

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-K(9)	2006	63	371

BUS SHELTER GENERAL NOTES

A. ARCHITECTURAL NOTES:

1. Carpentry

- a. Recycled Plastic Lumber: High density polyethylene plastic lumber product- "Durawood" by Eaglebrook Companies, distributed by Janus et Cie ph. 800 245-2687 (or approved equal), in sizes as indicated for side panels, in square edge profile, in "Weathered Redwood" integral color finish and fasten with stainless steel/flat head screws.
- b. Roof sheathing: 5/8" T-11 plywood, Ruf-Sawn Douglas Fir, with grooved pattern @ 4" o.c.

2. Roofing

- a. Metal Panel Roof: Through fastened sheet metal panels, "Maxi-Rib" profile as manufactured by Jorgensen Steel & Aluminum (or approved equal), 24 Ga. steel with factory applied pre-painted exterior color finish- "Maile Green" coating, with stainless steel screw/washer fasteners. Accessories (ridge cap, dutch gutter, eave flashings, etc.) of galv. steel with matching "Maile Green" factory applied pre-painted exterior color coating.
- b. Wood Shingle Roof: Red cedar shingles, No. 1, hand split and re-sawn, finished with 2 coats of Thompson's Water Seal. Roof accessories (dutch gutter, eave flashings, etc.) shall be of galv. steel with factory applied exterior color-finish-"Kiawe Brown" as manufactured by Jorgensen Steel and Aluminum or approved equal, with stainless steel hardware fasteners.

3. Painting

- a. Wood: All exposed surfaces - 1 coat base tannin bleed primer and 2 coats Cabot O.V.T. Solid Color Stain (or approved equal).  
- Field color - 'Dune Gray' - 67.  
- Roof fascia trims to match recycled plastic lumber "Weathered Redwood".
- b. Exposed Metals and Fasteners: 1st coat Ameron Galvaprep primer, 2nd coat Ameron Amerlock 400, 5.0 mils DFT, 3rd coat PSX Polysiloxane Epoxy, 5.0 mils MDF. Shop painted with spray application to achieve specified mil thickness of 5.0 except fasteners to be field painted (or approved equal), to match Cabot's 'Dune Gray' - 67, except diagonal steel bracket at type A to match recycled plastic lumber "Weathered Redwood" color.

4. Manufactured Benches

- a. Recycle design "Victoria" series bench by Eaglebrook Companies, distributed by Janus et Cie ph. 800-245-2687 (or approved equal), backless bench, 72" long, in "Weathered Redwood" Durawood slat finish, green frame with anti-theft anchoring. Provide submittal of anchoring hardware for approval.

B. STRUCTURAL NOTES:

1. Design Loads:

Roof Live Load: 20 psf  
Wind Velocity: 80 mps, exposure D per UBC 1994  
Seismic: Zone 2A, per UBC 1994

2. Foundations:

- a. All footings shall bear on firm, recompact in-site soils.
- b. Slabs on grade shall bear on 4" of #3B Fine (ASTM C33, No. 67 gradation) at over compacted subbase. If soft or expansive soil is encountered, the soil shall be removed and replaced with non-expansive structural fill and compacted to 90% of maximum relative density in accordance with ASTM D-1557. Thickened slab edges shall be embedded at least 8" below lowest adjacent grade.
- c. Allowable soil bearing pressure shall be 2000 psf.

3. Reinforced Concrete

- a. Concrete for footings and slab on grade shall have minimum 28 days compressive strength f'c=3000 psi with maximum w/c ratio=0.55. The delivery tickets shall state the amount of water that may be added to the concrete at the jobsite.
- b. Notify Dept. of Transportation Services, Contracting officer 3 days prior to pouring footings and slabs.
- c. Contractor shall submit concrete mix designs to contracting officer for review.

4. Reinforcing Steel

- a. Reinforcing bars shall conform to ASTM A615, Grade 60. Provide 43 diameter (2'-0" minimum) lap splice at all splices, intersections, and corners.
- b. The following minimum cover shall be provided for reinforcement:  
Concrete cast against and permanently Exposed to earth: 3"  
Formed concrete exposed to earth: 2"  
Concrete exposed to the weather: 1-1/2"

5. Timber Members

- a. All wood members shall be Douglas Fir-Larch, Hi-Bor treated. All timber shall be stamped S-dry, KD or MC15. Treat all cut ends as required by code.
- b. All wood beams and posts shall be No. 2 Grade or better; roof rafters shall be No. 2 Grade or better.
- c. Plywood Nailing Schedule:  
1. Roof plywood (5/8" thick, C-D exterior, Hi-Bor treated)  
8d @ 4" at panel edges  
8d @ 10" at intermediate framing members  
2. Plywood shall be laid perpendicular to framing members.
- d. Unless otherwise shown, the nailing schedule Table 23-I-Q in the 1994 UBC shall be followed. Common galvanized nails shall be used.
- e. Provide and install 1/4" diameter x 5" long screws at each rafter support. Connect beam to post with 3/4" diameter x 12 lag bolt.
- f. Provide and install 30# paper separation between wood and concrete.
- g. All lumber and plywood to be termite treated (wolmanized).

6. Structural Steel

- a. All structural steel plates and shapes shall conform to ASTM A36 and shall be hot-dipped galvanized.
- b. Bolts and anchor bolts shall conform to ASTM A307, and shall be hot-dipped galvanized.
- c. Simpson Light-Gage Connectors shall be used where shown.

7. Items required to be specially inspected by UBC Sect. 1701:

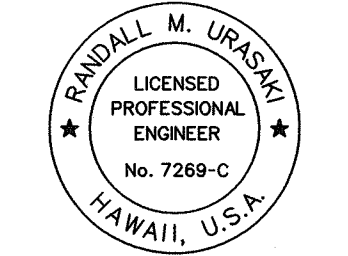
- a. Straps used to resist uplift and hold-downs.

8. All dimensions (including heights) shall be verified by the Contractor. If there are discrepancies, the contracting officer shall be notified immediately. As a minimum, all construction shall conform to the requirements of all applicable codes and regulations and of standards referenced above. Features of construction shown are typical and they shall apply generally throughout for similar conditions. Modify typical details as directed to meet special conditions. The Contractor is responsible for providing temporary erection required for structural stability of the structure during all phases of construction.

9. Contractor shall submit in writing any request for modification to the plans and specifications. Unless changes are submitted in writing and approved by the Dept. of Transportation Services, changes or modifications to the plans and specifications before the responsibility of the person initiating such changes.

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	

4-FORT WEAVER ROAD/PACKAGE 2/ROAD/BUSNOTES.dgn



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION.  
SIGNATURE: *Rumilla* EXPIRATION DATE OF THE LICENSE: 04/30/10

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

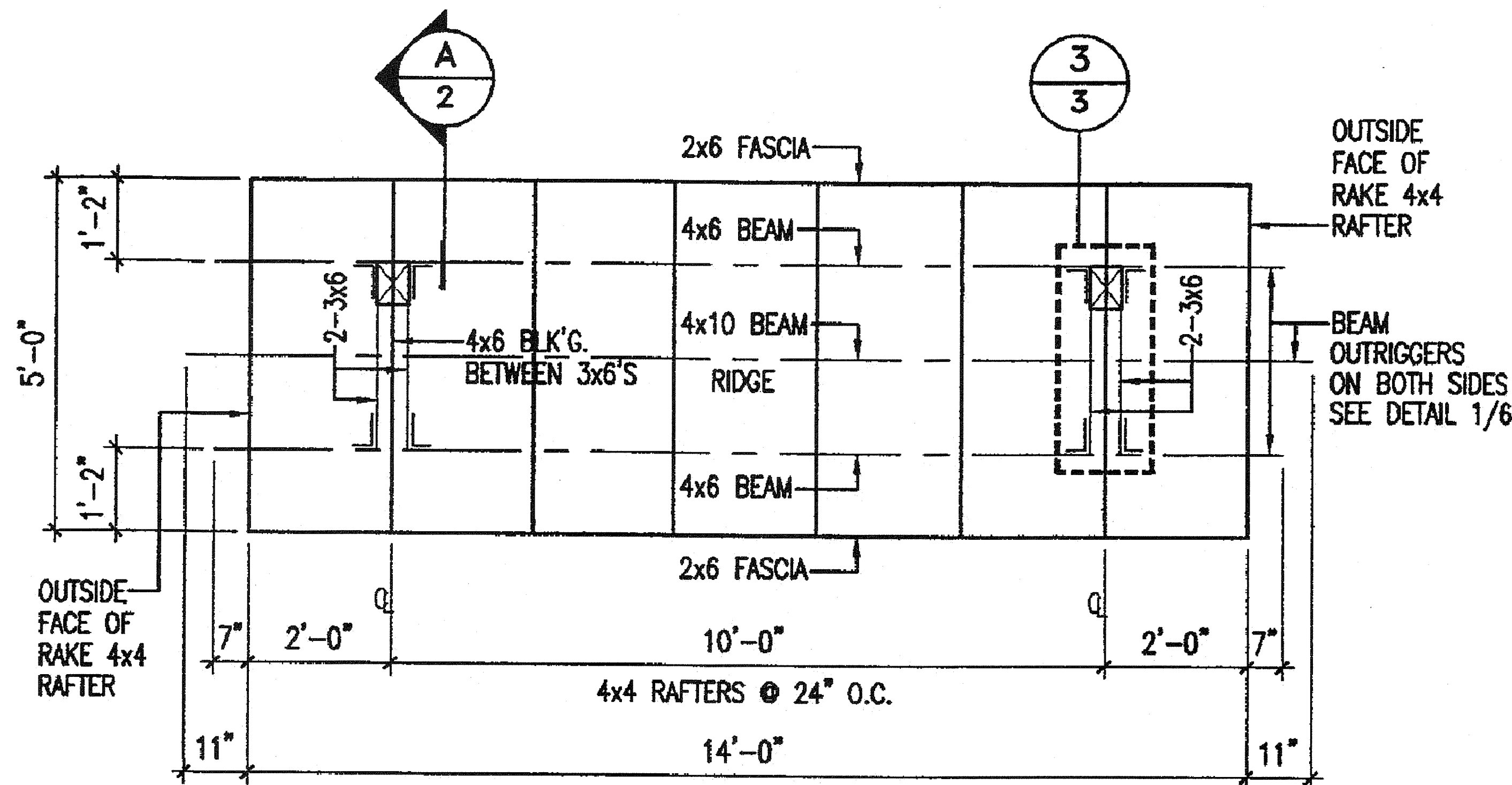
**BUS SHELTER NOTES**

FORT WEAVER ROAD WIDENING  
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: None Date: Feb. 22, 2008

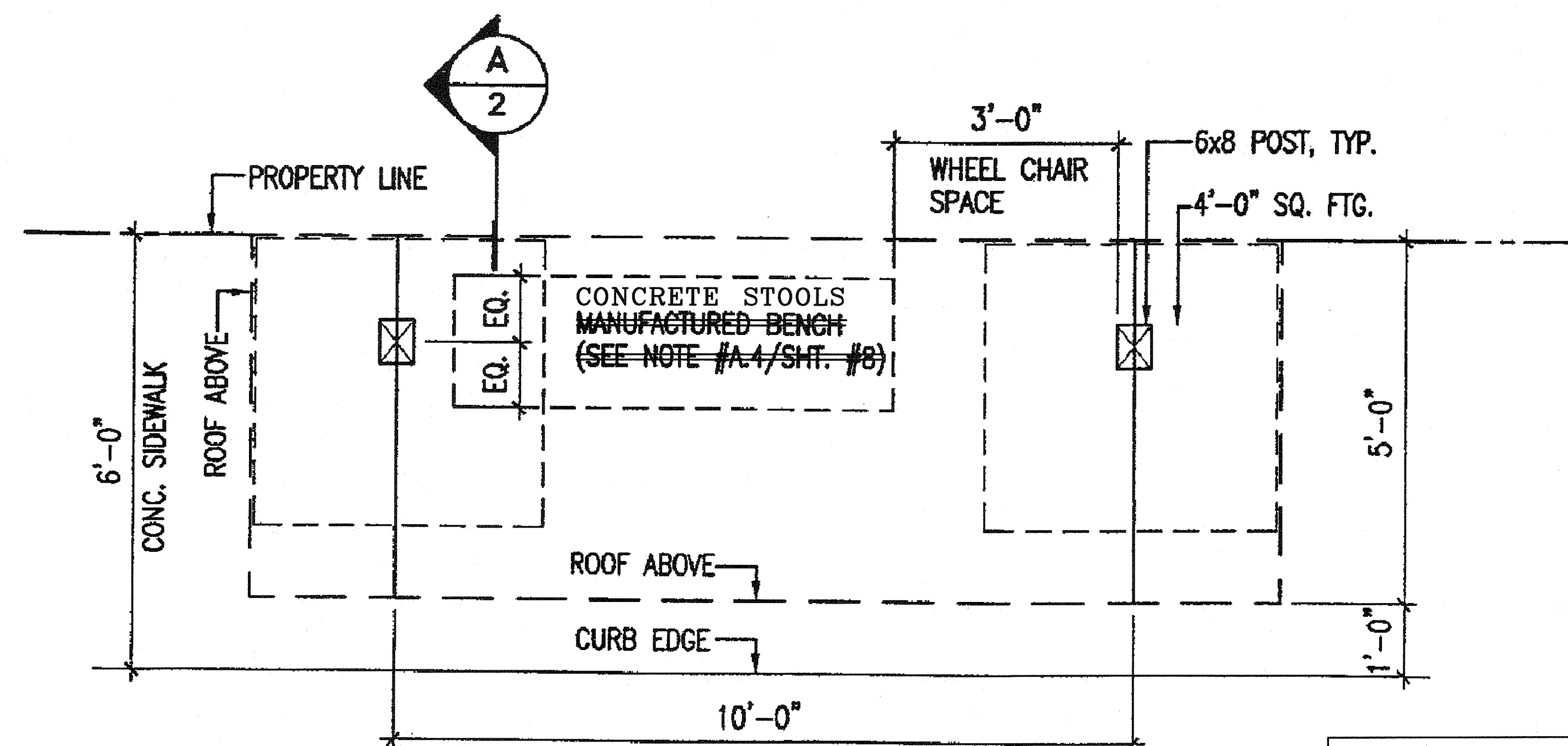


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**ROOF FRAMING PLAN**  
SCALE: N.T.S.

