

Ordinary Moment Frame: Installation Details

GENERAL:

1. STRONG FRAME™ ORDINARY MOMENT FRAME IS MANUFACTURED AND TRADEMARKED BY "SIMPSON STRONG-TIE COMPANY INC." HOME OFFICE: 5956 W. LAS POSITAS BLVD., PLEASANTON, CA 94588 TEL: (800) 999-5099, FAX: (925) 847-1597. "SIMPSON STRONG-TIE COMPANY INC." IS AN ISO 9001 REGISTERED COMPANY.
2. USE OF THIS PRODUCT IS SUBJECT TO THE APPROVAL OF THE LOCAL BUILDING DEPARTMENT.
3. THIS PRODUCT IS PART OF THE OVERALL LATERAL FORCE RESISTING SYSTEM OF THE STRUCTURE. DESIGN OF THE BUILDING'S LATERAL FORCE RESISTING SYSTEM, INCLUDING THE LOAD PATH TO TRANSFER LATERAL FORCES FROM THE STRUCTURE TO THE GROUND, IS THE RESPONSIBILITY OF THE DESIGNER.
4. DESIGNER IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS. SEE LIMITATIONS NOTED ON SHEET SF3.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS, ELEVATIONS, ETC. PRIOR TO INSTALLATION OF ANY COMPONENTS FOR THE STEEL STRONG FRAME SYSTEM. IF ANY DISCREPANCIES ARE FOUND, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER FOR CLARIFICATION PRIOR TO CONSTRUCTION.
6. INSTALLATION OF PRODUCT SHALL BE DONE IN CONFORMANCE WITH THESE DRAWINGS AND IAPMO ES ER-164. THE PERFORMANCE OF MODIFIED PRODUCTS OR ALTERED INSTALLATION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE DESIGNER.
7. SIMPSON STRONG-TIE COMPANY, INC. RESERVES THE RIGHT TO CHANGE SPECIFICATIONS, DESIGNS, AND MODELS WITHOUT NOTICE OR LIABILITY FOR SUCH CHANGES.
8. ALL HARDWARE CALLED OUT IS SIMPSON STRONG-TIE.®

MATERIAL:

1. BARS/PLATES: ASTM 572 GR. 55, ASTM A529 GR. 55, OR ASTM A1011 HSLAS GR. 55
2. END PLATE HIGH STRENGTH BOLTS: ASTM A325, TYPE 1
3. BEAM TOP FLANGE WOOD NAILER BOLT: ASTM A307 GR. A
4. CARRIAGE BOLTS: ASTM A307 GR. A
5. ANCHOR RODS: ASTM F1554 GR 36 OR A36 (OMFAB, OMFSL, AND OMF-ATR5EXT-LS)
ASTM A449 (OMFAB-HS, OMFSL-HS, AND OMF-ATR5EXT-HS)
6. GROUT: ASTM C1107, MINIMUM 5,000 PSI COMPRESSIVE STRENGTH

FIELD MODIFICATIONS:

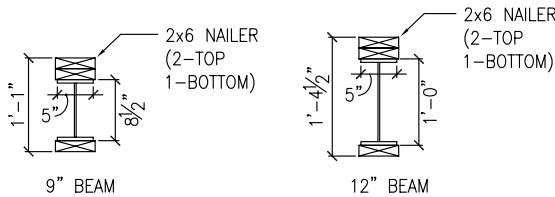
1. REFER TO 12/SF3 FOR ALLOWABLE HOLE OPENINGS IN BEAM AND COLUMNS.
2. REFER TO 11/SF3 FOR ALLOWABLE WELDING LOCATIONS.
3. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 AND AISC 341-05, APPENDIX W (AS APPLICABLE FOR SEISMIC). WELDS SHALL BE SPECIFIED BY THE DESIGNER. PROVIDE WELDING SPECIAL INSPECTION AS REQUIRED BY THE LOCAL BUILDING DEPARTMENT.

INSPECTIONS:

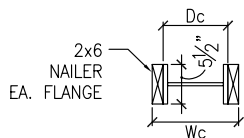
1. WELDING OF FRAME MEMBERS AND APPLICABLE WELDING SPECIAL INSPECTIONS REQUIRED BY IBC SECTION 1707 ARE PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED IN ACCORDANCE WITH THE REQUIREMENTS OF IBC SECTION 1704.2.2 FOR FABRICATOR APPROVAL.
2. PRE-INSTALLATION VERIFICATION TESTING IS PERFORMED ON HIGH-STRENGTH FASTENER ASSEMBLIES. DTI WASHERS PROVIDED ARE INCLUDED IN THE ASSEMBLY TESTING AND MAY BE USED TO VERIFY PROPER BOLT PRETENSION.

GENERAL NOTES

7/SF1

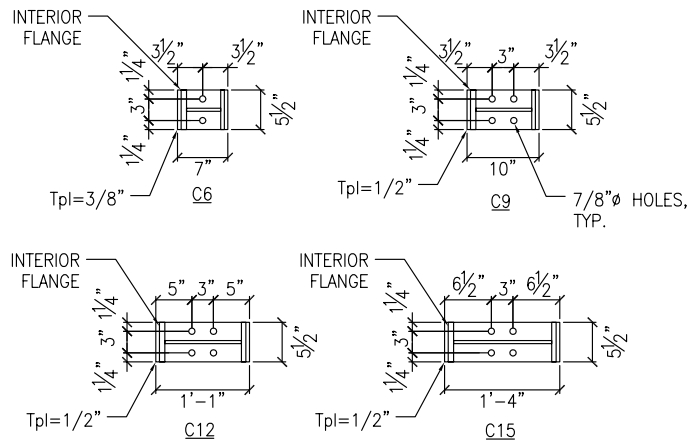


BEAM DIMENSIONS



COLUMN ID	Dc (in)	Wc (in)
C6	6	9
C9	9	12
C12	12	15
C15	15	18

COLUMN DIMENSIONS



NOTES:

1. DESIGNER TO EVALUATE EFFECT OF OVERSIZED HOLES IN BASE PLATE AND PROVIDE PLATE WASHERS WITH 11/16"Ø HOLE WELDED TO BASE PLATE WHERE REQUIRED.

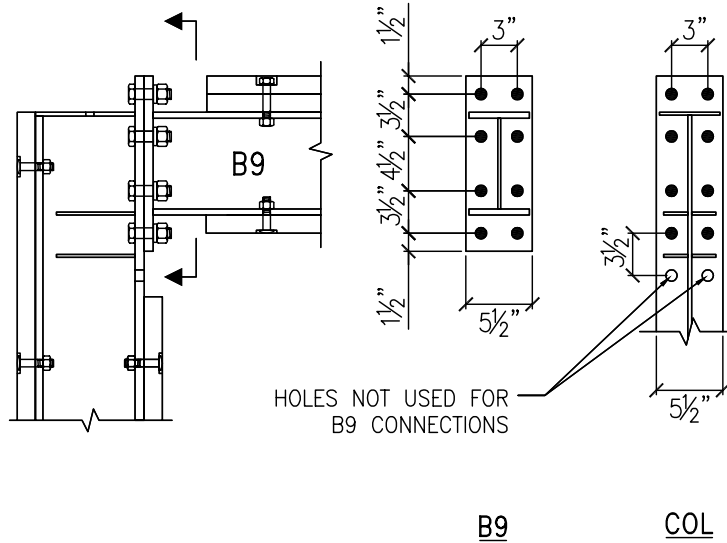
BASE PLATE DIMENSIONS

C-SF10 ©2010 SIMPSON STRONG-TIE COMPANY INC.

