

S-13 Monroe Co Mill Pond Bridge

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Motorized Recreation Grant Application

For: (choose all that apply)

Form 8700-159 (R 02/2024)

Page 1 of 5

☐ ATV/UTV Trail Aid

☒ Snowmobile Trail Aid

Due Date: April 15

Notice: Completion of this form is required under Wisconsin Statutes 23.09(26) and 23.33. Failure to complete this form will result in denial of financial assistance. Personally identifiable information found on this form is not intended to be used for any other purpose. The Department of Natural Resources (DNR) may provide this information to requesters as required by Wisconsin's Public Records law {ss. 19.31 – 19.39, Wis. Stats.}.

Instructions: Applications may combine more than one source of funds. They may be submitted for consideration of traditional ATV, UTV, Snowmobile and Motorized Stewardship funding. Submit one copy of all forms and attachments. See Page 2 for necessary attachments. Send applications to your Community Services Specialist.

DNR Use Only

| Category | Number |
|----------|--------|
|----------|--------|

Section 1: Applicant Information

| | | | | | |
|--|--|------------------------------|---|-------|----------|
| Applicant / Organization Name | | | Check Recipient: Individual other than authorized individual to act on behalf of the applicant. <input type="checkbox"/> Select if the same as applicant. | | |
| Monroe County | | | Check Recipient Name (Name to Appear on Check) | | |
| Individual Authorized to Act on Behalf of Applicant per Resolution | | | Monroe County Treasurer | | |
| Chad Ziegler | | | Title | | |
| Title | | | Address | | |
| Snowmobile Coordinator | | | 777 S. Black River Street | | |
| Address | | | 777 S. Black River Street | | |
| 777 S. Black River Street | | City | | State | ZIP Code |
| Sparta | | WI | | 54656 | |
| Telephone Number | | Email Address | | | |
| (608) 269-8635 | | chad.ziegler@co.monroe.wi.us | | | |

Section 2: Project Information Required for all Projects

| | | | | | | |
|------------------|----------|-------|---------|---------|----------------------|---------------------------|
| Project Title | | | | | Current Funded Miles | New Miles (if applicable) |
| Mill Pond Bridge | | | | | 323.5 | |
| County | Township | Range | Section | 1/4 1/4 | GPS Coordinates: | |
| Monroe | 19 N | 4 | 27 | NE | Lat. 44.090587 | |
| | | | | SW | Long. -90.842884 | |

Project Description Summary

Replace damaged bridge that is at the end of its life. Bridge has structural damage from ice/water expanding and bulging/cracking the tubular steel. Some structural damage from grooming equipment as well. The deck of the bridge needs to be replaced. The certified bridge inspector recommended a 1 ton weight limit on the bridge or to perform a load rating on the bridge at a cost of \$9,500.

☒ I certify that all maintenance land use agreements are on file.

Estimated Cost

| Maintenance | Acquisition | Insurance | Development | Bridge Rehab. | Trail Rehab. | Total Estimated Cost |
|-------------|-------------|-----------|-------------|---------------|--------------|----------------------|
| | | | | \$110,000.00 | | \$110,000.00 |

Leave Blank – DNR Use Only

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

Applicant Certification

| | |
|-------------------------------------|------------------------|
| Printed Name of Authorized Official | Official's Title |
| Chad Ziegler | Snowmobile Coordinator |

As the applicant's authorized official, I certify that, to the best of my knowledge, the information in this application is true and correct.


Signature of Authorized Official


Date Prepared

Appendix A – Required for Bridge Rehab/Replace, New, or Reroute with New Bridge
☒ Bridge Rehab/Replace ☐ New Bridge ☐ Reroute with new bridge

| | | | | | | | |
|---|------------------|------------------|---|--|-----------|---|--|
| County Monroe | Township 19 N | Range 4 | <input type="radio"/> E <input checked="" type="radio"/> W | Section 27 | ¼ ¼ NE | ¼ SW | GPS Coordinates: Lat. 44.090587 Long. -90.842884 |
| Water Body Name Mill Pond/Rathbone Creek | | | | Bridge Name Mill Pond Bridge | | County Inventory Number | |
| Funded Trail Name or Number (SNARS if applicable) 11 | | | | Has this bridge site ever received development or rehabilitation funds in the past? <input checked="" type="radio"/> Yes <input type="radio"/> No Year: _____ \$ 24,800.00 | | | |
| Bridge is located on: <input type="radio"/> Private property <input checked="" type="radio"/> Public property | | | | Old Bridge/Culvert Size 12' x 70' New Bridge/Culvert Size 12' x 70' | | | |
| Landowner Where Bridge is Located Town of Little Falls - Tom Stuessel, Chair | | | | Telephone Number (608) 272-3807 | | Length of Trail Use Agreement (5 year minimum) 5 | |
| Current maximum load 10,000 lbs. | | Age of Bridge 25 | | Bridge Material steel/wood | | | |
| Proposed maximum load 25,000 lbs. | | | | | | | |
| Sponsoring Club Name Cataract Trailbusters | | | | Club Contact Ken Arendt | | Telephone Number (608) 633-0734 | |
| Do you have your trail bridges posted as to maximum load? <input checked="" type="radio"/> Yes <input type="radio"/> No | | | | What is the maximum load of the other bridges on the system if groomed with this bridge? 25000 | | | |
| What is the weight of your puller & drag/grading equipment? 22000 | | | | | | | |
| What other recreational trail uses are planned for this bridge? none | | | | | | | |
| If there are other Recreational uses planned, how much of the bridge cost will be paid for by non-snowmobile or non-ATV users? none | | | | | | | |
| <input type="radio"/> Yes <input checked="" type="radio"/> No Have you contacted your local <u>DNR Water Management Specialist (WMS)</u> regarding a permit? <input checked="" type="radio"/> Yes <input type="radio"/> No Is a permit needed? (Please provide any written correspondence from WMS.) <input checked="" type="radio"/> Yes <input type="radio"/> No Have you contacted your County Zoning Dept. regarding a floodplain determination? <input type="radio"/> Yes <input checked="" type="radio"/> No Will an H & H (hydrologic and hydraulic) study be required? | | | | | | | |

Bridge Project Detailed Description

The Mill Pond Bridge is a 12' x 70' bridge fabricated from tubular steel that crosses the Mill Pond/Rathbone Creek located in the Town of Little Falls (unincorporated Cataract). The Cataract Trailbusters would like to replace the bridge due to the structural damage from water freezing, expanding and cracking the bridge structure, groomer damage to the structure and a failing deck. The current decking supports are 4.5' apart which is a large span to carry the weight of a wheeled grooming unit.

Appendix A (continued)**Summarize Costs in Appropriate Categories:****Bridge Structure****Quote 1**☒ Steel ☐ Wooden**Quote 2**☒ Steel ☐ Wooden

Bridge Dimensions:

12' x 70'

12' x 85'

Bridge Manufacturer:

Cary Specialized Services

Custom Manufacturing, Inc.

Design Weight Load

25,000 lbs.

25,000 lbs.

Cost of Structure:

1. Engineering

\$ 10,000

\$ 3,000

2. Structure

\$ 80,000

\$ 135,400

Subtotal \$ 90,000

\$ 138,400

Quote 1☒ Contractor or ☐ Sponsor
Estimate**Quote 2**☒ Contractor or ☐ Sponsor
Estimate**Installation Costs:**

1. Engineering

\$

\$

2. Site Preparation

\$ 17,000

\$ 21,700

3. Abutments

\$

\$

4. Pilings/Piers

\$

\$

5. Approaches

\$

\$

6. Riprap

\$

\$

7. Labor

\$

\$

8. Equipment Rental

\$

\$ 4,200

9. Culverts

\$

\$

10. H & H Study

\$

\$

11. Wetland Delineation

\$

\$

12. Other Permits/delivery/admin

\$ 3,000

\$ 2,200

Subtotal \$ 20,000

\$ 28,100

Total Cost \$ 110,000

\$ 166,500

For the application grant, you must take the lowest of the two quotes.**Entire Deck and Railing Projects**☐ Contractor ☐ Sponsor ☐ Club

Bridge Dimensions:

Design Weight Load

lbs.

1. Materials

\$

2. Labor

\$

Total \$

Guidelines for Applicant

Complete this form for each bridge structure you are submitting a grant application for. Provide any additional documents not requested on application checklist to substantiate your points, including actual deeded easements.

| Category | | Possible Points | Actual Points |
|--------------------|---|-----------------|---------------|
| 1 | Condition of the Structure (max of 10 points) | | |
| | Has a certified bridge inspection report that supports the project & demonstrates need (see example, must provide copy of report by August 1 for 2024 only) | 10 | 10 |
| 2 | Permits (maximum points 4) | | |
| | Consultation with DNR Water Mgmt Specialist has occurred & permit is likely, if needed | 1 | / |
| | Permit in hand / Bridge already permitted | 3 | |
| 3 | Funding (maximum points 2) Are other funds already committed? | | |
| | 50% or greater from other funding source(s)? | 2 | |
| | 11% - 49% from other funding source(s)? | 1 | |
| 4 | Length of Written Easements or Land Use Agreement (max points 5)(ch. 23.09(26)(am)1 WI Stats) | | |
| | On public land (County, State, Federal) <i>Town of Little Falls</i> | 5 | 5 |
| | 10 or more year deeded easement on private land or other public land, for <u>all portions of</u> that trail to the nearest road on each side of the bridge | 5 | |
| | 3-9 year deeded easement on private land or other public land, for <u>all portions of that</u> trail to the nearest road on each side of the bridge | 4 | |
| | 10 or more year deeded easement on private land or other public land, for <u>just the bridge</u> site | 3 | |
| | 3-9 deeded easement on private land or other public land, for <u>just the bridge</u> site | 2 | |
| | 10 or more year land use agreement (LUA, not deeded) on private land or other public land | 1 | |
| | 3-9 year land use agreement (LUA, not deeded) on private land or other public land | 0 | |
| 5 | Miles Impacted – How many miles will need to rerouted if the structure is not replaced? Measured from nearest intersection on both sides of the bridge. (max 4 points) | | |
| | Less than 20 miles | 1 | / |
| | 20 miles or more | 3 | |
| | No other snowmobile trails connect. Explain: | 4 | |
| | DEDUCTIONS | | |
| 6 | County Active Project Deduction (maximum deduction 1 point) A snowmobile active project is one that has exceeded it's initial grant period. | | |
| | Two or more active projects - deduct 1 point | -1 | |
| GRAND TOTAL | | | 17 |

Comments/Notes:



Trail Bridge Inspection

Monroe County

Bridge Name
Mill Pond-Cataract

Inspected By:
Wm Knaack Jr, P.E.

1/26/25

Prepared By
KBIS, LLC





Bridge Inspection Report

General Information

The structure in this report was inspected by certified Wisconsin Department of Transportation Bridge Inspectors. Inspectors are Bridge Inspection Team Leaders and NSTM certified inspectors.

The bridge was inspected with trail use in mind, using normal vehicle bridge standards to determine the condition of the structure.

All recommendations made in the report are also considering the use of the trail. Trail bridges in general should have a load rating considering all the possible uses of the structure. Even though the bridges may be just for snowmobiles, several types of vehicles may use the structure.

Location information/General Description:

Cataract, WI, Monroe County.
44°05'26.1"N 90°50'34.4"W

Bridge Condition

Condition State (CS) 1-Good, CS2-Fair, CS3-Poor, CS4-Critical

CS3 wearing surface section loss from picked tracks. Transverse deck planks with Longitudinal planks.
Rub Rail on railing.

Truss structure, from 1990's era.

CS3 Section loss on diagonal bracing on bottom and floor beams.

Large hole in the NW corner of the West Truss.

Concrete abutment on the South, steel caissons on North.

Object markers are CS3

Approaches are good.

Odd brace and gouge in SE corner of East Truss, asked if anyone knew why, and it "has always" been there. It is quite peculiar why there is a brace. I did not see any other structural reason for someone to put it in there.

9th Diagonal from South, on East Truss, is bulged and cracked. Most likely water/condensation and freezing to crack it. The diagonal is not showing any signs of movement in the crack.



W7218 Hickory Lane
Phillips, WI 54555
wknaack@kbiswi.com
715.820.0095

Bridge Inspection Report

Report Summary

NBI Ratings: 9-7 Good, 6-5 Fair, 4-3 Poor, 2-1 Critical, 0-Closed

| | |
|-----------------|-----|
| Deck | # 4 |
| Wearing Surface | # 4 |
| Superstructure | # 4 |
| Substructure | # 6 |
| Channel | # 8 |

Overall Condition Poor

Recommendations/Maintenance Items:

The owner of the bridge has informed the county that bridge will be posted at 1 ton per their own decision. I support this posting short of doing a full scale load rating, considering the age, current equipment, and structural damage.

The owner should put permanent barricades in to only allow recreational use, no groomers, maintenance equipment, or Highway legal vehicles.

I fully recommend to put this bridge in for replacement, or hire an Engineering firm to do a study on possible repairs/strengthening and a load rating. The load rating for these trusses are complicated to model and analyze.

Continue to monitor the deck to keep the planks maintained for safety. Monitor the 9th diagonal for further signs of movement or cracks.

Replace the Object Markers with new signs that have reflectivity. Add new posting signs.

Recommend inspecting every year.

Signed By:

Digitally signed by
William S. Knaack Jr., P.E.
Date: 2025.03.09
17:16:17 -05'00'

William S. Knaack Jr, P.E.

