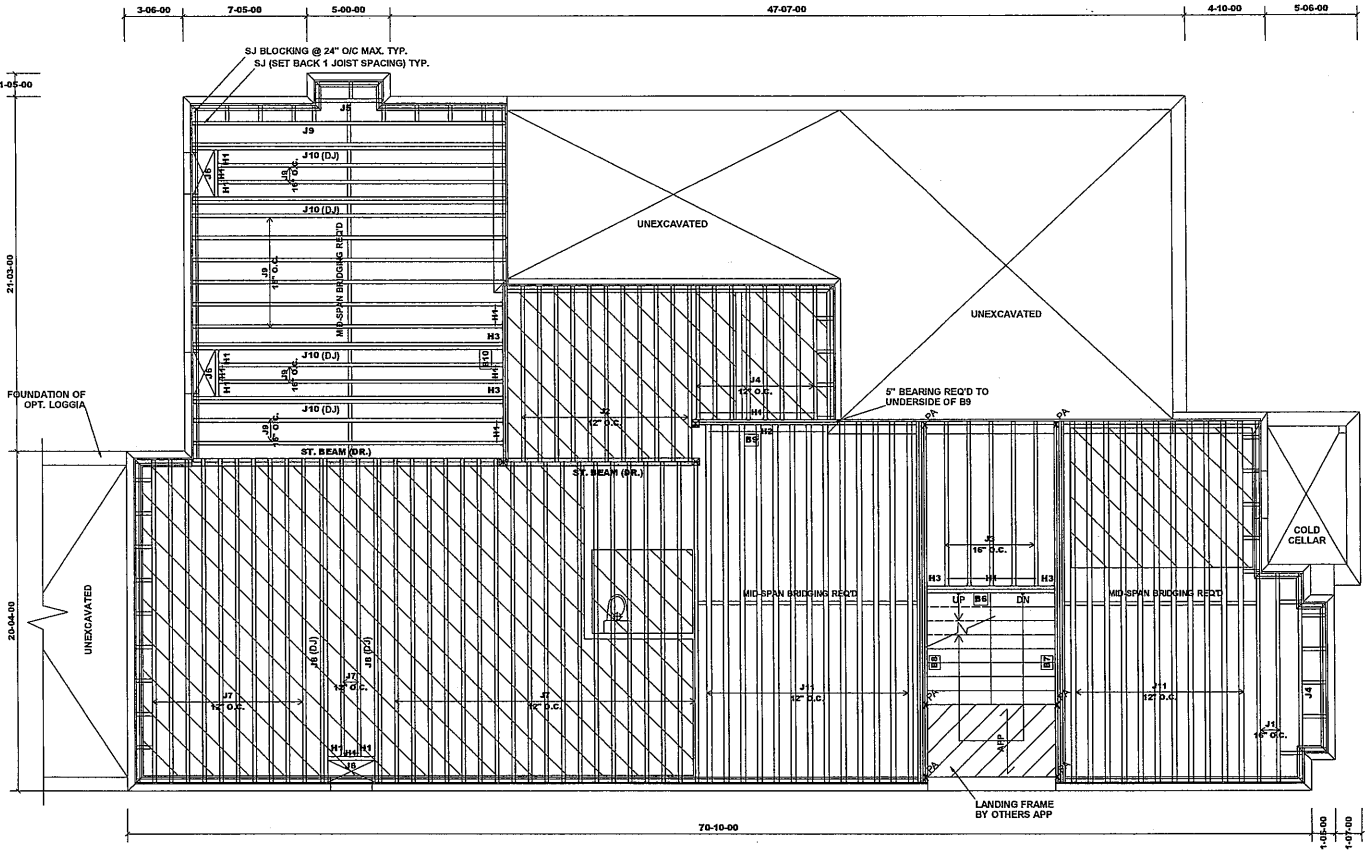


Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B9	9-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
J1	13-00-00	11 7/8" NI-20	1	2
J2	11-00-00	11 7/8" NI-20	1	11
J3	10-00-00	11 7/8" NI-20	1	5
J4	9-00-00	11 7/8" NI-20	1	9
J5	4-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	3
J7	20-00-00	11 7/8" NI-40x	1	31
J8	20-00-00	11 7/8" NI-40x	2	4
J9	19-00-00	11 7/8" NI-40x	1	13
J10	19-00-00	11 7/8" NI-40x	2	8
J11	22-00-00	11 7/8" NI-80	1	24
Ca1	219-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	107-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	31		LT251188
H2	8		LT351188
H3	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
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.

SE0046702 - SE0046728

JT/PL: 45147/116409
LI: 343074*

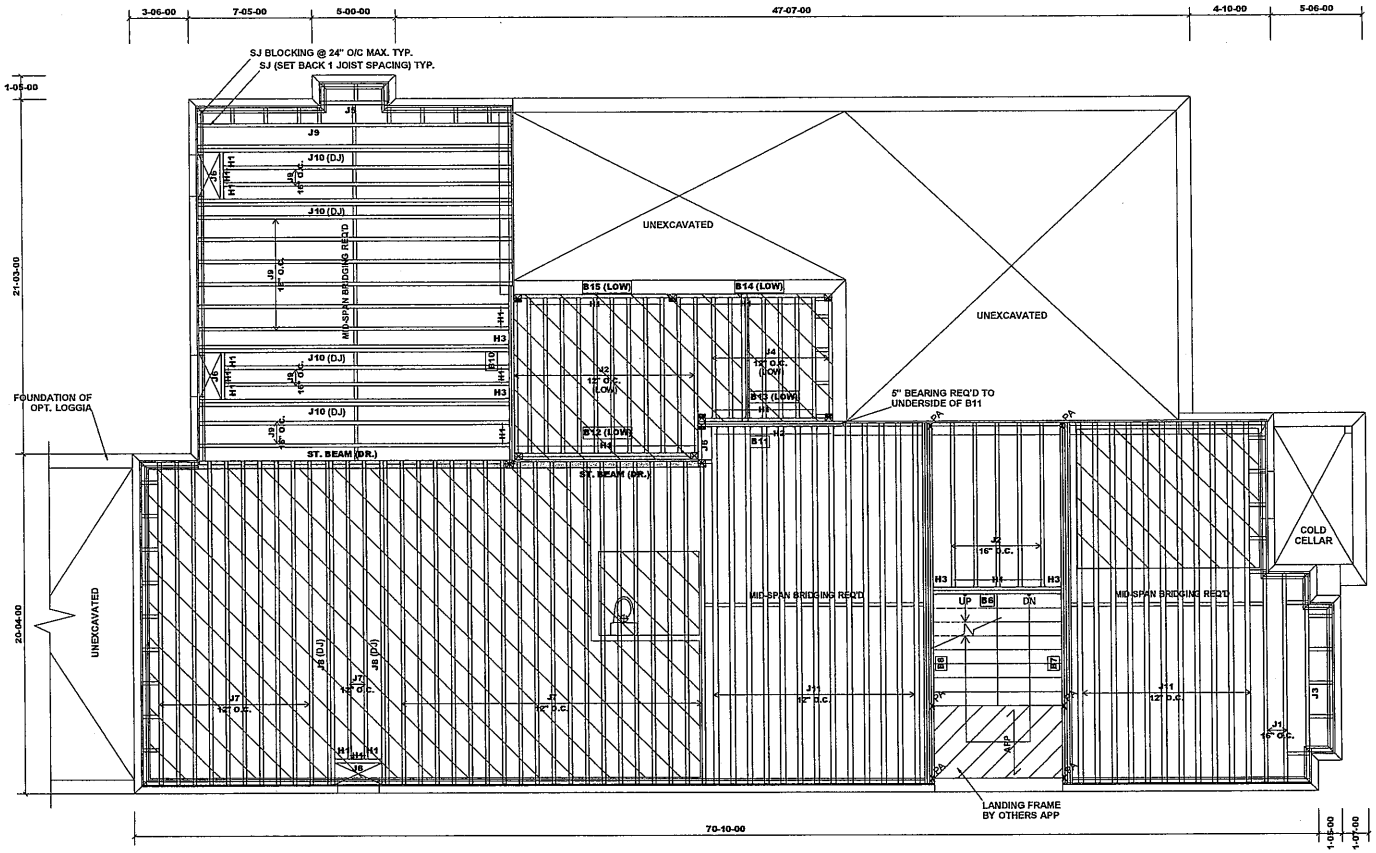
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 1 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B11	9-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B12 (LOW)	12-00-00	11 7/8" NI-20	2	2
B13 (LOW)	9-00-00	11 7/8" NI-20	1	1
B14 (LOW)	10-00-00	11 7/8" NI-20	1	1
B15 (LOW)	10-00-00	11 7/8" NI-20	1	1
J1	13-00-00	11 7/8" NI-20	1	2
J2	10-00-00	11 7/8" NI-20	1	17
J3	9-00-00	11 7/8" NI-20	1	1
J4	8-00-00	11 7/8" NI-20	1	8
J5	4-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	4
J7	20-00-00	11 7/8" NI-40x	1	31
J8	20-00-00	11 7/8" NI-40x	2	4
J9	19-00-00	11 7/8" NI-40x	1	13
J10	19-00-00	11 7/8" NI-40x	2	8
J11	22-00-00	11 7/8" NI-80	1	24
Ca1	203-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	98-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	60		LT251188
H2	8		LT351188
H3	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
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
LI: 343074*

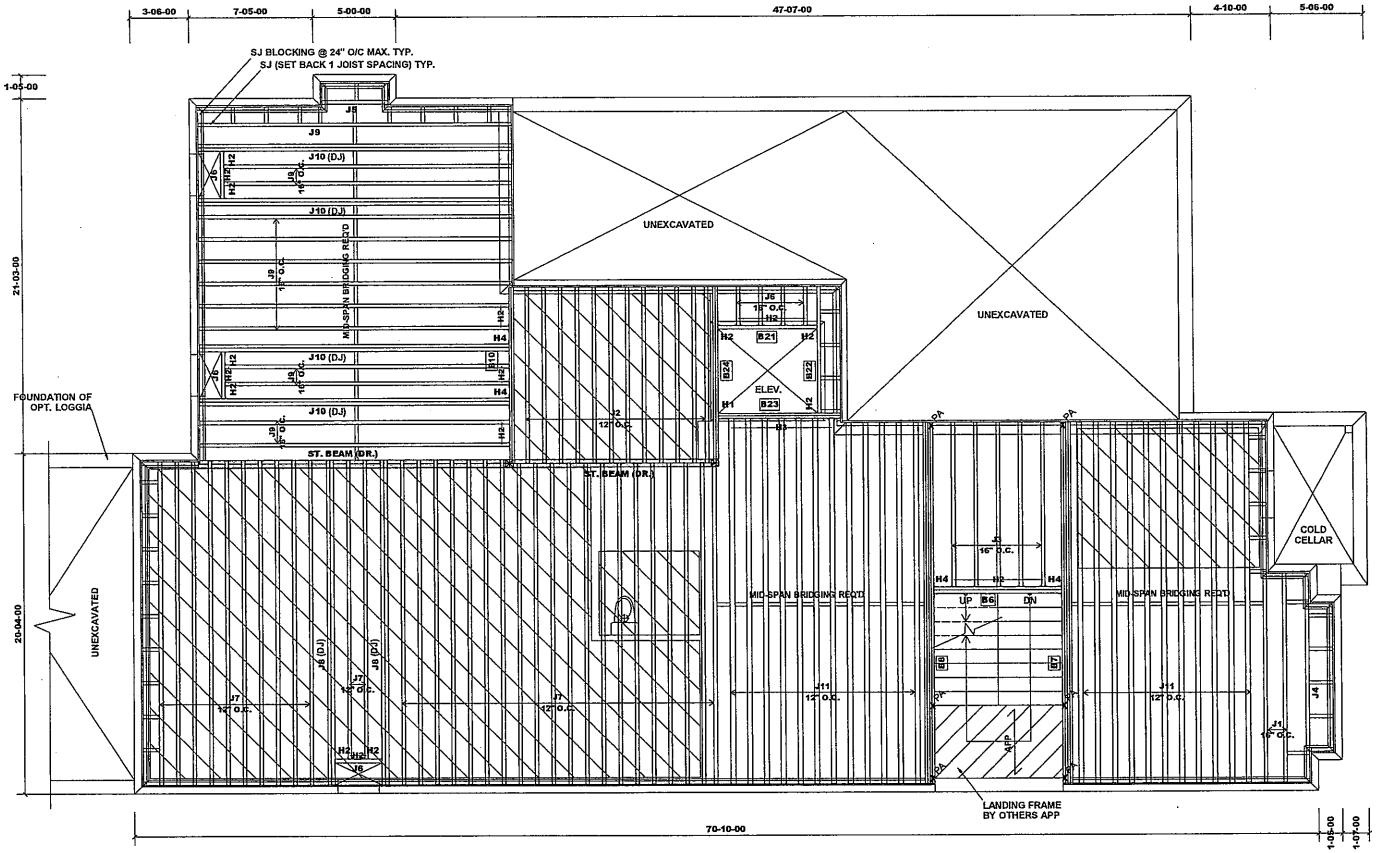
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 2 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B21	6-00-00	11 7/8" NI-20	1	1
B22	8-00-00	11 7/8" NI-20	1	1
B23	8-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
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	2
J2	11-00-00	11 7/8" NI-20	1	12
J3	10-00-00	11 7/8" NI-20	1	5
J4	9-00-00	11 7/8" NI-20	1	1
J5	4-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	7
J7	20-00-00	11 7/8" NI-40x	1	32
J8	20-00-00	11 7/8" NI-40x	2	4
J9	19-00-00	11 7/8" NI-40x	1	13
J10	19-00-00	11 7/8" NI-40x	2	8
J11	22-00-00	11 7/8" NI-80	1	23
Ca1	220-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	108-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	30		LT251188
H3	7		LT351188
H4	4		MT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION A
W/ ELEVATOR

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
LI: 343074*

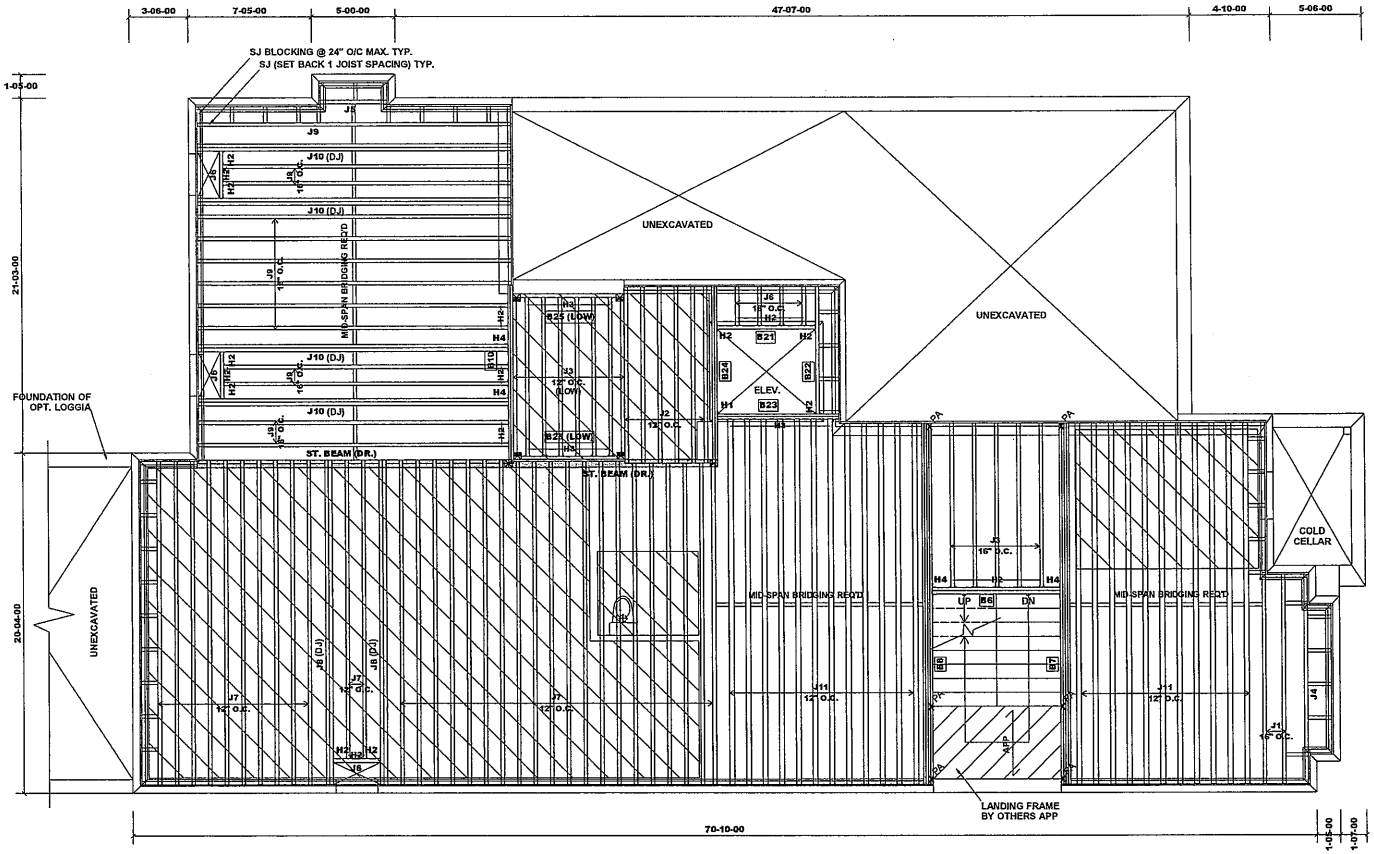
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 3 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B21	6-00-00	11 7/8" NI-20	1	1
B22	8-00-00	11 7/8" NI-20	1	1
B23	8-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B24	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B25 (LOW)	7-00-00	11 7/8" NI-20	1	2
J1	13-00-00	11 7/8" NI-20	1	2
J2	11-00-00	11 7/8" NI-20	1	6
J3	10-00-00	11 7/8" NI-20	1	13
J4	9-00-00	11 7/8" NI-20	1	1
J5	4-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	7
J7	20-00-00	11 7/8" NI-40x	1	32
J8	20-00-00	11 7/8" NI-40x	2	4
J9	19-00-00	11 7/8" NI-40x	1	13
J10	19-00-00	11 7/8" NI-40x	2	8
J11	22-00-00	11 7/8" NI-80	1	23
Ca1	220-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	102-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	30		LT251188
H3	19		LT351188
H4	4		MT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION A
W/ SUNKEN MUDROOM
W/ ELEVATOR

