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LETTER OF TRANSMITTAL

TO: Steamboat Structures
96 Perry Park Ave #464
Larkspur, CO 80118

DATE: 6/30/2021

FILE NO. 006-01

ATTN: Heather Reed

RE: Forest Lakes Bridges

WE ARE SENDING YOU:

- ☐ Shop Drawings
- ☐ Specifications
- ☐ Plans

- ☐ Copy of Letter
- ☐ Reports
- ☒ Submittal Information

- ☐ Samples
- ☐ _____

SUBMITTED BY: Structures

COPIES	DESCRIPTION	CONTRACTOR
1	Pier Cap Falsework Plan	Structures

THESE ARE TRANSMITTED:

- ☐ For Approval
- ☒ For Your Use
- ☐ As Requested

- ☐ For Review and Comment
- ☐ Approved As Submitted
- ☐ Approved As Noted

- ☐ Returned for Corrections
- ☐ _____

REMARKS:

cc: File

PIER CAP FALSEWORK DRAWINGS

FOREST LAKES BRIDGES

GENERAL NOTES:

1. THIS DRAWING HAS BEEN PREPARED TO REPRESENT A FORM SYSTEM THAT IS CAPABLE OF SUPPORTING THE FLUID WEIGHT OF CONCRETE DURING CASTING THE PIER CAPS.
2. ALL FORMWORK HAS BEEN DESIGNED IN ACCORDANCE WITH ACI 347 AND SP-4 (FORMWORK FOR CONCRETE). DESIGN ASSUMES THAT ALL MATERIALS AND PRODUCTS ARE UNDAMAGED, OF HIGH QUALITY, ARE PROPERLY MAINTAINED AND ARE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL ASSOCIATED WITH SETTING FORMS TO APPROPRIATE GRADES AND ELEVATIONS AND FOR INSTALLING ALL FORM COMPONENTS IN CONFORMANCE WITH THIS DRAWING AND ALL MANUFACTURER'S RECOMMENDATIONS.
4. ALL COIL ROD SHALL BE HIGH STRENGTH COIL ROD. ALL COIL ROD SHALL BE CONNECTED WITH HEX NUTS TO DEVELOP THE REQUIRED CAPACITY. NUTS SHALL BEAR ON A STANDARD NUT WASHER AS REQUIRED. TAPERED NUTS OR SHIMS SHALL BE USED TO ENSURE FLUSH BEARING OF NUTS ON PLATES. COIL ROD SHALL FULLY ENGAGE ALL THREADS OF NUTS AND COIL INSERTS. TORQUE COIL NUTS TO APPROXIMATELY 50 FT-LBS TO PRE-LOAD COIL ROD.
5. ALL MANUFACTURED ITEMS (INSERTS, BRACKETS, ETC.) SHALL BE INSTALLED AND OPERATED PER MANUFACTURER'S SPECIFICATIONS. APPROVED EQUIVALENT MANUFACTURED ITEMS MAY BE SUBSTITUTED AT ENGINEER'S APPROVAL.
6. THE FALSEWORK AND FORMWORK DETAILS HEREIN ARE DESIGNED TO SUPPORT THE LOADINGS DESCRIBED BELOW FOR THIS SPECIFIC BRIDGE. RE-USE OF PORTIONS OR THE ENTIRE SYSTEM ON ANOTHER BRIDGE PROJECT REQUIRES SEPARATE DESIGN.

TIMBER

1. ALL TIMBER SHALL BE IN ACCORDANCE WITH THE NATIONAL DESIGN SPECIFICATION NDS 2005.
2. ALL TIMBER SHALL BE VISUALLY GRADED DOUGLAS FIR LARCH NO. 2 OR BETTER. MOISTURE CONTENT IS ASSUMED TO NOT EXCEED 19% (DRY). TEMPERATURE IS ASSUMED TO NOT EXCEED 100°F.
3. PRESSURE TREATED OR INCISED LUMBER SHALL NOT BE USED.
4. DESIGN VALUES FOR LUMBER 2"-4" THICK:
2"-4" WIDE NO. 1:
Fb = 900 PSI
Fv = 180 PSI
5. DESIGN LOAD DURATION FACTORS:
7 DAY LOADING: Cd = 1.25
10 MINUTE LOADING: Cd = 1.60
6. FLAT USE FACTOR FOR 2" THICKNESS (Cfu):
2"-3" WIDE: Cfu = 1.0
4"-5" WIDE: Cfu = 1.1
6"-8" WIDE: Cfu = 1.15
7. DOUGLAS FIR LARCH DESIGN VALUES INCLUDE SIZE FACTOR UP TO 8" WIDE.
8. PLYWOOD IS ASSUMED TO BE APA CERTIFIED PLYFORM B-B CLASS I OR EQUAL. HIGHER QUALITY PLYWOOD MAY BE SUBSTITUTED.