TYPE A (M) - METAL PANEL ROOF  
TYPE A (W) - WOOD SHINGLE ROOF



**FLOOR PLAN**  
SCALE: N.T.S.

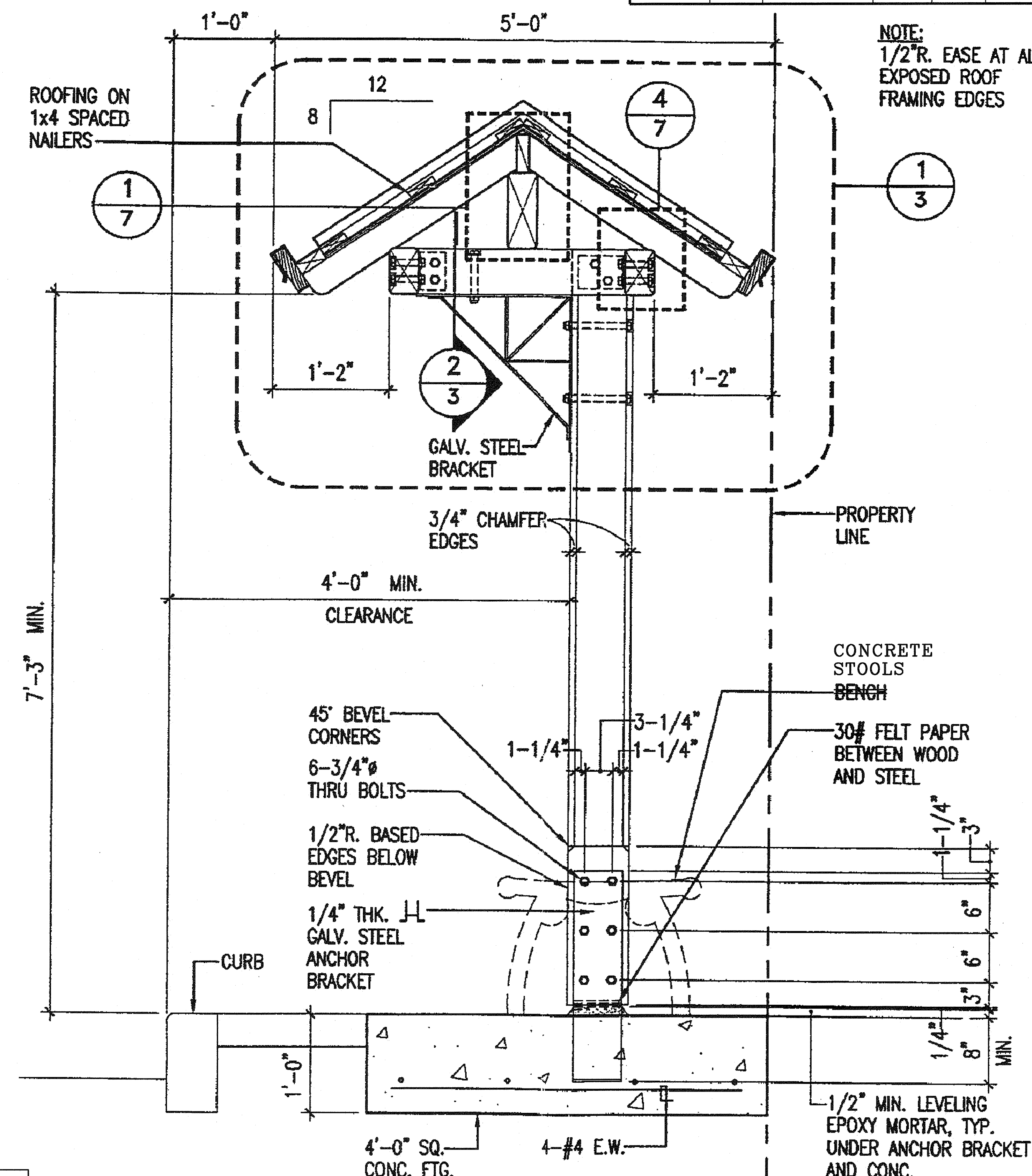
TYPE A (M) - METAL PANEL ROOF  
TYPE A (W) - WOOD SHINGLE ROOF

**LEGEND FOR AS-BUILT POSTINGS**

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Roadway Text for as-built posting



TYPE A (M) - METAL PANEL ROOF  
TYPE A (W) - WOOD SHINGLE ROOF

**SECTION A-2**  
SCALE: N.T.S.

|                   |      |
|-------------------|------|
| SURVEY PLOTTED BY | DATE |
| DRAWN BY          |      |
| DESIGNED BY       |      |
| QUANTITIES BY     |      |
| CHECKED BY        |      |
| ORIGINAL PLAN     |      |
| NOTE BOOK         |      |
| N.                |      |

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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**BUS SHELTER DETAILS**  
**TYPE "A" BUS SHELTER**

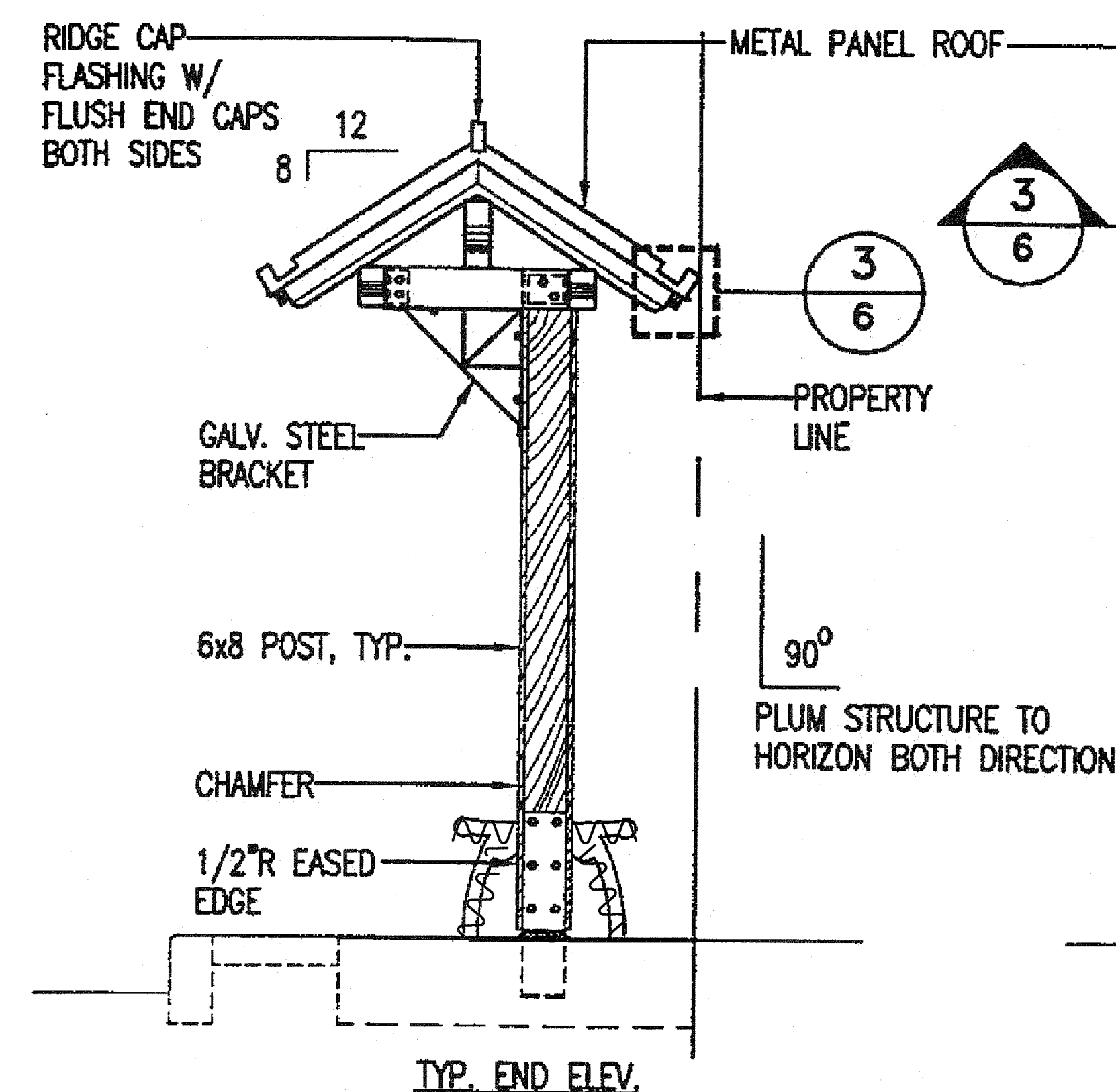
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VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: None Date: Feb. 22, 2008