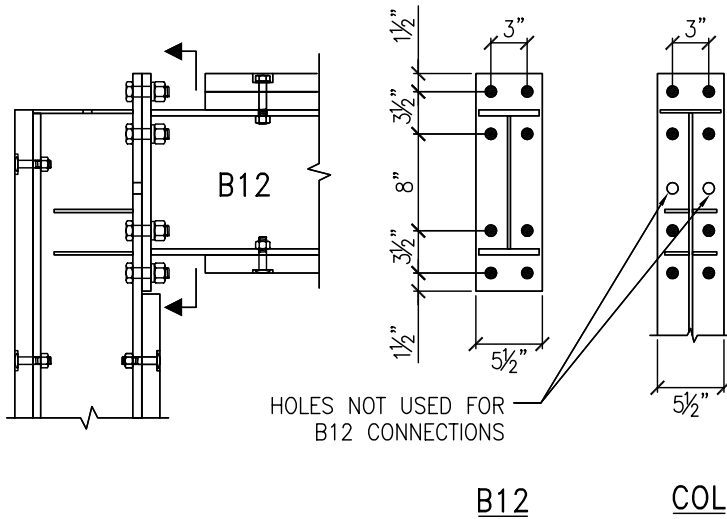
BEAM, COLUMN AND BASEPLATE DIMENSIONS

4/SF1

Ordinary Moment Frame: Installation Details

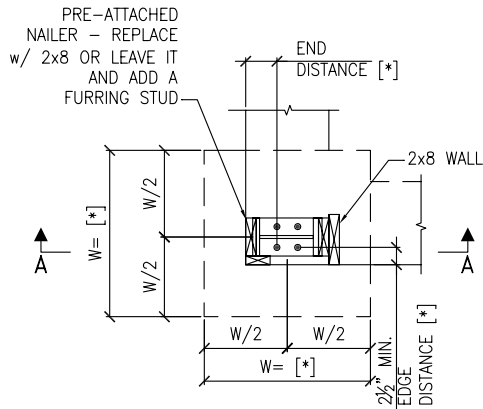


9" BEAM

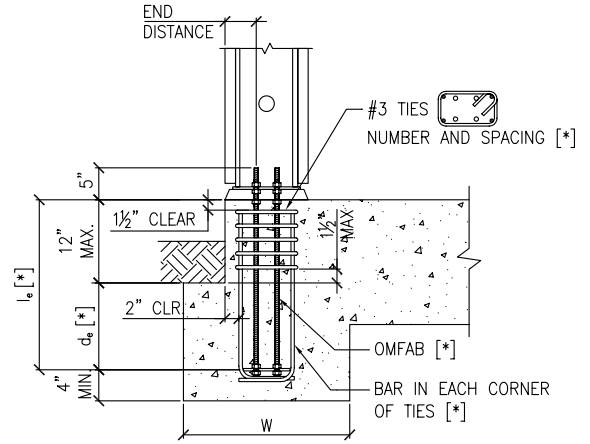


12" BEAM

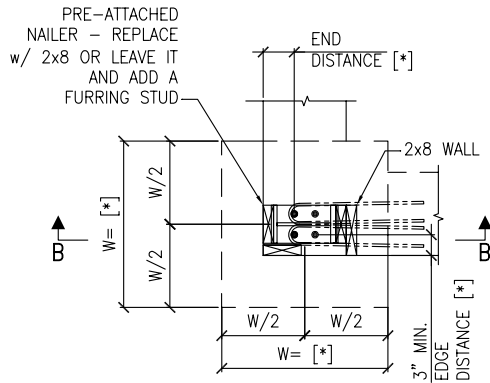
Ordinary Moment Frame: Installation Details



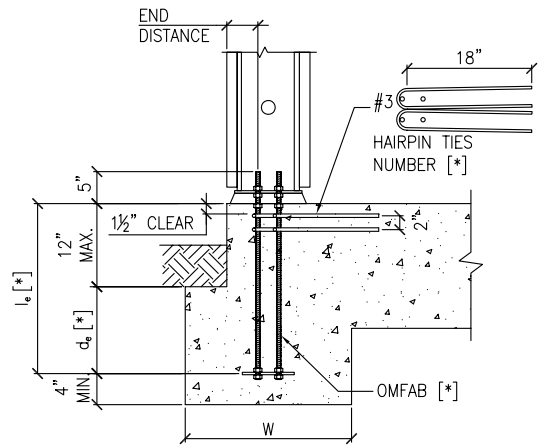
PLAN VIEW



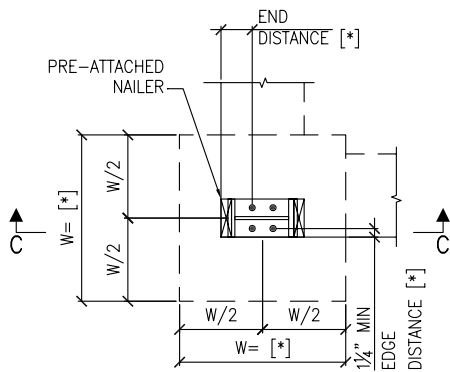
A. SECTION VIEW AT SLAB
(TIED ANCHOR SOLUTION)



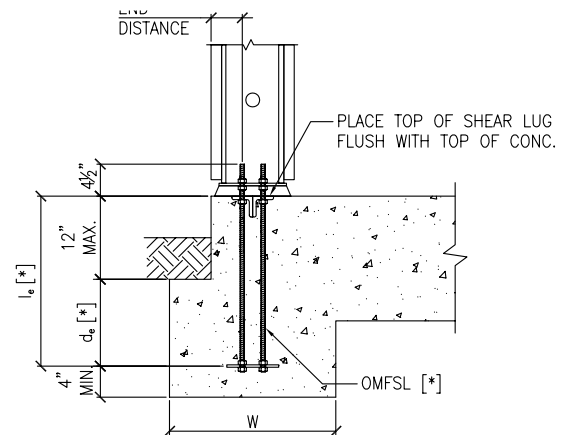
PLAN VIEW



B. SECTION VIEW AT SLAB
(THREADED RODS & HAIRPINS SOLUTION)



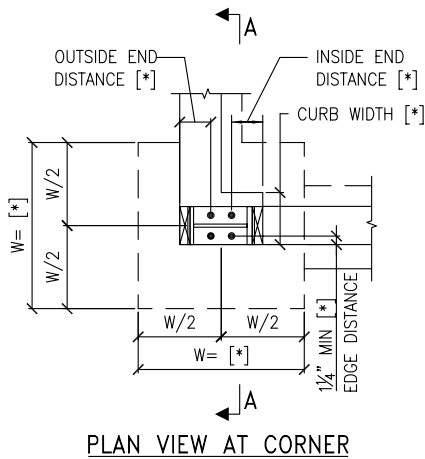
PLAN VIEW



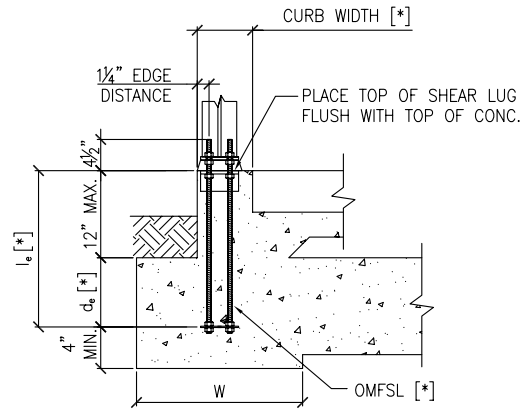
C. SECTION VIEW AT SLAB
(OMFSL SOLUTION)