Bridge Inspection Report

Photo Observations



Looking North

Bridge Inspection Report

Photo Observations



CS3 Object Marker, Replace, last vehicle sign. Bridge to be posted at one ton, per owner.

Bridge Inspection Report

Photo Observations



Looking West

Bridge Inspection Report

Photo Observations



Odd brace, SE corner, dent in bottom chords.

Bridge Inspection Report

Photo Observations



Large gouge NE Diagonal

Bridge Inspection Report

Photo Observations



North Signs

Bridge Inspection Report

Photo Observations



Gouge further back

Bridge Inspection Report

Photo Observations



Corrosion in diagonals and floor beams.

Bridge Inspection Report

Photo Observations



Looking East

Bridge Inspection Report

Photo Observations



9th diagonal from South, East Truss, bulged at bottom chord. Most likely moisture.

Bridge Inspection Report

Photo Observations



Crack in same 9th diagonal.

NOTES

DESIGN CRITERIA

1. THE PEDESTRIAN BRIDGE IS DESIGNED ON THE BASIS OF THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES'S BRIDGE GUIDELINES FOR NEW AND REPLACEMENT SNOWMOBILE AND ALL-TERRAIN VEHICLE BRIDGES, PUBLICATION PUB-CF-005 DATED 2017, WITH THE FOLLOWING:

DESIGN LOADS:

| | | |
|-------------------------------|---|------------|
| DEAD LOAD ON DECKING | = | 5 PSF |
| DEAD LOAD SUPPORTED BY BRIDGE | = | 30 PSF |
| PEDESTRIAN LOAD | = | 60 PSF |
| GROUND SNOW LOAD | = | 25 PSF |
| WIND LOAD | = | 115 MPH |
| VEHICLE LOAD | = | 25,000 LBS |

LOAD COMBINATIONS:

LC#1 = DL + 0.80 (LL#1 + SL)
LC#2 = DL + 0.75 (LL#2 + SL + VL)

MATERIAL STRESSES:

| | | |
|-------------------------------|---|--------|
| WIDE FLANGE STEEL (A572) | = | 50 KSI |
| CHANNELS, ANGLE, PLATES (A36) | = | 36 KSI |
| WOOD DECKING: | = | SYP #1 |
| WOOD RAILINGS & POSTS | = | SYP #1 |

GENERAL CONSTRUCTION

1. THE ENGINEER IS NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS AND METHODS OR FOR SUPERVISION OF CONSTRUCTION.
2. ALL DIMENSIONS ARE TO BE CROSS-CHECKED WITH EXISTING FIELD DIMENSIONS AND APPROVED FABRICATION DRAWINGS FOR THE VARIOUS MATERIALS AND BUILDING COMPONENTS. ALL DISCREPANCIES ARE TO BE BROUGHT TO THE ATTANTION OF THE ENGINEER.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING AND BRACING REQUIRED DURING ERECTION OF THE BRIDGE.

SITEWORK

1. THE GENERAL CONTRACTOR IS TO VERIFY ALL CONDITIONS AT THE PROJECT SITE, INCLUDING UNDERGROUND UTILITY LOCATIONS PRIOR TO COMMENCING ANY EXCAVATION ACTIVITIES.

FASTENERS:

1. FASTENERS USED IN THE FABRICATION AAND ERECTION OF THE BOARDWALK AND BRIDGE SHALL MEET THE FOLLOWING SPECIFICATIONS:
 - SAE J429-GRADE 5 & SAE J429 GRADE 8, AS NOTED
2. FASTENERS AND CONNECTORS IN CONTACT WITH TREATED LUMBER SHALL BE HOT-DIP GALVANIZED.
3. DECK SCREWS SHALL BE EVERCOTE #8 x 3" DECK MATE SQUARE DRIVE BY PHILLIPS FASTENER PRODUCTS CO.
4. ALL STEEL CONNECTORS SHALL BE HOT-DIP GALVANIZED.

STRUCTURAL STEEL

1. WELDING SHALL MEET THE REQUIREMENTS OF AMERICAN WELDING SOCIETY, AWS D1.1.
2. ALL STRUCTURAL STEEL BE PRIMED WITH SHERWIN WILLIAMS TT-P-664 RUST INHIBITING PRIMER. APPLY 1.4 MIL THICKNESS, MINIMUM.

WOOD

1. ALL STRUCTURAL DIMENSIONAL LUMBER SHALL COMPLY WITH THE AMERICAN WOOD COUNCIL'S 2015 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (2015 NDS).
2. ALL WOOD MEMBERS SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE AMERICAN WOOD COUNCIL REQUIRMENTS FOR PRESERVATIVE TREATED LUMBER.
3. ALL WOOD MEMBERS SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19% AT THE TIME OF CONSTRUCTION.



[Signature]
9/19/2023



Trail Bridges
Steel Fabricating & Finishing
606 Delco Drive
P.O. Box 279
Clinton, Wisconsin 53525
Phone= 608-676-2282
Fax= 608-676-2283



Project Name:
84 FT SNOWMOBILE BRIDGE

Muddy Creek
Monroe County, WI

Sheet Title

COVER SHEET

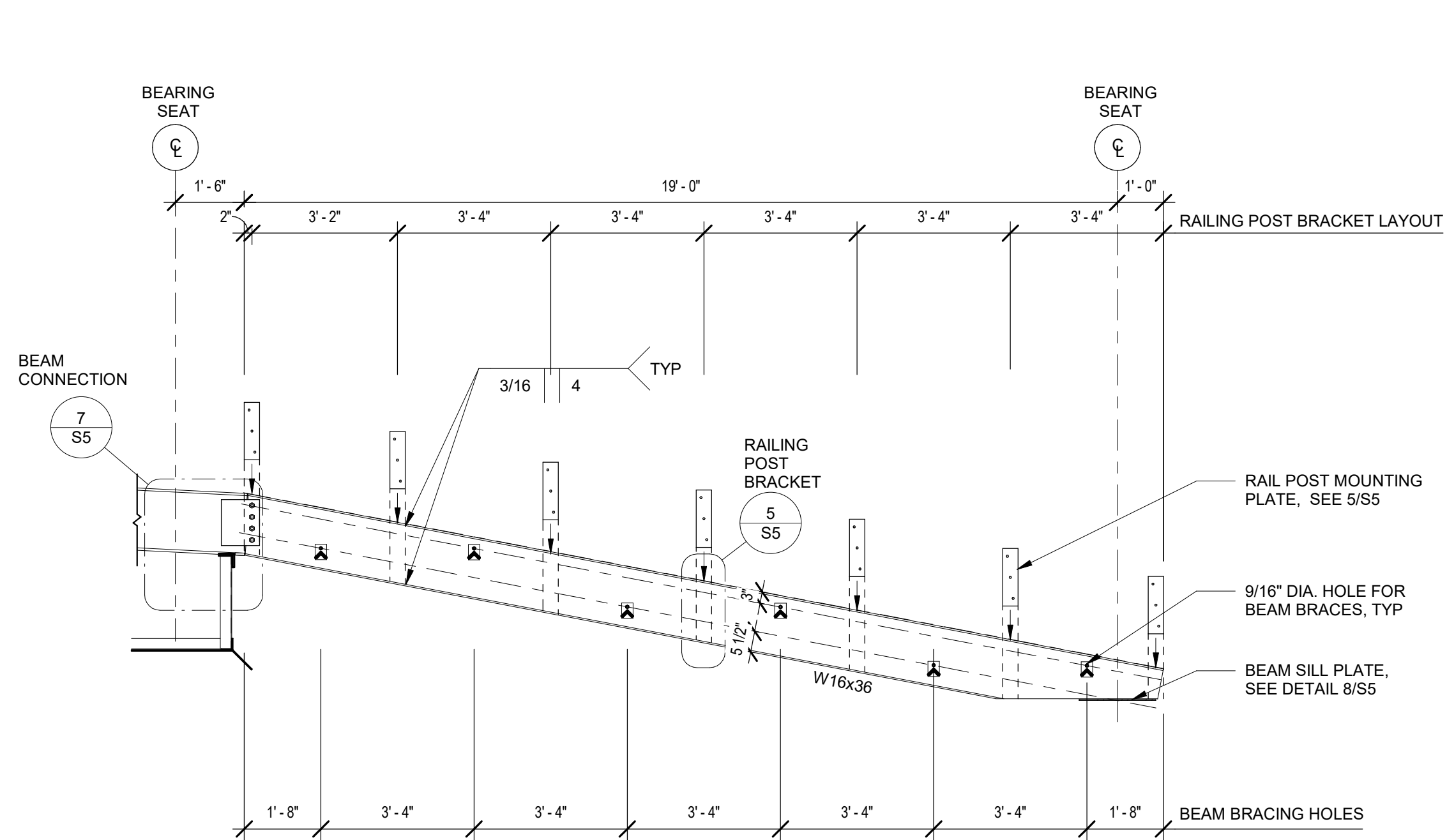
Revisions:

