	12						
	18						
	24	N/A					
	36	N/A					
	48	N/A					



Section VII

Specifications

General Requirements	179
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General Requirements



The Visitor Information System (VIS) consists of a standard group of post-and-frame components and accessories that are fabricated from aluminum or steel and mechanically assembled. Refer to the VIS Sign Fabrication Drawings for specific details and fabrication guidelines.

Frames

The VIS System includes a fabricated panel capture frame with a removable cap and a structural core panel. The frame is designed to contain and capture the graphic panel on all four sides. Frames can be configured for one or two-sided display.

Frames fabricated in aluminum utilize an NPS standard “F” extrusion welded to a solid sheet aluminum core panel for structural rigidity. The frame features a removable top extrusion secured with tamper proof hardware to allow installation and removal of graphic panels.

Two-sided frames utilize a break-formed channel system with floating internal core panels for structural rigidity. The top channel is removable and secured with tamper proof hardware.

Frames fabricated from steel (including one and two-sided structures in weathering and galvanized material) utilize a break-formed channel system with floating internal core panels for structural rigidity.

Posts

The VIS system features aluminum and steel tubular posts. Posts material for upright and low profile bases includes tubular aluminum and carbon steel in 2" x 2", 2" x 3" sizes, and 1/2" x 2" bar stock. Carbon steel can be galvanized for marine environments.

Panels

Sign panels are inserted into the frame in the front of the core panel. The sign frames accommodate a variety of graphic panel types including porcelain enamel, fiberglass embedment, polycarbonate embedment, high pressure laminate, digitally printed adhesive vinyl on aluminum substrates with protective overlaminates, or computer cut retro-reflective sheeting. The frame system can accommodate panel thicknesses from .090 up to .125.

Signs and sign assemblies shall be manufactured using materials and fabrication processes as described in these specifications and in the companion technical drawings.





Dimensions

Inch dimensions are used for legend size and all related dimensions including layout grids, panel sizes, post lengths, mounting height, and post drilling for connection of panel to post. All hardware, machine parts (cast caps, mechanical fasteners, connection details), and materials (tube, dimensional lumber) are specified in inches.

Note: Panel dimensions described in this manual are nominal. Nominal sizes are used for ease of specification. Fabricated panels shall be undercut by 1/16" on each side. For example a specified, nominal 24" x 36" panel, shall be fabricated to a finished size of 23-7/8" x 35-7/8". Frames shall be fabricated to allow an expansion tolerance of 1/16" on all sides.

Material Options and Substitutions

All materials shall be new and of first quality. Materials shall meet or exceed the standards and specifications herein or by reference. All materials and fabrication methodology shall comply with this specification or be an "approved equal".

A limited number of materials have been specified by manufacturer's trade name. These products are specified as examples and not to limit use of alternative products and suppliers that are of equal or superior quality.

Function

These specifications are provided as a guideline for the fabrication, assembly, and installation of VIS signs for the UniGuide Program of the National Park Service. Material and fabrication specifications are provided for each structure.

All signs shall be fabricated to the specifications described in this chapter. Additional instructions and requirements including modifications to structures and details shall be provided within individual contracts that describe the performance of specific sign fabricators and suppliers.

Sign Identification Codes

Signs within the VIS system are identified by a series of reference code numbers that indicate the type of sign, sign panel/frame size, material mounting type, mounting accessory, and accessory. Refer to the Overview section of this manual for a description of the VIS Code System.

Reference Standards

American Society for Testing and Materials standard specification for Aluminum and Aluminum Alloy Sheet and Plate (ASTM- 6061-T5 extruded shapes with Type 2: Black anodized finish, and 3003-H16, 3003-H14, 2024-T3, 6061-T6, and 5052-H34 aluminum plate).

American Society for Testing and Materials standard specification for Stainless Steel tube and structural shapes (ASTM- 316L and 18-8).

American Society for Testing and Materials standards for Weathering Steel ASTM-588 (A-847 as a tube product).

American Society for Testing and Materials, and American Institute for Hollow Structural Sections standards (HSS) for ASTM-500; Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.



American Society for Testing and Materials standard specification D-523 for paint gloss and D-4587 for accelerated weathering cycles for paint.

American Society for Testing and Materials: Standards for threaded steel rod and “J” bolts

Structural Engineering

All structures have been engineered to meet typical conditions for all national parks. Special conditions that are outside these parameters are to be engineered on a site specific basis.

Quality of Materials

All materials shall be new and of first quality. Materials shall meet or exceed the standards and specifications herein or by reference. Factory seconds shall not be accepted. All materials shall comply with this specification or approved equal.