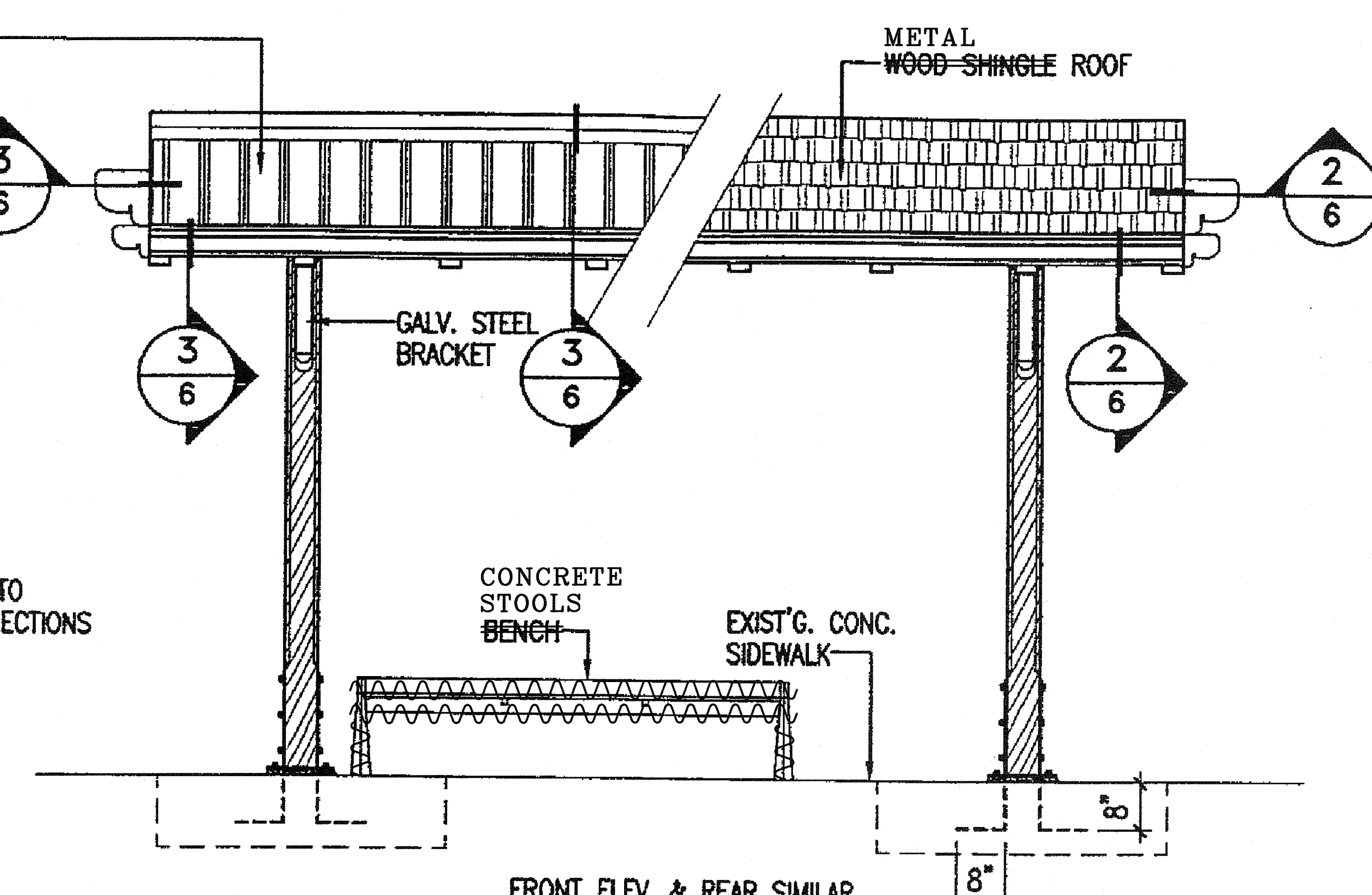
SHEET No. R2-33 OF 79 SHEETS



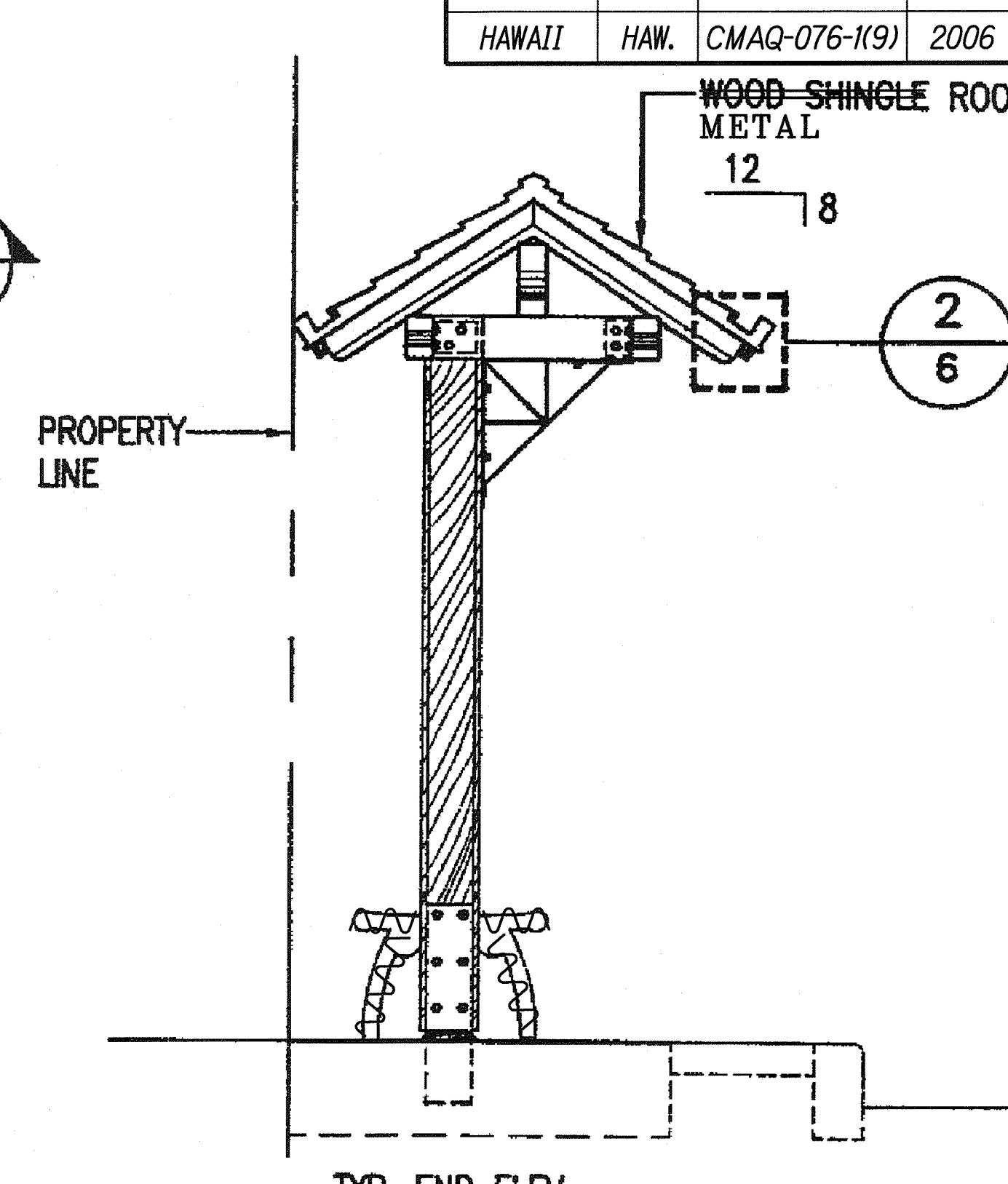
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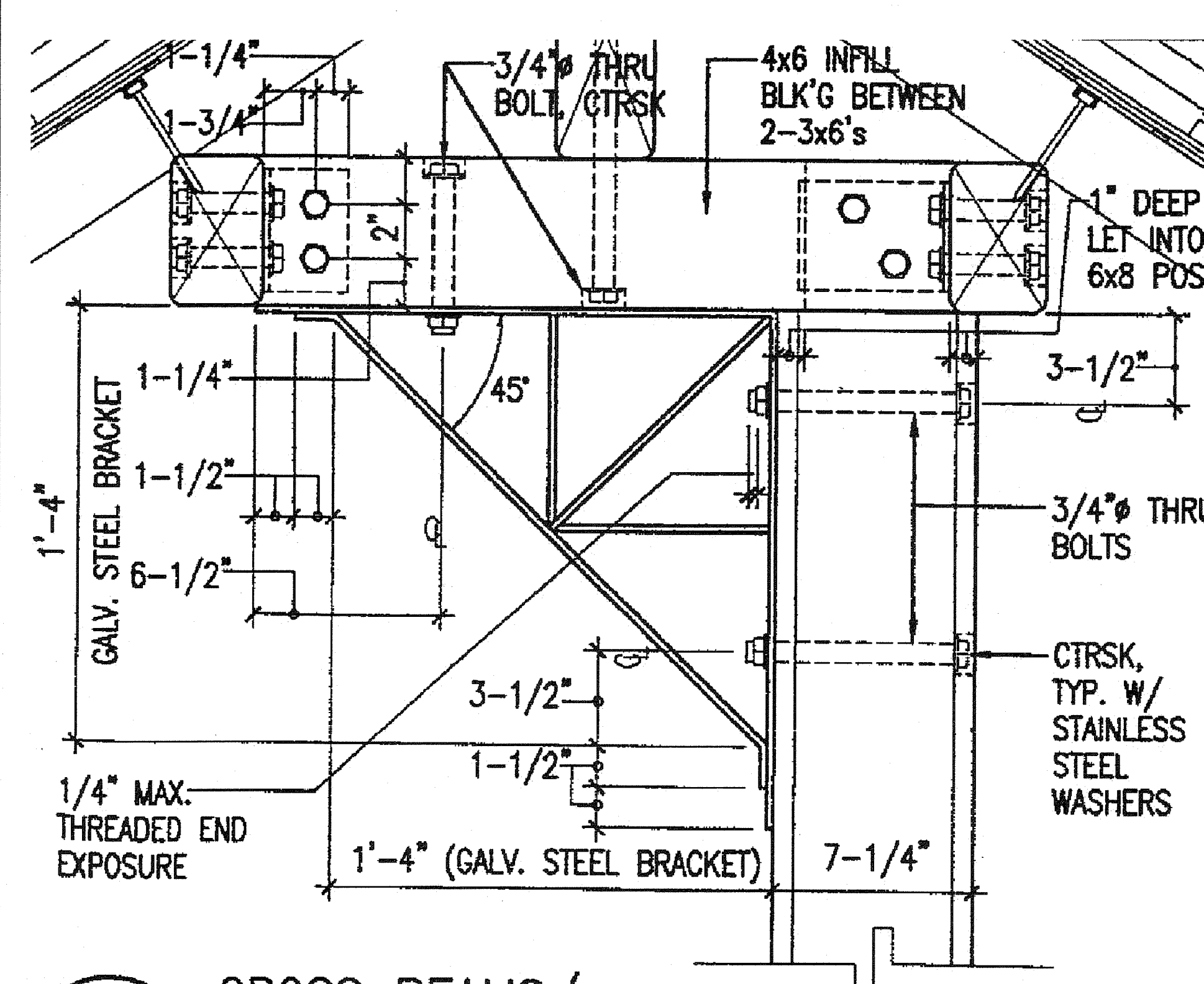
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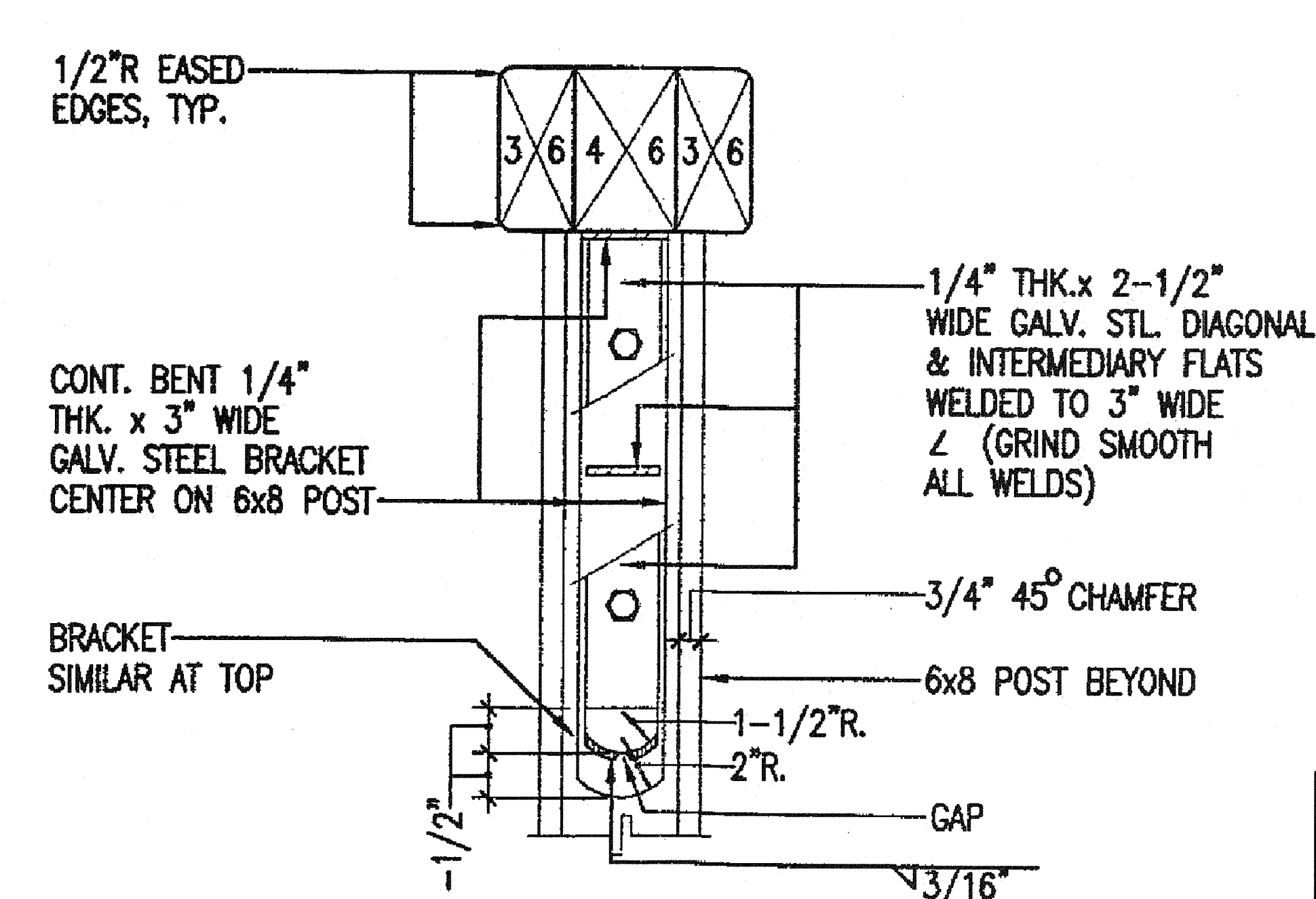
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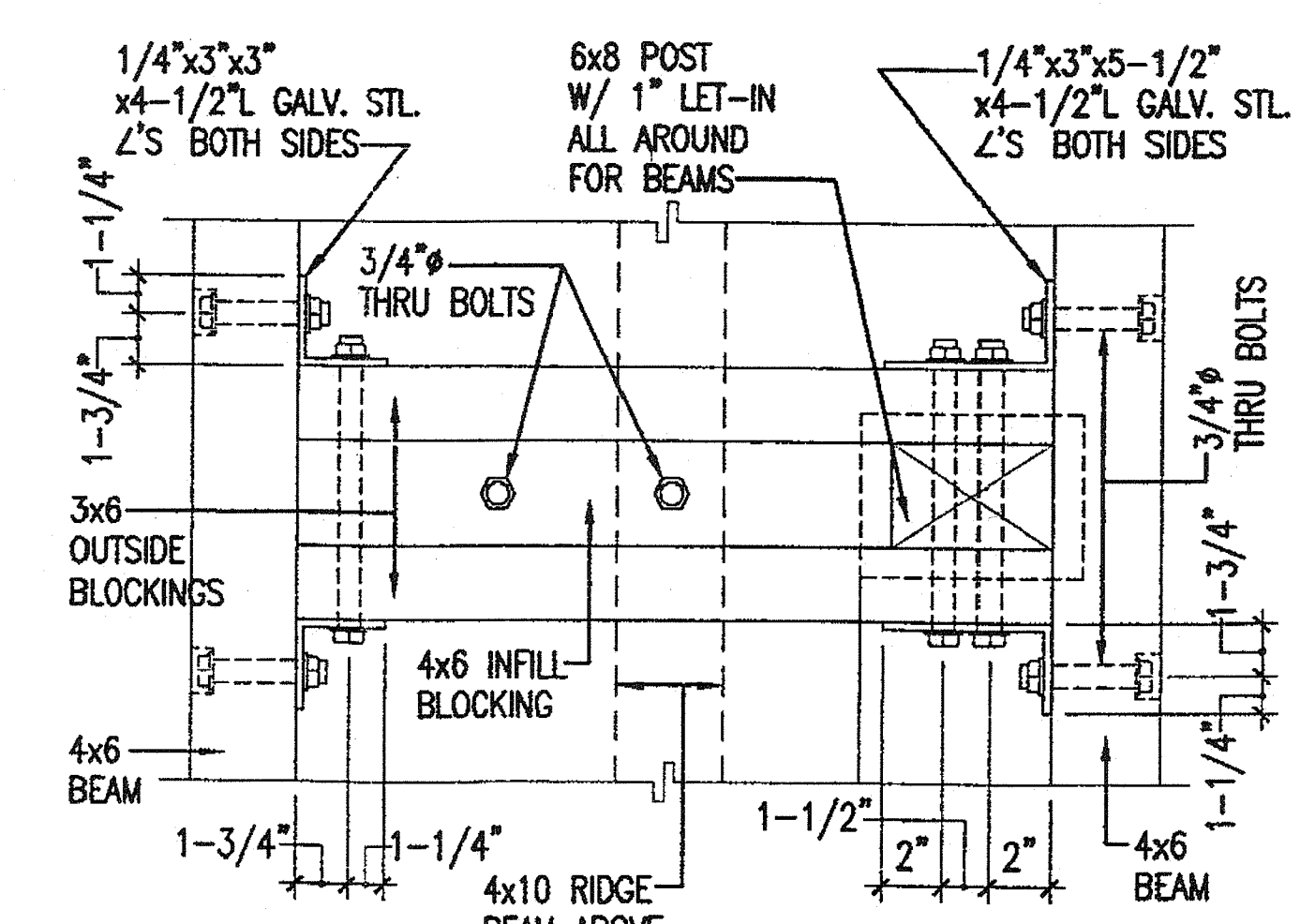
**TYPE A WOOD SHINGLE ROOFING**  
SCALE: N.T.S.