Project #: 901
Issued for: CONSTRUCTION
Date: 9/15/2023

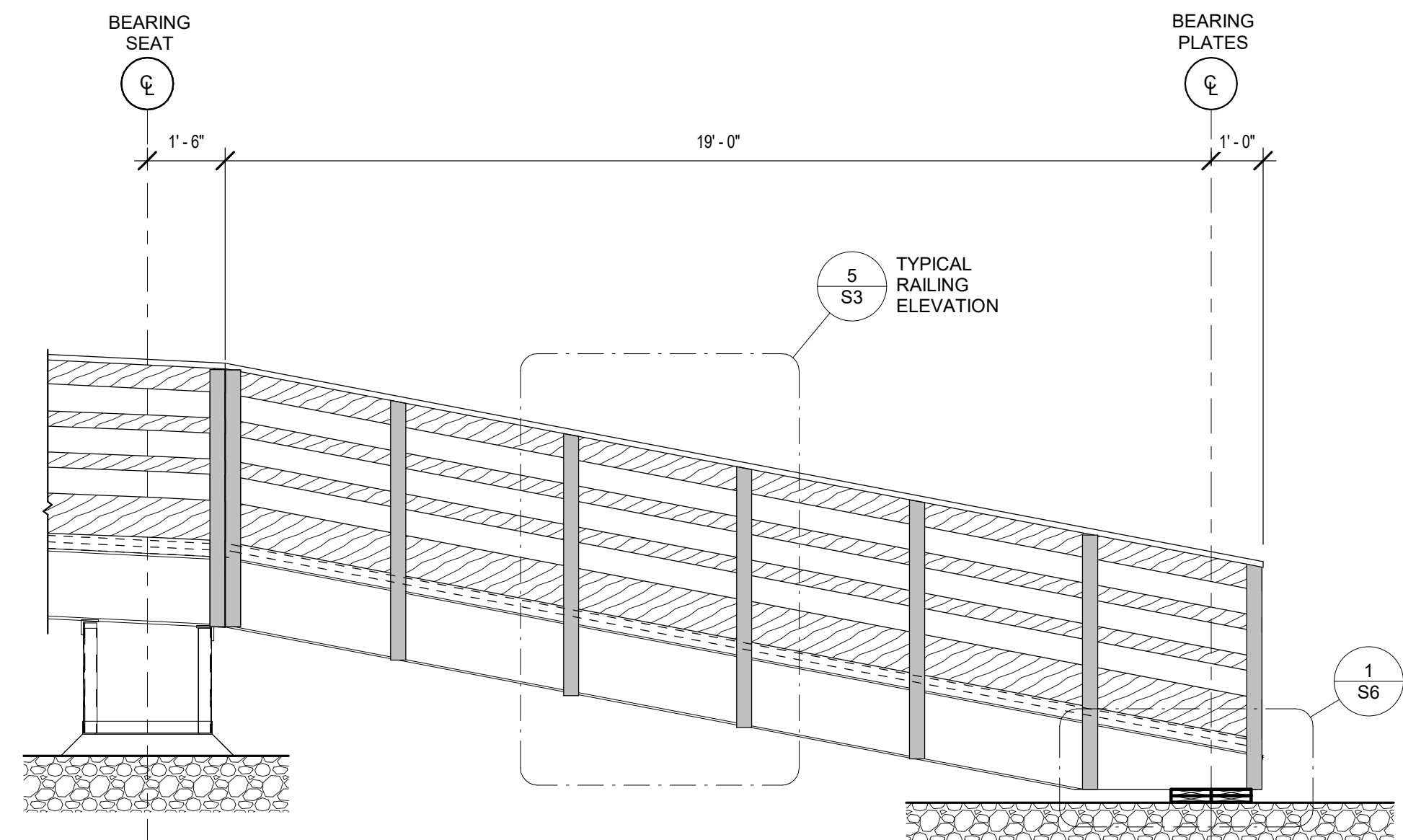
Sheet Number

S1

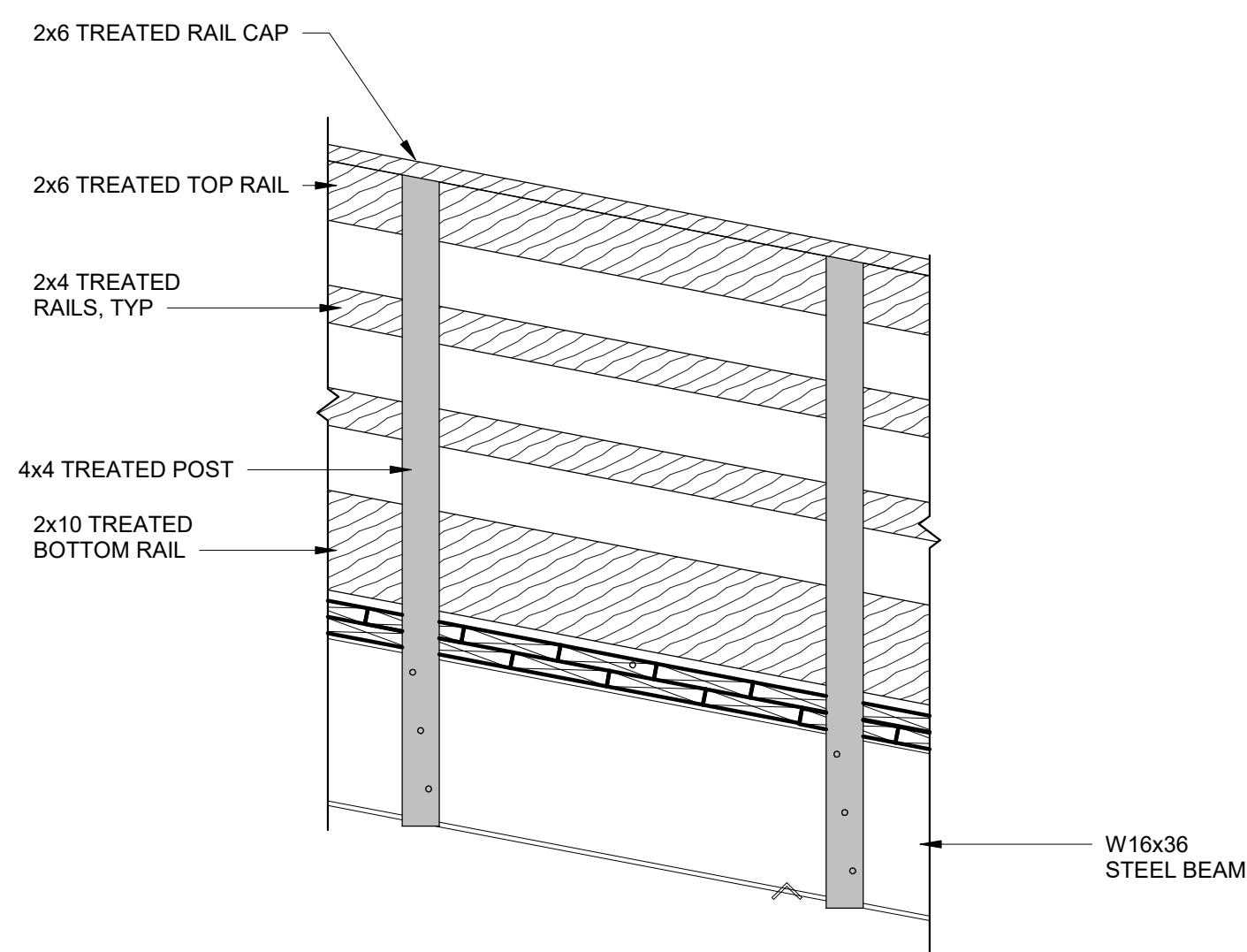




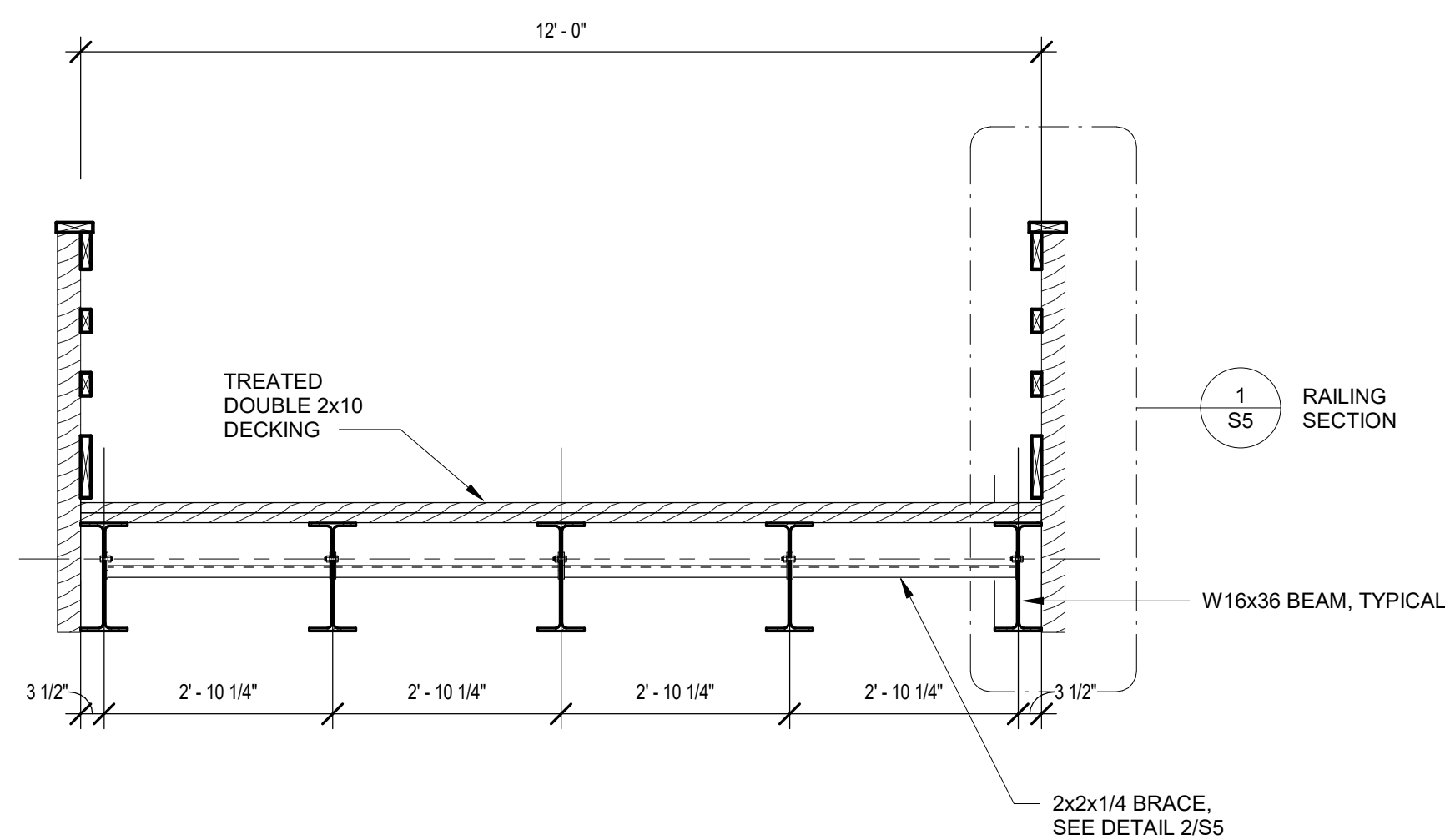
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3/8" = 1'-0"



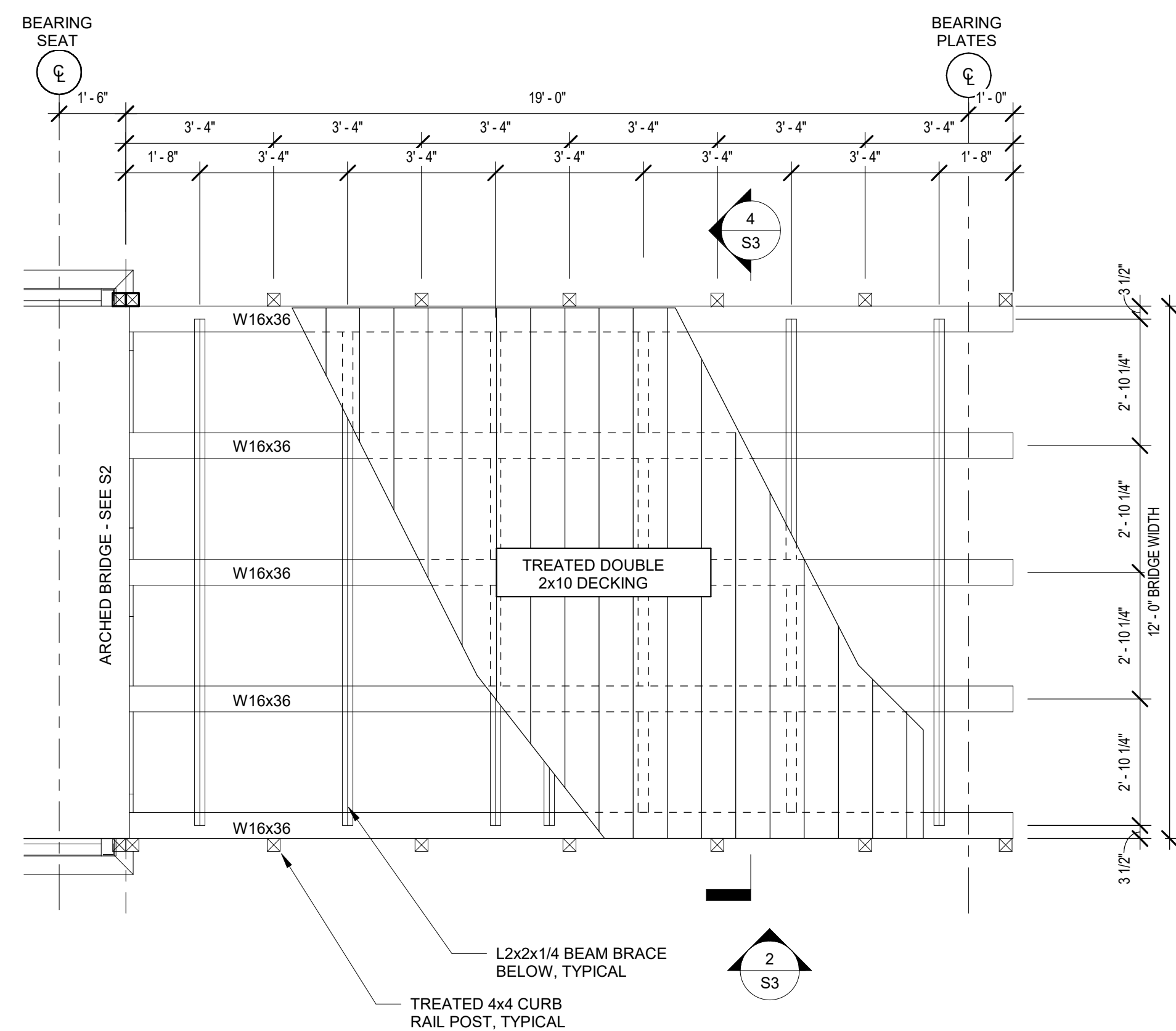
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3/8" = 1'-0"



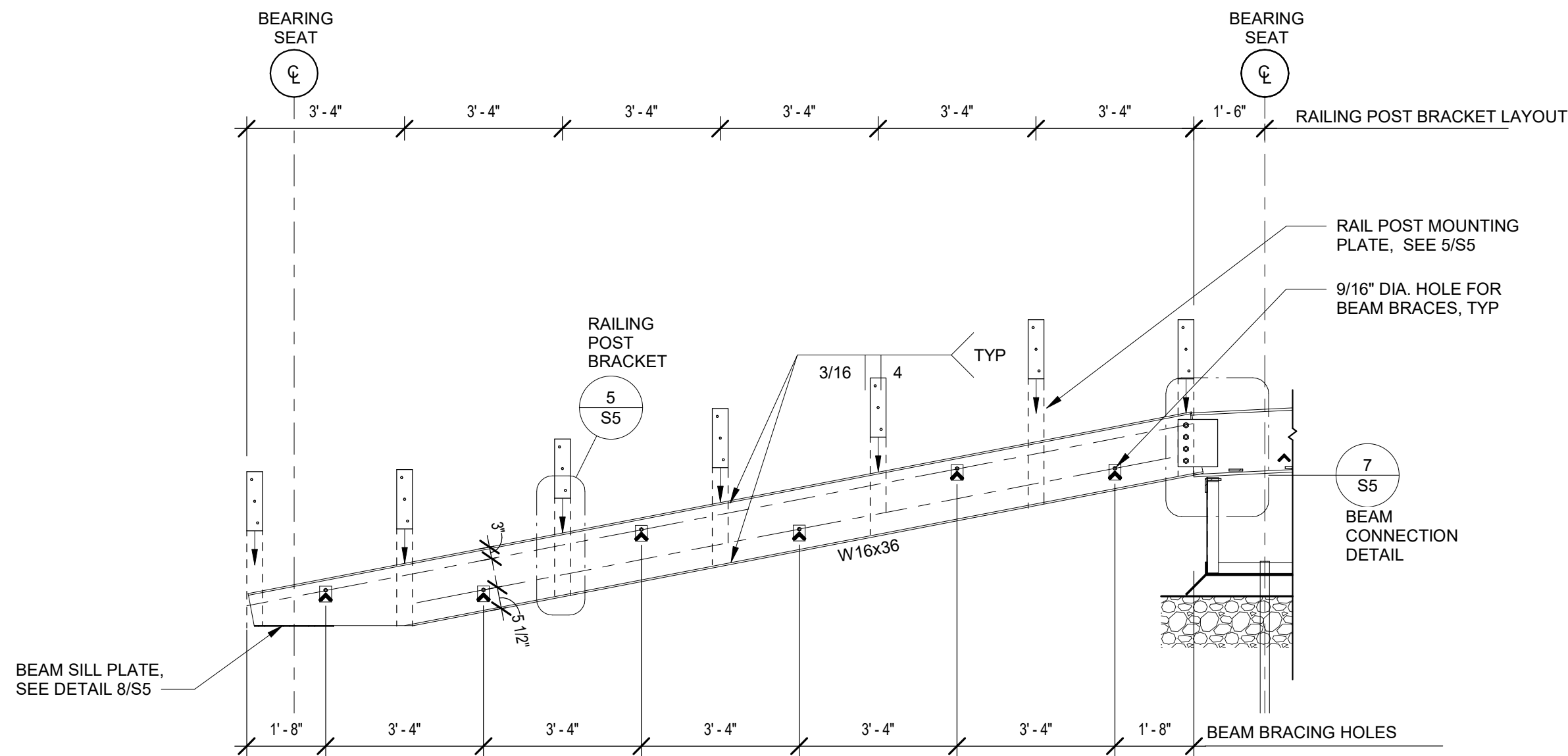
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3/4" = 1'-0"



