



Products				
PlotID	Length	Product	Plies	Net Qty
B10	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B11	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B12 (CONT.)	8-00-00	11 7/8" NI-20	1	1
B13	19-00-00	11 7/8" NI-40x	2	2
B14	10-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B15	8-00-00	11 7/8" NI-20	1	1
B16	17-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B17	12-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B18	5-00-00	11 7/8" NI-20	1	1
B19	13-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
J1	15-00-00	11 7/8" NI-20	1	8
J2	14-00-00	11 7/8" NI-20	1	15
J3	13-00-00	11 7/8" NI-20	1	12
J4	11-00-00	11 7/8" NI-20	1	9
J5	3-00-00	11 7/8" NI-20	1	1
J6	20-00-00	11 7/8" NI-40x	1	2
J7	19-00-00	11 7/8" NI-40x	1	49
J8	18-00-00	11 7/8" NI-40x	1	12
J9	18-00-00	11 7/8" NI-40x	2	4
J10	17-00-00	11 7/8" NI-40x	1	11
Ca1	233-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	126-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	2		HGUS5.50/10
H3	43		LT251188

GROUND FLOOR FRAMING
 UNIT 5010 - THE OAKWOOD
 ELEVATION A

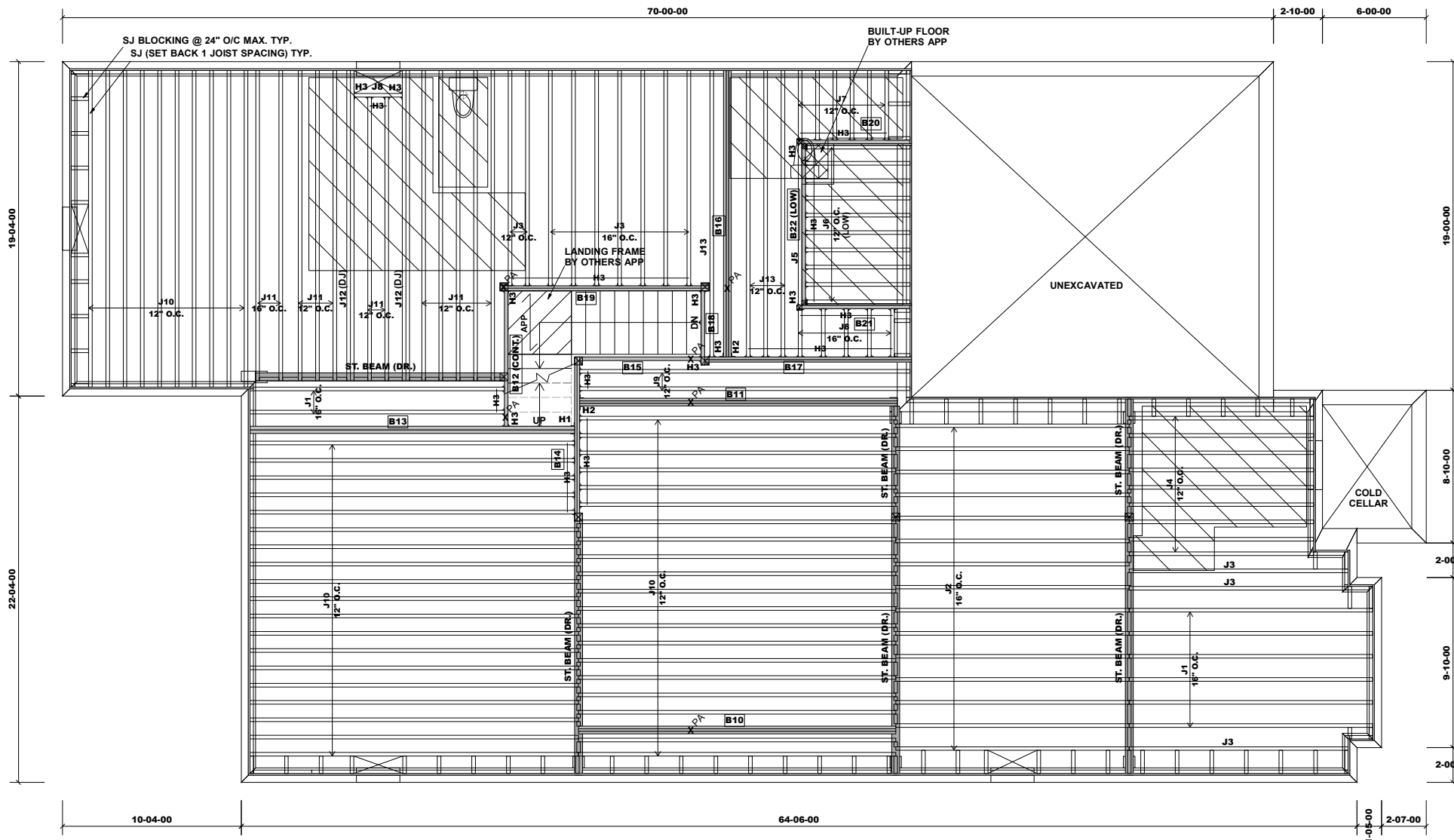
SE047291 - SE047314

FLOOR LOADING
 LIVE LOAD : 40 PSF
 DEAD LOAD : 15 PSF
 DEAD LOAD (TILE): 20 PSF

HATCH LEGEND
 Ceramic Tile
 Conv Framed

APP - AS PER PLAN
 BBO - BEAM BY OTHERS
 PA - POST ABOVE
 O.T.B - OPEN TO BELOW
 GT - GIRDER TRUSS
 RT - ROOF TRUSS
 RIMBOARD
 1-1/8" X 11-7/8" O.S.B
 SUBFLOOR: 3/4" NAILED & GLUED*

Blocking panels are required over all interior supports.
 Squash blocks are required under concentrated loads.
 Ceramic Tile Application as per O.B.C. 9.30.6
 Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.
 Do not scale - refer to architectural plans for dimensions.



Products				
PlotID	Length	Product	Plies	Net Qty
B10	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B11	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B12 (CONT.)	8-00-00	11 7/8" NI-20	1	1
B13	19-00-00	11 7/8" NI-40x	2	2
B14	10-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B15	8-00-00	11 7/8" NI-20	1	1
B16	17-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B17	12-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B18	5-00-00	11 7/8" NI-20	1	1
B19	13-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B20	7-00-00	11 7/8" NI-20	1	1
B21	7-00-00	11 7/8" NI-20	1	1
B22 (LOW)	10-00-00	11 7/8" NI-20	1	1
J1	15-00-00	11 7/8" NI-20	1	8
J2	14-00-00	11 7/8" NI-20	1	15
J3	13-00-00	11 7/8" NI-20	1	12
J4	11-00-00	11 7/8" NI-20	1	9
J5	10-00-00	11 7/8" NI-20	1	1
J6	7-00-00	11 7/8" NI-20	1	10
J7	5-00-00	11 7/8" NI-20	1	6
J8	3-00-00	11 7/8" NI-20	1	6
J9	20-00-00	11 7/8" NI-40x	1	2
J10	19-00-00	11 7/8" NI-40x	1	49
J11	18-00-00	11 7/8" NI-40x	1	12
J12	18-00-00	11 7/8" NI-40x	2	4
J13	17-00-00	11 7/8" NI-40x	1	4
Ca1	244-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	124-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	2		HGUS5.50/10
H3	64		LT251188

GROUND FLOOR FRAMING
 UNIT 5010 - THE OAKWOOD
 ELEVATION A
 W/ SUNKEN MUDROOM

FLOOR LOADING
 LIVE LOAD : 40 PSF
 DEAD LOAD : 15 PSF
 DEAD LOAD (TILE): 20 PSF

HATCH LEGEND
 Ceramic Tile
 Conv Framed

APP - AS PER PLAN
 BBO - BEAM BY OTHERS
 PA - POST ABOVE
 O.T.B - OPEN TO BELOW
 GT - GIRDER TRUSS
 RT - ROOF TRUSS
 RIMBOARD
 1-1/8" X 11-7/8" O.S.B
 SUBFLOOR: 3/4" NAILED & GLUED*

Blocking panels are required over all interior supports.
 Squash blocks are required under concentrated loads.
 Ceramic Tile Application as per O.B.C. 9.30.6
 Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.
 Do not scale - refer to architectural plans for dimensions.

JT/PL: 45147/(116409) 117690
 LI: 343072*

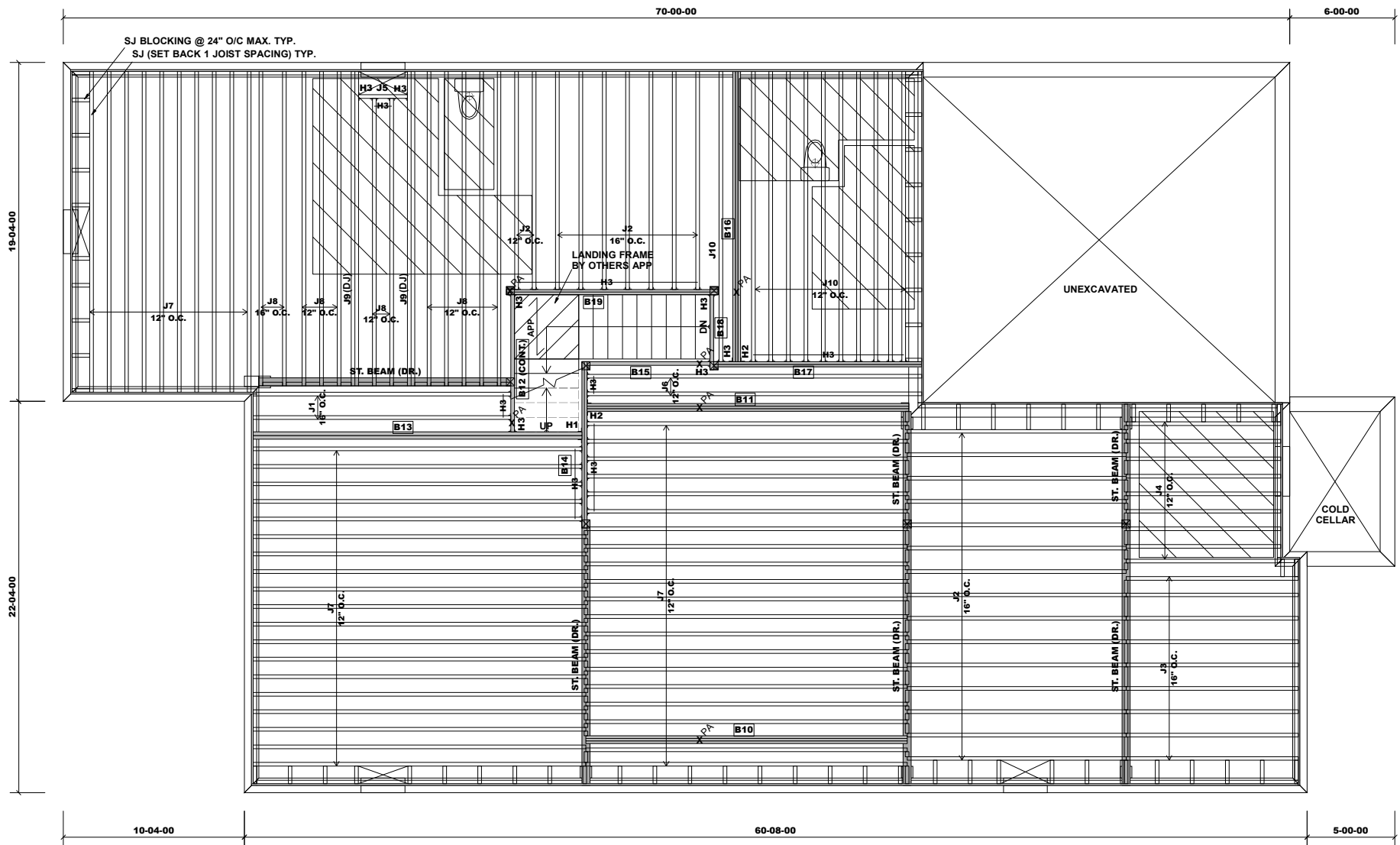
Builder: Gold Park Homes
 Project: Pine Valley Ph2

Location: Vaughan, ON
 Date: Mar. 29, 2022

Designer: TL
 Sheet: 2 of 9

Alpa Roof Trusses Inc.
 Stouffville, Ontario

Salesperson: Derek F.
 Home Lumber Inc.





Products				
PlotID	Length	Product	Plies	Net Qty
B10	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B11	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B12 (CONT.)	8-00-00	11 7/8" NI-20	1	1
B13	19-00-00	11 7/8" NI-40x	2	2
B14	10-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B15	8-00-00	11 7/8" NI-20	1	1
B16	17-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B17	12-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B18	5-00-00	11 7/8" NI-20	1	1
B19	13-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
J1	15-00-00	11 7/8" NI-20	1	2
J2	13-00-00	11 7/8" NI-20	1	24
J3	10-00-00	11 7/8" NI-20	1	9
J4	9-00-00	11 7/8" NI-20	1	9
J5	3-00-00	11 7/8" NI-20	1	1
J6	20-00-00	11 7/8" NI-40x	1	2
J7	19-00-00	11 7/8" NI-40x	1	49
J8	18-00-00	11 7/8" NI-40x	1	12
J9	18-00-00	11 7/8" NI-40x	2	4
J10	17-00-00	11 7/8" NI-40x	1	11
Ca1	222-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	118-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	2		HGUS5.50/10
H3	43		LT251188

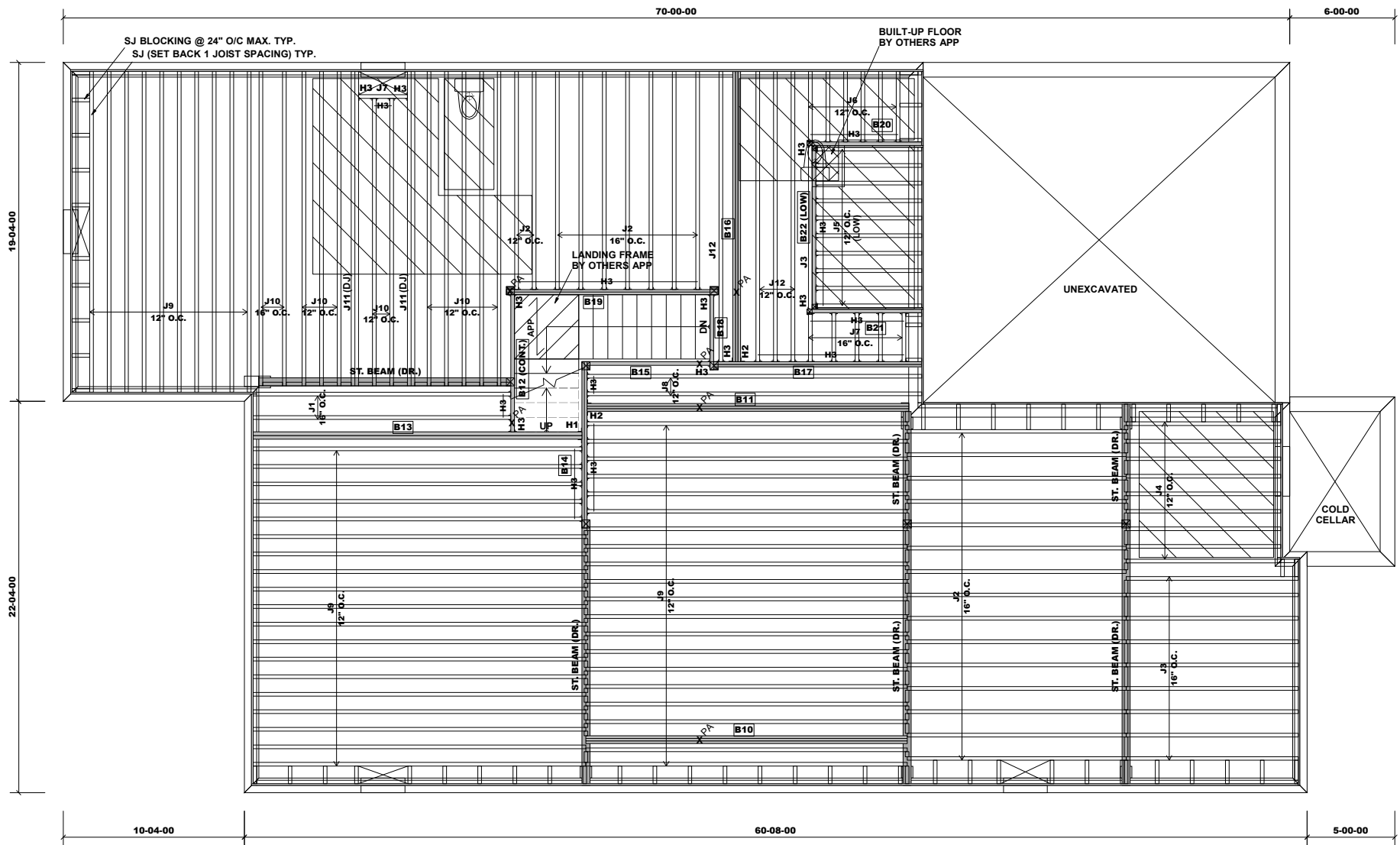
GROUND FLOOR FRAMING
 UNIT 5010 - THE OAKWOOD
 ELEVATION B

FLOOR LOADING
 LIVE LOAD : 40 PSF
 DEAD LOAD : 15 PSF
 DEAD LOAD (TILE): 20 PSF

HATCH LEGEND
 Ceramic Tile
 Conv Framed

APP - AS PER PLAN
 BBO - BEAM BY OTHERS
 PA - POST ABOVE
 O.T.B - OPEN TO BELOW
 GT - GIRDER TRUSS
 RT - ROOF TRUSS
 RIMBOARD
 1-1/8" X 11-7/8" O.S.B
 SUBFLOOR: 3/4" NAILED & GLUED*

Blocking panels are required over all interior supports.
 Squash blocks are required under concentrated loads.
 Ceramic Tile Application as per O.B.C. 9.30.6
 Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.
 Do not scale - refer to architectural plans for dimensions.





Products				
PlotID	Length	Product	Plies	Net Qty
B10	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B11	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B12 (CONT.)	8-00-00	11 7/8" NI-20	1	1
B13	19-00-00	11 7/8" NI-40x	2	2
B14	10-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B15	8-00-00	11 7/8" NI-20	1	1
B16	17-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B17	12-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B18	5-00-00	11 7/8" NI-20	1	1
B19	13-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B20	7-00-00	11 7/8" NI-20	1	1
B21	7-00-00	11 7/8" NI-20	1	1
B22 (LOW)	10-00-00	11 7/8" NI-20	1	1
J1	15-00-00	11 7/8" NI-20	1	2
J2	13-00-00	11 7/8" NI-20	1	24
J3	10-00-00	11 7/8" NI-20	1	10
J4	9-00-00	11 7/8" NI-20	1	9
J5	7-00-00	11 7/8" NI-20	1	10
J6	5-00-00	11 7/8" NI-20	1	6
J7	3-00-00	11 7/8" NI-20	1	6
J8	20-00-00	11 7/8" NI-40x	1	2
J9	19-00-00	11 7/8" NI-40x	1	49
J10	18-00-00	11 7/8" NI-40x	1	12
J11	18-00-00	11 7/8" NI-40x	2	4
J12	17-00-00	11 7/8" NI-40x	1	4
Ca1	234-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	116-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	2		HGUS5.50/10
H3	64		LT251188

GROUND FLOOR FRAMING
 UNIT 5010 - THE OAKWOOD
 ELEVATION B
 W/ SUNKEN MUDROOM

FLOOR LOADING
 LIVE LOAD : 40 PSF
 DEAD LOAD : 15 PSF
 DEAD LOAD (TILE): 20 PSF

HATCH LEGEND
 Ceramic Tile
 Conv Framed

APP - AS PER PLAN
 BBO - BEAM BY OTHERS
 PA - POST ABOVE
 O.T.B - OPEN TO BELOW
 GT - GIRDER TRUSS
 RT - ROOF TRUSS
 RIMBOARD
 1-1/8" X 11-7/8" O.S.B
 SUBFLOOR: 3/4" NAILED & GLUED*

Blocking panels are required over all interior supports.
 Squash blocks are required under concentrated loads.
 Ceramic Tile Application as per O.B.C. 9.30.6
 Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.
 Do not scale - refer to architectural plans for dimensions.

