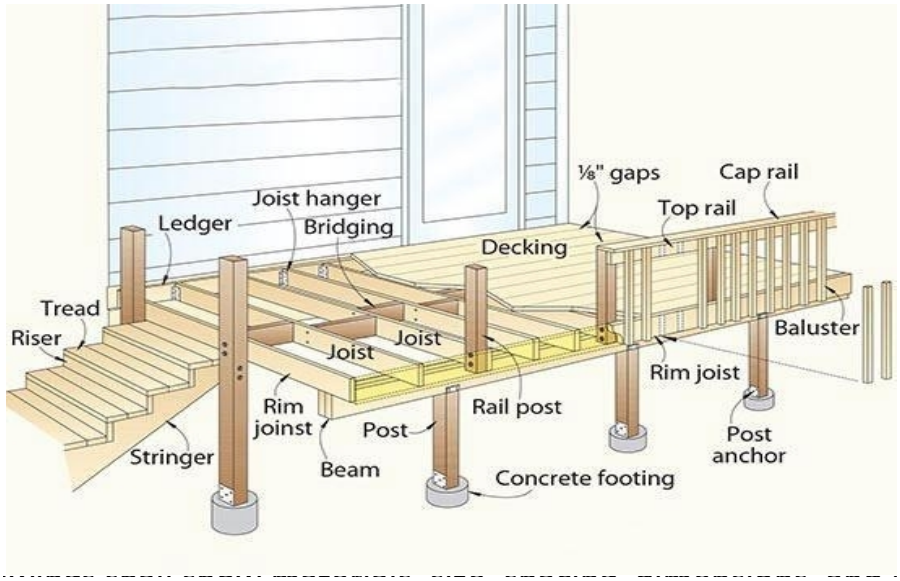
TOWNSHIP OF
WELLESLEY

DECK CONSTRUCTION GUIDE



INDEX:

Construction Guide:

A Building Permit is required for all decks except where:

- The Distance from finished ground to the finished deck is not more than 24” and
- The deck is not supporting a roof

Note: A deck must comply with building codes and zoning requirements.

Designers Qualification and Registration Requirements:

- Homeowners submitting designs for their own residence are exempt from qualification and registration requirements, however, individuals and agencies providing design services to the public have to meet the qualifications and registration requirements set out by the Ministry of Municipal Affairs and Housing.

How to Apply for a Building Permit:

- A Building Permit can be applied for online at ca.cloudpermit.com
- How to use Cloud Permit click here

Required Items:

- Site Survey or Site Plan showing:
    - Location of proposed work
    - Existing Buildings
    - Landscaping
    - Grades
    - Property Lines
    - Dimensions
    - Setbacks
    - Location of Septic System (if applicable)
- Drawings required:
    - Elevation(s)
    - Floor Plan(s)
    - Section(s)
    - Detail(s)

Note: All drawings shall show materials, size, spacing, dimensions, and notes. Additional Items may also be required.

Instruction for Template:

The Following Template can be used for the Building Permit.

1. Start by filling in the Highlighted Blank Area(s) by double clicking in the space provided on the Deck Framing Plan pages S1 and S2

2. Now that you have the *joist spacing and pier spacing* you can size each component using the Tables
    a. *pier size* is in the intersecting box of the row that corresponds with the *joist span* and the column that corresponds with the *pier spacing*
    b. *beam size* is in the interesting box of the row that corresponds with the *pier spacing*
    c. *joist size* is in the intersecting box of the corresponds with your *joist span* and the column labeled *joist size*

3. A guard is required where there is a difference in elevation of 600mm (23 ½") from the walking surface of the deck to the adjacent surface. The height of the guards shall no be less than 900mm (35 ½") where the height above finished grade is 1800mm (5'-10 ⅞") or less. The guard shall be 1070mm (42 ⅛") in height where the height is above 1800mm (5'-10 ⅞")

Note: Please provide your own deck-framing plan if your deck layout is different from what is shown in this package (Use the same concept and provide the same information). You will also need to provide your own details if the proposed construction methods differ than those provided. Please note, that any proposed prefabricated guard/railing system must have a set of stamped details provided by a licensed Engineer with the Province of Ontario or CCMC report (a manufacturer or building supply store would supply you these details at your request).

DECK CONSTRUCTION GUIDE

OWNER: _____

ADDRESS: _____

_____

_____

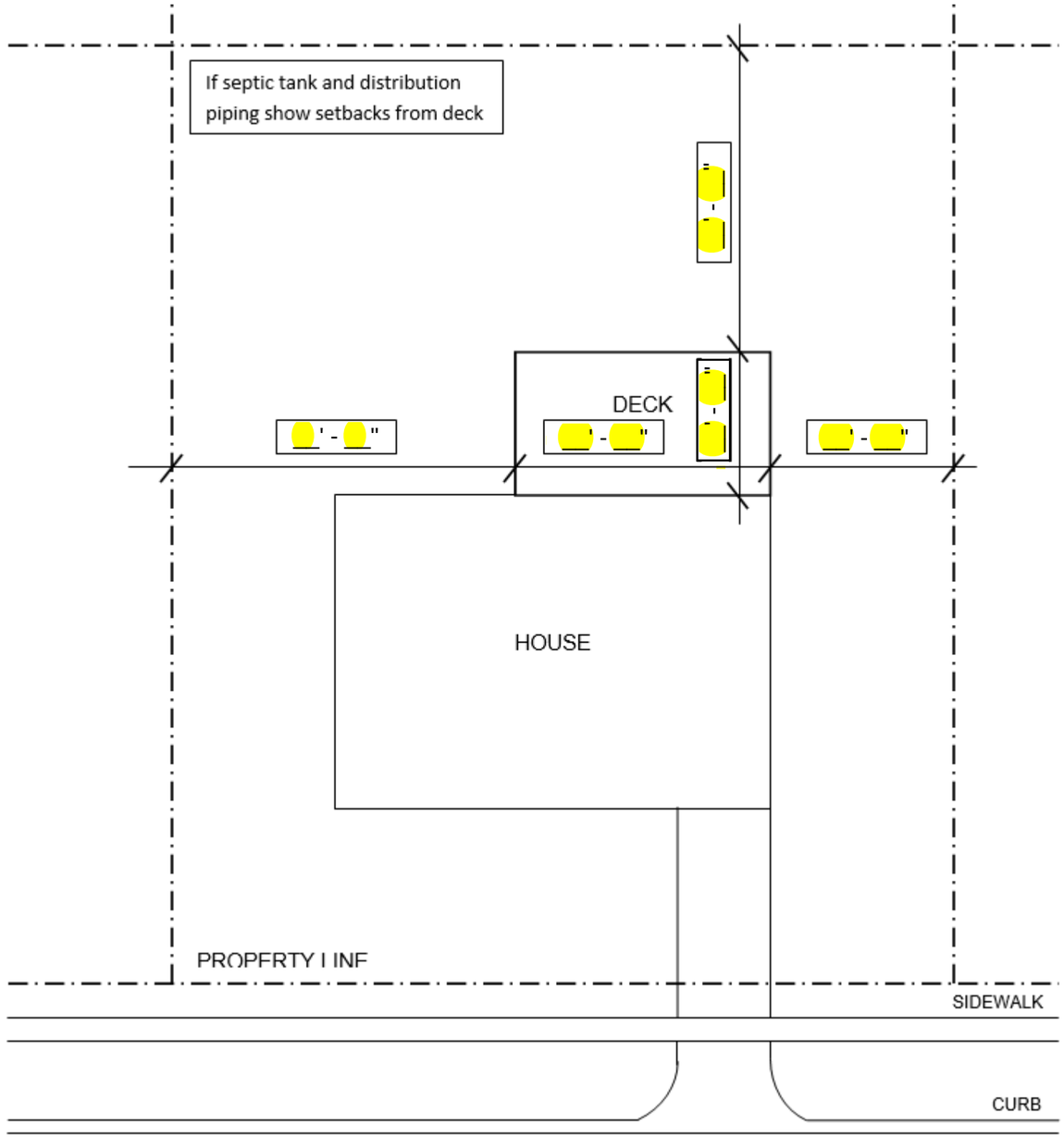
GENERAL NOTES:

-ALL WORK SHALL BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE

-ALL WOOD SHALL BE NO, 2 GRADE OR BETTER

-ALL FOOTINGS SHALL BEAR ON FIRM NATIVE SOIL WITH A CAPACITY OF 1500 PSF

-ALL CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 20 mPA



*ALL SETBACK DIMENSIONS ARE REQUIRED

-PROVIDED ON PROPERTY SURVEY IS PREFERRED
-PROVIDE YOUR OWN SITE PLAN IF DIFFERENT THAN SHOWN ABOVE

SITE PLAN

N.T.S.