UniGuide Engineering

The following criteria have been used as the standards governing material specifications, assemblies and footings for all NPS VIS signs unless otherwise specified or engineered.

Wind Pressure : 20 PSF ***

Soil: 1-TSF (2 KSF)-Minimum * **

Frost Depth : 36" Maximum unless otherwise noted

Concrete: 3000 PSI. / 28 days

- * For all direct embedment footings, backfill in 6" lifts tamped to 95% compaction.
- ** Subgrade materials are assumed to be organic free sand/ gravel/silt, or mixture of same, with bearing capacity of 1-TSF (2 KSF) min, subject to inspection.
- *** Exceptions include sign placements along the Gulf of Mexico and in the region of Cape Hattaras, with installations engineered site specific to the location.

If these criteria are not adequate for a specific sign location, modifications shall be made to conform to the specified site conditions in order to maintain structural integrity. Modifications may include, but are not limited to, thicker panels, larger dimension sign posts, additional structural bracing or components, or larger footing configuration and additional steel rebar.

The design of the structural requirements of special one-of-a-kind signs shall conform to the basic assembly specifications for similar sign types. The modified assembly shall fulfill the requirements of local criteria for wind pressure, soil, and frost depth.

Materials Overview



This section covers material specifications for all components used in the UniGuide Visitor Information System.

Aluminum

Aluminum Frame Extrusions

Extruded aluminum (6063-T6 or 6063-T6/T651), NPS standard “F” channel extrusion. Refer to Chapter VI for drawings and additional information.

Extruded aluminum (6063-T6 or 6063-T6/T651), NPS standard angle top frame extrusion. Refer to Chapter VI for drawings and additional information.

Extruded aluminum (6063-T6 or 6063-T6/T651), NPS standard angle bracket extrusion. Refer to Chapter VI for drawings and additional information.

Aluminum Posts

2" x 2" x 3/16" wall tubular aluminum (6063-T6) posts for upright and lowprofile assemblies.

3" x 2" x 3/16" wall tubular aluminum (6063-T6) posts for upright and lowprofile bases, and 24" x 36" double and triple inline assemblies.

1/2" x 2" aluminum barstock (6063-T) for upright and low profile assemblies.

4" x 4" x 1/8" wall tubular aluminum (6063-T6) posts for 24" x 36" and 36" x 48" upright quad post assemblies.

3" x 5" x 1/8" wall tubular aluminum (6063-T6) posts for 36" x 48" double and triple inline assemblies.

6" x 6" x 1/8" wall tubular aluminum (6063-T6) posts for 36" x 48" upright quad assemblies with roof structure.

1/4" flat sheet aluminum (2024-T3 or 7075-T3) for trailside assemblies.

Aluminum Core Panels

3/16" flat sheet aluminum (2024-T3 or 7075-T3) core panel for upright and low profile bases.

Aluminum Break-formed C-Channel

.125" sheet aluminum (2024-T3 or 7075-T3) for breakforming C-channels and angles for two-sided frame applications

Aluminum Baseplates

3/8" plate aluminum (2024-T3, 7075-T3) for machined drilling of baseplates for base mounting with j-bolts. See drawings in Section VI for base plate details.

Aluminum Hardware

3/8" pop rivets to attach aluminum frame to post legs.

Stabilizer Fins

6" x 6" x 1/4" sheet aluminum (2024-T3 or 7075-T3) for bottom of embedment hole to mitigate settling of tubular aluminum upright and low profile posts (as specified).

1/4" x 10" x 24" 1/4" sheet aluminum (2024-T3 or 7075-T3) to stabilize embedment of tubular aluminum uprights and low profile posts.



Weathering Steel

Weathering Steel Posts

2" x 2" x 1/8" wall tubular weathering steel (A-847) for upright and low profile bases.

2" x 3" x 1/8" wall tubular weathering steel (A-847) for upright and low profile bases, and 24" x 36" double and triple inline assemblies.

1/2" x 2" barstock (A-847) for upright and low profile bases.

4" x 4" x 1/8" wall tubular weathering steel (A-847) for 24" x 36" and 36" x 48" upright quad post assemblies.

3" x 5" x 1/8" wall tubular weathering steel (A-847) for 36" x 48" double and triple inline assemblies.

6" x 6" x 1/8" wall tubular weathering steel (A-847) for 36" x 48" upright quad assemblies with roof structure.

1/8" weathering steel plate (A-847) for fabricated posts for upright tri-side assemblies.

1/4" weathering steel plate (A-847) for trailside assemblies.

Steel Core Panels (Painted)

1/8" steel plate (A-36) for painted core panel.

Weathering Steel Break-formed C-Channel

1/8" weathering steel plate (A-847) for breakforming C-channels and angles for two-sided frame applications for upright assemblies and frames for low profile assemblies.