JT/PL: 45147/(116409) 117690
 LI: 343072*

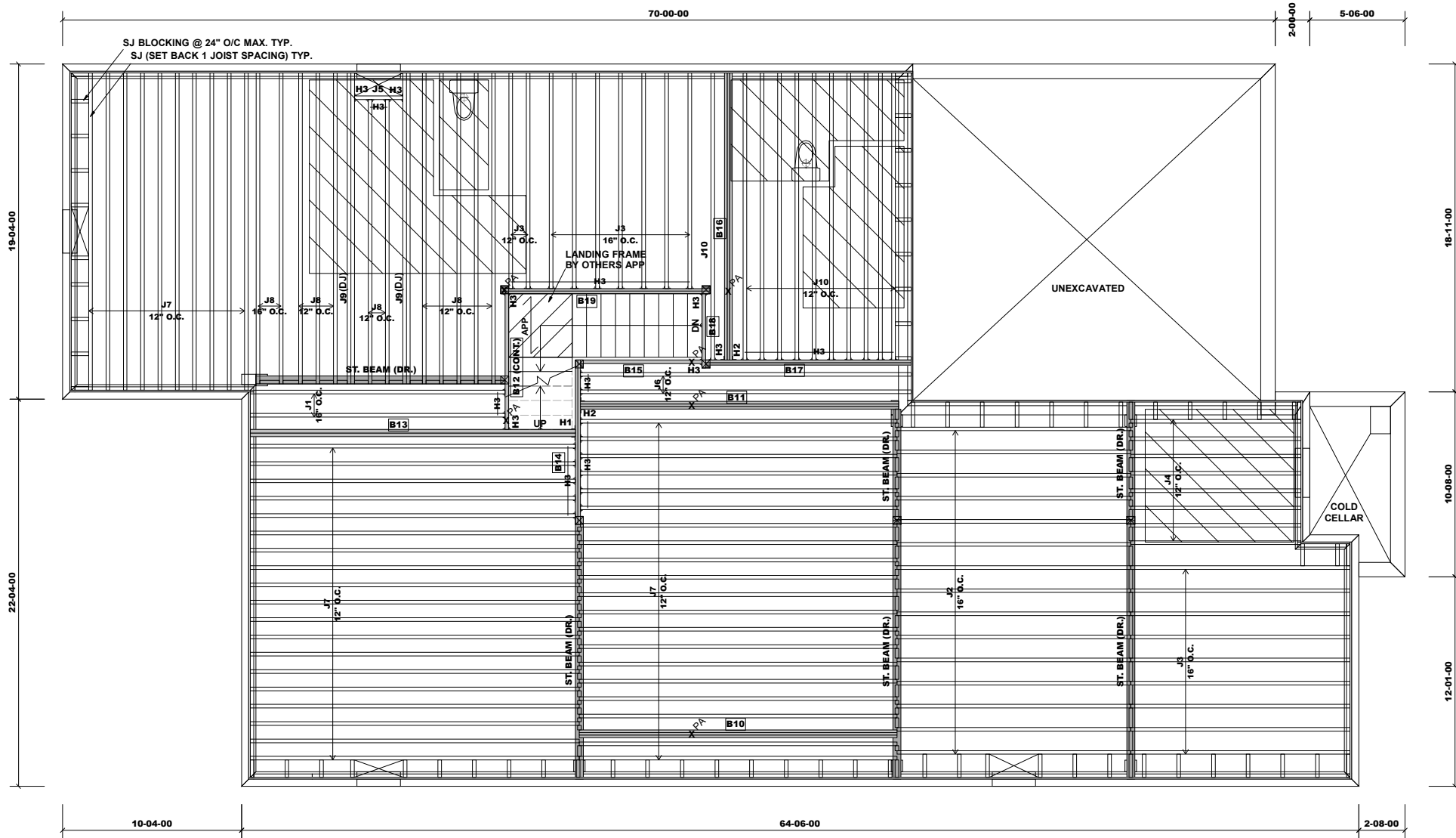
Builder: Gold Park Homes
 Project: Pine Valley Ph2

Location: Vaughan, ON
 Date: Mar. 29, 2022

Designer: TL
 Sheet: 4 of 9

Alpa Roof Trusses Inc.
 Stouffville, Ontario

Salesperson: Derek F.
 Home Lumber Inc.





Products					
PlotID	Length	Product	Plies	Net Qty	
B10	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3	
B11	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3	
B12 (CONT.)	8-00-00	11 7/8" NI-20	1	1	
B13	19-00-00	11 7/8" NI-40x	2	2	
B14	10-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2	
B15	8-00-00	11 7/8" NI-20	1	1	
B16	17-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3	
B17	12-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2	
B18	5-00-00	11 7/8" NI-20	1	1	
B19	13-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2	
J1	15-00-00	11 7/8" NI-20	1	2	
J2	14-00-00	11 7/8" NI-20	1	15	
J3	13-00-00	11 7/8" NI-20	1	18	
J4	10-00-00	11 7/8" NI-20	1	8	
J5	3-00-00	11 7/8" NI-20	1	1	
J6	20-00-00	11 7/8" NI-40x	1	2	
J7	19-00-00	11 7/8" NI-40x	1	49	
J8	18-00-00	11 7/8" NI-40x	1	12	
J9	18-00-00	11 7/8" NI-40x	2	4	
J10	17-00-00	11 7/8" NI-40x	1	11	
Ca1	230-00-00	1 1/8" x 11 7/8" Rim Board	1	1	
Bk1	125-00-00	11 7/8" NI-20	1	1	

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	2		HGUS5.50/10
H3	43		LT251188

GROUND FLOOR FRAMING
 UNIT 5010 - THE OAKWOOD
 ELEVATION C

FLOOR LOADING
 LIVE LOAD : 40 PSF
 DEAD LOAD : 15 PSF
 DEAD LOAD (TILE): 20 PSF

HATCH LEGEND
 Ceramic Tile
 Conv Framed

APP - AS PER PLAN
 BBO - BEAM BY OTHERS
 PA - POST ABOVE
 O.T.B - OPEN TO BELOW
 GT - GIRDER TRUSS
 RT - ROOF TRUSS
 RIMBOARD
 1-1/8" X 11-7/8" O.S.B
 SUBFLOOR: 3/4" NAILED & GLUED*

Blocking panels are required over all interior supports.
 Squash blocks are required under concentrated loads.
 Ceramic Tile Application as per O.B.C. 9.30.6
 Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.
 Do not scale - refer to architectural plans for dimensions.

JT/PL: 45147/(116409) 117690
 LI: 343072*

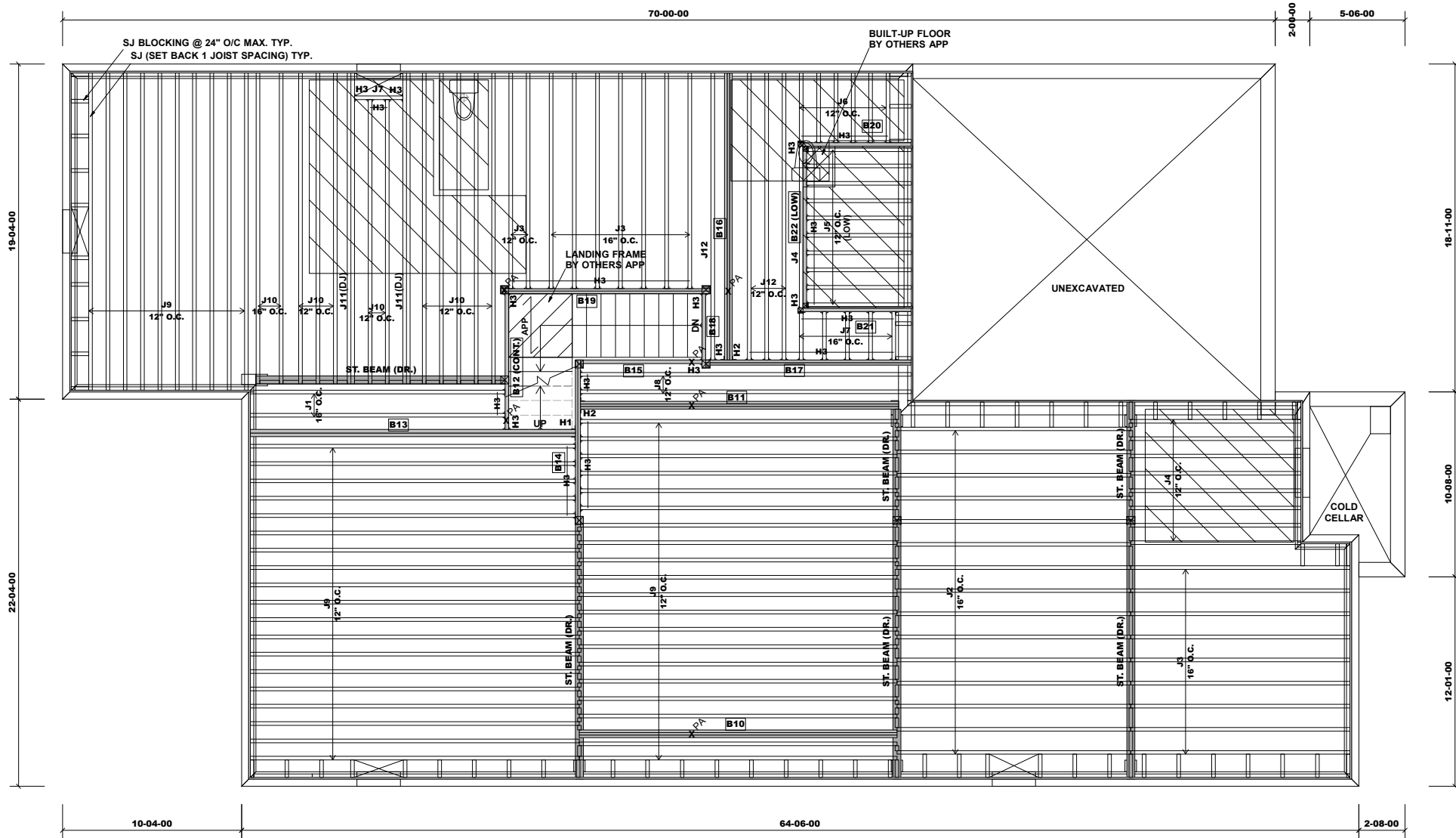
Builder: Gold Park Homes
 Project: Pine Valley Ph2

Location: Vaughan, ON
 Date: Mar. 29, 2022

Designer: TL
 Sheet: 5 of 9

Alpa Roof Trusses Inc.
 Stouffville, Ontario

Salesperson: Derek F.
 Home Lumber Inc.





Products				
PlotID	Length	Product	Plies	Net Qty
B10	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B11	19-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B12 (CONT.)	8-00-00	11 7/8" NI-20	1	1
B13	19-00-00	11 7/8" NI-40x	2	2
B14	10-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B15	8-00-00	11 7/8" NI-20	1	1
B16	17-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B17	12-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B18	5-00-00	11 7/8" NI-20	1	1
B19	13-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B20	7-00-00	11 7/8" NI-20	1	1
B21	7-00-00	11 7/8" NI-20	1	1
B22 (LOW)	10-00-00	11 7/8" NI-20	1	1
J1	15-00-00	11 7/8" NI-20	1	2
J2	14-00-00	11 7/8" NI-20	1	15
J3	13-00-00	11 7/8" NI-20	1	18
J4	10-00-00	11 7/8" NI-20	1	9
J5	7-00-00	11 7/8" NI-20	1	10
J6	5-00-00	11 7/8" NI-20	1	6
J7	3-00-00	11 7/8" NI-20	1	6
J8	20-00-00	11 7/8" NI-40x	1	2
J9	19-00-00	11 7/8" NI-40x	1	49
J10	18-00-00	11 7/8" NI-40x	1	12
J11	18-00-00	11 7/8" NI-40x	2	4
J12	17-00-00	11 7/8" NI-40x	1	4
Ca1	242-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	122-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	2		HGUS5.50/10
H3	64		LT251188

GROUND FLOOR FRAMING
 UNIT 5010 - THE OAKWOOD
 ELEVATION C
 W/ SUNKEN MUDROOM

FLOOR LOADING
 LIVE LOAD : 40 PSF
 DEAD LOAD : 15 PSF
 DEAD LOAD (TILE): 20 PSF

HATCH LEGEND
 Ceramic Tile
 Conv Framed

APP - AS PER PLAN
 BBO - BEAM BY OTHERS
 PA - POST ABOVE
 O.T.B - OPEN TO BELOW
 GT - GIRDER TRUSS
 RT - ROOF TRUSS
 RIMBOARD
 1-1/8" X 11-7/8" O.S.B
 SUBFLOOR: 3/4" NAILED & GLUED*

Blocking panels are required over all interior supports.
 Squash blocks are required under concentrated loads.
 Ceramic Tile Application as per O.B.C. 9.30.6
 Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.
 Do not scale - refer to architectural plans for dimensions.

JT/PL: 45147/(116409) 117690
 LI: 343072*

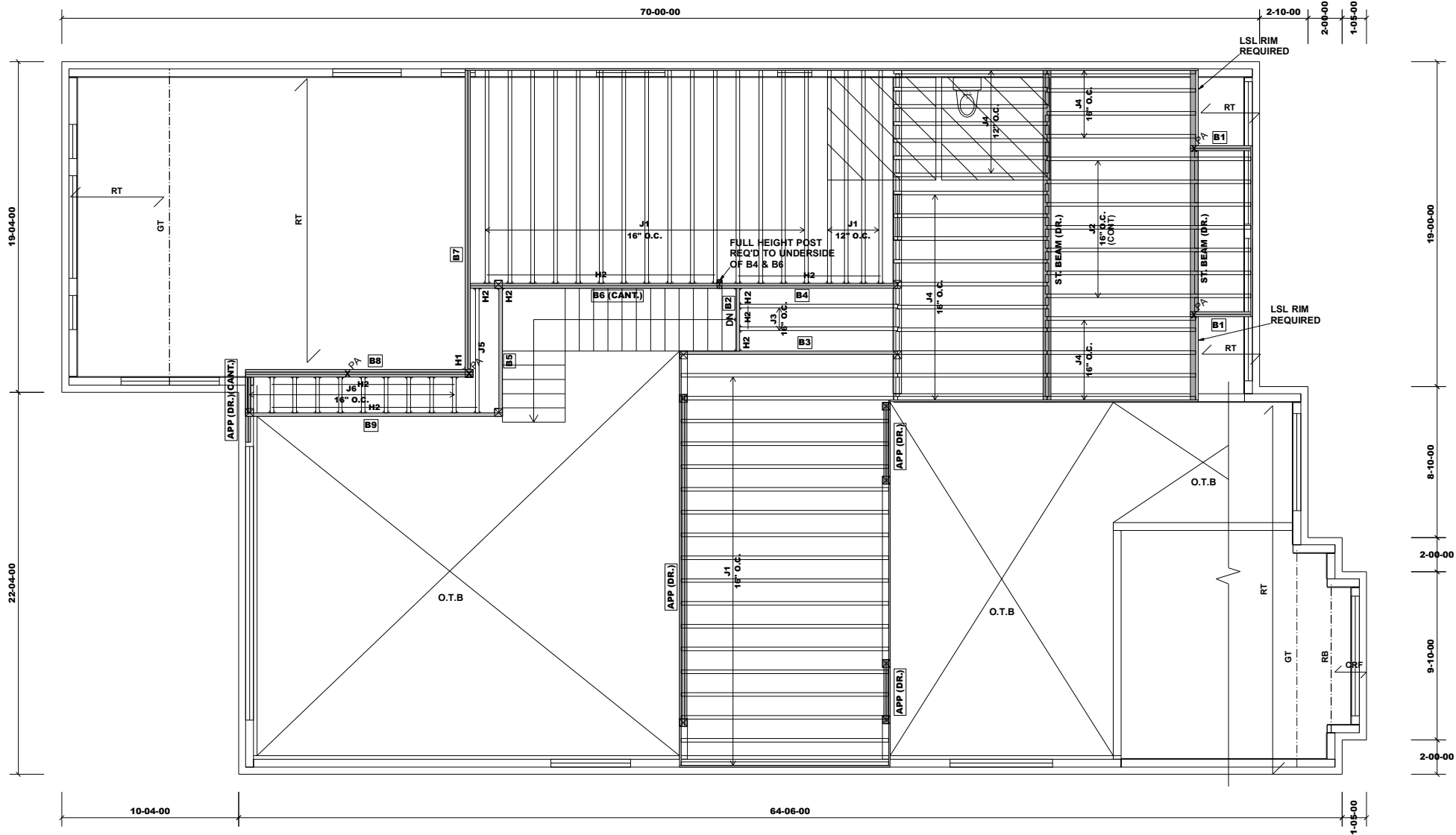
Builder: Gold Park Homes
 Project: Pine Valley Ph2

Location: Vaughan, ON
 Date: Mar. 29, 2022

Designer: TL
 Sheet: 6 of 9

Alpa Roof Trusses Inc.
 Stouffville, Ontario

Salesperson: Derek F.
 Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	4-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	4
B2	4-00-00	11 7/8" NI-20	1	1
B3	13-00-00	11 7/8" NI-20	1	1
B4	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B5	8-00-00	11 7/8" NI-20	1	1
B6 (CANT.)	15-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B7	18-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B8	14-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B9	15-00-00	11 7/8" NI-20	1	1
J1	13-00-00	11 7/8" NI-20	1	37
J2	12-00-00	11 7/8" NI-20	1	7
J3	10-00-00	11 7/8" NI-20	1	2
J4	9-00-00	11 7/8" NI-20	1	26
J5	8-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	10
Ca1	130-07-14	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	10-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	37-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	44		LT251188

SECOND FLOOR FRAMING
UNIT 5010 - THE OAKWOOD
ELEVATION A

FLOOR LOADING
 LIVE LOAD : 40 PSF
 DEAD LOAD : 15 PSF
 DEAD LOAD (TILE): 20 PSF

HATCH LEGEND	
	Ceramic Tile
	Conv Framed

APP - AS PER PLAN
 BBO - BEAM BY OTHERS
 PA - POST ABOVE
 O.T.B. - OPEN TO BELOW
 GT - GIRDER TRUSS
 RT - ROOF TRUSS
 RIMBOARD
 1-1/8" X 11-7/8" O.S.B
 SUBFLOOR: 3/4" NAILED & GLUED*

Blocking panels are required over all interior supports.
 Squash blocks are required under concentrated loads.
 Ceramic Tile Application as per O.B.C. 9.30.6
 Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.
 Do not scale - refer to architectural plans for dimensions.