1. [*] DENOTES INFORMATION TO BE PROVIDED BY DESIGNER
2. FOOTING/GRADE BEAM SIZE AND REINFORCING SHALL BE SPECIFIED BY THE DESIGNER AS REQUIRED TO RESIST IMPOSED LOADS, SUCH AS FOUNDATION SHEAR AND BENDING, SOIL BEARING PRESSURE, SHEAR TRANSFER, AND FRAME STABILITY/OVERTURNING

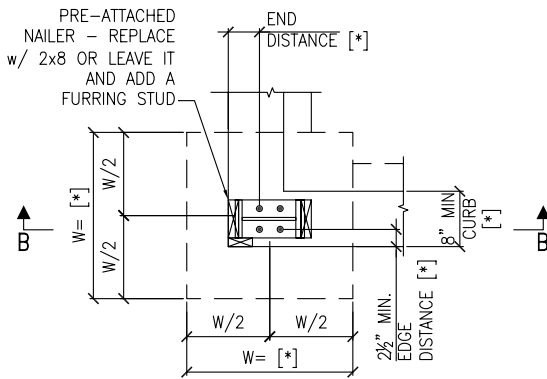
Ordinary Moment Frame: Installation Details



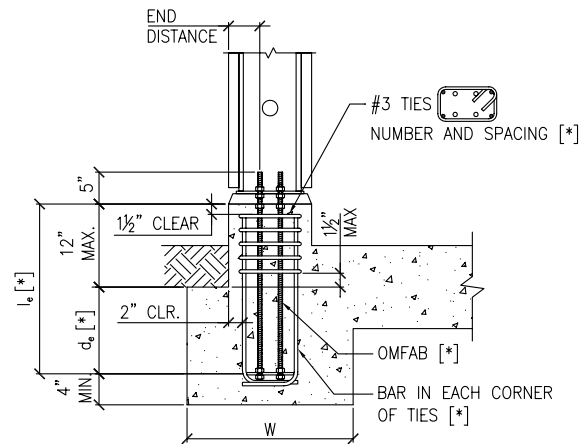
PLAN VIEW AT CORNER



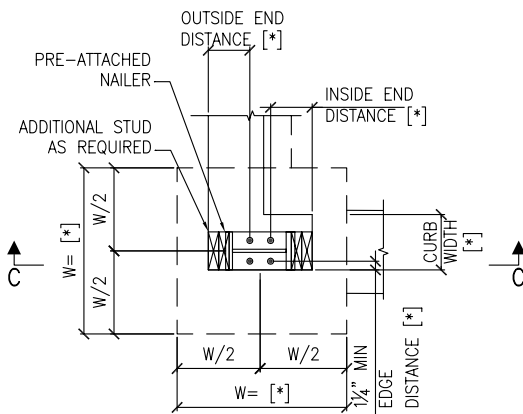
A. SECTION VIEW AT CURB
(OMFSL SOLUTION)



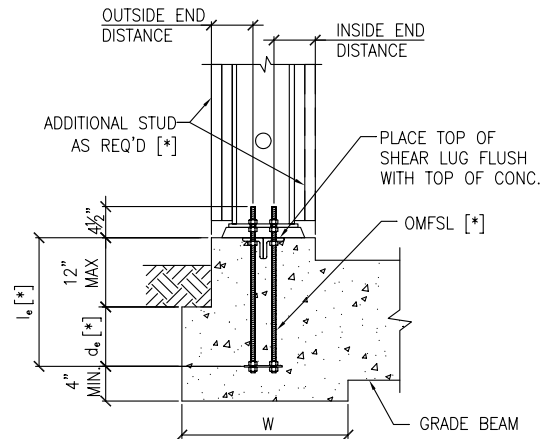
PLAN VIEW AT CORNER



B. SECTION VIEW AT CURB
(TIED ANCHOR SOLUTION)



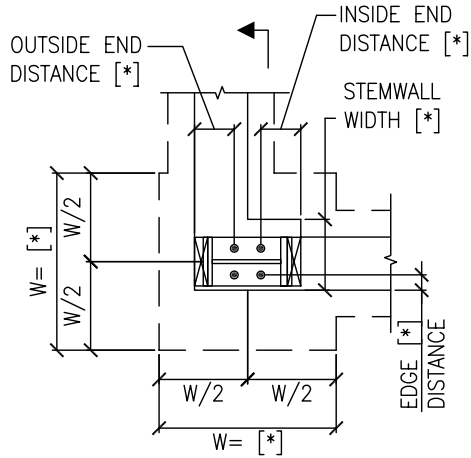
PLAN VIEW AT CORNER



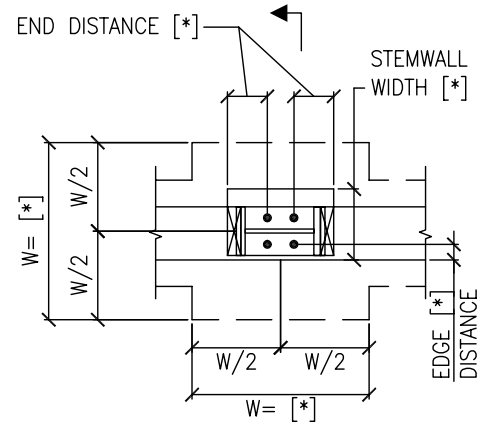
C. SECTION VIEW AT GARAGE FRONT
(OMFSL SOLUTION)

NOTES:
SEE NOTES ON 1/SF2

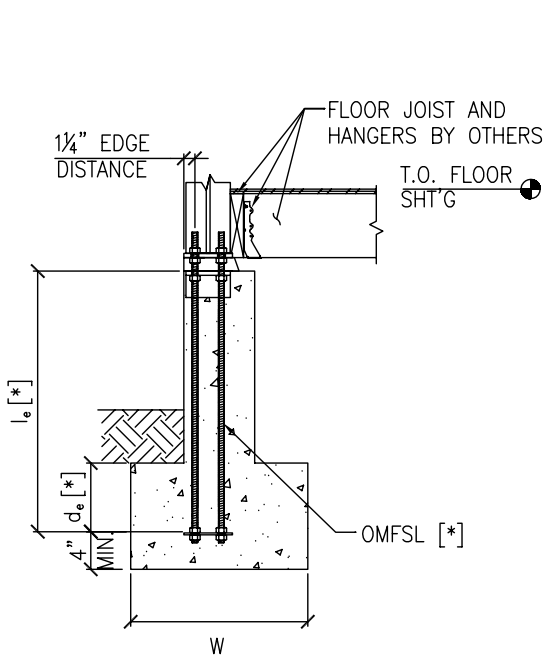
Ordinary Moment Frame: Installation Details