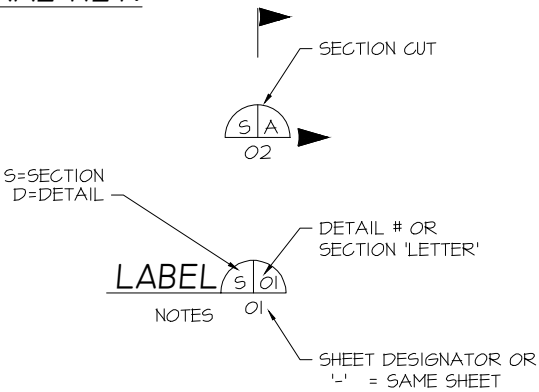
STEEL

1. STEEL DESIGN IN ACCORDANCE WITH MANUAL OF STEEL CONSTRUCTION, AISC, 13TH EDITION.
2. ALL STEEL ASSUMED TO BE ASTM A36 Fy = 36 KSI MINIMUM. ASSUMED MODULUS OF ELASTICITY E = 29,000 KSI.
3. ALL STEEL PLATES SHALL BE GRADE 50, ASTM A572 OR EQUIVALENT. Fy = 50 KSI MINIMUM. ASSUMED MODULUS OF ELASTICITY E = 29,000 KSI,
4. WELDING: ALL WELDING SHALL BE PERFORMED BY AN AMERICAN WELDING SOCIETY (AWS) CERTIFIED WELDER AND SHALL BE PERFORMED UNDER THE PROVISIONS SET FORTH BY THE CURRENT AWS STRUCTURAL WELDING CODE-STEEL, AWS D1.1 STANDARDS.
5. ALL WELDS SHALL BE MADE WITH E70XX KSI SERIES ELECTRODES.
6. DANGER: NEVER TACK WELD AS A CONNECTION FOR TEMPORARY WORKS, USE 3/8" X 1" FILLET MINIMUM.
7. STRUCTURAL STEEL COPING (WHERE DETAILED & NECESSARY) SHALL BE MADE WITH A RADIUS PER AWS D1.1 STANDARDS. RE-ENTRANT CORNERS ARE NOT PERMITTED AT COPED BEAMS.
8. BOLTS: ALL BOLTS SHALL BE ASTM A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. HARDENED WASHERS SHALL BE USED ON ALL OUTER PLIES OF ALL BOLTED CONNECTIONS. BOLTS SHALL BE USED IN ACCORDANCE WITH RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS." BOLT HOLES SHALL BE NORMAL SIZE PER RCSC SPECIFICATIONS UNLESS NOTED OTHERWISE.
9. BOLT TIGHTENING SHALL BE CONDUCTED USING THE TURN-OF-THE-NUT METHOD AS OUTLINED IN THE AISC RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS."

INDEX OF SHEETS:

- PCFW-01 GENERAL NOTES AND INDEX
- PCFW-02 WESTBOUND PIER 2 PLAN AND ELEVATION
- PCFW-03 EASTBOUND PIER 2 PLAN AND ELEVATION
- PCFW-04 FALSEWORK SECTIONS
- PCFW-05 TYPICAL DETAILS

GENERAL KEY:



DESIGN LOADING:

ASSUMED CONSTRUCTION LOADING:

- DEAD:

150 PCF CIP CONCRETE & REINF DENSITY
490 PCF STEEL DENSITY
50 PCF TIMBER DENSITY
10 PSF FORMS
- LIVE:

50 PSF CONSTRUCTION LL
75 PLF LINE LOAD APPLIED AT TIMBER GUARDRAIL

ISSUED FOR APPROVAL

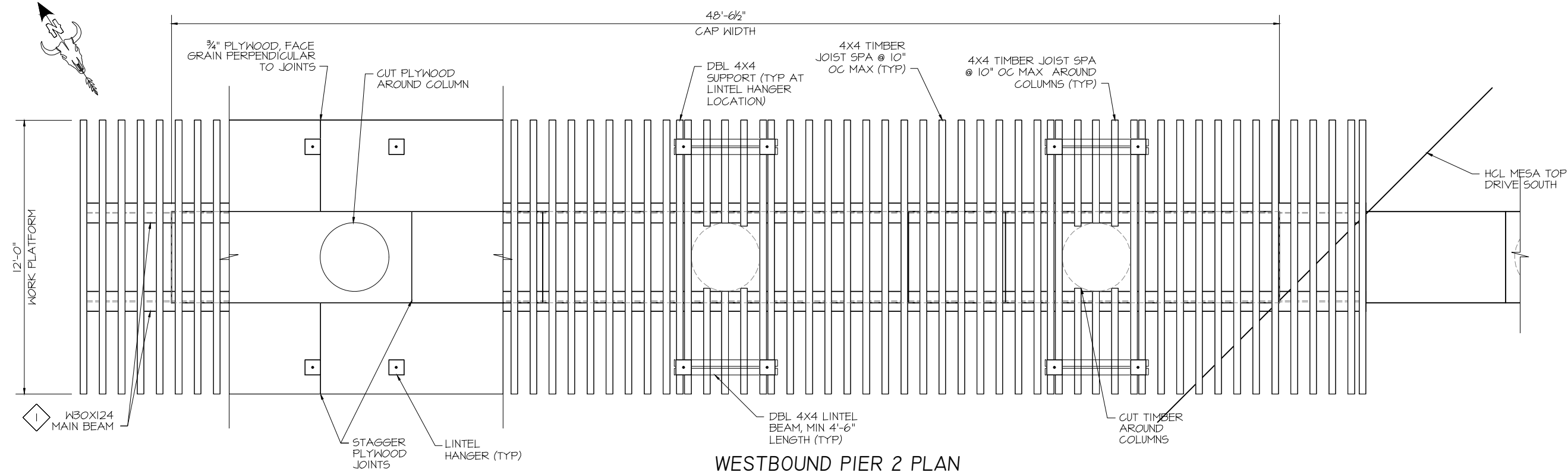


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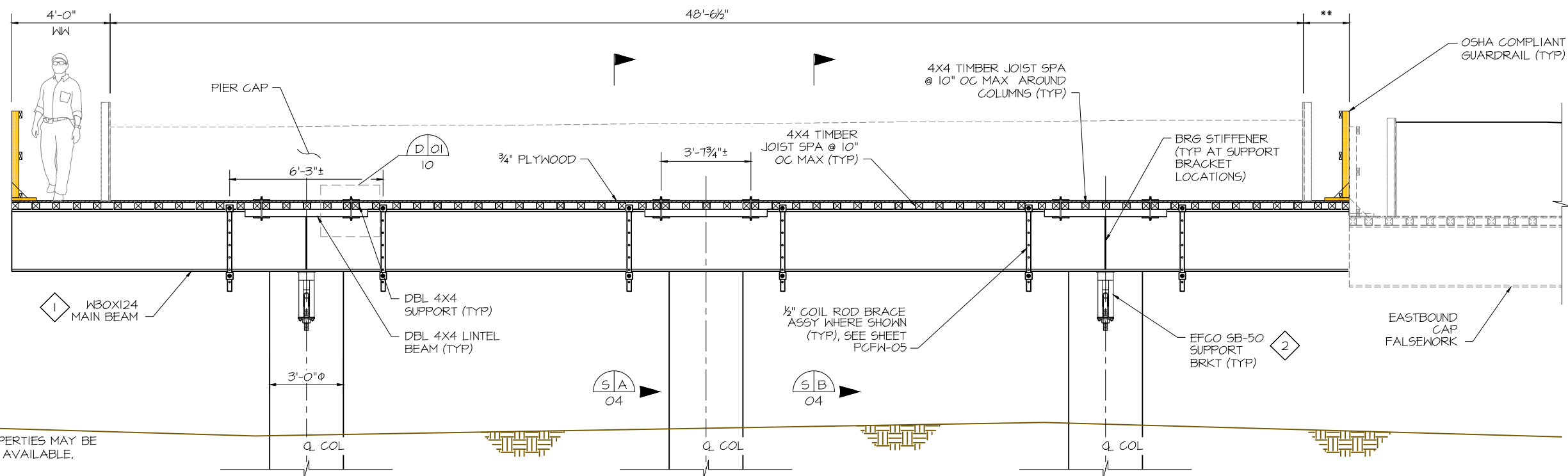
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DESIGNED BY:	MTR	PROJECT TITLE	FOREST LAKES BRIDGES	PROJECT LOCATION	MONUMENT, CO
DRAWN BY:	AJM	PIER CAP FALSEWORK			STRUCT/JOB:
PROJECT MANAGER:	MTR				
DATE:	4/21/21	GENERAL NOTES AND INDEX			SHEET NO. PCFW-01



WESTBOUND PIER 2 PLAN



WESTBOUND PIER 2 ELEVATION
(LOOKING EAST)

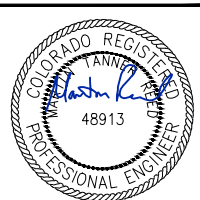
**NOTE:
IF ADJACENT PIER CAP
FALSEWORK IS NOT IN PLACE,
WALKWAY MAY BE EXTENDED

1 W30X124 PROPERTIES:
A = 36.5 IN²
I = 5360 IN⁴
S = 355 IN³
Z = 408 IN³

BEAMS WITH LARGER SECTION PROPERTIES MAY BE
USED IF MATERIAL IS NOT READILY AVAILABLE.