BUILDING DEPARTMENT

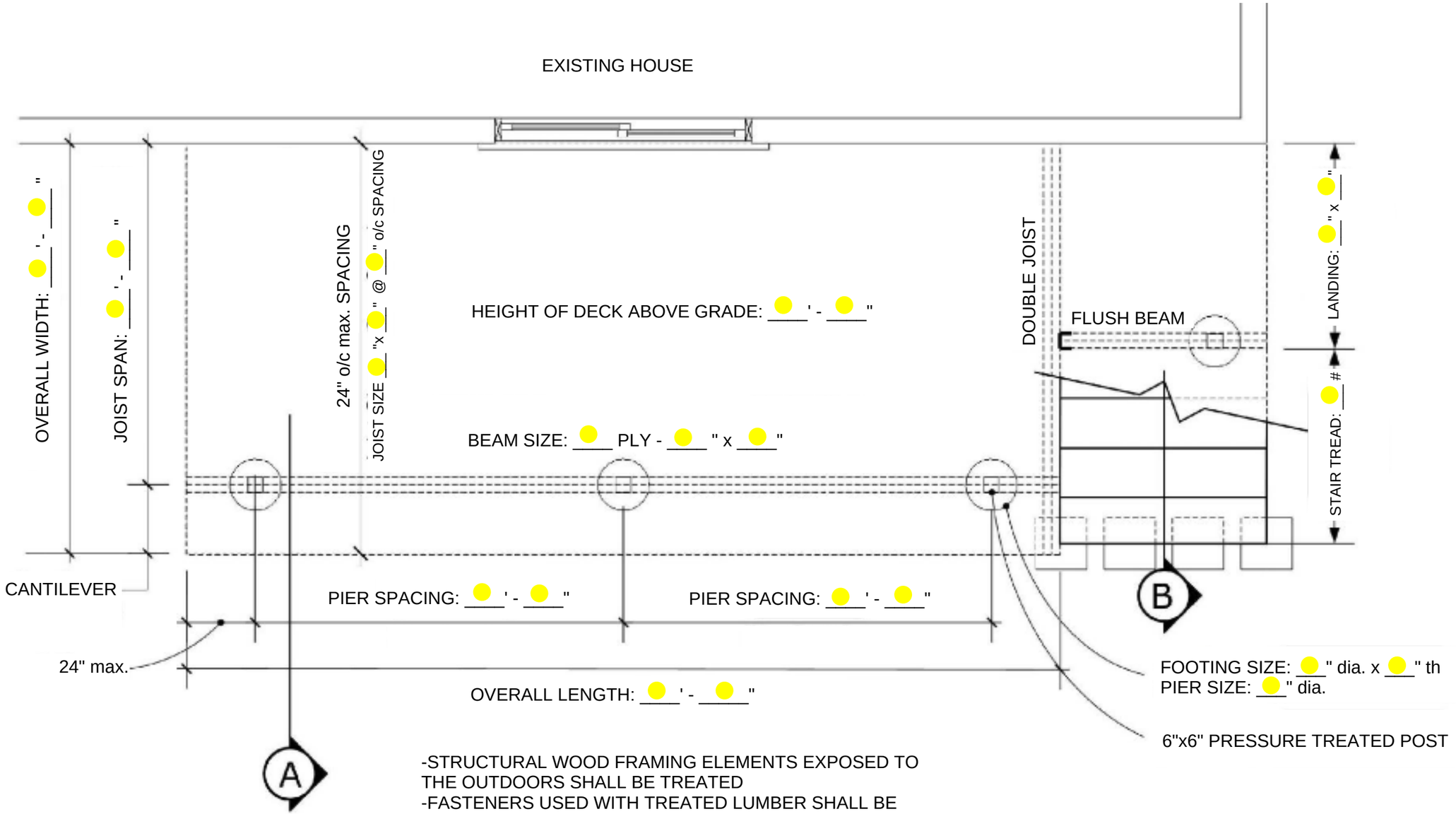
4639 LOBSINGER LN.,
ST. CLEMENTS,
ON N0B 2M0
Tel. 519-699-3947
www.wellesley.ca

NOTES:

TOWNSHIP OF WELLESLEY

SITE PLAN

DATE:	Dwg.
SCALE: N.T.S	SP1
DRAWN BY:	



-STRUCTURAL WOOD FRAMING ELEMENTS EXPOSED TO THE OUTDOORS SHALL BE TREATED
-FASTENERS USED WITH TREATED LUMBER SHALL BE HOT DIPPED GALVANIZED OR ZINC COATED

1. DECK FRAMING PLAN

N.T.S.

NOTES:

TOWNSHIP OF WELLESLEY

FRAMING PLAN

DATE:	Dwg. S1
SCALE: N.T.S	
DRAWN BY:	

2. STRUCTURAL REQUIREMENTS

CONCRETE PIER SIZING (SONOTUBES)

Note: This table is based on OBC min.75kPa (1570 psf) soil bearing capacity

JOIST SPAN	PIER SPACING			
	1.2m (4'-0")	**1.8m (6'-0")**	**2.4m (8'-0")**	**3.0m (10'-0")**
1.8m (6'-0")	200mm (8")	250mm (10")	300mm (12")	350mm (14")
2.4m (8'-0")	250mm (10")	300mm (12")	350mm (14")	400mm (16")
3.0m (10'-0")	300mm (12")	350mm (14")	400mm (16")	460mm (18")
3.6m (12'-0")	300mm (12")	350mm (14")	400mm (16")	460mm (18")

BEAM SIZING

JOIST SIZE	JOIST SPAN	PIER SPACING			
		1.2m (4'-0")	**1.8m (6'-0")**	**2.4m (8'-0")**	**3.0m (10'-0")**
38 x 184 (2"x 8")	**1.8m (6'-0")**	2 - 38mm x 184mm (2 - 2"x8")	2 - 38mm x 184mm (2 - 2"x8")	2 - 38mm x 235mm (2 - 2"x10")	2 - 38mm x 235mm (2 - 2"x10")
	2.4m (8'-0")	2 - 38mm x 184mm (2 - 2"x8")	2 - 38mm x 184mm (2 - 2"x8")	2 - 38mm x 235mm (2 - 2"x10")	3 - 38mm x 235mm (3 - 2"x10")
	3.0m (10'-0")	2 - 38mm x 184mm (2 - 2"x8")	2 - 38mm x 184mm (2 - 2"x8")	2 - 38mm x 235mm (2 - 2"x10")	3 - 38mm x 235mm (3 - 2"x10")
38 x 235 (2"x10")	**3.6m (12'-0")**	2 - 38mm x 184mm (2 - 2"x8")	2 - 38mm x 184mm (2 - 2"x8")	2 - 38mm x 286mm (2 - 2"x12")	2 - 38mm x 286mm (2 - 2"x12")

