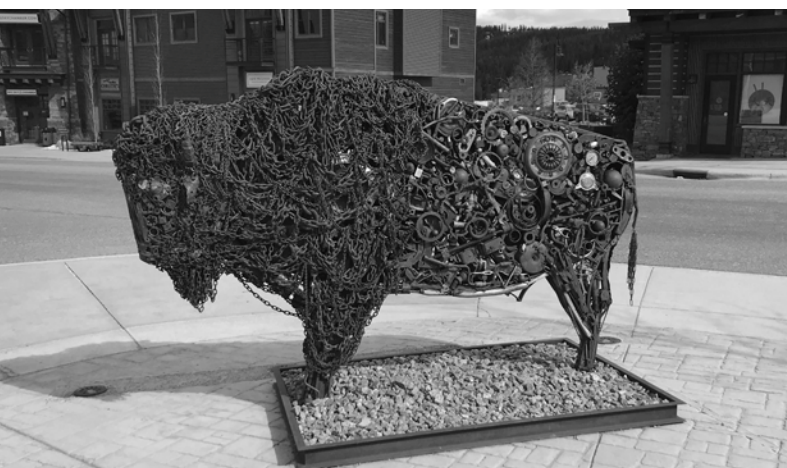
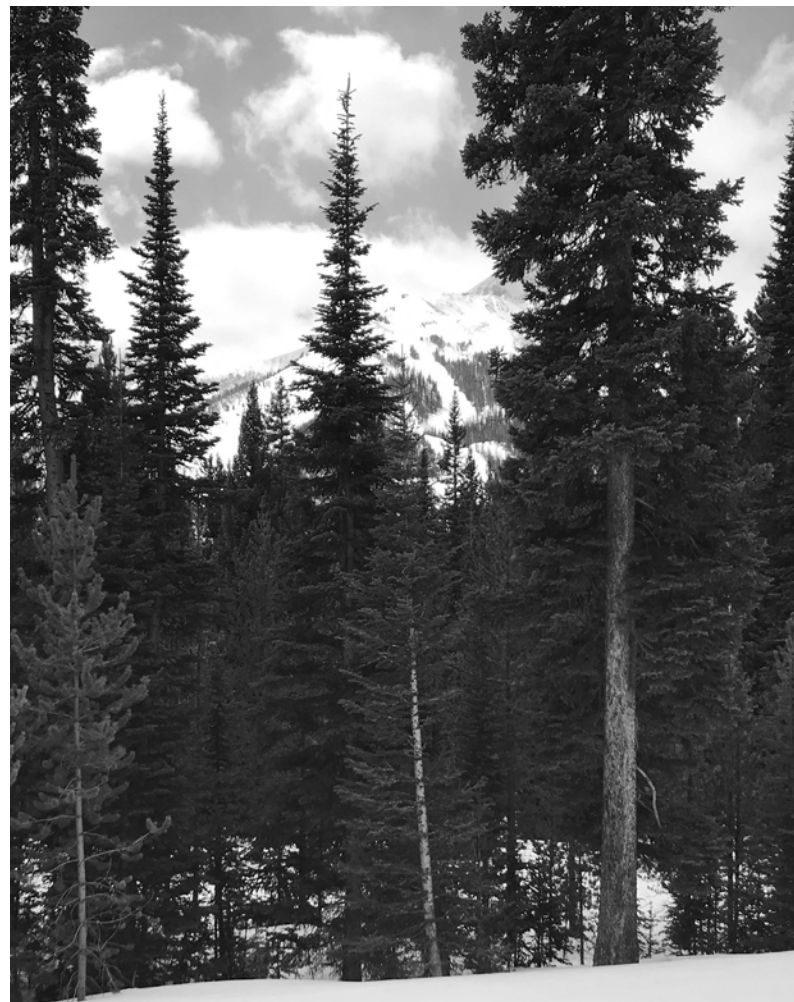




# Visit Big Sky, MT

## Vehicular Wayfinding Signage: Pre-Bid Meeting

JUNE 18, 2024 | FINAL



PREPARED BY |  tangram



tangram

# CONSTRUCTION ADMINISTRATION

Coming together  
is a beginning.

Keeping together  
is progress.

Working together  
is success.

HENRY FORD

## **George Lim**

- Owner / Principal / Partner
- Creative Director
- Project Manager

## **Matthew DeLade**

- Principal / Partner
- Construction Administration Director
- Senior Environmental Graphic Designer

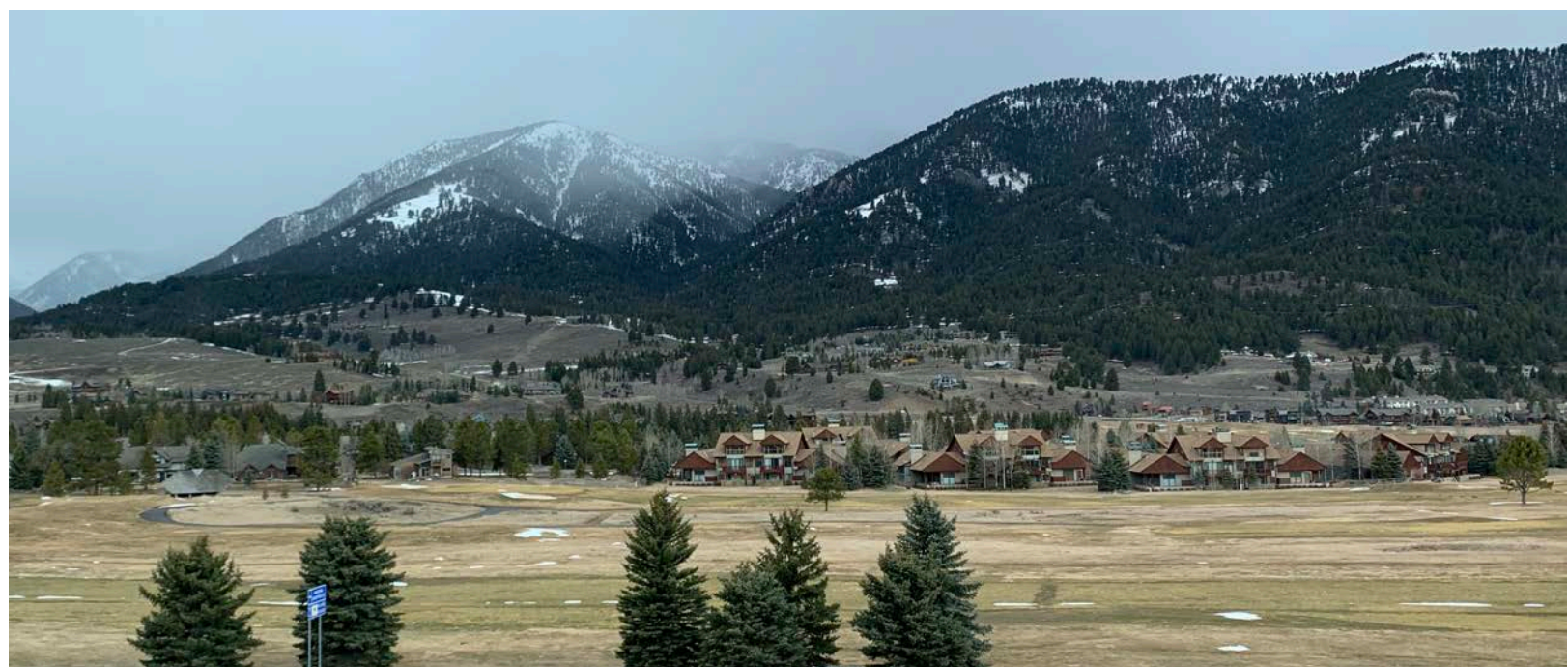
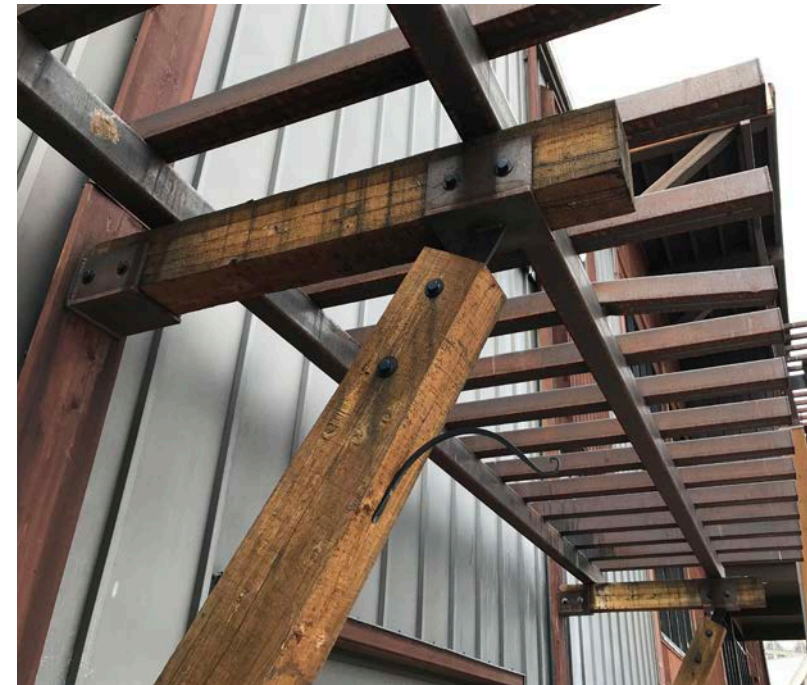


project background



# Keywords

- Clean
- Clear
- Concise
- Visible
- Outdoor
- Friendly
- Recreation
- Mountains
- Beautiful
- Wealth/Expensive
- Adventure
- Rugged
- Modern



# VEHICULAR WAYFINDING SIGNAGE



Sign Type A.2

Sign Type B.1A & B.2A

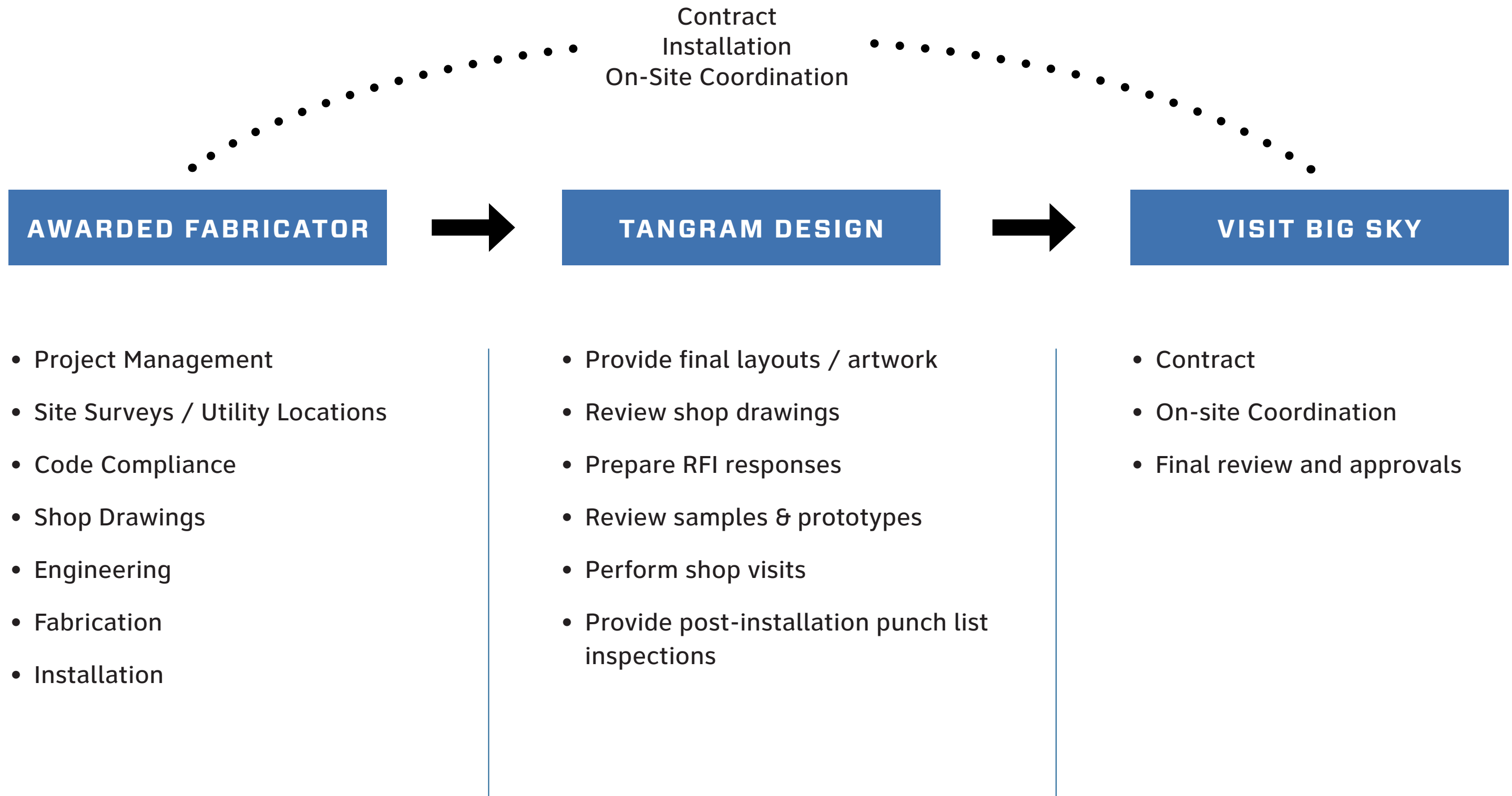
Sign Type B.1B & B.2B

Sign Type B.3

project communication



# PROJECT COMMUNICATION



performance &  
material requirements

**5.0 PROJECT COMPLETION**

**5.1 Review & Punch List**

The Fabricator shall notify both the Owner and Tangram in writing when all work is completed. Upon notice, Tangram will review all

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**3.3 Labeling**

Visible labels, manufacturer's or otherwise, code permitting, shall not appear on any completed element. The placement of any required labels must be approved by Tangram prior to application and installation.