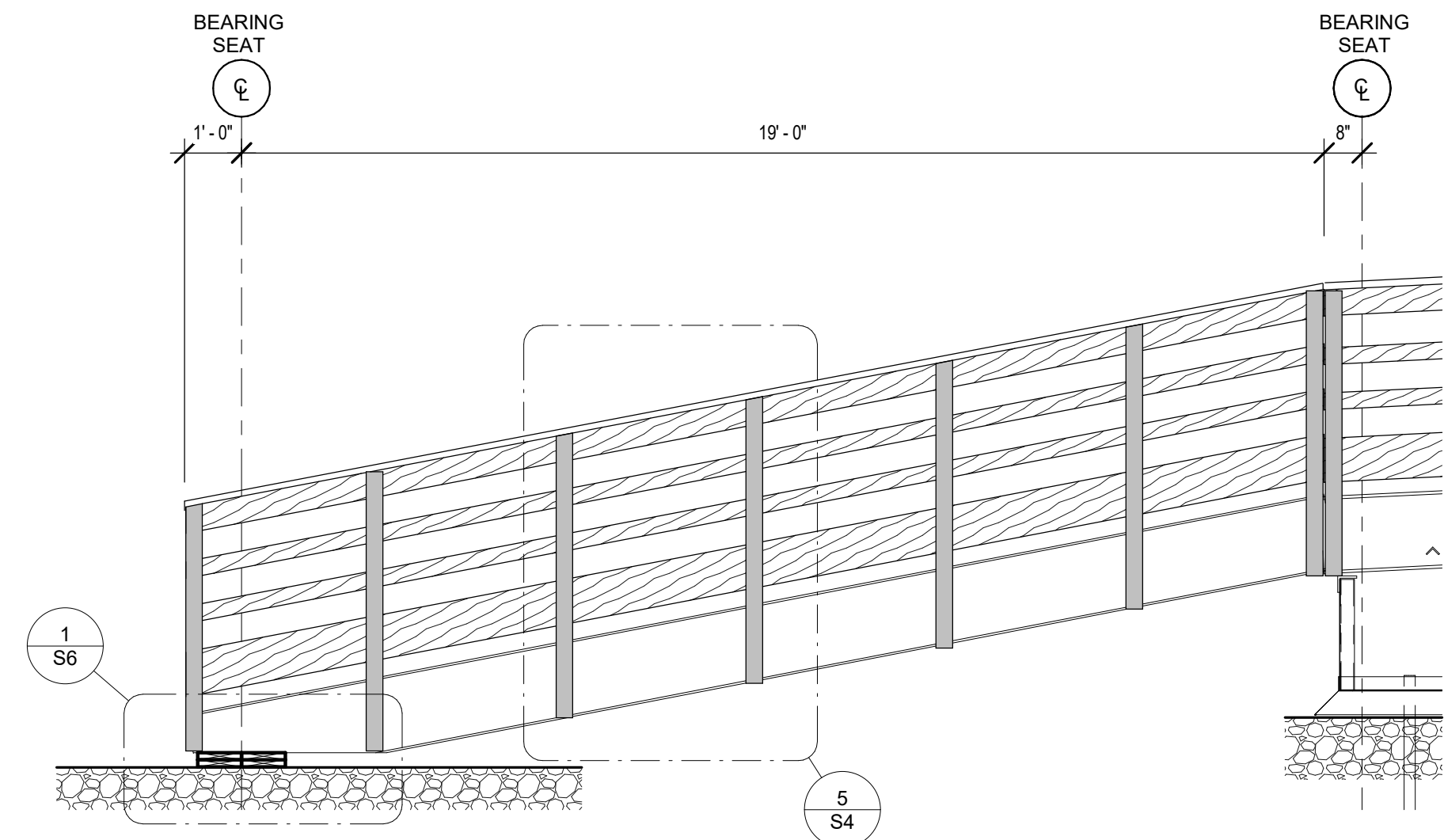
4 RIGHT APPROACH SECTION
1/2" = 1'-0"



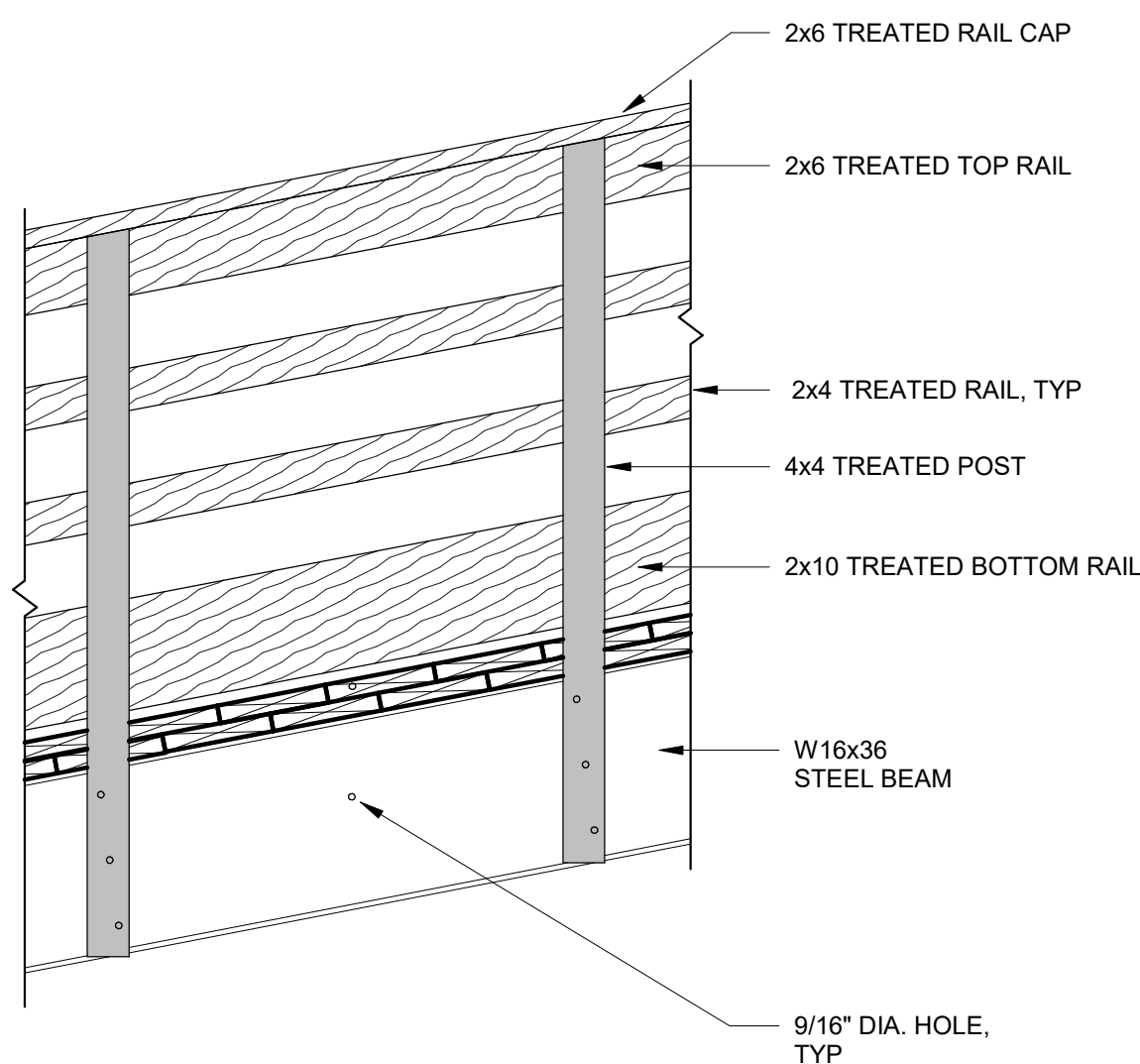
1 BRIDGE APPROACH - RIGHT
3/8" = 1'-0"



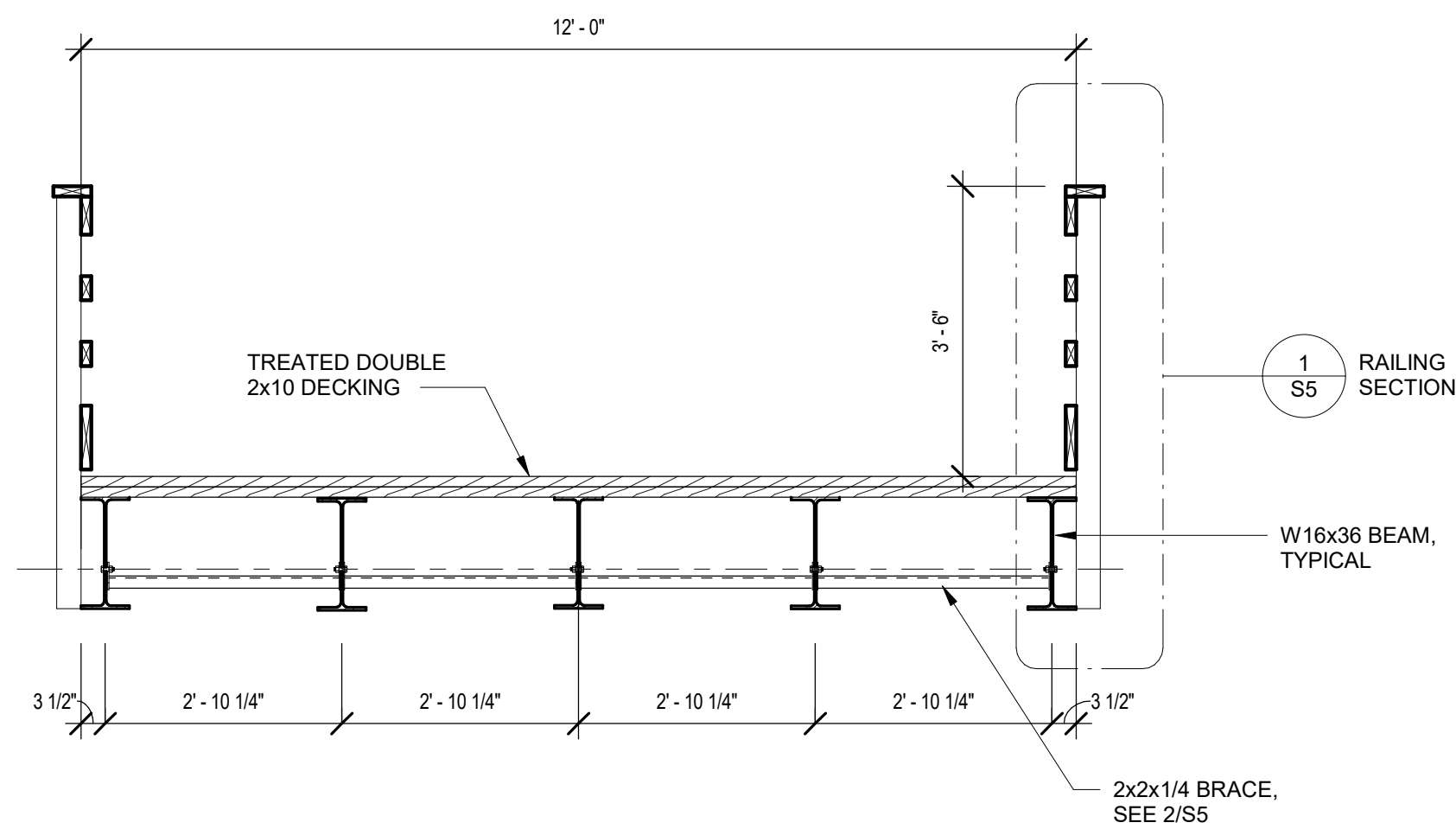
3 LEFT APPROACH MOUNTING PLATE ELEVATION
S4 3/8" = 1'-0"