**CROSS BEAMS/POST CONNECTION**  
SCALE: N.T.S.



**BRACKET DETAIL**  
SCALE: N.T.S.



**CROSS BEAMS/POST CONNECTION**  
SCALE: N.T.S.

**LEGEND FOR AS-BUILT POSTINGS**

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|         | Double line for as-built deletion   |
| Roadway | Text for as-built posting           |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**BUS SHELTER DETAILS**  
**TYPE "A" BUS SHELTER**

FORT WEAVER ROAD WIDENING  
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: None Date: Feb. 22, 2008

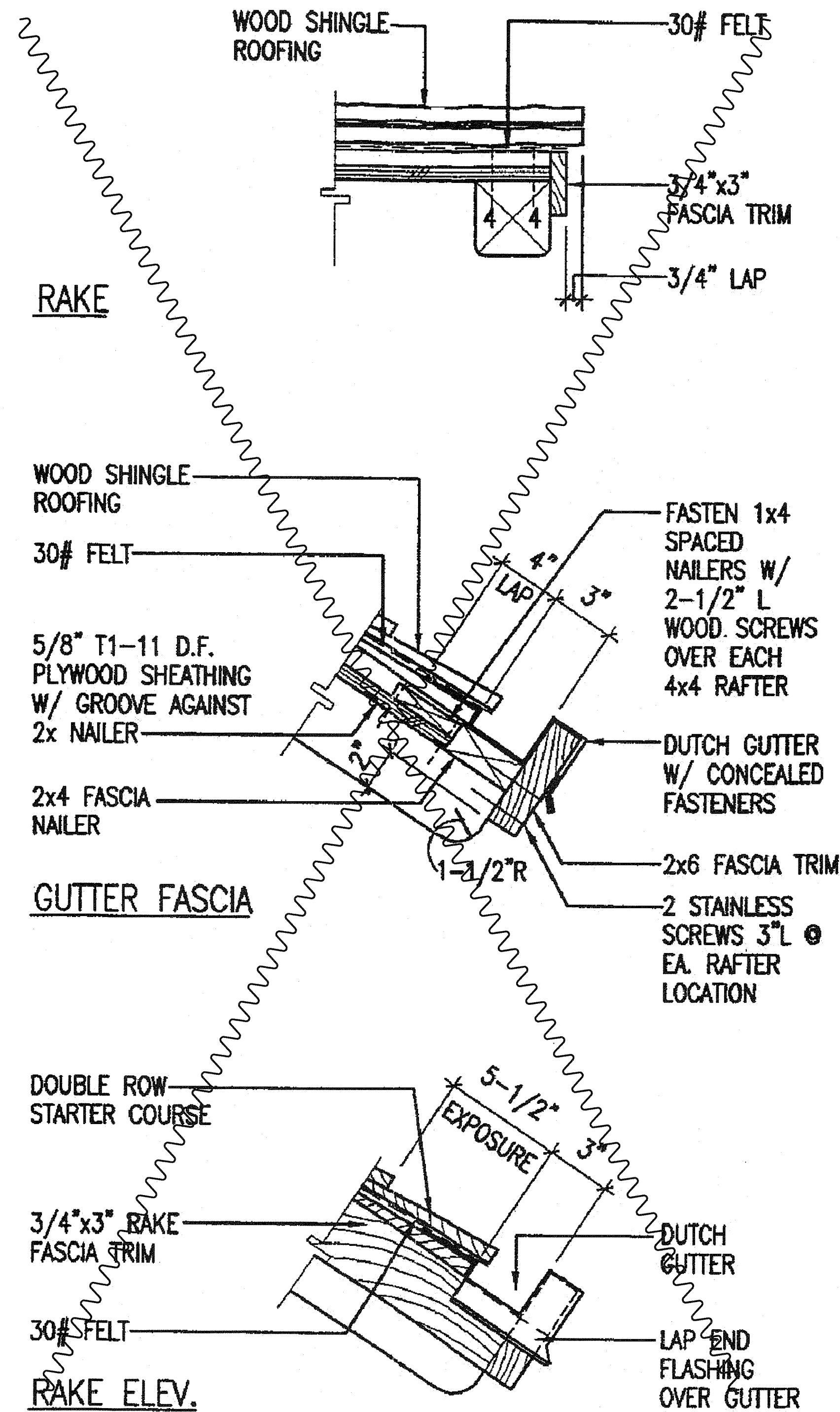
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| NOTE BOOK     |  |
| QUANTITIES BY |  |
| CHECKED BY    |  |

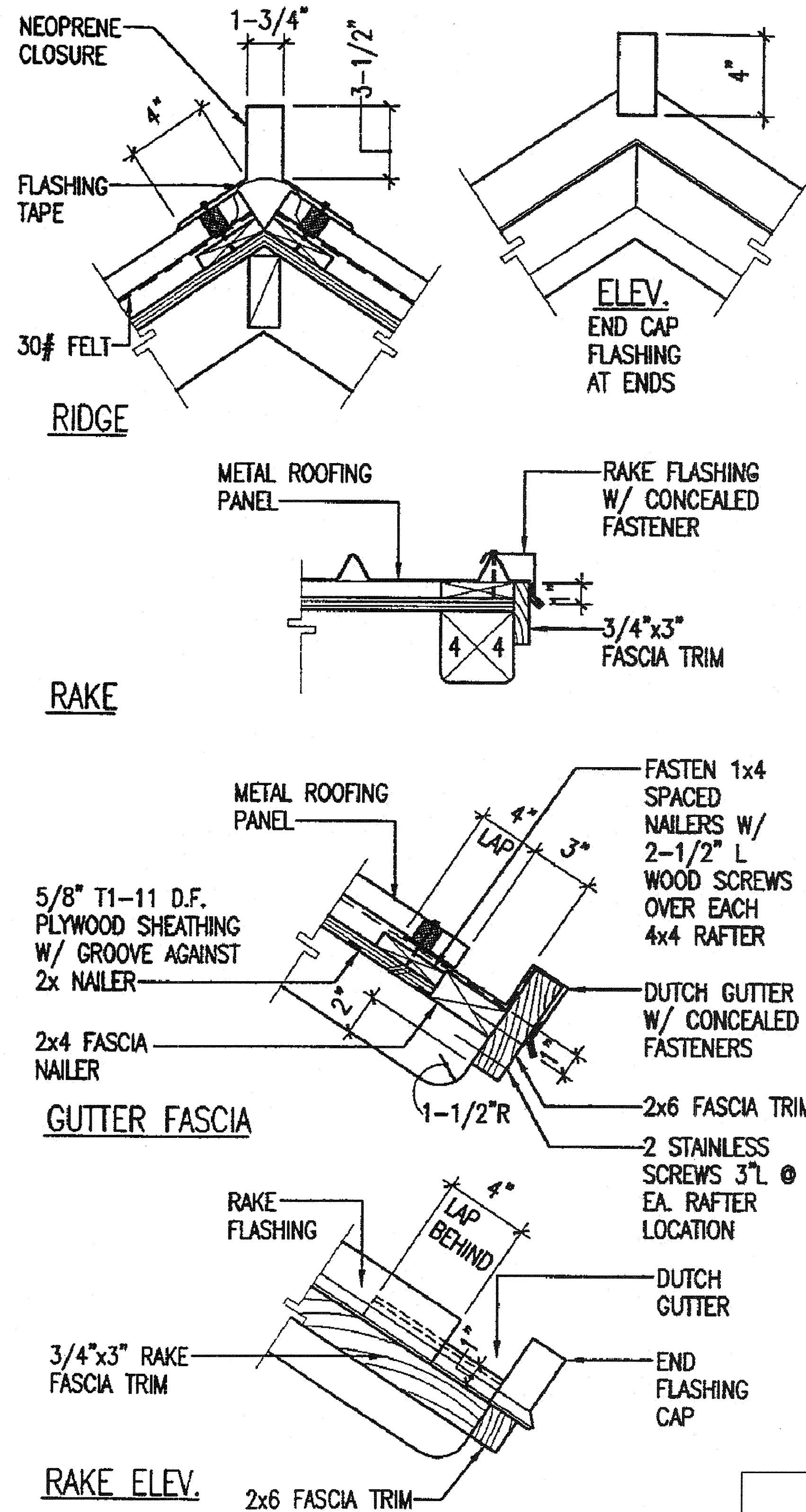
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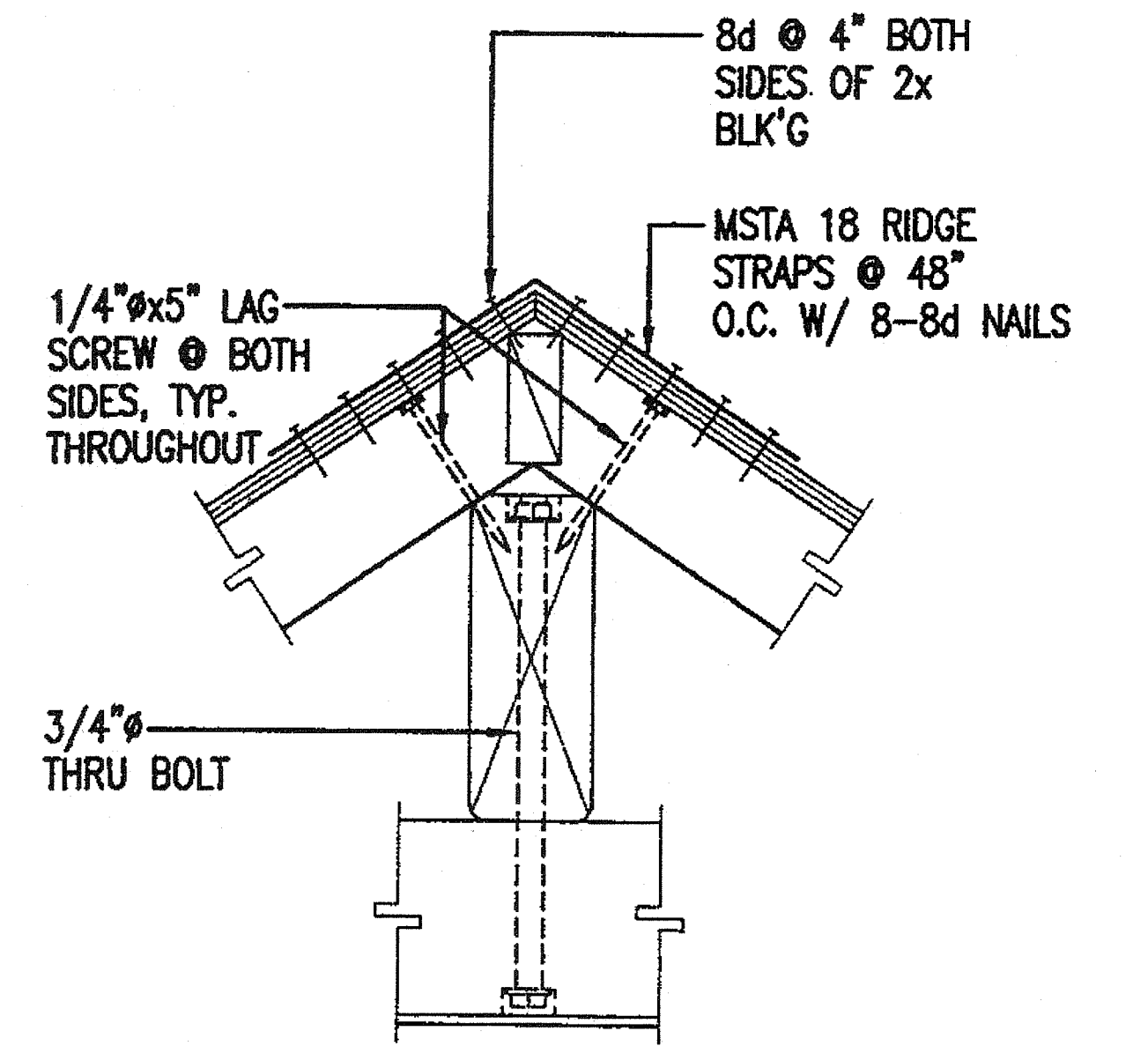
| FED. ROAD DIST. NO. | STATE | FEDERAL AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII              | HAW.  | CMAQ-076-1(9)         | 2006        | 66        | 371          |