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
LI: 343074*

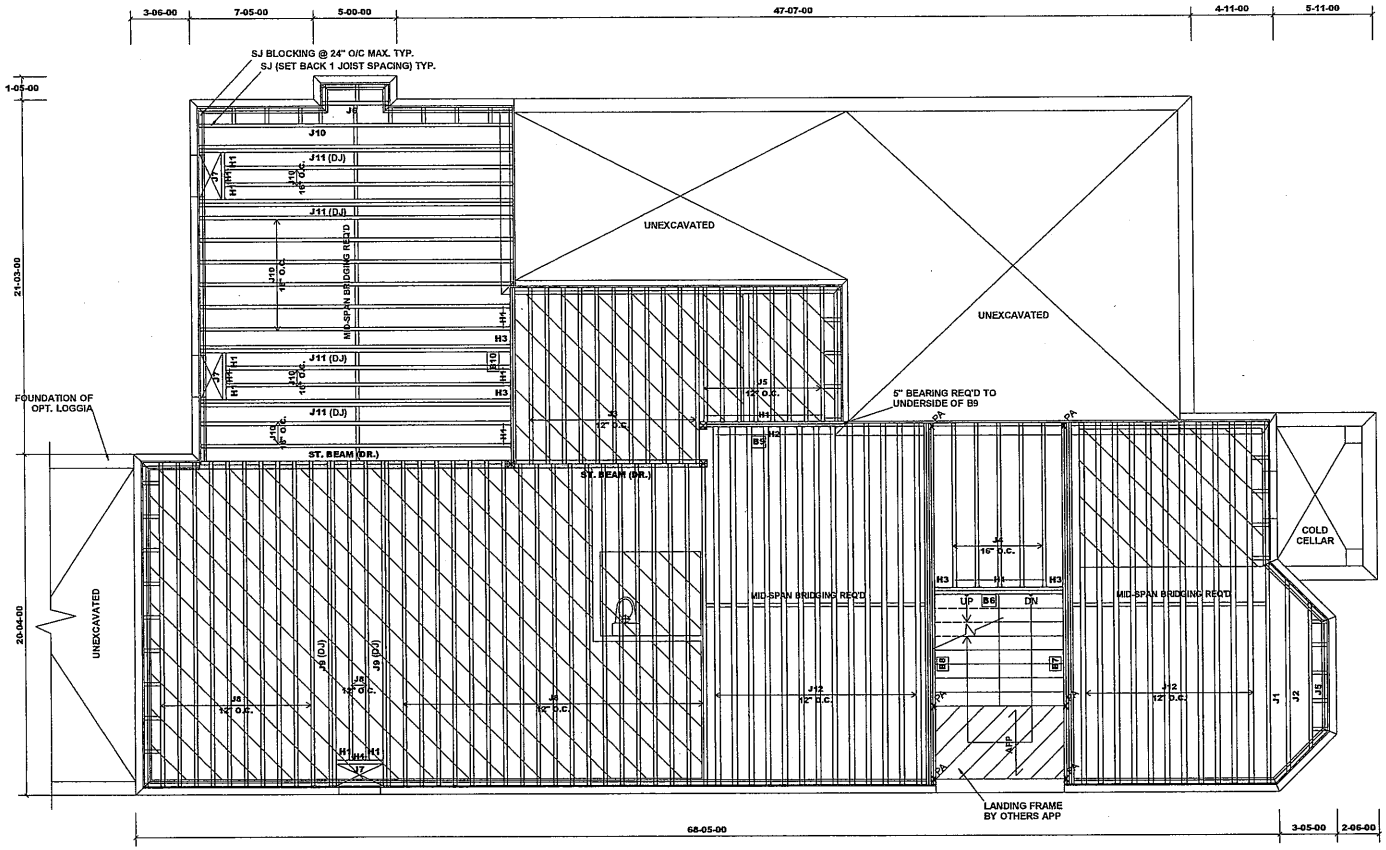
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 4 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B9	9-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
J1	14-00-00	11 7/8" NI-20	1	1
J2	12-00-00	11 7/8" NI-20	1	1
J3	11-00-00	11 7/8" NI-20	1	11
J4	10-00-00	11 7/8" NI-20	1	5
J5	9-00-00	11 7/8" NI-20	1	9
J6	4-00-00	11 7/8" NI-20	1	1
J7	3-00-00	11 7/8" NI-20	1	3
J8	20-00-00	11 7/8" NI-40x	1	31
J9	20-00-00	11 7/8" NI-40x	2	4
J10	19-00-00	11 7/8" NI-40x	1	13
J11	19-00-00	11 7/8" NI-40x	2	8
J12	22-00-00	11 7/8" NI-80	1	24
Ca1	215-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	97-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	31		LT251188
H2	8		LT351188
H3	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
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.

JT/PL: 45147/116409
LI: 343074*

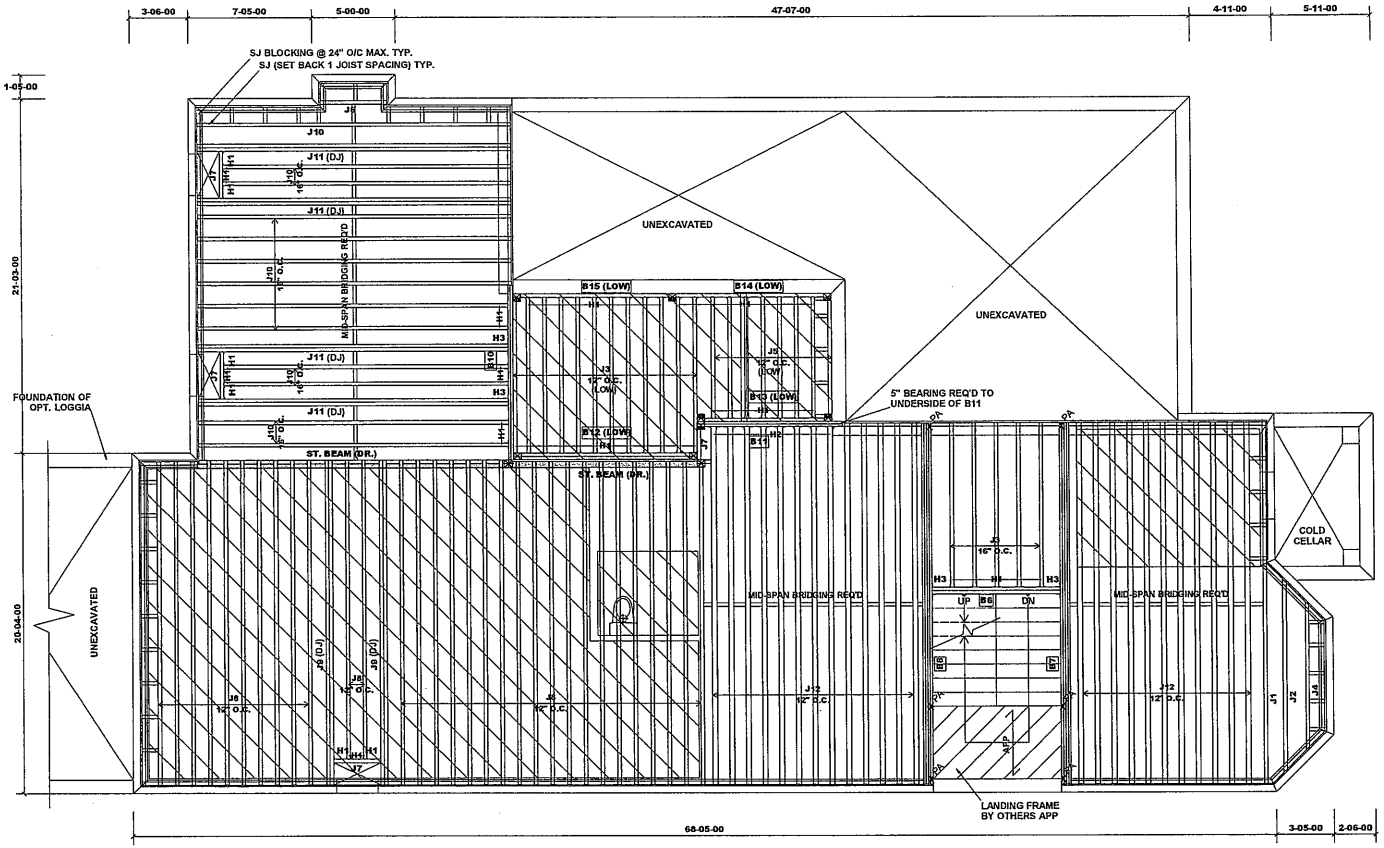
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 5 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B11	9-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B12 (LOW)	12-00-00	11 7/8" NI-20	2	2
B13 (LOW)	9-00-00	11 7/8" NI-20	1	1
B14 (LOW)	10-00-00	11 7/8" NI-20	1	1
B15 (LOW)	10-00-00	11 7/8" NI-20	1	1
J1	14-00-00	11 7/8" NI-20	1	1
J2	12-00-00	11 7/8" NI-20	1	1
J3	10-00-00	11 7/8" NI-20	1	17
J4	9-00-00	11 7/8" NI-20	1	1
J5	8-00-00	11 7/8" NI-20	1	8
J6	4-00-00	11 7/8" NI-20	1	1
J7	3-00-00	11 7/8" NI-20	1	4
J8	20-00-00	11 7/8" NI-40x	1	31
J9	20-00-00	11 7/8" NI-40x	2	4
J10	19-00-00	11 7/8" NI-40x	1	13
J11	19-00-00	11 7/8" NI-40x	2	8
J12	22-00-00	11 7/8" NI-80	1	24
Ca1	198-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	88-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	60		LT251188
H2	8		LT351188
H3	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
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
LI: 343074*

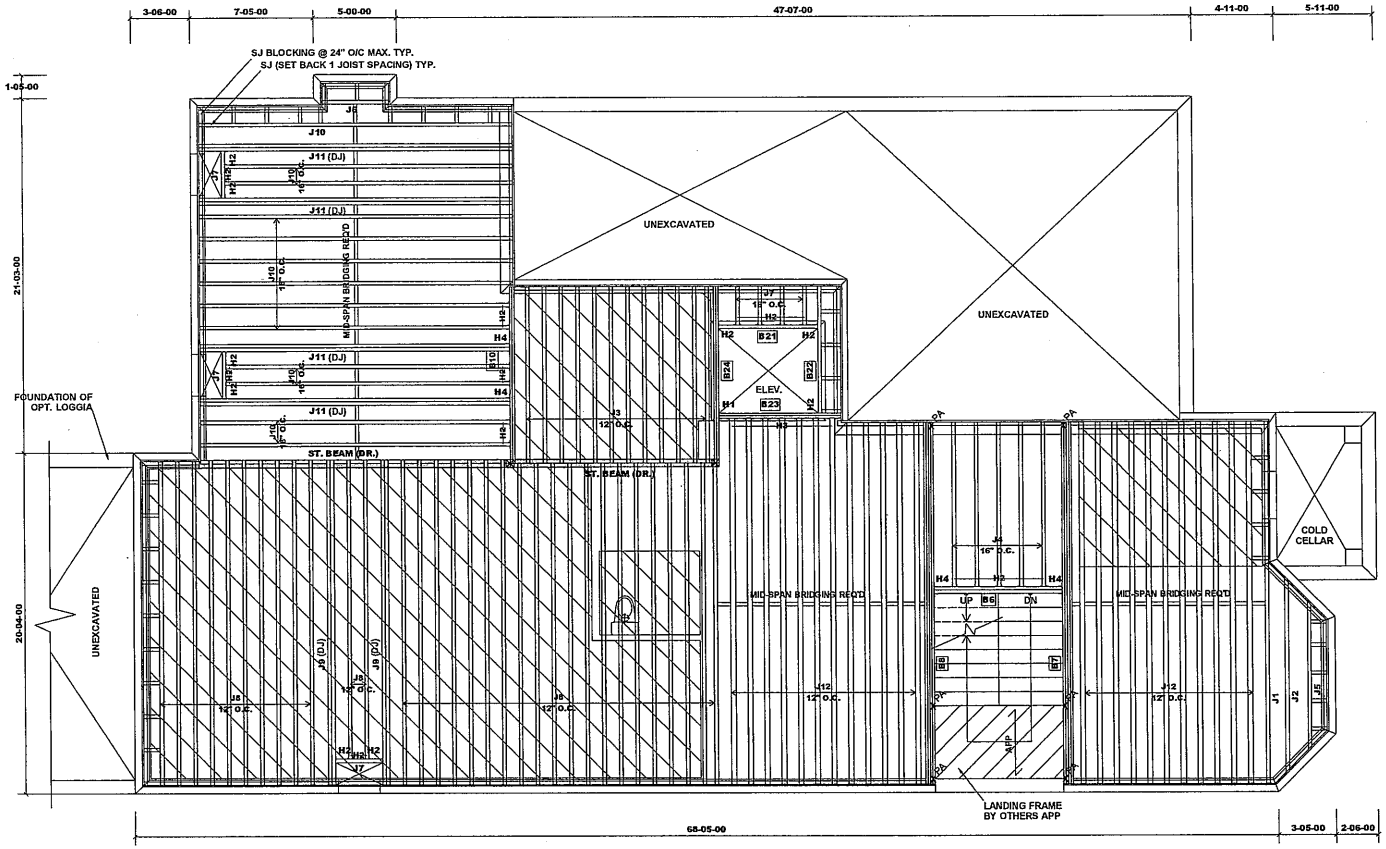
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 6 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B21	6-00-00	11 7/8" NI-20	1	1
B22	8-00-00	11 7/8" NI-20	1	1
B23	8-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B24	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
J1	14-00-00	11 7/8" NI-20	1	1
J2	12-00-00	11 7/8" NI-20	1	1
J3	11-00-00	11 7/8" NI-20	1	12
J4	10-00-00	11 7/8" NI-20	1	5
J5	9-00-00	11 7/8" NI-20	1	1
J6	4-00-00	11 7/8" NI-20	1	1
J7	3-00-00	11 7/8" NI-20	1	7
J8	20-00-00	11 7/8" NI-40x	1	32
J9	20-00-00	11 7/8" NI-40x	2	4
J10	19-00-00	11 7/8" NI-40x	1	13
J11	19-00-00	11 7/8" NI-40x	2	8
J12	22-00-00	11 7/8" NI-80	1	23
Ca1	215-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	98-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	30		LT251188
H3	7		LT351188
H4	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION B
W/ ELEVATOR

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
LI: 343074*

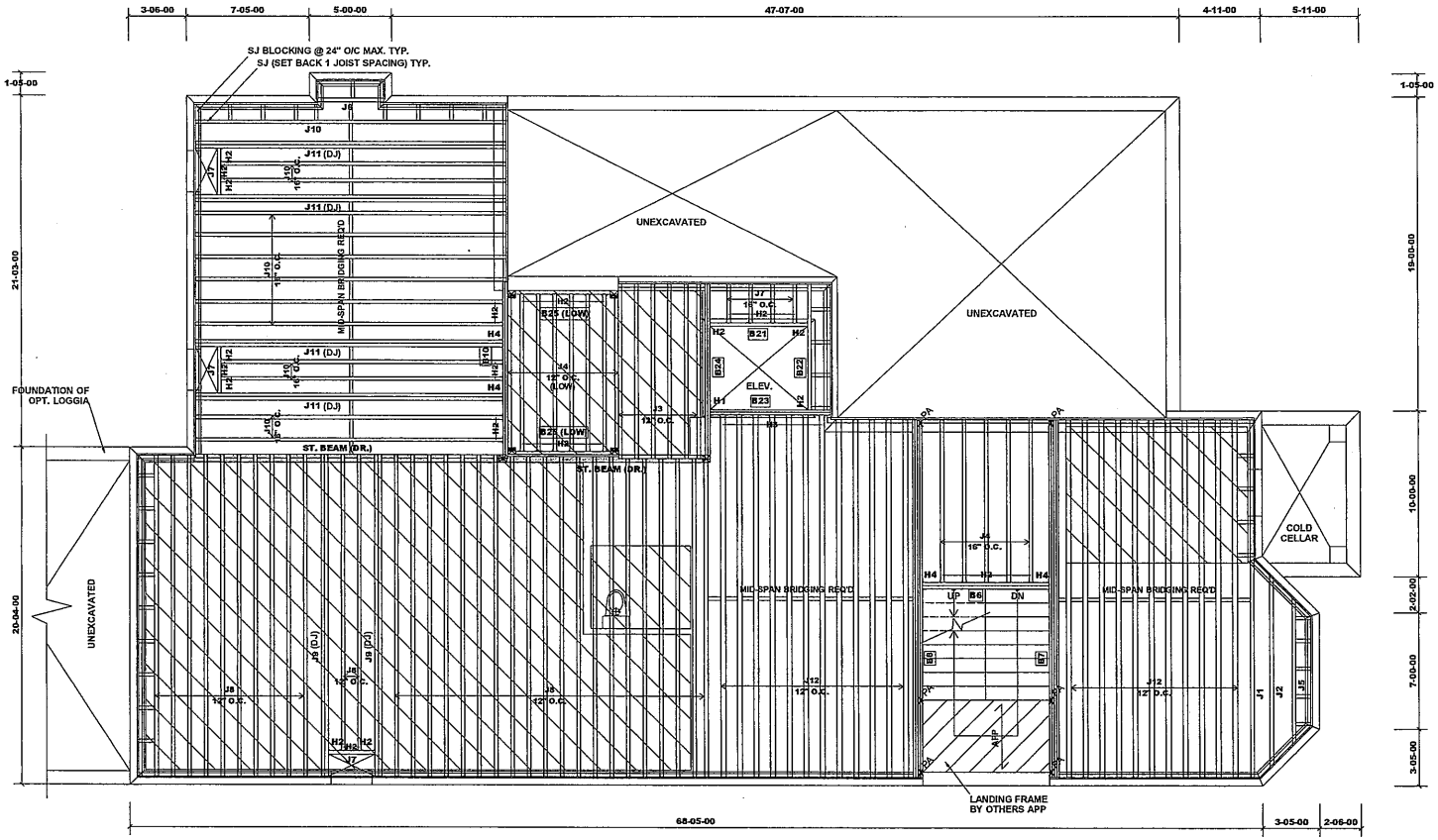
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 7 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B21	6-00-00	11 7/8" NI-20	1	1
B22	8-00-00	11 7/8" NI-20	1	1
B23	8-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B24	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B25 (LOW)	7-00-00	11 7/8" NI-20	1	2
J1	14-00-00	11 7/8" NI-20	1	1
J2	12-00-00	11 7/8" NI-20	1	1
J3	11-00-00	11 7/8" NI-20	1	6
J4	10-00-00	11 7/8" NI-20	1	13
J5	9-00-00	11 7/8" NI-20	1	1
J6	4-00-00	11 7/8" NI-20	1	1
J7	3-00-00	11 7/8" NI-20	1	7
J8	20-00-00	11 7/8" NI-40x	1	32
J9	20-00-00	11 7/8" NI-40x	2	4
J10	19-00-00	11 7/8" NI-40x	1	13
J11	19-00-00	11 7/8" NI-40x	2	8
J12	22-00-00	11 7/8" NI-80	1	23
Ca1	215-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	92-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	42		LT251188
H3	7		LT351188
H4	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION B
W/ SUNKEN MUDROOM
W/ ELEVATOR