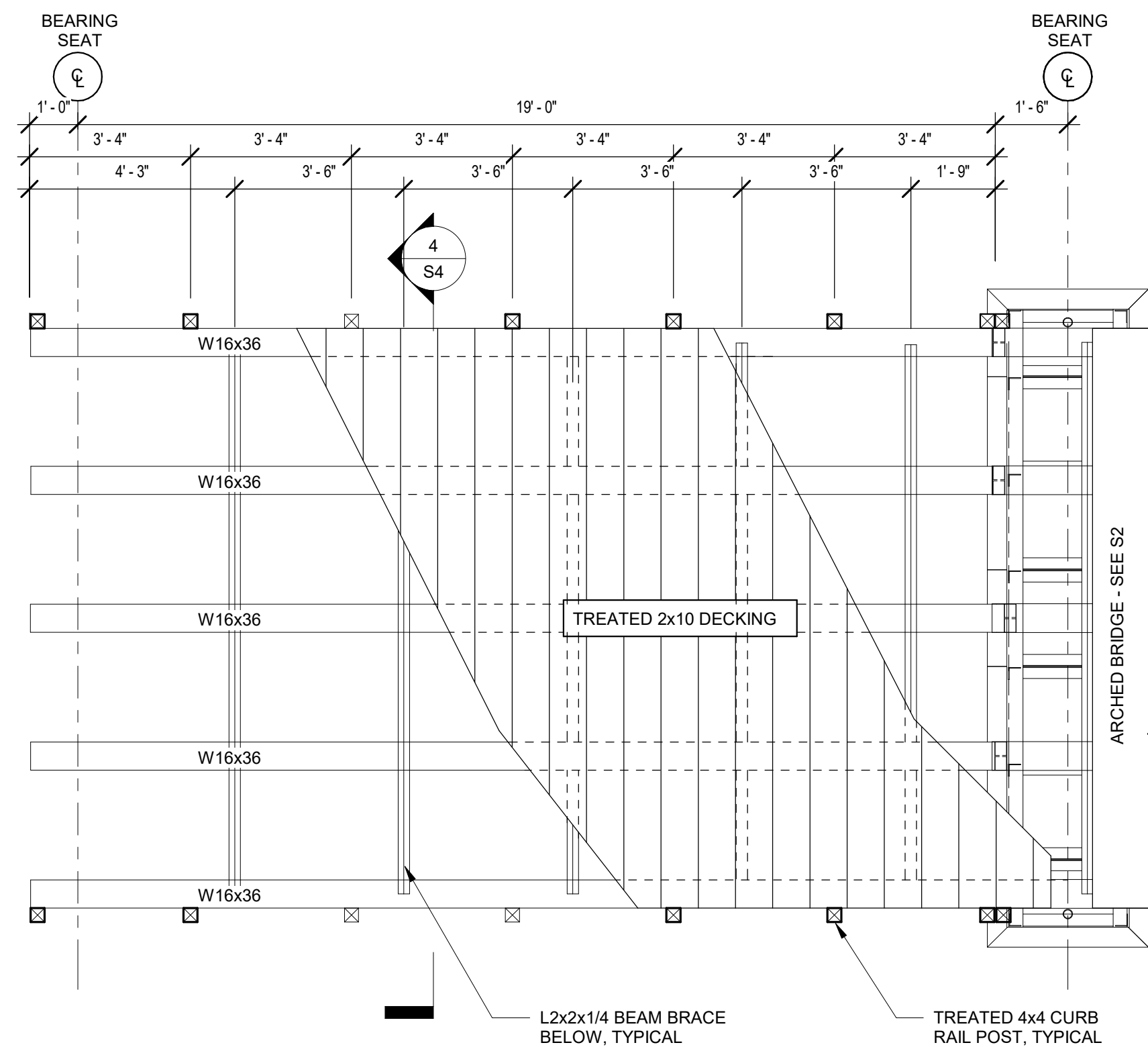
2 LEFT APPROACH ELEVATION
S4 3/8" = 1'-0"



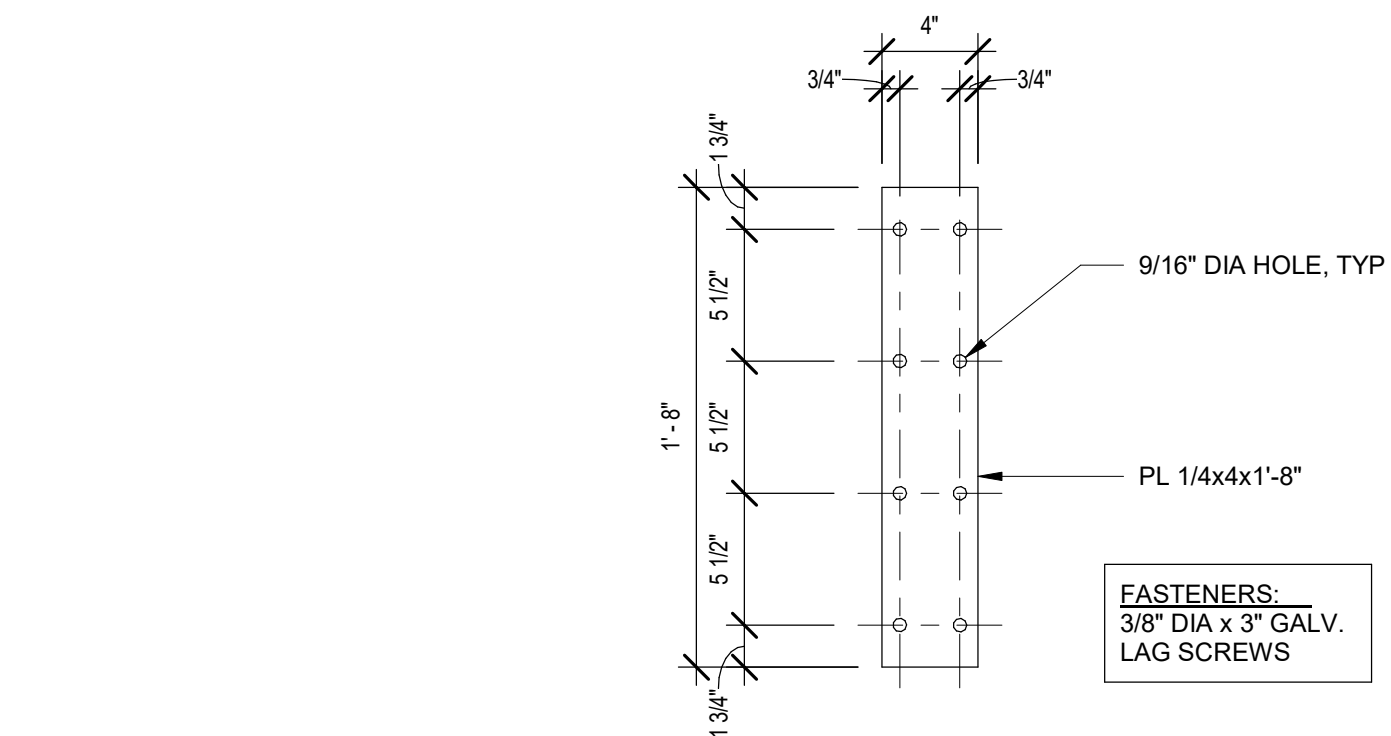
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S4 3/4" = 1'-0"