Weathering Steel Baseplates

3/8" weathering steel plate (A-847) for welded baseplates for assemblies with tubular uprights and bar stock uprights.

Steel Hardware

3/8" pop rivets to attach steel frame to post legs.

Stabilizer Fins

6" x 6" x 11-gauge steel plate (A-847) for bottom of embedment hole to mitigate settling of tubular steel uprights (as required).

1/4" x 10" x 24" steel plate (A-847) to stabilize embedment of tubular steel uprights.

Stabilizer Bars

1/2" steel plate (A-847) for stabilizer bars to prevent post rack and torque (as specified).

Galvanized Steel

Galvanized Steel Posts

Note: at the election of the contractor, A-847 material can be galvanized in-lieu of A-500-B material.

2" x 2" x 1/8" wall tubular steel (A500B) for upright and low profile bases.

2" x 3" x 1/8" wall tubular steel (A500B) for upright and low profile bases, and 24" x 36" double and triple inline assemblies.



1/2" x 2" barstock (A500B) for upright and low profile bases.
4" x 4" x 1/8" wall tubular steel (A500B) for 24" x 36" and 36" x 48" upright quad post assemblies.

3" x 5" x 1/8" wall tubular steel (A500B) for 36" x 48" double and triple inline assemblies.

6" x 6" x 1/8" wall tubular steel (A500B) for 36" x 48" upright quad assemblies with roof structure.

1/8" steel plate (A36) for galvanized fabricated posts for upright tri-side assemblies.

1/4" steel plate (A36) for galvanized trailside assemblies.

Steel Core Panels (Painted)

1/8" steel plate (A-36) for galvanized core panel.

Galvanized Steel Break-formed C-Channel

1/8" steel plate (A36) for for breakforming C-channels and angles for two-sided frame applications for upright assemblies and frames for low profile assemblies.

Galvanized Steel Baseplates

3/8" steel plate (A36) for welded baseplates for machined drilling of baseplates for base mounting with j-bolts. See drawings in Section VI for base plate details.

1/4" x 2" steel plate (A-36) welded baseplate straps for wood upright assemblies.

Steel Hardware

3/8" pop rivets to attach steel frame to post legs.

Stabilizer Fins

6" x 6" x 11-gauge steel plate (A-36) for bottom of embedment hole to mitigate settling of tubular steel uprights (as required).

1/4" x 10" x 24" steel plate (A-36) to stabilize embedment of tubular steel uprights.

Stabilizer Bars

1/2" steel plate (A-36) for stabilizer bars to prevent post rack and torque (as specified).

Hardware

Frame Rail Attachment

1/4-20 x 1" stainless steel socket head cap screws (with stainless steel washer; see below) for rail attachment to upright (McMaster Carr 92196A542).

Inline

10-24 x 1.5" button head, socket head stainless steel bolts to hold cover panel on fabricated upright for inline (McMaster Carr 92949A251) with No.12 stainless steel flat washer (McMaster Carr 92141A013).

Wall Mounted Assemblies

1/4"-20 x 1" stainless steel round head screw (McMaster Carr 91783A533) with stainless steel flat washer (McMaster Carr 92141A029) and wall anchor for attaching assembly.



Stabilizer blade

3/8" x 3" zinc plated hex head machine bolt (McMaster Carr 91236A636), with galvanized washer and offset washers for mounting stabilizer blade.

Anchor bolts and baseplate attachment

3/8"-16 x 14" stainless steel (18-8) "J" bolts (McMaster Carr-91615A140), with stainless steel hex nut (McMaster Carr-91849A031) for leveling and heavy duty stainless steel 1" dia. washer (McMaster Carr-98019A200) for mounting with concrete footing.

3/8"-16 threaded stainless steel rod (18-8) (McMaster Carr-98920A031) cut for 3.5" positive embedment, or standard 3/8" x 5-1/8" HILTI-HVA rod with chisel point and embedment mark.

HILTI-HVA adhesive anchor system (or equal) for 3/8" x 3-1/2" embedment.

3/8" flat washers (McMaster Carr 92141A031) and hex nuts (McMaster Carr 91845A031), thin nuts (McMaster Carr 91847A031), and stainless steel (304) finishing acorn nut (McMaster Carr-92994A031) for baseplate attachment.

3/8"-16 x 2" stainless steel button head socket cap screw (McMaster Carr-92949A632) with companion washer (McMaster Carr-98019A200) for attachment of baseplate to mounting stem.

3/8"-16 stainless steel (18-8) heavy hex nut welded to bottom of stem footing baseplate for mounting bolt attachment (McMaster Carr-91849A031) Bolts for mounting to deck.