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
LI: 343074*

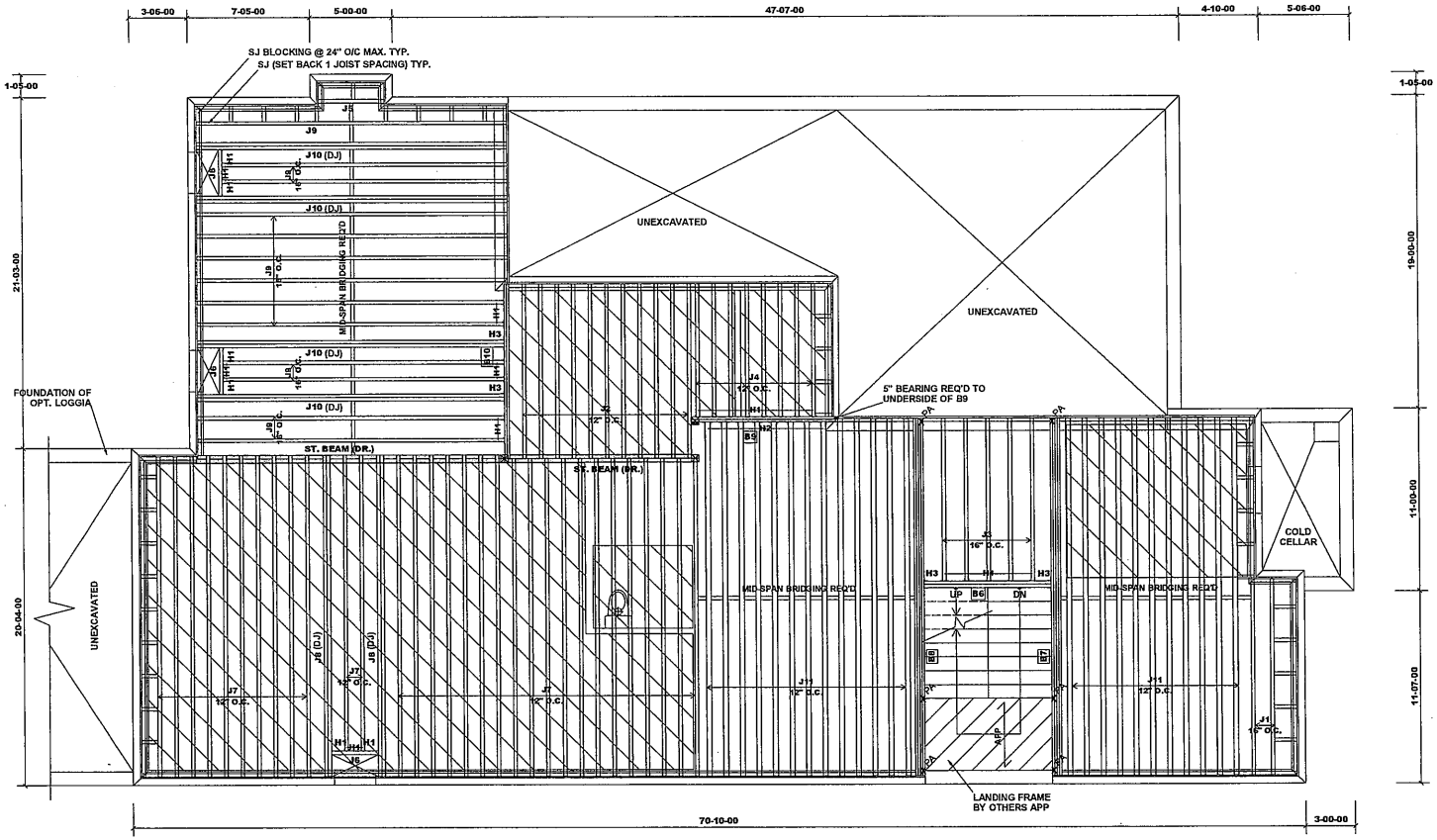
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 8 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B9	9-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
J1	12-00-00	11 7/8" NI-20	1	2
J2	11-00-00	11 7/8" NI-20	1	11
J3	10-00-00	11 7/8" NI-20	1	5
J4	9-00-00	11 7/8" NI-20	1	8
J5	4-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	3
J7	20-00-00	11 7/8" NI-40x	1	31
J8	20-00-00	11 7/8" NI-40x	2	4
J9	19-00-00	11 7/8" NI-40x	1	13
J10	19-00-00	11 7/8" NI-40x	2	8
J11	22-00-00	11 7/8" NI-80	1	24
Ca1	217-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	103-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	31		LT251188
H2	8		LT351188
H3	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
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
LI: 343074*

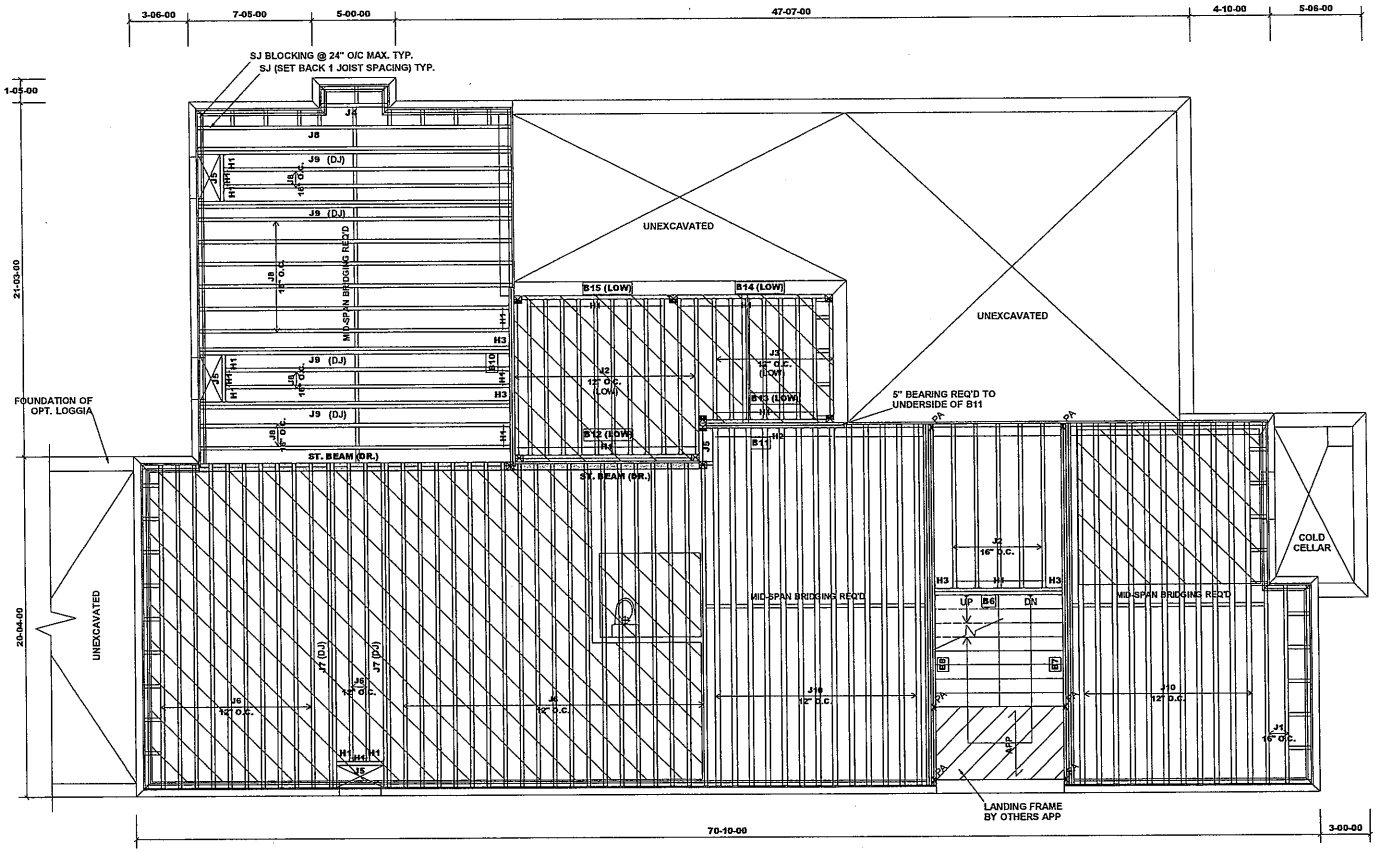
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 9 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B11	9-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B12 (LOW)	12-00-00	11 7/8" NI-20	2	2
B13 (LOW)	9-00-00	11 7/8" NI-20	1	1
B14 (LOW)	10-00-00	11 7/8" NI-20	1	1
B15 (LOW)	10-00-00	11 7/8" NI-20	1	1
J1	12-00-00	11 7/8" NI-20	1	2
J2	10-00-00	11 7/8" NI-20	1	17
J3	8-00-00	11 7/8" NI-20	1	8
J4	4-00-00	11 7/8" NI-20	1	1
J5	3-00-00	11 7/8" NI-20	1	4
J6	20-00-00	11 7/8" NI-40x	1	31
J7	20-00-00	11 7/8" NI-40x	2	4
J8	19-00-00	11 7/8" NI-40x	1	13
J9	19-00-00	11 7/8" NI-40x	2	8
J10	22-00-00	11 7/8" NI-80	1	24
Ca1	200-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	93-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	60		LT251188
H2	8		LT351188
H3	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
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
LI: 343074*

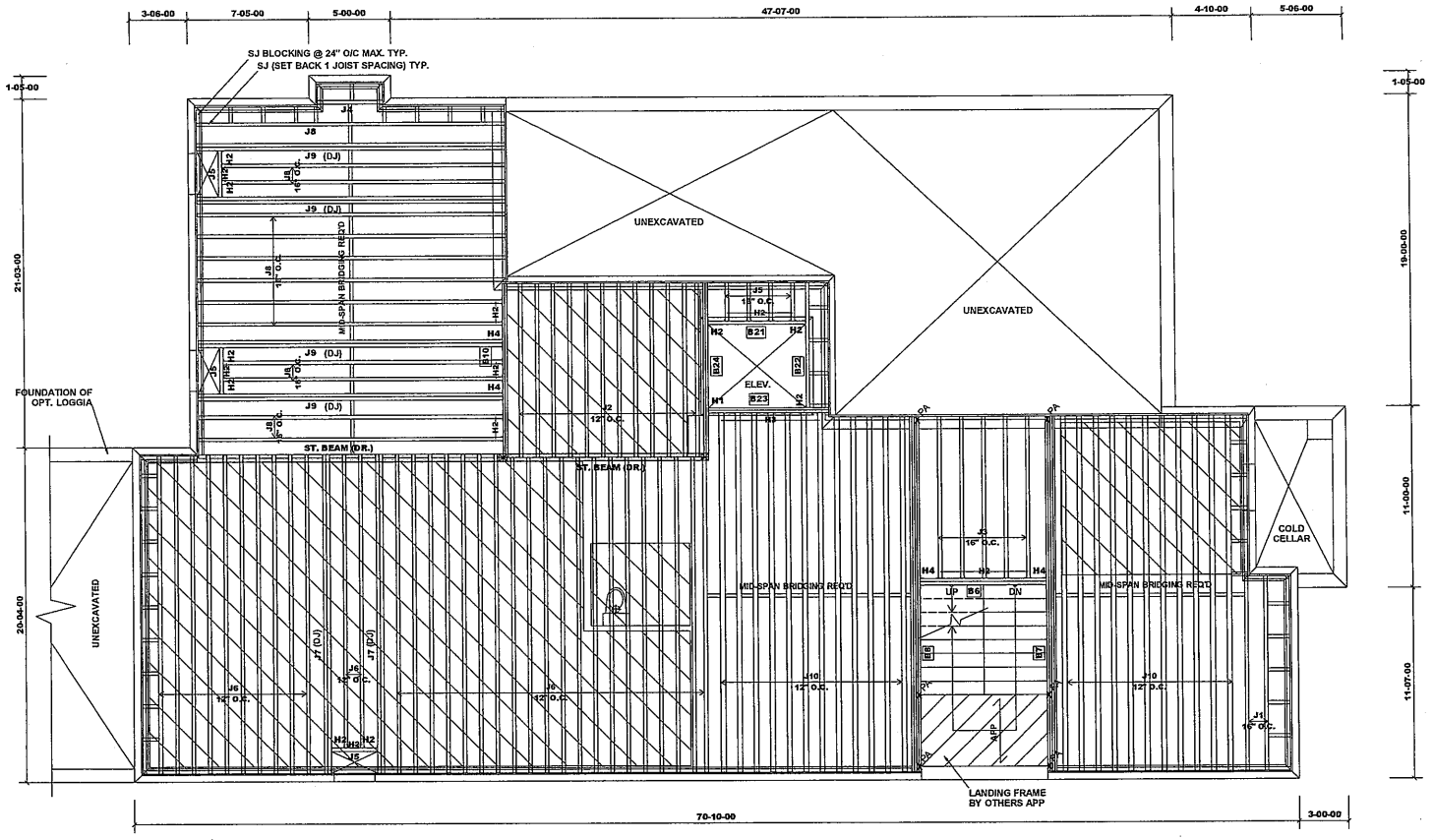
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 10 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B21	8-00-00	11 7/8" NI-20	1	1
B22	8-00-00	11 7/8" NI-20	1	1
B23	8-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B24	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
J1	12-00-00	11 7/8" NI-20	1	2
J2	11-00-00	11 7/8" NI-20	1	12
J3	10-00-00	11 7/8" NI-20	1	5
J4	4-00-00	11 7/8" NI-20	1	1
J5	3-00-00	11 7/8" NI-20	1	7
J6	20-00-00	11 7/8" NI-40x	1	32
J7	20-00-00	11 7/8" NI-40x	2	4
J8	19-00-00	11 7/8" NI-40x	1	13
J9	19-00-00	11 7/8" NI-40x	2	8
J10	22-00-00	11 7/8" NI-80	1	23
Ca1	217-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Blk1	103-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	30		LT251188
H3	7		LT351188
H4	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION C
W/ ELEVATOR

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
LI: 343074*

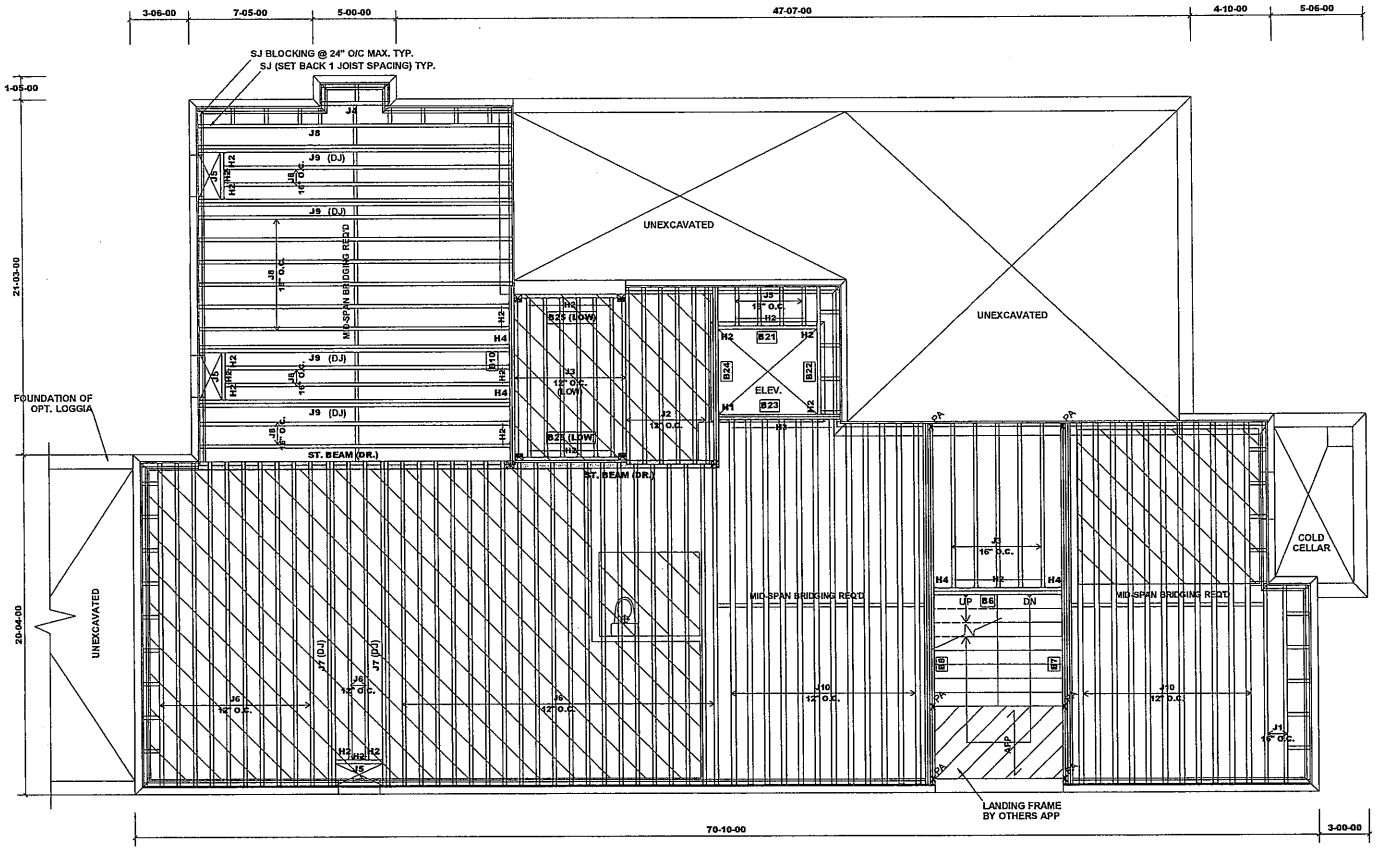
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 11 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B6	8-00-00	11 7/8" NI-20	2	2
B7	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B8	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	4	4
B10	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B21	6-00-00	11 7/8" NI-20	1	1
B22	8-00-00	11 7/8" NI-20	1	1
B23	8-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B24	11-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	2	2
B25 (LOW)	7-00-00	11 7/8" NI-20	1	2
J1	12-00-00	11 7/8" NI-20	1	2
J2	11-00-00	11 7/8" NI-20	1	6
J3	10-00-00	11 7/8" NI-20	1	13
J4	4-00-00	11 7/8" NI-20	1	1
J5	3-00-00	11 7/8" NI-20	1	7
J8	20-00-00	11 7/8" NI-40x	1	32
J7	20-00-00	11 7/8" NI-40x	2	4
J8	19-00-00	11 7/8" NI-40x	1	13
J9	19-00-00	11 7/8" NI-40x	2	8
J10	22-00-00	11 7/8" NI-80	1	23
Ca1	217-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Bk1	98-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	1		HGUS410
H2	42		LT251188
H3	7		LT351188
H4	4		MIT311.88-2

GROUND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION C
W/ SUNKEN MUDROOM
W/ ELEVATOR