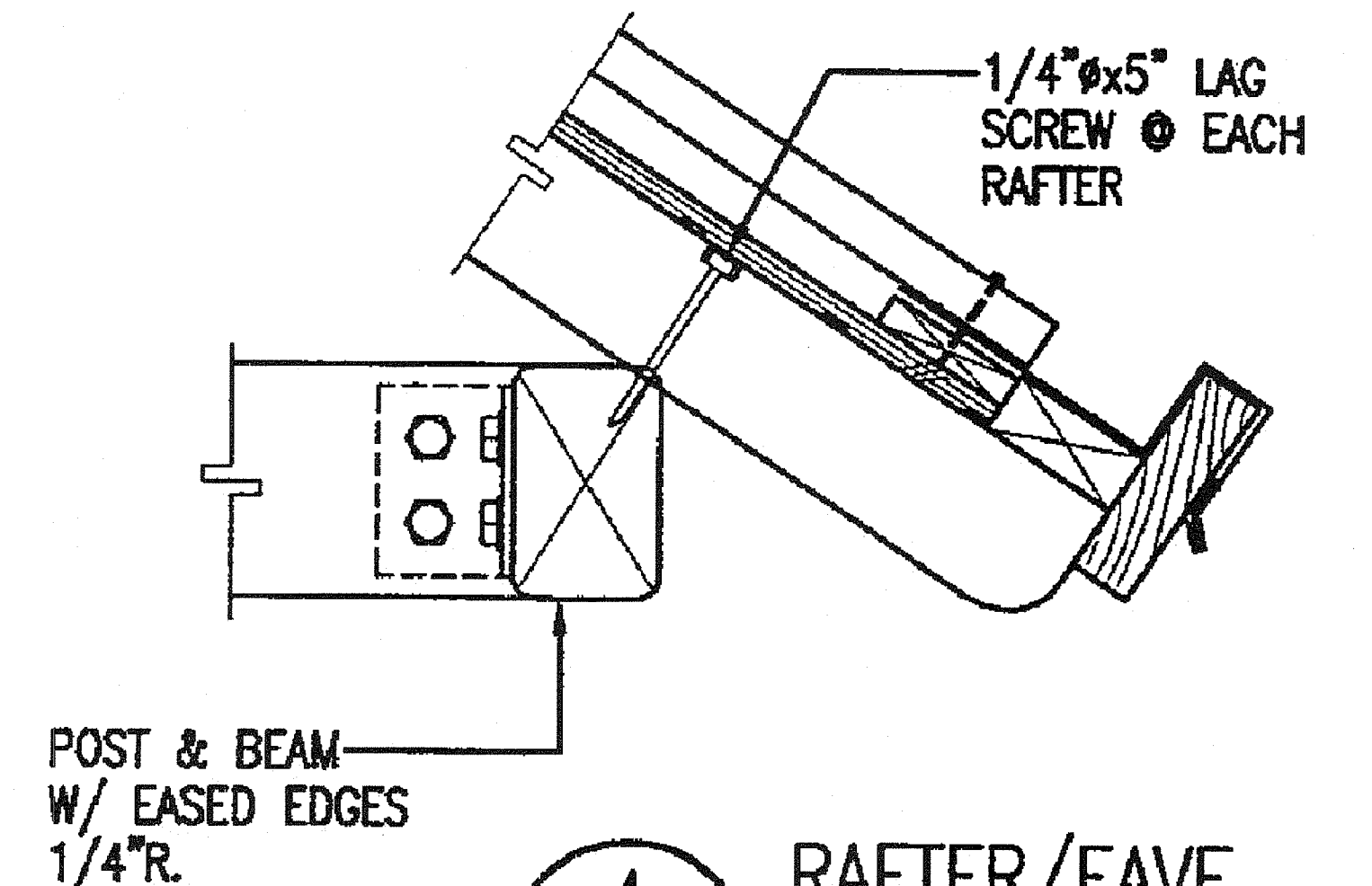
**2**  
**WOOD SHINGLE  
ROOF DETAILS**  
SCALE: N.T.S.



**3**  
**METAL PANEL  
ROOF DETAILS**  
SCALE: N.T.S.



**1**  
**RIDGE  
ANCHORING** AT TYPE A  
SCALE: N.T.S.



**4**  
**RAFTER/EAVE  
BEAM CONNECTION**  
SCALE: N.T.S.

| LEGEND FOR<br>AS-BUILT POSTINGS |                                     |
|---------------------------------|-------------------------------------|
|                                 | Squiggly line for as-built deletion |
|                                 | Double line for as-built deletion   |
| Roadway                         | Text for as-built posting           |

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**BUS SHELTER DETAILS  
TYPE "A" BUS SHELTER**

FORT WEAVER ROAD WIDENING  
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: None Date: Feb. 22, 2008

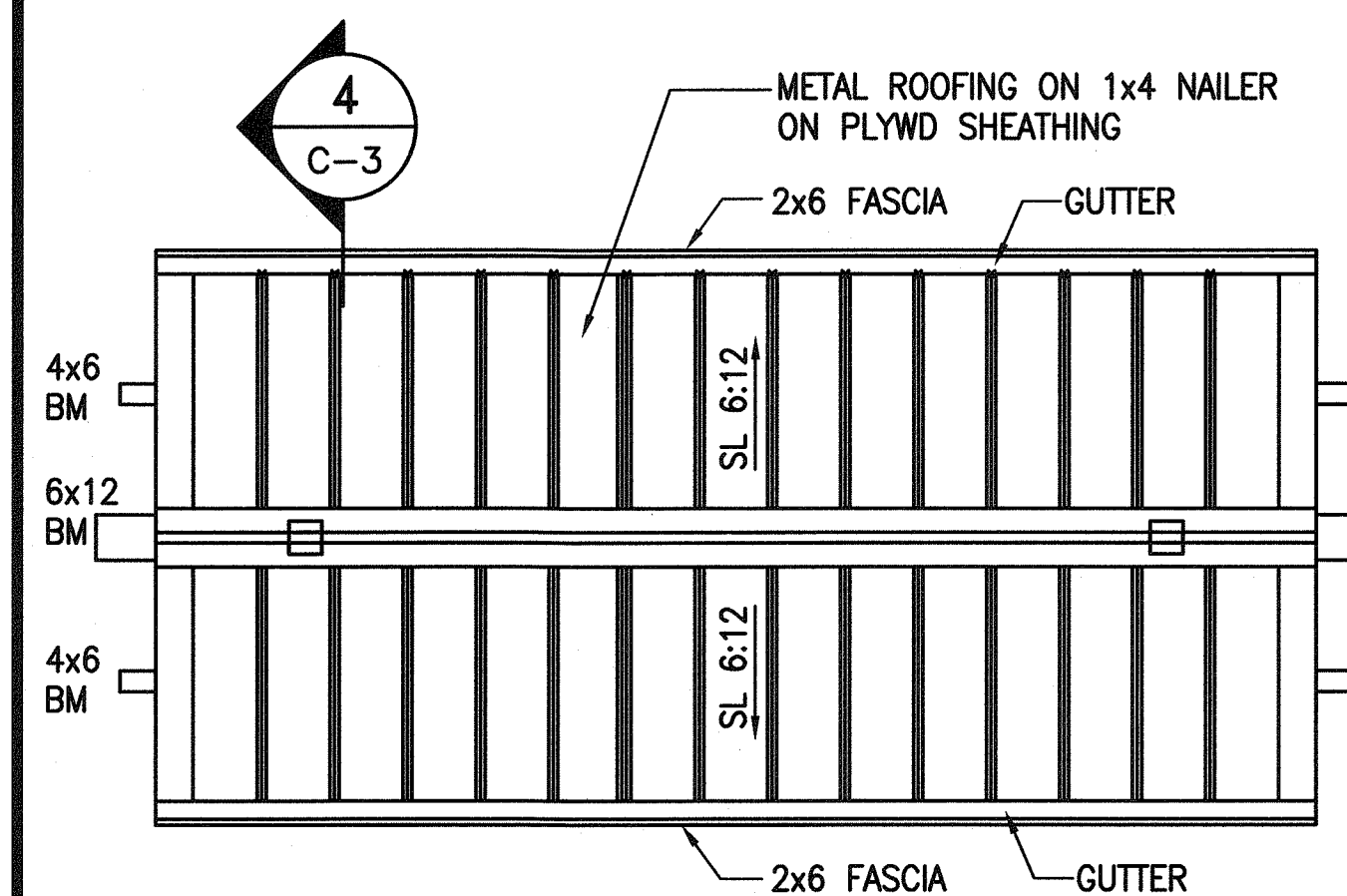
SHEET No. R2-35 OF 79 SHEETS

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| CHECKED BY    | QUANTITIES BY |