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**4.0 MATERIAL STANDARDS**

All materials, hardware, and finishes used to fabricate any and all components shall be new (i.e. not previously used or operated in any other application) from the most recent manufacturer's production supply and free from any defects impairing strength, durability or

**FABRICATOR PERFORMANCE & MATERIAL REQUIREMENTS**

This document has been assembled by Tangram Design, LLC (Tangram) for Visit Big Sky (Owner) with the expectation that the fabricator shall meet the following quality and performance requirements. The acceptance of these drawings by the Fabricator constitutes agreement to comply with the following conditions. The Owner will hold the Fabricator to these requirements as part of their contract obligations.

**1.0 GENERAL**

**1.1 Proprietary Information Non-Disclosure Agreement**

All ideas, designs, arrangements and plans indicated or presented by these drawings are the property of the Owner, and were created for use in connection with the specified project. The information in this document is confidential and shall not be disseminated to anyone other than the Owner, Tangram, or the Fabricator's personnel necessary to execute the contract, without the written permission of Owner and Tangram.

In addition, the Fabricator must request and receive written approvals from both the Owner and Tangram to use images of any completed element. The Fabricator is responsible for ensuring that credit indicating Tangram Design, LLC as the Designer will accompany all images and articles related to the project. The Owner may have additional requirements or restrictions for which the Fabricator is also responsible.

**1.2 Design Intent Drawings**

The "design intent" drawings contained in this document are for the sole purpose of expressing visual design intent and are not intended for construction purposes. All aspects of fabrication, installation, and any resulting working drawings, shop drawings, submittals and contract documents are the responsibility of the Fabricator. Within the design intent drawings:

- All written dimensions take precedence over dimensions otherwise implied by drawing scale, figures, etc.
- Large scale details take precedence over the smaller scale drawings.
- Specific recommendations for materials, colors, and content take precedence over representations shown in drawings.

Prior to execution of the contract, Fabricator shall carefully review all the Contract Documents, Design Intent Drawings, Specifications, and/or instructions for any conflicts or ambiguities. Fabricator will identify any conflicts or ambiguities in writing to Owner and Tangram prior to execution of the agreement.

**2.0 PRE-FABRICATION REQUIREMENTS**

**2.1 Proposal**

Copies of all pricing and bid information shall be sent to the Owner. The Fabricator shall base their proposal on the performance of all items of service including labor, operations, materials, accessories, incidentals, services and equipment indicated, specified, mentioned, scheduled or implied to complete fabrication and installation of the specified work. Full compliance with these Fabricator Performance and Material Requirements will be required. Any further examinations, investigations, explorations, tests, studies, and/or specifications necessary for the performance of the work and/or services required is the Fabricator's responsibility and should be accounted for in the bid and schedule.

Fabricator proposes and agrees to perform all work and/or services as specified in the bid and design intent documents for the prices and within the times indicated in the bid and in accordance with the other terms and conditions of the Contract. Fabricator is satisfied as to the general, local and site conditions that may affect cost, progress, and performance of the work and/or services.

It is the responsibility of each Fabricator to verify the availability of material(s), delivery schedules, fabrication and manufacturing schedules and other pertinent data prior to submission of their proposal; and the responsibility of the successful respondent to provide same after award of the project. It is the responsibility of the respondent to notify the Owner immediately if material(s) specified are discontinued, replaced, or not available for an extended period of time. The Owner reserves the right to charge back additional costs, including but not limited to, freight, special handling, and purchase price difference due to delays, etc., to the successful respondent when items are not supplied as proposed.

The Fabricator is encouraged to make recommendations for specific changes if they will improve the quality or cost-effectiveness of fabrication while preserving Tangram's visual design intent. However, any such recommendations must be approved in writing by the Owner and Tangram at the time of bid. Should the Fabricator be contracted based on a proposal that assumes substitutions that have not been properly approved, the Fabricator shall be responsible for providing all elements as originally indicated at their own expense.

Fabricator has given the Owner and Tangram written notice of all conflicts, errors, ambiguities or discrepancies that the respondent has discovered in the bid documents, and the written resolution thereof by the Owner and Tangram is acceptable to respondent. The bid documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the work and/or services for which this bid is submitted.

**2.2 Performance**

The Fabricator shall and will, in good quality manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities, and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required, within the time specified. The Fabricator shall furnish, erect, maintain, and remove such construction plant and such temporary works as may be required. The Fabricator shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the contract and specifications, and shall do, carry on, and complete the entire work to the satisfaction of the Owner.

Fabricators are expected to examine all Drawings, Specifications, instructions and/or requirements of this design intent document and corresponding documents. Failure to do so will be at the respondent's risk. All referenced documents must be considered in preparation of Fabricator's proposal. The Owner and Tangram assume no responsibility for errors or misinterpretations resulting from the use of the bid or design intent documents.

**2.3 Subcontracting**

The Fabricator may utilize the services of specialty subcontractors on those parts of the work that under normal contracting practices are performed by specialty fabricators. The Fabricator must be able to perform a majority of the work at their own facility. Subcontractors shall have a supportive role to the project and should not individually or collectively have a higher percentage of work to perform than the Fabricator. The Fabricator shall be as fully responsible to the Owner for the acts and omissions of their subcontractors, and of persons either directly or indirectly employed by them, as the Fabricator is for the acts or omissions of persons directly employed by the Fabricator.

**2.4 Shop Drawings**

The Fabricator shall submit for review and approval shop drawings of all fabricated items, product data and samples to the Owner and Tangram. This submission shall consist of detailed drawings that indicate all materials, finishes, construction details, lighting requirements, installation details, and artwork, including locations of all material seams. Drawings shall include elevations, plans, sections, and notes as required to clearly convey fabrication intent.

Tangram shall advise and review all shop drawing submittals for fidelity and conformance with the design intent drawings. Upon review, the Fabricator shall make all requested revisions and resubmit as required. A complete set of approved shop drawings must be received from both the Owner and Tangram before production may begin. Required submittals must be issued in adequate time to coordinate a review and approval process without delaying the project schedule.

**2.5 Samples and Prototypes**

The fabricator will provide samples of all paints and vinyls used in the project for review and approval by Owner and Tangram. The fabricator will also supply to the Owner and Tangram agreed upon prototypes for review of fabrication methods, finishes and materials. Prototypes must be reviewed and approved prior to production. If approved, the prototype will be considered as part of the total sign count. If the prototype requires modifications, those changes must be made before it will be accepted. If the prototype is deemed to be defective and/or unfixable, based on the necessary modifications, the prototype will not be accepted as part of the final sign count. Fabricator will be responsible for any costs needed to repair or replace defective prototypes.

**3.0 FABRICATION & INSTALLATION REQUIREMENTS**

**3.1 Permitting & Regulation Compliance**

The Fabricator is responsible for securing and paying for all permits, insurances, inspections, and tests required by governmental agencies. The Fabricator is also responsible for verifying and ensuring compliance with all ADA, OSHA, environmental regulations, and all other applicable governing code requirements. Fabrication of signage shall be designed to meet local building codes including ASCE 7, Basic Wind speed of 130mph. All required resolutions or revisions to construction details must be approved by the Owner and Tangram prior to production.

**3.2 Structural Requirements**

The Fabricator shall follow Tangram's drawings for exterior visual appearance, but designs of internal structure, engineered connections, mounting assemblies, and foundations are by the Fabricator. Structural design shall utilize self-supportive framing and prevent irregularities in exposed surfaces. The Fabricator shall provide the Owner and Tangram with calculations for all structural members and foundations and they must be sealed by certified engineers registered in the state of installation, prior to fabrication. The Fabricator shall provide the Owner and Tangram with a list of support and/or blocking requirements, and approximate weights for each element as required after final shop drawing approval. The Fabricator's installation responsibilities include the provision of any required footings, anchor bolts, or fastenings. All point-of-connection coordination is the responsibility of the Fabricator.

# PERFORMANCE REQUIREMENTS

## EXAMINE SITE AND RFP DOCUMENTS

- Examine all RFP Documents thoroughly
- Understand the site and be aware of any thing that may impact cost, progress, or performance, including:
  - Local site conditions, on-site infrastructure
  - Underground facilities
  - Federal, State, and local laws and regulations
  - Availability of materials, delivery schedules, and production schedules to meet deadline
  - Construction and labor conditions, quantities, and character of the work
- Notify Visit Big Sky with any conflicts
- Submission of bid constitutes evidence of compliance to terms of the RFP Documents

## SCHEDULE

- All questions regarding the RFP are to be sent to Visit Big Sky by **4:00 PM MT on Friday, June 21, 2024.**
- Answers to the questions are to be published by **EOB on Tuesday, June 25, 2024.**
- Bids will be accepted until **4:00 PM MT on Tuesday, July 2, 2024.** LATE BIDS WILL NOT BE ACCEPTED

# PERFORMANCE REQUIREMENTS

## SAMPLES & PROTOTYPES

- Provide samples of all paints and reflective vinyls used in the project shall be submitted for review and approval.
- Paint samples must include all paint layers that would be used on final product.
- Prototypes must be reviewed and approved prior to production. If approved, the prototype will be considered as part of the total sign count. If the prototype requires modifications, those changes must be made before it will be accepted.

## SHOP DRAWINGS

- Tangram will provide the Fabricator with electronic files of Final Art and Design Intent drawings which shall be used in the production of final shop drawings
- Fabricator shall submit shop drawings for review and approval to Tangram. Once Tangram approves the drawings, Tangram will send to Visit Big Sky for final approval.

## ENGINEERING

- Shop drawings must include all final engineering calculations before final approval.
- Designs of internal structure, engineered connections, mounting assemblies, footings, fastenings, foundations etc. are the Vendor's responsibility.
- Calculations for all structural members and foundations must be sealed by certified engineers, prior to fabrication.
- Signs shall be engineered to withstand 130mph wind speed.

## INSTALLATION

- Final sign locations to be verified by Vendor and approved by Visit Big Sky before install
- Locate and avoid utilities which may be affected by the wayfinding signs

# MATERIAL REQUIREMENTS

## METAL

- All metals must be treated to prevent corrosion and staining of other finishes (except new steel beams).
- All aluminum materials must be thoroughly sanded to remove oxidation and primed prior to painting to insure maximum paint adhesion.

## TRANSPO INDUSTRIAL INC.

- All product pieces shall be the best commercial quality for the purposes specified and free from defects impairing strength, durability, or appearance.
- Unless otherwise noted, all materials shall be installed in strict accordance with the manufacturer's specifications to provide the highest level of overall longevity.
- All products are to be supplied by Transpo Industrial Inc., contact Brian Buggenhagen, 503-956-1029 or [brianb@transpo.com](mailto:brianb@transpo.com).

## PAINTS & FINISHES

- All paints and finishes shall match exactly the color, finish, and texture noted.
- A polyurethane clear coating shall be applied to seal the paint and preserve the surface from wear and oxidation.
- Paints and finishes shall be warranted and evenly applied without imperfections.

## DIGITALLY PRINTED REFLECTIVE VINYL

- All vinyl sheeting shall match exactly the color, finish, and durability as noted.
- 3M™ High Intensity Prismatic Reflective Sheeting 3930DS (White) shall be used for all reflective sheeting printing.
- All reflective sheeting surfaces shall be sealed with 3M™ Electrocut™ Film Series 1170 (Clear).

## FASTENERS

- All exposed fasteners shall be tamper-proof, resistant to oxidation and other corrosion, and painted to match adjacent surfaces.

vehicular wayfinding  
signage details

**Existing Concrete Footer**  
Existing concrete footer. See page 21 for example photos of the existing concrete footer. The fabricator is not responsible to install these footers.