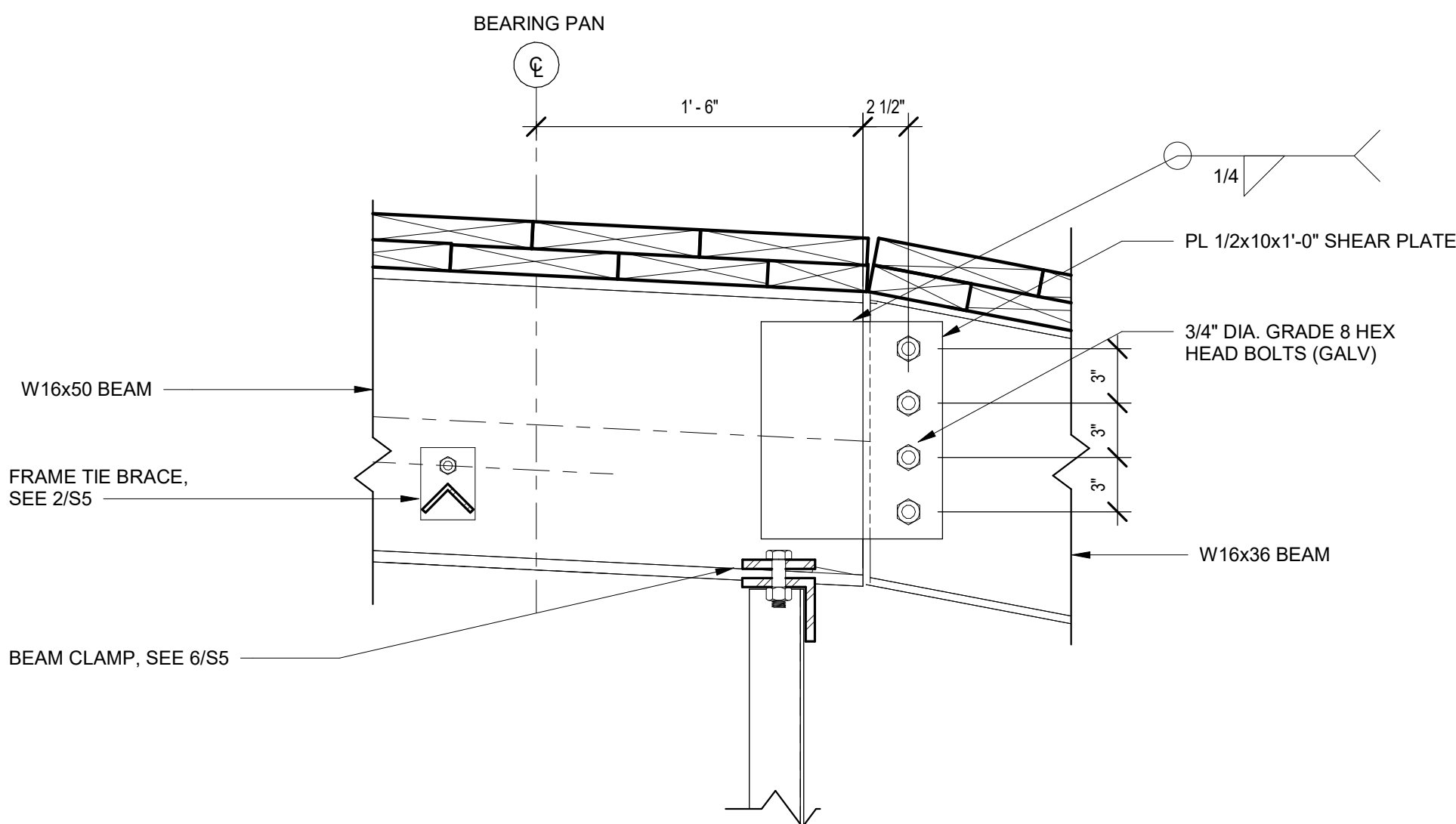
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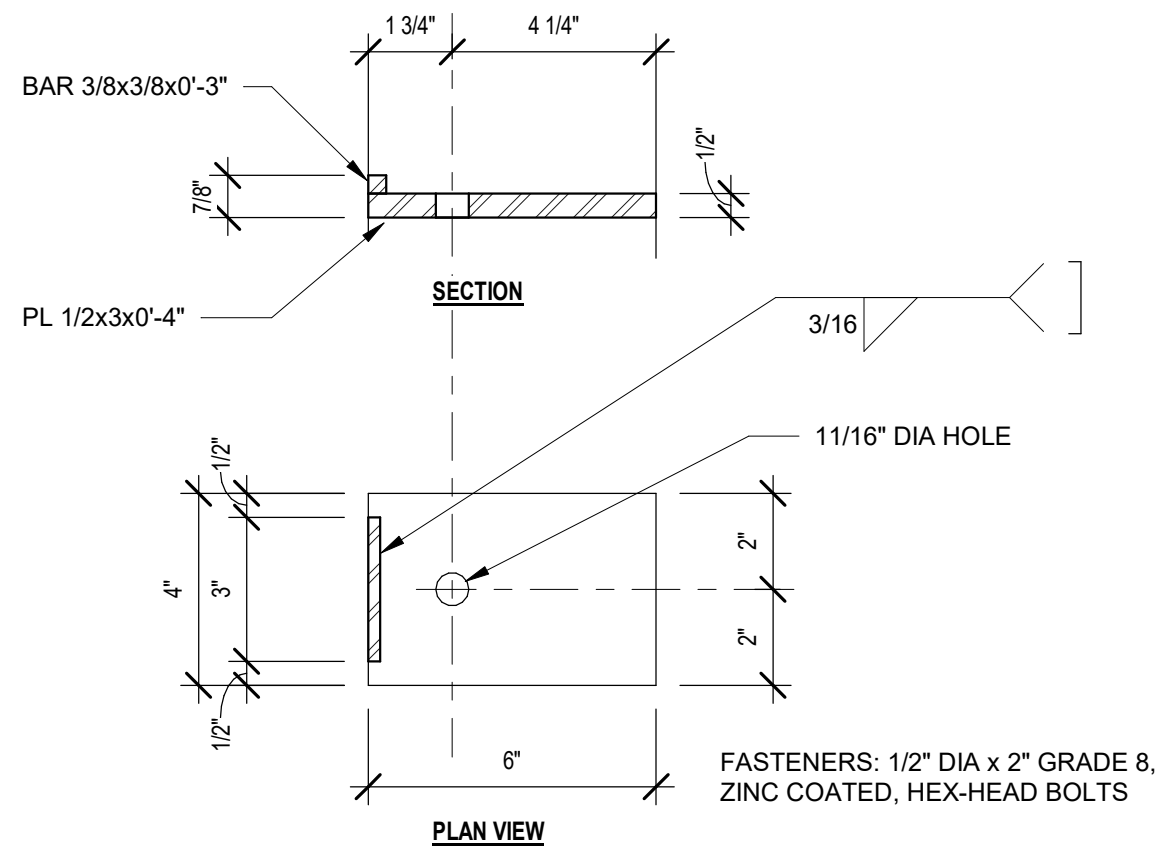
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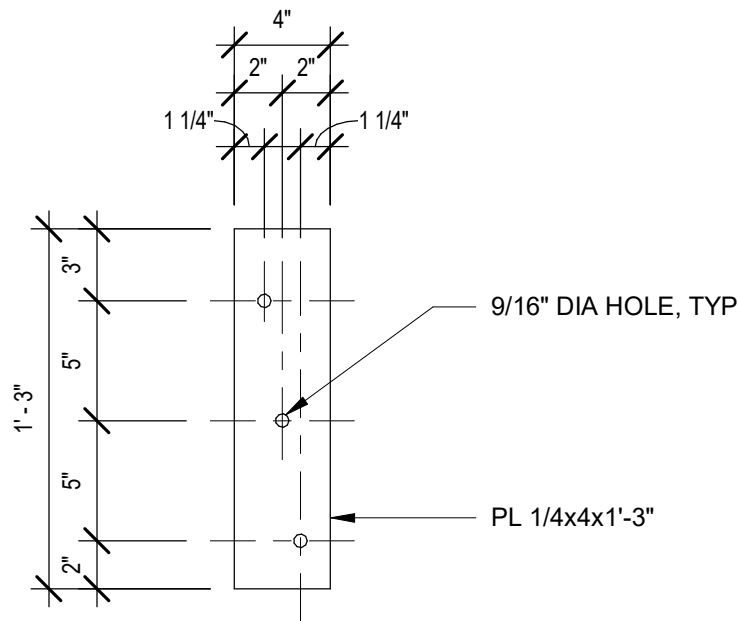
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S5
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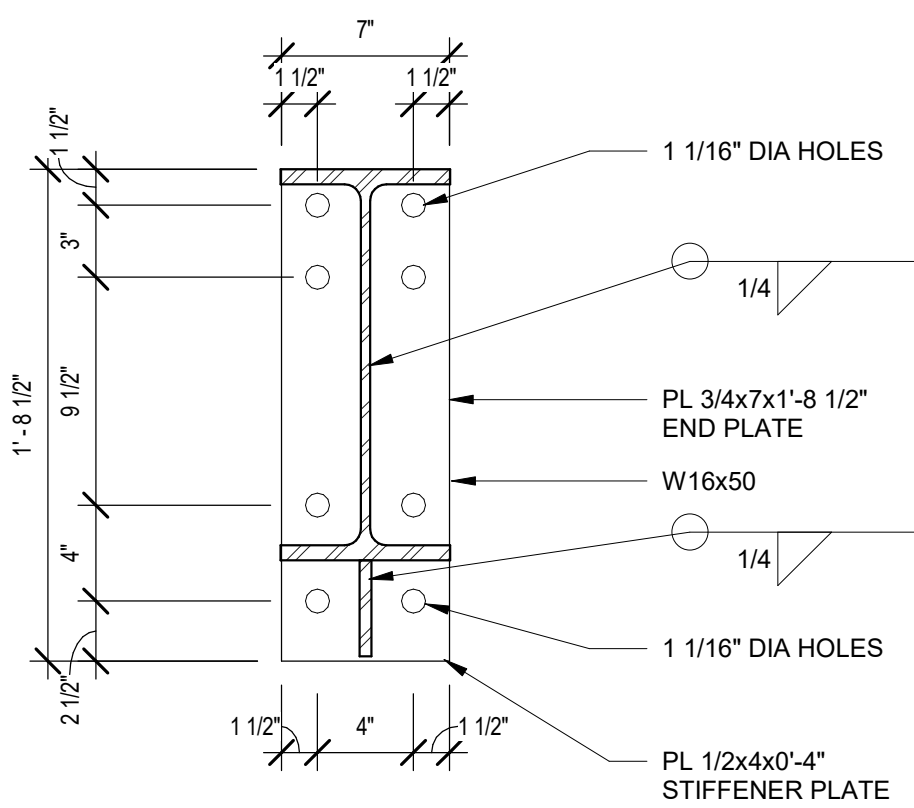
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S5
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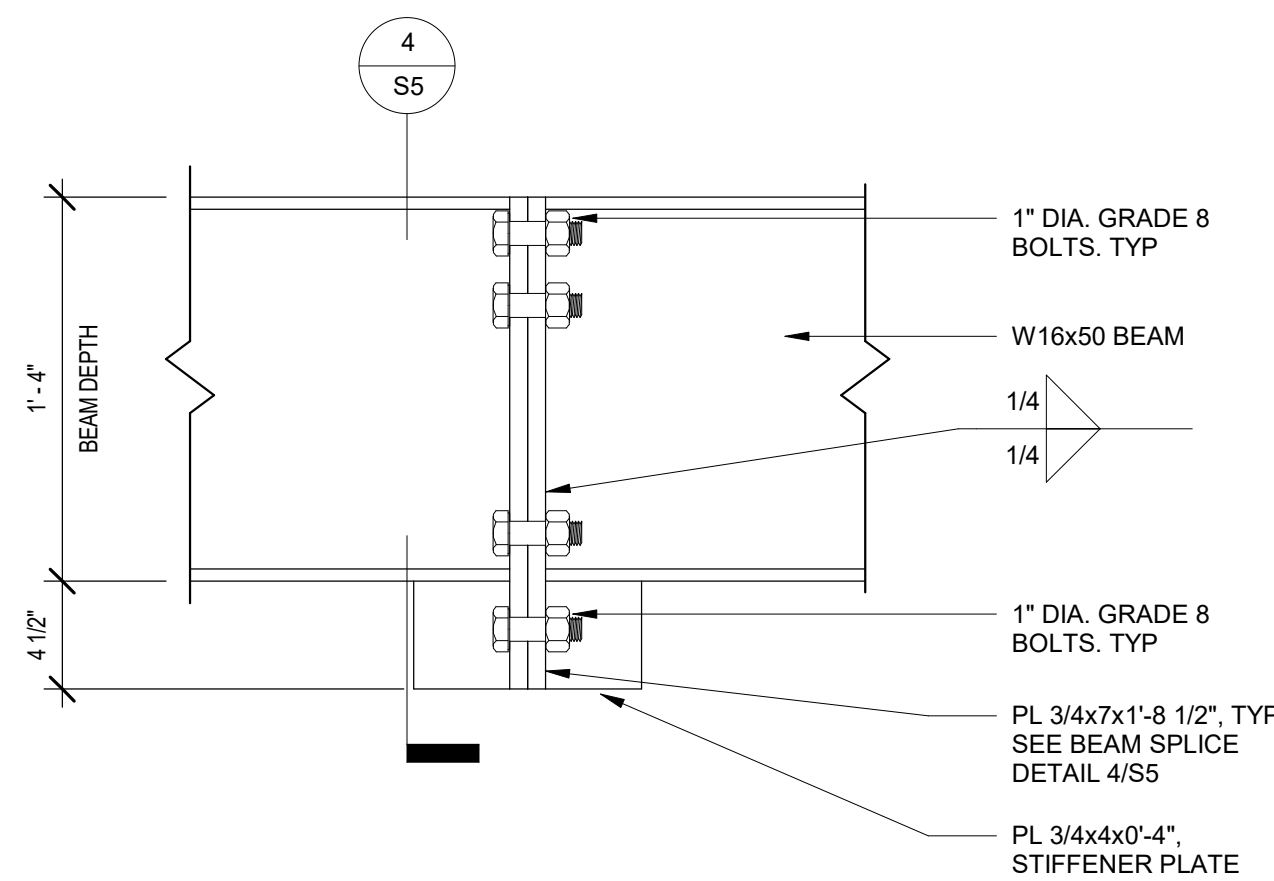
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S5
3" = 1'-0"