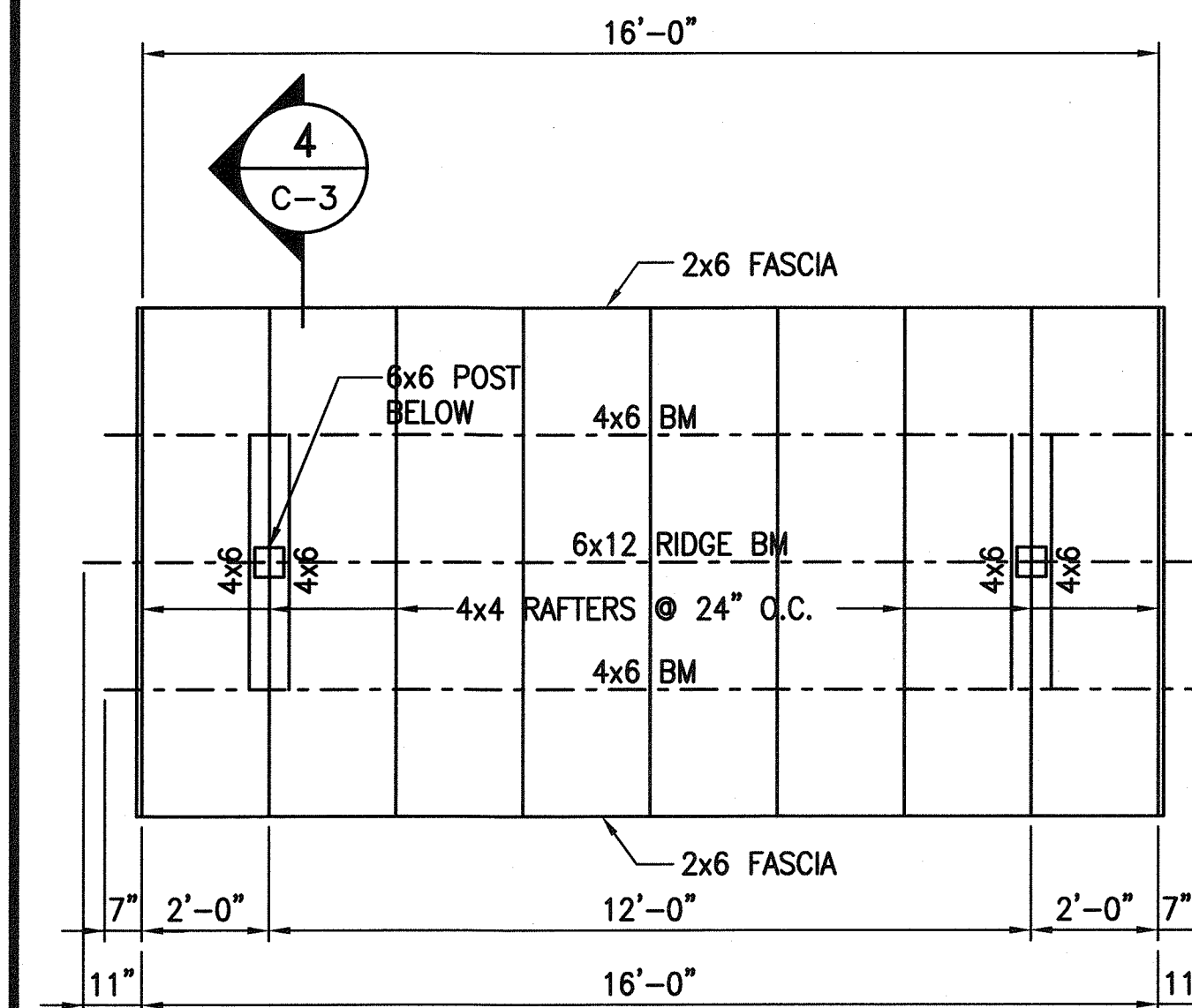
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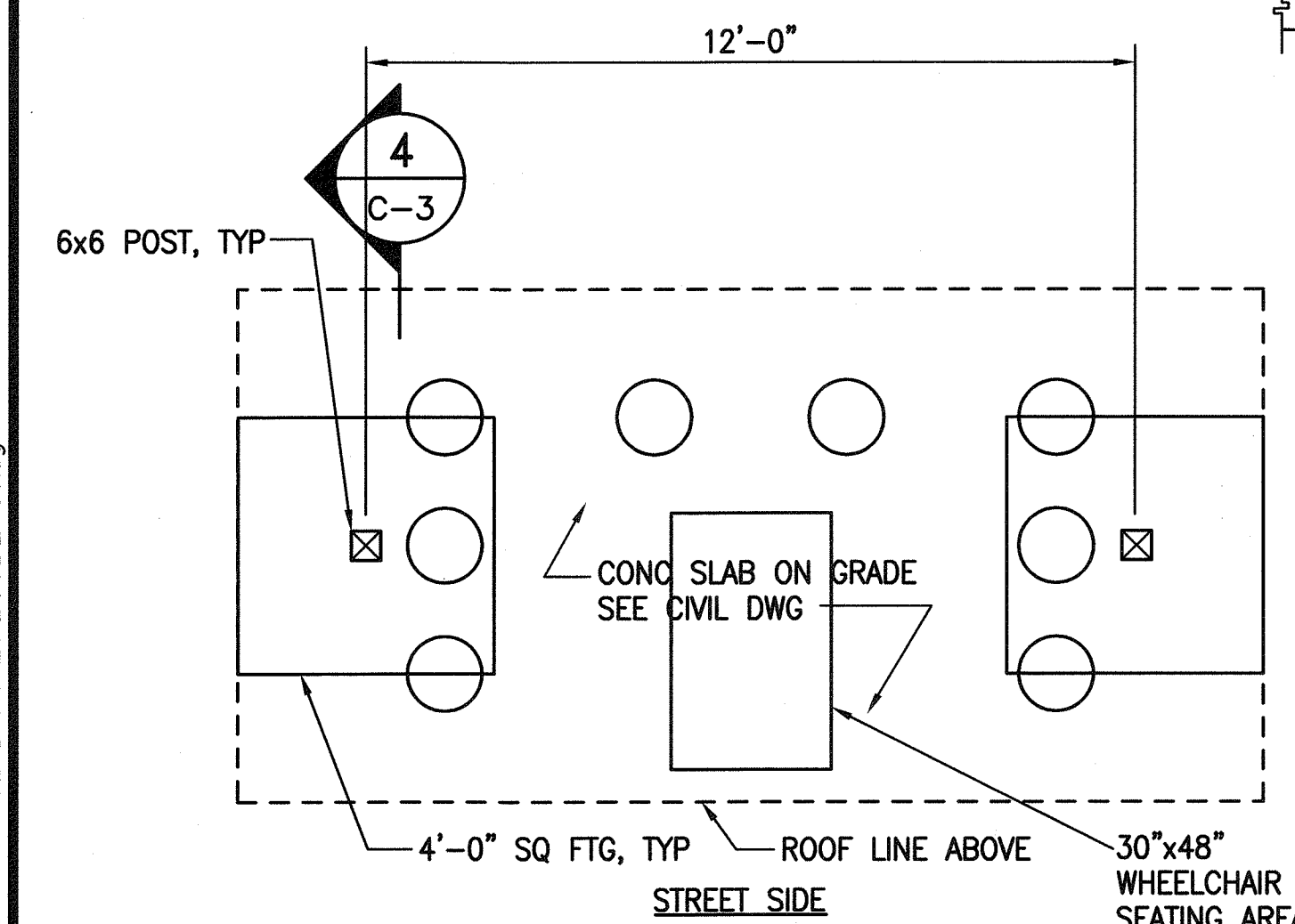
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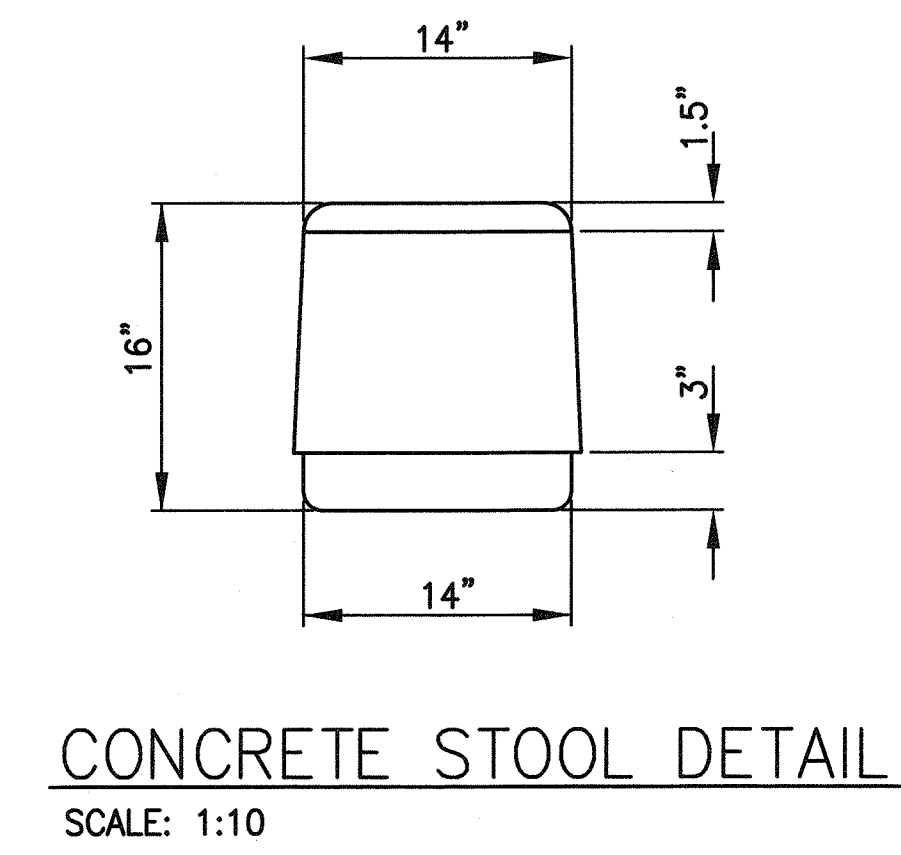
3 ROOF PLAN  
C-3 SCALE: 3/8"=1'-0"



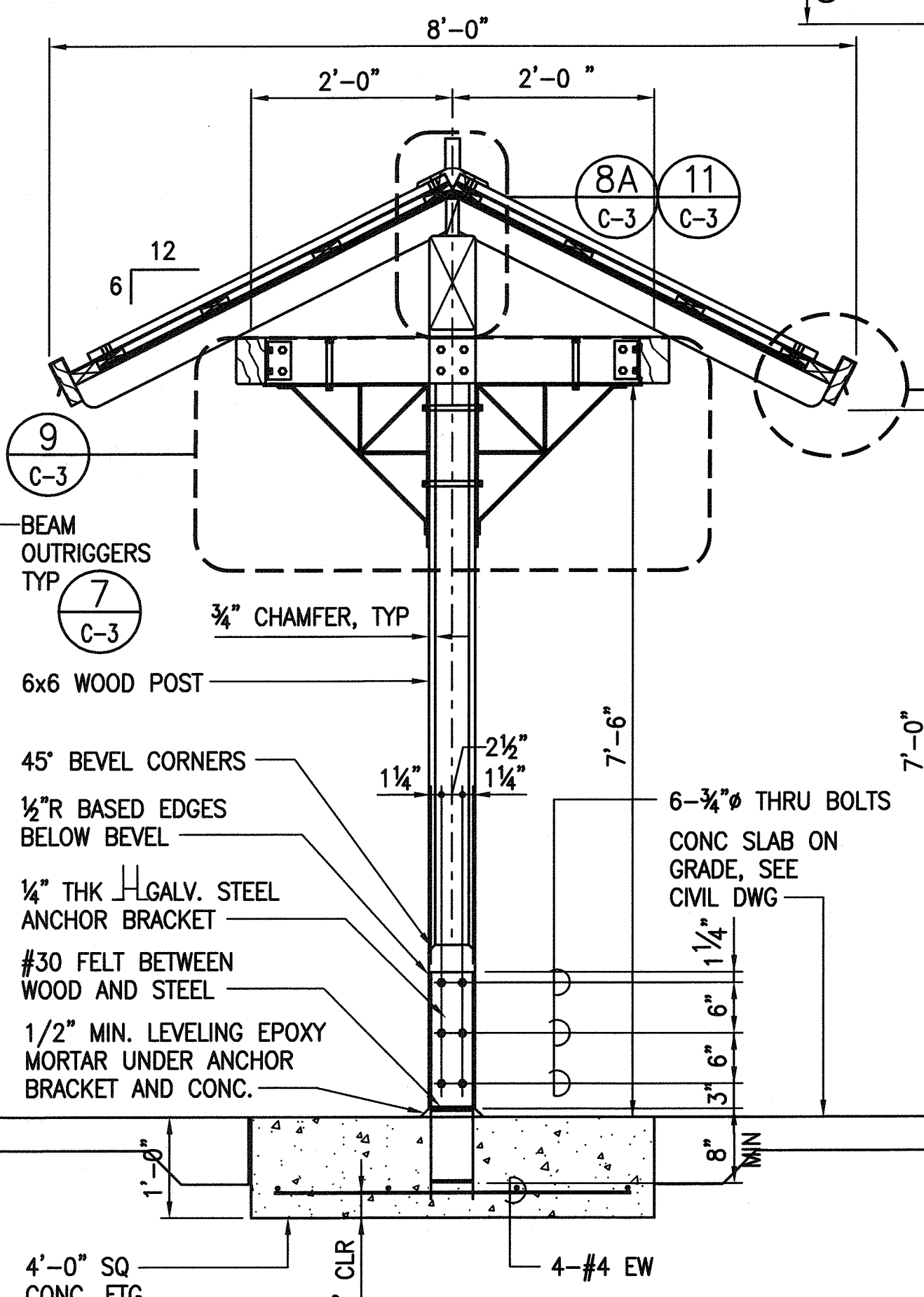
2 ROOF FRAMING PLAN  
C-3 SCALE: 3/8"=1'-0"