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
LI: 343074*

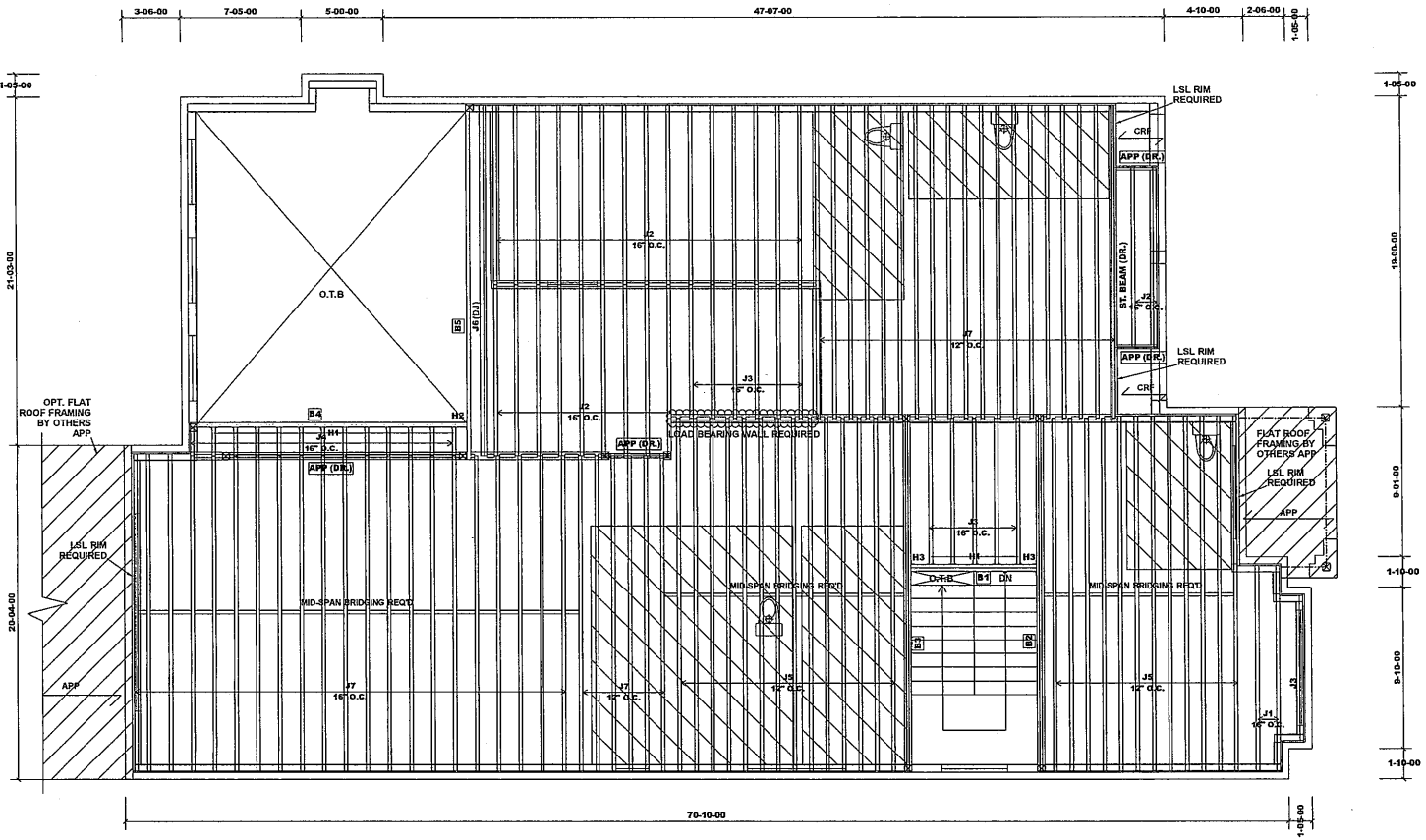
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 12 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
J1	13-00-00	11 7/8" NI-20	1	2
J2	11-00-00	11 7/8" NI-20	1	26
J3	9-00-00	11 7/8" NI-20	1	12
J4	2-00-00	11 7/8" NI-20	1	13
J5	22-00-00	11 7/8" NI-40x	1	26
J6	22-00-00	11 7/8" NI-40x	2	2
J7	20-00-00	11 7/8" NI-40x	1	46
Ca1	149-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	37-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	99-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	17		LT251188
H2	1		LT351188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
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
LI: 343074*

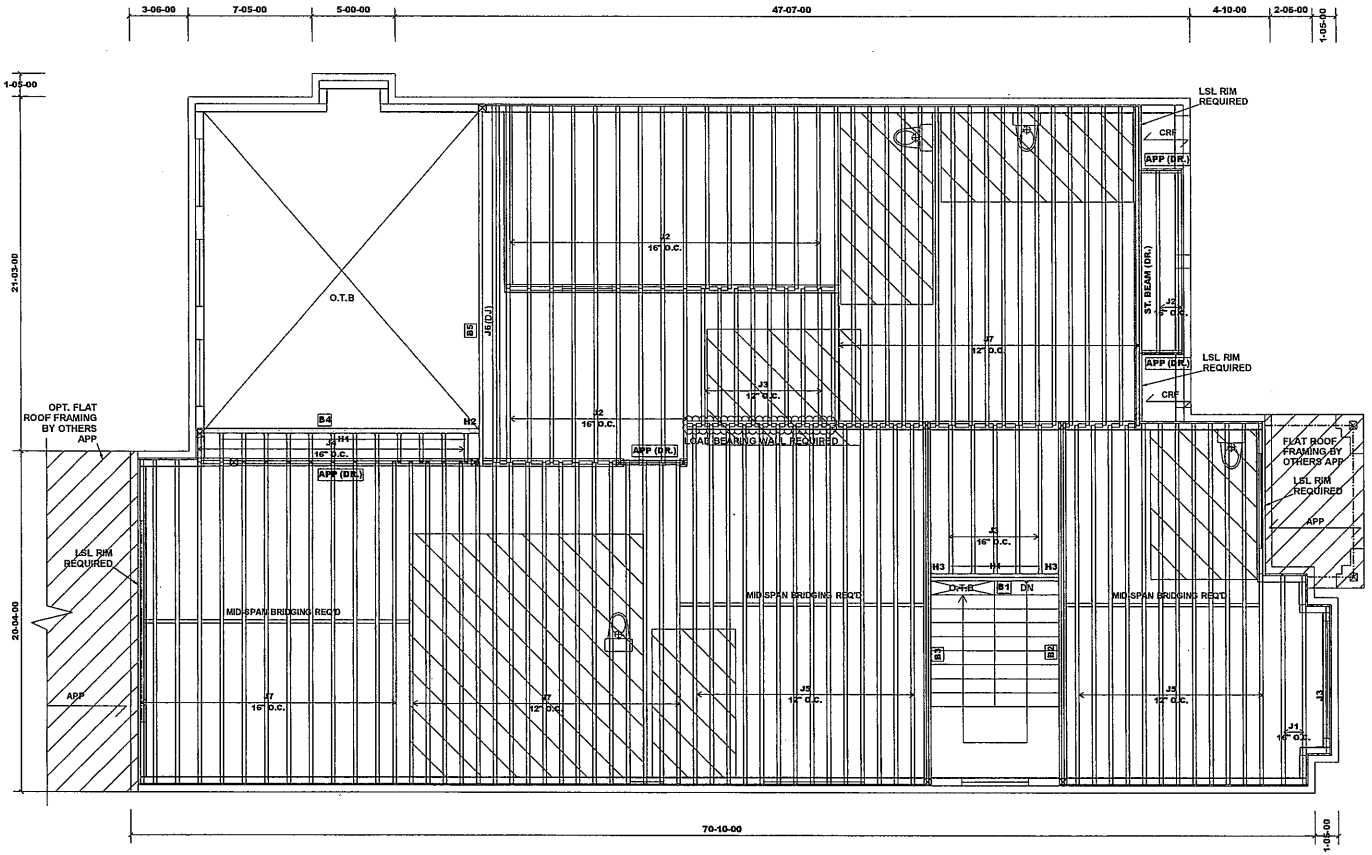
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 13 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
J1	13-00-00	11 7/8" NI-20	1	2
J2	11-00-00	11 7/8" NI-20	1	26
J3	9-00-00	11 7/8" NI-20	1	14
J4	2-00-00	11 7/8" NI-20	1	13
J5	22-00-00	11 7/8" NI-40x	1	26
J6	22-00-00	11 7/8" NI-40x	2	2
J7	20-00-00	11 7/8" NI-40x	1	49
Ca1	149-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	37-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	85-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	17		LT251188
H2	1		LT351188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION A
W/ 5 BEDROOM

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
LI: 343074*

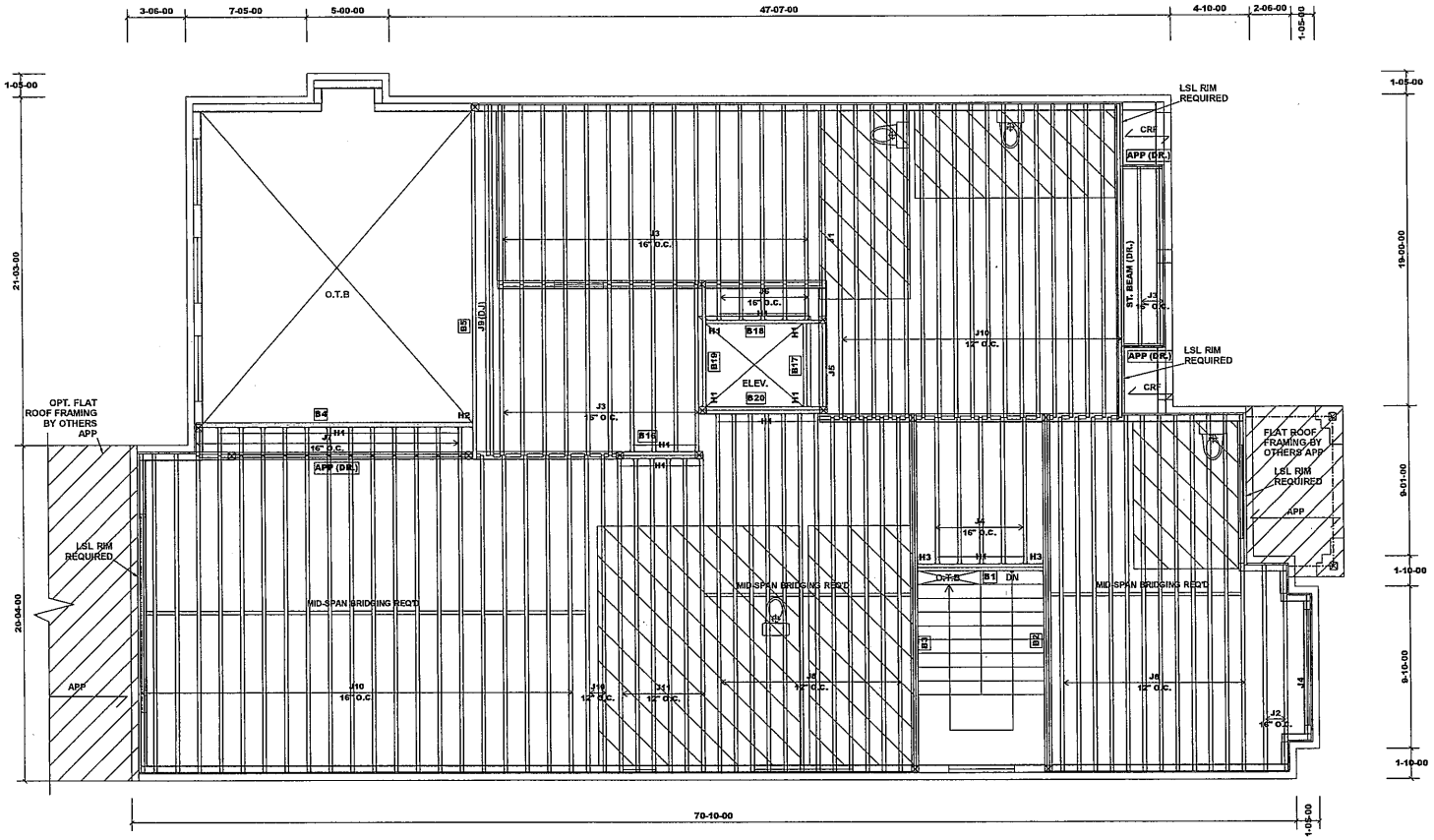
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 14 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B16	6-00-00	11 7/8" NI-20	2	2
B17	6-00-00	11 7/8" NI-20	1	1
B18	8-00-00	11 7/8" NI-20	1	1
B19	8-00-00	11 7/8" NI-20	1	1
B20	8-00-00	11 7/8" NI-20	2	2
J1	14-00-00	11 7/8" NI-20	1	1
J2	13-00-00	11 7/8" NI-20	1	2
J3	11-00-00	11 7/8" NI-20	1	27
J4	9-00-00	11 7/8" NI-20	1	6
J5	6-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	5
J7	2-00-00	11 7/8" NI-20	1	13
J8	22-00-00	11 7/8" NI-40x	1	24
J9	22-00-00	11 7/8" NI-40x	2	2
J10	20-00-00	11 7/8" NI-40x	1	41
J11	19-00-00	11 7/8" NI-40x	1	6
Ca1	149-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	37-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	89-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	43		LT251188
H2	1		LT351188
H3	2		MIT311.89-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION A
W/ ELEVATOR

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
LI: 343074*

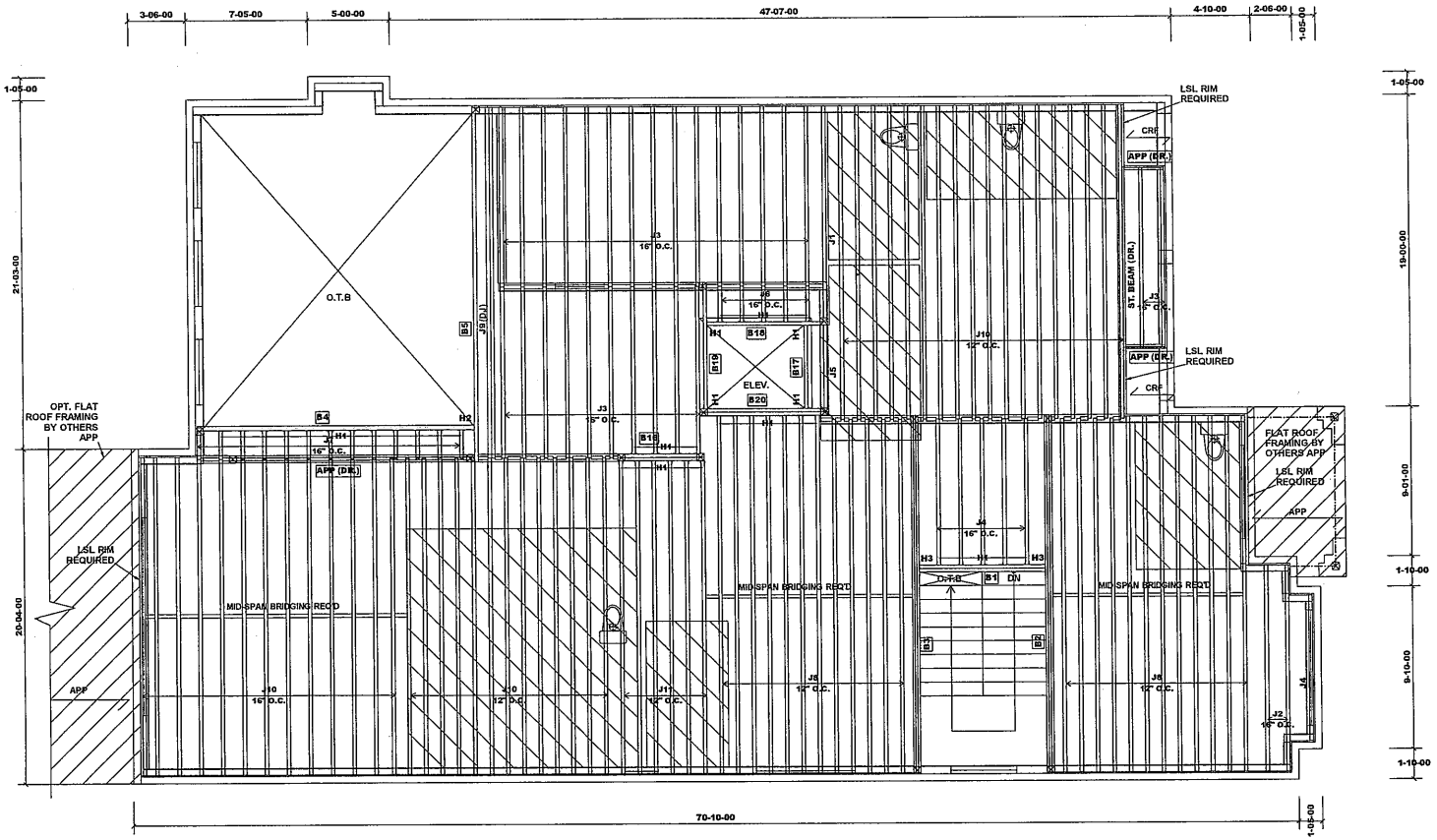
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 15 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B16	6-00-00	11 7/8" NI-20	2	2
B17	6-00-00	11 7/8" NI-20	1	1
B18	8-00-00	11 7/8" NI-20	1	1
B19	8-00-00	11 7/8" NI-20	1	1
B20	8-00-00	11 7/8" NI-20	2	2
J1	14-00-00	11 7/8" NI-20	1	1
J2	13-00-00	11 7/8" NI-20	1	2
J3	11-00-00	11 7/8" NI-20	1	27
J4	9-00-00	11 7/8" NI-20	1	6
J5	6-00-00	11 7/8" NI-20	1	1
J6	3-00-00	11 7/8" NI-20	1	5
J7	2-00-00	11 7/8" NI-20	1	13
J8	22-00-00	11 7/8" NI-40x	1	24
J9	22-00-00	11 7/8" NI-40x	2	2
J10	20-00-00	11 7/8" NI-40x	1	44
J11	19-00-00	11 7/8" NI-40x	1	6
Ca1	149-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	37-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	78-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	43		LT251188
H2	1		LT351188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION A
W/ 5 BEDROOM
W/ ELEVATOR

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
LI: 343074*

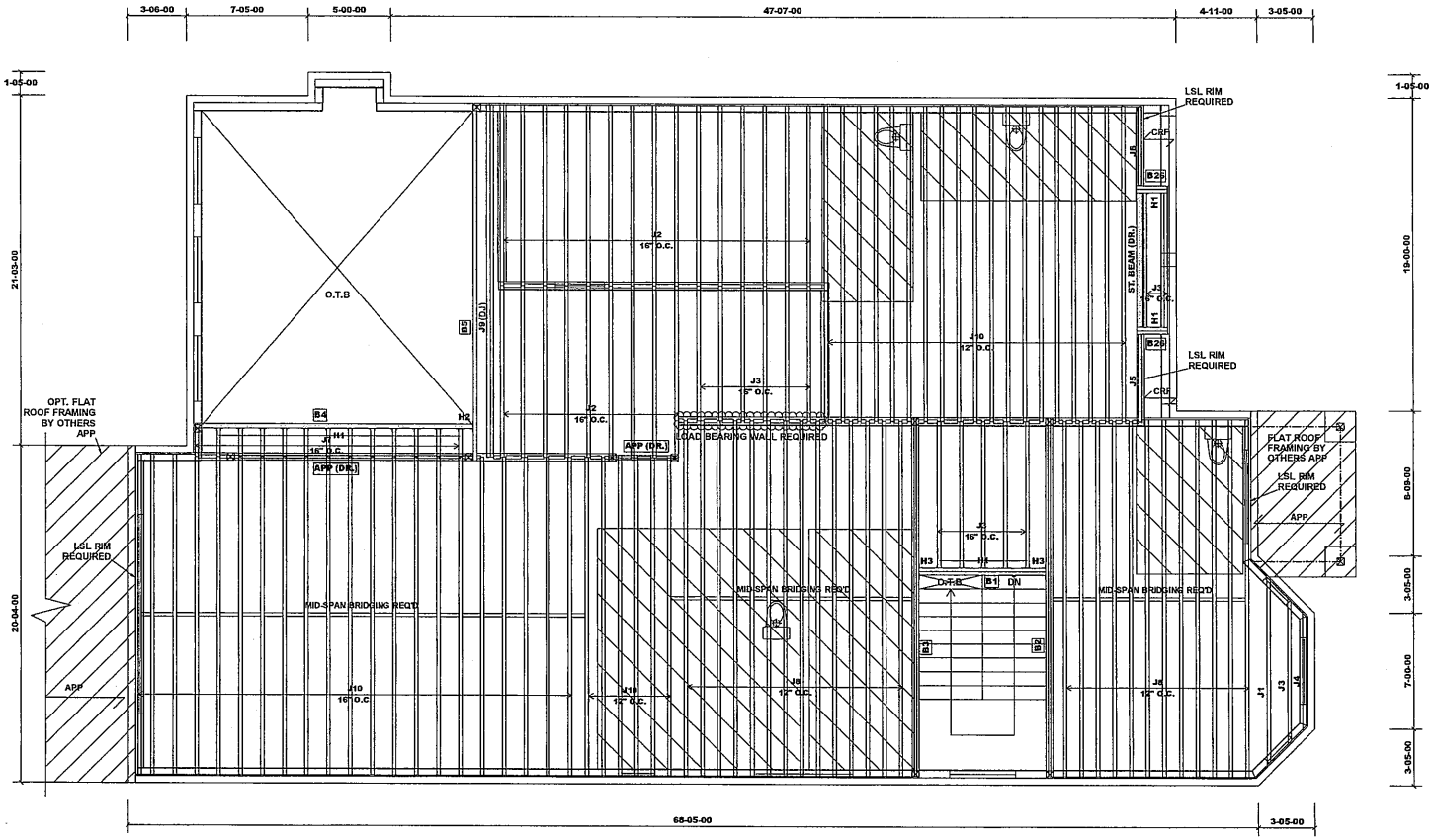
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 16 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B26	2-00-00	11 7/8" NI-20	2	4
J1	12-00-00	11 7/8" NI-20	1	1
J2	11-00-00	11 7/8" NI-20	1	24
J3	9-00-00	11 7/8" NI-20	1	14
J4	7-00-00	11 7/8" NI-20	1	1
J5	6-00-00	11 7/8" NI-20	1	1
J6	5-00-00	11 7/8" NI-20	1	1
J7	2-00-00	11 7/8" NI-20	1	13
J8	22-00-00	11 7/8" NI-40x	1	26
J9	22-00-00	11 7/8" NI-40x	2	2
J10	20-00-00	11 7/8" NI-40x	1	46
Ca1	138-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	38-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	100-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	19		LT251188
H2	1		LT351188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
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.