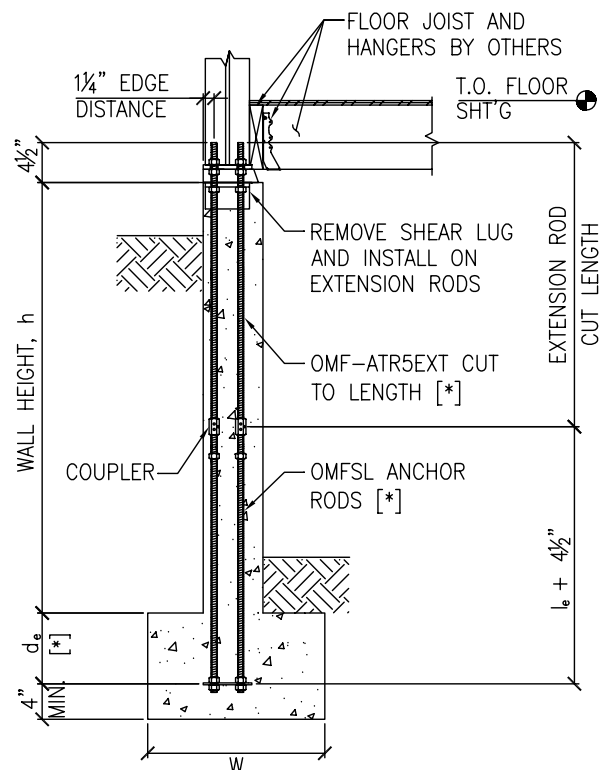
PLAN VIEW AT CORNER



PLAN VIEW AWAY FROM CORNER



A. SECTION VIEW
(OMFSL SOLUTION)

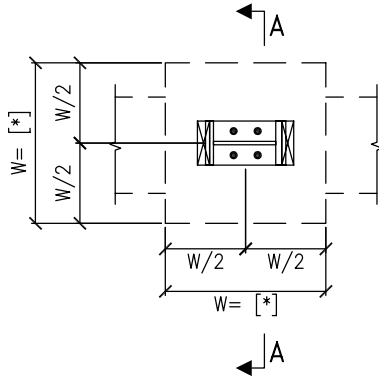


B. SECTION VIEW –
EXTENSION APPLICATION
(OMFSL SOLUTION)

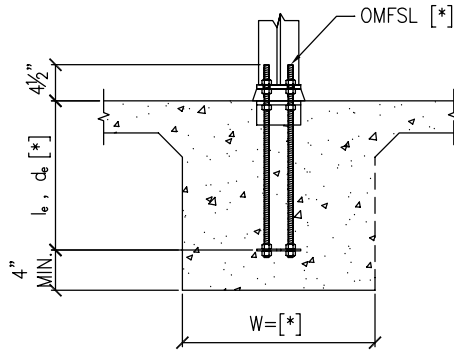
NOTES:
SEE NOTES ON 1/SF2

C-SF10 © 2010 SIMPSON STRONG-TIE COMPANY INC.