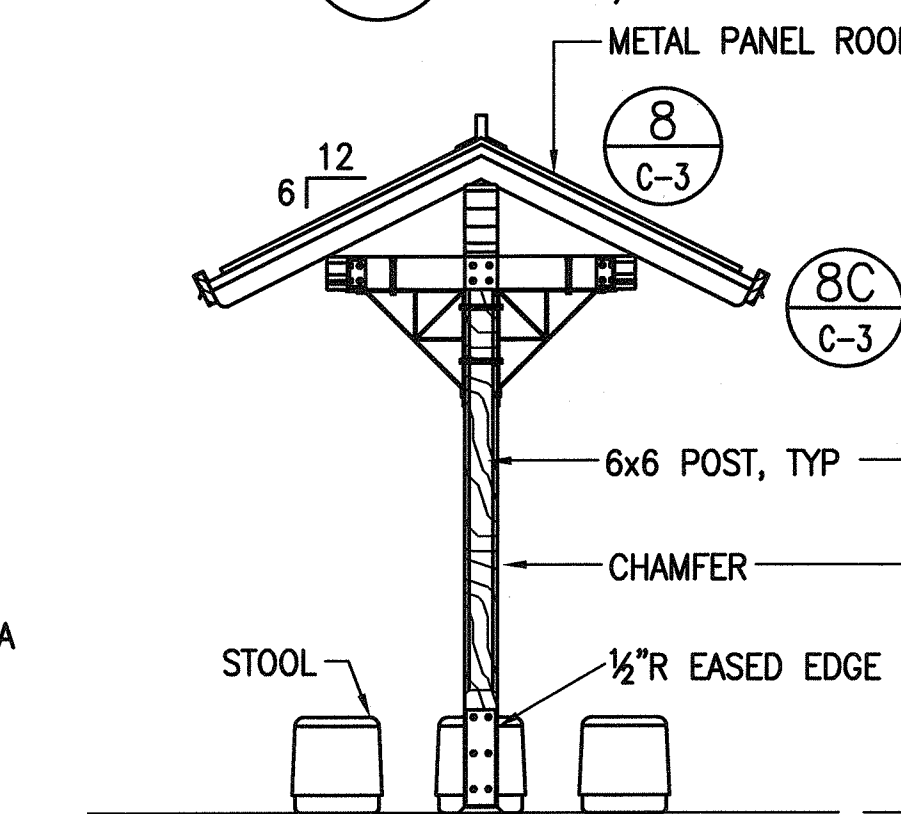
1 FLOOR PLAN  
C-3 SCALE: 3/8"=1'-0"



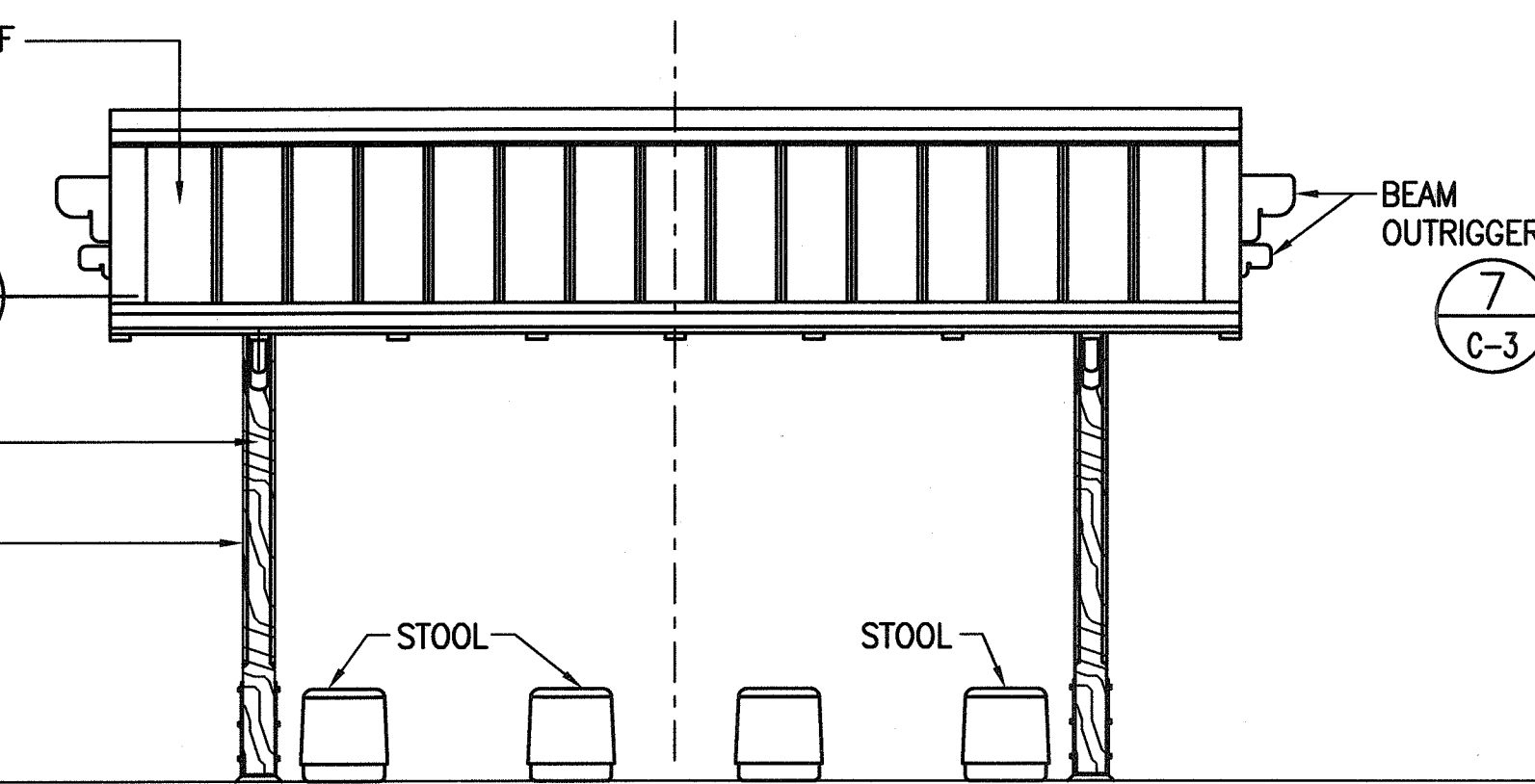
CONCRETE STOOL DETAIL  
SCALE: 1:10



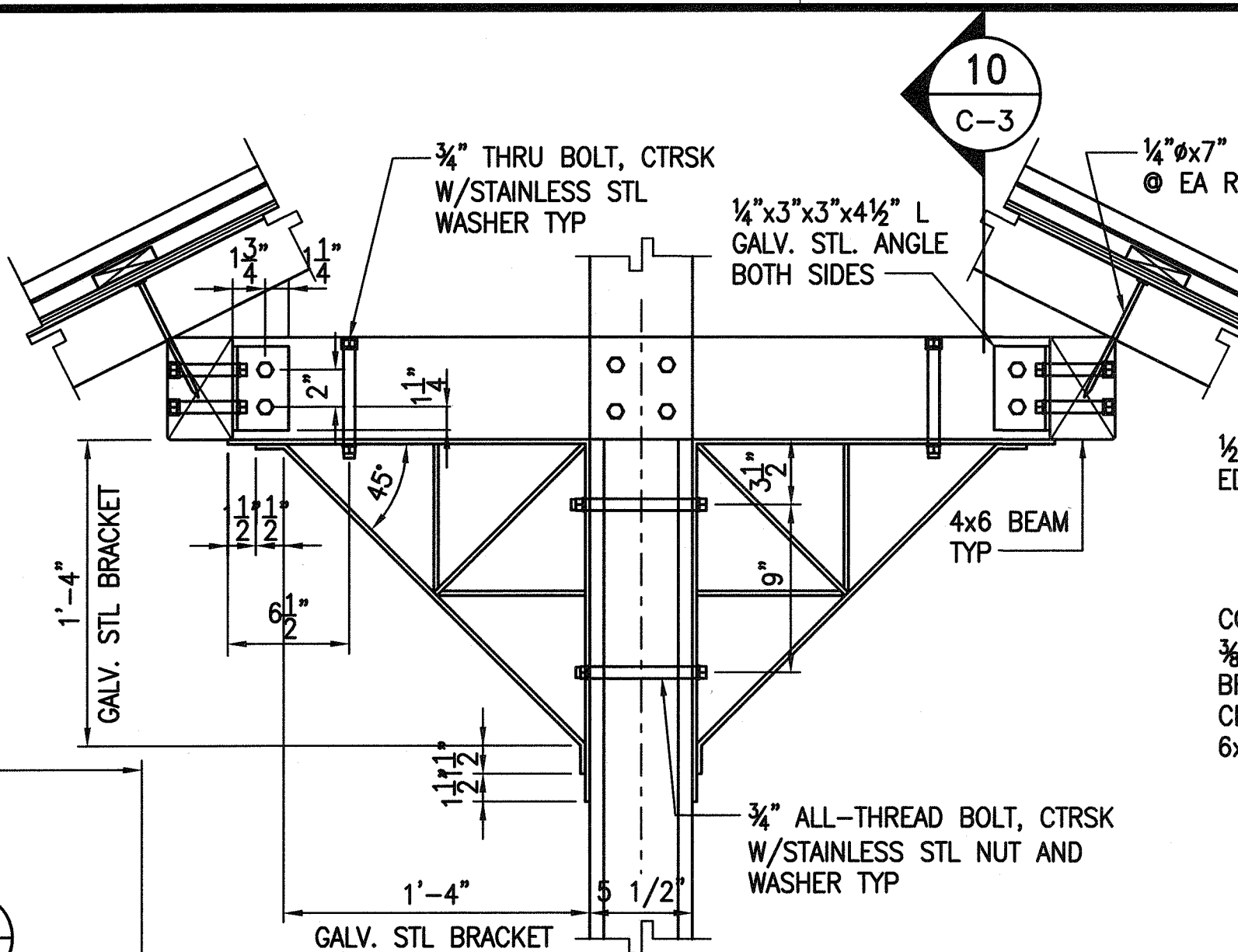
4 TYPICAL SECTION  
C-3 SCALE: 3/4"=1'-0"



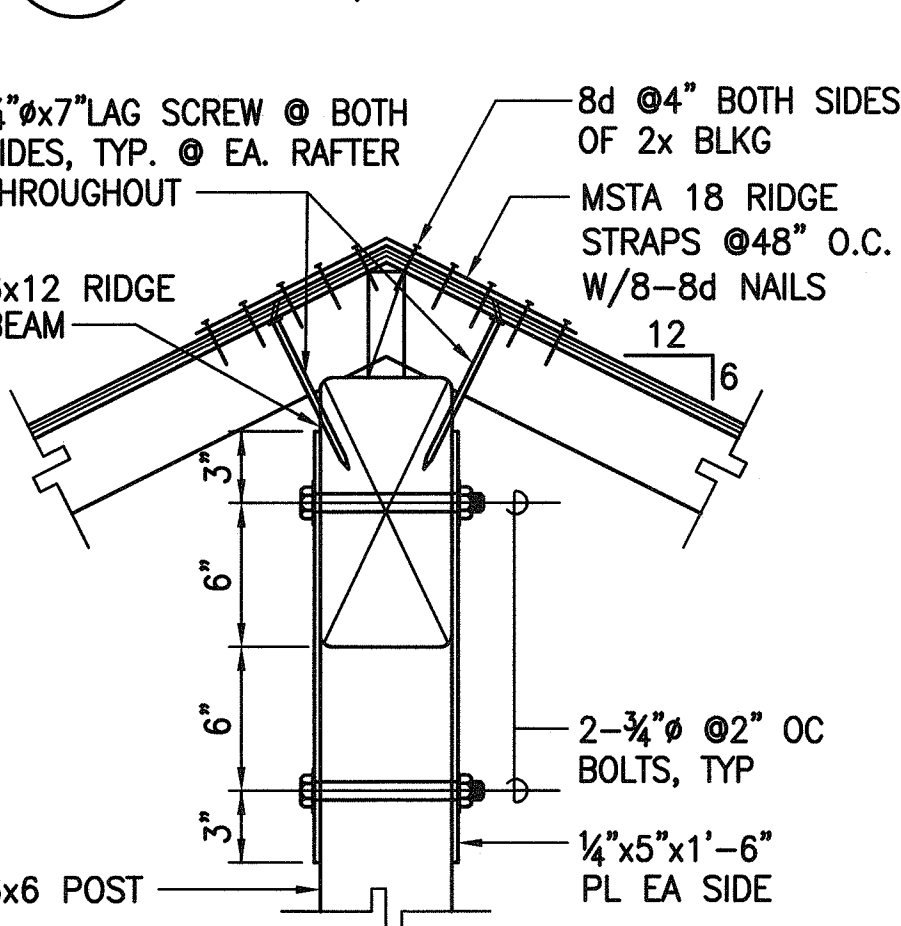
5 LEFT/RIGHT ELEVATION  
C-3 SCALE: 3/8"=1'-0"