JT/PL: 45147/(116409) 117690
 LI: 343072*

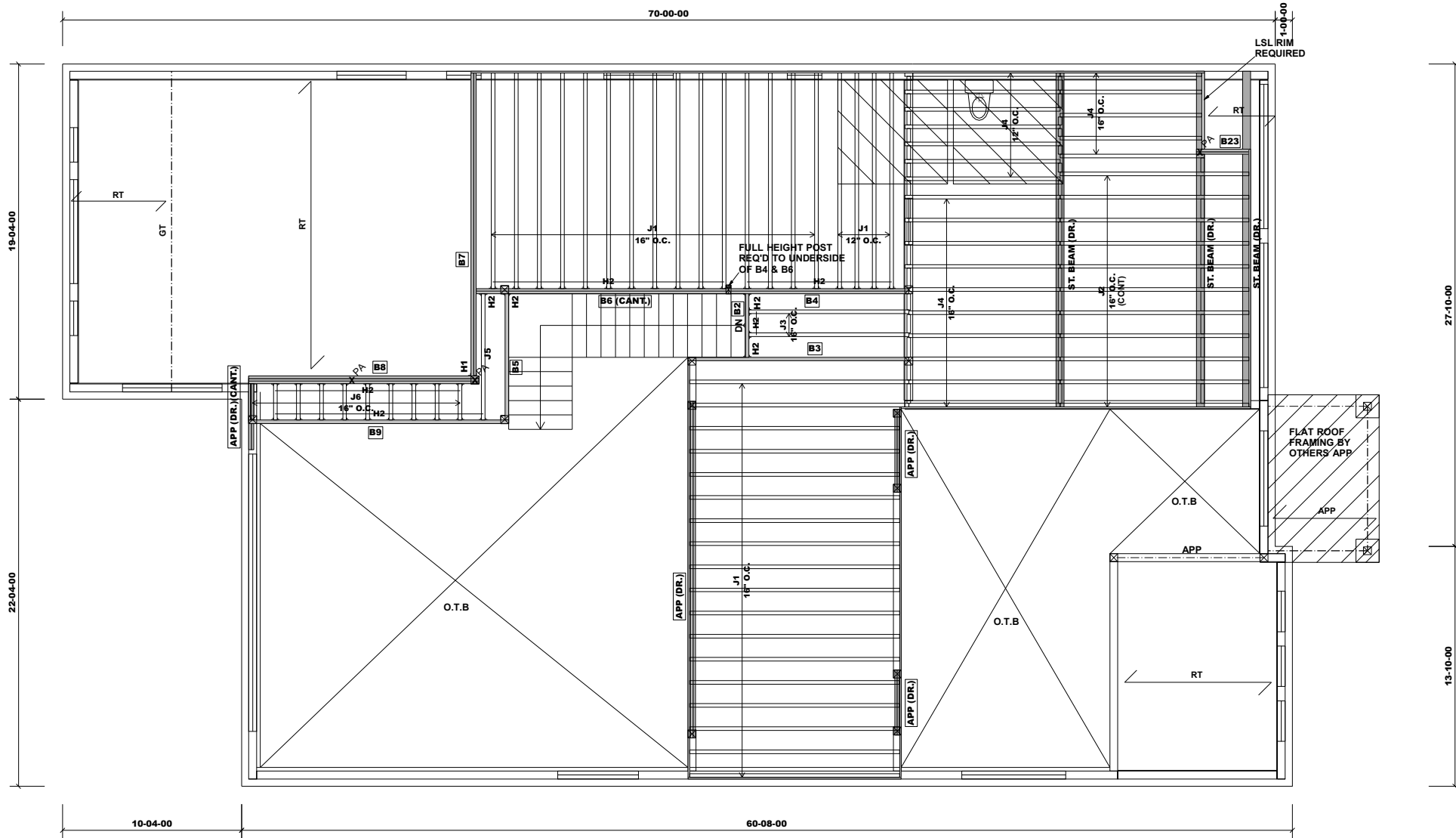
Builder: Gold Park Homes
 Project: Pine Valley Ph2

Location: Vaughan, ON
 Date: Mar. 29, 2022

Designer: TL
 Sheet: 7 of 9

Alpa Roof Trusses Inc.
 Stouffville, Ontario

Salesperson: Derek F.
 Home Lumber Inc.





Products				
PlotID	Length	Product	Plies	Net Qty
B2	4-00-00	11 7/8" NI-20	1	1
B3	13-00-00	11 7/8" NI-20	1	1
B4	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B5	8-00-00	11 7/8" NI-20	1	1
B6 (CANT.)	15-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B7	18-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B8	14-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B9	15-00-00	11 7/8" NI-20	1	1
B23	4-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
J1	13-00-00	11 7/8" NI-20	1	37
J2	11-00-00	11 7/8" NI-20	1	11
J3	10-00-00	11 7/8" NI-20	1	2
J4	9-00-00	11 7/8" NI-20	1	22
J5	8-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	10
Ca1	138-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	5-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	43-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	44		LT251188

SECOND FLOOR FRAMING
 UNIT 5010 - THE OAKWOOD
 ELEVATION B

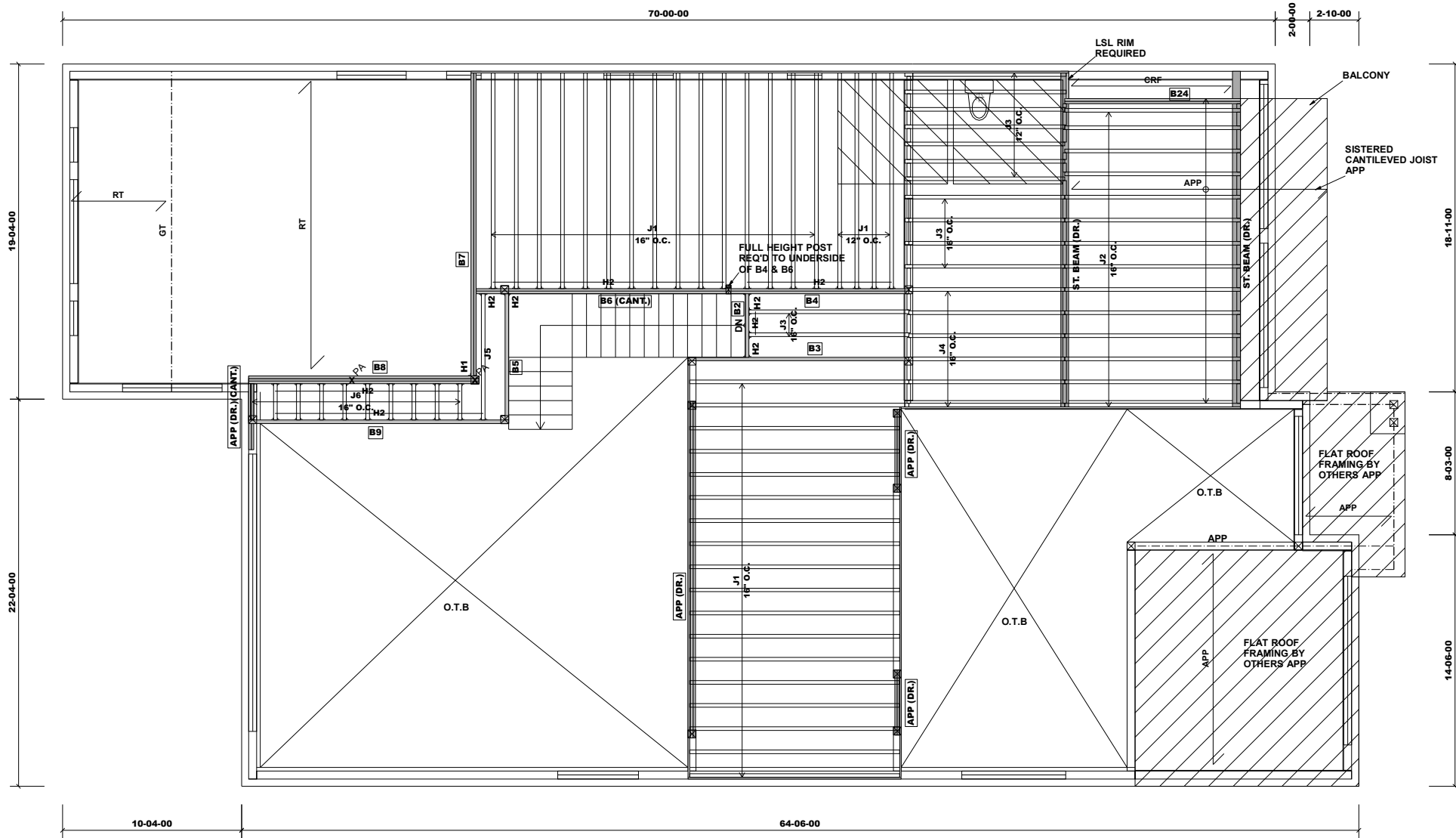
REVISION 1 - JUN. 02. 2022

FLOOR LOADING
 LIVE LOAD : 40 PSF
 DEAD LOAD : 15 PSF
 DEAD LOAD (TILE): 20 PSF

HATCH LEGEND
 Ceramic Tile
 Conv Framed

APP - AS PER PLAN
 BBO - BEAM BY OTHERS
 PA - POST ABOVE
 O.T.B - OPEN TO BELOW
 GT - GIRDER TRUSS
 RT - ROOF TRUSS
 RIMBOARD
 1-1/8" X 11-7/8" O.S.B
 SUBFLOOR: 3/4" NAILED & GLUED*

Blocking panels are required over all interior supports.
 Squash blocks are required under concentrated loads.
 Ceramic Tile Application as per O.B.C. 9.30.6
 Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.
 Do not scale - refer to architectural plans for dimensions.





Products				
PlotID	Length	Product	Plies	Net Qty
B2	4-00-00	11 7/8" NI-20	1	1
B3	13-00-00	11 7/8" NI-20	1	1
B4	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B5	8-00-00	11 7/8" NI-20	1	1
B6 (CANT.)	15-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B7	18-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B8	14-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B9	15-00-00	11 7/8" NI-20	1	1
B24	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
J1	13-00-00	11 7/8" NI-20	1	37
J2	11-00-00	11 7/8" NI-20	1	14
J3	10-00-00	11 7/8" NI-20	1	13
J4	9-00-00	11 7/8" NI-20	1	6
J5	8-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	10
Ca1	114-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	2-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	44-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	44		LT251188

SECOND FLOOR FRAMING
 UNIT 5010 - THE OAKWOOD
 ELEVATION C

REVISION 1 - JUN. 02. 2022

FLOOR LOADING
 LIVE LOAD : 40 PSF
 DEAD LOAD : 15 PSF
 DEAD LOAD (TILE): 20 PSF

HATCH LEGEND
 Ceramic Tile
 Conv Framed

APP - AS PER PLAN
 BBO - BEAM BY OTHERS
 PA - POST ABOVE
 O.T.B - OPEN TO BELOW
 GT - GIRDER TRUSS
 RT - ROOF TRUSS
 RIMBOARD
 1-1/8" X 11-7/8" O.S.B
 SUBFLOOR: 3/4" NAILED & GLUED*

Blocking panels are required over all interior supports.
 Squash blocks are required under concentrated loads.
 Ceramic Tile Application as per O.B.C. 9.30.6
 Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.
 Do not scale - refer to architectural plans for dimensions.



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Second Floor**
 Label: **B1 - i38042**
 Type: **Beam**

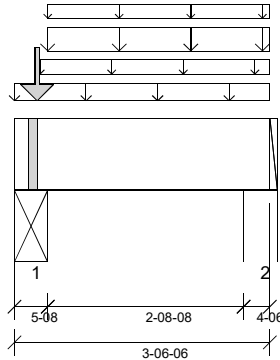
2 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:46



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 2'- 8 1/2"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'- 4 1/2"
- 615 psi Wall @ 3'- 3"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 10 3/8"	1.25D + 1.5L + S	0.86	400 lb ft	22892 lb ft	Passed - 2%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5S + L	1.00	209 lb	14359 lb	Passed - 1%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5S + L	1.00	2198 lb		25130 lb	14747 lb	Passed - 15%
2	4-06	1.25D + 1.5L + S	0.86	728 lb		17313 lb	8128 lb	Passed - 9%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 6 3/8"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'	3'- 6 3/8"	E21(i33270)	Top	101 lb/ft	-	-	-
Uniform	0'- 4 1/4"	3'- 6 3/8"	FC2 Floor Decking (Plan View Fill)	Top	5 lb/ft	12 lb/ft	-	-
Uniform	0'- 5 1/2"	3'- 6 3/8"	E21(i33270)	Top	91 lb/ft	-	142 lb/ft	-
Uniform	0'- 5 1/2"	3'- 6 3/8"	FC2 Floor Decking (Plan View Fill)	Top	-	6 lb/ft	-	-
Point	0'- 3 3/4"	0'- 3 3/4"	E21(i33270)	Top	400 lb	-	620 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	ST. BEAM (DR.)(i33346)	744 lb	26 lb	816 lb	-
2	3'- 2"	3'- 6 3/8"	E5(i33262)	361 lb	33 lb	240 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 4" O/C, STAGGERED IN 2 ROWS



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Second Floor**
 Label: **B2 - i38011**
 Type: **Beam**

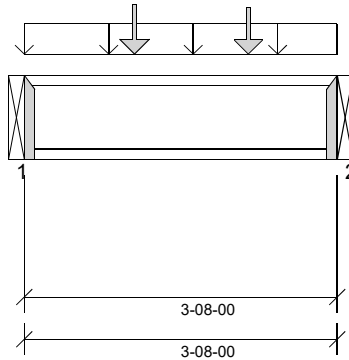
1 Ply Member
11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:46



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 2 1/4"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'
- 769 psi Beam @ 3'- 8"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 8 5/8"	1.25D + 1.5L	1.00	1245 lb ft	5580 lb ft	Passed - 22%
Factored Shear:	3'- 7 15/16"	1.25D + 1.5L	1.00	1243 lb	2240 lb	Passed - 55%
Live Load (LL) Pos. Defl.:	1'- 10"	L		0.016"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	1'- 10"	D + L		0.022"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-12	1.25D + 1.5L	1.00	1192 lb		1970 lb	-	Passed - 61%
2	1-12	1.25D + 1.5L	1.00	1245 lb		1970 lb	-	Passed - 63%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	LT251188		-	-	-	Connector manually specified by the user.
2	LT251188		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 8"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'	3'- 8"	User Load	Top	75 lb/ft	200 lb/ft	-	-
Point	1'- 3 1/2"	1'- 3 1/2"	J3(i38052)	Front	97 lb	259 lb	-	-
Point	2'- 7 1/2"	2'- 7 1/2"	J3(i38066)	Front	90 lb	239 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B3(i37978)	231 lb	602 lb	-	-
2	3'- 8"	3'- 8"	B4(i38064)	241 lb	629 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

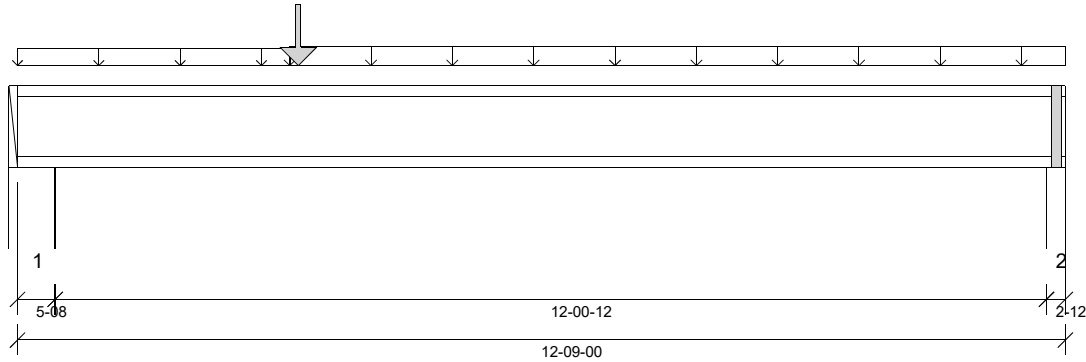
Job Name: **343072 Ground A + Second A (1,**
 Level: **Second Floor**
 Label: **B3 - i37978**
 Type: **Beam**

1 Ply Member

11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 03/29/2022 14:47



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 9'

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 12'- 7 1/4"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 11 11/16"	1.25D + 1.5L	1.00	4118 lb ft	5580 lb ft	Passed - 74%
Factored Shear:	0'- 5 9/16"	1.25D + 1.5L	1.00	1435 lb	2240 lb	Passed - 64%
Live Load (LL) Pos. Defl.:	6'- 1 3/4"	L		0.241"	L/360	Passed - L/600
Total Load (TL) Pos. Defl.:	6'- 1 13/16"	D + L		0.339"	L/240	Passed - L/427

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	1.00	1463 lb		2240 lb	8459 lb	Passed - 65%
2	2-12	1.25D + 1.5L	1.00	971 lb		2090 lb	4229 lb	Passed - 46%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 9"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	-0'	3'- 3 3/4"	FC2 Floor Decking (Plan View Fill)	Top	11 lb/ft	29 lb/ft	-	-
Uniform	3'- 3 3/4"	12'- 9"	FC2 Floor Decking (Plan View Fill)	Top	20 lb/ft	54 lb/ft	-	-
Point	3'- 5"	3'- 5"	B2(i38011)	Back	231 lb	602 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	4(i33326)	298 lb	734 lb	-	-
2	12'- 6 1/4"	12'- 9"	2(i33265)	198 lb	476 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Second Floor**
 Label: **B4 - i38064**
 Type: **Beam**

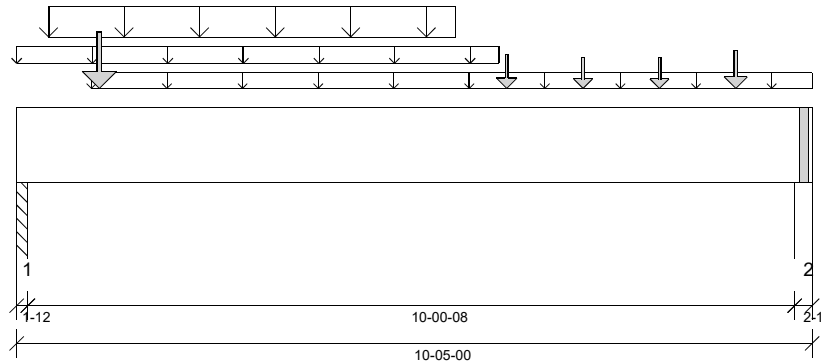
2 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:47



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 3/4"
- 615 psi Wall @ 10'- 3 1/4"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 1"	1.25D + 1.5L	1.00	8714 lb ft	26531 lb ft	Passed - 33%
Factored Shear:	1'- 1 5/8"	1.25D + 1.5L	1.00	3971 lb	14414 lb	Passed - 28%
Live Load (LL) Pos. Defl.:	5'- 1 5/16"	L		0.102"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 1 3/16"	D + L		0.158"	L/240	Passed - L/760

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1'-12	1.25D + 1.5L	1.00	4096 lb		8026 lb	8173 lb	Passed - 51%
2	2'-12	1.25D + 1.5L	1.00	3149 lb		12613 lb	5921 lb	Passed - 53%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 5"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'	6'- 3 3/4"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'- 5"	5'- 9"	Smoothed Load	Back	94 lb/ft	249 lb/ft	-	-
Uniform	0'- 11 3/4"	10'- 5"	FC2 Floor Decking (Plan View Fill)	Top	9 lb/ft	24 lb/ft	-	-
Point	1'- 1"	1'- 1"	B2(i38011)	Front	241 lb	629 lb	-	-
Point	6'- 5"	6'- 5"	J1(i38030)	Back	113 lb	291 lb	-	-
Point	7'- 5"	7'- 5"	J1(i38057)	Back	101 lb	249 lb	-	-
Point	8'- 5"	8'- 5"	J1(i38001)	Back	101 lb	249 lb	-	-
Point	9'- 5"	9'- 5"	J1(i37999)	Back	143 lb	353 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 3/4"	Pt1(i39435)	1039 lb	1861 lb	-	-
2	10'- 2 1/4"	10'- 5"	2(i33265)	761 lb	1469 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 10" O/C, STAGGERED IN 2 ROWS

SE047294



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Second Floor**
 Label: **B5 - i37772**
 Type: **Beam**

1 Ply Member

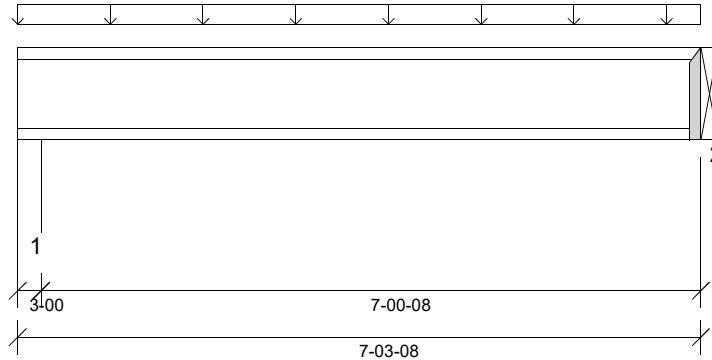
11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:47