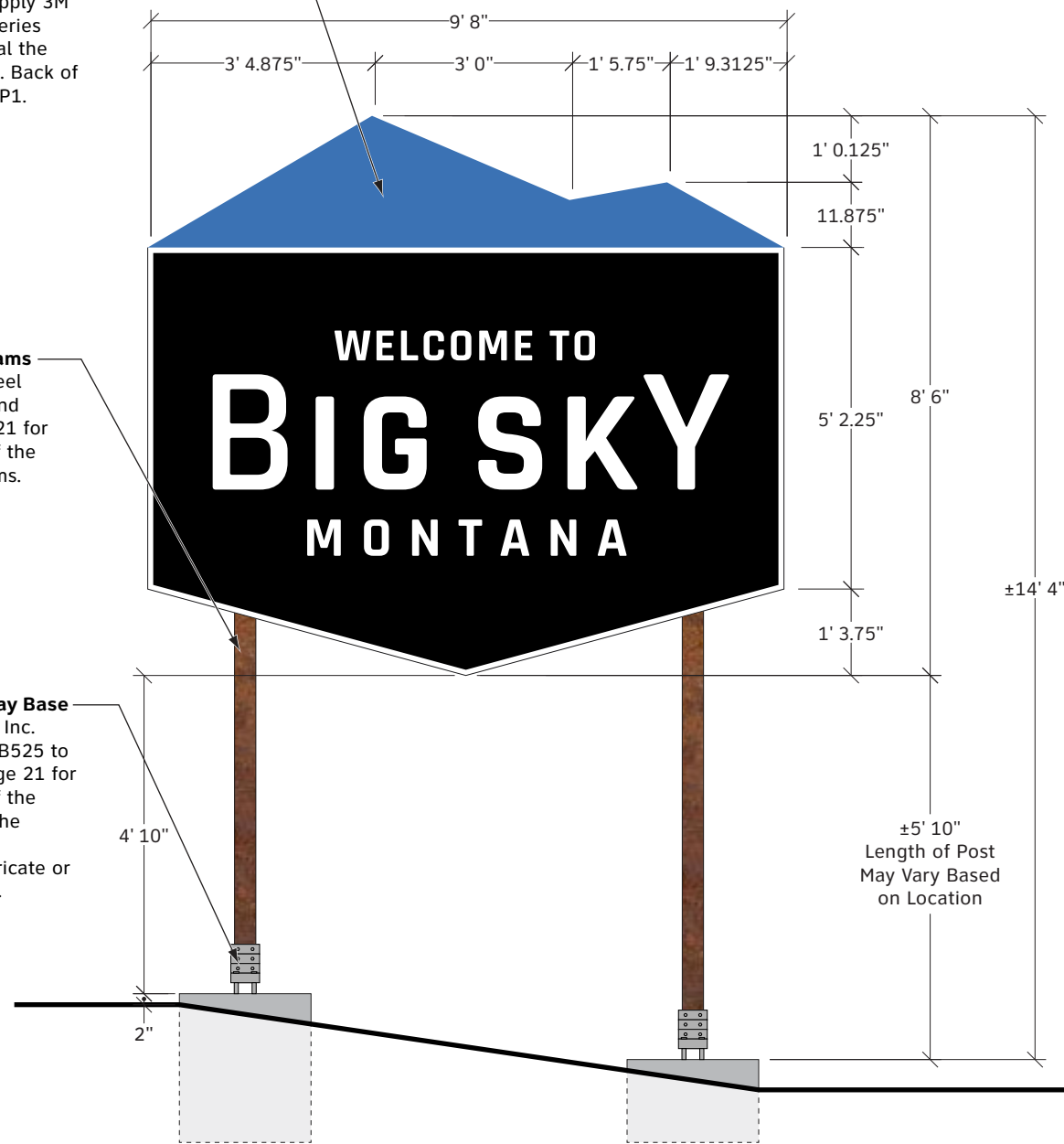


**1 Plan View**  
SCALE: 3/8" = 1'

**Sign Panel**  
1/4" aluminum sheets mechanically attached to the Zbars. Colors and graphics to be digitally printed onto 3M™ High Intensity Prismatic Reflective Sheeting 3930DS (White). Apply 3M™ Electrocut™ Film Series 1170 (Clear) to seal the reflective sheeting. Back of the panel painted P1.

**Existing Steel Beams**  
Existing W6 x 9 steel beams to be cut and reused. See page 21 for example photos of the existing steel beams.

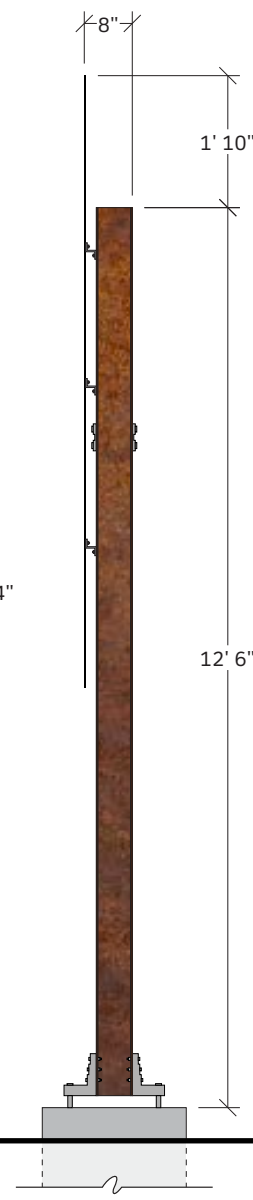
**Existing Breakaway Base**  
Transpo Industries Inc. Break-Safe Model B525 to be reused. See page 21 for example photos of the breakaway base. The fabricator is not responsible to fabricate or install these posts.



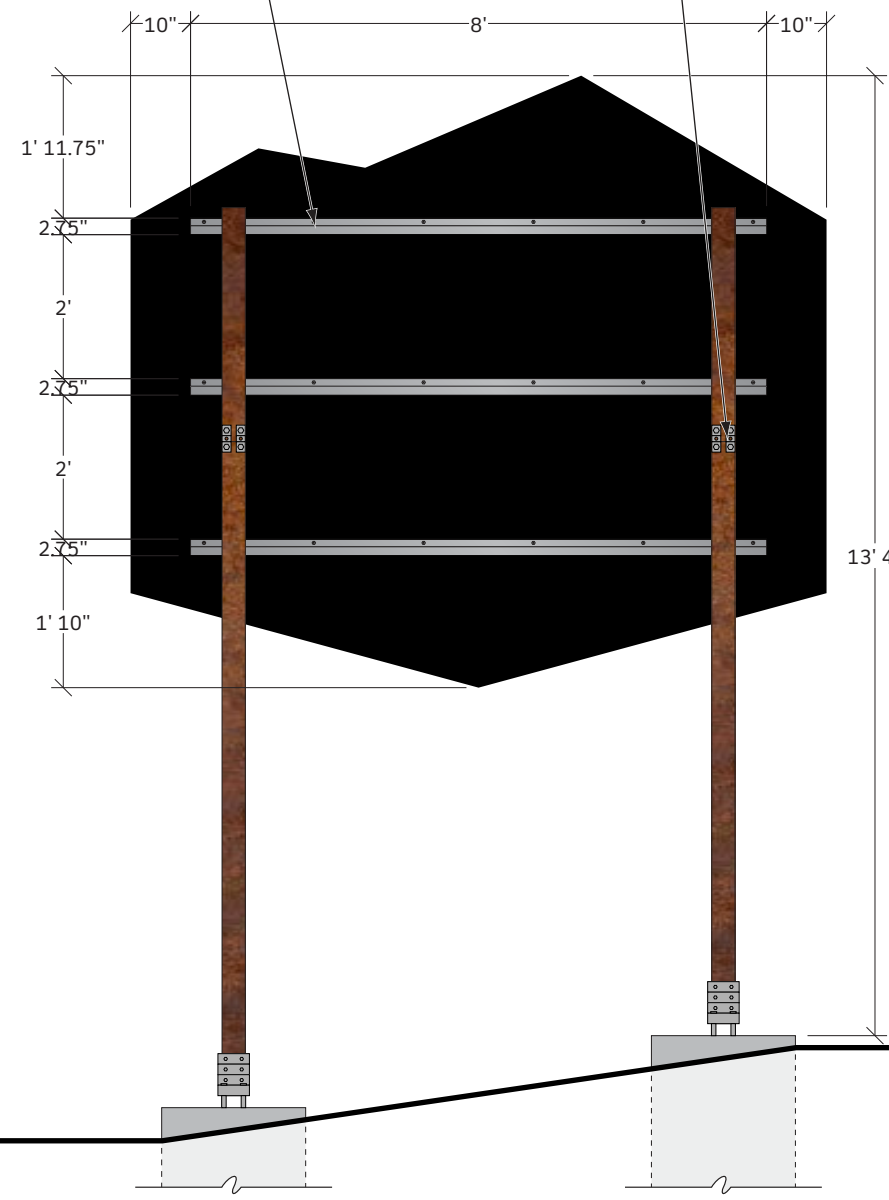
**2 Front Elevation**  
SCALE: 3/8" = 1'

**Z Bar**  
1.5" x 1.75" x 1.5" x 1/4" aluminum z bar mechanically attached to the Sign Panel and Existing Steel Beams. Paint P2.

**Existing Hinge Plates**  
Existing Transpo Industries Inc. hinges to be reused. See page 21 for example photos of the existing hinges. The fabricator is not responsible to fabricate or install these posts.



**3 Side Elevation**  
SCALE: 3/8" = 1'



**4 Backside Elevation**  
SCALE: 3/8" = 1'

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- Scaled examples shown are for reference only, and do not necessarily reflect actual site conditions. Detailed site surveys are required prior to fabrication and installation.
- Messages shown in these drawings are for general reference only. Refer to message schedules for actual required messages.

TANGRAM DESIGN, LLC | 878 SANTA FE DRIVE, UNIT 1, DENVER, COLORADO 80204 | (303) 777-8878

Visit Big Sky

CLIENT

Vehicular Wayfinding Signage

PROJECT

29 May 2024

DOCUMENT ISSUE

A.2 - Freestanding Entry Identification

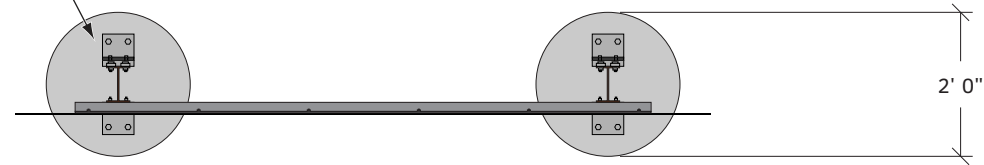
SHEET TITLE

10

SHEET NUMBER



**Existing Concrete Footer**  
Existing concrete footer. See page 21 for example photos of the existing concrete footer. The fabricator is not responsible to install these footers.



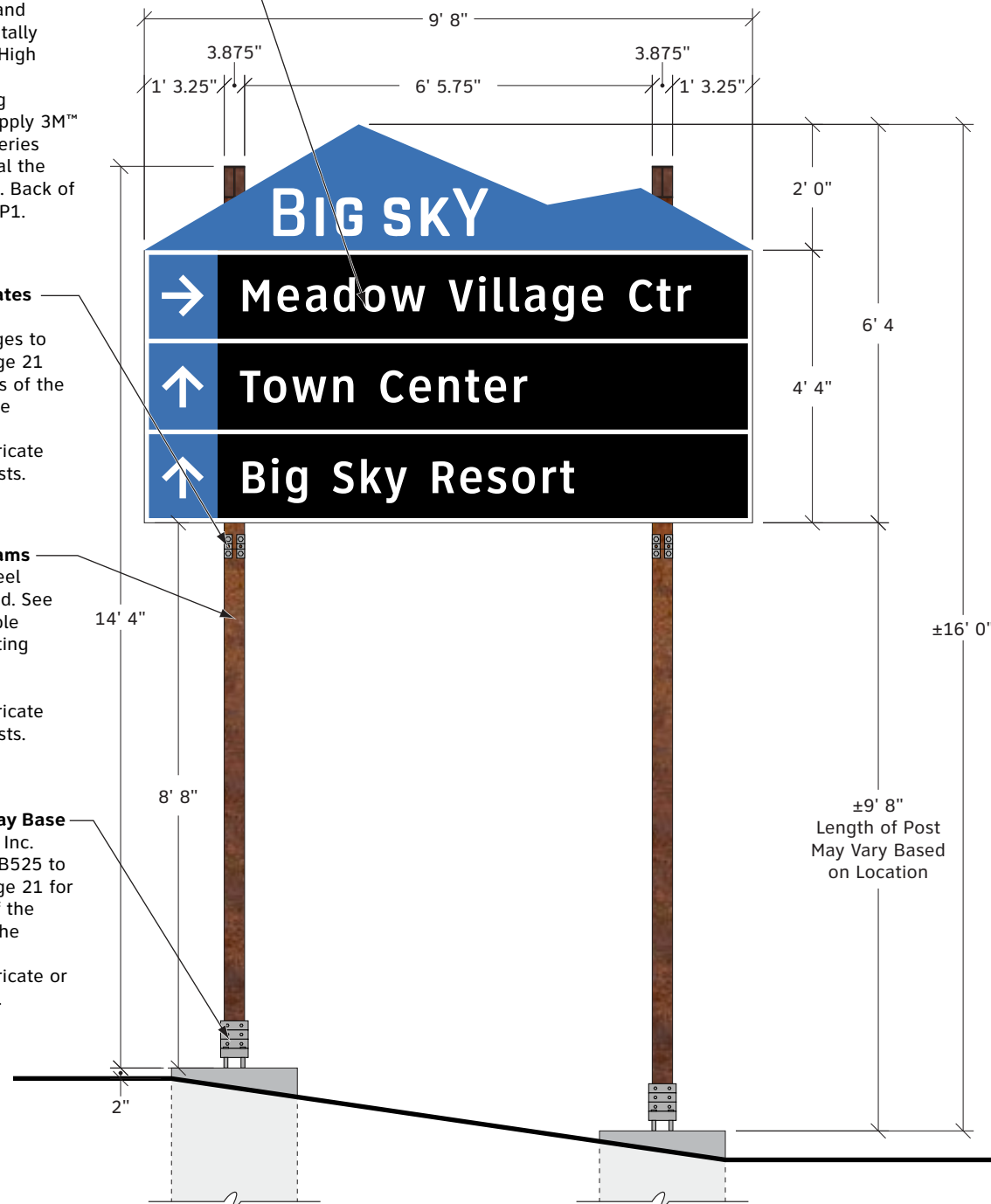
**1 Plan View**  
SCALE: 3/8" = 1'

**Sign Panel**  
1/4" aluminum sheets mechanically attached to the Zbars. Colors and graphics to be digitally printed onto 3M™ High Intensity Prismatic Reflective Sheeting 3930DS (White). Apply 3M™ Electrocut™ Film Series 1170 (Clear) to seal the reflective sheeting. Back of the panel painted P1.