3/8" x 4" zinc plated hex head lag screw (McMaster Carr-91478A640) to attach baseplates to wood decks.

3/8" x 3" zinc plated hex head machine bolt (McMaster Carr 91236A636), washers and hex nuts to through bolt baseplates to wood decks.

3/8" x 4" zinc plated carriage bolt (McMaster Carr-93548A636), washers and hex nuts to through bolt supporting "L" brackets to wood decks.

3/8" x 8" zinc plated carriage bolt (McMaster Carr-93545A652), washers and hex nuts to through bolt C.1 upright to face of deck joist.

Bulletin Cabinet

- 0.5" x 1.375" aluminum "L" shape frame assembly (2-screws, backing plate, tapped front plate) hardware (Nielsen 2400).
- (304) stainless steel continuous hinge with drilled holes. plain finish, 0.040 thick, 1-1/16" open wide (McMaster Carr 1658A417) for bulletin cabinet.
- #4-40 x 3/16" long (18-8) stainless steel flat head Phillips machine screw, with undercut head (McMaster Carr 91771A111).



- 3/16" – (18-8) stainless steel flat, socket head machine screw, 8-32 thread (McMaster Carr 92210A192) Accessories.
- 1-1/16" x 0.040" thick aluminum continuous hinge (McMaster Carr 1581A66) for trash bag dispenser.
- 8-32 x 1/4" stainless steel low head socket cap screw (McMaster Carr 93615A317) for keyhole attachment of folder holders and campsite permit display.
- 10-32 x 2" alloy steel, flat socket head screw (McMaster Carr 91253A018) with 1/2" plate washer and nut to secure for trash bag dispenser.
- 0.1875" clear polycarbonate sheet material for bulletin cabinet face.
- 0.1875" CRL vinyl glazing gasket for clear 3/16" polycarbonate sheet of bulletin display cabinet (0752C).
- Vinyl weather stripping for bulletin cabinet door (specification to be determined).
- 0.1875" and 0.1" acrylic sheet (clear and black) for brochure dispenser, campsite permit display, and camp registration display.

Paint

All aluminum VIS bases, posts, and frame components shall be primed and painted

Cleaning and Preparing the Metal

The surface of all aluminum post and frame components shall be properly prepared to ensure strong adhesion of the primer and topcoat. All oil, dirt, rust, metal burrs and any foreign materials shall be removed. All components shall be free of defects. All welded joints shall be ground smooth and clean. All dust or residue from abrasive cleaners or solvent cleaners shall be removed. A light scuffing/sanding shall provide "tooth" for the primer to adhere to the metal surfaces.

Prior to primer application, apply a generous portion of 45-330SP Speed Prep Cleaner, (or approved equal) to all metal surfaces. Application of the cleaner shall be in strict accordance with *Matthews Product Bulletin MPC111*, or in strict accordance with the manufacturer's application procedures and recommendations.

Primer Application

Aluminum posts and frames that will be installed in coastal locations or other environments with corrosive conditions shall be primed with Matthews White Epoxy Primer 274-908SP and hardener 274-909, (or approved equal). The primer coats shall be applied in strict accordance with *Matthews Product Bulletin MPC125*, or in strict accordance with the primer manufacturer's application procedures and recommendations.

Color Finish Topcoat

Unless otherwise specified on approved drawings a gloss spattercoat textured finish shall be the standard for all NPS VIS aluminum bases. Paint application shall be applied in two parts: the first top coat color application followed by a second spattercoat textured color finish. The spattercoat finish shall be medium coarse and applied per approved samples. The color topcoat finish shall be Matthews VOC MAP, (or approved equal). Apply in strict accordance with *Matthews Product Bulletin MPC107*, or in strict accordance with the paint manufacturer's application procedures and recommendations.

Satin Polyurethane Finish

After application of the color topcoat, all aluminum post and frame components shall be finished in Matthews Satin Clear MP281-228 (or approved equal). The satin polyurethane finish shall be applied in strict accordance with *Matthews Product Bulletin MPC180*, or in strict accordance with the paint manufacturer's application procedures and recommendations.

Paint Color Finish

All paint colors used on NPS VIS bases are custom mixed colors with specific formulas. All colors have been matched utilizing Matthews Paint. All bases shall be painted using Matthews Paint or approved equal. Where approved equals are supplied the final colors shall be matched and approved prior to application.

NPS Brown

Matthews Paint, MP63848 w/Spattercoat.

NPS Medium Grey

Matthews Paint, MP63850 w/Spattercoat

NPS Dark Brown

Matthews Paint, MP63856 w/Spattercoat