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 7'- 3 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2"
- 769 psi Beam @ 7'- 3 1/2"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 8 13/16"	1.25D + 1.5L	1.00	388 lb ft	5580 lb ft	Passed - 7%
Factored Shear:	7'- 3 7/16"	1.25D + 1.5L	1.00	218 lb	2240 lb	Passed - 10%
Live Load (LL) Pos. Defl.:	3'- 8 3/4"	L		0.010"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 8 3/4"	D + L		0.014"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-00	1.25D + 1.5L	1.00	241 lb		2120 lb	4614 lb	Passed - 11%
2	1-12	1.25D + 1.5L	1.00	218 lb		1970 lb	-	Passed - 11%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	LT251188		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 3 1/2"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'	7'- 3 1/2"	FC2 Floor Decking (Plan View Fill)	Top	11 lb/ft	29 lb/ft	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3"	7(i33337)	54 lb	116 lb	-	-
2	7'- 3 1/2"	7'- 3 1/2"	B6 (CANT.)(i37943)	49 lb	104 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



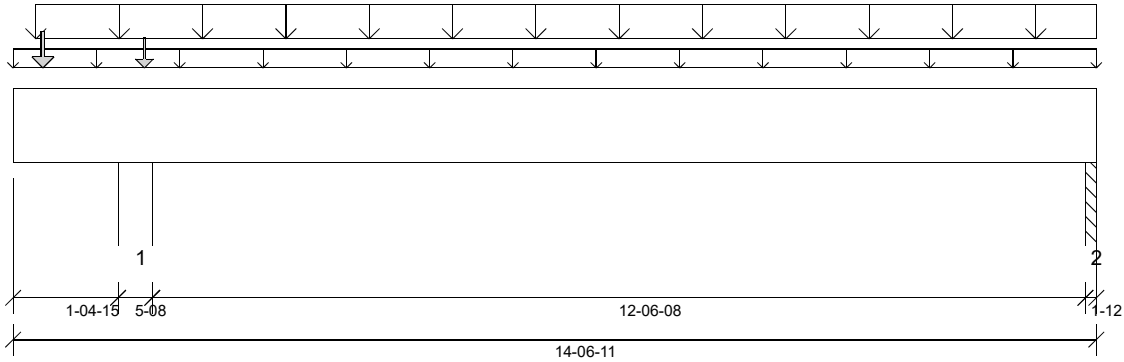
Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Second Floor**
 Label: **B6 (CANT.) - i37943**
 Type: **Beam**

2 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 03/29/2022 14:47



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 1'- 7 11/16"
- 1334 psi Column @ 14'- 5 15/16"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	7'- 7 11/16"	1.25D + 1.5L	1.00	12114 lb ft	26531 lb ft	Passed - 46%
Factored Neg. Moment:	1'- 7 11/16"	1.25D + 1.5L	0.65	960 lb ft	17045 lb ft	Passed - 6%
Factored Shear:	13'- 5 1/16"	1.25D + 1.5L	1.00	3927 lb	14414 lb	Passed - 27%
Live Load (LL) Pos. Defl.:	8'- 3/4"	L		0.214"	L/360	Passed - L/704
Total Load (TL) Pos. Defl.:	8'- 15/16"	D + L		0.348"	L/240	Passed - L/432

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	1.00	5223 lb		25225 lb	11843 lb	Passed - 44%
2	1-12	1.25D + 1.5L	1.00	4030 lb		8026 lb	8173 lb	Passed - 50%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	14'- 6 11/16"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'	14'- 6 11/16"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'- 3 11/16"	14'- 6 11/16"	Smoothed Load	Back	98 lb/ft	261 lb/ft	-	-
Point	0'- 4 13/16"	0'- 4 13/16"	J5(i37730)	Front	62 lb	165 lb	-	-
Point	1'- 9 3/16"	1'- 9 3/16"	B5(i37772)	Front	49 lb	104 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	1'- 4 15/16"	1'- 10 7/16"	6(i33336)	1452 lb	2261 lb	-	-
2	14'- 4 15/16"	14'- 6 11/16"	Pt1(i39435)	1116 lb	1769-33 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- The deflection at the cantilever for either live and/or total loads is less than 3/8" and therefore has been excluded from the deflection ratio considerations.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 10" O/C, STAGGERED IN 2 ROWS



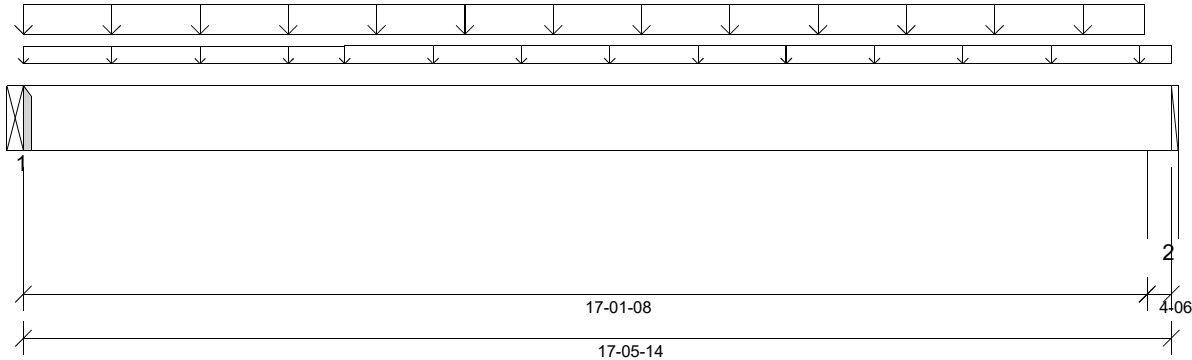
Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Second Floor**
 Label: **B7 - i38069**
 Type: **Beam**

2 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 03/29/2022 14:47



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:
 Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 17'- 1 1/2"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'
- 615 psi Wall @ 17'- 2 1/2"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 7 13/16"	1.25D + 1.5L + S	0.78	12522 lb ft	20735 lb ft	Passed - 60%
Factored Shear:	16'- 1 5/8"	1.25D + 1.5L + S	0.78	2560 lb	11265 lb	Passed - 23%
Live Load (LL) Pos. Defl.:	8'- 7 3/8"	S + 0.5L		0.254"	L/360	Passed - L/808
Total Load (TL) Pos. Defl.:	8'- 7 5/16"	D + S + 0.5L		0.726"	L/240	Passed - L/282
Permanent Deflection:	8'- 7 5/16"			-	L/360	Passed - L/448

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L + S	0.78	2848 lb		5377 lb	-	Passed - 53%
2	4-06	1.25D + 1.5L + S	0.78	2916 lb		15682 lb	7362 lb	Passed - 40%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	HGUS410		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	17'- 5 7/8"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	-0'	17'- 1"	E18(i33274)	Top	154 lb/ft	-	83 lb/ft	-
Uniform	0'	4'- 10 3/4"	FC2 Floor Decking (Plan View Fill)	Top	-	14 lb/ft	-	-
Uniform	4'- 10 3/4"	17'- 5 7/8"	FC2 Floor Decking (Plan View Fill)	Top	10 lb/ft	25 lb/ft	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B8(i37846)	1495 lb	171 lb	710 lb	-
2	17'- 1 1/2"	17'- 5 7/8"	E4(i33258)	1512 lb	220 lb	707 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C,
 STAGGERED IN 2 ROWS (TOP LOADED)

SE047297



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Second Floor**
 Label: **B8 - i37846**
 Type: **Beam**

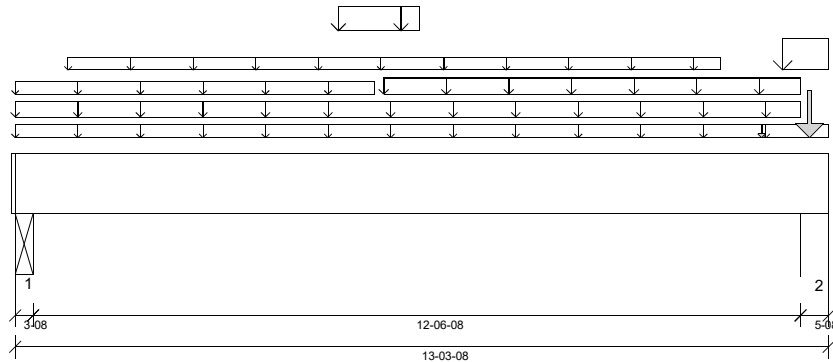
3 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:48



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 1310 psi Beam @ 0'- 2 1/2"
- 615 psi Wall @ 12'- 11"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 5 7/8"	1.25D + 1.5S + L	1.00	27720 lb ft	39797 lb ft	Passed - 70%
Factored Neg. Moment:	12'- 11"	1.25D + 1.5S + L	1.00	388 lb ft	38704 lb ft	Passed - 1%
Factored Shear:	11'- 10 1/8"	1.25D + 1.5S + L	1.00	7173 lb	21621 lb	Passed - 33%
Live Load (LL) Pos. Defl.:	6'- 7 1/2"	S + 0.5L		0.267"	L/360	Passed - L/562
Total Load (TL) Pos. Defl.:	6'- 7 3/8"	D + S + 0.5L		0.504"	L/240	Passed - L/298
Permanent Deflection:	6'- 7 1/4"			-	L/360	Passed - L/655

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5S + L	1.00	7098 lb		24079 lb	24079 lb	Passed - 29%
2	5-08	1.25D + 1.5S + L	1.00	13491 lb		37838 lb	17764 lb	Passed - 76%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	13'- 3 1/2"	Self Weight	Top	19 lb/ft	-	-	-
Uniform	0'	13'- 3 1/2"	E17(i33268)	Top	101 lb/ft	-	-	-
Uniform	0'	12'- 10"	User Load	Top	118 lb/ft	-	185 lb/ft	-
Uniform	0'	5'- 10 1/2"	E17(i33268)	Top	27 lb/ft	-	42 lb/ft	-
Uniform	0'- 10 3/8"	11'- 6 3/8"	Smoothed Load	Front	23 lb/ft	59 lb/ft	-	-
Uniform	5'- 3 3/8"	6'- 7 3/8"	E17(i33268)	Top	471 lb/ft	-	724 lb/ft	-
Uniform	6'- 1/4"	12'- 10"	E17(i33268)	Top	172 lb/ft	-	269 lb/ft	-
Uniform	12'- 6 1/2"	13'- 3 1/2"	E17(i33268)	Top	724 lb/ft	-	1125 lb/ft	-
Point	12'- 2 3/8"	12'- 2 3/8"	J6(i37815)	Front	-	74 lb	-	-
Point	12'- 11 3/4"	12'- 11 3/4"	B7(i38069)	Back	1495 lb	171 lb	710 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	APP (DR.)(CANT.)(i37912)	2485 lb	346 lb	2436 lb	-
2	12'- 10"	13'- 3 1/2"	8(i33344)	4905 lb	549 lb	4537 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=3.500", W=5.250". LDF=1.00, Pf=3270 lb, Q'r=18252 lb, Result=17.91%.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 10" O/C,
 STAGGERED IN 2 ROWS **SE047298**



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

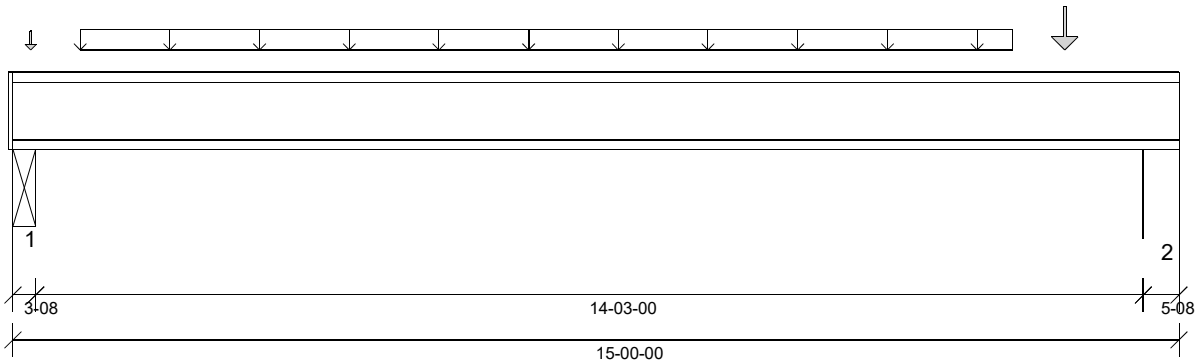
Job Name: **343072 Ground A + Second A (1,**
 Level: **Second Floor**
 Label: **B9 - i37916**
 Type: **Beam**

1 Ply Member

11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 03/29/2022 14:48



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 1310 psi Beam @ 0'- 2 1/2"
- 615 psi Wall @ 14'- 7 1/2"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 2 3/8"	1.25D + 1.5L	1.00	2784 lb ft	5580 lb ft	Passed - 50%
Factored Shear:	14'- 6 7/16"	1.25D + 1.5L	1.00	922 lb	2240 lb	Passed - 41%
Live Load (LL) Pos. Defl.:	7'- 5 3/4"	L		0.226"	L/360	Passed - L/758
Total Load (TL) Pos. Defl.:	7'- 5 11/16"	D + L		0.322"	L/240	Passed - L/531

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	730 lb		2180 lb	11466 lb	Passed - 34%
2	5-08	1.25D + 1.5L	1.00	924 lb		2240 lb	8459 lb	Passed - 41%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	15'	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'- 10 3/8"	12'- 10 3/8"	Smoothed Load	Back	19 lb/ft	50 lb/ft	-	-
Point	13'- 6 3/8"	13'- 6 3/8"	J5(i37730)	Back	72 lb	192 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E31(i33356)	Top	21 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	APP (DR.)(CANT.)(i37912)	171 lb	345 lb	-	-
2	14'- 6 1/2"	15'	7(i33337)	192 lb	456 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



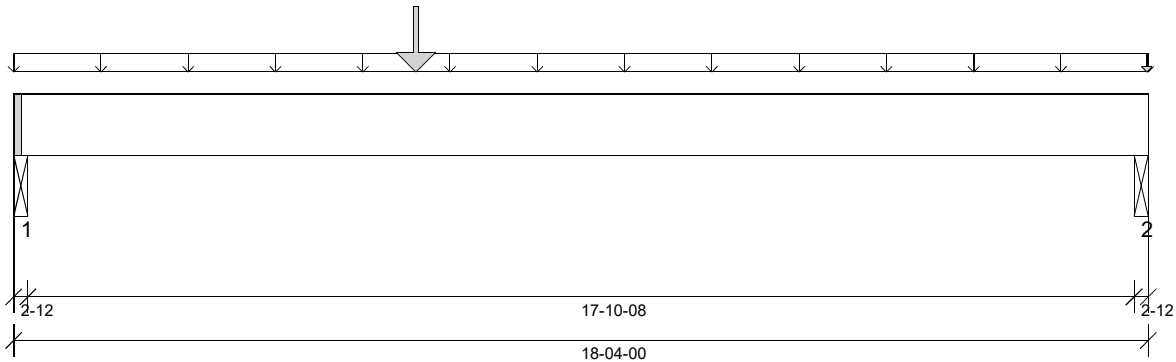
Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Ground Floor**
 Label: **B10 - i39713**
 Type: **Beam**

3 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 03/29/2022 14:48



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 17'- 10 1/2"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'- 1 3/4"
- 769 psi Beam @ 18'- 2 1/4"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 6"	1.25D + 1.5L	1.00	24261 lb ft	39797 lb ft	Passed - 61%
Factored Shear:	1'- 2 5/8"	1.25D + 1.5L	1.00	4002 lb	21621 lb	Passed - 19%
Live Load (LL) Pos. Defl.:	8'- 6 7/16"	L		0.484"	L/360	Passed - L/443
Total Load (TL) Pos. Defl.:	8'- 6 3/4"	D + L		0.750"	L/240	Passed - L/286
Permanent Deflection:	8'- 7 3/8"			-	L/360	Passed - L/832

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2-12	1.25D + 1.5L	1.00	4109 lb		18919 lb	11102 lb	Passed - 37%
2	2-12	1.25D + 1.5L	1.00	2658 lb		18919 lb	11103 lb	Passed - 24%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	18'- 4"	Self Weight	Top	19 lb/ft	-	-	-
Uniform	-0'	18'- 4"	FC1 Floor Decking (Plan View Fill)	Top	12 lb/ft	32 lb/ft	-	-
Point	6'- 6"	6'- 6"	3(i33325)	Top	1161 lb	2436 lb	-	-
Point	18'- 3 3/4"	18'- 3 3/4"	9(i33349)	Top	40 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/4"	ST. BEAM (DR.)(i33302)	1041 lb	1872 lb	-	-
2	18'- 1 1/4"	18'- 4"	ST. BEAM (DR.)(i33303)	738 lb	1157 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS (TOP LOADED)



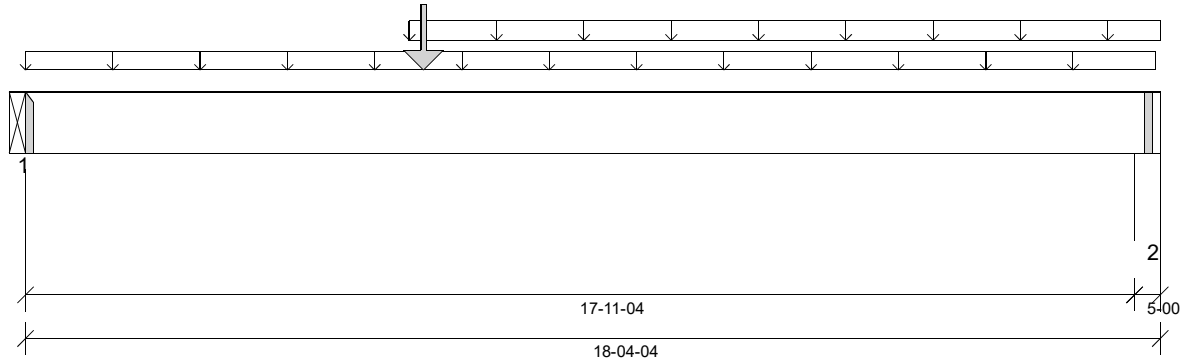
Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Ground Floor**
 Label: **B11 - i39621**
 Type: **Beam**

3 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 03/29/2022 14:49



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 18'- 2"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'
- 615 psi Wall @ 18'- 1/4"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 5 1/4"	1.25D + 1.5L	1.00	27082 lb ft	39797 lb ft	Passed - 68%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	4411 lb	21621 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	8'- 4 13/16"	L		0.504"	L/360	Passed - L/427
Total Load (TL) Pos. Defl.:	8'- 6 5/16"	D + L		0.872"	L/240	Passed - L/246
Permanent Deflection:	8'- 8 7/16"			-	L/360	Passed - L/602

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	4522 lb		10319 lb	-	Passed - 44%
2	5-00	1.25D + 1.5L	1.00	3354 lb		34398 lb	16149 lb	Passed - 21%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	HGUS5.50/10		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	18'- 4 1/4"	Self Weight	Top	19 lb/ft	-	-	-
Uniform	0'	18'- 3 1/4"	FC1 Floor Decking (Plan View Fill)	Top	13 lb/ft	34 lb/ft	-	-
Uniform	6'- 2 1/2"	18'- 4 1/4"	User Load	Top	60 lb/ft	-	-	-
Point	6'- 5 1/4"	6'- 5 1/4"	4(i33326)	Top	1197 lb	2515 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B14(i39754)	1311 lb	1966 lb	-	-
2	17'- 11 1/4"	18'- 4 1/4"	W22(i33245)	1210 lb	1183 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C,
 STAGGERED IN 2 ROWS (TOP LOADED)

SE047301



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Ground Floor**
 Label: **B12 (CONT.) - i39602**
 Type: **Beam**