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Existing Transpo Industries Inc. hinges to be reused. See page 21 for example photos of the existing hinges. The fabricator is not responsible to fabricate or install these posts.

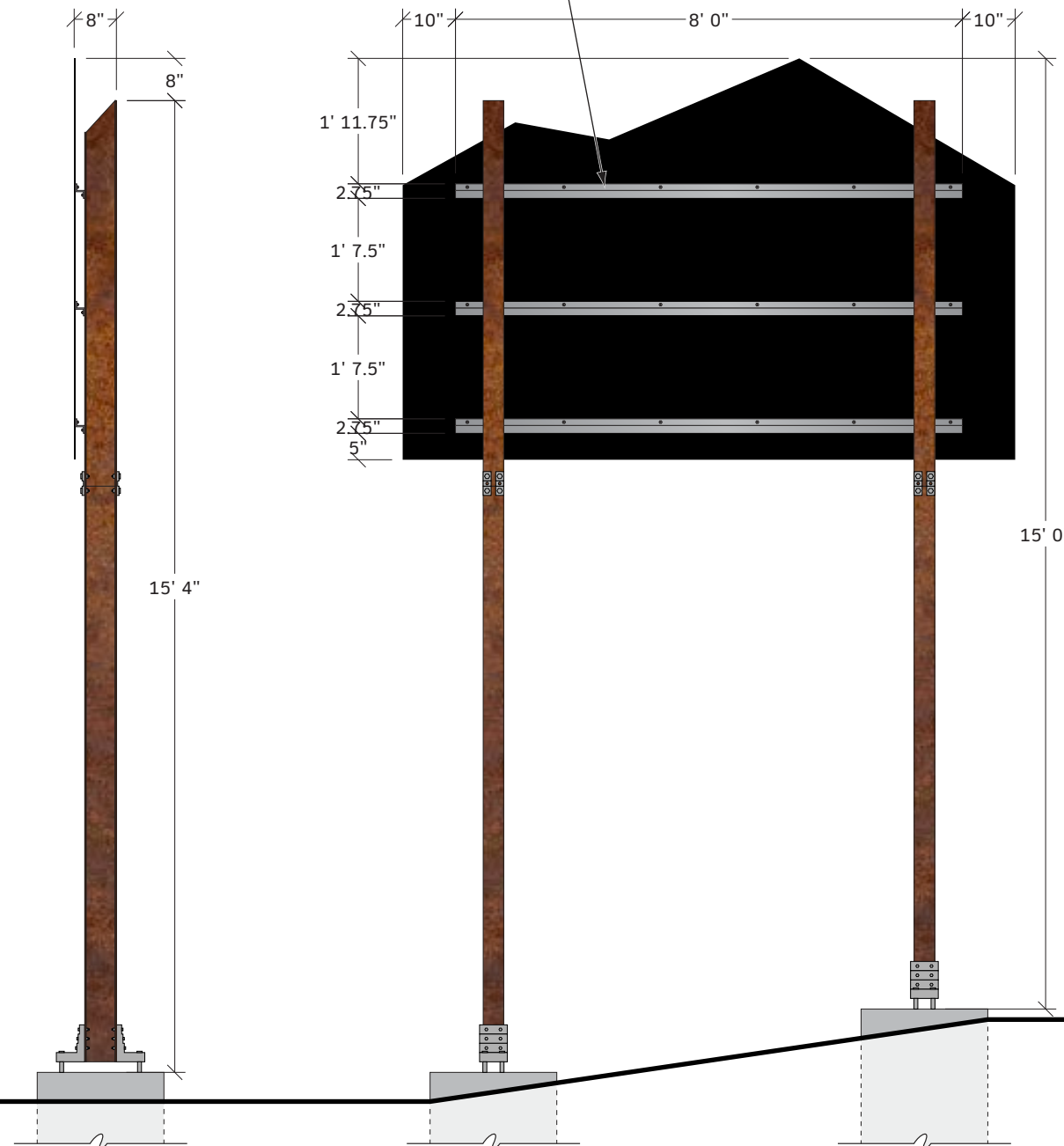
**Existing Steel Beams**  
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**Existing Breakaway Base**  
Transpo Industries Inc. Break-Safe Model B525 to be reused. See page 21 for example photos of the breakaway base. The fabricator is not responsible to fabricate or install these posts.



**2 Front Elevation**  
SCALE: 3/8" = 1'

**Z Bar**  
1.5" x 1.75" x 1.5" x 1/4" aluminum z bar mechanically attached to the Sign Panel and Existing Steel Beams. Paint P2.



**3 Side Elevation**  
SCALE: 3/8" = 1'

**4 Backside Elevation**  
SCALE: 3/8" = 1'

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Visit Big Sky

CLIENT

Vehicular Wayfinding Signage

PROJECT

29 May 2024

DOCUMENT ISSUE

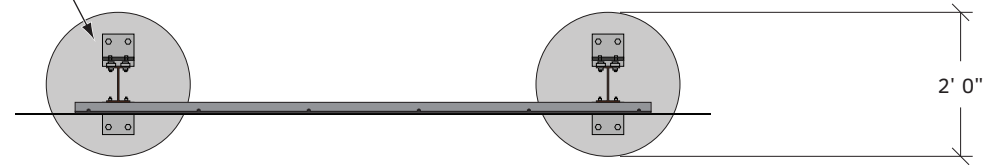
B.1A - Freestanding Vehicular Directional (Panel Only)

SHEET TITLE

12

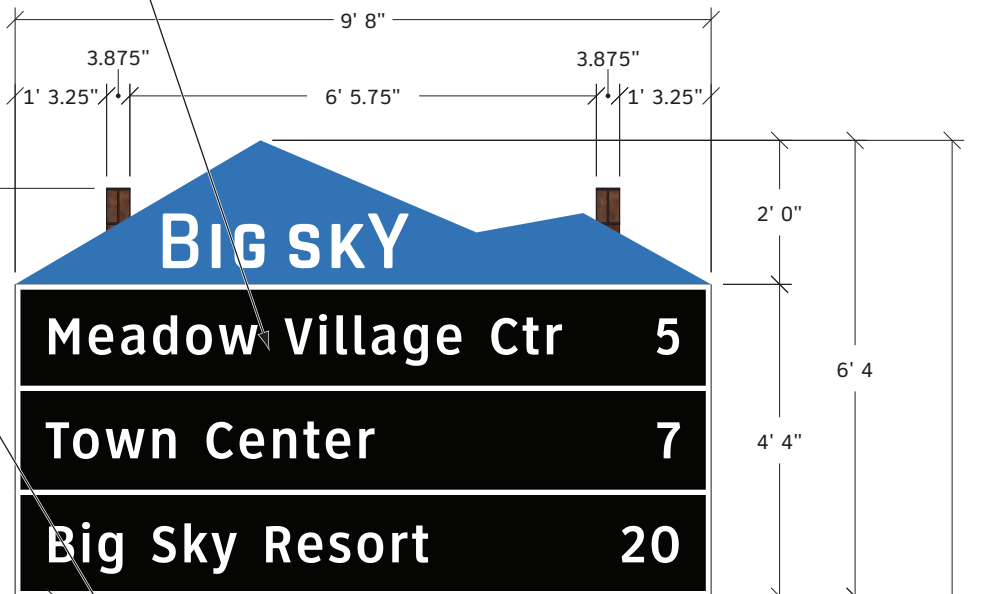
SHEET NUMBER

**Existing Concrete Footer**  
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**1 Plan View**  
SCALE: 3/8" = 1'

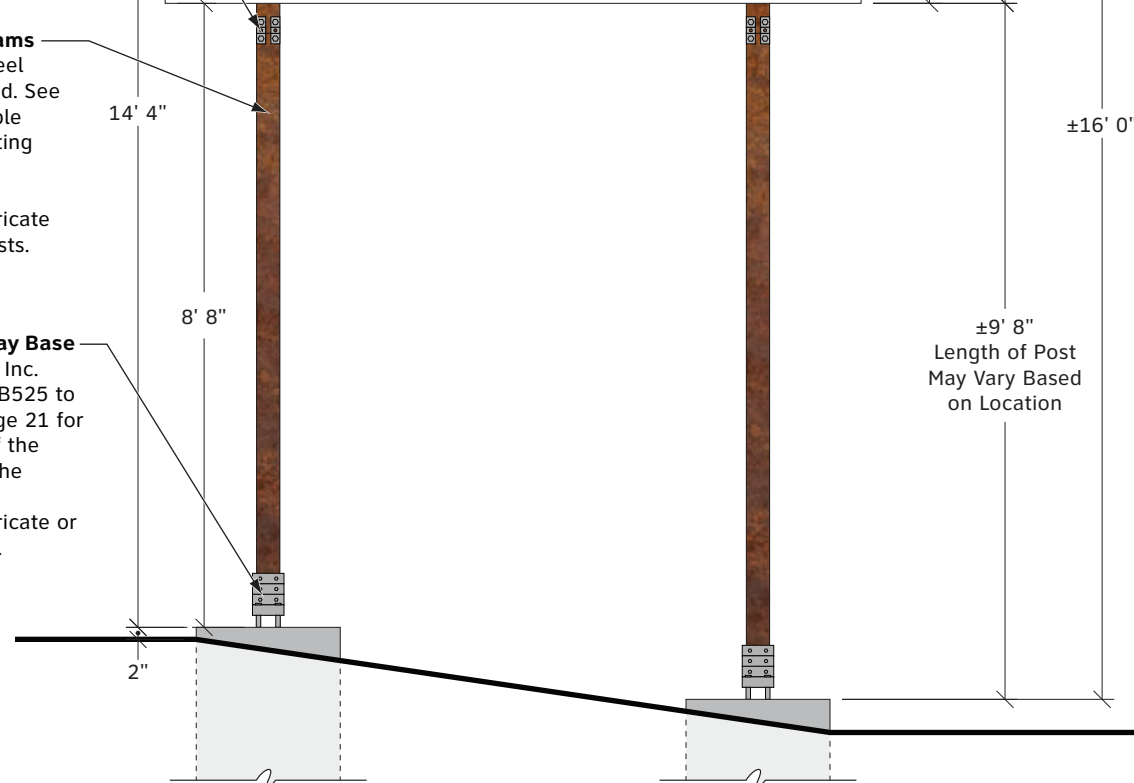
**Sign Panel**  
1/4" aluminum sheets mechanically attached to the Zbars. Colors and graphics to be digitally printed onto 3M™ High Intensity Prismatic Reflective Sheeting 3930DS (White). Apply 3M™ Electrocut™ Film Series 1170 (Clear) to seal the reflective sheeting. Back of the panel painted P1.