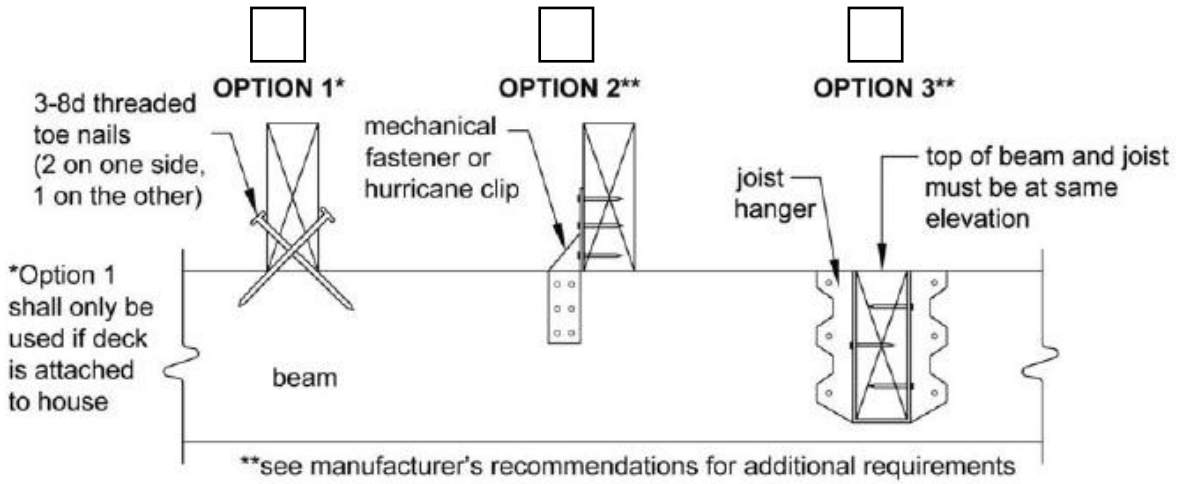
FLOOR JOIST SPAN

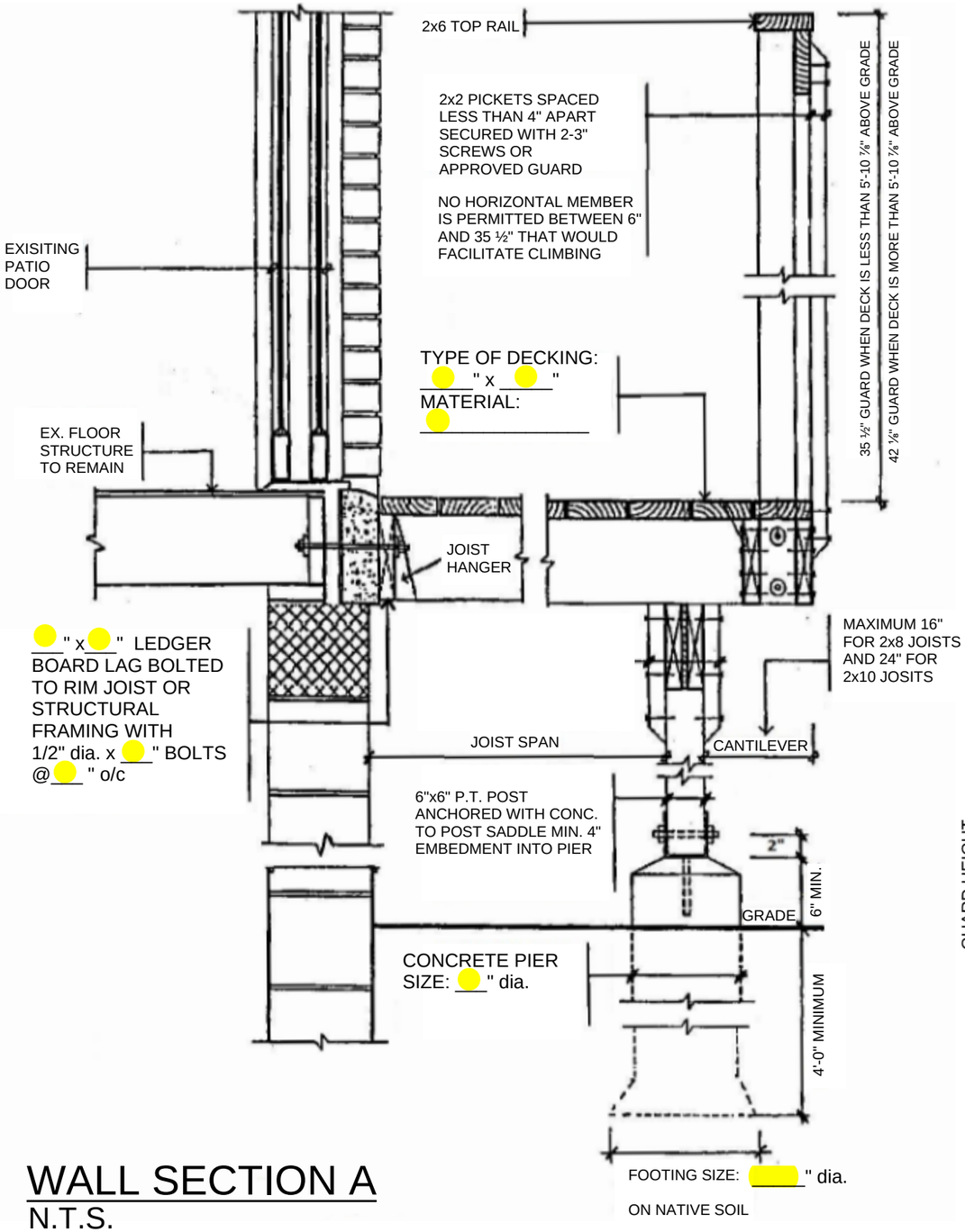
JOIST SPACING (on centre)	JOIST SPAN			
	1.8m (6'-0")	**2.4m (8'-0")**	**3.0m (10'-0")**	**3.6m (12'-0")**
300mm (12")	38 x 184 (2"x8")	38 x 184 (2"x8")	38 x 184 (2"x8")	38 x 184 (2"x8")
400mm (16")	38 x 184 (2"x8")	38 x 184 (2"x8")	38 x 184 (2"x8")	38 x 235 (2"x10")
600mm (24")	38 x 184 (2"x8")	38 x 184 (2"x8")	38 x 235 (2"x10")	38 x 235 (2"x10")

* 2X8 joists required for wood railing (guard) support as per SB-7 of the Ontario Building Code

Note: Soil bearing capacity to be considered as 1570 PSF (75 kPa) unless otherwise determined by the Chief Building Official.

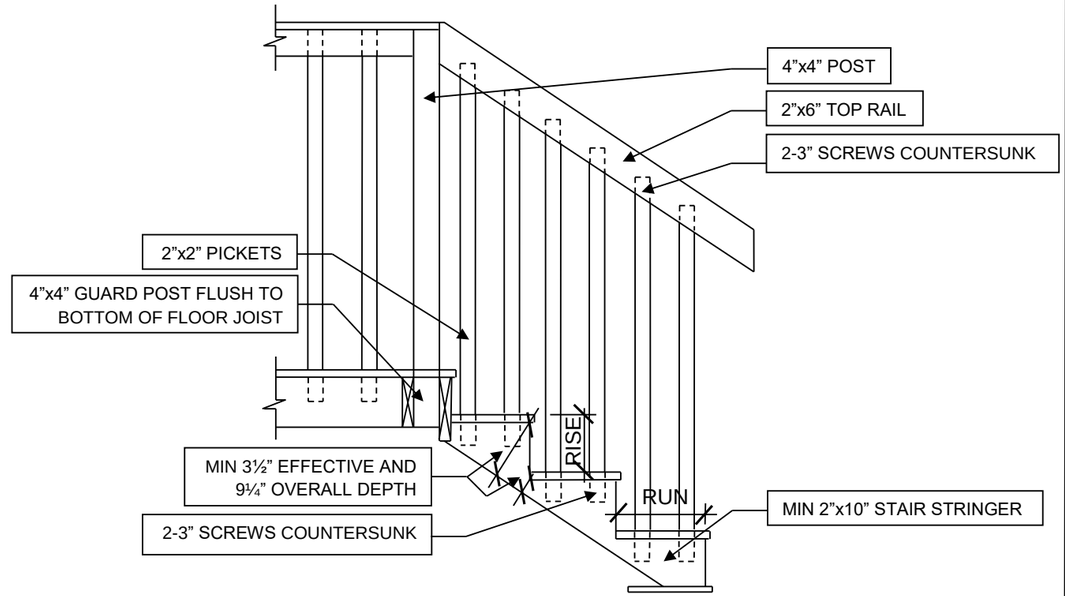
CONNECTION OF FLOOR JOISTS TO BEAM SUPPORT





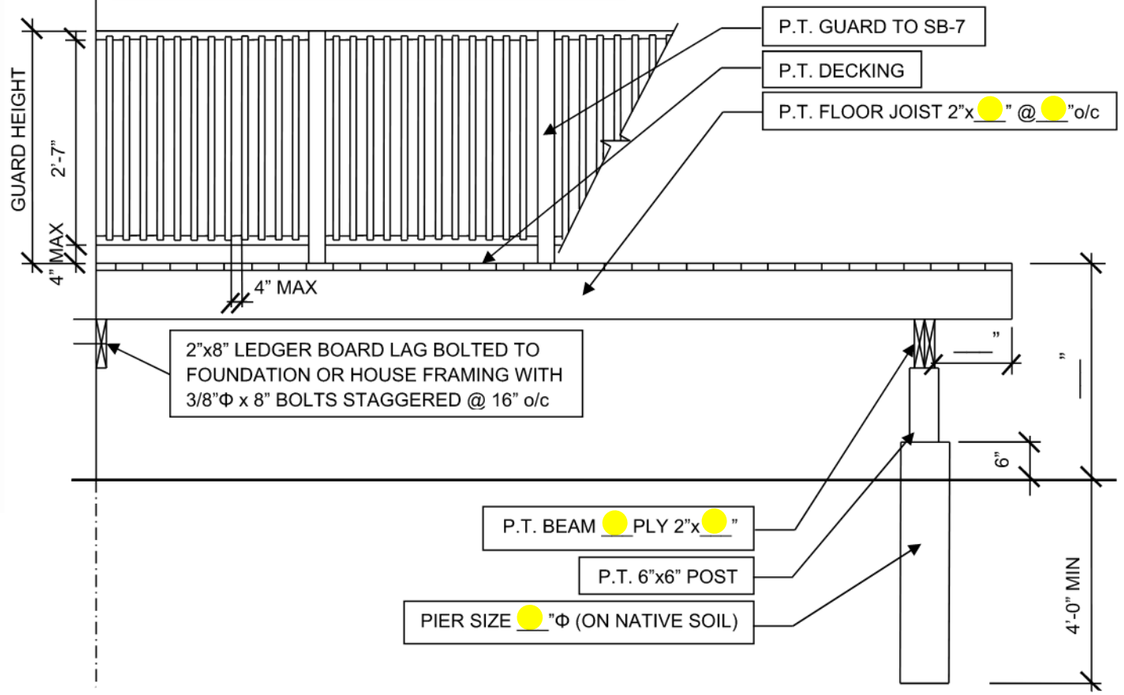
WALL SECTION A
N.T.S.