JT/PL: 45147/116409
LI: 343074*

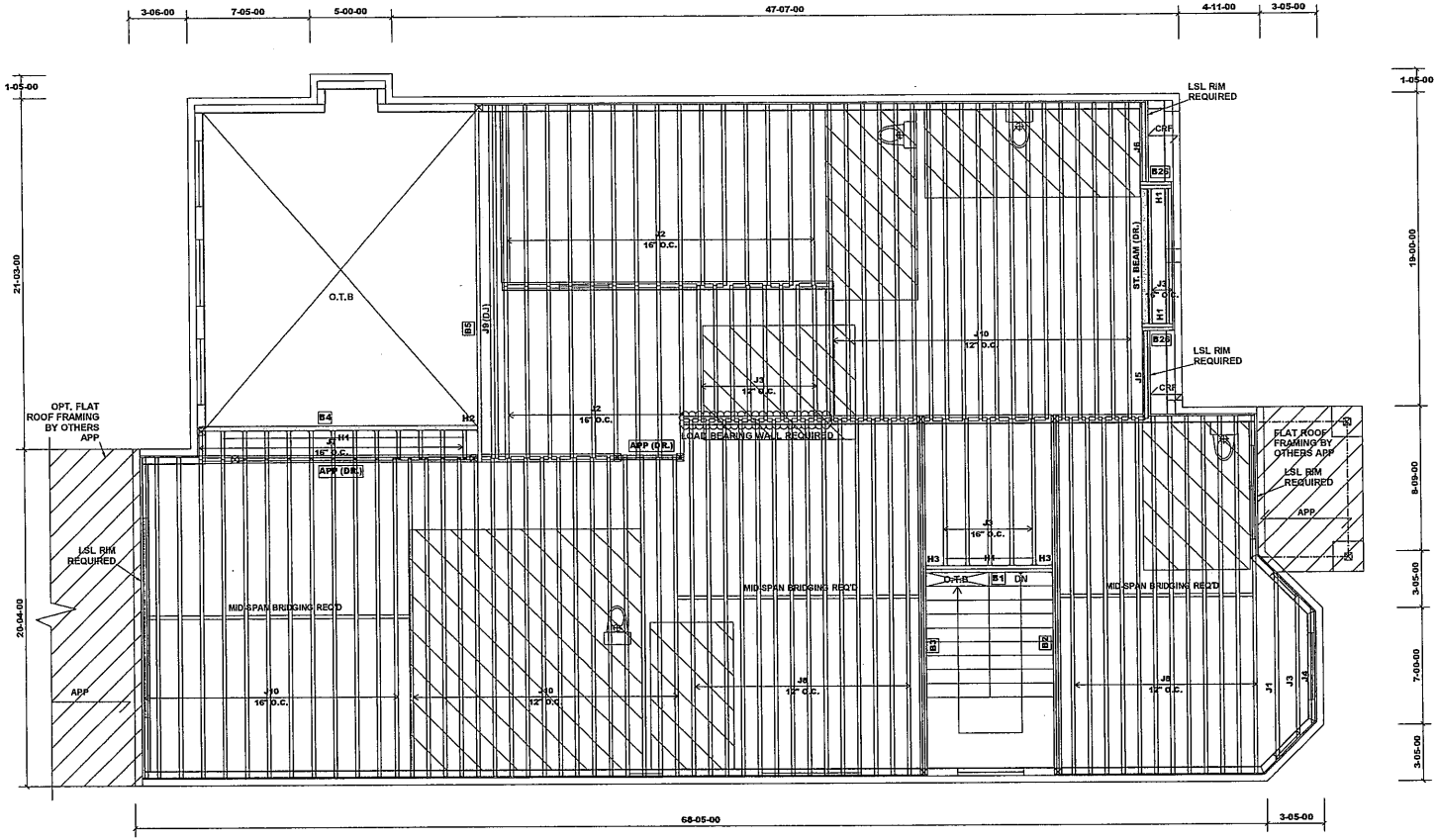
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 17 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B26	2-00-00	11 7/8" NI-20	2	4
J1	12-00-00	11 7/8" NI-20	1	1
J2	11-00-00	11 7/8" NI-20	1	24
J3	9-00-00	11 7/8" NI-20	1	16
J4	7-00-00	11 7/8" NI-20	1	1
J5	6-00-00	11 7/8" NI-20	1	1
J6	5-00-00	11 7/8" NI-20	1	1
J7	2-00-00	11 7/8" NI-20	1	13
J8	22-00-00	11 7/8" NI-40x	1	26
J9	22-00-00	11 7/8" NI-40x	2	2
J10	20-00-00	11 7/8" NI-40x	1	49
Ca1	138-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	36-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	87-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	19		LT251188
H2	1		LT351188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION B
W/ 5 BEDROOM

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
LI: 343074*

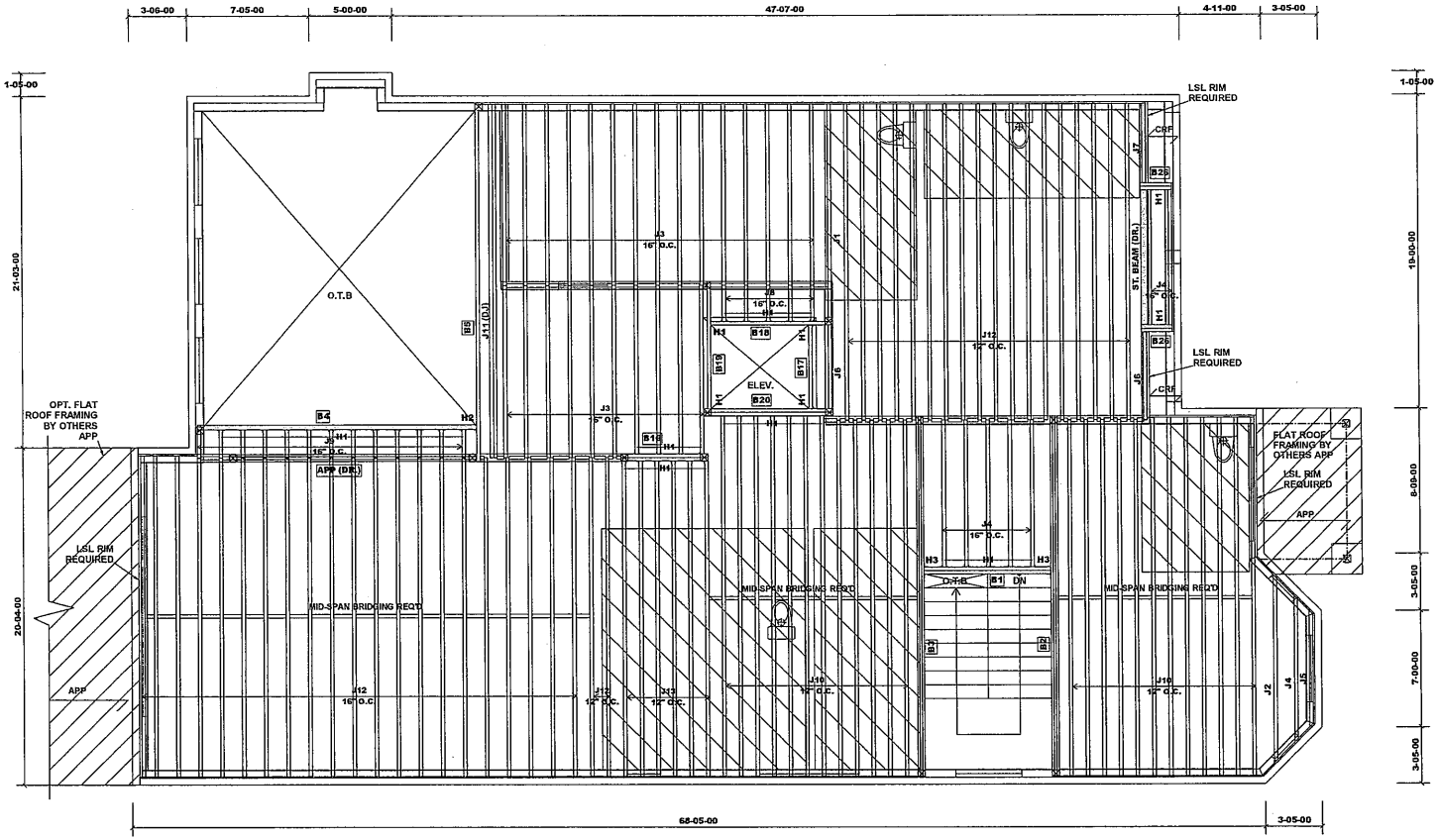
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 18 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B16	6-00-00	11 7/8" NI-20	2	2
B17	6-00-00	11 7/8" NI-20	1	1
B18	8-00-00	11 7/8" NI-20	1	1
B19	8-00-00	11 7/8" NI-20	1	1
B20	8-00-00	11 7/8" NI-20	2	2
B26	2-00-00	11 7/8" NI-20	2	4
J1	14-00-00	11 7/8" NI-20	1	1
J2	12-00-00	11 7/8" NI-20	1	1
J3	11-00-00	11 7/8" NI-20	1	25
J4	9-00-00	11 7/8" NI-20	1	8
J5	7-00-00	11 7/8" NI-20	1	1
J6	6-00-00	11 7/8" NI-20	1	2
J7	5-00-00	11 7/8" NI-20	1	1
J8	3-00-00	11 7/8" NI-20	1	5
J9	2-00-00	11 7/8" NI-20	1	13
J10	22-00-00	11 7/8" NI-40x	1	24
J11	22-00-00	11 7/8" NI-40x	2	2
J12	20-00-00	11 7/8" NI-40x	1	41
J13	19-00-00	11 7/8" NI-40x	1	6
Ca1	138-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	38-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	90-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	45		LT251188
H2	1		LT351188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION B
W/ ELEVATOR

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
LI: 343074*

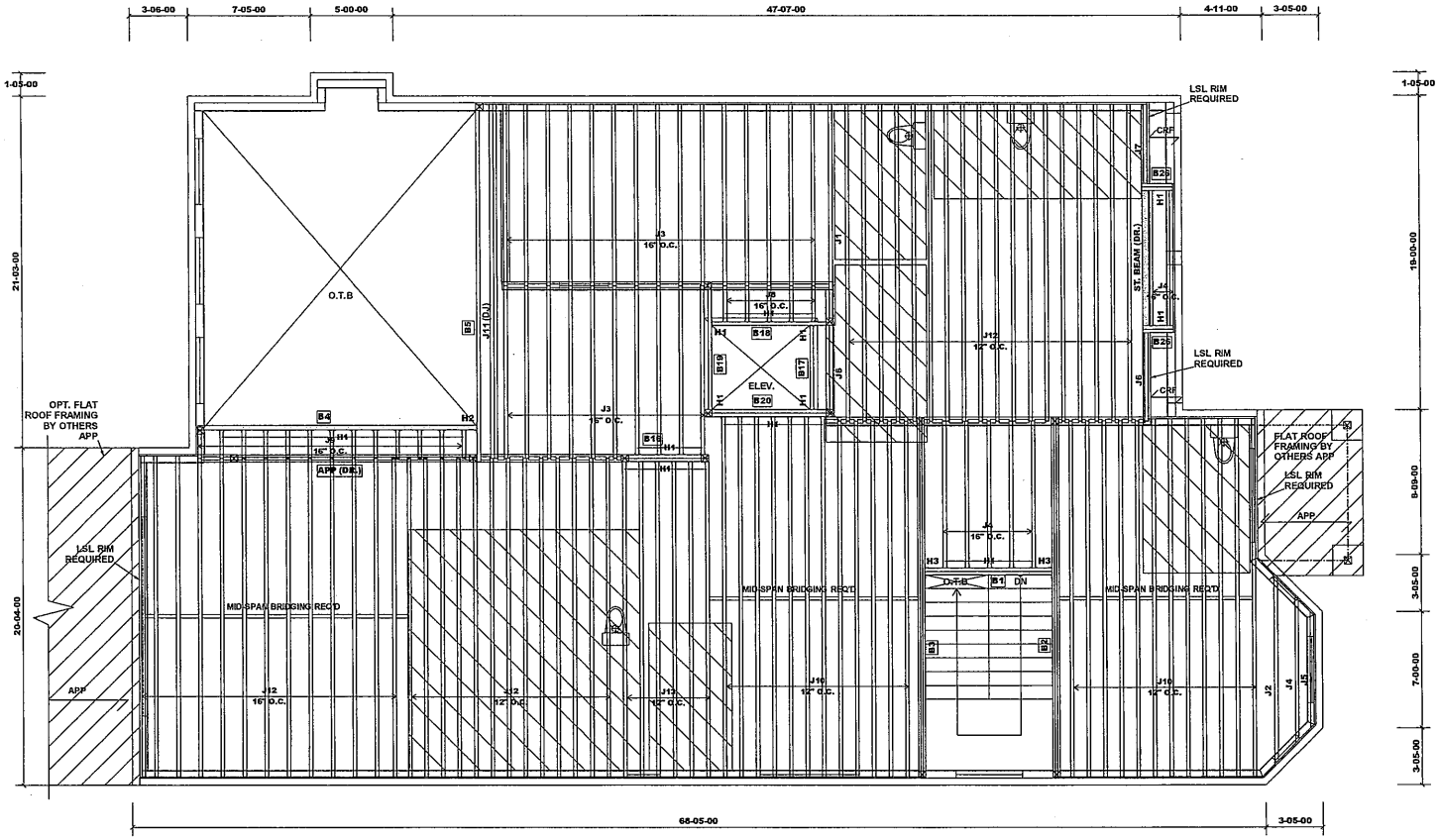
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 19 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B16	6-00-00	11 7/8" NI-20	2	2
B17	6-00-00	11 7/8" NI-20	1	1
B18	8-00-00	11 7/8" NI-20	1	1
B19	8-00-00	11 7/8" NI-20	1	1
B20	8-00-00	11 7/8" NI-20	2	2
B26	2-00-00	11 7/8" NI-20	2	4
J1	14-00-00	11 7/8" NI-20	1	1
J2	12-00-00	11 7/8" NI-20	1	1
J3	11-00-00	11 7/8" NI-20	1	25
J4	9-00-00	11 7/8" NI-20	1	8
J5	7-00-00	11 7/8" NI-20	1	1
J6	6-00-00	11 7/8" NI-20	1	2
J7	5-00-00	11 7/8" NI-20	1	1
J8	3-00-00	11 7/8" NI-20	1	5
J9	2-00-00	11 7/8" NI-20	1	13
J10	22-00-00	11 7/8" NI-40x	1	24
J11	22-00-00	11 7/8" NI-40x	2	2
J12	20-00-00	11 7/8" NI-40x	1	44
J13	19-00-00	11 7/8" NI-40x	1	6
Ca1	138-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	38-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	80-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	45		LT251188
H2	1		LT351188
H3	2		MT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION B
W/ 5 BEDROOM
W/ ELEVATOR

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
LI: 343074*

Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 20 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
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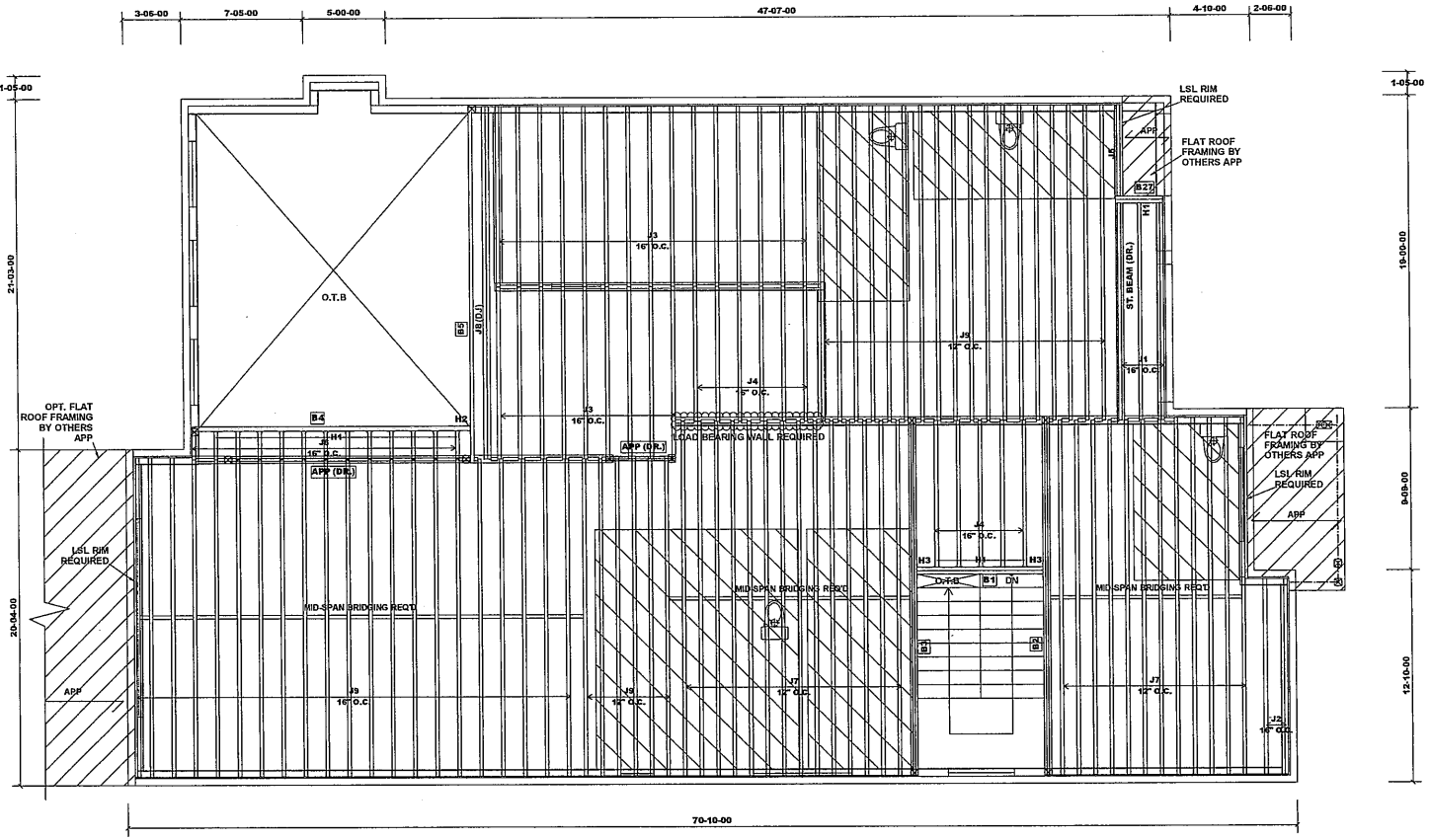


Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B27	3-00-00	11 7/8" NI-20	2	2
J1	14-00-00	11 7/8" NI-20	1	3
J2	12-00-00	11 7/8" NI-20	1	2
J3	11-00-00	11 7/8" NI-20	1	24
J4	9-00-00	11 7/8" NI-20	1	11
J5	6-00-00	11 7/8" NI-20	1	1
J6	2-00-00	11 7/8" NI-20	1	13
J7	22-00-00	11 7/8" NI-40x	1	26
J8	22-00-00	11 7/8" NI-40x	2	2
J9	20-00-00	11 7/8" NI-40x	1	45
Ca1	140-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	35-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	101-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	18		LT25188
H2	1		LT35188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
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
LI: 343074*

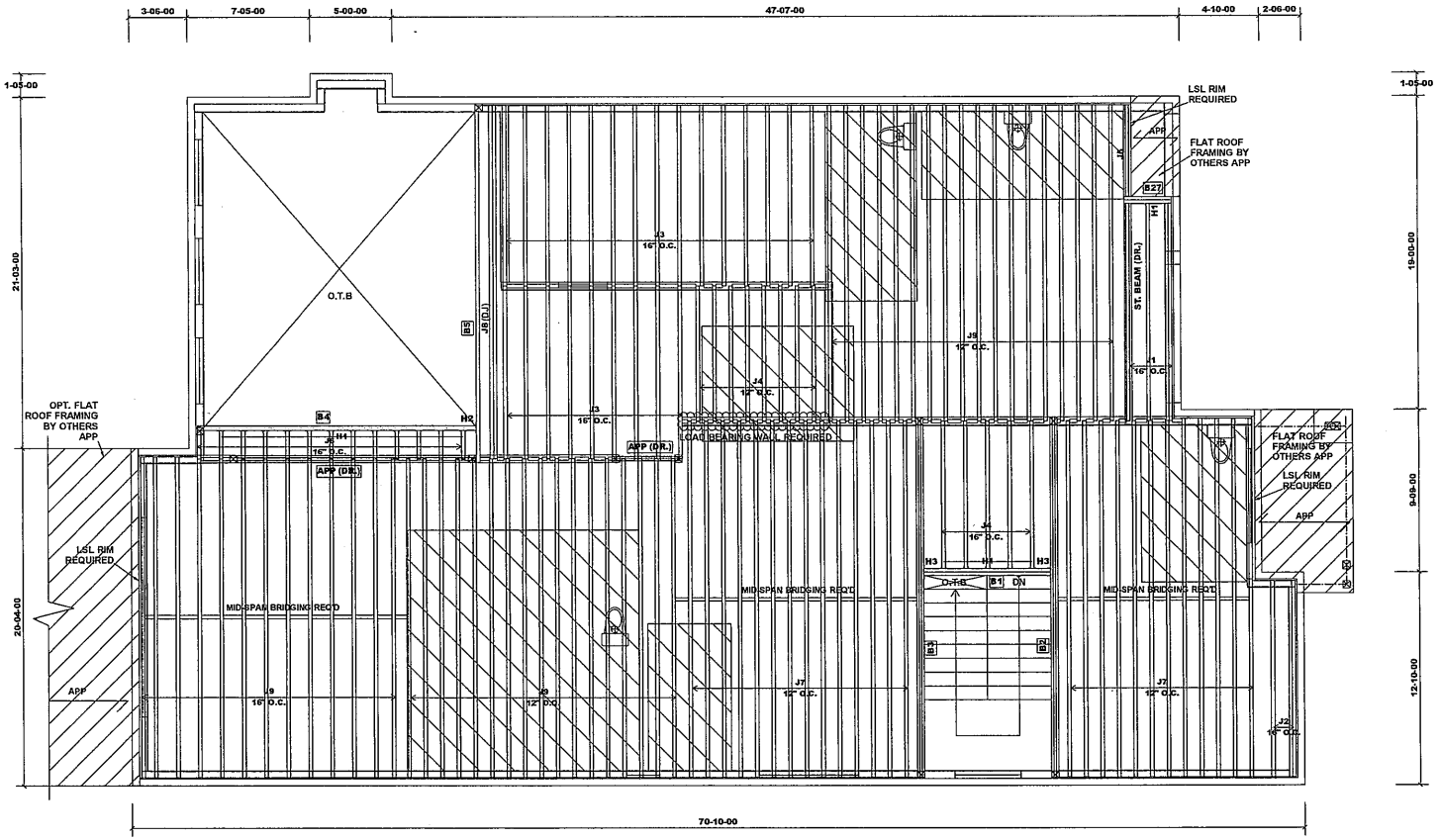
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 21 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B27	3-00-00	11 7/8" NI-20	2	2
J1	14-00-00	11 7/8" NI-20	1	3
J2	12-00-00	11 7/8" NI-20	1	2
J3	11-00-00	11 7/8" NI-20	1	24
J4	9-00-00	11 7/8" NI-20	1	13
J5	6-00-00	11 7/8" NI-20	1	1
J8	2-00-00	11 7/8" NI-20	1	13
J7	22-00-00	11 7/8" NI-40x	1	26
J8	22-00-00	11 7/8" NI-40x	2	2
J9	20-00-00	11 7/8" NI-40x	1	48
Ca1	140-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	35-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	88-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	18		LT251188
H2	1		LT351188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION C
W/ 5 BEDROOM

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
LI: 343074*

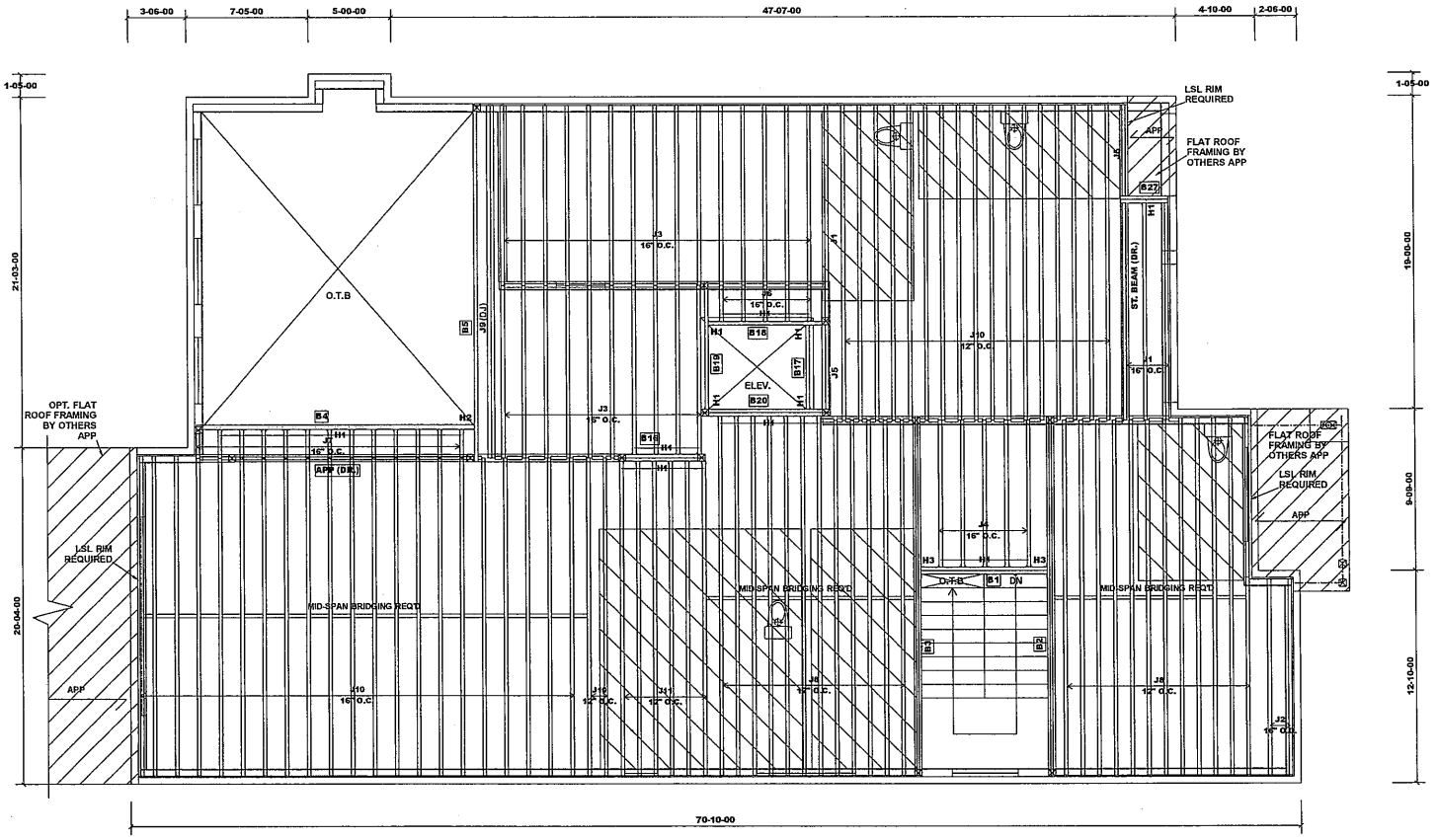
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 22 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B16	6-00-00	11 7/8" NI-20	2	2
B17	6-00-00	11 7/8" NI-20	1	1
B18	8-00-00	11 7/8" NI-20	1	1
B19	8-00-00	11 7/8" NI-20	1	1
B20	8-00-00	11 7/8" NI-20	2	2
B27	3-00-00	11 7/8" NI-20	2	2
J1	14-00-00	11 7/8" NI-20	1	4
J2	12-00-00	11 7/8" NI-20	1	2
J3	11-00-00	11 7/8" NI-20	1	25
J4	9-00-00	11 7/8" NI-20	1	5
J5	6-00-00	11 7/8" NI-20	1	2
J6	3-00-00	11 7/8" NI-20	1	5
J7	2-00-00	11 7/8" NI-20	1	13
J8	22-00-00	11 7/8" NI-40x	1	24
J9	22-00-00	11 7/8" NI-40x	2	2
J10	20-00-00	11 7/8" NI-40x	1	40
J11	19-00-00	11 7/8" NI-40x	1	6
Ca1	140-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	35-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Blk1	91-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	44		LT351188
H2	1		LT351188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION C
W/ ELEVATOR

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
LI: 343074*

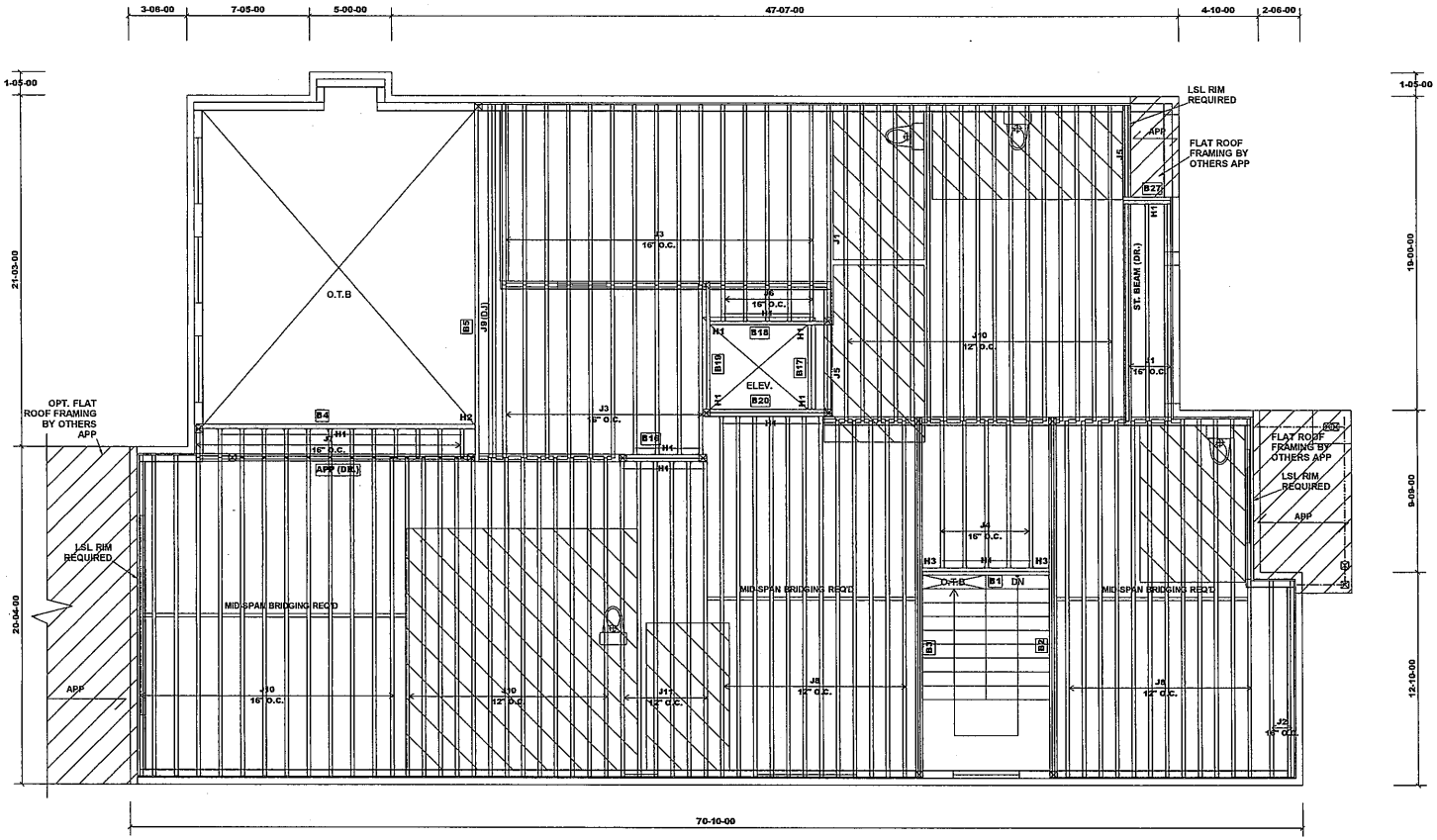
Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

Designer: TL
Sheet: 23 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.



Products				
PlotID	Length	Product	Plies	Net Qty
B1	8-00-00	11 7/8" NI-20	2	2
B2	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B3	22-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	3	3
B4	17-00-00	11 7/8" NI-80	1	1
B5	22-00-00	11 7/8" NI-40x	1	1
B16	6-00-00	11 7/8" NI-20	2	2
B17	6-00-00	11 7/8" NI-20	1	1
B18	8-00-00	11 7/8" NI-20	1	1
B19	8-00-00	11 7/8" NI-20	1	1
B20	8-00-00	11 7/8" NI-20	2	2
B27	3-00-00	11 7/8" NI-20	2	2
J1	14-00-00	11 7/8" NI-20	1	4
J2	12-00-00	11 7/8" NI-20	1	2
J3	11-00-00	11 7/8" NI-20	1	25
J4	9-00-00	11 7/8" NI-20	1	5
J5	6-00-00	11 7/8" NI-20	1	2
J6	3-00-00	11 7/8" NI-20	1	5
J7	2-00-00	11 7/8" NI-20	1	13
J8	22-00-00	11 7/8" NI-40x	1	24
J9	22-00-00	11 7/8" NI-40x	2	2
J10	20-00-00	11 7/8" NI-40x	1	43
J11	18-00-00	11 7/8" NI-40x	1	6
Ca1	140-00-00	1 1/8" x 11 7/8" Rim Board	1	1
Ca2	35-00-00	1 3/4" x 11 7/8" 1.55E TimberStrand® LSL	1	1
Bk1	80-00-00	11 7/8" NI-20	1	1

Connector Summary			
PlotID	Qty	Manuf	Product
H1	44		LT251188
H2	1		LT351188
H3	2		MIT311.88-2

SECOND FLOOR FRAMING
UNIT 5012 - THE WILLOWCREEK
ELEVATION C
W/ 5 BEDROOM
W/ ELEVATOR

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
LI: 343074*

Builder: Gold Park Homes
Project: Pine Valley Ph2

Location: Vaughan, ON
Date: Apr. 21, 2022

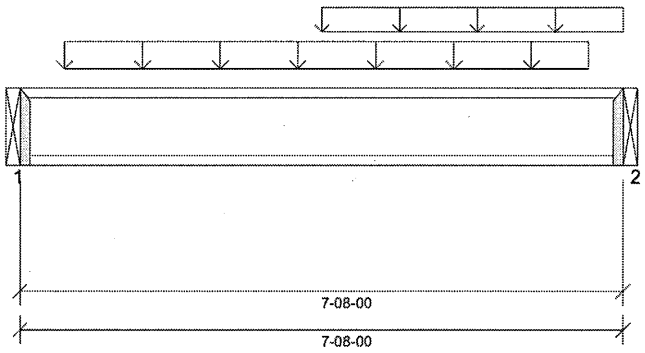
Designer: TL
Sheet: 24 of 24

Alpa Roof Trusses Inc.
Stouffville, Ontario

Salesperson: Derek F.
Home Lumber Inc.

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A (1** Level: **Second Floor** Label: **B1 - i46207** Type: **Beam**	**2 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 04/19/2022 13:54



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:

- 769 psi Beam @ 0'
- 769 psi Beam @ 7'- 8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 10 3/4"	1.25D + 1.5L	1.00	3959 lb ft	11160 lb ft	Passed - 35%
Factored Shear:	7'- 7 15/16"	1.25D + 1.5L	1.00	2149 lb	4480 lb	Passed - 48%
Live Load (LL) Pos. Defl.:	3'- 11 1/16"	L		0.056"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 11 1/16"	D + L		0.078"	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	1558 lb		3940 lb	-	Passed - 40%
2	1-12	1.25D + 1.5L	1.00	2151 lb		3940 lb	-	Passed - 55%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	MIT311.88-2		-	-	-	Connector manually specified by the user.
2	MIT311.88-2		-	-	-	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'- 8"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 6 3/4"	7'- 2 3/4"	Smoothed Load	Back	72 lb/ft	192 lb/ft	-	-
Uniform	3'- 10"	7'- 8"	User Load	Top	57 lb/ft	150 lb/ft	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B3(i46256)	314 lb	780 lb	-	-
2	7'- 8"	7'- 8"	B2(i46205)	427 lb	1075 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.

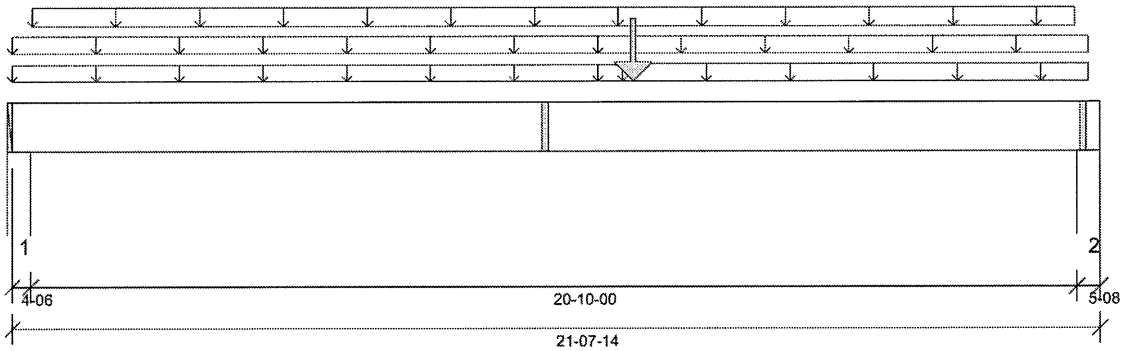
PLY TO PLY CONNECTION

- 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.