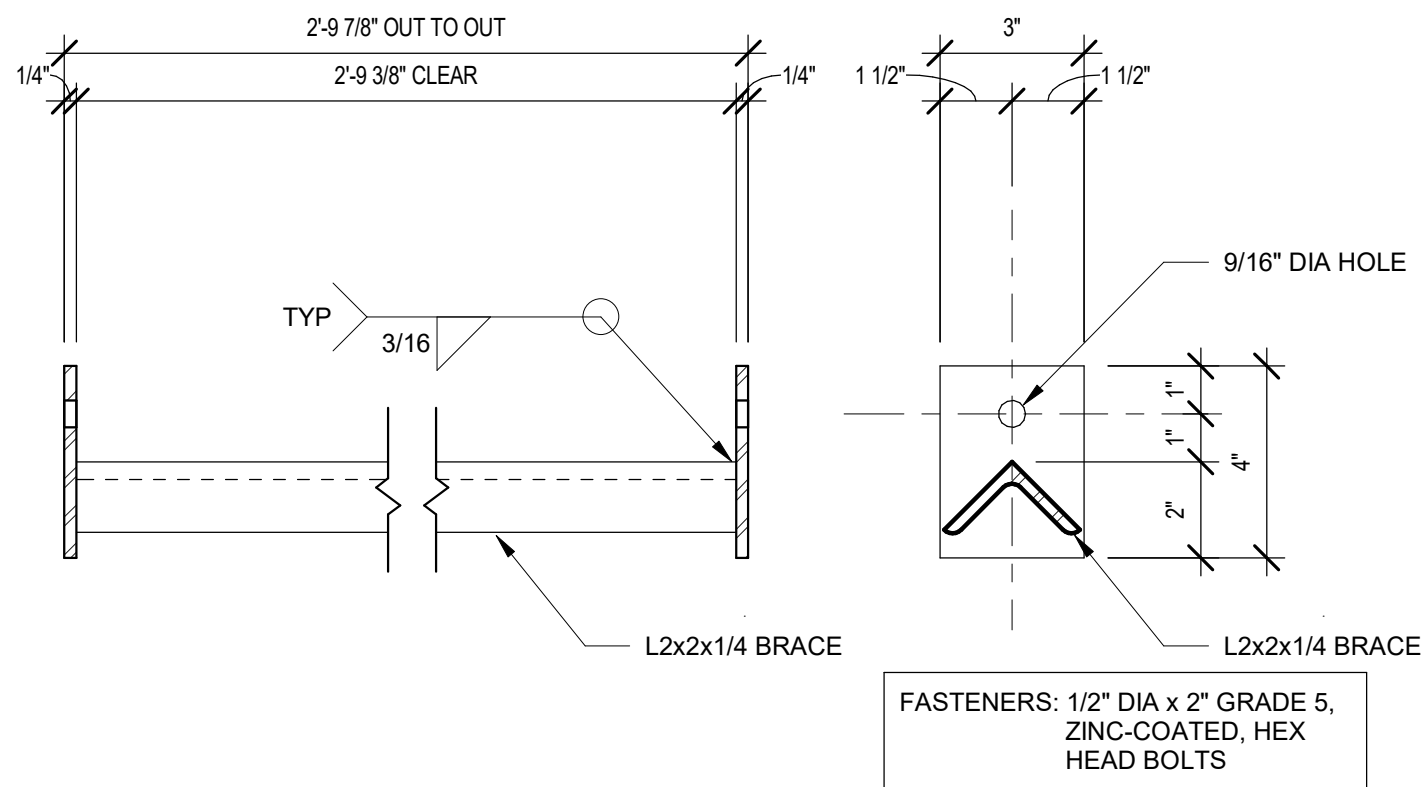
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S5
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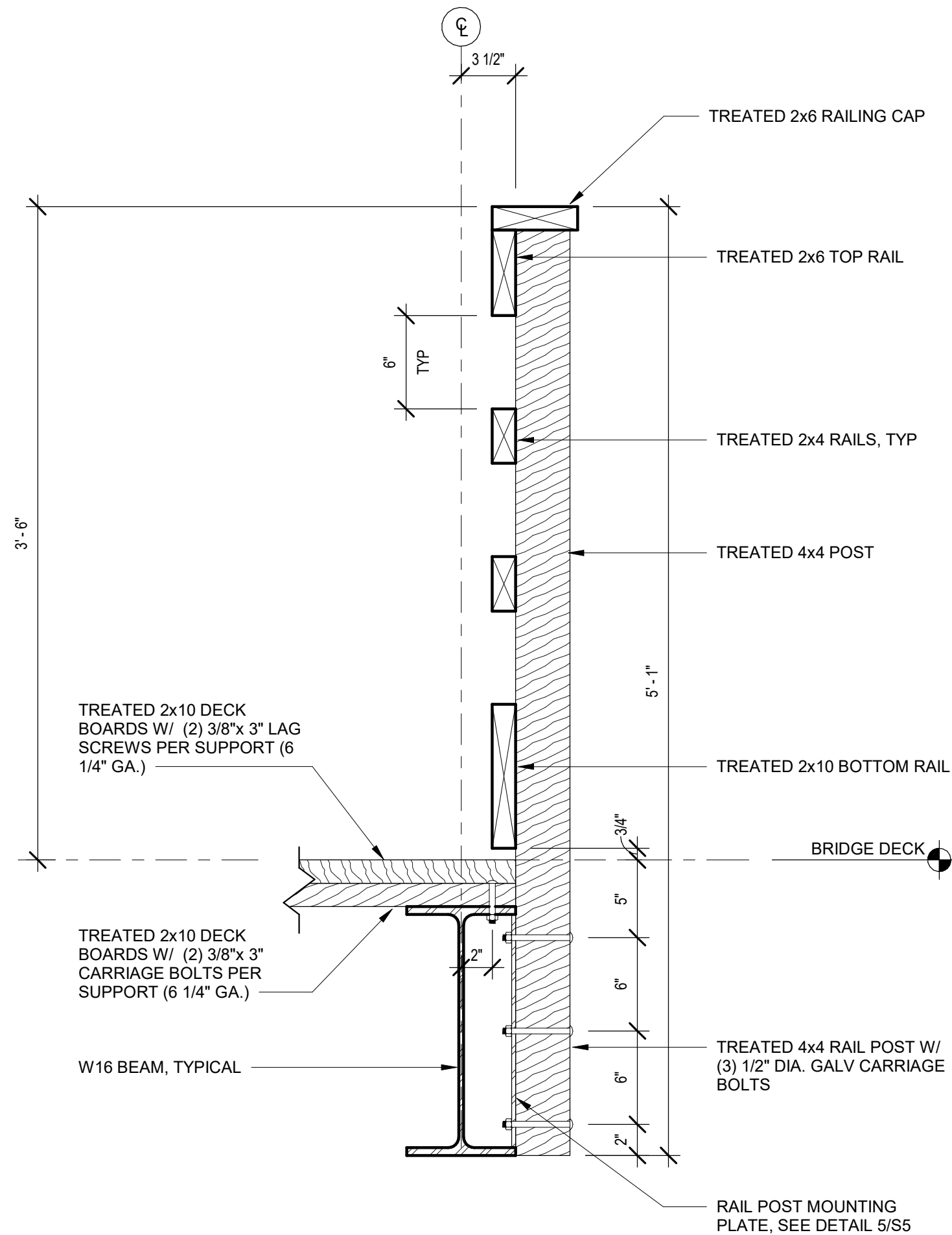
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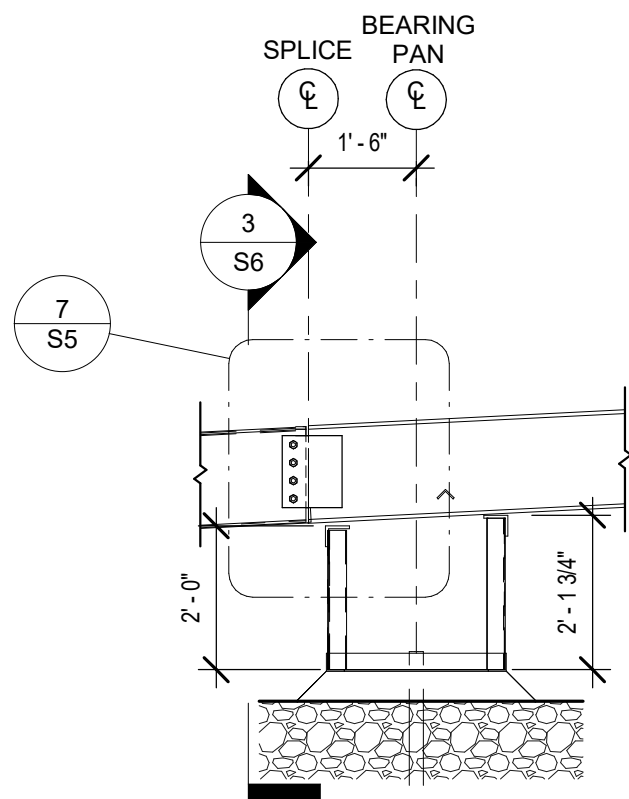
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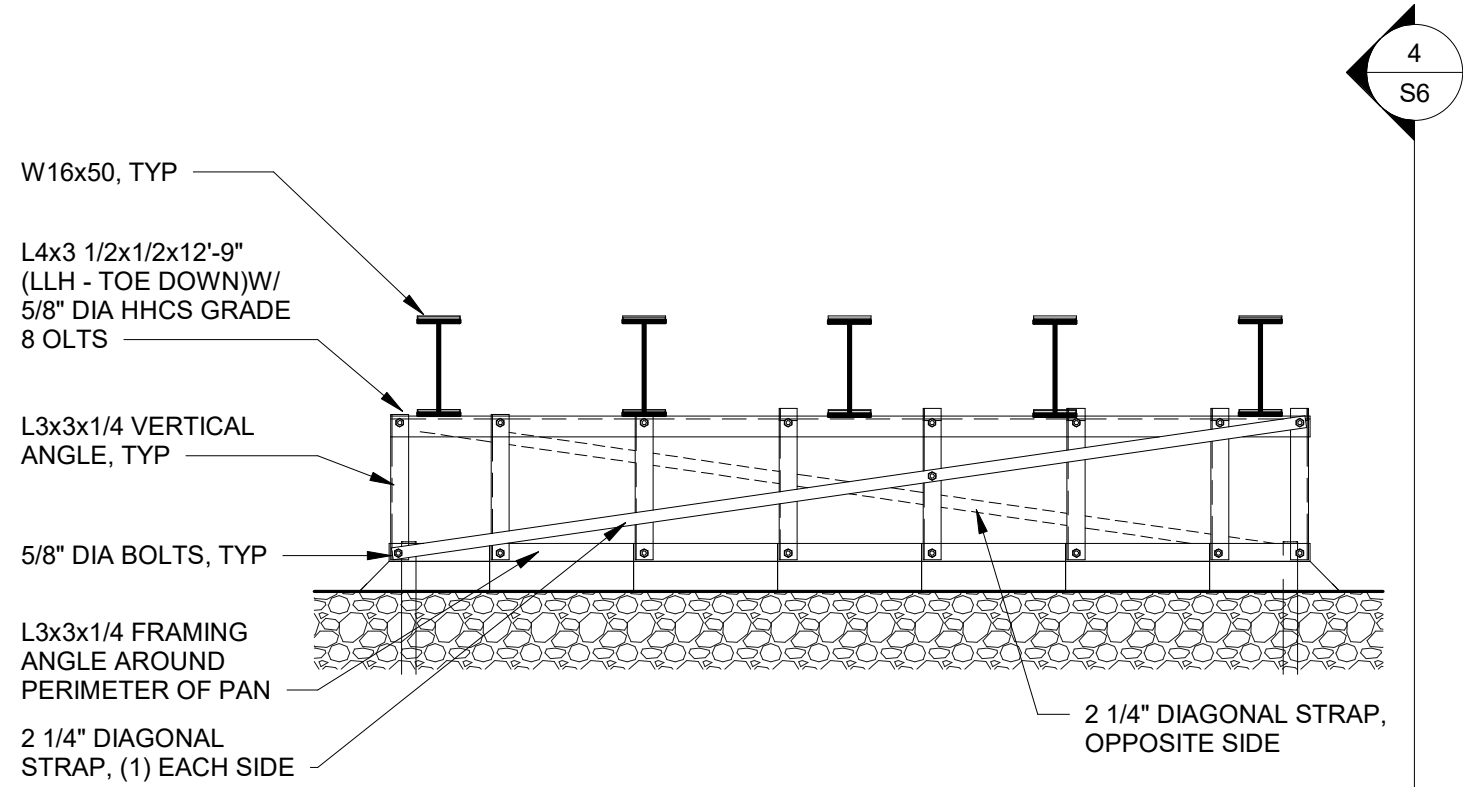
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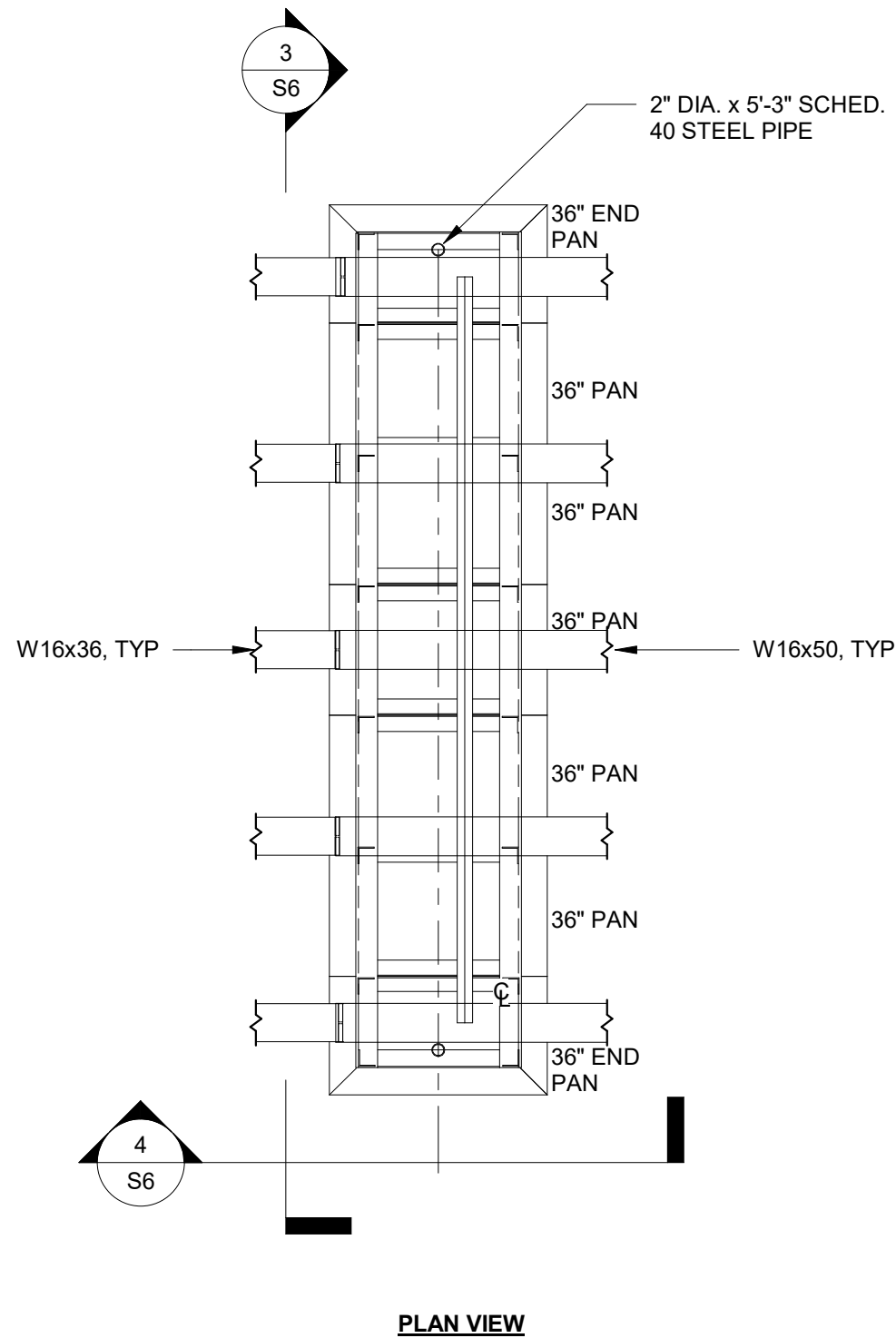
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1 1/2" = 1'-0"



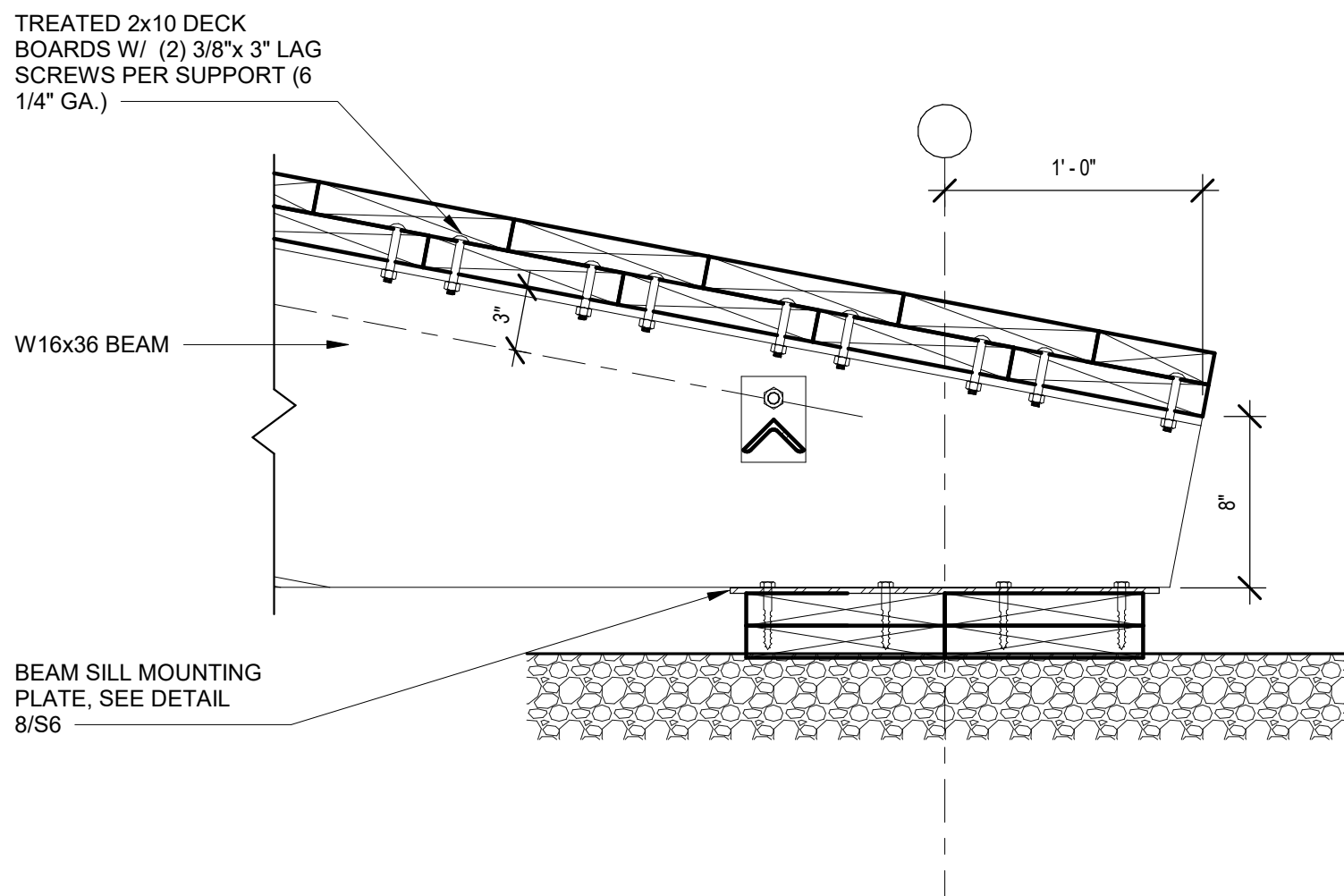
4
S6
BRIDGE PAN SECTION
3/8" = 1'-0"