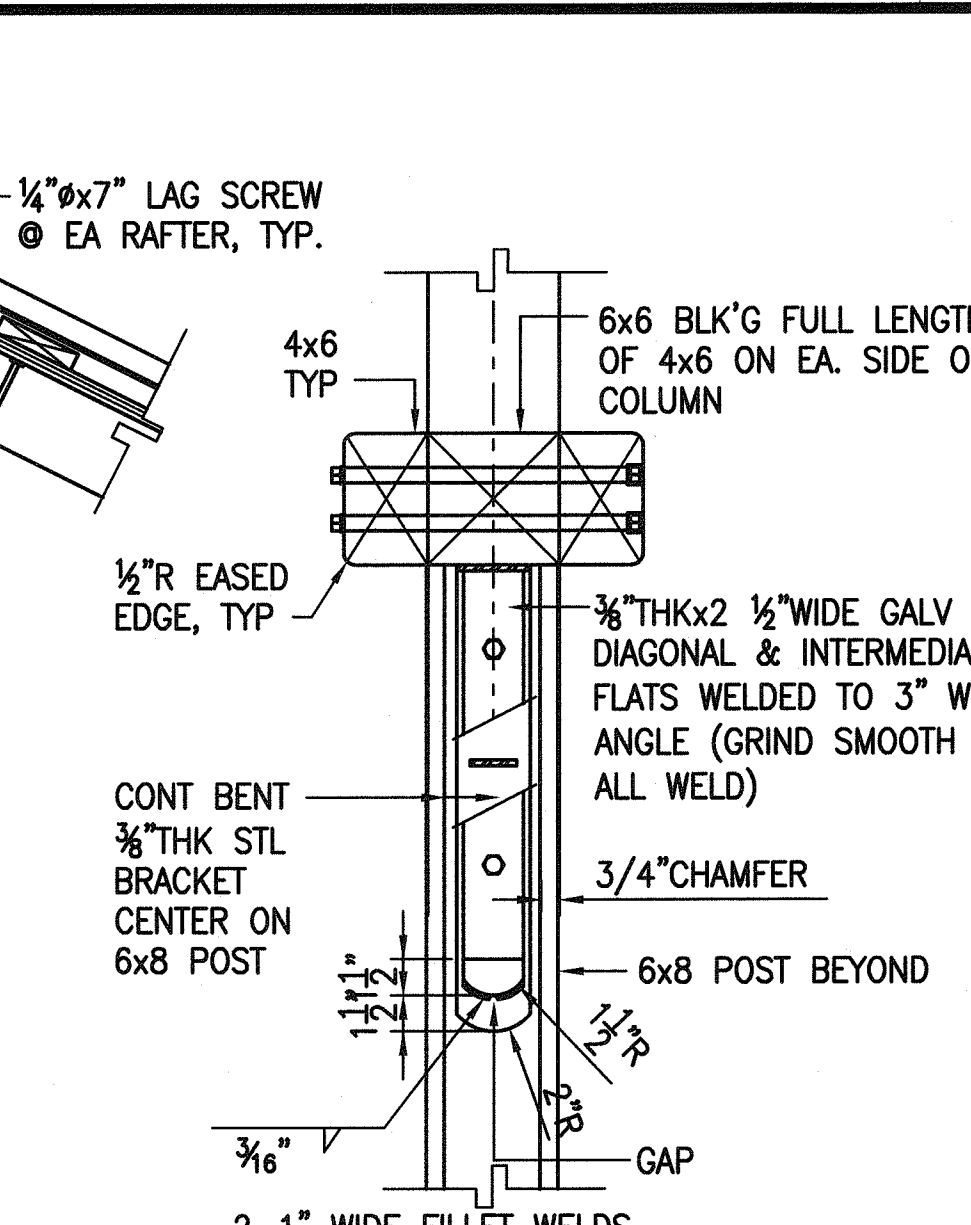
6 FRONT/REAR ELEVATION  
C-3 SCALE: 3/8"=1'-0"



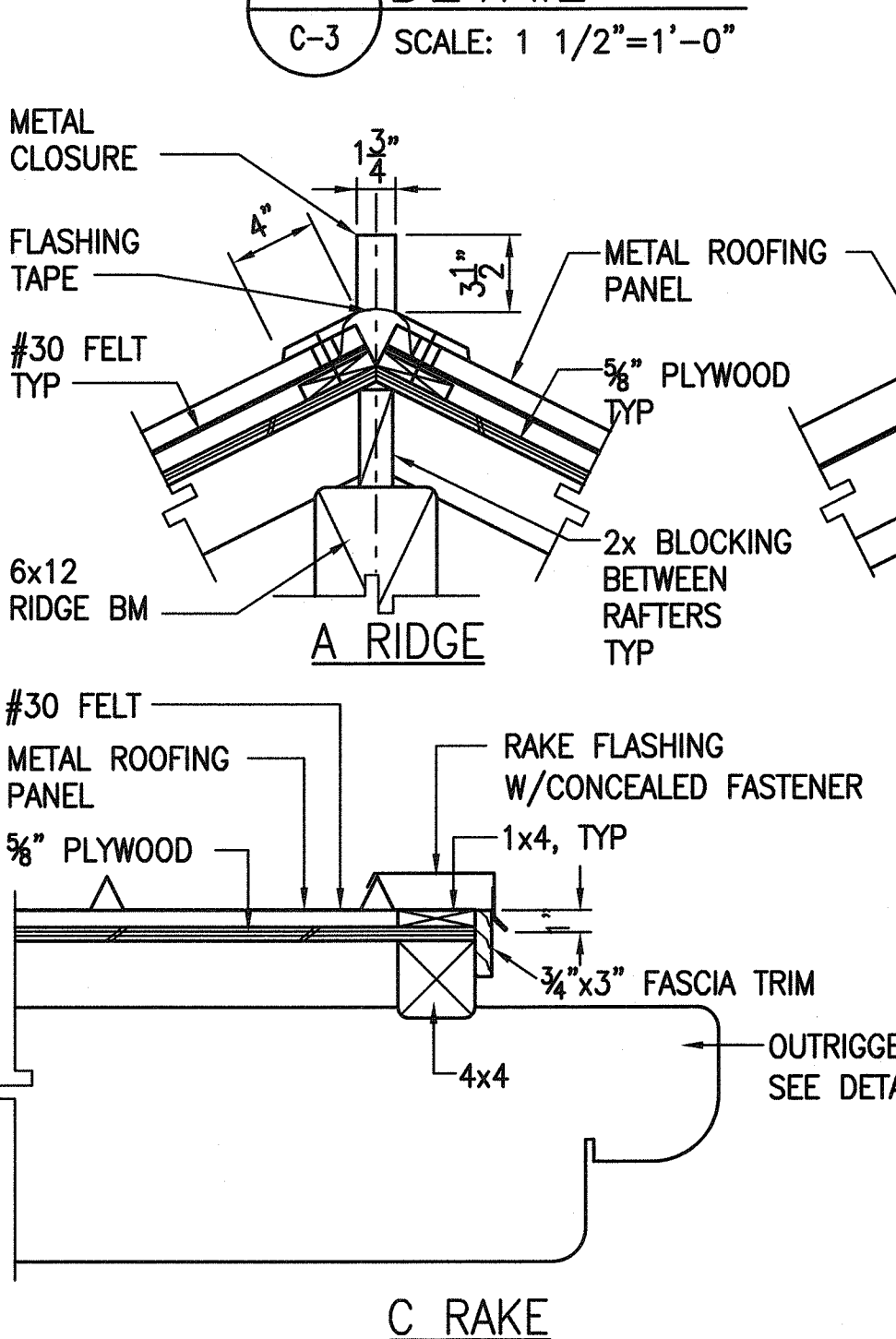
9 DETAIL  
C-3 SCALE: 1 1/2"=1'-0"



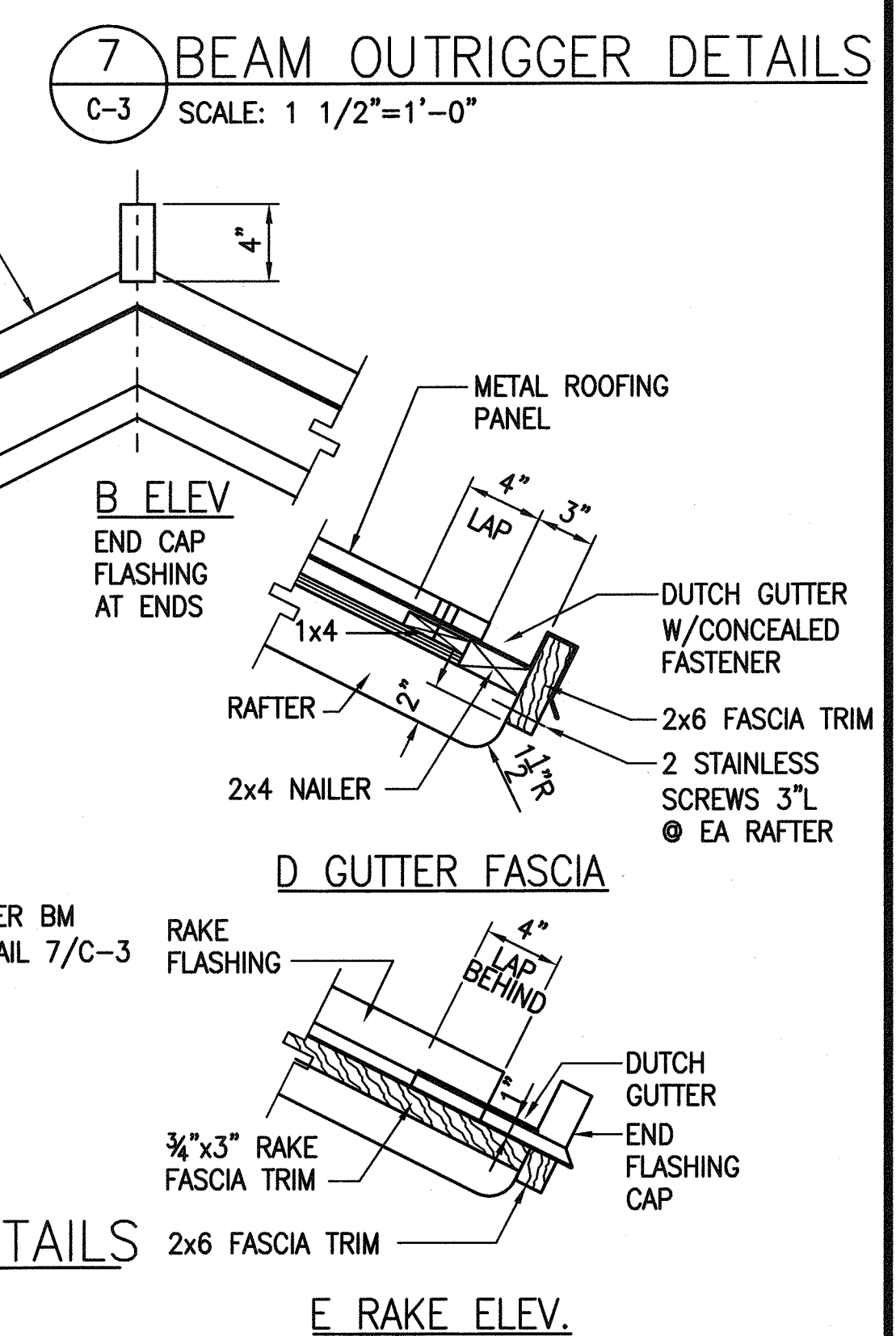
11 RIDGE ANCHORING  
C-3 SCALE: 1 1/2"=1'-0"



10 DETAIL  
C-3 SCALE: 1 1/2"=1'-0"



8 METAL PANEL ROOF DETAILS  
C-3 SCALE: 1 1/2"=1'-0"



7 BEAM OUTRIGGER DETAILS  
C-3 SCALE: 1 1/2"=1'-0"

STATE OF HAWAII  
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**BUS SHELTER DETAILS**  
**TYPE "C" BUS SHELTER**

FORT WEAVER ROAD WIDENING  
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: As Noted Date: Feb. 22, 2008

SHEET No. R2-36 OF 79 SHEETS