Ordinary Moment Frame: Installation Details



PLAN VIEW

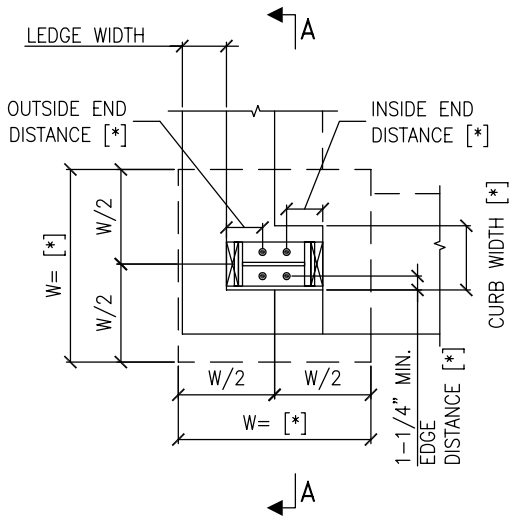


A. SECTION VIEW
(OMFSL SOLUTION)

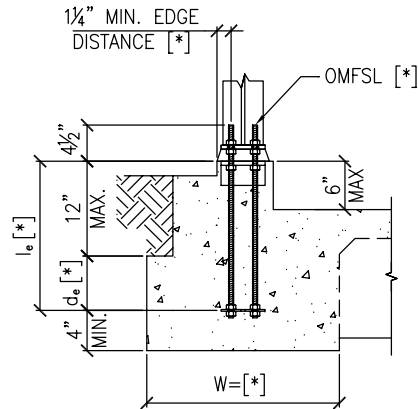
NOTES:
SEE NOTES ON 1/SF2

INTERIOR FOUNDATION ANCHORAGE DETAILS

4/SF2



PLAN VIEW AT CORNER



A. SECTION VIEW
(OMFSL SOLUTION)

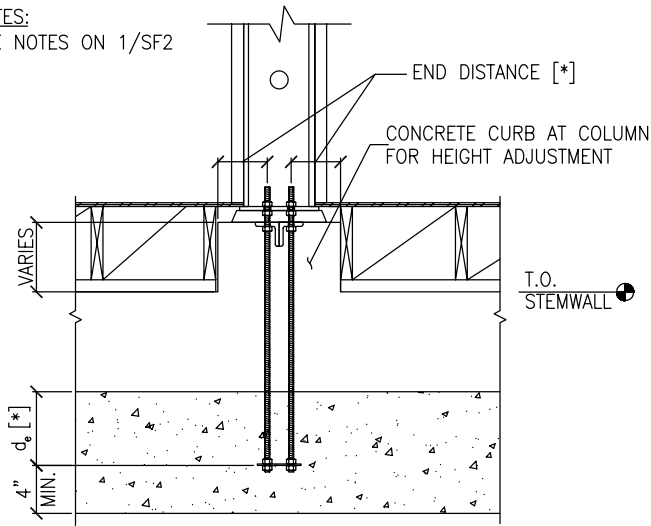
NOTES:
SEE NOTES ON 1/SF2

BRICK LEDGE FOUNDATION ANCHORAGE DETAILS

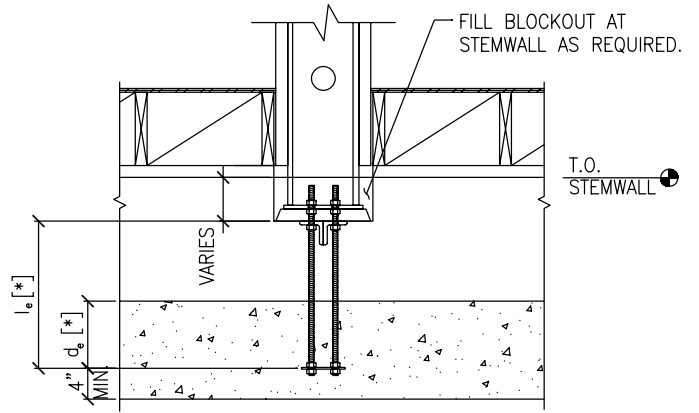
5/SF2

Ordinary Moment Frame: Installation Details

NOTES:
SEE NOTES ON 1/SF2



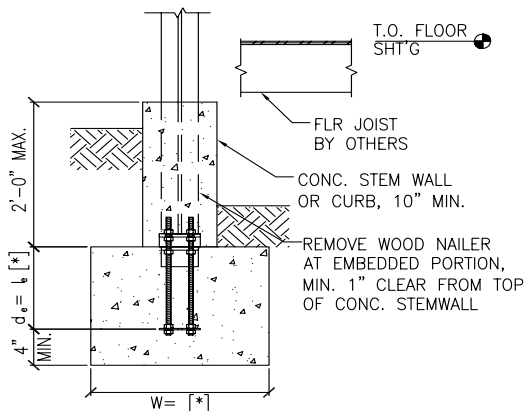
A. RAISED CURB AT STEMWALL



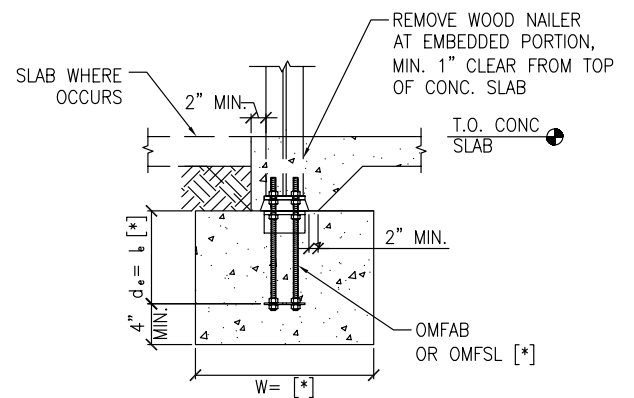
B. RECESSED COLUMN AT STEMWALL

COLUMN HEIGHT ADJUSTMENT AT STEMWALL FOOTINGS

6/SF2



NOTES:
SEE NOTES ON 1/SF2



NOTES:
SEE NOTES ON 1/SF2

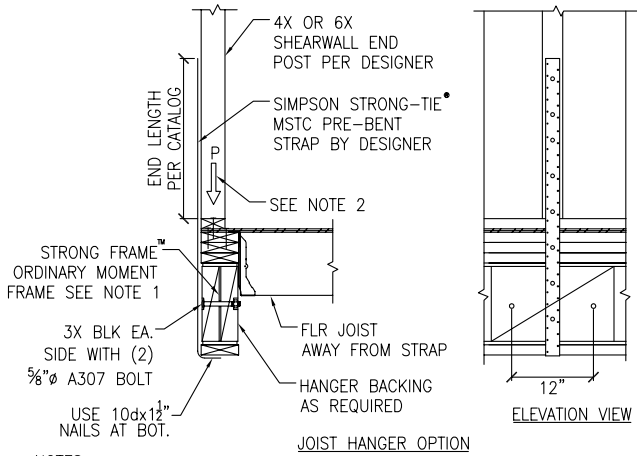
DEPRESSED COL. AT STEMWALL

7/SF2

DEPRESSED COL. AT S.O.G.

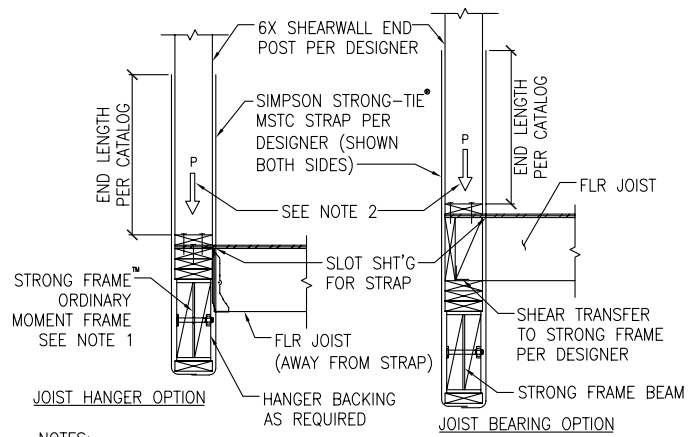
8/SF2

Ordinary Moment Frame: Installation Details



NOTES:

1. SEE 12/SF3 FOR ALLOWABLE PENETRATION IN STEEL BEAM AND COLUMN
2. DESIGNER TO VERIFY TOTAL BEAM LOADING INCLUDING REACTION "P" DOES NOT EXCEED "W_{max}" VALUE PER CATALOG



NOTES:

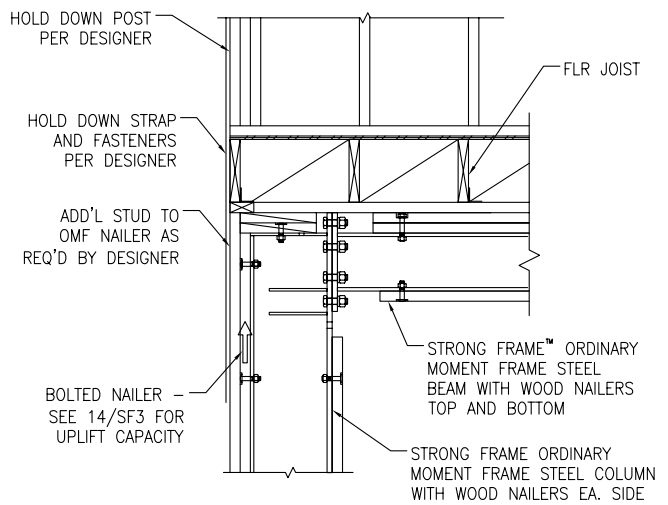
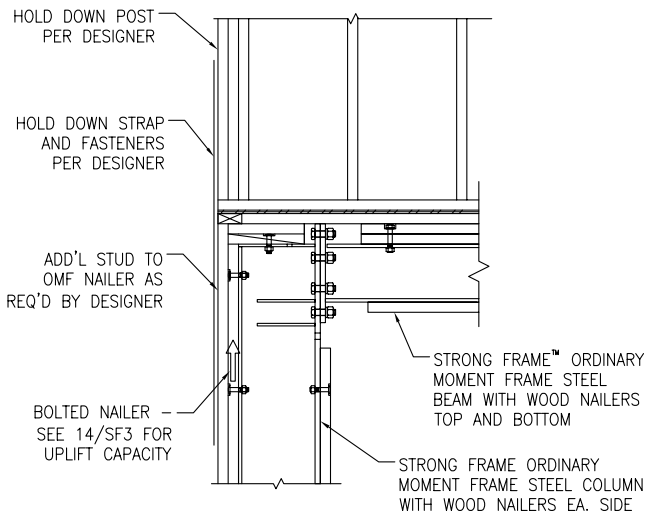
1. SEE 12/SF3 FOR ALLOWABLE PENETRATION IN STEEL BEAM AND COLUMN
2. DESIGNER TO VERIFY TOTAL BEAM LOADING INCLUDING REACTION "P" DOES NOT EXCEED "W_{max}" VALUE PER CATALOG
3. SEE 1/SF3 FOR INFO NOT NOTED