-CCMC REPORT / ENGINEERING TO BE PROVIDED FOR ENGINEERED PRODUCTS BEING USED
-FASTENERS USED WITH PRESSURE TREATED LUMBER TO BE HOT DIPPED GALVANIZED OR ZINC COATED



STAIR SECTION B
N.T.S.

RISE / RUN =



GUARD SECTION
N.T.S.

NOTES:

TOWNSHIP OF WELLESLEY

SECTION

DATE:	Dwg. S2
SCALE: N.T.S	
DRAWN BY:	

LEDGER BOARD ATTACHMENT

- Decks are usually supported on one side by a ledger attached to the house. This ledger attachment is critical to ensure the deck is safely and securely supported at this point. When the ledger is attached to the house, there are very specific requirements that must be met. Follow the diagrams closely for the proper attachment of the ledger.

- The deck ledger shall NOT be nailed to the house - it must be lagged or bolted to the structure of the house.

- The size and spacing of the lag bolts (screws) are based on their capacity. Lag bolts (screws) values are assumed to be 325 pounds for 1/2-inch lag bolts (screws) and 190 pounds for 3/8-inch lag bolts (screws). The span of the floor joists determines how much load is being transferred to the ledger and thus to the lag bolts.

LAG BOLT SIZE	JOIST SPAN			
	Up to 1.8m (6'-0")	**2.4m (8'-0")**	**3.0m (10'-0")**	**3.6m (12'-0")**
12.7mm (1/2")	812mm (32"o.c.)	400mm (16"o.c.)	400mm (16"o.c.)	300mm (12"o.c.)
Equivalent 16" o.c. Joist Spacing	Every Other Joist Space	Every Joist Space	Every Joist Space	Each Joist Space with Two Every Other Space
9.5mm(3/8")	610mm (24"o.c.)	300mm (12"o.c.)	300mm (12"o.c.)	200mm (8"o.c.)
Equivalent 16" o.c. Joist Spacing	Two Every Third Joist Space	Each Joist Space with Two Every Other Space	Each Joist Space with Two Every Other Space	Two Each Joist Space ThreeEvery Other Space

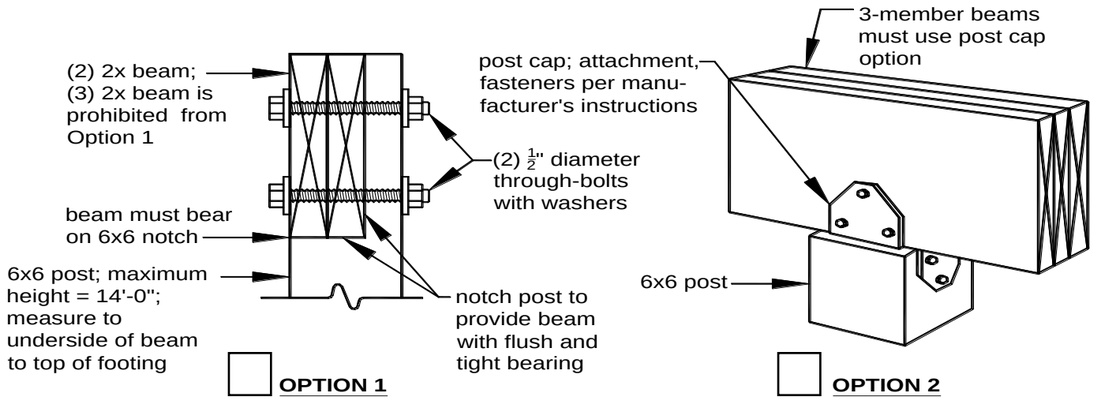
DECK LEDGER TO HOUSE ATTACHMENT – LAG BOLT SPACING (SEE DIAGRAMS)

- Deck ledgers shall be minimum 2x8 pressure-preservative-treated No. 2 grade lumber or other approved materials as determined by good engineering practices.

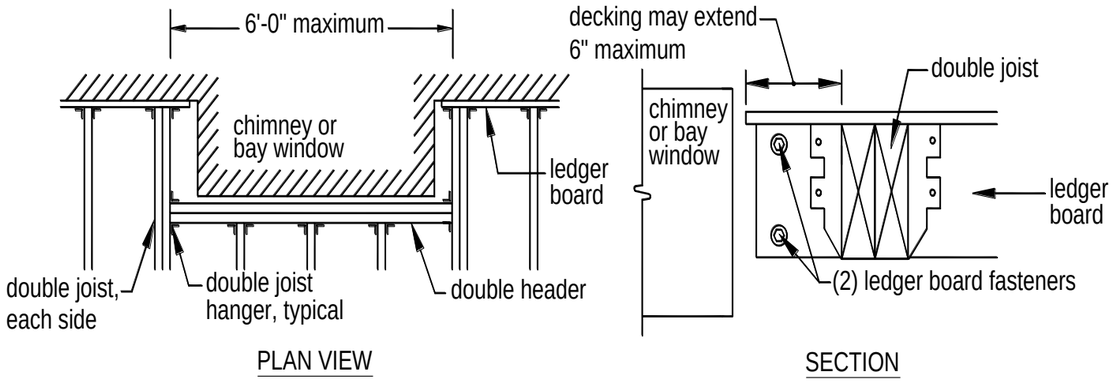
- When solid-sawn pressure-preservative-treated deck ledgers are attached to engineered wood products (structural composite lumber rimboard or laminated veneer lumber), the ledger board attachment shall be designed in accordance with the manufacturer's recommendations or good engineering practices.

- Pilot holes shall be pre-drilled with a size between 17/32" to 9/16".

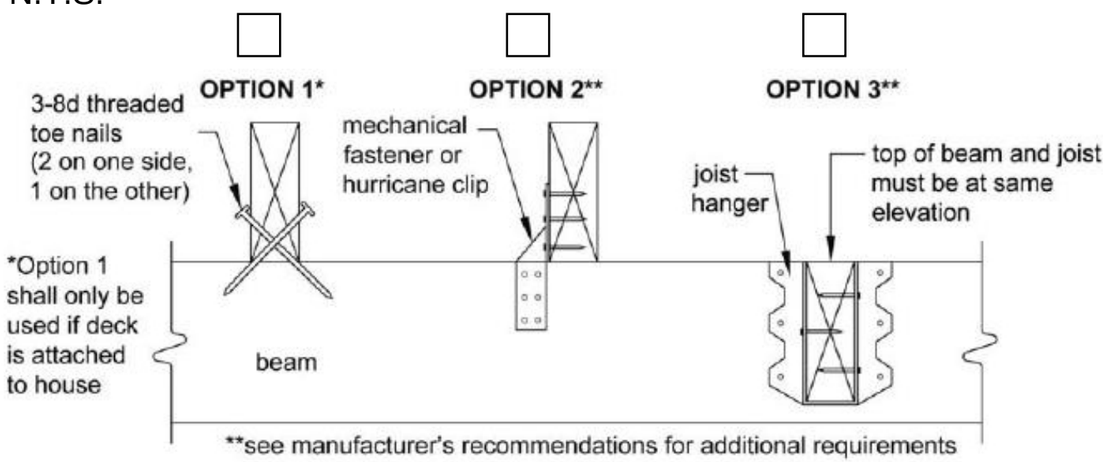
- Lag screws are only permitted where existing site conditions can be confirmed.