1 Ply Member

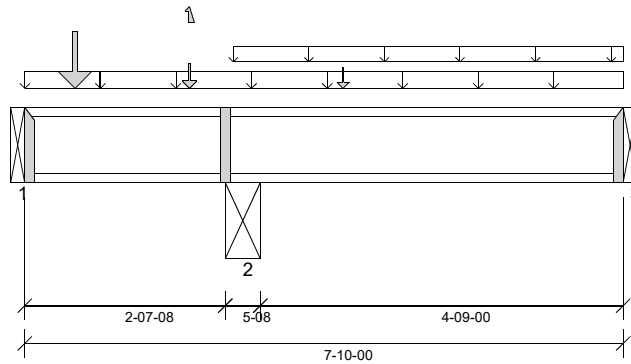
11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:49



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 4'- 9"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'
- 769 psi Beam @ 2'- 10 1/4"
- 769 psi Beam @ 7'- 10"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	0'- 9 7/8"	1.25D + 1.5L	1.00	900 lb ft	5580 lb ft	Passed - 16%
Factored Neg. Moment:	2'- 10 1/4"	1.25D + 1.5L + S	0.65	463 lb ft	3627 lb ft	Passed - 13%
Factored Shear:	0'- 1/16"	1.25D + 1.5L	1.00	1507 lb	2240 lb	Passed - 67%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-12	1.25D + 1.5L	1.00	1507 lb		1970 lb	-	Passed - 76%
2	5-08	1.25D + 1.5L	1.00	1790 lb		5070 lb	10575 lb	Passed - 35%
3	1-12	1.25D + 1.5L + S	0.65	263 lb		1970 lb	-	Passed - 13%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	LT251188		-	-	-	Connector manually specified by the user.
3	LT251188		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 10"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'	7'- 10"	User Load	Top	60 lb/ft	-	-	-
Uniform	2'- 8 3/4"	7'- 10"	FC1 Floor Decking (Plan View Fill)	Top	7 lb/ft	18 lb/ft	-	-
Point	0'- 7 7/8"	0'- 7 7/8"	-	Back	410 lb	927 lb	-	-
Point	2'- 1 7/8"	2'- 1 7/8"	J1(i39491)	Back	54 lb	273 lb	-47 lb	-
Point	4'- 2"	4'- 2"	User Load	Top	54 lb	144 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B13(i39608)	305 lb	666/-39 lb	-9 lb	-
2	2'- 7 1/2"	3'- 1"	ST. BEAM (DR.)(i33300)	602 lb	782 lb	-40 lb	-
3	7'- 10"	7'- 10"	B19(i39835)	136 lb	59/-35 lb	2 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Ground Floor**
 Label: **B13 - i39608**
 Type: **Beam**

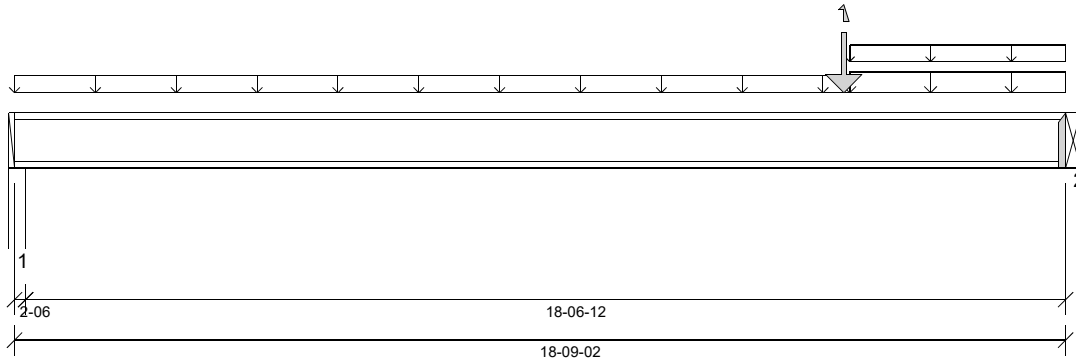
2 Ply Member

11 7/8" NI-40x

Status:

Design Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 03/29/2022 14:49



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 14'- 6"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/8"
- 769 psi Beam @ 18'- 9 1/8"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	13'- 10 3/4"	1.25D + 1.5L	1.00	7375 lb ft	12510 lb ft	Passed - 59%
Factored Shear:	18'- 9 1/16"	1.25D + 1.5L	1.00	2272 lb	4680 lb	Passed - 49%
Live Load (LL) Pos. Defl.:	10'- 15/16"	L		0.310"	L/360	Passed - L/718
Total Load (TL) Pos. Defl.:	10'- 11/16"	D + L		0.461"	L/240	Passed - L/483

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2-06	1.25D + 1.5L	1.00	1086 lb		4203 lb	7306 lb	Passed - 26%
2	1-12	1.25D + 1.5L	1.00	2273 lb		4020 lb	-	Passed - 57%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	HGUS410		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	18'- 9 1/8"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'	14'- 10 7/8"	FC1 Floor Decking (Plan View Fill)	Top	13 lb/ft	36 lb/ft	-	-
Uniform	14'- 10 7/8"	18'- 9 1/8"	User Load	Top	32 lb/ft	84 lb/ft	-	-
Uniform	14'- 10 7/8"	18'- 9 1/8"	FC1 Floor Decking (Plan View Fill)	Top	7 lb/ft	19 lb/ft	-	-
Point	14'- 9 5/8"	14'- 9 5/8"	B12 (CONT.) (i39602)	Back	305 lb	666/-39 lb	-9 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/8"	W1(i33225)	255 lb	506/-8 lb	-2 lb	-
2	18'- 9 1/8"	18'- 9 1/8"	B14(i39754)	510 lb	1096/-31 lb	-7 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Ground Floor**
 Label: **B14 - i39754**
 Type: **Beam**

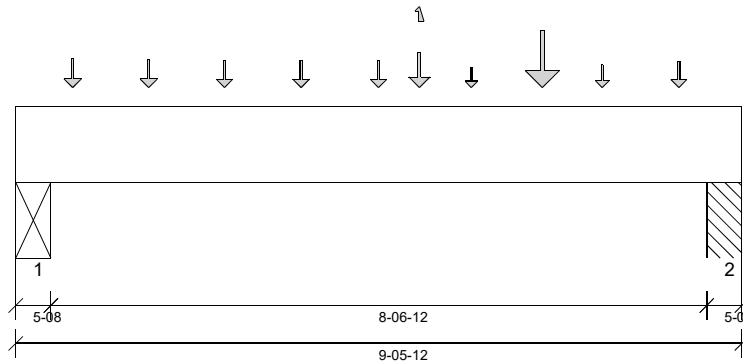
2 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:49



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'- 4 1/2"
- 1334 psi Column @ 9'- 1 1/4"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 3 1/4"	1.25D + 1.5L	1.00	20718 lb ft	26531 lb ft	Passed - 78%
Factored Shear:	8'- 3/8"	1.25D + 1.5L	1.00	9235 lb	14414 lb	Passed - 64%
Live Load (LL) Pos. Defl.:	4'- 9 7/8"	L		0.178"	L/360	Passed - L/577
Total Load (TL) Pos. Defl.:	4'- 10 1/8"	D + L		0.266"	L/240	Passed - L/386

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	1.00	8238 lb		25225 lb	14803 lb	Passed - 56%
2	5-08	1.25D + 1.5L	1.00	9258 lb		25225 lb	25687 lb	Passed - 37%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 5 3/4"	Self Weight	Top	13 lb/ft	-	-	-
Point	0'- 8 15/16"	0'- 8 15/16"	-	Front	370 lb	744 lb	-	-
Point	1'- 8 13/16"	1'- 8 13/16"	-	Front	329 lb	747 lb	-	-
Point	2'- 8 11/16"	2'- 8 11/16"	-	Front	280 lb	747 lb	-	-
Point	3'- 8 11/16"	3'- 8 11/16"	-	Front	280 lb	747 lb	-	-
Point	4'- 8 13/16"	4'- 8 13/16"	-	Front	268 lb	714 lb	-	-
Point	5'- 11 3/8"	5'- 11 3/8"	J7(i39710)	Front	134 lb	358 lb	-	-
Point	6'- 10 1/2"	6'- 10 1/2"	B11(i39621)	Front	1311 lb	1966 lb	-	-
Point	7'- 7 7/8"	7'- 7 7/8"	J6(i39779)	Front	209 lb	454 lb	-	-
Point	8'- 7 7/8"	8'- 7 7/8"	J6(i39765)	Front	310 lb	636 lb	-	-
Point	5'- 3 1/4"	5'- 3 1/4"	B13(i39608)	Back	510 lb	1096/-31 lb	-7 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	ST. BEAM (DR.) (i33302)	1866 lb	3945/-14 lb	-3 lb	-
2	9'- 1/4"	9'- 5 3/4"	Pt1(i39786)	2264 lb	4278/-17 lb	-4 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 8" O/C, STAGGERED IN 2 ROWS

SE047304



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Ground Floor**
 Label: **B15 - i39785**
 Type: **Beam**

1 Ply Member

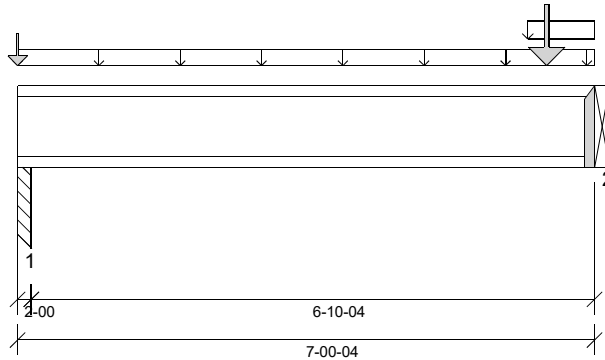
11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:50



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 7'- 1/4"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 1"
- 769 psi Beam @ 7'- 1/4"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 4 1/2"	1.25D + 1.5L	1.00	749 lb ft	5580 lb ft	Passed - 13%
Factored Neg. Moment:	0'- 1"	1.25D + 1.5L	1.00	39 lb ft	5580 lb ft	Passed - 1%
Factored Shear:	7'- 3/16"	1.25D + 1.5L	1.00	1316 lb	2240 lb	Passed - 59%
Live Load (LL) Pos. Defl.:	3'- 11 1/16"	L		0.010"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 11 1/8"	D + L		0.016"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2-00	1.25D + 1.5L	1.00	703 lb		2000 lb	6672 lb	Passed - 35%
2	1-12	1.25D + 1.5L	1.00	1316 lb		1970 lb	-	Passed - 67%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	LT251188		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 1/4"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'	7'- 1/4"	FC1 Floor Decking (Plan View Fill)	Top	6 lb/ft	17 lb/ft	-	-
Uniform	6'- 2 1/2"	7'- 1/4"	User Load	Top	60 lb/ft	-	-	-
Point	0'	0'	FC1 Floor Decking (Plan View Fill)	Top	142 lb	183 lb	-	-
Point	6'- 5 1/4"	6'- 5 1/4"	4(i33326)	Top	285 lb	592 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2"	Pt1(i39786)	211 lb	315 lb	-	-
2	7'- 1/4"	7'- 1/4"	B18(i39763)	329 lb	581 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Ground Floor**
 Label: **B16 - i39793**
 Type: **Beam**

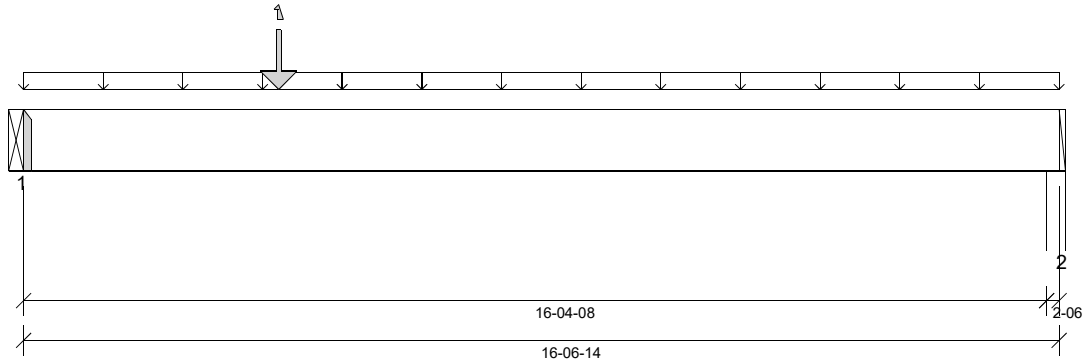
3 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:50



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 16'- 4 1/2"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'
- 615 psi Wall @ 16'- 5 1/2"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 1"	1.25D + 1.5L	1.00	27604 lb ft	39797 lb ft	Passed - 69%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	6862 lb	21621 lb	Passed - 32%
Live Load (LL) Pos. Defl.:	7'- 4 9/16"	L		0.421"	L/360	Passed - L/466
Total Load (TL) Pos. Defl.:	7'- 4 13/16"	D + L		0.693"	L/240	Passed - L/283
Permanent Deflection:	7'- 5 1/4"			-	L/360	Passed - L/744

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	6969 lb		10319 lb	-	Passed - 68%
2	2-06	1.25D + 1.5L	1.00	2858 lb		16339 lb	7671 lb	Passed - 37%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	HGUS5.50/10		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	16'- 6 7/8"	Self Weight	Top	19 lb/ft	-	-	-
Uniform	0'	16'- 6 7/8"	FC1 Floor Decking (Plan View Fill)	Top	14 lb/ft	37 lb/ft	-	-
Point	4'- 1"	4'- 1"	PT1(i39435)	Top	2196 lb	3630/-33 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B17(i39808)	1929 lb	3038/-25 lb	-	-
2	16'- 4 1/2"	16'- 6 7/8"	W4(i33227)	832 lb	1212/-8 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS (TOP LOADED)

SE047306



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1)**
 Level: **Ground Floor**
 Label: **B17 - i39808**
 Type: **Beam**

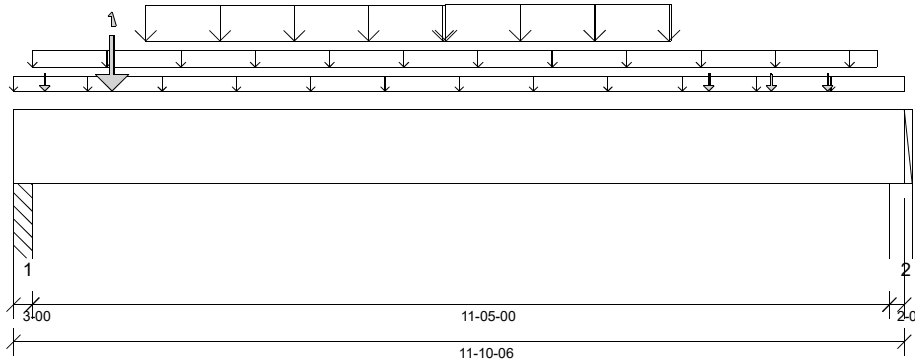
2 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:50



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 2"
- 615 psi Wall @ 11'- 9"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 3 1/8"	1.25D + 1.5L	1.00	17313 lb ft	26531 lb ft	Passed - 65%
Factored Shear:	1'- 2 7/8"	1.25D + 1.5L	1.00	10343 lb	14414 lb	Passed - 72%
Live Load (LL) Pos. Defl.:	5'- 9 3/16"	L		0.253"	L/360	Passed - L/540
Total Load (TL) Pos. Defl.:	5'- 9 3/16"	D + L		0.415"	L/240	Passed - L/329
Permanent Deflection:	5'- 9 1/4"			-	L/360	Passed - L/871

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-00	1.25D + 1.5L	1.00	10479 lb		13759 lb	14011 lb	Passed - 76%
2	2-06	1.25D + 1.5L	1.00	5037 lb		10893 lb	5114 lb	Passed - 98%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'- 10 3/8"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'	11'- 10 3/8"	FC1 Floor Decking (Plan View Fill)	Top	5 lb/ft	14 lb/ft	-	-
Uniform	0'- 3"	11'- 6"	User Load	Top	60 lb/ft	-	-	-
Uniform	1'- 9 1/8"	5'- 9 1/8"	Smoothed Load	Back	131 lb/ft	333 lb/ft	-	-
Uniform	5'- 9 1/8"	8'- 9 1/8"	Smoothed Load	Back	151 lb/ft	335 lb/ft	-	-
Point	0'- 5"	0'- 5"	J10(i39821)	Back	119 lb	318 lb	-	-
Point	1'- 3 3/4"	1'- 3 3/4"	B16(i39793)	Back	1929 lb	3038/-25 lb	-	-
Point	9'- 3 1/8"	9'- 3 1/8"	J10(i39827)	Back	140 lb	307 lb	-	-
Point	10'- 1 1/8"	10'- 1 1/8"	J10(i39819)	Back	119 lb	262 lb	-	-
Point	10'- 10 1/8"	10'- 10 1/8"	J10(i39831)	Back	137 lb	305 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3"	Pt1(i39803)	2904 lb	4575/-23 lb	-	-
2	11'- 8"	11'- 10 3/8"	W18(i33241)	1415 lb	2170/-2 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 9" O/C, STAGGERED IN 2 ROWS

SE047307



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1,**
 Level: **Ground Floor**
 Label: **B18 - i39763**
 Type: **Beam**

1 Ply Member

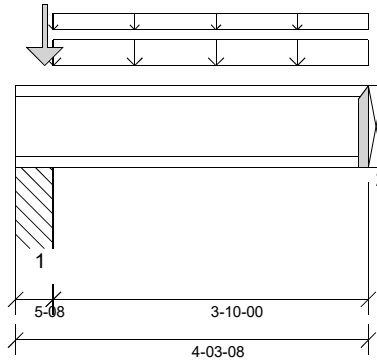
11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:51



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 3'- 10"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 4 1/2"
- 769 psi Beam @ 4'- 3 1/2"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 4 1/4"	1.25D + 1.5L	1.00	608 lb ft	5580 lb ft	Passed - 11%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	1.00	28 lb ft	5580 lb ft	Passed - 1%
Factored Shear:	4'- 3 7/16"	1.25D + 1.5L	1.00	626 lb	2240 lb	Passed - 28%
Total Load (TL) Pos. Defl.:	2'- 4 1/8"	D + L		0.011"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L	1.00	1907 lb		2240 lb	18348 lb	Passed - 85%
2	1-12	1.25D + 1.5L	1.00	628 lb		1970 lb	-	Passed - 32%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	LT251188		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 3 1/2"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'- 5 1/2"	4'- 3 1/2"	User Load	Top	57 lb/ft	150 lb/ft	-	-
Uniform	0'- 5 1/2"	4'- 3 1/2"	FC1 Floor Decking (Plan View Fill)	Top	5 lb/ft	12 lb/ft	-	-
Point	0'- 4 1/4"	0'- 4 1/4"	B15(i39785)	Back	329 lb	581 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	Pt1(i39803)	455 lb	896 lb	-	-
2	4'- 3 1/2"	4'- 3 1/2"	B19(i39835)	124 lb	311 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A + Second A (1)**
 Level: **Ground Floor**
 Label: **B19 - i39835**
 Type: **Beam**

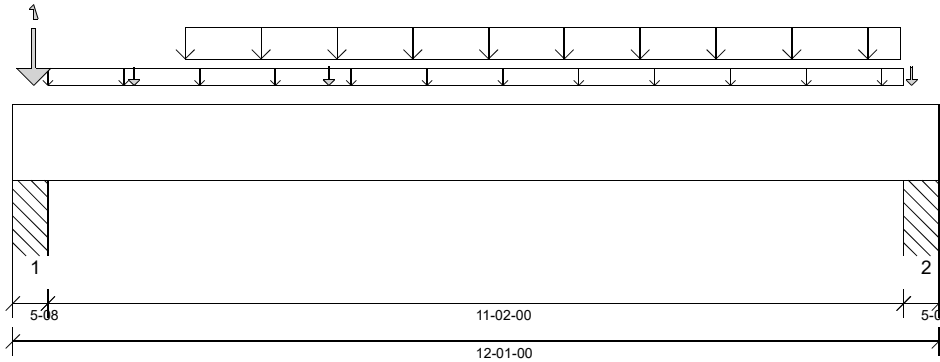
2 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 14:51