2 RATED CAPACITY:
= 50,000 LBS (TYP)
EA BRKT, EA SIDE

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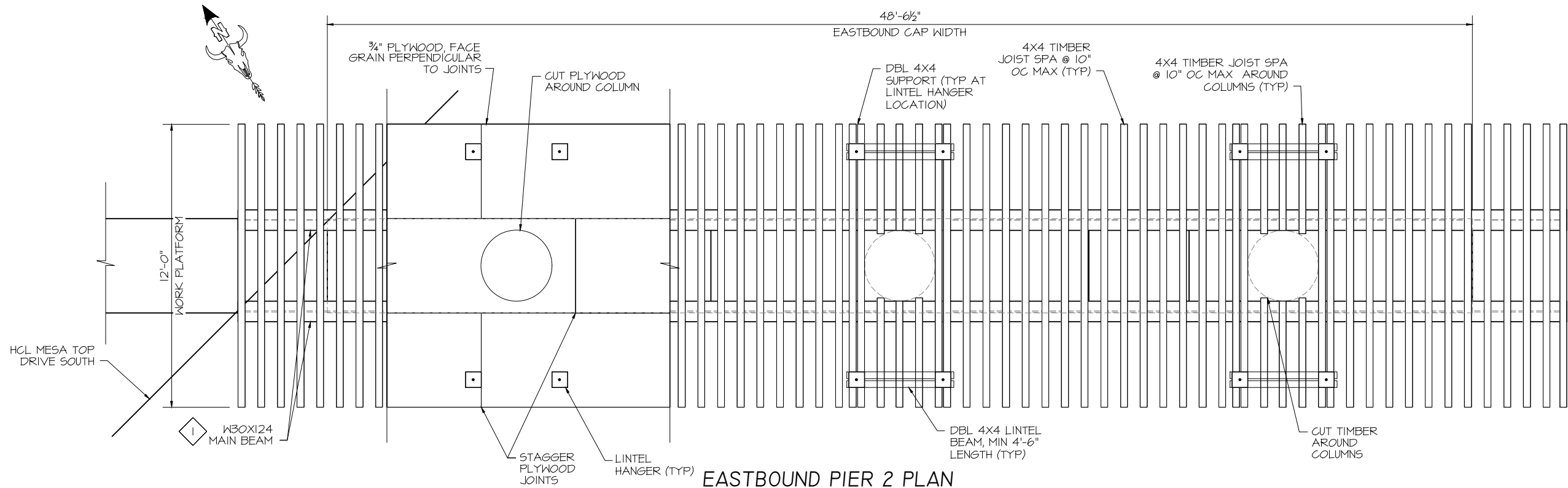


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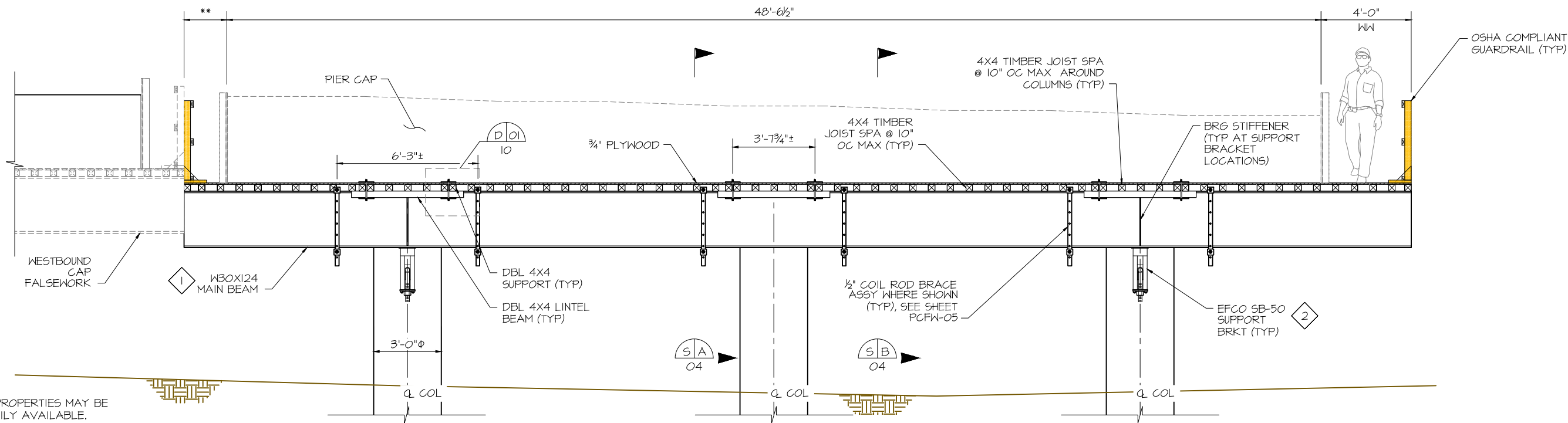
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DESIGNED BY: MTR	PROJECT TITLE FOREST LAKES BRIDGES	PROJECT LOCATION MONUMENT, CO
DRAWN BY: AJM	PIER CAP FALSEWORK	
PROJECT MANAGER: MTR	WESTBOUND PIER 2 PLAN AND ELEVATION	
DATE: 4/21/21	SHEET NO. PCFW-02	