**Existing Hinge Plates**  
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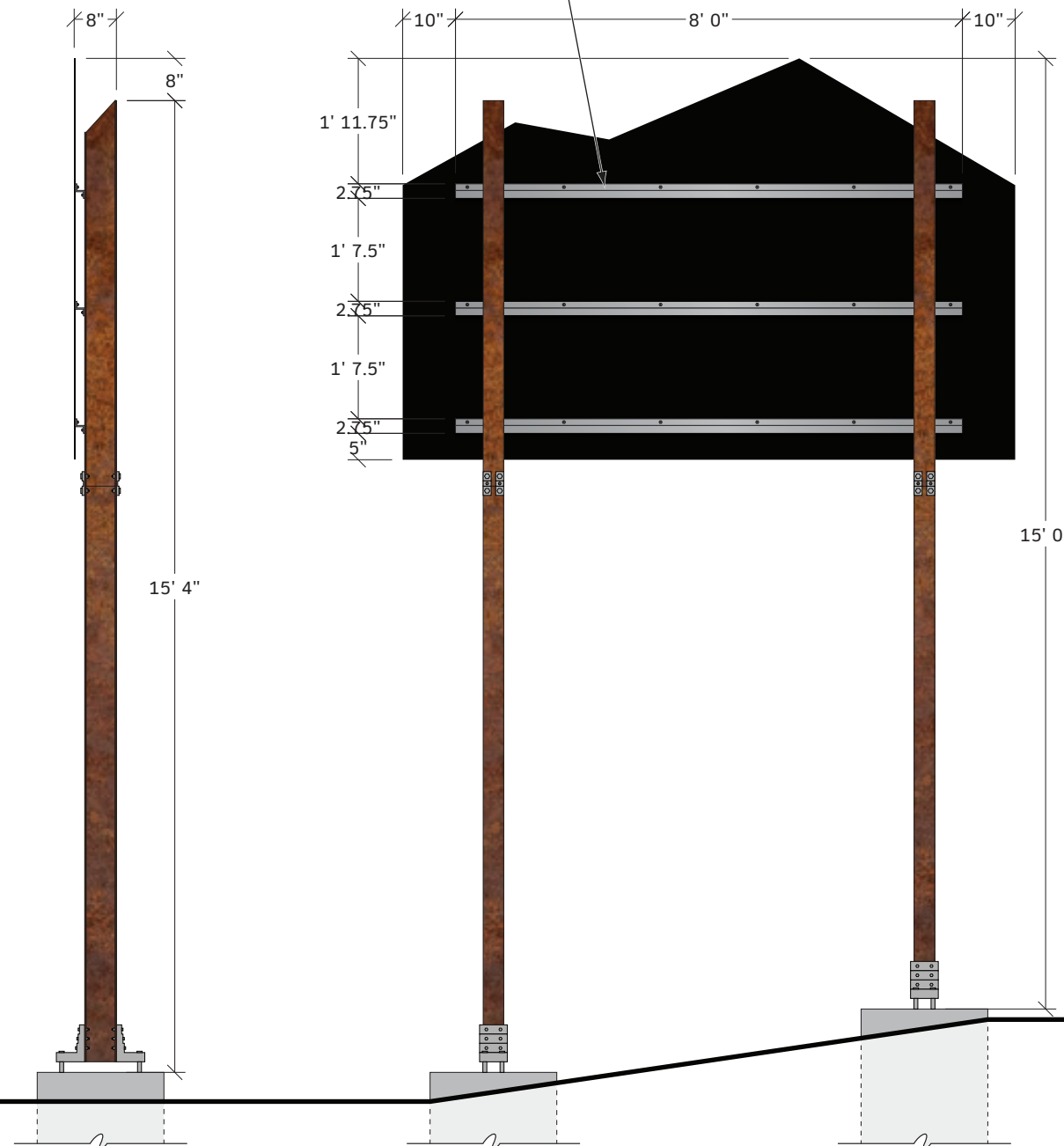
**Existing Steel Beams**  
Existing W6 x 9 steel beams to be reused. See page 21 for example photos of the existing steel beams. The fabricator is not responsible to fabricate or install these posts.

**Existing Breakaway Base**  
Transpo Industries Inc. Break-Safe Model B525 to be reused. See page 21 for example photos of the breakaway base. The fabricator is not responsible to fabricate or install these posts.



**2 Front Elevation**  
SCALE: 3/8" = 1'

**Z Bar**  
1.5" x 1.75" x 1.5" x 1/4" aluminum z bar mechanically attached to the Sign Panel and Existing Steel Beams. Paint P2.



**3 Side Elevation**  
SCALE: 3/8" = 1'

**4 Backside Elevation**  
SCALE: 3/8" = 1'

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Visit Big Sky

CLIENT

Vehicular Wayfinding Signage

PROJECT

29 May 2024

DOCUMENT ISSUE

B.1B - Freestanding Vehicular Directional (Panel Only)

SHEET TITLE

13

SHEET NUMBER





Existing Vehicular Directional



Transpo Hinge Plate Details on Existing Vehicular Directional

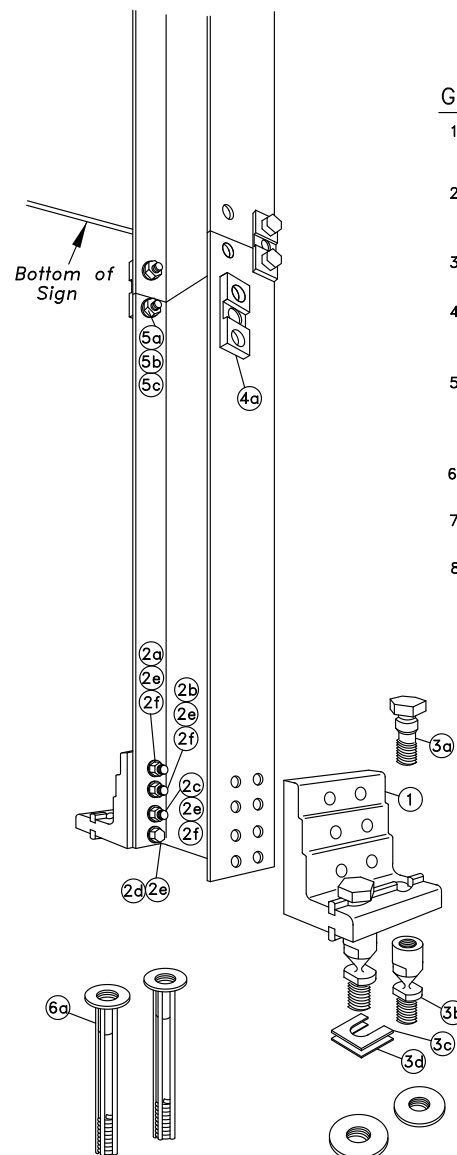


Transpo Breakaway Base Details on Existing Vehicular Directional

**PARTS LIST**

ITEM	DESCRIPTION	SIZE/SPECIFICATIONS	QTY/ POST	PART NUMBER
	Model B525	Includes Items 1-5 below.	1	SBM525*
1	Bracket, Type B525	6061-T6 Aluminum	2	SBBK525
2	Bracket Hardware Assembly, Type B525, includes:		1	SB-B525LPH
2a	Bolt	12.7mm(1/2")-13UNCx63.5mm(2-1/2"), Hex Head, ASTM A325, Galv. ASTM A153	4	
2b	Bolt	12.7mm(1/2")-13UNCx69.8mm(2-3/4"), Hex Head, ASTM A325, Galv. ASTM A153	4	
2c	Bolt	12.7mm(1/2")-13UNCx76.2mm(3"), Hex Head, ASTM A325, Galv. ASTM A153	4	
2d	Cap Screw	12.7mm(1/2")-13UNCx31.7mm(1-1/4"), Hex Head, ASTM A307, Galv. ASTM A153	4	
2e	LockWasher	12.7mm(1/2"), ANSI B18-21-1, Galv. ASTM A153	16	
2f	Nut	12.7mm(1/2")-13UNC, Heavy Hex, ASTM A563 Gr. DH, Galv. ASTM A153	12	
3	Coupling & Special Bolt Assembly, Type B, includes:		1	SB-CBLP
3a	Special Bolt	25.4mm(1")-8UNC, ASTM A449, Galv. ASTM A153/B695	4	
3b	Coupling	25.4mm(1")-8UNC, LP, AMS 6378D, Galv. ASTM A153, Polyester Coat	4	
3c	Shim	25.4mm(1") Horseshoe, 14 Gauge, Galv. Steel Sheet	2	
3d	Shim	25.4mm(1") Horseshoe, 18 Gauge, Galv. Steel Sheet	2	
4	Hinge Assembly, Type B525, includes:		1	SB-HB1
4a	Hinge Plate	Type B525, AISI 4130 Steel, Galv. ASTM A123	4	
5	Hinge Hardware Assembly, Type B, includes:		1	SB-HHB
5a	Bolt	19.0mm(3/4")-10UNCx57.1mm(2-1/4"), Hex Head, ASTM A325, Galv. ASTM A153	8	
5b	LockWasher	19.0mm(3/4"), ANSI B18-21-1, Galv. ASTM A153	8	
5c	Nut	19.0mm(3/4")-10UNC, Heavy Hex, ASTM A563 Gr. DH, Galv. ASTM A153	8	
6	Anchor Assembly, Type B, includes:		1	SBABPK
6a	Anchor	25.4mm(1")-8UNC, 304 S.S. Ferrule, AISI 1038 Rod, AISI 1008 Coil	4	

\*Complete assembly includes Items 1-5. Item 6, Anchors sold separately.



**GENERAL NOTES:**

- Break-Safe meets all requirements of "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals."
- Break-Safe Model B525 is designed to fit W6 (W150mm) and W8 (W200mm) Wide Flange I-Beam, and 5" (127mm) and 6" (150mm) Square Tube signposts.
- Hinge Items 4 & 5 above are not used for single post sign applications.
- All hardware items are American Standard sizes, galvanized in accordance with ASTM A153 (hot dipped) or ASTM B695 (mechanically applied).
- Fasteners, except for special bolt and coupling, are installed with lockwashers, and do not have specific torque requirements. Fasteners should be secured as tight as possible with conventional wrenches, unless noted otherwise.
- Square-up and level individual components, particularly Anchors to minimize the need for shimming between the Couplings and Anchors.
- No more than two shims shall be placed under any one coupling. No more than three shims underneath any pair of couplings.
- Refer to other side of page for complete installation instructions.

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The Smart Solutions Company www.transpo.com

**Break-Safe Model B525**  
Breakaway Support System for Sign Posts

for 6" & 8" W-Shape I-Beam Posts  
Multiple Post Sign Application with Hinges

Scale: Not To Scale Date: January 2015

Drawing No. BS-B525 Sheet: 1 of 2

Patent Nos. 4,528,786 and 5,596,845

**INSTALLATION INSTRUCTIONS**

**ANCHOR ASSEMBLY:**

Note: Precise positioning of the anchors is critical to proper assembly of the system. It is recommended that actual posts be used to locate the correct position of the anchors.

- Fabricate a flat, rigid template with four (4) 25mm (1") diameter holes located to match the specified anchor pattern of the Break-Safe Brackets attached to the signpost. See diagram below.
- Attach four (4) Transpo Type B Female Anchors to the template using four (4) 25mm (1") diameter bolts. Ensure that each Anchor Washer is snug against the bottom of the template.
- Lower Anchor Assembly into fresh concrete foundation, and vibrate into position such that the tops of the Anchor Washers are flush with the finished top surface of the foundation. Support the template such that all Anchors are level and in their proper locations.
- Allow concrete to cure, and then remove the bolts and template from the top of the foundation.

**HINGE ASSEMBLY: (for Multiple Post Sign Applications)**

- Butt upper and lower post sections together on a flat surface.
- Drill eight (8) 20.6mm (13/16") holes in the flanges of the post sections as shown.
- Place Hinge Plates on outer surface of the post flanges and secure with bolts, lock washers, and nuts. Ensure that upper and lower post sections are in alignment, and then tighten all nuts 1/2 turn beyond snug.

**BRACKET ASSEMBLY:**

- Drill sixteen (16) 14.3mm (9/16") diameter holes in the flanges of the lower post section as shown.
- Place Brackets squarely on outer surface of the post flanges, and secure with bolts, lock washers, nuts, and cap screws. Then, tighten all 1/2 turn beyond snug.

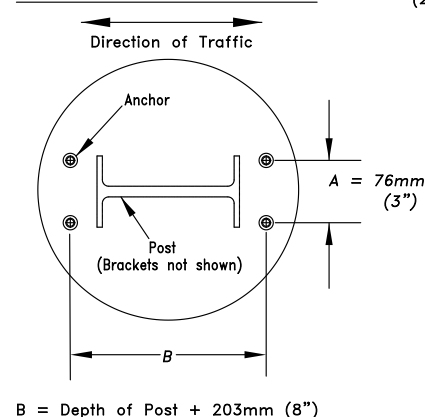
**COUPLING ASSEMBLY:**

- Thread four (4) Break-Safe Couplings into Anchors. Do not tighten.
- Suspend post assembly over foundation, insert Special Bolts through holes in the Brackets, and thread them snug into the Couplings.
- If post is not plumb, insert Shims (14g and/or 18g) between the Couplings and Anchors, where needed.
- Use lower wrench flats to tighten Couplings into Anchors as tight as possible using a conventional wrench. Do not use a pipe wrench. Couplings must be seated squarely.
- Tighten Special Bolts while holding Couplings by the upper wrench flats with an additional wrench to prevent an induced torque stress across the necked portion of the Coupling. All Special Bolts shall also be tightened as tight as possible using conventional wrenches.