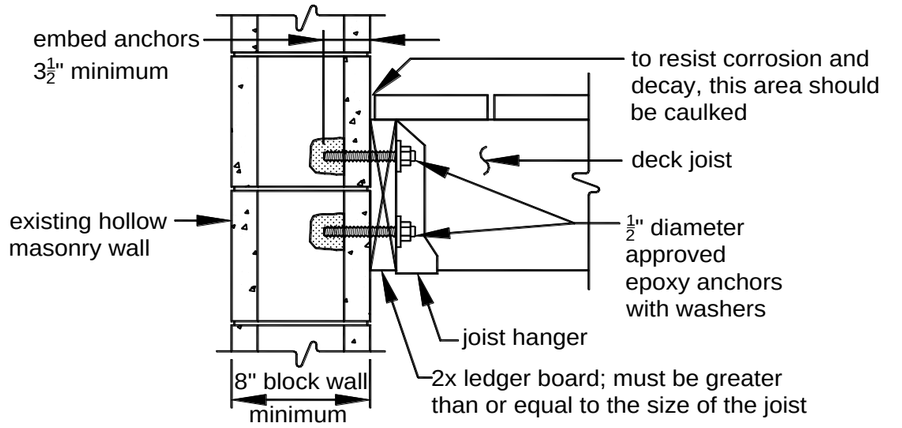
POST TO BEAM CONNECTION
N.T.S.



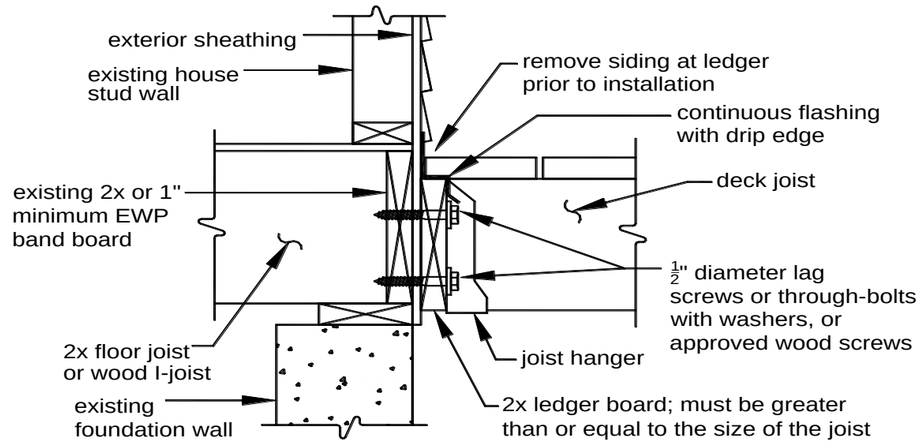
FLOOR JOIST CONNECTION
N.T.S.



FLOOR JOIST CONNECTION
N.T.S.



MASONRY LEDGER DETAIL
N.T.S.



SIDING LEDGER DETAIL
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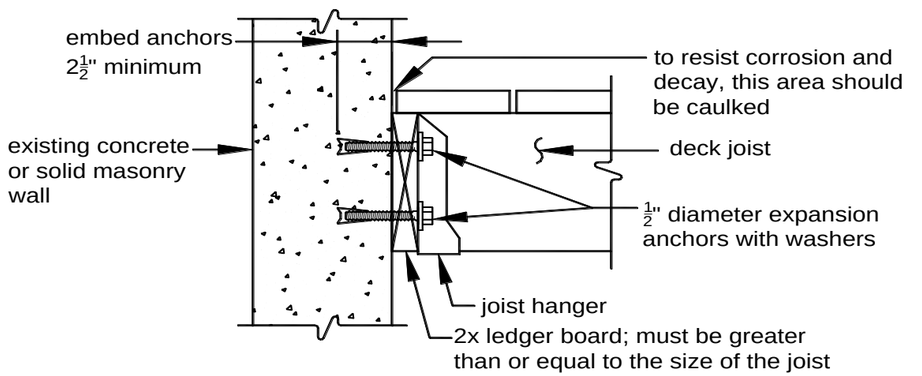


CONCRETE LEDGER DETAIL
N.T.S.

NOTES:

TOWNSHIP OF WELLESLEY

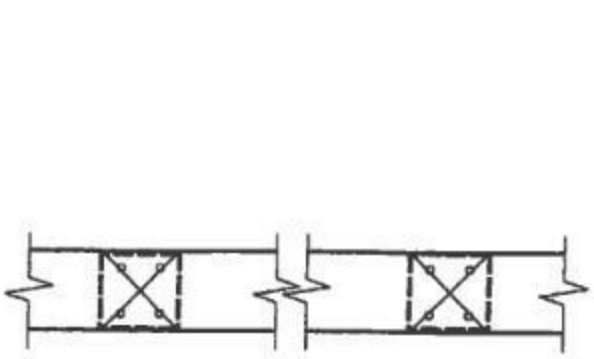
DETAILS

DATE: JAN. 2022	Dwg. S3
SCALE: N.T.S	
DRAWN BY:	

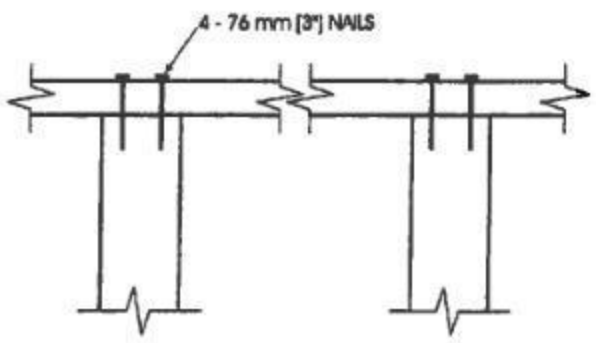
RAIL TO POST CONNECTION (A4 TO A9)

PICK ONE OF THE FOLLOWING

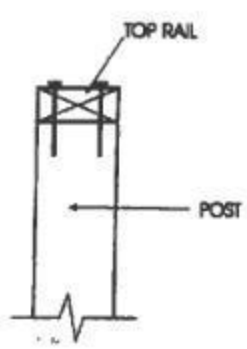
- ☐ DETAIL EA-1
- ☐ DETAIL EA-2
- ☐ DETAIL EA-3
- ☐ DETAIL EA-4
- ☐ DETAIL EA-5
- ☐ OTHER (DETAILED DRAWING)



PLAN



FRONT ELEVATION



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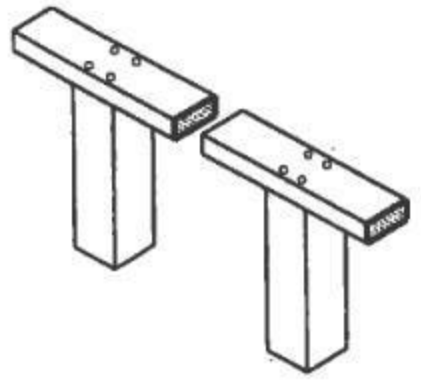


AXONOMETRIC

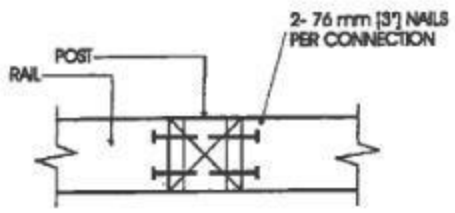
DETAIL EA-1

Exterior Connection: Top Rail Nailed to Post

Notes:

1. The top rail must be continuous. Use Detail EA-5 at the end spans, where continuity ends.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.52 (5'-0")
Northern Species	1.52 (5'-0")



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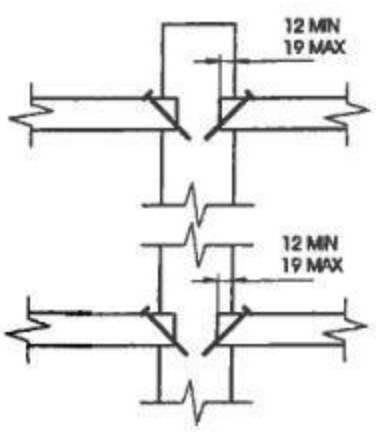

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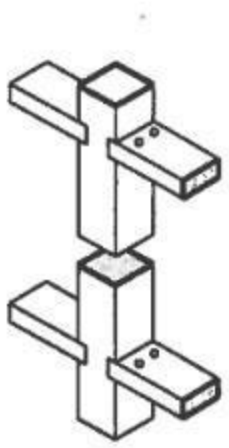
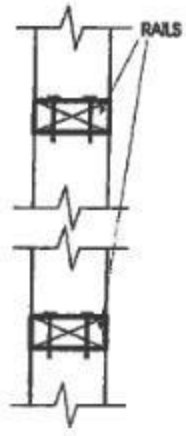


AXONOMETRIC



SIDE ELEVATION

Detail EA-2

Exterior Connection: Top/Bottom Rail Skew Nailed to Post-76mm (3") Nails

Notes:

1. The maximum span is more often governed by post spacing.
2. Provide support to bottom rail at intervals not more than 2.0m (6'-7").
3. The bottom rail may be bevelled as detailed in Figure 2.1.2.
4. Dimensions shown are in mm unless otherwise specified.