HOLDOWN POST TO STRONG FRAME™ BEAM

1/SF3

6x HOLDOWN POST TO STRONG FRAME™ BEAM

2/SF3



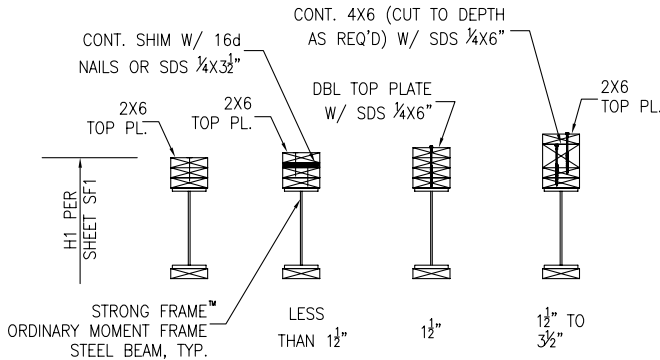
HOLDOWN POST TO STRONG FRAME™ COLUMN

3/SF3

HOLDOWN POST TO STRONG FRAME™ COLUMN

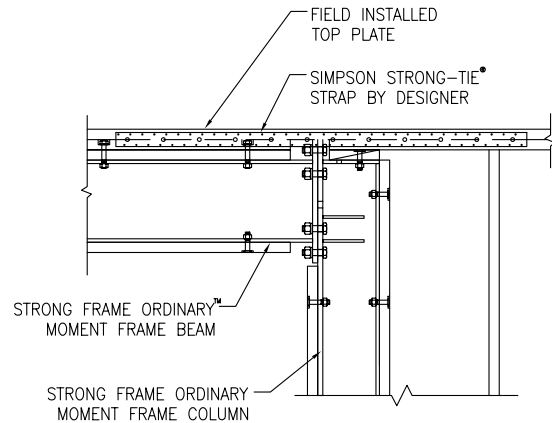
4/SF3

Ordinary Moment Frame: Installation Details

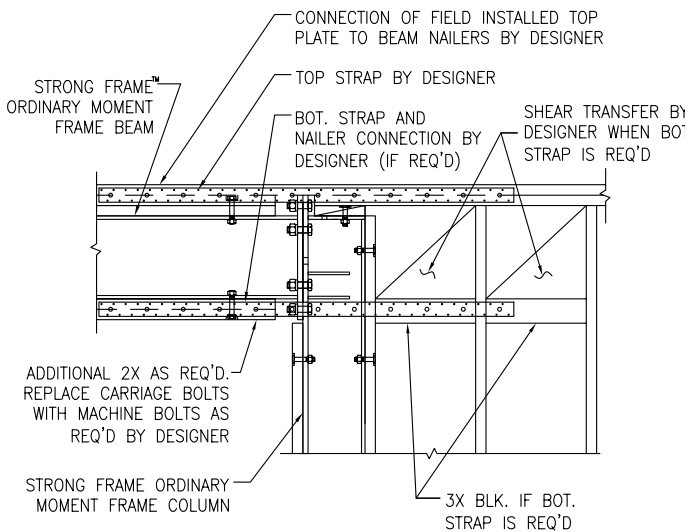


NOTES:

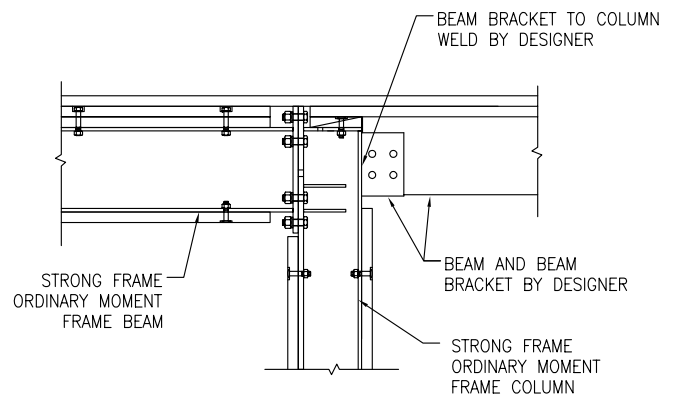
1. FASTENER SPACING BETWEEN STRONG FRAME™ ORDINARY MOMENT FRAME BEAM DOUBLE 2X NAILER AND OP PLATE/SHIM/4X PER DESIGNER.
2. TOP OF CONCRETE TO TOP OF FIELD INSTALLED TOP PLATE HEIGHT (H1) CAN ALSO BE ADJUSTED BY THE USE OF THICKER NON-SHRINK GROUT (2" MAX), OR USE NEXT NOMINAL HEIGHT MODEL AND LOWER THE STEM WALL OR FOOTING (SEE SF2 FOR DETAILS)



TOP OF FRAME ADJUSTMENT	5/SF3	TOP PLATE SPLICE DETAIL	6/SF3
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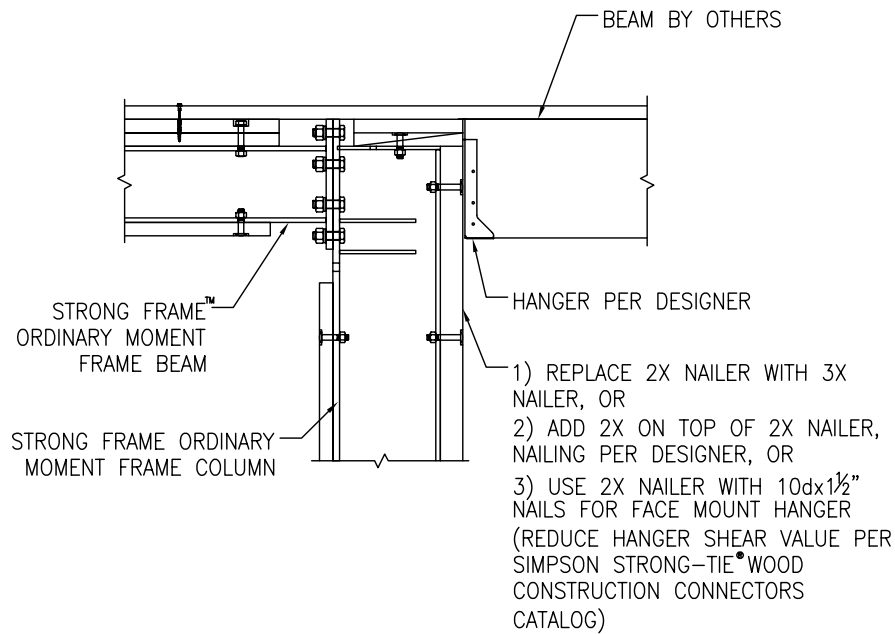
A: STRAP TO STEEL BEAM



B: CONNECT TO STEEL COLUMN

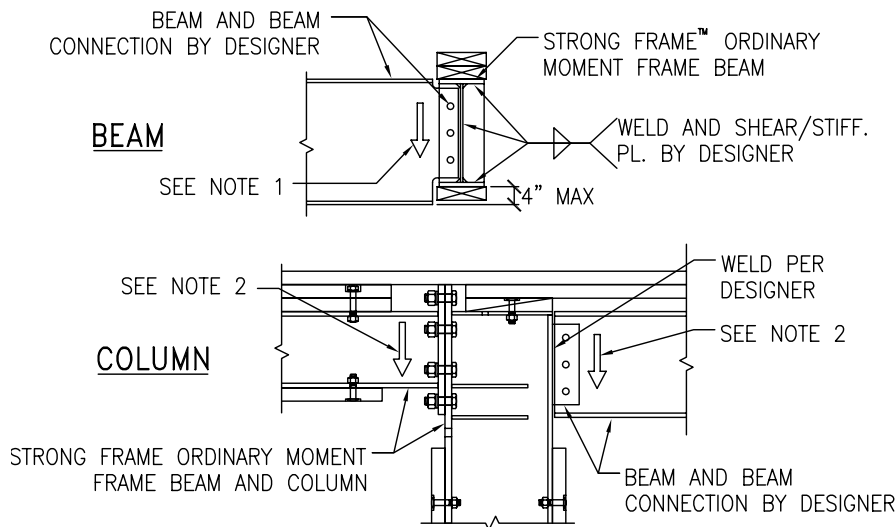
COLLECTOR DETAILS	7/SF3
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Ordinary Moment Frame: Installation Details