3
S6
BRIDGE PAN ELEVATION
3/8" = 1'-0"



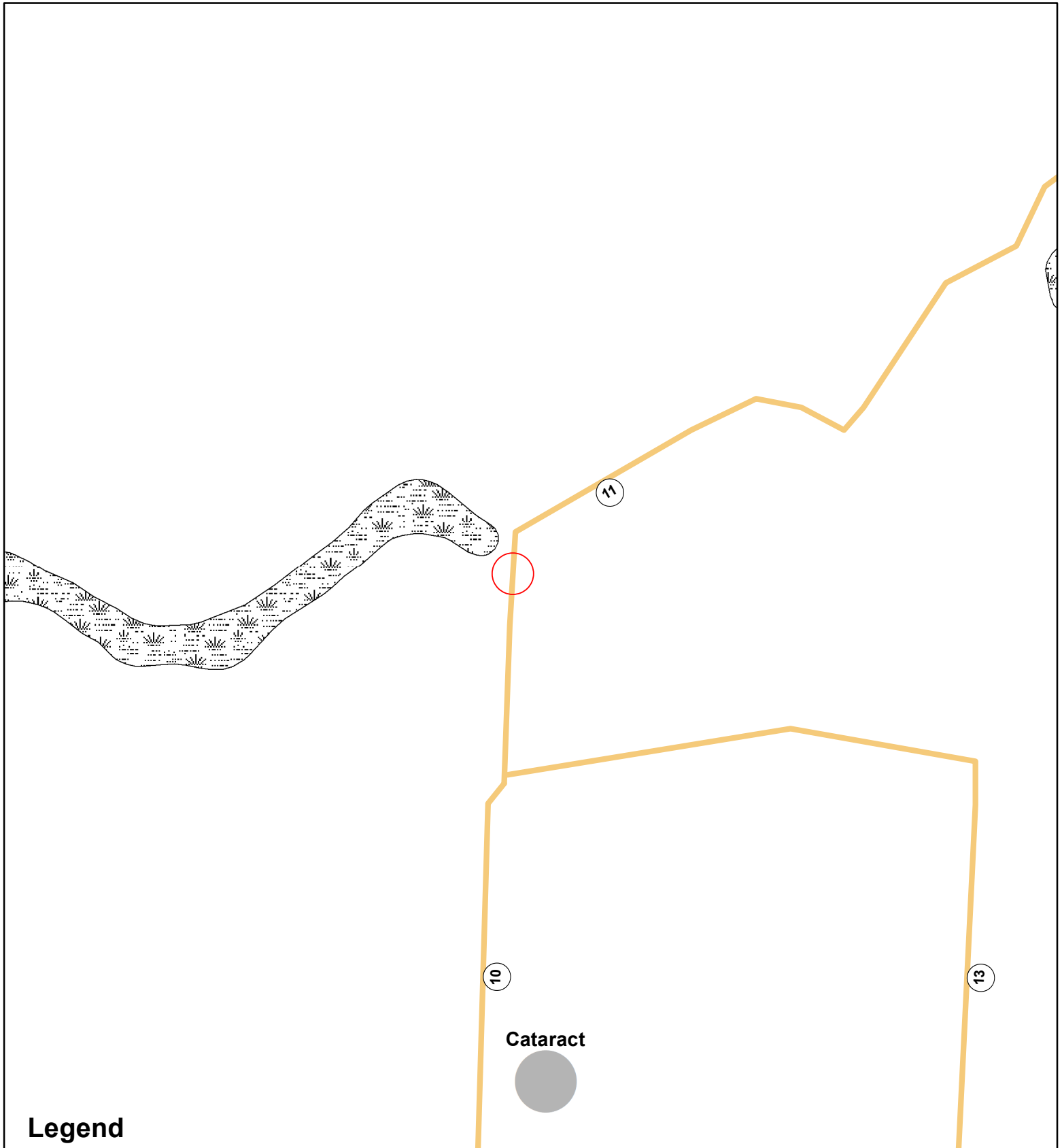
2
S6
BRIDGE - BEARING PANS
3/8" = 1'-0"



1
S6
BRIDGE APPROACH MOUNTING PLATE DETAIL
1 1/2" = 1'-0"

Monroe County Snowmobile Trails

Mill Pond Bridge



Legend

Non_funded_trails

Mill Pond Bridge

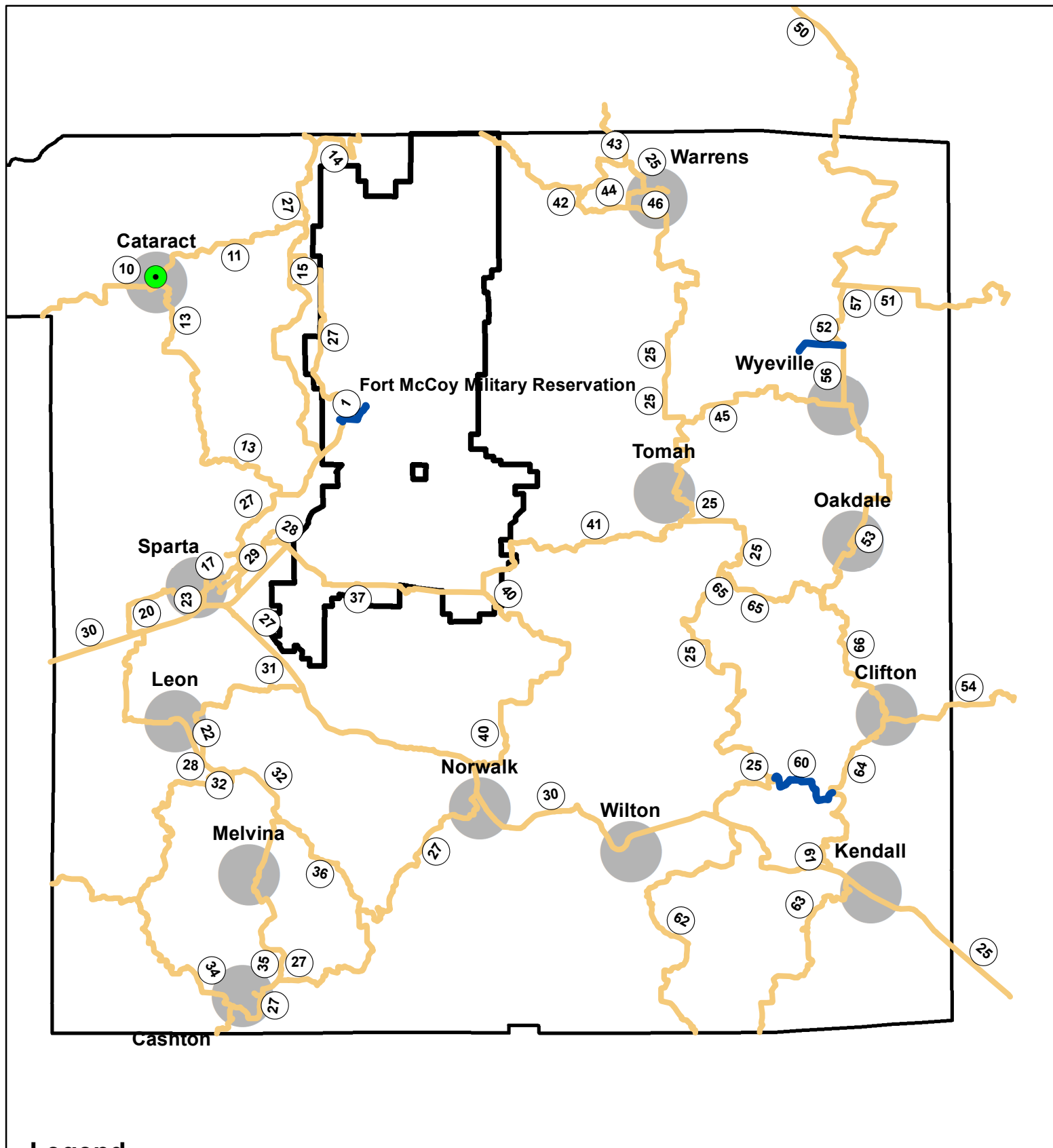
Monroe County Snowmobile Trails



0 0.0275 0.055 0.11 Miles

Monroe County Snowmobile Trails

Mill Pond Bridge



Legend

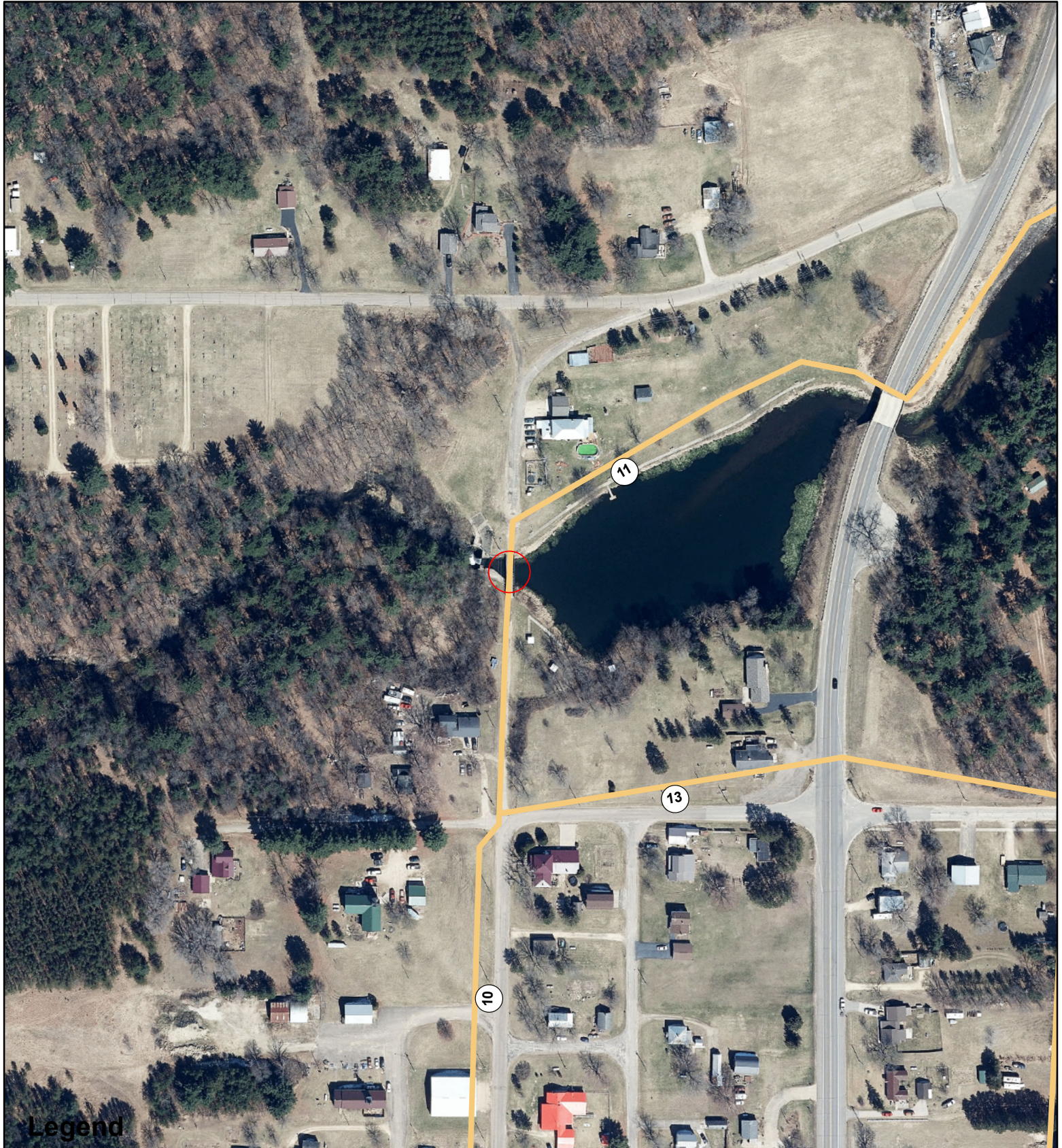
- Non_funded_trails
- Mill Pond Bridge
- Monroe County Snowmobile Trails



0 2.5 5 10 Miles

Monroe County Snowmobile Trails

Mill Pond Bridge



Legend

— Non_funded_trails

○ Mill Pond Bridge

— Monroe County Snowmobile Trails



0 0.0225 0.045 0.09 Miles

Page 11



10









Monroe County Snowmobile Trails

Mill Pond Bridge



— Non_funded_trails

○ Mill Pond Bridge

— Monroe County Snowmobile Trails



0 0.0125 0.025 0.05 Miles