EASTBOUND PIER 2 PLAN



EASTBOUND PIER 2 ELEVATION
(LOOKING EAST)

**NOTE:
IF ADJACENT PIER CAP
FALSEWORK IS NOT IN PLACE,
WALKWAY MAY BE EXTENDED

1 W30x124 PROPERTIES:
A = 36.5 IN²
I = 5360 IN⁴
S = 355 IN³
Z = 408 IN³

BEAMS WITH LARGER SECTION PROPERTIES MAY BE
USED IF MATERIAL IS NOT READILY AVAILABLE.

2 RATED CAPACITY:
= 50,000 LBS (TYP)
EA BRKT, EA SIDE

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APPROVAL

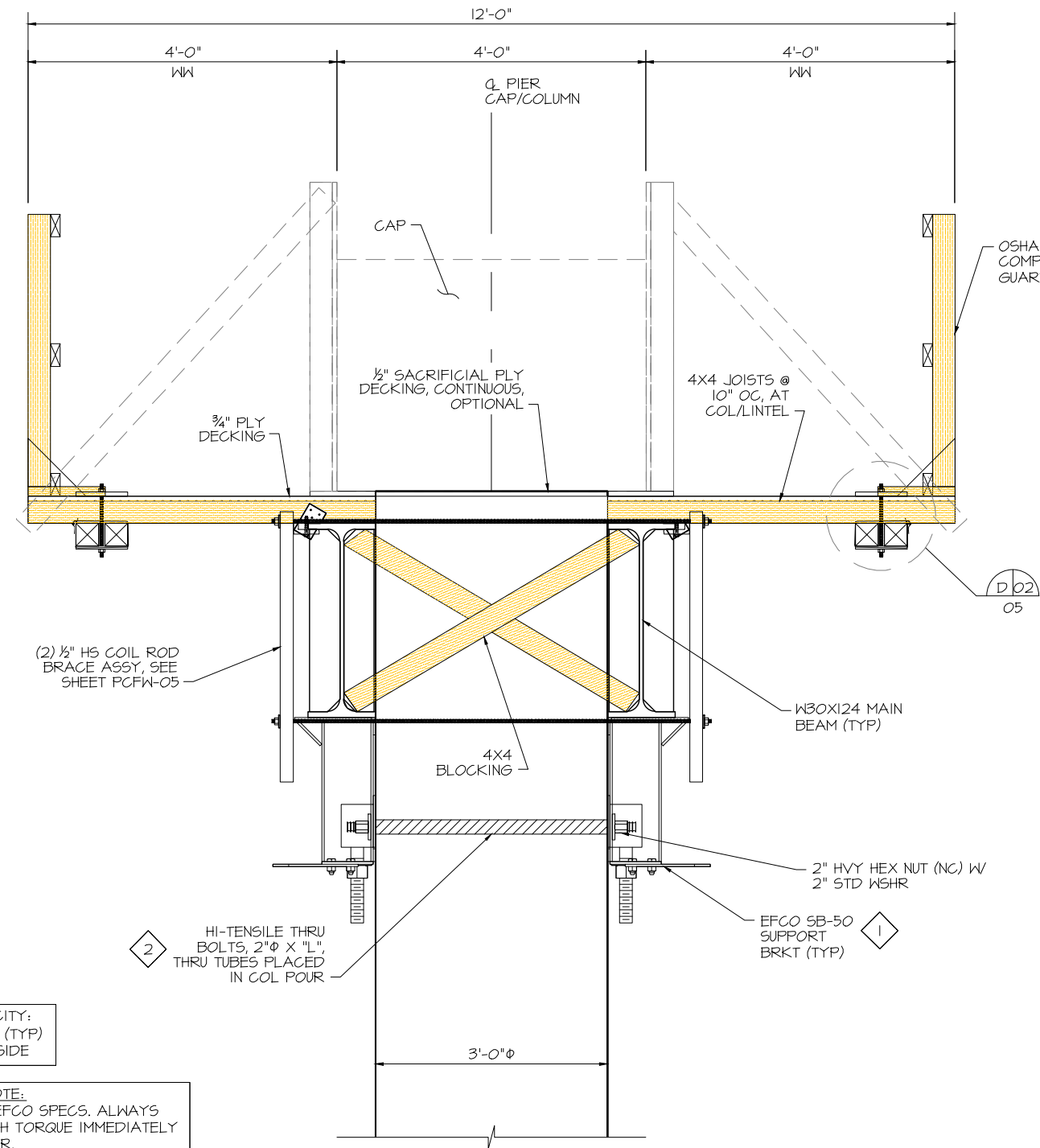


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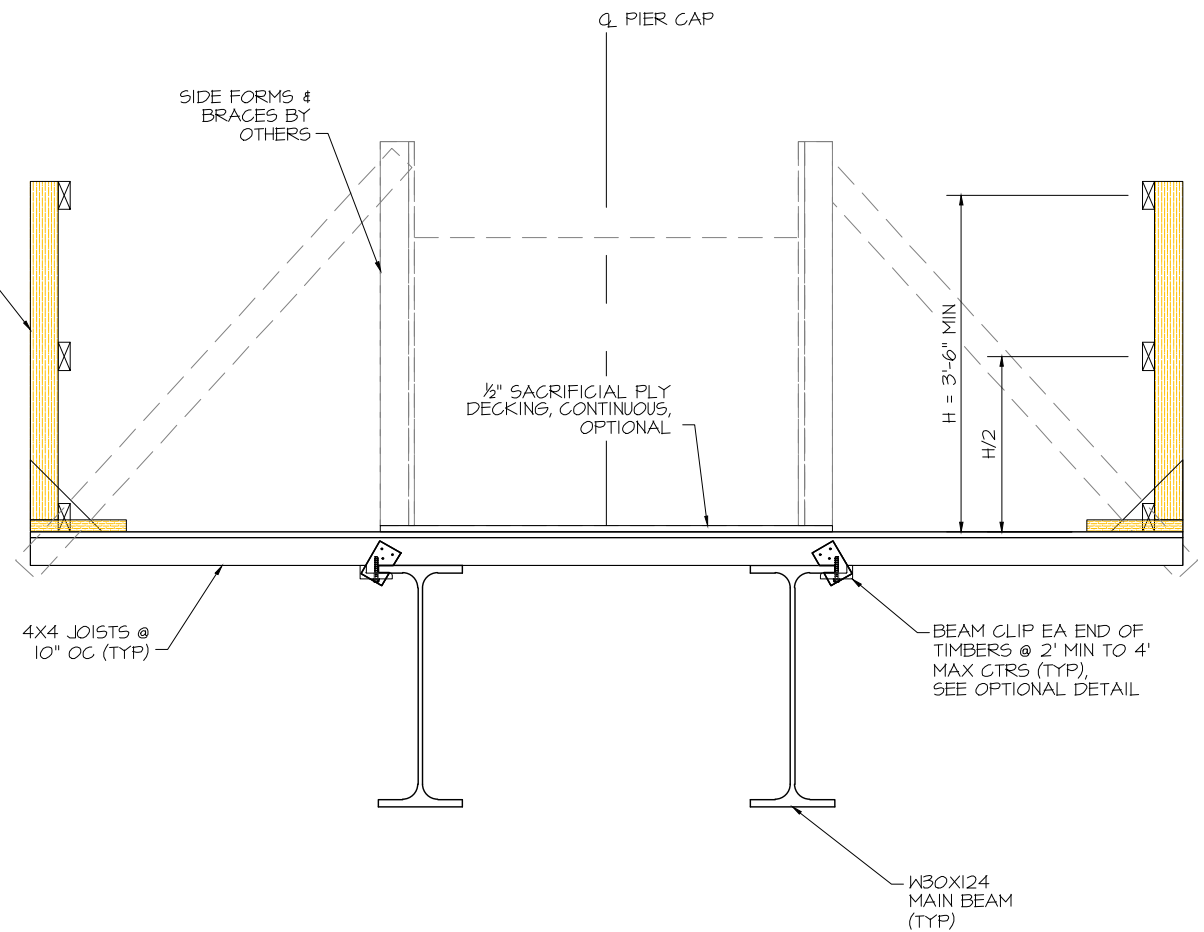
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DRAWN BY: AJM	PIER CAP FALSEWORK	
PROJECT MANAGER: MTR	EASTBOUND PIER 2 PLAN AND ELEVATION	
DATE: 4/21/21	STRUCT/JOB: PCFW-03	
	SHEET NO. PCFW-03	