SG046702

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A (1,** Level: **Second Floor** Label: **B2 - i46205** 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 04/19/2022 13:55



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:

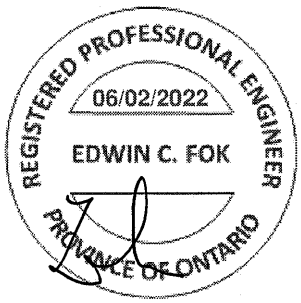
Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 10'- 2 15/16"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 21'- 3 3/8"

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 6 " O/C STAGGERED IN 2 ROWS



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	12'- 4 3/8"	1.25D + 1.5L	0.94	19956 lb ft	37434 lb ft	Passed - 53%
Factored Shear:	20'- 2 1/2"	1.25D + 1.5L	0.94	2866 lb	20337 lb	Passed - 14%
Live Load (LL) Pos. Defl.:	11'- 2 5/16"	L		0.447"	L/360	Passed - L/559
Total Load (TL) Pos. Defl.:	11'- 3/4"	D + L		0.936"	L/240	Passed - L/267
Permanent Deflection:	10'- 11 1/4"			-	L/360	Passed - L/526

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	4-06	1.25D + 1.5L	0.94	2579 lb		28311 lb	13291 lb	Passed - 19%
2	5-08	1.25D + 1.5L	0.94	3078 lb		35591 lb	16709 lb	Passed - 18%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	21'- 7 7/8"	Self Weight	Top	19 lb/ft	-	-	-
Uniform	0'	21'- 5 1/8"	FC2 Floor Decking (Plan View Fill)	Top	7 lb/ft	17 lb/ft	-	-
Uniform	0'	12'- 1 7/8"	FC2 Floor Decking (Plan View Fill)	Top	3 lb/ft	9 lb/ft	-	-
Uniform	0'- 4 7/8"	21'- 1 7/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	12'- 1 7/8"	21'- 5 1/8"	FC2 Floor Decking (Plan View Fill)	Top	10 lb/ft	26 lb/ft	-	-
Point	12'- 4 3/8"	12'- 4 3/8"	B1(i46207)	Back	427 lb	1075 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	E18(i41612)	1138 lb	787 lb	-	-
2	21'- 2 3/8"	21'- 7 7/8"	1(i41633)	1227 lb	1013 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.

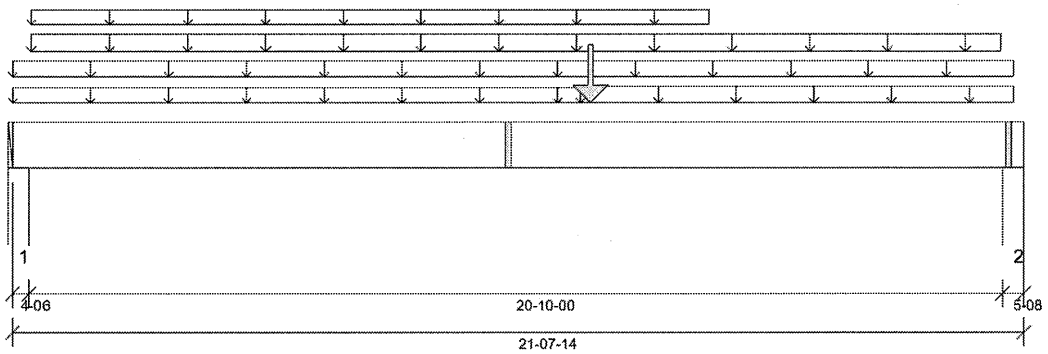
PLY TO PLY CONNECTION

- 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.

SG046703

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A (1** Level: **Second Floor** Label: **B3 - i46256** 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 04/19/2022 13:55



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: 10'- 2 15/16"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 21'- 3 3/8"

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 6 " O/C STAGGERED IN 2 ROWS

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	12'- 4 3/8"	1.25D + 1.5L	0.91	17216 lb ft	36349 lb ft	Passed - 47%
Factored Shear:	20'- 2 1/2"	1.25D + 1.5L	0.91	2579 lb	19748 lb	Passed - 13%
Live Load (LL) Pos. Defl.:	11'- 2 1/8"	L		0.366"	L/360	Passed - L/683
Total Load (TL) Pos. Defl.:	11'- 3/8"	D + L		0.830"	L/240	Passed - L/301
Permanent Deflection:	10'- 10 7/8"			-	L/360	Passed - L/555

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	4-06	1.25D + 1.5L	0.91	2370 lb		27490 lb	12906 lb	Passed - 18%
2	5-08	1.25D + 1.5L	0.91	2798 lb		34560 lb	16225 lb	Passed - 17%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	21'- 7 7/8"	Self Weight	Top	19 lb/ft	-	-	-
Uniform	0'	21'- 5 1/8"	FC2 Floor Decking (Plan View Fill)	Top	7 lb/ft	18 lb/ft	-	-
Uniform	0'	12'- 1 7/8"	FC2 Floor Decking (Plan View Fill)	Top	3 lb/ft	9 lb/ft	-	-
Uniform	0'- 4 7/8"	21'- 1 7/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'- 4 7/8"	14'- 10 7/8"	FC2 Floor Decking (Plan View Fill)	Top	2 lb/ft	-	-	-
Uniform	12'- 1 7/8"	21'- 5 1/8"	FC2 Floor Decking (Plan View Fill)	Top	11 lb/ft	29 lb/ft	-	-
Point	12'- 4 3/8"	12'- 4 3/8"	B1(i46207)	Front	314 lb	780 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	E43(i41723)	1110 lb	668 lb	-	-
2	21'- 2 3/8"	21'- 7 7/8"	1(i41633)	1181 lb	869 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.
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- 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.

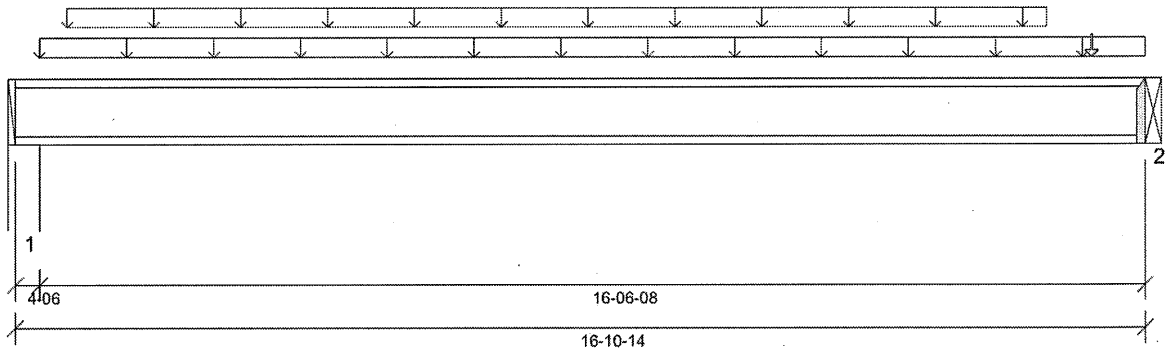
PLY TO PLY CONNECTION

- 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.

SG046704

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A (1** Level: **Second Floor** Label: **B4 - i46475** Type: **Beam**	**1 Ply Member** **11 7/8" NI-80**	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 04/19/2022 13:56



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 @ 0'- 3 3/8"
- 769 psi Beam @ 16'- 10 7/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 4 15/16"	1.25D + 1.5L	0.85	5478 lb ft	9847 lb ft	Passed - 56%
Factored Shear:	16'- 10 13/16"	1.25D + 1.5L	0.85	1293 lb	1985 lb	Passed - 65%
Live Load (LL) Pos. Defl.:	8'- 7 1/8"	L		0.149"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	8'- 7 1/8"	D + L		0.437"	L/240	Passed - L/454
Permanent Deflection:	8'- 7 1/8"			-	L/360	Passed - L/806

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	4-06	1.25D + 1.5L	0.85	1276 lb		1985 lb	7990 lb	Passed - 64%
2	1-12	1.25D + 1.5L	0.85	1294 lb		2130 lb	-	Passed - 61%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	LT351188		-	-	-	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'- 10 7/8"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'- 4 3/8"	16'- 10 7/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	0'- 9 1/4"	15'- 5 1/4"	Smoothed Load	Front	15 lb/ft	41 lb/ft	-	-
Point	16'- 1 1/4"	16'- 1 1/4"	J4(i46468)	Front	17 lb	46 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	E3(i41618)	641 lb	317 lb	-	-
2	16'- 10 7/8"	16'- 10 7/8"	B5(i46089)	647 lb	323 lb	-	-

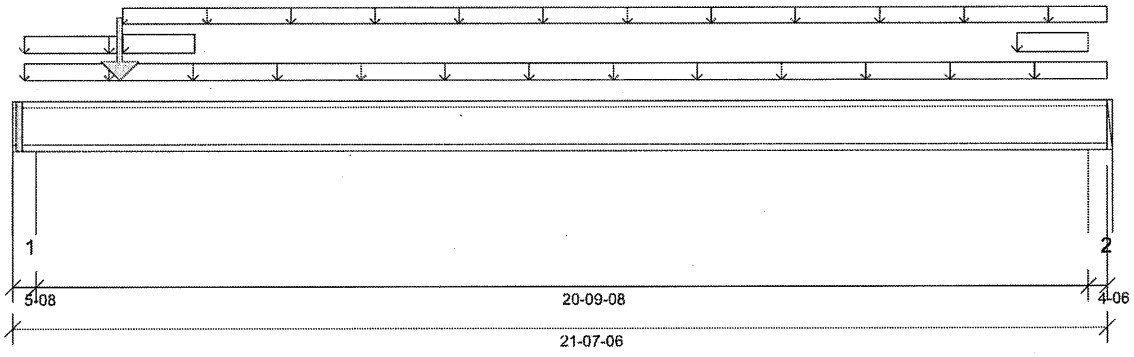
DESIGN NOTES

- 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.

S3046705

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A (1** Level: **Second Floor** Label: **B5 - i46089** Type: **Beam**	**1 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 04/19/2022 13:56



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: 19'

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 21'- 4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	8'- 5"	1.25D + 1.5L	0.95	4107 lb ft	5921 lb ft	Passed - 69%
Factored Shear:	0'- 5 9/16"	1.25D + 1.5L	0.95	1830 lb	2215 lb	Passed - 83%
Live Load (LL) Pos. Defl.:	10'- 6 3/8"	L		0.364"	L/360	Passed - L/686
Total Load (TL) Pos. Defl.:	10'- 3 3/4"	D + L		0.698"	L/240	Passed - L/357
Permanent Deflection:	10'- 11/16"			-	L/360	Passed - L/797

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	0.95	1849 lb		2215 lb	8007 lb	Passed - 83%
2	4-06	1.25D + 1.5L	0.95	747 lb		2215 lb	6369 lb	Passed - 34%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	21'- 7 3/8"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'- 2 3/4"	21'- 7 3/8"	FC2 Floor Decking (Plan View Fill)	Top	7 lb/ft	18 lb/ft	-	-
Uniform	0'- 2 3/4"	2'- 2"	FC2 Floor Decking (Plan View Fill)	Top	7 lb/ft	18 lb/ft	-	-
Uniform	2'- 2"	21'- 7 3/8"	FC2 Floor Decking (Plan View Fill)	Top	2 lb/ft	4 lb/ft	-	-
Uniform	2'- 2"	3'- 7"	User Load	Top	60 lb/ft	-	-	-
Uniform	19'- 10"	21'- 3"	User Load	Top	60 lb/ft	-	-	-
Point	2'- 1 1/4"	2'- 1 1/4"	B4(i46475)	Back	647 lb	323 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	7(i41711)	801 lb	562 lb	-	-
2	21'- 3"	21'- 7 3/8"	E8(i41619)	271 lb	275 lb	-	-

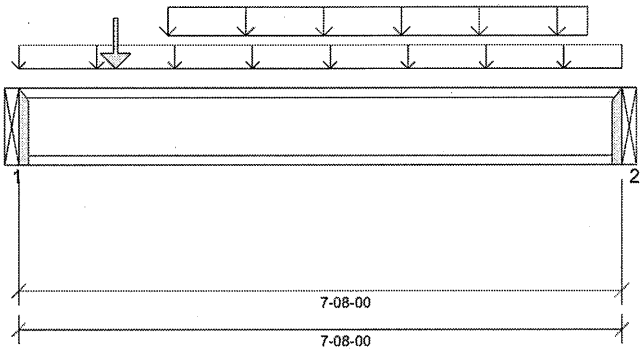
DESIGN NOTES

- 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.

S3046706

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A (1,** Level: **Ground Floor** Label: **B6 - i47798** Type: **Beam**	**2 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 04/19/2022 13:56



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:

- 769 psi Beam @ 0'
- 769 psi Beam @ 7'- 8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 10 3/4"	1.25D + 1.5L	1.00	5105 lb ft	11160 lb ft	Passed - 46%
Factored Shear:	7'- 7 15/16"	1.25D + 1.5L	1.00	2459 lb	4480 lb	Passed - 55%
Live Load (LL) Pos. Defl.:	3'- 10"	L		0.073"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 10"	D + L		0.102"	L/240	Passed - L/906

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	2432 lb		3940 lb	-	Passed - 62%
2	1-12	1.25D + 1.5L	1.00	2460 lb		3940 lb	-	Passed - 62%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	MIT311.88-2		-	-	-	Connector manually specified by the user.
2	MIT311.88-2		-	-	-	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'- 8"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	-0'	7'- 8"	User Load	Top	50 lb/ft	134 lb/ft	-	-
Uniform	1'- 10 3/4"	7'- 2 3/4"	Smoothed Load	Back	79 lb/ft	212 lb/ft	-	-
Point	1'- 2 3/4"	1'- 2 3/4"	J3(i47822)	Back	113 lb	301 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B8(i47787)	479 lb	1223 lb	-	-
2	7'- 8"	7'- 8"	B7(i47816)	484 lb	1237 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

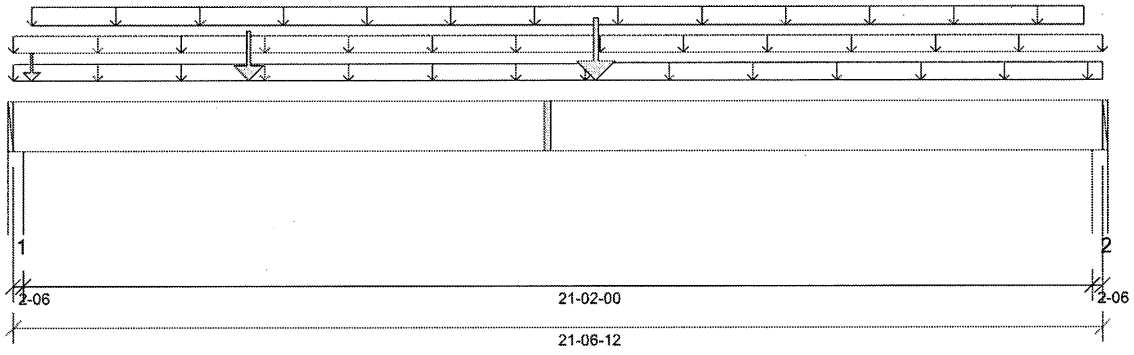
- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

S3046707

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A (1,** Level: **Ground Floor** Label: **B7 - i47816** Type: **Beam**	**4 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 04/19/2022 13:57



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: 10'- 4 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/8"
- 615 psi Wall @ 21'- 5 3/8"

CONNECT 4 PLY MEMBERS WITH SIMPSONS SDW 22634 WOOD SCREWS @ 16" O.C., STAGGERED IN 2 ROWS

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	11'- 6 3/8"	1.25D + 1.5L	1.00	26947 lb ft	53063 lb ft	Passed - 51%
Factored Shear:	1'- 2 1/4"	1.25D + 1.5L	1.00	4280 lb	28828 lb	Passed - 15%
Live Load (LL) Pos. Defl.:	10'- 8"	L		0.536"	L/360	Passed - L/474
Total Load (TL) Pos. Defl.:	10'- 8 3/8"	D + L		1.014"	L/240	Passed - L/250
Permanent Deflection:	10'- 8 13/16"			-	L/360	Passed - L/547

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	4974 lb		21785 lb	10228 lb	Passed - 49%
2	2-06	1.25D + 1.5L	1.00	3683 lb		21785 lb	10228 lb	Passed - 36%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	21'- 6 3/4"	Self Weight	Top	26 lb/ft	-	-	-
Uniform	0'	21'- 6 3/4"	FC1 Floor Decking (Plan View Fill)	Top	6 lb/ft	16 lb/ft	-	-
Uniform	0'	11'- 3 7/8"	FC1 Floor Decking (Plan View Fill)	Top	4 lb/ft	12 lb/ft	-	-
Uniform	0'- 4 3/8"	21'- 2 3/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	11'- 3 7/8"	21'- 6 3/4"	FC1 Floor Decking (Plan View Fill)	Top	11 lb/ft	28 lb/ft	-	-
Point	11'- 6 3/8"	11'- 6 3/8"	B6(i47798)	Back	484 lb	1237 lb	-	-
Point	0'- 4 3/8"	0'- 4 3/8"	User Load	Top	120 lb	320 lb	-	-
Point	4'- 7 7/8"	4'- 7 7/8"	User Load	Top	341 lb	907 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/8"	W17(i41587)	1649 lb	1961 lb	-	-
2	21'- 4 3/8"	21'- 6 3/4"	W21(i41601)	1395 lb	1273 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.

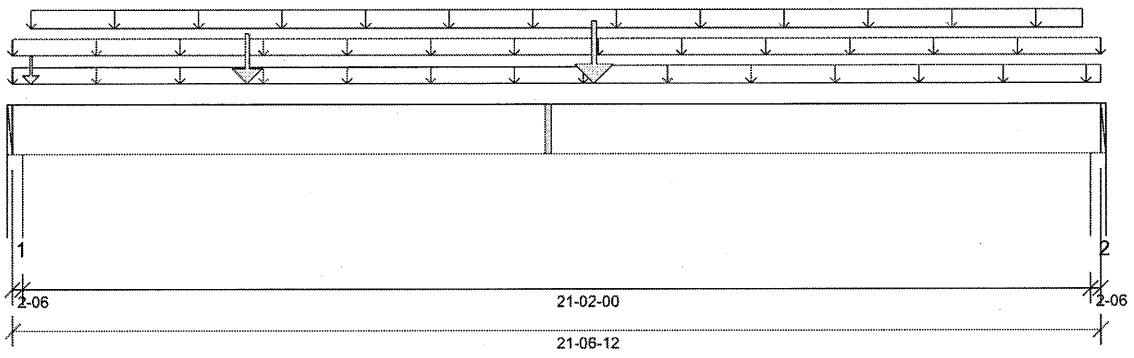
PLY TO PLY CONNECTION

- 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.