WOOD BEAM TO STRONG FRAME™ ORDINARY MOMENT FRAME COLUMN CONNECTION

8/SF3



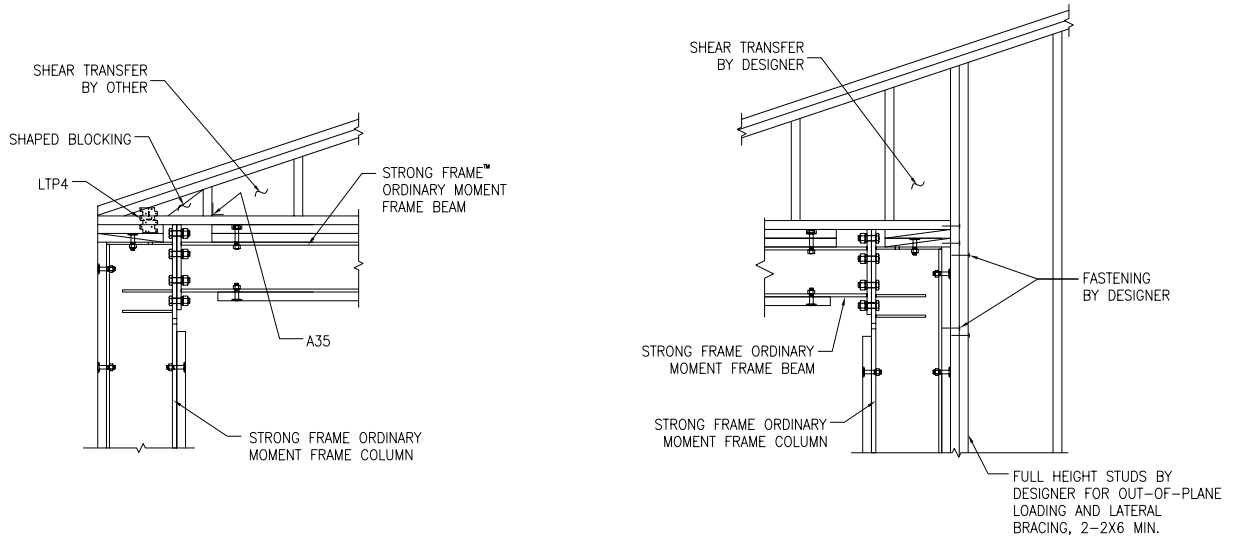
NOTES:

1. BEAM REACTIONS SHALL NOT EXCEED 50% OF "W_{max}" LOAD AS NOTED ON CATALOG. DESIGNER TO VERIFY TOTAL GRAVITY LOAD IMPOSED ON STRONG FRAME ORDINARY MOMENT FRAME BEAM DOSE NOT EXCEED "W_{max}" AS NOTED IN CATALOG.
2. SUMMATION OF BEAM REACTIONS (FRAMING INTO STEEL COLUMN) SHALL NOT EXCEED 50% OF "W_{max}" LOADS NOTED IN CATALOG.

STEEL BEAM TO STRONG FRAME™ ORDINARY MOMENT FRAME BEAM/COL CONNECTION

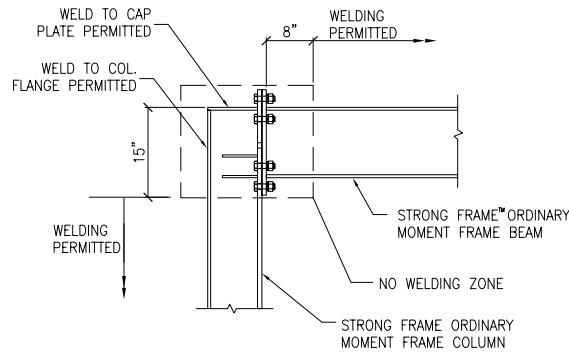
9/SF3

Ordinary Moment Frame: Installation Details



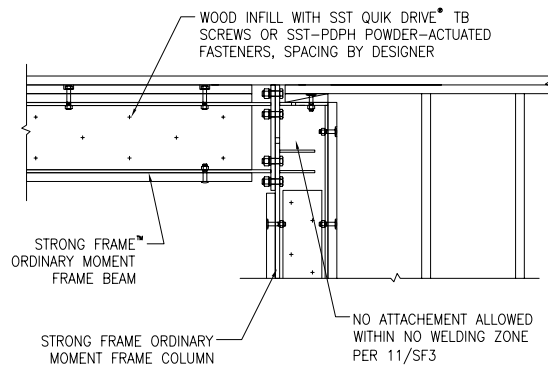
RAKE WALL DETAILS

10/SF3



WELDING LIMITS

11/SF3

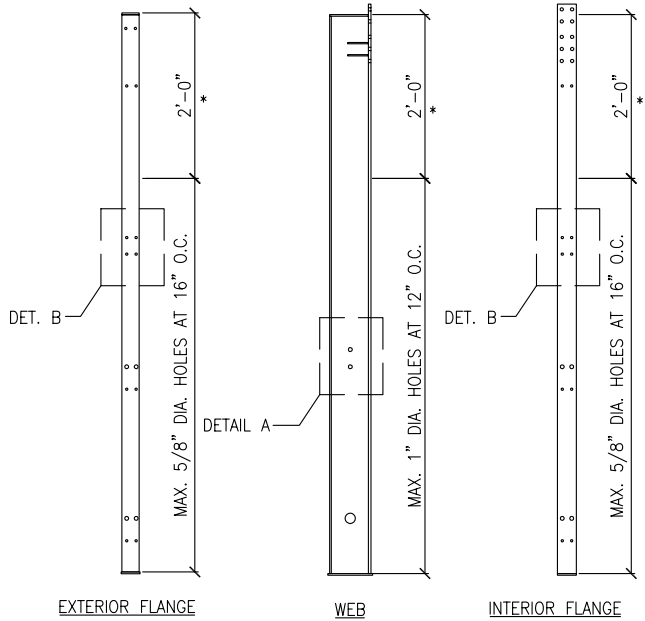
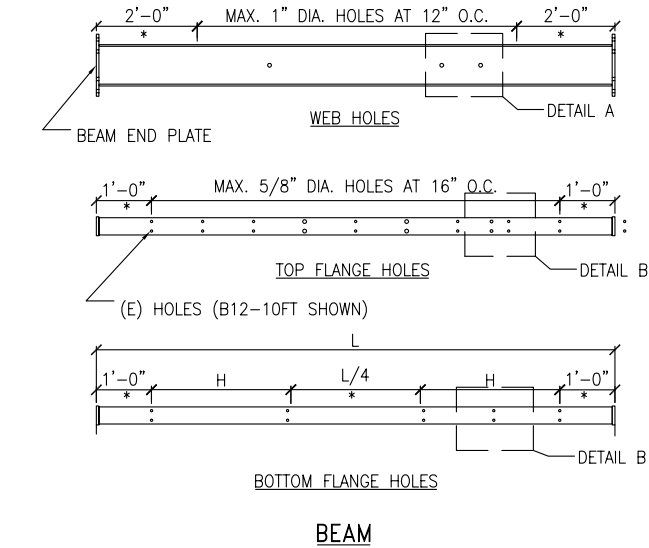


NOTE:
1. SEE C-2009 FOR TB SCREWS AND C-SAS-2009 FOR PDPH FASTENERS.