SECTION S A



SECTION S B

1
RATED CAPACITY:
= 50,000 LBS (TYP)
EA BRKT, EA SIDE

2
IMPORTANT NOTE:
TORQUE PER EFCO SPECS. ALWAYS
RECHECK EACH TORQUE IMMEDIATELY
PRIOR TO POUR.

ISSUED FOR
APPROVAL

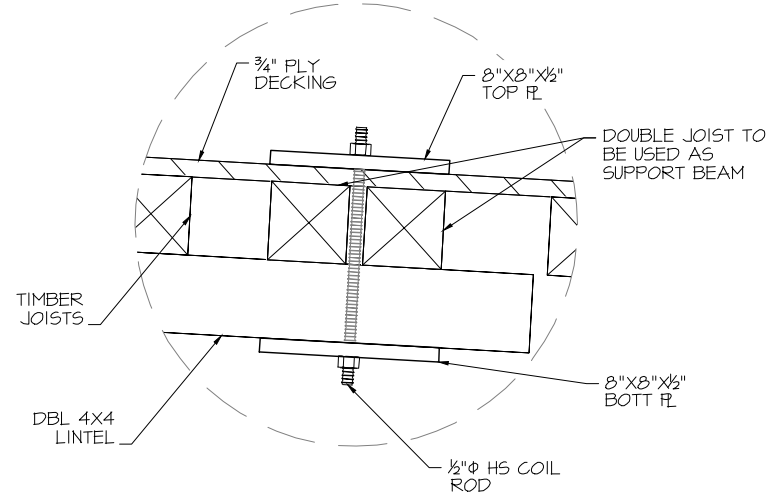


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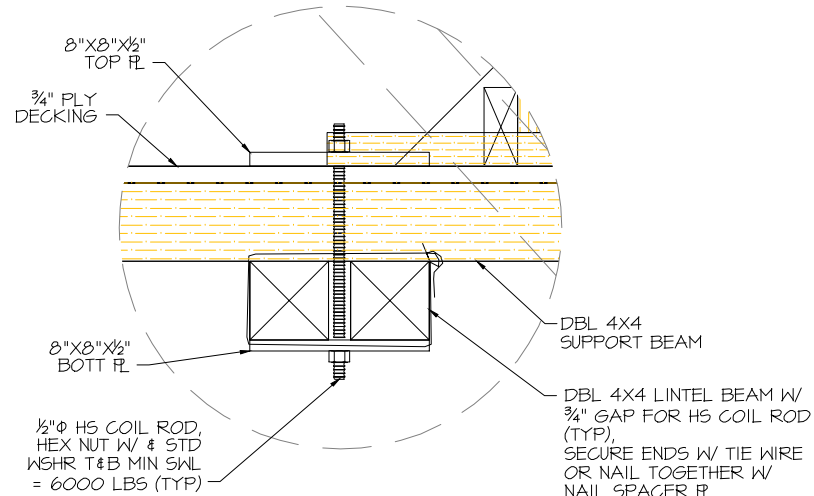
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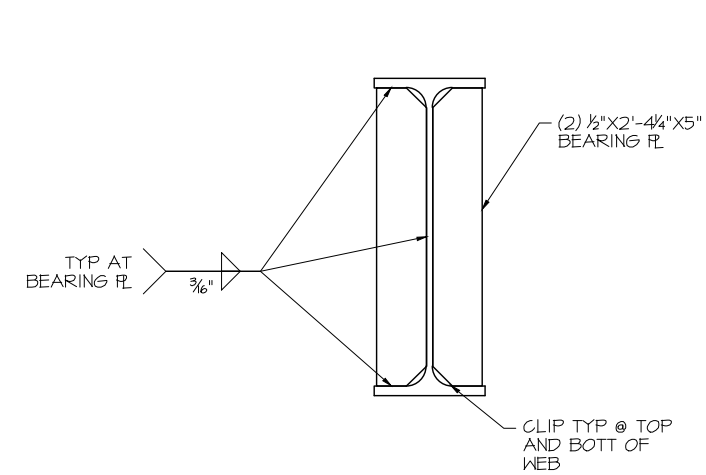
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DRAWN BY: AJM		
PROJECT MANAGER: MTR	PIER CAP FALSEWORK	
DATE: 4/21/21	FALSEWORK SECTION	
		STRUCT/JOB: SHEET NO. PCFW-04