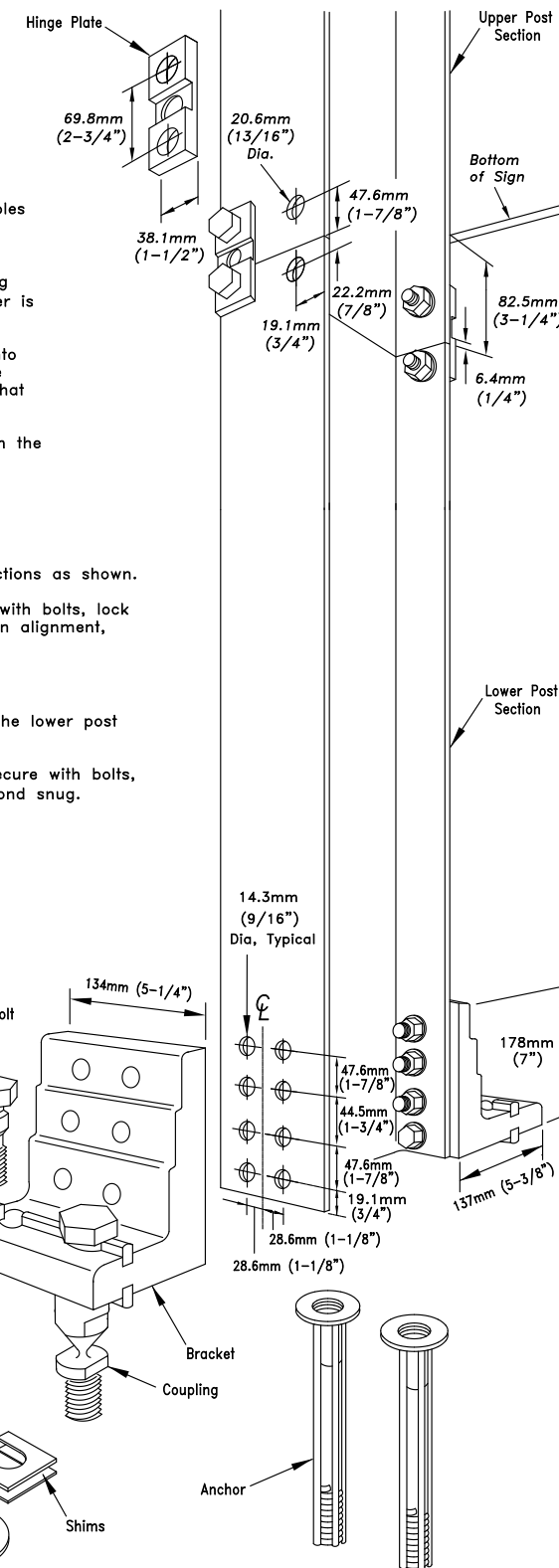
**SIGN PANEL ASSEMBLY:**

- After all signposts are secured in place, attach sign panel assembly to posts in accordance with the sign manufacturer's recommendations.

**PLAN VIEW OF TYPICAL FOUNDATION**



Patent Nos. 4,528,786 and 5,596,845



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**Break-Safe Model B525**  
Breakaway Support System for Sign Posts

Scale: Not To Scale Date: January 2015

Drawing No. BS-B525 Sheet: 2 of 2

Patent Nos. 4,528,786 and 5,596,845

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- Scaled examples shown are for reference only, and do not necessarily reflect actual site conditions. Detailed site surveys are required prior to fabrication and installation.
- Messages shown in these drawings are for general reference only. Refer to message schedules for actual required messages.

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29 May 2024

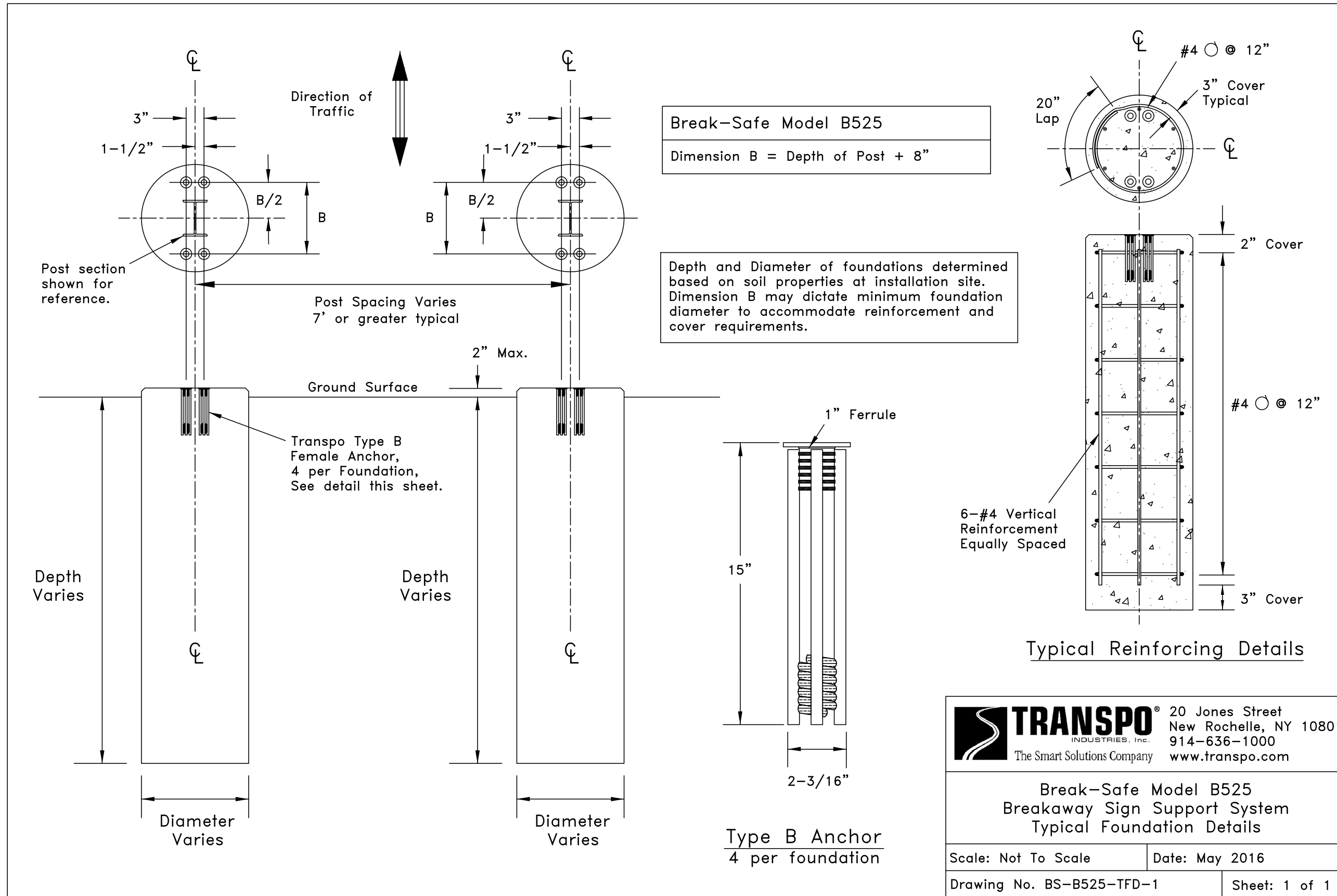
DOCUMENT ISSUE

Transpo Industrial Inc.  
Break-Safe Model B525 Details

SHEET TITLE

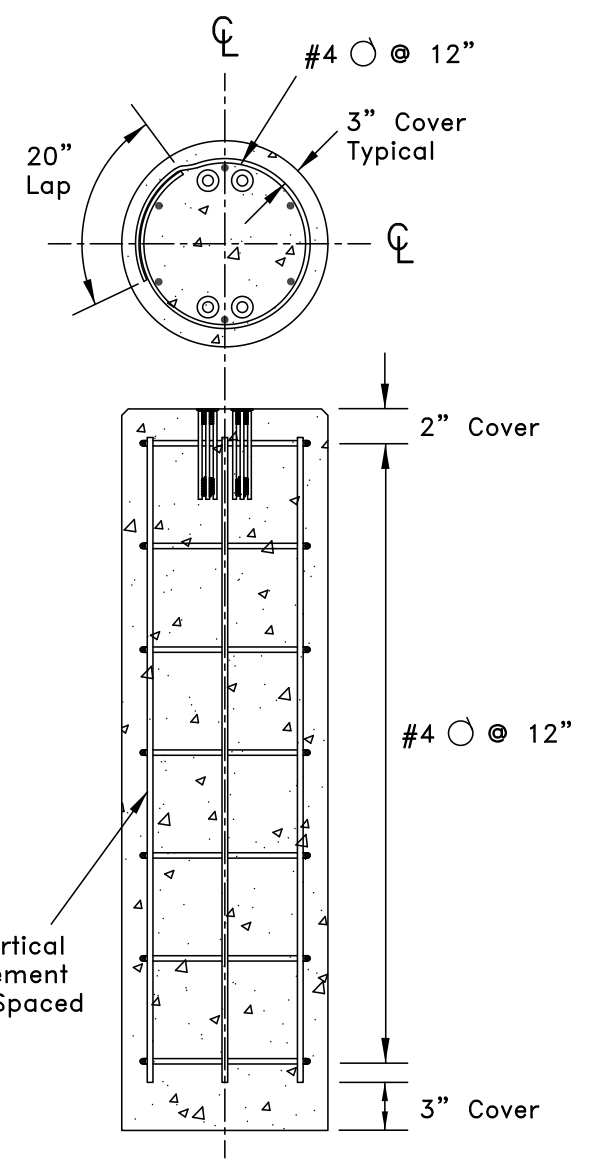
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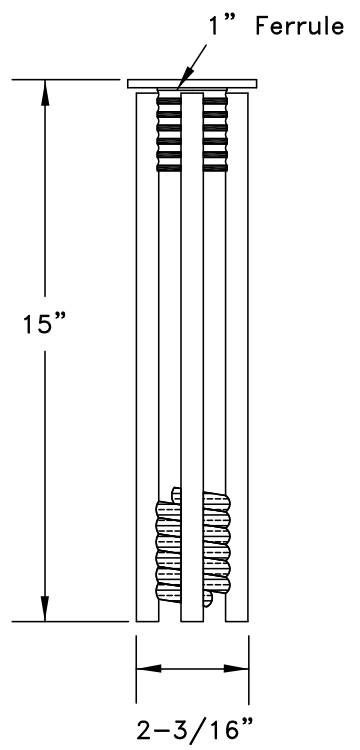


**Break-Safe Model B525**  
 Dimension B = Depth of Post + 8"

Depth and Diameter of foundations determined based on soil properties at installation site. Dimension B may dictate minimum foundation diameter to accommodate reinforcement and cover requirements.



Typical Reinforcing Details



Type B Anchor  
 4 per foundation

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 New Rochelle, NY 10801  
 914-636-1000  
 The Smart Solutions Company www.transpo.com

**Break-Safe Model B525**  
 Breakaway Sign Support System  
 Typical Foundation Details

Scale: Not To Scale Date: May 2016  
 Drawing No. BS-B525-TFD-1 Sheet: 1 of 1

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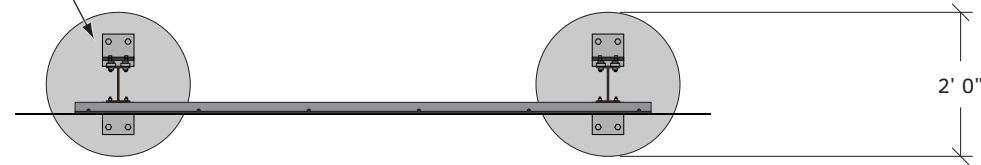
Vehicular Wayfinding Signage  
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29 May 2024  
 DOCUMENT ISSUE

Transpo Industrial Inc.  
 Break-Safe Model B525 Details  
 SHEET TITLE

20  
 SHEET NUMBER

**Concrete Footer**  
The size and depth of the concrete footer shall be determined by the fabricator. The footers must be certified by engineers registered in the state of Montana.