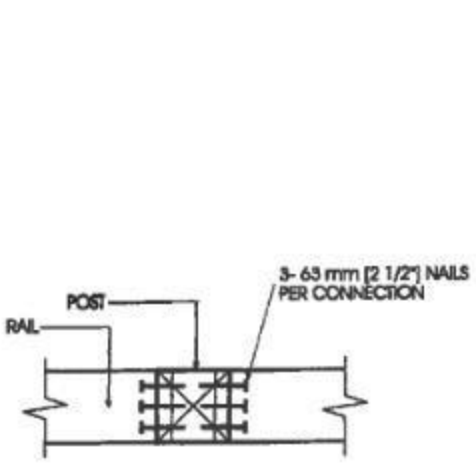
MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	2.72 (8'-11")
Northern Species	2.18 (7'-2")

TOWNSHIP OF WELLESLEY
BUILDING DEPARTMENT

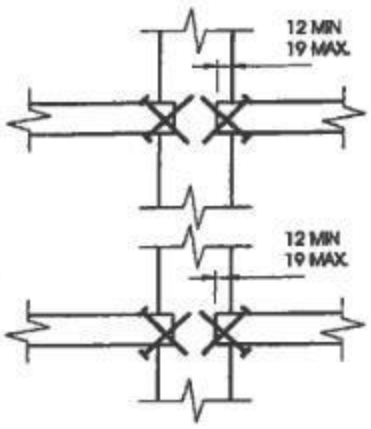
TOWNSHIP OF WELLESLEY

4639 LOBSINGER LINE
RR#1 ST CLEMENTS, ON N0B 2M0
519-699-3947
FAX: 519-699-4540

DWG NO:
A4



PLAN



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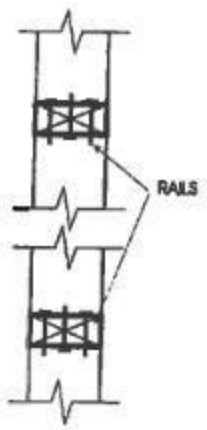
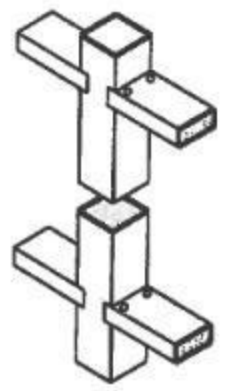


SIDE ELEVATION



AXONOMETRIC

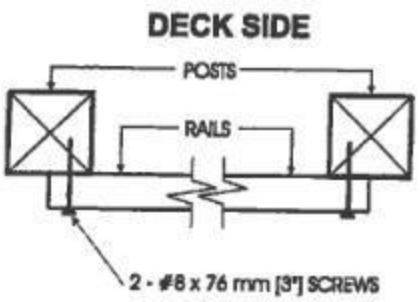
Detail EA-3

Exterior Connection: Top/Bottom Rail Skew Nailed to Post - 63mm (2-1/2") Nails

Notes:

1. Provide support to bottom rail at intervals not more than 2.0m (6'-7").
2. The bottom rail may be bevelled as detailed in Figure 2.1.2.
3. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	2.72 (8'-11")
Northern Species	2.18 (7'-2")



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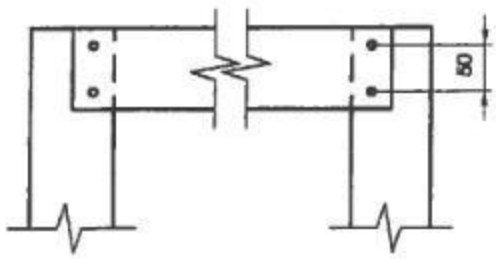
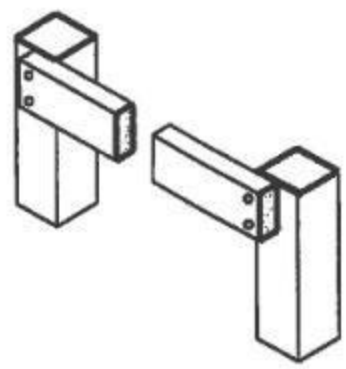


FRONT ELEVATION

SIDE ELEVATION



AXONOMETRIC

Detail EA-4

Exterior Connection: Top/Bottom Rail Face Nailed or Screwed to Post

Notes:

1. If the rails are located on the deck side of the posts, 76mm (3") nails may be used in place of the screws.
2. Where the top rail is continuous, the top rail may be fastened to each post with 3-#8 x 76mm (3") screws.
3. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.77 (5'-10")
Northern Species	1.41 (4'-8")

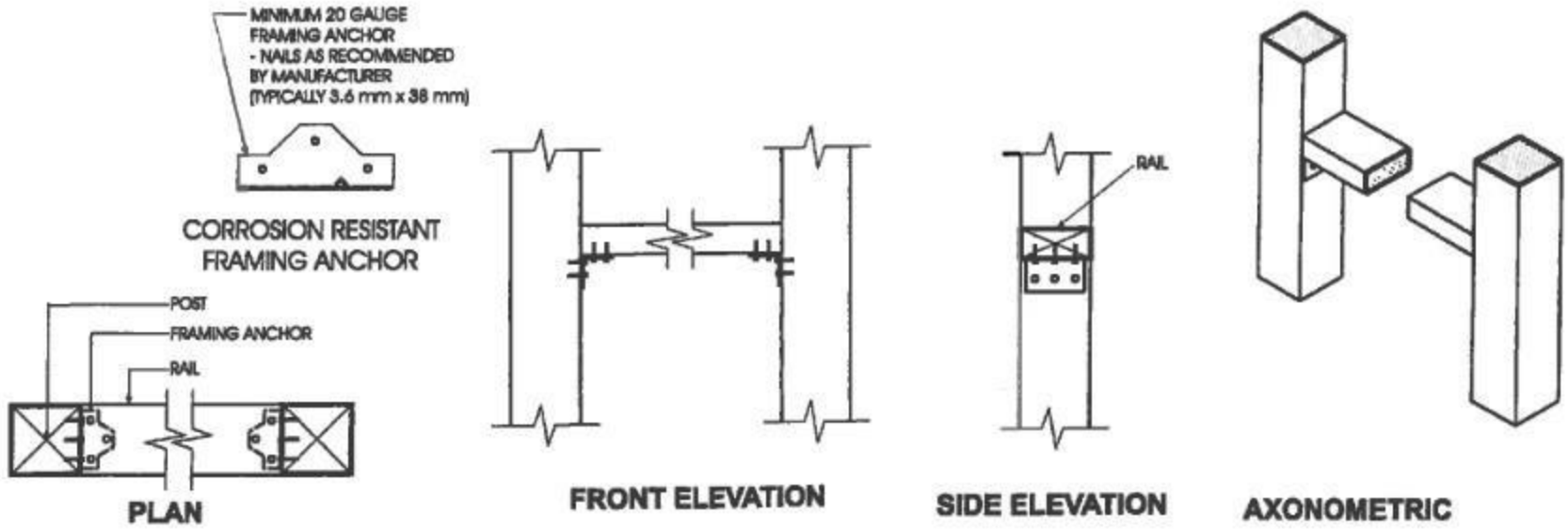
TOWNSHIP OF WELLESLEY
BUILDING DEPARTMENT

TOWNSHIP OF WELLESLEY

4639 LOBSINGER LINE
RR#1 ST CLEMENTS, ON N0B 2M0
519-699-3947
FAX: 519-699-4540

DWG NO:

A5



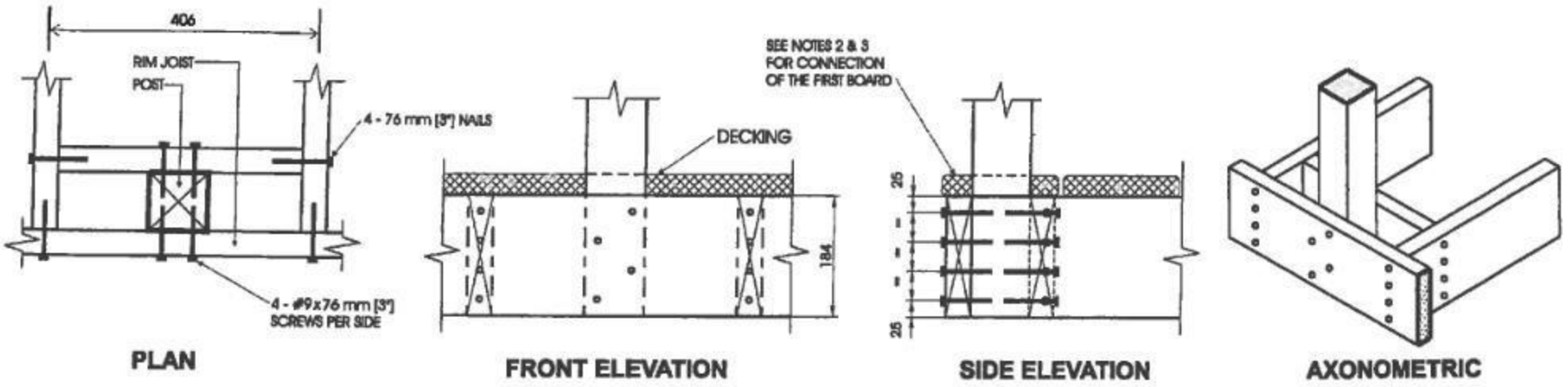
Detail EA-5

Exterior Connection: Top/Bottom Rail Fastened to Post with Framing Anchors

Notes:

1. Provide support to bottom rail at intervals not more than 2.0m (6'-7").
2. The bottom rail may be bevelled as detailed in Figure 2.1.2.
3. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	2.72 (6'-11")
Northern Species	2.18 (7'-2")



Detail EB-2

Exterior Connection: Post Screwed to Rim Joist

Notes:

1. Decking is omitted from the plan view and the axonometric view for clarity.
2. Fasten 25mm x 140mm (5/4"x6" nominal) outer deck board to rim joist with 63mm (2-1/2") nails at 300mm (12")
3. Fasten 25mm x 140mm (5/4"x6" nominal) outer deck board to floor joist with 1-63mm (2-1/2") nail at each joist.
4. The post may be positioned anywhere between the joists.
5. #9 screws may be replaced by #8 screws if the maximum spacing between posts is not more than 1.20m (3'-11").
6. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPACING BETWEEN POSTS	
Species	Maximum Spacing, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.56 (5'-1")
Northern Species	1.20 (3'-11")

GUARD POST CONNECTION TO FLOOR JOIST (A-6 TO A-8)

PICK ONE OF THE FOLLOWING

- ☐ DETAIL EB-2
- ☐ DETAIL EB-3
- ☐ DETAIL EB-5
- ☐ DETAIL EB-6
- ☐ DETAIL IB-1
- ☐ OTHER (DETAILED DRAWING)

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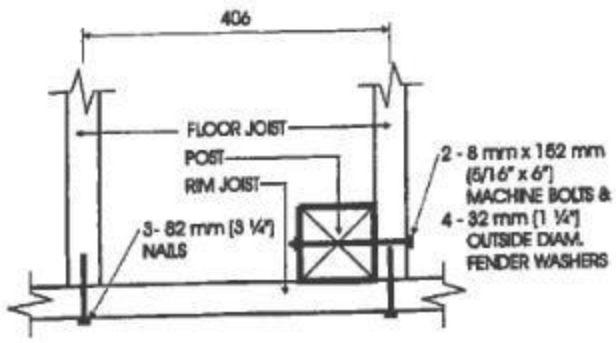
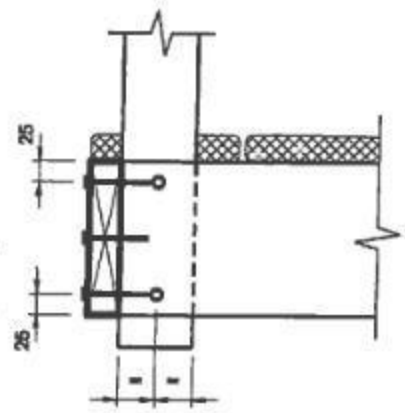
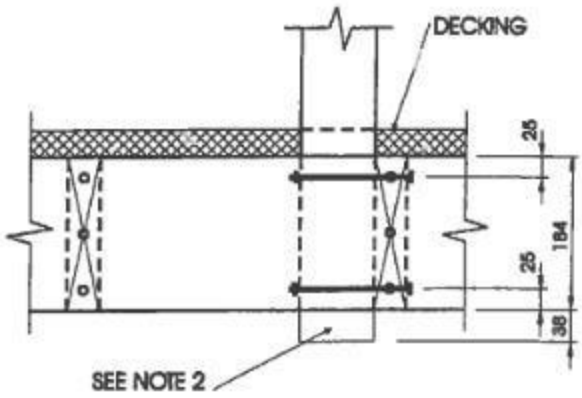
DWG NO:
A6



PLAN



SIDE ELEVATION



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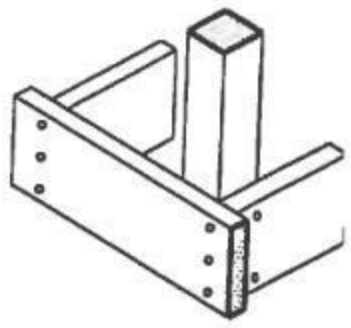


AXONOMETRIC

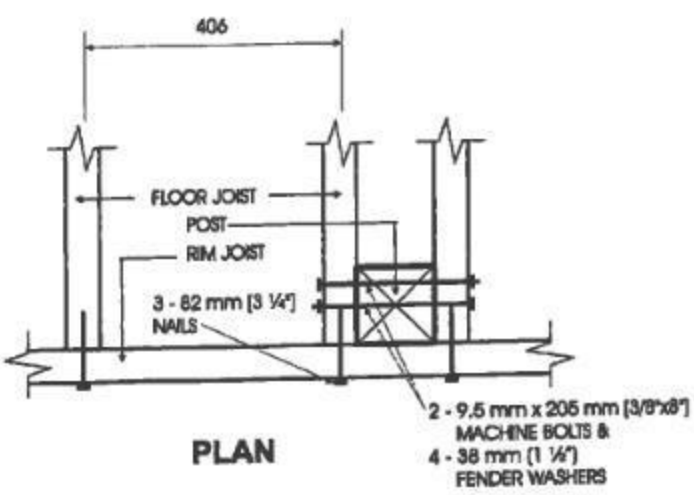
Detail EB-3

Exterior Connection: Post Bolted to Floor Joist - 8mm (5/16") Bolts

Notes:

1. Decking is omitted from the plan view and the axonometric view for clarity.
2. 38mm (1-1/2") post projection is not required where the maximum spacing between posts does not exceed 1.20m (3'-11 ").
3. Joists may be spaced at 610mm (24") o/c or 406mm (16") o/c.
4. Where floor joists are spaced at 610mm (24") o/c, decking shall have a minimum thickness of 38mm (1-1/2") and shall be fastened to the floor with 2-76mm (3") nails.
5. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Spacing, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.29 (4'-3")
Northern Species	1.20 (3'-11")



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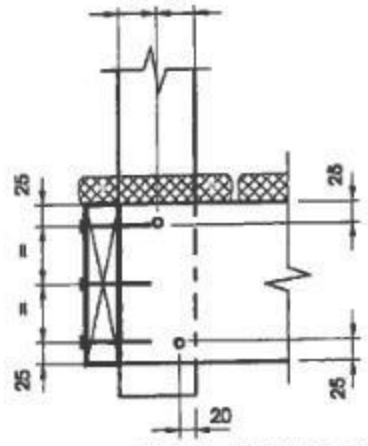

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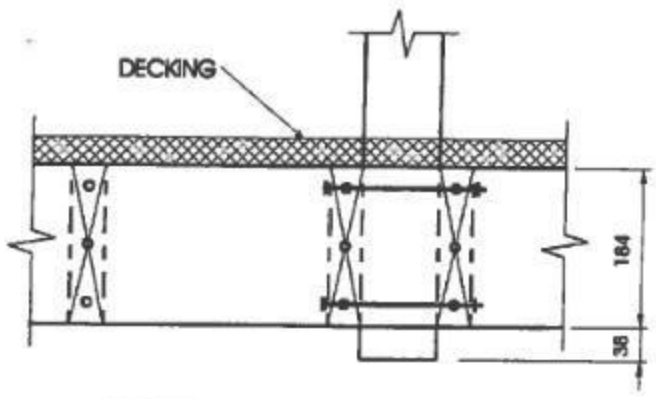