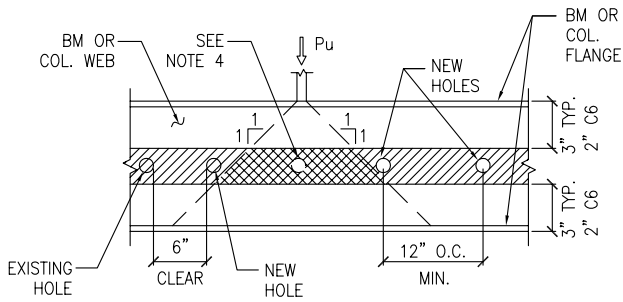
WOOD INFILL

13/SF3

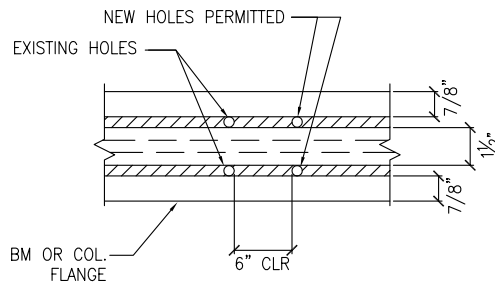
Ordinary Moment Frame: Installation Details



COLUMN



A: WEB PENETRATION



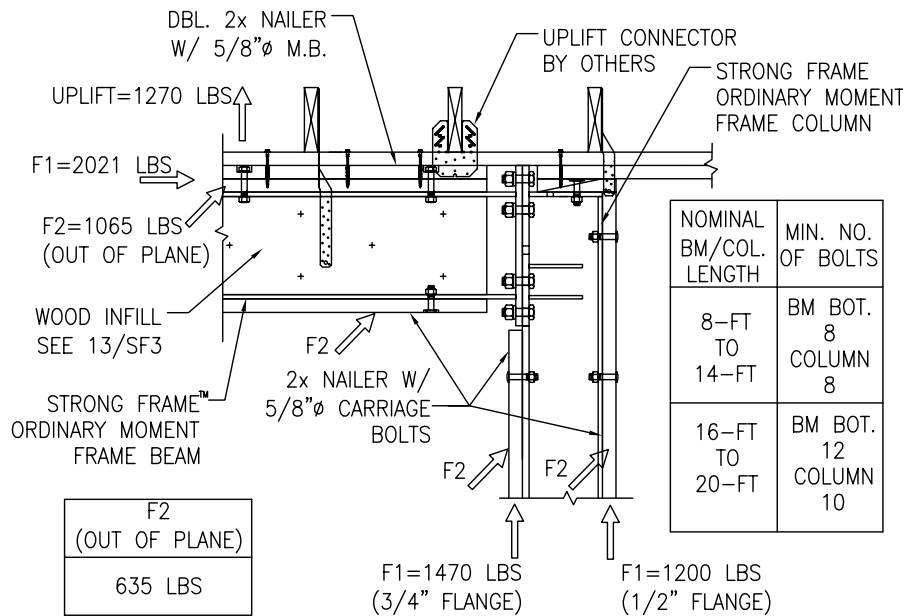
B: FLANGE PENETRATION

NOTES:

- * DENOTES NO PENETRATIONS PERMITTED.
- H DENOTES MAXIMUM 5/8" Ø HOLES AT 16" O.C. ARE PERMITTED.
- LOCATE NEW HOLES 6" CLEAR OF EXISTING HOLES
- PENETRATION PERMITTED UNDER P_u (MAXIMUM FACTORED POINT LOAD) REGION ONLY IF ALLOWABLE GRAVITY LOAD " w_{max} " IS REDUCED BY 15%.
- SEE 9/SF3 FOR MAXIMUM COLUMN REACTIONS.
- HOLES MAY BE BORED THROUGH WOOD NAILERS AT LOCATIONS CORRESPONDING TO AN ACCESS HOLE IN THE FLANGE.

- DENOTE REGIONS WHERE PENETRATIONS ARE PERMITTED
- DENOTE BEAM WEB REGIONS WHERE PENETRATIONS ARE PERMITTED IF " w_{max} " IS REDUCED PER NOTE 4.

Ordinary Moment Frame: Installation Details

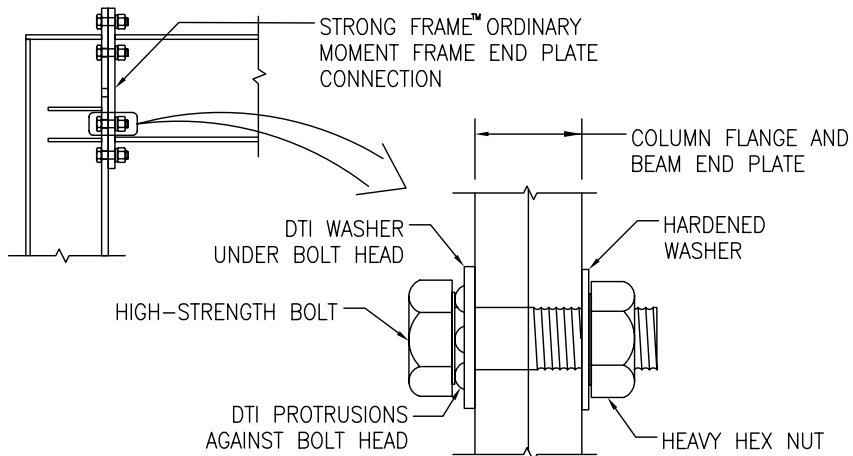


NOTES:

1. WOOD NAILERS ARE DOUGLAS-FIR LARCH NO. 2 GRADE.
2. ALLOWABLE LOADS LISTED ARE FOR ONE BOLT.

NAILER BOLT ALLOWABLE LOADS

14/SF3



NOTES:

1. INSTALL BOLTS AND TIGHTEN IN ACCORDANCE WITH INSTALLATION INSTRUCTIONS PROVIDED WITH EACH FRAME.
2. THE TYPE OF JOINT (SNUG-TIGHT OR PRETENSIONED) MUST BE DETERMINED BY THE DESIGNER AND SHOWN ON THE PLANS.
3. DRAW PLATES TOGETHER UNTIL THEY ARE IN FIRM CONTACT BY TIGHTENING BOLTS. GAPS AWAY FROM THE BOLT HEADS ARE PERMITTED. IF CONNECTION PLATES CAN NOT BE DRAWN TOGETHER SUFFICIENTLY, SHIMS ARE REQUIRED. TOTAL THICKNESS OF SHIMS UNDER A BOLT HEAD MUST NOT EXCEED 1/4".

BEAM-COLUMN CONNECTION

15/SF3