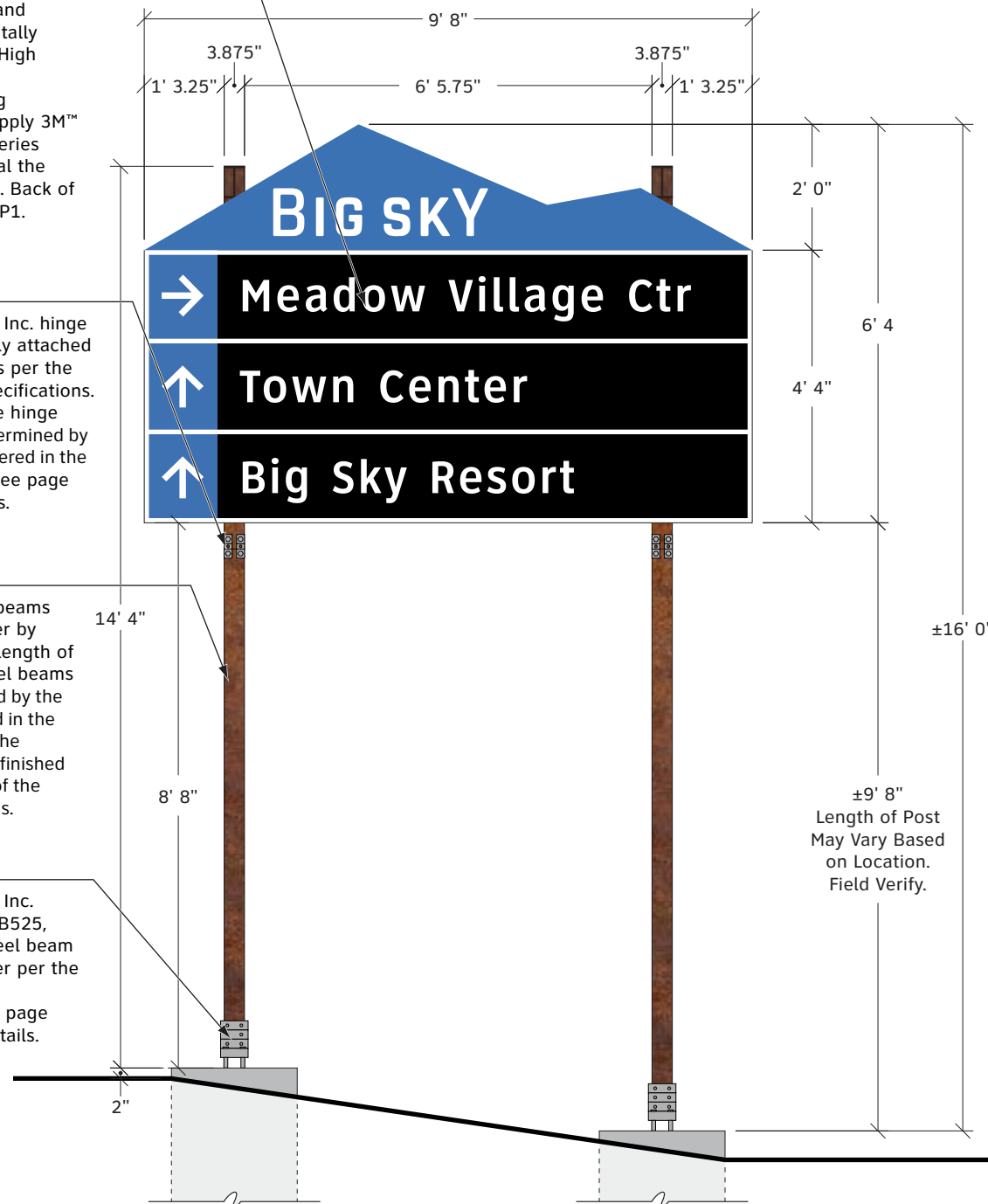
**1 Plan View**  
SCALE: 3/8" = 1'

**Sign Panel**  
1/4" aluminum sheets mechanically attached to the Zbars. Colors and graphics to be digitally printed onto 3M™ High Intensity Prismatic Reflective Sheeting 3930DS (White). Apply 3M™ Electrocut™ Film Series 1170 (Clear) to seal the reflective sheeting. Back of the panel painted P1.

**Hinge Plates**  
Transpo Industries Inc. hinge plates mechanically attached to the Steel Beams per the manufacturer's specifications. The location of the hinge plates shall be determined by the engineer registered in the state of Montana. See page 19 for more details.

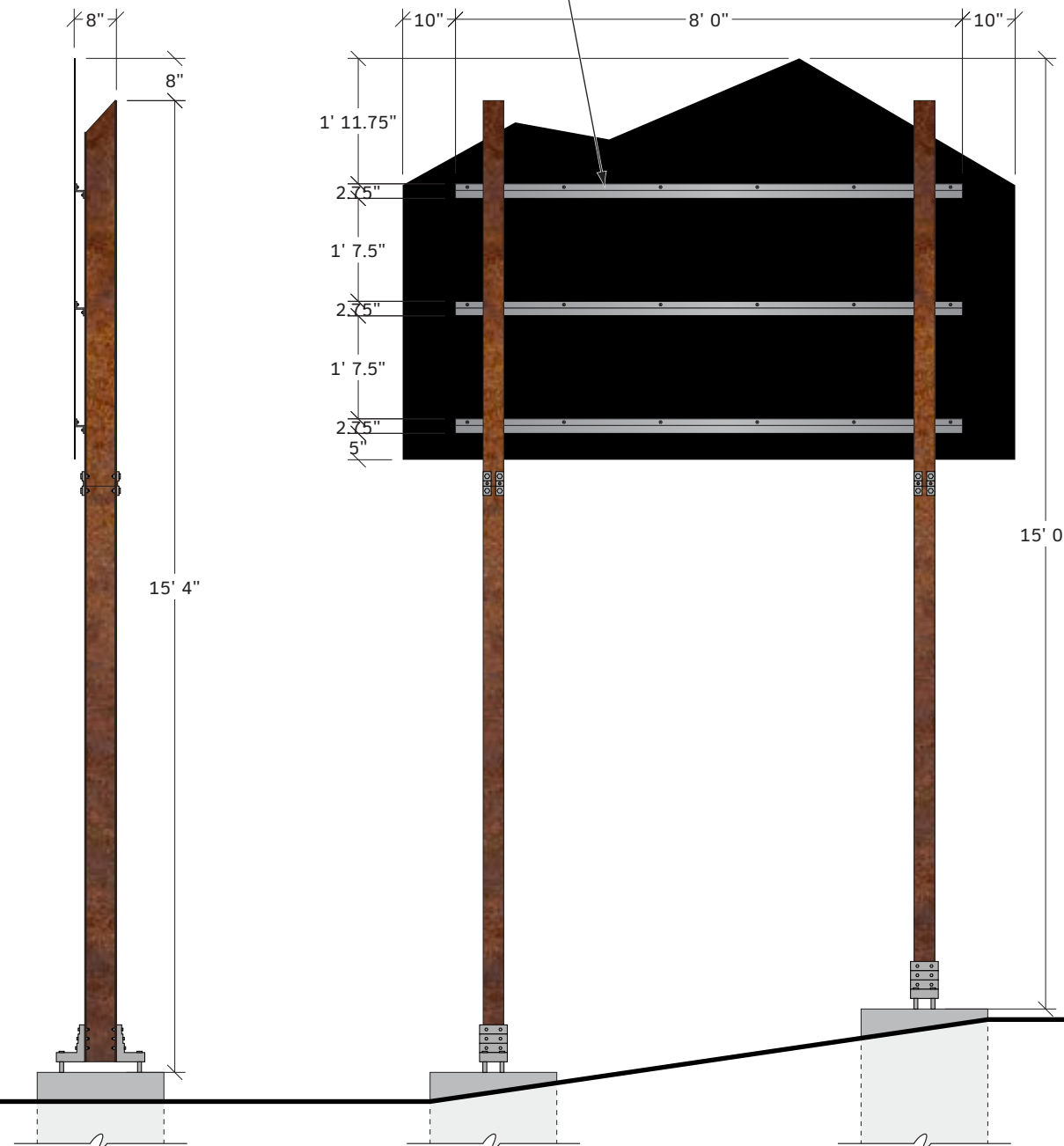
**Steel Beams**  
Two W6 x 9 steel beams connected together by Hinge Plates. The length of the connected steel beams shall be determined by the engineer registered in the state of Montana. The beams are to be unfinished to match the look of the existing steel beams.

**Breakaway Base**  
Transpo Industries Inc. Break-Safe Model B525, attached to the steel beam and concrete footer per the manufacturer's specifications. See page 19-20 for more details.



**2 Front Elevation**  
SCALE: 3/8" = 1'

**Z Bar**  
1.5" x 1.75" x 1.5" x 1/4" aluminum z bar mechanically attached to the Sign Panel and Steel Beams. Paint P2.



**3 Side Elevation**  
SCALE: 3/8" = 1'

**4 Backside Elevation**  
SCALE: 3/8" = 1'

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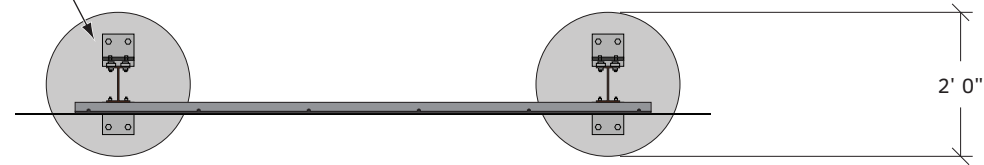
B.2A - Freestanding Vehicular Directional

SHEET TITLE

14

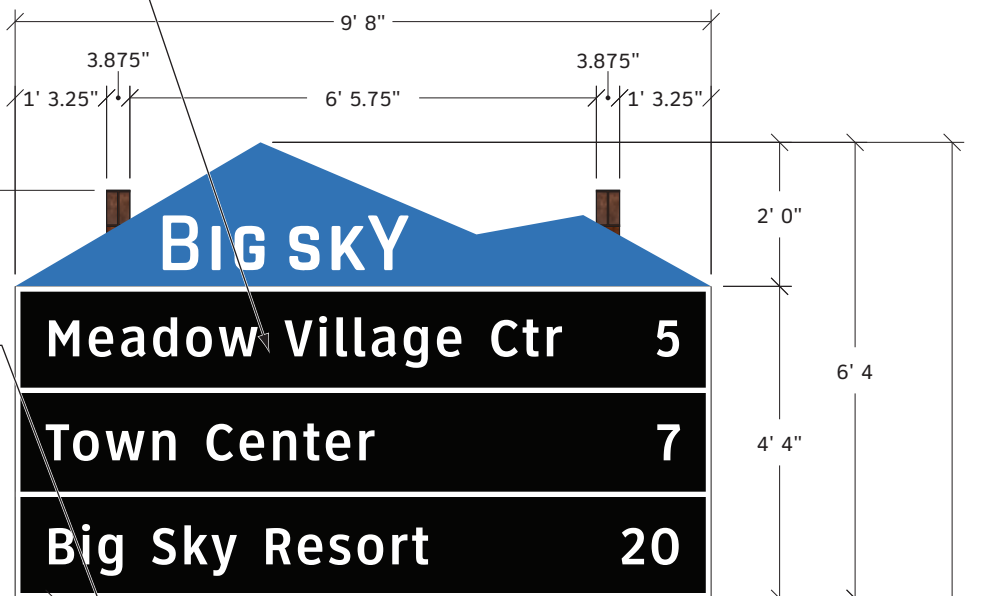
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**Concrete Footer**  
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**1 Plan View**  
SCALE: 3/8" = 1'

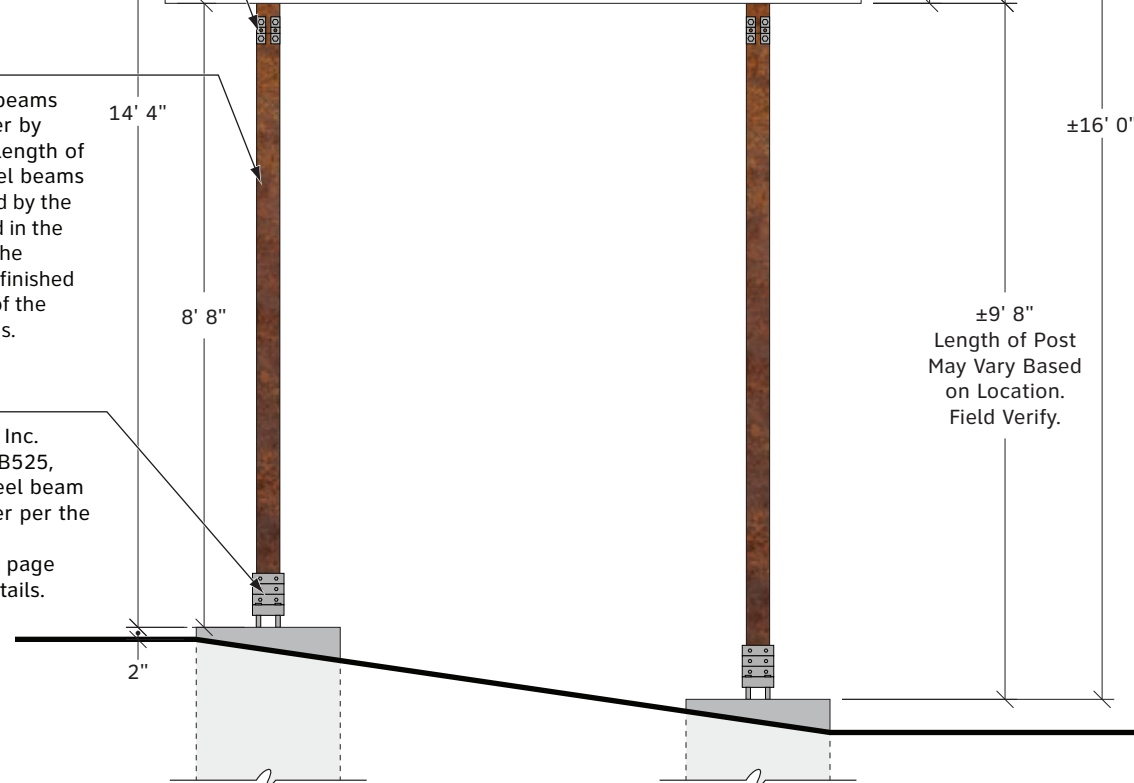
**Sign Panel**  
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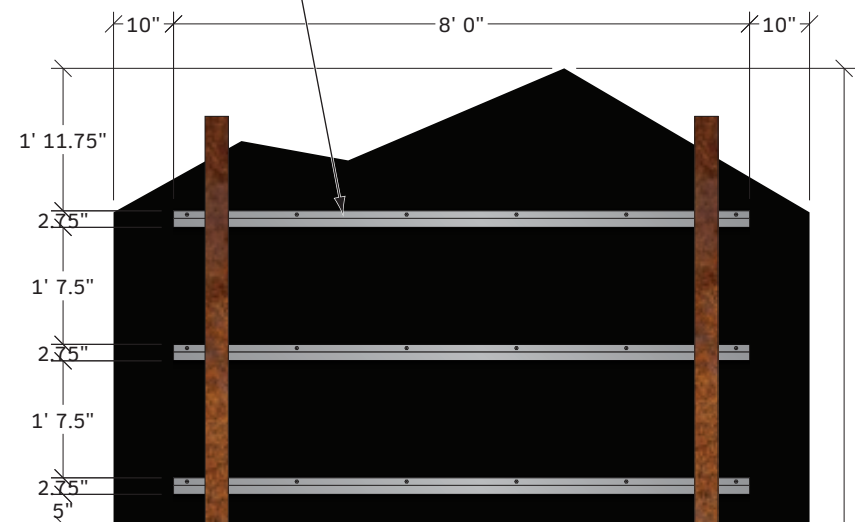
**Steel Beams**  
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**Breakaway Base**  
Transpo Industries Inc. Break-Safe Model B525, attached to the steel beam and concrete footer per the manufacturer's specifications. See page 19-20 for more details.