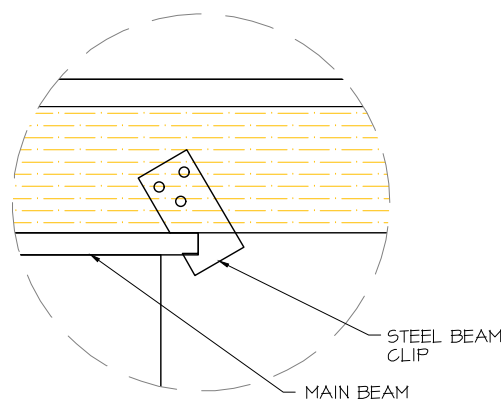
LINTEL HANGER DETAIL 1



LINTEL HANGER DETAIL 2

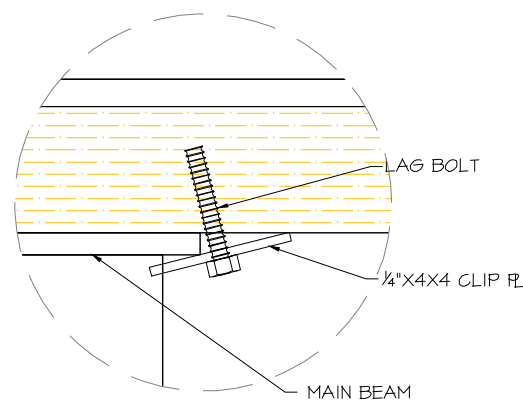


W30X124 STIFFENER DETAIL



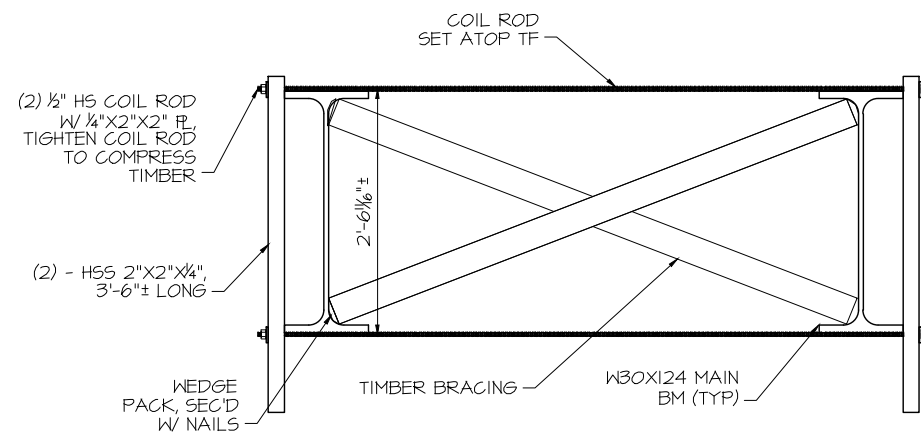
BEAM CLIP

BEAM CLIP SPA @ 2'-0" MIN, 4'-0" MAX

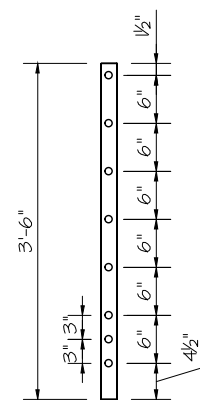


OPTIONAL BEAM CLIP

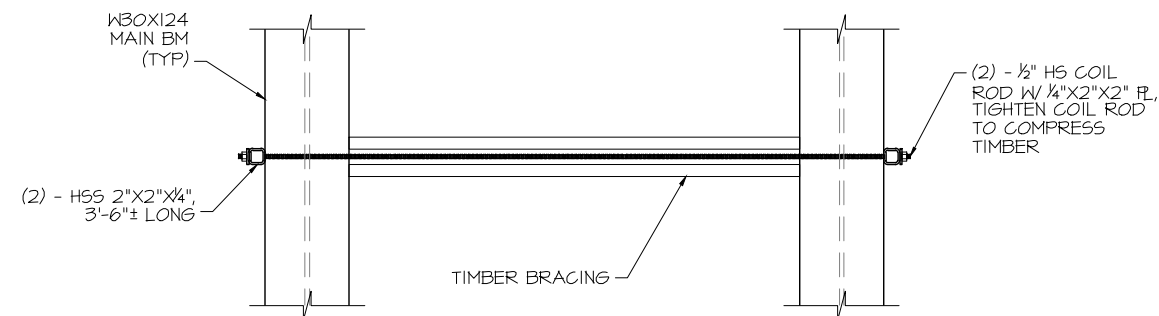
OPTIONAL BEAM CLIP SPA @ 2'-0" MIN, 4'-0" MAX



COIL ROD BRACE ASSY ELEVATION



HSS ELEVATION



COIL ROD BRACE ASSY PLAN

ISSUED FOR APPROVAL



04-21-21

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DRAWN BY:	AJM				
PROJECT MANAGER:	MTR		PIER CAP FALSEWORK	STRUCT/JOB:	
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