FRONT ELEVATION

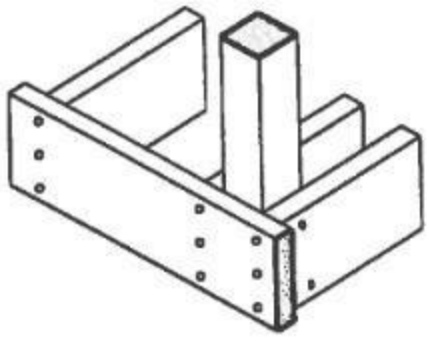
Detail EB-5

Exterior Connection: Post Bolted to 2 Floor Joists

Notes:

1. Decking is omitted from the plan view and the axonometric view for clarity.
2. 38mm (1-1/2") post projection is not required where the maximum spacing between posts does not exceed 1.20m (3'-11").
3. Joists may be spaced at 610mm (24") o/c or 406mm (16") o/c.
4. Where floor joists are spaced at 610mm (24") o/c decking shall have a minimum thickness of 38mm (1-1/2") and shall be fastened to the floor with 2-76mm (3") nails.
5. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPACING BETWEEN POSTS	
Species	Maximum Spacing, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	2.14 (7'-0")
Northern Species	1.20 (3'-11")



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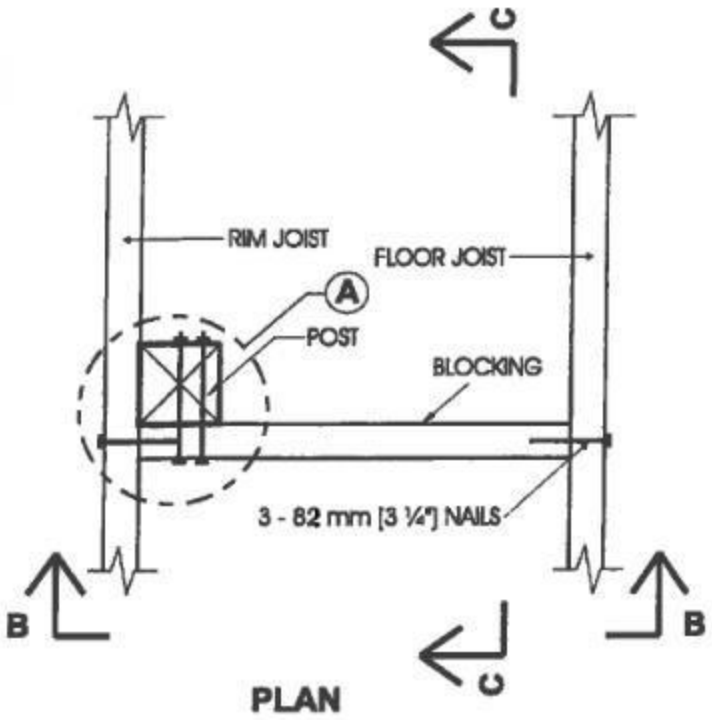

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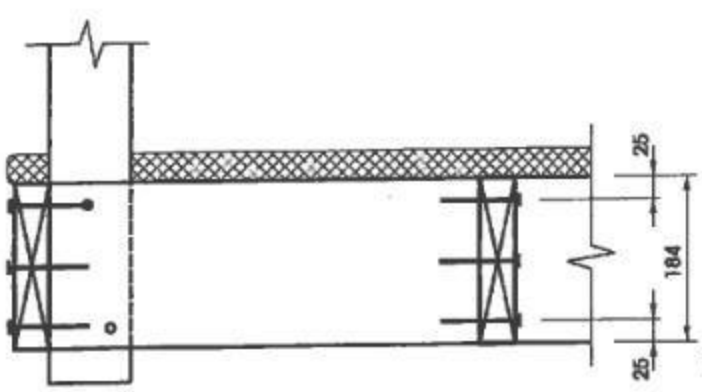
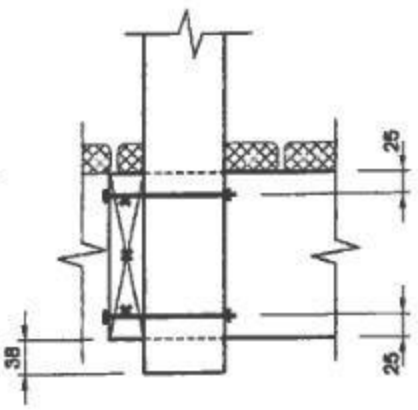
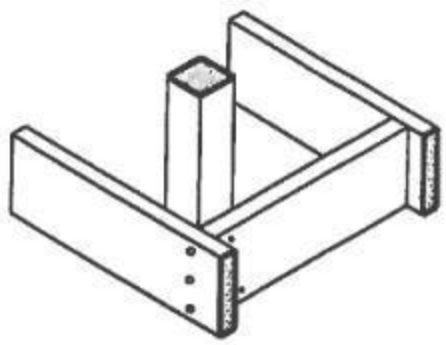


ELEVATION B-B



ELEVATION C-C



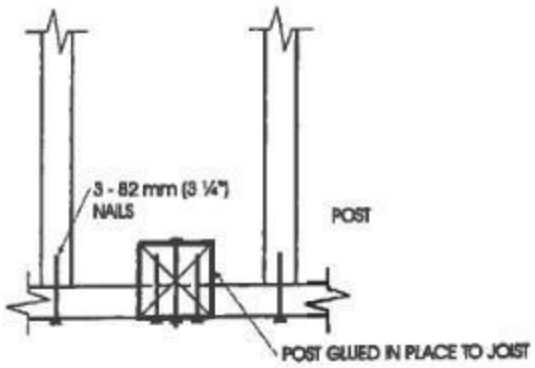
AXONOMETRIC

Detail EB-6

Exterior Connection: Post Fastened to Floor, Guard Parallel to Floor Joists

Notes:

1. Use any of the connection details shown on Details EB-1 to EB-5 at location "A". Connection Detail EB-4 is shown in this detail, as an example.
2. Maximum spacing between posts is determined from connection detail used at location "A".
3. Decking is omitted from the plan view and the axonometric view for clarity.
4. Blocking shall be not less than 38 mm x 184 mm (2" x 8" nominal).



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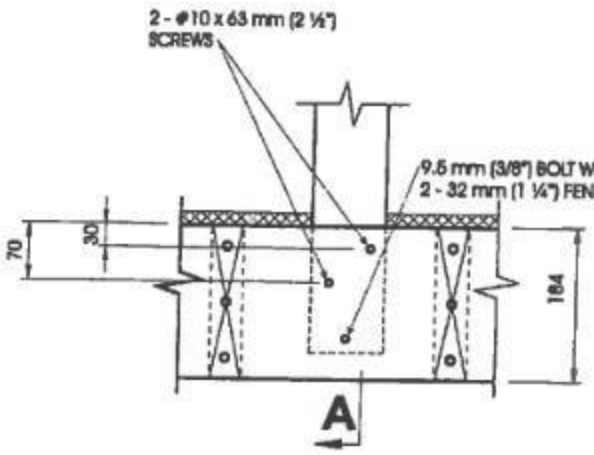
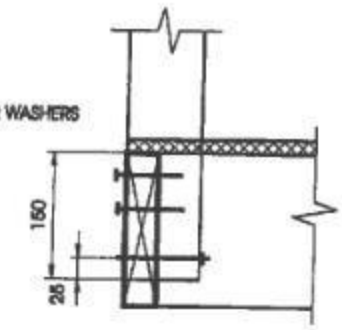
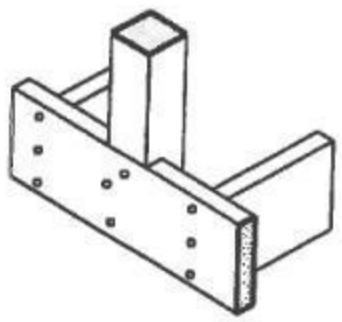


FRONT ELEVATION



SECTION-A



AXONOMETRIC

Detail 1B-1

Interior Connection: Notched Post Glued and Bolted to Rim Joist

Notes:

1. Minimum dimension of post is 82mm x 82mm (3-1/4"x3-1/4").
2. Notch post 38mm x 152mm (1-1/2"x6") at rim joist.
3. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPACING BETWEEN POSTS	
Post Species	Maximum Spacing, m (ft-in)
Oak, Maple, Yellow Poplar, Hemlock, White Pine	3.30 (10'-10")

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