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 4 1/2"
- 1334 psi Column @ 11'- 8 1/2"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 7"	1.25D + 1.5L	1.00	10502 lb ft	26531 lb ft	Passed - 40%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L + S	1.00	771 lb ft	25803 lb ft	Passed - 3%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L + S	1.00	4147 lb	14414 lb	Passed - 29%
Live Load (LL) Pos. Defl.:	6'- 1/4"	L		0.140"	L/360	Passed - L/959
Total Load (TL) Pos. Defl.:	6'- 3/16"	D + L		0.233"	L/240	Passed - L/574

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5L + S	1.00	9748 lb		25226 lb	25688 lb	Passed - 39%
2	5-08	1.25D + 1.5L	1.00	4102 lb		25225 lb	25687 lb	Passed - 16%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 1"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'- 5 1/2"	11'- 7 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	2'- 3"	11'- 7"	Smoothed Load	Back	97 lb/ft	258 lb/ft	-	-
Point	11'- 8 3/4"	11'- 8 3/4"	B18(i39763)	Front	124 lb	311 lb	-	-
Point	1'- 7"	1'- 7"	J3(i39839)	Back	119 lb	301 lb	-	-
Point	0'- 3 1/4"	0'- 3 1/4"	-	Top	1762 lb	2609/-35 lb	2 lb	-
Point	4'- 1 1/2"	4'- 1 1/2"	User Load	Top	196 lb	254 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	Pt1(i39812)	2844 lb	4203/-35 lb	2 lb	-
2	11'- 7 1/2"	12'- 1"	Pt1(i39836)	1091 lb	1750 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=1.500", W=3.500". LDF=1.00, Pf=5232 lb, Q'r=6880 lb, Result=76.04%.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 10" O/C,
 STAGGERED IN 2 ROWS

SE047309



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A W Sunken M...**
 Level: **Ground Floor**
 Label: **B20 - i41586**
 Type: **Beam**

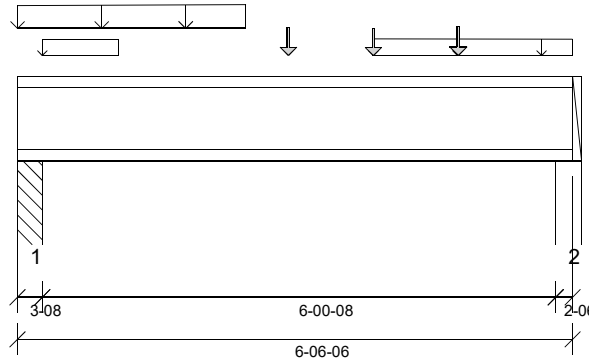
1 Ply Member
11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 15:50



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 1/2"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 2 1/2"
- 615 psi Wall @ 6'- 5"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 2 1/4"	1.25D + 1.5L	1.00	902 lb ft	5580 lb ft	Passed - 16%
Factored Shear:	0'- 3 9/16"	1.25D + 1.5L	1.00	502 lb	2240 lb	Passed - 22%
Live Load (LL) Pos. Defl.:	3'- 3 13/16"	L		0.018"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 3 13/16"	D + L		0.027"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	706 lb		2180 lb	11675 lb	Passed - 32%
2	2-06	1.25D + 1.5L	1.00	489 lb		2045 lb	3653 lb	Passed - 24%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 6 3/8"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'- 3 1/2"	1'- 2 1/4"	FC1 Floor Decking (Plan View Fill)	Top	3 lb/ft	9 lb/ft	-	-
Tapered	0'	2'- 8 1/4"	Smoothed Load	Top	45 To 51 lb/ft	93 To 105 lb/ft	-	-
Tapered	4'- 2 1/4"	6'- 6 3/8"	FC1 Floor Decking (Plan View Fill)	Top	4 To 2 lb/ft	11 To 6 lb/ft	-	-
Point	3'- 2 1/4"	3'- 2 1/4"	J7(i41640)	Back	41 lb	87 lb	-	-
Point	4'- 2 1/4"	4'- 2 1/4"	J7(i41636)	Back	39 lb	82 lb	-	-
Point	5'- 2 1/4"	5'- 2 1/4"	J7(i41642)	Back	46 lb	95 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	Pt1(i41618)	170 lb	334 lb	-	-
2	6'- 4"	6'- 6 3/8"	W18(i33241)	116 lb	226 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.





Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A W Sunken M...**
 Level: **Ground Floor**
 Label: **B21 - i41610**
 Type: **Beam**

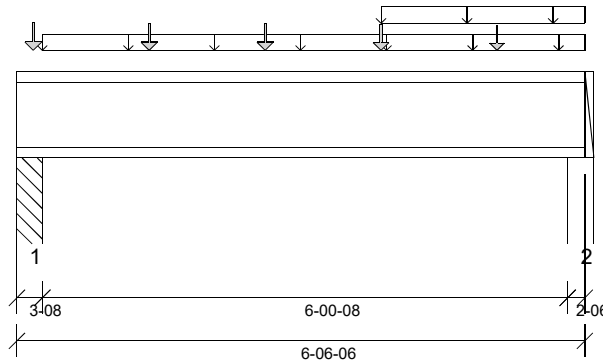
1 Ply Member
11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 15:51



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 2 1/2"
- 615 psi Wall @ 6'- 5"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 10 1/4"	1.25D + 1.5L	1.00	612 lb ft	5580 lb ft	Passed - 11%
Factored Shear:	6'- 3 15/16"	1.25D + 1.5L	1.00	359 lb	2240 lb	Passed - 16%
Live Load (LL) Pos. Defl.:	3'- 3 3/4"	L		0.013"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 3 3/4"	D + L		0.018"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	505 lb		2180 lb	11676 lb	Passed - 23%
2	2-06	1.25D + 1.5L	1.00	367 lb		2045 lb	3653 lb	Passed - 18%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 6 3/8"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'- 3 1/2"	6'- 6 3/8"	FC1 Floor Decking (Plan View Fill)	Top	2 lb/ft	4 lb/ft	-	-
Uniform	4'- 2 1/4"	6'- 6 3/8"	FC1 Floor Decking (Plan View Fill)	Top	3 lb/ft	8 lb/ft	-	-
Point	0'- 2 1/4"	0'- 2 1/4"	-	Front	33 lb	90 lb	-	-
Point	1'- 6 1/4"	1'- 6 1/4"	J8(i41648)	Front	30 lb	80 lb	-	-
Point	2'- 10 1/4"	2'- 10 1/4"	J8(i41645)	Front	30 lb	80 lb	-	-
Point	4'- 2 1/4"	4'- 2 1/4"	J8(i41647)	Front	28 lb	74 lb	-	-
Point	5'- 6 1/4"	5'- 6 1/4"	J8(i41646)	Front	22 lb	61 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	Pt1(i41617)	104 lb	254 lb	-	-
2	6'- 4"	6'- 6 3/8"	W32(i41692)	75 lb	178 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground A W Sunken M...**
 Level: **Ground Floor**
 Label: **B22 (LOW) - i41694**
 Type: **Beam**

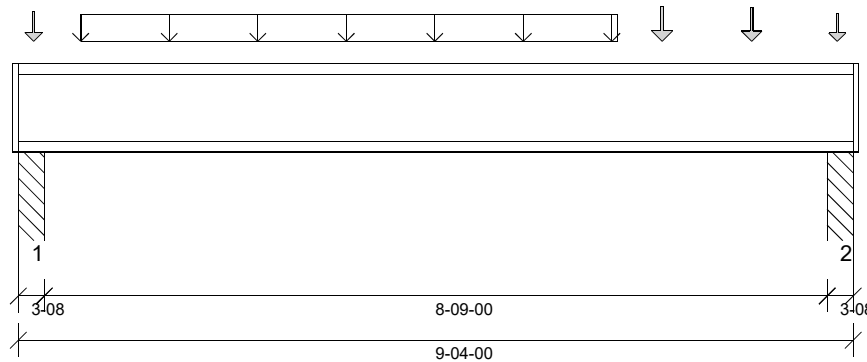
1 Ply Member
11 7/8" NI-20

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/29/2022 15:52



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 2 1/2"
- 1334 psi Column @ 9'- 1 1/2"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 2 3/8"	1.25D + 1.5L	1.00	2665 lb ft	5580 lb ft	Passed - 48%
Factored Shear:	0'- 3 9/16"	1.25D + 1.5L	1.00	1082 lb	2240 lb	Passed - 48%
Live Load (LL) Pos. Defl.:	4'- 8"	L		0.090"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 7 15/16"	D + L		0.136"	L/240	Passed - L/773

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1.5L	1.00	1269 lb		2180 lb	11675 lb	Passed - 58%
2	3-08	1.25D + 1.5L	1.00	1251 lb		2180 lb	11676 lb	Passed - 57%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 4"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'- 8 3/8"	6'- 8 3/8"	Smoothed Load	Front	63 lb/ft	127 lb/ft	-	-
Point	0'- 2 1/16"	0'- 2 1/16"	-	Front	43 lb	89 lb	-	-
Point	7'- 2 3/8"	7'- 2 3/8"	J6(i41730)	Front	57 lb	127 lb	-	-
Point	8'- 2 3/8"	8'- 2 3/8"	J6(i41723)	Front	53 lb	123 lb	-	-
Point	9'- 1 7/8"	9'- 1 7/8"	-	Front	31 lb	85 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PT2(i41696)	305 lb	595 lb	-	-
2	9'- 1/2"	9'- 4"	PT2(i41695)	289 lb	590 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground B + Second B (3,**
 Level: **Second Floor**
 Label: **B23 - i41701**
 Type: **Beam**

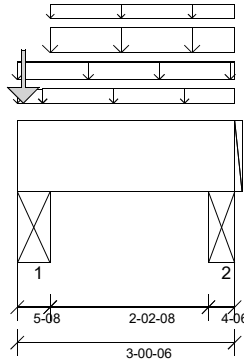
2 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 03/30/2022 11:38



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
 Top: 0' Bottom: 2'- 2 1/2"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'- 4 1/2"
- 769 psi Beam @ 2'- 9"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 9 1/2"	1.25D + 1.5L	0.65	142 lb ft	17245 lb ft	Passed - 1%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5S + L	1.00	560 lb ft	23724 lb ft	Passed - 2%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5S + L	1.00	293 lb	14414 lb	Passed - 2%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D + 1.5S + L	1.00	2831 lb		25225 lb	14803 lb	Passed - 19%
2	4-06	1.25D + 1.5L	0.65	431 lb		13043 lb	7654 lb	Passed - 6%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 3/8"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'	3'- 3/8"	E38(i41649)	Top	101 lb/ft	-	-	-
Uniform	0'	0'- 4 1/4"	FC2 Floor Decking (Plan View Fill)	Top	-	5 lb/ft	-	-
Uniform	0'- 4 1/4"	3'- 3/8"	FC2 Floor Decking (Plan View Fill)	Top	10 lb/ft	26 lb/ft	-	-
Uniform	0'- 5 1/2"	3'- 3/8"	E38(i41649)	Top	111 lb/ft	-	174 lb/ft	-
Uniform	0'- 5 1/2"	3'- 3/8"	FC2 Floor Decking (Plan View Fill)	Top	-	6 lb/ft	-	-
Point	0'- 1"	0'- 1"	E38(i41649)	Top	526 lb	-	817 lb	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	ST. BEAM (DR.)(i33346)	929 lb	39 lb	1142 lb	-
2	2'- 8"	3'- 3/8"	ST. BEAM (DR.)(i41678)	262 lb	49 lb	122 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 4" O/C, STAGGERED IN 2 ROWS



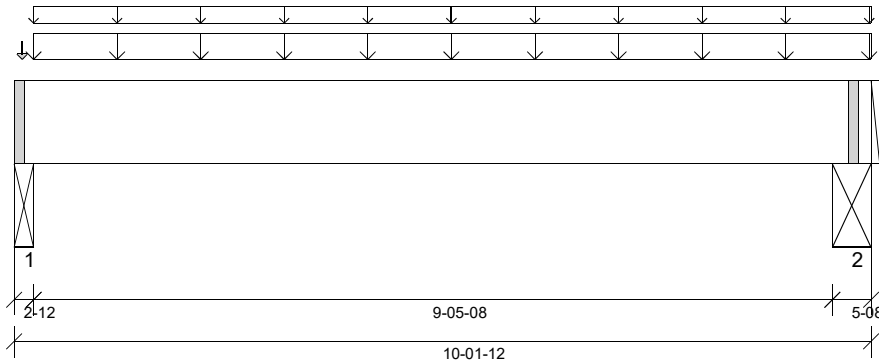
Customer: **Gold Park Homes**
 Job Address: **Pine Valley Ph2**
 City: **Vaughan**
 Job Track: **45147**

Job Name: **343072 Ground C + Second C (\$**
 Level: **Second Floor**
 Label: **B24 - i41717**
 Type: **Beam**

2 Ply Member
1 3/4" x 11 7/8" 1.55E
TimberStrand® LSL

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 03/30/2022 17:09



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019 Amendment)
 Design Methodology: LSD
 Service Condition: Dry
 LL Deflection Limit: L/360,
 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 9'- 5 1/2"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'- 1 3/4"
- 769 psi Beam @ 9'- 9 1/4"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 11 7/16"	1.25D + 1.5L + S	0.70	3149 lb ft	18558 lb ft	Passed - 17%
Factored Shear:	8'- 8 3/8"	1.25D + 1.5L + S	0.70	1022 lb	10082 lb	Passed - 10%
Live Load (LL) Pos. Defl.:	4'- 11 1/2"	S + 0.5L		0.016"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 11 1/2"	D + S + 0.5L		0.057"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2-12	1.25D + 1.5L + S	0.70	1318 lb		8822 lb	5177 lb	Passed - 25%
2	5-08	1.25D + 1.5L + S	0.70	1417 lb		17645 lb	10355 lb	Passed - 14%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 1 3/4"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'- 2 3/4"	10'- 1 3/4"	E43(i41660)	Top	141 lb/ft	-	54 lb/ft	-
Uniform	0'- 2 3/4"	10'- 1 3/4"	FC2 Floor Decking (Plan View Fill)	Top	5 lb/ft	14 lb/ft	-	-
Point	0'- 1 1/8"	0'- 1 1/8"	-	Top	18 lb	2 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/4"	ST. BEAM (DR.)(i33345)	780 lb	66 lb	255 lb	-
2	9'- 8 1/4"	10'- 1 3/4"	ST. BEAM (DR.)(i33346)	821 lb	70 lb	276 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of one ply.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS

Maximum Floor Spans – M3.1, L/360

Design Criteria

Spans:	Simple span
Loads:	Live load = 40 psf and dead load = 20 psf
Deflection limits:	L/360 under live load and L/240 under total load
Sheathing:	23/32 in. nailed-glued oriented strand board (OSB) sheathing



Maximum Floor Spans

Joist depth	Joist series	Bare				1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-9"	14'-10"	14'-4"	13'-5"	16'-2"	15'-4"	14'-6"	13'-5"
	NI-40x	16'-10"	15'-10"	15'-3"	14'-8"	17'-2"	16'-3"	15'-8"	14'-11"
	NI-60	16'-11"	16'-0"	15'-5"	14'-9"	17'-4"	16'-4"	15'-9"	15'-2"
	NI-80	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"
11-7/8"	NI-20	17'-8"	16'-8"	16'-1"	15'-6"	18'-3"	17'-3"	16'-7"	16'-0"
	NI-40x	19'-1"	17'-9"	17'-1"	16'-5"	19'-8"	18'-3"	17'-6"	16'-10"
	NI-60	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-8"	17'-0"
	NI-80	20'-9"	19'-2"	18'-3"	17'-5"	21'-3"	19'-8"	18'-9"	17'-10"
14"	NI-90	21'-2"	19'-7"	18'-8"	17'-9"	21'-8"	20'-1"	19'-1"	18'-1"
	NI-40x	21'-2"	19'-7"	18'-8"	17'-9"	21'-10"	20'-3"	19'-4"	18'-4"
	NI-60	21'-6"	19'-11"	19'-0"	18'-0"	22'-2"	20'-7"	19'-8"	18'-8"
	NI-80	23'-1"	21'-4"	20'-3"	19'-3"	23'-8"	21'-11"	20'-10"	19'-9"
16"	NI-90	23'-6"	21'-9"	20'-8"	19'-7"	24'-1"	22'-4"	21'-3"	20'-1"
	NI-60	23'-5"	21'-8"	20'-8"	19'-7"	24'-2"	22'-5"	21'-5"	20'-4"
	NI-80	25'-1"	23'-2"	22'-1"	20'-11"	25'-9"	23'-10"	22'-9"	21'-6"
	NI-90	25'-7"	23'-7"	22'-6"	21'-3"	26'-3"	24'-3"	23'-1"	21'-11"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	17'-1"	15'-5"	14'-6"	13'-5"	17'-1"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-6"	17'-5"	16'-7"	14'-11"	19'-0"	17'-8"	16'-7"	14'-11"
	NI-60	18'-9"	17'-7"	16'-10"	15'-7"	19'-2"	17'-11"	16'-10"	15'-7"
	NI-80	20'-0"	18'-7"	17'-10"	17'-1"	20'-6"	19'-1"	18'-2"	17'-5"
11-7/8"	NI-20	20'-1"	18'-8"	17'-6"	16'-1"	20'-7"	18'-8"	17'-6"	16'-1"
	NI-40x	21'-8"	20'-2"	19'-0"	17'-0"	22'-3"	20'-9"	19'-0"	17'-0"
	NI-60	21'-11"	20'-5"	19'-6"	18'-6"	22'-6"	21'-0"	20'-1"	18'-8"
	NI-80	23'-5"	21'-9"	20'-9"	19'-8"	23'-11"	22'-3"	21'-3"	20'-2"
14"	NI-90	23'-11"	22'-2"	21'-1"	20'-0"	24'-4"	22'-8"	21'-8"	20'-6"
	NI-40x	24'-3"	22'-7"	20'-11"	18'-8"	24'-11"	22'-11"	20'-11"	18'-8"
	NI-60	24'-8"	22'-11"	21'-10"	20'-8"	25'-3"	23'-7"	22'-7"	21'-4"
	NI-80	26'-3"	24'-5"	23'-3"	22'-0"	26'-10"	25'-0"	23'-10"	22'-7"
16"	NI-90	26'-9"	24'-10"	23'-8"	22'-5"	27'-4"	25'-5"	24'-3"	22'-11"
	NI-60	27'-1"	25'-2"	24'-0"	22'-9"	27'-9"	26'-0"	24'-10"	23'-1"
	NI-80	28'-10"	26'-10"	25'-6"	24'-2"	29'-6"	27'-6"	26'-3"	24'-10"
	NI-90	29'-5"	27'-3"	26'-0"	24'-6"	30'-0"	27'-11"	26'-8"	25'-2"

Notes:

- The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

The construction details for residential designs are prone to changes.

Details released after April 2014 supersedes N-C301

Installation must comply with latest documentation on I-Joist and other Nordic products from the <http://nordic.ca/>

This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.



INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



Distributed by:



WARNING

I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

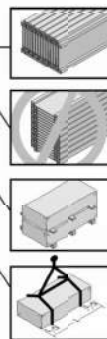
Avoid Accidents by Following these Important Guidelines:

1. Brace and nail each I-joists it is installed, using hangers, blockingpanels, rim board, and/or cross-bridging at joist ends. When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
2. When the building is completed, the floor sheathing will provide lateral support for the top flange of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
 - Temporary bracing or struts must be 1x4 inch minimum, at least 1 foot long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
5. **Never install a damaged I-joist.**

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

STORAGE AND HANDLING GUIDELINES

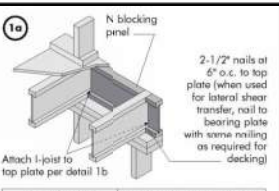
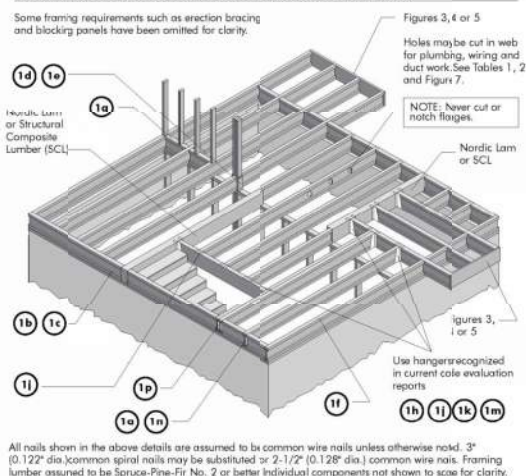
1. Bundle, wrap or tie slipping when not avoid walking over unbraced bundles.
2. Store, stack, and handle I-joists vertically and level only.
3. Always stack and handle I-joists in the upright position only.
4. Do not store I-joists in direct contact with the ground and/or flatwise.
5. Protect I-joists from weather, and use spacers to separate bundles.
6. Bundled units should be kept intact until time of installation.
7. When handling I-joists with a crane on the job site, take a few simple precautions to prevent damage to the I-joists and injury to your work crew.
 - Pick I-joists in bundles as shipped by the supplier.
 - Orient the bundles so that the webs of the I-joists are vertical.
 - Pick the bundles at the 5th points, using a spreader bar if necessary.
8. Do not handle I-joists in a horizontal orientation.
9. **NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.**



INSTALLING NORDIC I-JOISTS

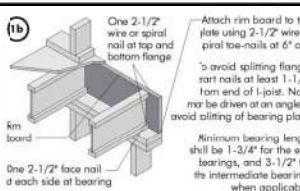
1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not contact your supplier.
2. Except for cutting to length, I-joist flanges should **never** be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span joists must be level.
5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings.
6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
7. Leave a 1/16-inch gap between the I-joist end and a header.
8. Concentrated load greater than those that can normally be expected in residential construction should only be applied to the top surface of its top flange. Normal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suspend unusual or heavy loads from the I-joist's bottom flange. Whenever possible suspend all concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist webs.
9. **Never** install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with concrete or masonry.
10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
12. Due to shrinkage, common framing lumber set on edge **must never** be used as blocking or rim boards. I-joist blocking panels or other engineered wood products – such as rim board – must be cut to fit between the I-joists, and an I-joist-compatible depth selected.
13. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantilevered I-joists at the end support next to the cantilever extension in the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blocking to minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring or if a separate underlayment layer is installed.
15. Nail spacing: Spac nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans.

FIGURE 1 TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS



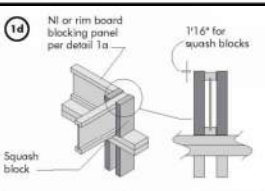
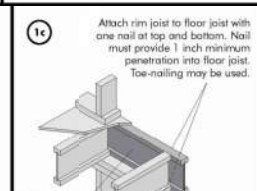
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
Ni Joists	3,300

*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
1-1/8" Rim Board Plus	8,090

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.



Pair of Squash Blocks	Maximum factored vertical load per Pair of Squash Blocks (plf)
2x Lumber	5,500
1-1/8" Rim Board Plus	4,300

Provide lateral bracing per detail 1a, 1b or 1c

The construction details for residential designs are prone to changes.

Details released after April 2014 supersedes N-C301

Installation must comply with latest documentation on I-Joist and other Nordic products from the <http://nordic.ca/>

This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.

MAXIMUM FLOOR SPANS

- Maximum clear spans applicable to simple-span or multiple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.5L + 1.25D. The serviceability limit states include the consideration for floor vibration and a live load deflection limit of L/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less, or 3/4 inch for joist spacing of 24 inches. Adhesive shall meet the requirements given in CGS-71.26 Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the use of gypsum and/or a row of blocking at mid-span.
- Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.
- Tables are based on Limit States Design per CAN/CSA C86-09 Standard, and NBC 2010.
- SI units conversion: 1 inch = 25.4 mm
1 foot = 0.305 m

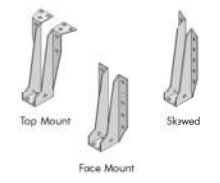
MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS
SIMPLE AND MULTIPLE SPANS

Joist Depth	Joist Series	Simple spans				Multiple spans				
		O ₁ centre spacing	12"	16"	19.2"	O ₁ centre spacing	12"	16"	19.2"	24"
9-1/2"	Ni-20	15-11"	14-2"	13-9"	13-5"	16-3"	15-4"	14-10"	14-7"	14-5"
	Ni-40	16-3"	15-4"	14-10"	14-11"	17-7"	16-7"	16-0"	16-6"	16-6"
	Ni-70	17-11"	16-11"	15-6"	15-7"	18-7"	17-4"	16-9"	16-9"	17-2"
11-7/8"	Ni-30	17-3"	16-3"	15-8"	15-9"	18-10"	17-6"	16-11"	17-5"	17-5"
	Ni-20	16-11"	15-0"	15-5"	15-6"	18-4"	17-3"	16-8"	16-7"	16-7"
	Ni-40x	18-11"	17-0"	16-5"	16-6"	20-0"	18-6"	17-9"	17-7"	17-7"
14"	Ni-60	18-4"	17-3"	16-7"	16-9"	20-3"	18-9"	18-0"	18-9"	18-9"
	Ni-70	19-4"	18-0"	17-4"	17-5"	21-6"	19-11"	19-0"	19-8"	19-8"
	Ni-80	19-9"	18-3"	17-6"	17-7"	21-9"	20-2"	19-3"	19-11"	19-11"
16"	Ni-90	20-2"	18-7"	17-10"	17-11"	22-3"	20-7"	19-8"	19-9"	19-9"
	Ni-20x	20-4"	18-9"	17-11"	18-0"	22-6"	20-9"	19-10"	20-4"	20-4"
	Ni-40x	20-1"	18-7"	17-10"	17-11"	22-2"	20-6"	19-8"	19-4"	19-4"
18"	Ni-60	20-5"	19-11"	18-11"	18-2"	22-7"	20-11"	20-0"	20-10"	20-10"
	Ni-70	21-7"	20-0"	19-11"	19-2"	23-10"	22-11"	21-11"	21-10"	21-10"
	Ni-80	21-11"	20-3"	19-4"	19-5"	24-3"	22-5"	21-5"	22-2"	22-2"
20"	Ni-90	22-5"	20-8"	19-9"	19-9"	24-9"	22-10"	21-10"	21-10"	21-10"
	Ni-20x	22-7"	20-11"	19-11"	20-0"	25-0"	23-11"	22-0"	22-0"	22-0"
	Ni-40x	22-5"	20-9"	19-9"	19-9"	24-9"	22-10"	21-10"	21-10"	21-10"
22"	Ni-70	23-6"	21-9"	20-9"	20-10"	26-0"	24-0"	22-11"	23-9"	23-9"
	Ni-80	23-11"	22-1"	21-1"	21-2"	26-5"	24-5"	23-3"	24-1"	24-1"
	Ni-90	24-0"	22-6"	21-6"	21-6"	26-11"	24-10"	23-9"	23-9"	23-9"
24"	Ni-90x	24-8"	22-9"	21-9"	21-10"	27-3"	25-2"	24-0"	24-10"	24-10"

CCAC EVALUATION REPORT 13032-R

I-JOIST HANGERS

- Hangers shown illustrate the three most commonly used metal hangers to support I-joists.
- All nailing must meet the hanger manufacturer's recommendations.
- Hangers should be selected based on the joist depth, flange width, and load capacity based on the maximum spans.
- Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the I-joist.



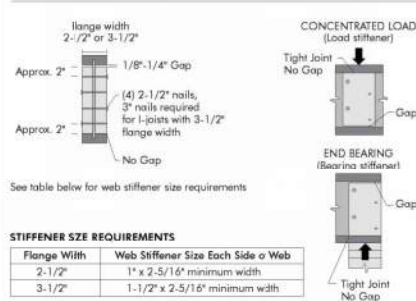
WEB STIFFENER

RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist Construction Guide (C101). The gap between the stiffener and the flange is at the top.
- A bearing stiffener is required when the I-joist is supported in hanger and the sides of the hanger do not extend up to, and support, the top flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the case of a cantilever, anywhere between the cantilever tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

SI units conversion: 1 inch = 25.4 mm

FIGURE 2 WEB STIFFENER INSTALLATION DETAILS



STIFFENER SIZE REQUIREMENTS

Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

NORDIC I-JOIST SERIES

Chantiers Chibougamau Ltd. harvests its own trees, which enables Nordic products to adhere to strict quality control procedures throughout the manufacturing process. Every phase of the operation, from forest to the finished product, reflects our commitment to quality.

Nordic Engineered Wood I-joists use only finger-jointed black spruce lumber in their flanges, ensuring consistent quality, superior strength, and longer span carrying capacity.



1a Transfer load from above to bearing below. Install squash blocks per detail 1d. Match bearing area of blocks below to post above.

1b Backer block (use if hanger load exceeds 360 lbs) Before installing backer block to a double I-joist, drive three additional 3" nails through the webs and filler block when the backer block will fit. Clinch. Install backer tight to top flange. Use twelve 3" nails, clinched when possible. Maximum factored resistance for hanger for this detail = 1,620 lbs.

1c Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered in this detail.

1d Backer block required over all interior supports under load-bearing walls or when floor joists are not continuous over support.

1e Double I-joist header. Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

1f Filler block per detail 1p.

1g Top- or face-mount hanger installed per manufacturer's recommendations. For nailing schedules for multiple beams, see the manufacturer's recommendations. Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

1h 2x plate flush with inside face of wall or beam. 1/8" overhang allowed past inside face of wall or beam.

1i Top-mount hanger installed per manufacturer's recommendations. Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

1j Multiple I-joist reader with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

1k Do not level-cut joist beyond inside face of wall.

1l Attach I-joist per detail 1b. Note: Block required on bearing for lateral support. Use 3" nails for clarity.

1m Filler block per detail 1p. Install hanger per manufacturer's recommendations. Backer block attached per detail 1h. Nail with twelve 3" nails, clinch when possible. Maximum support capacity = 1,620 lbs.

1n Filler block per detail 1p. Note: In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the stark joist. Where required, see local code requirements for spacing of the blocking. All nails are common spiral in this detail.

1o One 2-1/2" nails at top and bottom flange. Two 2-1/2" nails from each web to lumber piece. 2x4 min. (1/8" gap minimum). Two 2-1/2" nails from each web to lumber piece. One 2-1/2" nails one side only. 2-1/2" nails at 6" o.c.

1p Notes:
1. Support back of I-joist web during nailing to prevent damage to web/flange connection.
2. Leave a 1/8 to 1/4-inch gap between top of filler block and bottom of top I-joist flange.
3. Filler block is required between joists for full length of span.
4. Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of four nails per foot required. If nails can be clinched, only two nails per foot are required.
5. The maximum factored load that may be applied to one side of the double joist using this detail is 860 lb/ft. Verify double I-joist capacity.

FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

Flange Size	Joist Depth	Filler Block Size
2-1/2" x 1-1/2"	9-1/2"	21/8" x 6"
	11-7/8"	21/8" x 8"
	14"	21/8" x 10"
	16"	21/8" x 12"
2 1/2" x 1-1/2"	9-1/2"	3" x 6"
	11-7/8"	3" x 8"
	14"	3" x 10"
	16"	3" x 12"
3-1/2" x 2"	11-7/8"	3" x 7"
	14"	3" x 9"
	16"	3" x 11"

1r Lumber 2x4 min., extend block to face of adjacent webs. Two 2-1/2" spiral nails from each web to lumber piece, alternate on opposite side.

1s Optional: Minimum x4 inch strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists.

The construction details for residential designs are prone to changes.

Details released after April 2014 supersedes N-C301

Installation must comply with latest documentation on I-Joist and other Nordic products from the <http://nordic.ca/>

This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.



CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

3a) I-JOIST CANTILEVER DETAIL FOR BALCONIES (No Wall Load)

3b) LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load)

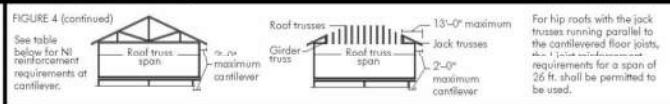
CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

4a) Method 1 — SHEATHING REINFORCEMENT ONE SIDE

Method 2 — SHEATHING REINFORCEMENT TWO SIDES

- Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.

Note: Use sheathing perpendicular to floor joists for Method 2, with opposite face nailing offset by 3".



4b) Alternate Method 2 — DOUBLE I-JOIST

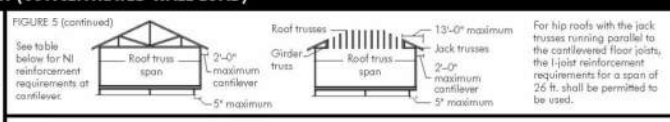
CANTILEVER REINFORCEMENT METHODS ALLOWED

Joist Depth (in.)	Roof Truss Span (ft)	ROOF LOADING (UNFACTORED)											
		LL = 30 psf, DL = 15 psf				LL = 40 psf, DL = 15 psf				LL = 50 psf, DL = 15 psf			
		Joist Spacing (in.)			24	Joist Spacing (in.)			24	Joist Spacing (in.)			24
9-1/2	26	N	N	1	2	N	1	2	X	N	2	X	X
	28	N	N	1	X	N	1	2	X	N	2	X	X
	30	N	1	1	X	N	1	2	X	N	1	2	X
	32	N	1	2	X	N	2	X	X	N	1	2	X
	34	N	1	2	X	N	2	X	X	N	1	2	X
11.7/8	26	N	1	2	X	N	1	2	X	N	1	2	X
	28	N	N	1	2	N	1	2	X	N	1	2	X
	30	N	N	1	2	N	1	2	X	N	1	2	X
	32	N	N	1	2	N	1	2	X	N	1	2	X
	34	N	N	1	2	N	1	2	X	N	1	2	X
14	26	N	N	N	N	N	N	N	1	N	N	N	1
	28	N	N	N	N	N	N	N	1	N	N	N	1
	30	N	N	N	N	N	N	N	1	N	N	N	1
	32	N	N	N	N	N	N	N	1	N	N	N	1
	34	N	N	N	N	N	N	N	1	N	N	N	1
16	26	N	N	N	N	N	N	N	1	N	N	N	1
	28	N	N	N	N	N	N	N	1	N	N	N	1
	30	N	N	N	N	N	N	N	1	N	N	N	1
	32	N	N	N	N	N	N	N	1	N	N	N	1
	34	N	N	N	N	N	N	N	1	N	N	N	1

1. N = No reinforcement required.
 2 = NI reinforced with 3/4" wood structural panel on one side only.
 3 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
 X = Try a deeper joist or closer spacing.
 2. Maximum design load shall be: 15 psf roof dead load, 65 psf floor total load, and 80 psf wall load. Wall load is based on 9'-0" maximum width window or door openings.
 For larger openings, or multiple 9'-0" width openings spaced less than 6'-0" o.c., additional joists beneath the opening's cripple studs may be required.
 3. Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480. Use 12" o.c. requirements for lesser spacing.
 4. For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the Roof Truss Span is equivalent to the distance between the supporting walls or if a truss is used.
 5. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

5a) SHEATHING REINFORCEMENT



5b) SET-BACK DETAIL

BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

Joist Depth (in.)	Roof Truss Span (ft)	ROOF LOADING (UNFACTORED)											
		LL = 30 psf, DL = 15 psf				LL = 40 psf, DL = 15 psf				LL = 50 psf, DL = 15 psf			
		Joist Spacing (in.)			24	Joist Spacing (in.)			24	Joist Spacing (in.)			24
9-1/2	26	1	X	X	X	2	X	X	X	X	X	X	X
	28	1	X	X	X	2	X	X	X	X	X	X	X
	30	1	X	X	X	2	X	X	X	X	X	X	X
	32	2	X	X	X	X	X	X	X	X	X	X	X
	34	2	X	X	X	X	X	X	X	X	X	X	X
11.7/8	26	X	2	X	X	X	X	X	X	X	X	X	X
	28	X	2	X	X	X	X	X	X	X	X	X	X
	30	X	2	X	X	X	X	X	X	X	X	X	X
	32	X	2	X	X	X	X	X	X	X	X	X	X
	34	X	2	X	X	X	X	X	X	X	X	X	X
14	26	N	2	X	X	1	X	X	X	1	X	X	X
	28	N	2	X	X	1	X	X	X	2	X	X	X
	30	1	X	X	X	1	X	X	X	2	X	X	X
	32	1	X	X	X	2	X	X	X	2	X	X	X
	34	1	X	X	X	2	X	X	X	2	X	X	X
16	26	1	2	X	X	1	X	X	X	2	X	X	X
	28	1	2	X	X	1	X	X	X	2	X	X	X
	30	1	2	X	X	1	X	X	X	2	X	X	X
	32	1	2	X	X	2	X	X	X	2	X	X	X
	34	1	2	X	X	2	X	X	X	2	X	X	X

1. N = No reinforcement required.
 2 = NI reinforced with 3/4" wood structural panel on one side only.
 3 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
 X = Try a deeper joist or closer spacing.
 2. Maximum design load shall be: 15 psf roof dead load, 65 psf floor total load, and 80 psf wall load. Wall load is based on 9'-0" maximum width window or door openings.
 For larger openings, or multiple 9'-0" width openings spaced less than 6'-0" o.c., additional joists beneath the opening's cripple studs may be required.
 3. Table applies to joists 12" to 24" o.c. that meet the floor span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480. Use 12" o.c. requirements for lesser spacing.
 4. For conventional roof construction using a ridge beam, the Roof Truss Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is framed using a ridge beam, the Roof Truss Span is equivalent to the distance between the supporting walls or if a truss is used.
 5. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

WEB HOLES

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 and 2, respectively.
- I-joint top and bottom flanges must NEVER be cut, notched, or otherwise modified.
- Whenever possible, field-cut holes should be centred on the middle of the web.
- The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joint web shall equal the clear distance between the flanges of the I-joint minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the hole and the flange.
- The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
- Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole or duct chase opening) and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
- A knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.
- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
- All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
- Limit three maximum size holes per span, of which one may be a duct chase opening.
- A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS
Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

Joist Depth	Joist Series	Minimum distance from inside face of any support to centre of hole (ft-in.)													Span adjustment Factor		
		2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11		12	12-3/4
9-1/2"	Ni-20	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	19.11
	Ni-30	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	14.9
	Ni-40	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	14.1
	Ni-50	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	15.3
	Ni-60	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	15.3
11-7/8"	Ni-20	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	19.11
	Ni-30	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	14.9
	Ni-40	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	14.1
	Ni-50	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	15.3
	Ni-60	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	15.3
14"	Ni-20	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	19.11
	Ni-30	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	14.9
	Ni-40	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	14.1
	Ni-50	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	15.3
	Ni-60	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	15.3
16"	Ni-20	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	19.11
	Ni-30	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	14.9
	Ni-40	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	14.1
	Ni-50	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	15.3
	Ni-60	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	15.3

- Above table may be used for I-joint spacing of 24 inches on centre or less.
- Hole location distance is measured from inside face of supports to centre of hole.
- Distances in this chart are based on uniformly loaded joists.

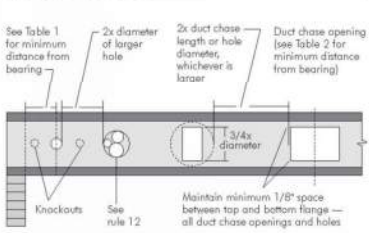
OPTIONAL:

The above table is based on the I-joists used at their maximum span. If the I-joists are placed at less than their full maximum span (see Maximum Floor Spans), the minimum distance from the centreline of the hole to the face of any support (D) as shown above may be reduced as follows:

Reduced = $\frac{D_{actual}}{D_{max}} \times D_{min}$

Where:
 D_{reduced} = Distance from the inside face of any support to centre of hole, reduced for less-than-maximum span applications [9]. The reduced distance shall not be less than 6 inches from the face of the support to edge of the hole.
 D_{actual} = The actual measured span distance between the inside faces of supports [9].
 D_{min} = Span Adjustment Factor given in this table.
 D = The minimum distance from the inside face of any support to centre of hole as shown above in this table.
 If D_{actual} is greater than 1, use 1 in the above calculation for $\frac{D_{actual}}{D_{max}}$.