**2 Front Elevation**  
SCALE: 3/8" = 1'

**Z Bar**  
1.5" x 1.75" x 1.5" x 1/4" aluminum z bar mechanically attached to the Sign Panel and Steel Beams. Paint P2.



**3 Side Elevation**  
SCALE: 3/8" = 1'

**4 Backside Elevation**  
SCALE: 3/8" = 1'

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B.2B - Freestanding Vehicular Directional

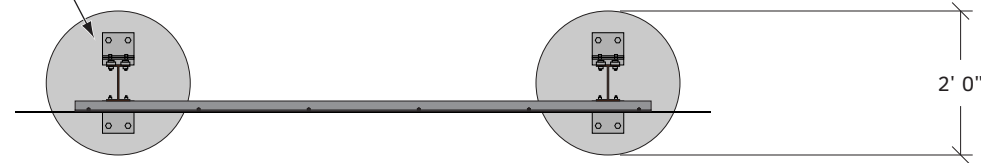
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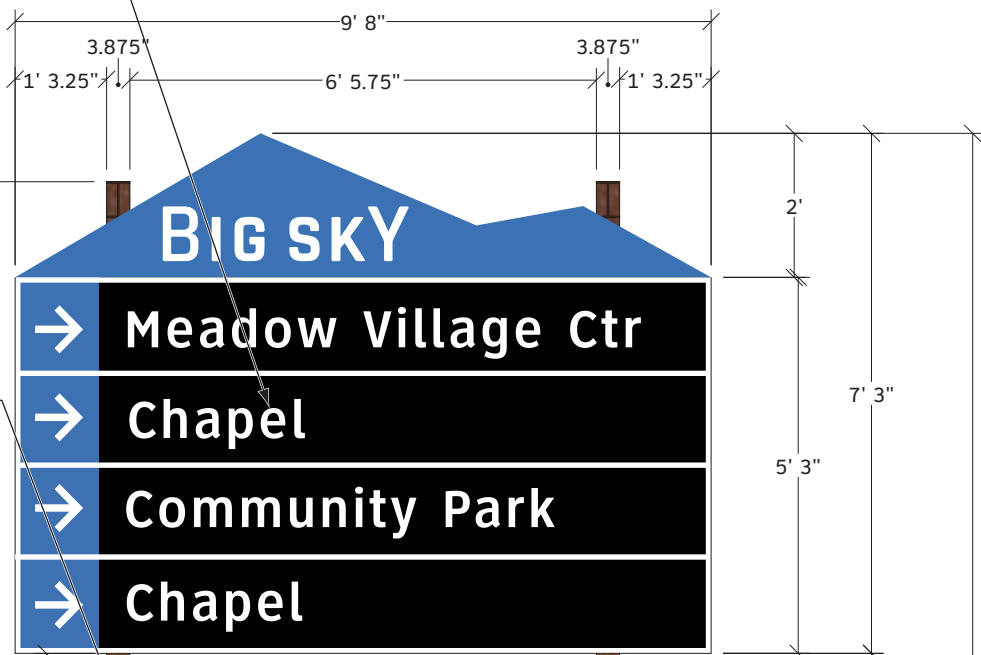


**Concrete Footer**  
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**1 Plan View**  
SCALE: 3/8" = 1'

**Sign Panel**  
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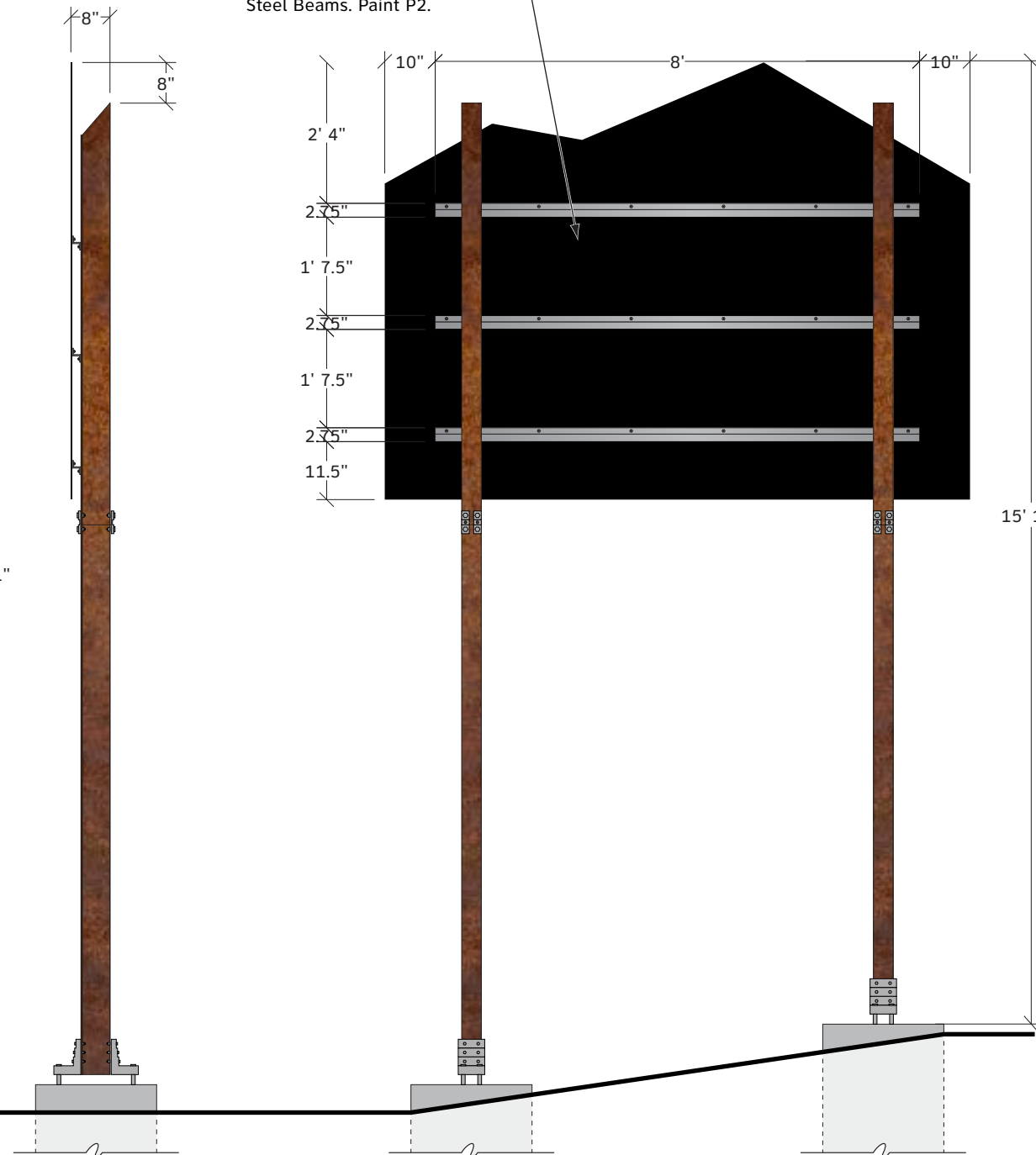
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**Steel Beams**  
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**Breakaway Base**  
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**2 Front Elevation**  
SCALE: 3/8" = 1'

**Z Bar**  
1.5" x 1.75" x 1.5" x 1/4" aluminum z bar mechanically attached to the Sign Panel and Steel Beams. Paint P2.



**3 Side Elevation**  
SCALE: 3/8" = 1'

**4 Backside Elevation**  
SCALE: 3/8" = 1'

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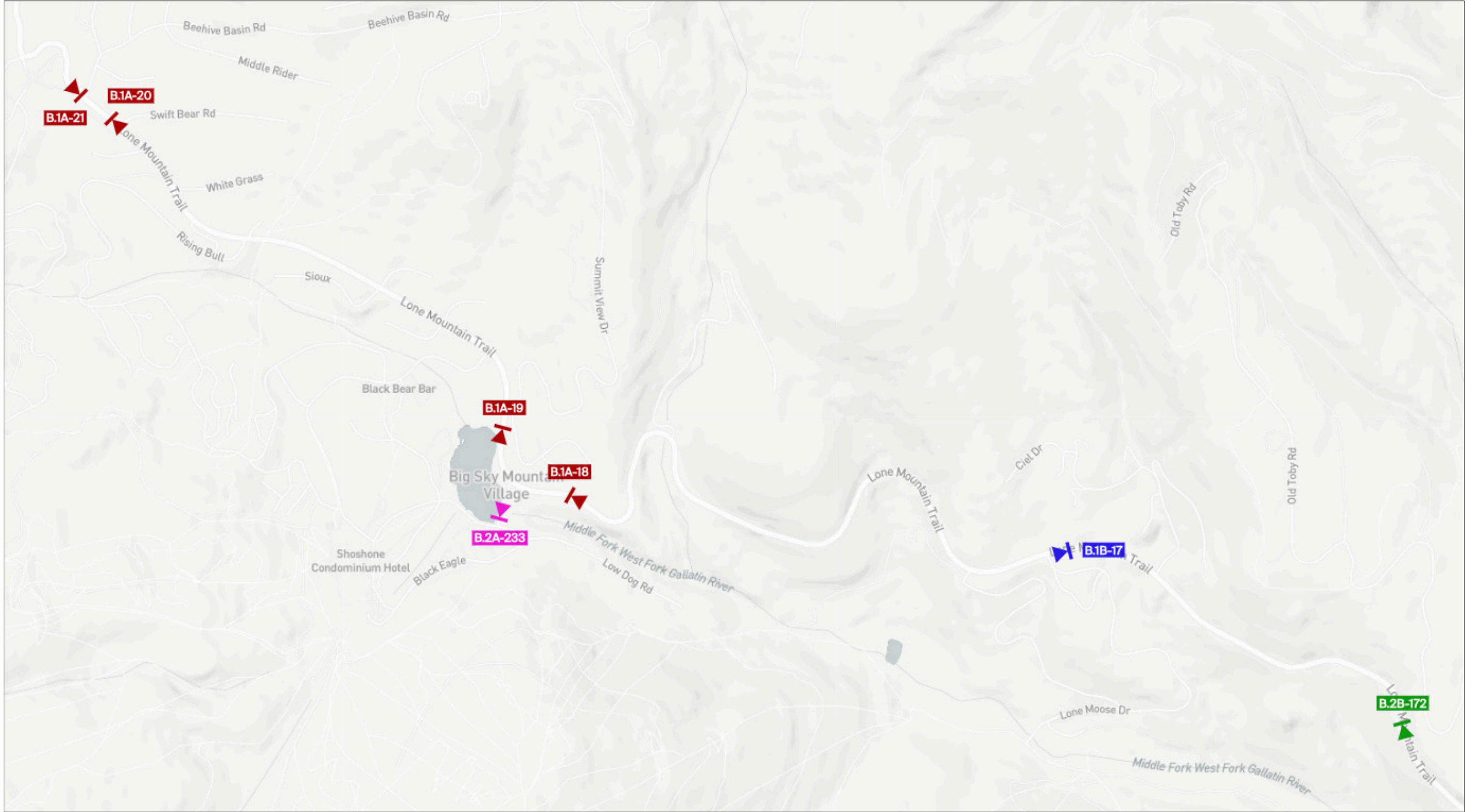
B.3A - Freestanding Vehicular Directional

SHEET TITLE

17

SHEET NUMBER

Area 3 - Signage Location Plan



These documents are intended to illustrate design intent and should only be used as a general guideline. All locations shown are approximate. All final locations are to be determined during pre-installation site walk-thrus, prior to sign fabrication and must be approved by Owner. Detailing and information contained on these pages shall not be reproduced, copied, or utilized except for the specific project for which they were created, without previous written authorization from Tangram Design, LLC. © 2024 by Tangram Design, LLC.

Visit Big Sky - Vehicular Wayfinding Signage Signage Location Plan

Area 3 - Signage Location Plan

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