FIGURE 7
FIELD-CUT HOLE LOCATOR



Knockouts are pre-cored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on centre along the length of the I-joint. Where possible, it is preferable to use knockouts instead of field-cut holes.

Never drill, cut or notch the flange, or over-cut the web.

Holes in webs should be cut with a sharp saw.

For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joint.

TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS — Simple Span Only

Joist Depth	Joist Series	Minimum distance from inside face of any support to centre of opening (ft-in.)									
		8	10	12	14	16	18	20	22	24	
9-1/2"	Ni-20	4.1	4.5	4.9	5.2	5.6	6.1	6.5	7.1	7.5	
	Ni-30	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
	Ni-40	2.1	2.5	2.9	3.2	3.6	4.0	4.4	4.8	5.2	
	Ni-50	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
	Ni-60	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
11-7/8"	Ni-20	4.1	4.5	4.9	5.2	5.6	6.1	6.5	7.1	7.5	
	Ni-30	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
	Ni-40	2.1	2.5	2.9	3.2	3.6	4.0	4.4	4.8	5.2	
	Ni-50	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
	Ni-60	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
14"	Ni-20	4.1	4.5	4.9	5.2	5.6	6.1	6.5	7.1	7.5	
	Ni-30	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
	Ni-40	2.1	2.5	2.9	3.2	3.6	4.0	4.4	4.8	5.2	
	Ni-50	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
	Ni-60	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
16"	Ni-20	4.1	4.5	4.9	5.2	5.6	6.1	6.5	7.1	7.5	
	Ni-30	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
	Ni-40	2.1	2.5	2.9	3.2	3.6	4.0	4.4	4.8	5.2	
	Ni-50	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	
	Ni-60	3.1	3.5	3.9	4.2	4.6	5.0	5.4	5.8	6.2	

- Above table may be used for I-joint spacing of 24 inches on centre or less.
- Duct chase opening location distance is measured from inside face of supports to centre of opening.
- The above table is based on simple-span joists only. For other applications, contact your local distributor.
- Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480. For other applications, contact your local distributor.

The construction details for residential designs are prone to changes.

Details released after April 2014 supersedes N-C301

Installation must comply with latest documentation on I-Joist and other Nordic products from the <http://nordic.ca/>

This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.



INSTALLING THE GLUED FLOOR SYSTEM

- Wipe any mud, dirt, water, or ice from I-joint flanges before gluing.
- Snap a chalk line across the I-joists four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
- Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
- Lay the first panel with tongue side to the wall, and nail in place. This protects the tongue of the next panel from damage when tapped into place with a block and sledgehammer.
- Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joint. Apply glue in a winding pattern on wide areas, such as with double I-joists.
- Apply two lines of glue on I-joists where panel ends butt to assure proper gluing of each end.
After the first row of panels is in place, spread glue in the groove on one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/8 inch) than used on I-joint flanges.
- Tap the second row of panels into place, using a block to protect groove edges.
- Stagger end joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch at all edges, including T&G edges, is recommended. (Use a spacer tool or an 2-1/2" common nail to assure accurate and consistent spacing.)
- Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations for cure time. (Warm weather accelerates glue setting.) Use 2" ring- or screw-shank nails for panels 3/4-inch thick or less, and 2-1/2" ring- or screw-shank nails for thicker panels. Space nails per the table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the glue bond.

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

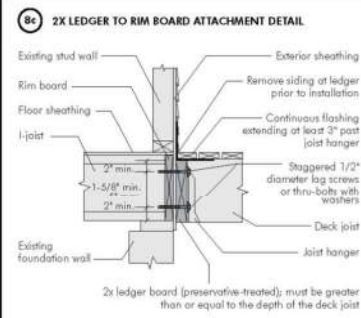
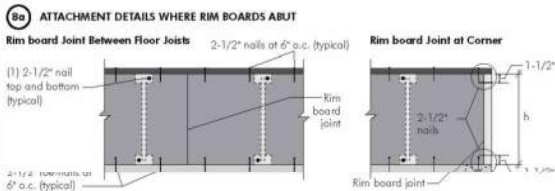
Maximum Joist Spacing (in.)	Minimum Panel Thickness (in.)	Nail Size and Type			Maximum Spacing of Fasteners	
		Common Wire or Spiral Nails	Ring Thread Nails or Screws	Staples	Edges	Interiors/Supports
16	5/8	2"	1-3/4"	2"	6"	12"
20	5/8	2"	1-3/4"	2"	6"	12"
24	3/4	2"	1-3/4"	2"	6"	12"

- Fasteners of sheathing and subflooring shall conform to the above table.
- Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown driven with the crown parallel to framing.
- Flooring screws shall not be less than 1/8-inch in diameter.
- Special conditions may impose heavy traffic and concentrated loads that require construction in excess of what is shown above.
- Use only adhesives conforming to CAN/CSG-71.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Framing for Floor System, applied in accordance with the manufacturer's recommendations. If OSB panels with sealed surfaces and edges are to be used, use only solvent-based glues; check with panel manufacturer.

Ref.: HRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

IMPORTANT NOTE:
Floor sheathing must be field glued to the I-joint flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joint spans must be verified with your local distributor.

RIM BOARD INSTALLATION DETAILS



PRODUCT WARRANTY

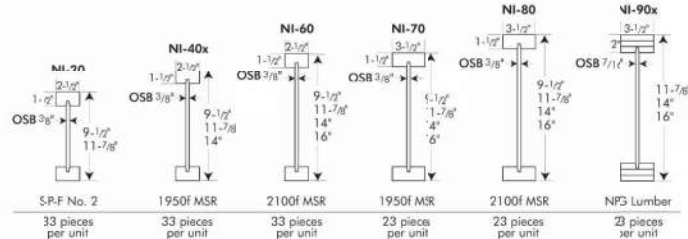
Cherrier Chivagnan guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furthermore, Cherrier Chivagnan warrants that our products, when used in accordance with our handling and installation instructions, will meet or exceed our specifications for the lifetime of the structure.





Refer to the *Installation Guide for Residential Floors* for additional information.
CCMC EVALUATION REPORT 13032-R



WEB HOLE SPECIFICATIONS

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
- Whenever possible, field-cut holes should be centred on the middle of the web.
- The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top/bottom of the hole or opening and the adjacent I-joist flange.

- The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
- Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the largest rectangular hole) duct chase opening and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
- Knockout is **not** considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.

- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
- All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
- Limit three maximum size holes per span, of which one may be a duct chase opening.
- A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS

Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

Joist Depth	Joist Series	Minimum Distance from Inside Face of Any Support to Centre of Hole (ft - in.)														
		Round Hole Diameter (in.)														
		2	3	4	5	6	6-1/4	7	8	8-5/8	10	10-3/4	11	12	12-3/4	
9-1/2"	NI-20	0-7"	1-6"	2-10"	4-3"	5-3"	6-0"	---	---	---	---	---	---	---	---	
	NI-40x	0-7"	1-6"	3-0"	4-4"	6-0"	6-4"	---	---	---	---	---	---	---	---	
	NI-60	1-3"	2-6"	4-0"	5-4"	7-0"	7-5"	---	---	---	---	---	---	---	---	
	NI-70	2-0"	3-4"	4-0"	4-3"	6-0"	6-4"	---	---	---	---	---	---	---	---	
11-7/8"	NI-20	0-7"	0-8"	1-0"	2-4"	3-3"	4-0"	5-0"	6-6"	7-9"	---	---	---	---	---	
	NI-40x	0-7"	0-8"	1-3"	2-8"	4-3"	4-4"	5-5"	7-0"	8-4"	---	---	---	---	---	
	NI-60	0-7"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---	---	---	---	
	NI-70	1-3"	2-6"	4-0"	5-4"	6-9"	7-2"	8-4"	10-0"	11-2"	---	---	---	---	---	
14"	NI-20	0-7"	0-8"	0-9"	2-5"	4-1"	4-9"	6-3"	---	---	---	---	---	---	---	
	NI-40x	0-7"	0-8"	0-8"	1-0"	2-4"	2-9"	3-9"	5-2"	6-0"	6-6"	8-3"	10-2"	---	---	
	NI-60	0-7"	0-8"	1-8"	3-0"	4-3"	4-8"	5-8"	7-2"	8-0"	8-8"	10-4"	11-9"	---	---	
	NI-70	0-8"	1-10"	3-0"	4-5"	5-10"	6-2"	7-3"	8-9"	9-9"	10-4"	12-0"	13-5"	---	---	
14"	NI-80	0-10"	2-0"	3-4"	4-9"	6-2"	6-5"	7-6"	9-0"	10-0"	10-8"	12-4"	13-9"	---	---	
	NI-90	0-7"	0-8"	0-8"	2-0"	3-2"	4-2"	5-5"	7-3"	8-5"	9-2"	---	---	---	---	
	NI-60	0-7"	0-8"	0-8"	1-6"	2-10"	3-2"	4-2"	5-6"	6-4"	7-0"	8-5"	9-8"	10-2"	12-2"	13-9"
	NI-70	0-7"	1-0"	2-3	3-9	4-10	3-3	6-3	7-8	8-6	9-2	10-12	12-0	14-0	15-6	17-2
16"	NI-80	0-7"	1-3"	2-6"	3-10"	5-3"	5-6"	6-6"	8-0"	9-0"	9-5"	11-0"	12-3"	12-9"	14-5"	16-0"
	NI-90	0-7"	0-8"	0-9"	2-0"	3-5"	4-0"	5-0"	6-9"	7-9"	8-4"	10-2"	11-6"	12-0"	---	---
	NI-60	0-7"	0-8"	0-8"	1-6"	2-10"	3-2"	4-2"	5-6"	6-4"	7-0"	8-5"	9-8"	10-2"	12-2"	13-9"
	NI-70	0-7"	1-0"	2-3	3-9	4-10	3-3	6-3	7-8	8-6	9-2	10-12	12-0	14-0	15-6	17-2

- Above table may be used for I-joist spacing of 24 inches on centre or less.
- Hole location distance is measured from inside face of supports to centre of hole.
- Distances in this chart are based on uniformly loaded joists.
- The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

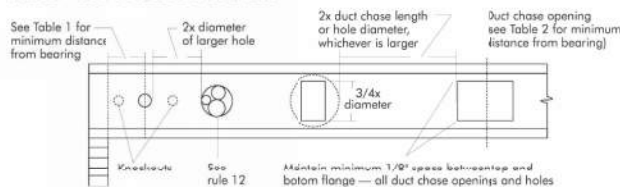
TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

Joist Depth	Joist Series	Minimum Distance from Inside Face of Supports to Centre of Opening (ft - in.)												
		Duct Chase Length (in.)												
		8	10	12	11	16	18	20	22	24	24	24	24	
9-1/2"	NI-20	4-1"	4-5"	4-10"	5-4"	5-8"	6-1"	6-6"	7-1"	7-5"	---	---	---	---
	NI-40x	5-3"	5-8"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"	---	---	---	---
	NI-60	5-4"	5-9"	6-2"	6-7"	7-1"	7-5"	8-0"	8-3"	8-9"	---	---	---	---
	NI-80	6-1"	6-4"	6-10"	6-9"	6-7"	7-1"	7-4"	7-8"	8-1"	8-4"	---	---	---
11-7/8"	NI-20	5-9"	6-2"	6-6"	7-1"	7-5"	7-9"	8-3"	8-9"	9-4"	---	---	---	---
	NI-40x	6-8"	7-2"	7-6"	8-1"	8-6"	9-1"	9-6"	10-1"	10-9"	---	---	---	---
	NI-60	7-3"	7-8"	8-0"	8-6"	9-0"	9-3"	9-9"	10-3"	11-0"	---	---	---	---
	NI-70	7-11"	7-4"	7-9"	8-3"	8-7"	9-1"	9-6"	10-1"	10-4"	---	---	---	---
14"	NI-80	7-2"	7-7"	8-0"	8-10"	9-4"	9-8"	10-2"	10-8"	11-2"	---	---	---	---
	NI-90x	7-7"	8-1"	8-5"	8-10"	9-4"	9-8"	10-2"	10-8"	11-2"	---	---	---	---
	NI-40x	8-1"	8-7"	9-0"	9-6"	10-1"	10-7"	11-2"	12-0"	12-8"	---	---	---	---
	NI-60	8-9"	9-3"	9-8"	10-1"	10-6"	11-1"	11-6"	13-2"	13-0"	---	---	---	---
14"	NI-70	8-7"	9-1"	9-5"	9-10"	10-4"	10-8"	11-2"	11-7"	12-3"	---	---	---	---
	NI-80	9-0"	9-3"	9-9"	10-1"	10-7"	11-1"	11-6"	12-1"	12-6"	---	---	---	---
	NI-90	9-4"	9-9"	10-3"	10-7"	11-1"	11-7"	12-1"	12-7"	13-2"	---	---	---	---
	NI-60	10-3"	10-8"	11-2"	11-6"	12-1"	12-6"	13-2"	14-1"	14-10"	---	---	---	---
16"	NI-70	10-1"	10-3	11-0	11-4	11-10	12-3	12-6	13-2	14-0	---	---	---	---
	NI-80	10-4"	10-9"	11-3"	11-9"	12-1"	12-7"	13-1"	13-6"	14-4"	---	---	---	---
	NI-90x	11-1"	11-5"	11-10"	12-4"	12-10"	13-2"	13-9"	14-4"	15-2"	---	---	---	---
	NI-60	10-3"	10-8"	11-2"	11-6"	12-1"	12-6"	13-2"	14-1"	14-10"	---	---	---	---

- Above table may be used for I-joist spacing of 24 inches on centre or less.
- Duct chase opening location distance is measured from inside face of supports to centre of opening.
- The above table is based on simple-span joists only. For other applications, contact your local distributor.
- Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480.
- The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

FIGURE 7
FIELD-CUT HOLE LOCATOR



Knockouts are preformed holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in diameter, and are spaced 15 inches on centre along the length of the I-joist. Where possible, it is preferable to use knockouts instead of field-cut holes.

Never drill, cut or notch the flange, or over-cut the web.

Holes in webs should be cut with a sharp saw.

For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist.

SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on joists until fully fastened or braced, or serious injuries can result.



Never stack building materials over unbraced joists. Once sheathed, do no over-stress I-joists with concentrated loads from building materials.

WARNING: I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

- Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends. When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
 - Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of all I-joists at the end of the bay.
- For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
- Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
- Never install a damaged I-joist.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

PRODUCT WARRANTY

Chantiers Chibougamau guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furthermore, Chantiers Chibougamau warrants that our products, when utilized in accordance with our handling and installation instructions, will meet or exceed our specifications for the lifetime of the structure.



The construction details for residential designs are prone to changes.

Details released after September 2013 supersedes N-303

Installation must comply with latest documentation on I-Joist and other Nordic products from the <http://nordic.ca/>

This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.

1a

Attach I-joist to top plate per detail 1b

2-1/2" nail at 6' o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing as required for decking)

Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
N Joists	3,300

*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

1b

One 2-1/2" face nail at each side at bearing

Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
1-1/8" Rim Board Plus	8,090

*The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer see detail 1d.

One 2-1/2" wire or spiral nail at top and bottom flange

Attach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6' o.c.

To avoid splitting/flange, start nails at least 1-1/2" from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable.

1d

Squash block

Pair of Squash Blocks	Maximum Factored Vertical Load per Pair of Squash Blocks (lbs)
2x Lumber	5,500
1-1/8" Rim Board Plus	4,300
	6,600

Provide lateral bracing per detail 1a or 1b

1e

Transfer load from above to bearing below. Install squash blocks per detail 1d. Match bearing area of blocks below to post above.

1g

Joist attachment per detail 1b

2-1/2" nails at 6' o.c. to top plate

Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by this detail.

Blocking required over all interior supports under load-bearing walls or when floor joists are not continuous over support

NI blocking panel per detail 1a

1h

Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" nails through the webs and filler block where the backer block will fit. Clinch. Install backer tight to top flange. Use twelve 3" nails, clinched when possible. Maximum factored resistance for hanger for this detail = 1,620 lbs.

BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

* Minimum grade for backer block material shall be S-P-F No. 2 or better for solid wood lumber and wood structural panels conforming to CAN/CSA-O325 or CAN/CSA-O437 Standard.
** For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use net depth minus 4-1/4".

1i

Nordic Lam or Structural Composite Lumber (SCL)

For nailing schedules for multiple beams, see the manufacturer's recommendations.

Top or face mount hanger installed per manufacturer's recommendations

NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

1k

2x plate flush with inside face of wall or beam, 1/8" overhang allowed past inside face of wall or beam.

NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

Top-mount hanger installed per manufacturer's recommendations

1m

Multiple I-joist header with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

Backer block attached per detail 1h. Nail with twelve 3" nails, clinch when possible.

Filler block per detail 1p

Maximum support capacity = 1,620 lbs.

Install hanger per manufacturer's recommendations

1n

Do not bevel-cut joist beyond inside face of wall

Attach I-joist per detail 1b

NOTE: Blocking required at bearing for lateral support, not shown for clarity.

1r

Lumber 2x4 min., extend blocks to face of adjacent wall. Two 2-1/2" spiral nails from each web to lumber piece, alternate on opposite side.

NI blocking panel

OPTIONAL: Minimum 1x4 in. strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists.

1p

FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

Filler block

Offset nails from opposite face by 6"

1/8" to 1/4" gap between top flange and filler block

NOTES:

- Support back of I-joist web during nailing to prevent damage to web/flange connection
- Leave a 1/8" to 1/4"-inch gap between top and bottom of top I-joist flange.
- Filler block is required between joists for full length of span.
- Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of four nails per foot required. If nails can be clinched, only two nails per foot are required.
- The maximum factored load that may be applied to one side of the double joist using this detail is 860 lb/ft. Verify double I-joist capacity.

1s

One 2-1/2" nail at top and bottom flange

2x4 min. (1/8" gap minimum)

Two 2-1/2" nails from each web to lumber piece

One 2-1/2" nail one side only

NOTE: In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of the blocking - All nails are common spiral in this detail

All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.127" dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components no shown to scale for clarity.

WEB STIFFENERS

RECOMMENDATIONS:

- A **bearing stiffener** is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found in the I-joist Construction Guide (C101). The gap between the stiffener and the flange is at the top.
- A **bearing stiffener** is required when the I-joist is supported in a hanger and its sides of the hanger do not extend to, and support, the top flange. The gap between the stiffener and flange is at the top.
- A **load stiffener** is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the area of a cantilever, any other load, or the overhang of the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

FIGURE 2 WEB STIFFENER INSTALLATION DETAILS

CONCENTRATED LOAD (Load stiffener)

END BEARING (Bearing stiffener)

STIFFENER SIZE REQUIREMENTS

Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-1/16" minimum width

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

4a Method 1 — SHEATHING REINFORCEMENT ONE SIDE

Rim board or wood structural panel closure (3/4" minimum thickness), attach per detail 1b

NI blocking panel or rim board blocking, attach per detail 1g

Attach I-joist to plate per detail 1b

2-1/2" nails

3-1/2" min. bearing required

Method 2 — SHEATHING REINFORCEMENT TWO SIDES

Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.

Use nailing pattern shown for Method 1 with opposite face nailing offset by 3".

NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6' o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity.

RIM BOARD INSTALLATION DETAILS

8a ATTACHMENT DETAILS WHERE RIM BOARDS ABUT

Rim Board Joint Between Floor Joists

(1) 2-1/2" nail top and bottom (typical)

Rim board joint

2-1/2" toe-nails at 6' o.c. (typical)

Rim Board Joint at Corner

Rim board joint

2-1/2" nails

8b TOE-NAIL CONNECTION AT RIMBOARD

Rim board

Top or sole plate

30°

ℓ/3



The construction details for residential designs are prone to changes.

Details released after September 2013 supersedes N-303

Installation must comply with latest documentation on I-Joist and other Nordic products from the <http://nordic.ca/>

This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.