SE04607.8

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A (1** Level: **Ground Floor** Label: **B8 - i47787** Type: **Beam**	**4 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 04/19/2022 13:57



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:

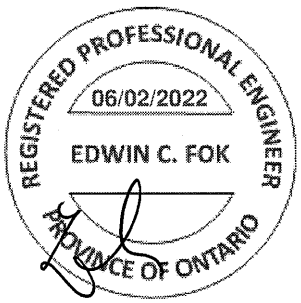
Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 10'- 5 1/16"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/8"
- 615 psi Wall @ 21'- 5 3/8"

CONNECT 4 PLY MEMBERS WITH SIMPSONS SDW22634 WOOD SCREWS @ 16" O.C., STAGGERED IN 2 ROWS



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	11'- 6 3/8"	1.25D + 1.5L	1.00	26775 lb ft	53063 lb ft	Passed - 50%
Factored Shear:	1'- 2 1/4"	1.25D + 1.5L	1.00	4252 lb	28828 lb	Passed - 15%
Live Load (LL) Pos. Defl.:	10'- 8"	L		0.531"	L/360	Passed - L/478
Total Load (TL) Pos. Defl.:	10'- 8 3/8"	D + L		1.008"	L/240	Passed - L/252
Permanent Deflection:	10'- 8 13/16"			-	L/360	Passed - L/549

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	4942 lb		21785 lb	10228 lb	Passed - 48%
2	2-06	1.25D + 1.5L	1.00	3676 lb		21785 lb	10228 lb	Passed - 36%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	21'- 6 3/4"	Self Weight	Top	26 lb/ft	-	-	-
Uniform	0'	21'- 6 3/4"	FC1 Floor Decking (Plan View Fill)	Top	6 lb/ft	15 lb/ft	-	-
Uniform	0'	11'- 3 7/8"	FC1 Floor Decking (Plan View Fill)	Top	4 lb/ft	12 lb/ft	-	-
Uniform	0'- 4 3/8"	21'- 2 3/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	11'- 3 7/8"	21'- 6 3/4"	FC1 Floor Decking (Plan View Fill)	Top	11 lb/ft	30 lb/ft	-	-
Point	11'- 6 3/8"	11'- 6 3/8"	B6(i47798)	Front	479 lb	1223 lb	-	-
Point	0'- 4 3/8"	0'- 4 3/8"	User Load	Top	120 lb	320 lb	-	-
Point	4'- 7 7/8"	4'- 7 7/8"	User Load	Top	341 lb	907 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 3/8"	W36(i41726)	1643 lb	1945 lb	-	-
2	21'- 4 3/8"	21'- 6 3/4"	W21(i41601)	1394 lb	1270 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.
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- 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.

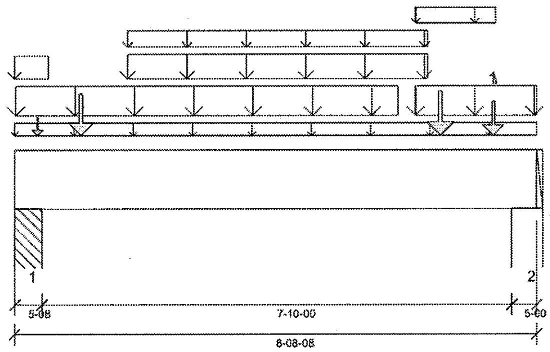
PLY TO PLY CONNECTION

- 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.

SG046709

MiTek	Customer: Gold Park Homes Job Address: Pine Valley Ph2 City: Vaughan Job Track: 45147	Job Name: 343074 Ground A + Second A (1, Level: Ground Floor Label: B9 - i48327 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 04/19/2022 13:58



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'- 4 1/8"

Factored Resistance of Support Material:

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

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 6 " O/C STAGGERED IN 2 ROWS

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 4 5/8"	1.25D + 1.5L	1.00	19427 lb ft	26531 lb ft	Passed - 73%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	1.00	133 lb ft	26531 lb ft	Passed - 1%
Factored Shear:	7'- 3 5/8"	1.25D + 1.5L	1.00	8261 lb	14414 lb	Passed - 57%
Live Load (LL) Pos. Defl.:	4'- 4 1/2"	L		0.145"	L/360	Passed - L/648
Total Load (TL) Pos. Defl.:	4'- 4 1/2"	D + L		0.214"	L/240	Passed - L/438

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	10592 lb		25225 lb	25687 lb	Passed - 42%
1	5-08	1.25D + 1.5L	1.00	10592 lb		25225 lb	25687 lb	Passed - 42%
1	5-08	1.25D + 1.5L	1.00	10592 lb		25225 lb	25687 lb	Passed - 42%
1	5-08	1.25D + 1.5L	1.00	10592 lb		25225 lb	25687 lb	Passed - 42%
1	5-08	1.25D + 1.5L	1.00	10592 lb		25225 lb	25687 lb	Passed - 42%
2	5-00	1.25D + 1.5L	1.00	10412 lb		22932 lb	10766 lb	Passed - 97%
2	5-00	1.25D + 1.5L	1.00	10412 lb		22932 lb	10766 lb	Passed - 97%
2	5-00	1.25D + 1.5L	1.00	10412 lb		22932 lb	10766 lb	Passed - 97%
2	5-00	1.25D + 1.5L	1.00	10412 lb		22932 lb	10766 lb	Passed - 97%
2	5-00	1.25D + 1.5L	1.00	10412 lb		22932 lb	10766 lb	Passed - 97%
2	5-00	1.25D + 1.5L	1.00	10412 lb		22932 lb	10766 lb	Passed - 97%
2	5-00	1.25D + 1.5L	1.00	10412 lb		22932 lb	10766 lb	Passed - 97%
2	5-00	1.25D + 1.5L	1.00	10412 lb		22932 lb	10766 lb	Passed - 97%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 8 1/2"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'	8'- 8 1/2"	1(i41633)	Top	68 lb/ft	-	-	-
Uniform	0'	0'- 6 3/4"	1(i41633)	Top	161 lb/ft	368 lb/ft	-	-
Uniform	0'- 1/4"	6'- 4 3/4"	1(i41633)	Top	238 lb/ft	572 lb/ft	-	-
Uniform	1'- 10 5/8"	6'- 10 5/8"	Smoothed Load	Front	162 lb/ft	431 lb/ft	-	-
Uniform	1'- 10 5/8"	6'- 10 5/8"	Smoothed Load	Back	79 lb/ft	164 lb/ft	-	-
Uniform	6'- 8 1/4"	8'- 8 1/2"	1(i41633)	Top	243 lb/ft	573 lb/ft	-	-
Uniform	6'- 8 1/4"	8'- 1/4"	1(i41633)	Top	55 lb/ft	147 lb/ft	-	-
Point	1'- 1 1/4"	1'- 1 1/4"	-	Front	228 lb	557 lb	-	-
Point	7'- 1 1/4"	7'- 1 1/4"	-	Front	247 lb	606 lb	-	-
Point	7'- 11 13/16"	7'- 11 13/16"	-	Front	162 lb	431/-9 lb	-	-
Point	0'- 4 5/8"	0'- 4 5/8"	J4(i48379)	Back	60 lb	123 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	Pt1(i48351)	2448 lb	5065 lb	-	-
2	8'- 3 1/2"	8'- 8 1/2"	-	2369 lb	4924/-9 lb	-	-
++>	8'- 6 1/16"	8'- 6 1/16"	W20(i41599)	2369 lb	4924/-9 lb	-	-
++>	8'- 8 7/16"	8'- 8 7/16"	W21(i41601)	-	-	-	-

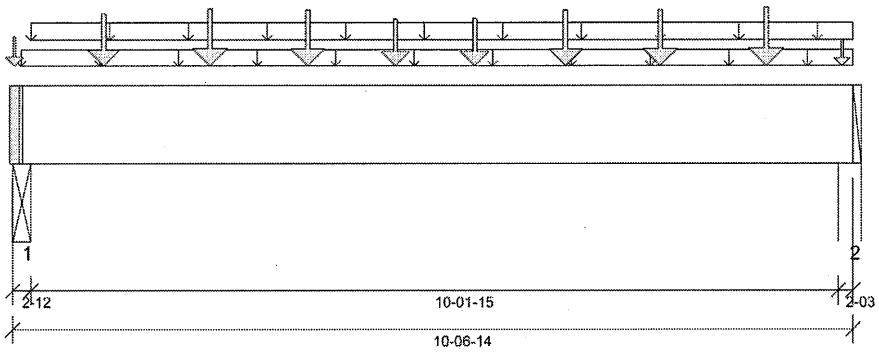
DESIGN NOTES

- 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.

S604671U

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A (1** Level: **Ground Floor** Label: **B10 - i48381** 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 04/19/2022 14:00



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:

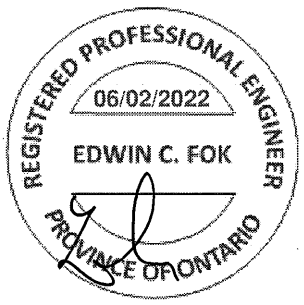
Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

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

Factored Resistance of Support Material:

- 769 psi Beam @ 0'- 1 3/4"
- 615 psi Wall @ 10'- 5 11/16"

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



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 4 13/16"	1.25D + 1.5L	1.00	11536 lb ft	26531 lb ft	Passed - 43%
Factored Shear:	9'- 4 13/16"	1.25D + 1.5L	1.00	4108 lb	14414 lb	Passed - 29%
Live Load (LL) Pos. Defl.:	5'- 3 13/16"	L		0.137"	L/360	Passed - L/890
Total Load (TL) Pos. Defl.:	5'- 3 3/4"	D + L		0.214"	L/240	Passed - L/568

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	4520 lb		12613 lb	7402 lb	Passed - 61%
2	2-03	1.25D + 1.5L	1.00	4517 lb		10116 lb	4749 lb	Passed - 95%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 6 7/8"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'- 1 1/4"	10'- 6 7/8"	FC1 Floor Decking (Plan View Fill)	Top	8 lb/ft	21 lb/ft	-	-
Uniform	0'- 2 3/4"	10'- 6 7/8"	User Load	Top	60 lb/ft	-	-	-
Point	1'- 1 3/4"	1'- 1 3/4"	J9(i48375)	Back	161 lb	429 lb	-	-
Point	2'- 5 3/4"	2'- 5 3/4"	J9(i48335)	Back	180 lb	481 lb	-	-
Point	3'- 8 1/2"	3'- 8 1/2"	J10(i48336)	Back	175 lb	467 lb	-	-
Point	4'- 9 3/4"	4'- 9 3/4"	J9(i48371)	Back	137 lb	365 lb	-	-
Point	5'- 9 3/4"	5'- 9 3/4"	J9(i48368)	Back	140 lb	372 lb	-	-
Point	6'- 11 1/2"	6'- 11 1/2"	J10(i48359)	Back	175 lb	466 lb	-	-
Point	8'- 1 3/4"	8'- 1 3/4"	J9(i48338)	Back	177 lb	473 lb	-	-
Point	9'- 5 3/4"	9'- 5 3/4"	J9(i48355)	Back	188 lb	500 lb	-	-
Point	0'- 1/4"	0'- 1/4"	7(i41711)	Top	79 lb	156 lb	-	-
Point	10'- 5 1/4"	10'- 5 1/4"	3(i41631)	Top	71 lb	108 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.)(i41700)	1172 lb	2042 lb	-	-
2	10'- 4 11/16"	10'- 6 7/8"	W19(i41602)	1182 lb	2022 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.

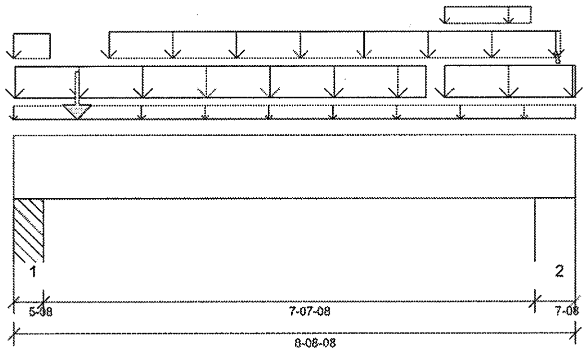
S8046711

MiTek	Customer: Gold Park Homes Job Address: Pine Valley Ph2 City: Vaughan Job Track: 45147	Job Name: 343074 Ground A W Sunken M.. Level: Ground Floor Label: B11 - i48875 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 04/19/2022 15:58



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'- 8 1/2"

Factored Resistance of Support Material:

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

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 6 " O/C STAGGERED IN 2 ROWS

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 1 1/4"	1.25D + 1.5L	1.00	15770 lb ft	26531 lb ft	Passed - 59%
Factored Neg. Moment:	8'- 2"	1.25D + 1.5L	1.00	211 lb ft	26531 lb ft	Passed - 1%
Factored Shear:	7'- 1 1/8"	1.25D + 1.5L	1.00	6969 lb	14414 lb	Passed - 48%
Live Load (LL) Pos. Defl.:	4'- 3 3/16"	L		0.111"	L/360	Passed - L/821
Total Load (TL) Pos. Defl.:	4'- 3 3/16"	D + L		0.165"	L/240	Passed - L/555

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	8899 lb		25225 lb	25687 lb	Passed - 35%
1	5-08	1.25D + 1.5L	1.00	8899 lb		25225 lb	25687 lb	Passed - 35%
1	5-08	1.25D + 1.5L	1.00	8899 lb		25225 lb	25687 lb	Passed - 35%
1	5-08	1.25D + 1.5L	1.00	8899 lb		25225 lb	25687 lb	Passed - 35%
1	5-08	1.25D + 1.5L	1.00	8899 lb		25225 lb	25687 lb	Passed - 35%
2	7-08	1.25D + 1.5L	1.00	9448 lb		34398 lb	16149 lb	Passed - 59%
2	7-08	1.25D + 1.5L	1.00	9448 lb		34398 lb	16149 lb	Passed - 59%
2	7-08	1.25D + 1.5L	1.00	9448 lb		34398 lb	16149 lb	Passed - 59%
2	7-08	1.25D + 1.5L	1.00	9448 lb		34398 lb	16149 lb	Passed - 59%
2	7-08	1.25D + 1.5L	1.00	9448 lb		34398 lb	16149 lb	Passed - 59%
2	7-08	1.25D + 1.5L	1.00	9448 lb		34398 lb	16149 lb	Passed - 59%
2	7-08	1.25D + 1.5L	1.00	9448 lb		34398 lb	16149 lb	Passed - 59%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 8 1/2"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'	8'- 8 1/2"	1(i41633)	Top	68 lb/ft	-	-	-
Uniform	0'	0'- 6 3/4"	1(i41633)	Top	161 lb/ft	368 lb/ft	-	-
Uniform	0'- 1/4"	6'- 4 3/4"	1(i41633)	Top	238 lb/ft	572 lb/ft	-	-
Uniform	1'- 5 3/4"	8'- 5 3/4"	Smoothed Load	Front	162 lb/ft	431 lb/ft	-	-
Uniform	6'- 8 1/4"	8'- 8 1/2"	1(i41633)	Top	243 lb/ft	573 lb/ft	-	-
Uniform	6'- 8 1/4"	8'- 1/4"	1(i41633)	Top	55 lb/ft	147 lb/ft	-	-
Point	0'- 11 3/4"	0'- 11 3/4"	J11(i48885)	Front	143 lb	382 lb	-	-
Point	8'- 5"	8'- 5"	1(i41633)	Top	-	-9 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	Pt1(i48934)	2056 lb	4253 lb	-	-
2	8'- 1"	8'- 8 1/2"	W21(i41601)	2148 lb	4475/-9 lb	-	-

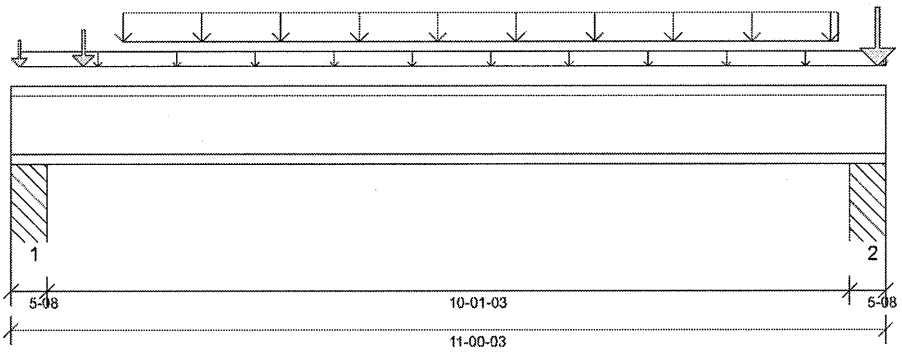
DESIGN NOTES

- 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.

SG0406712

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A W Sunken M...** Level: **Ground Floor** Label: **B12 (LOW) - i48939** Type: **Beam**	**2 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 04/19/2022 15:58



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,

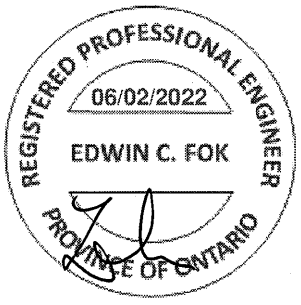
Lateral Restraint Requirements:

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'- 4 1/2"
- 1334 psi Column @ 10'- 7 11/16"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 10 15/16"	1.25D + 1.5L	1.00	5554 lb ft	11160 lb ft	Passed - 50%
Factored Neg. Moment:	10'- 7 11/16"	1.25D + 1.5L	1.00	199 lb ft	11160 lb ft	Passed - 2%
Factored Shear:	0'- 5 9/16"	1.25D + 1.5L	1.00	2146 lb	4480 lb	Passed - 48%
Live Load (LL) Pos. Defl.:	5'- 6"	L		0.116"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 6"	D + L		0.177"	L/240	Passed - L/683

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	2355 lb		4480 lb	36696 lb	Passed - 53%
2	5-08	1.25D + 1.5L	1.00	2872 lb		4480 lb	36696 lb	Passed - 64%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'- 3/16"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 1 1/4"	11'- 3/16"	FC1 Floor Decking (Plan View Fill)	Top	2 lb/ft	5 lb/ft	-	-
Uniform	1'- 4 15/16"	10'- 4 15/16"	Smoothed Load	Back	97 lb/ft	195 lb/ft	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	J2(i48876)	Back	47 lb	95 lb	-	-
Point	0'- 10 15/16"	0'- 10 15/16"	J2(i48889)	Back	88 lb	176 lb	-	-
Point	10'- 10 15/16"	10'- 10 15/16"	J2(i48935)	Back	166 lb	332 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	Pt1(i48932)	579 lb	1101 lb	-	-
2	10'- 6 11/16"	11'- 3/16"	Pt1(i48931)	705 lb	1313 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.

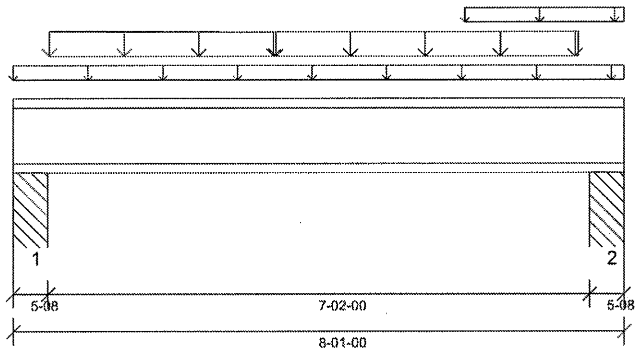
PLY TO PLY CONNECTION

- 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.

SG046713

MiTek	Customer: Gold Park Homes Job Address: Pine Valley Ph2 City: Vaughan Job Track: 45147	Job Name: 343074 Ground A W Sunken M... Level: Ground Floor Label: B13 (LOW) - i48925 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 04/19/2022 15:58



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'- 10 1/2"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 4 1/2"
- 1334 psi Column @ 7'- 8 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 11 3/4"	1.25D + 1.5L	1.00	2255 lb ft	5580 lb ft	Passed - 40%
Factored Shear:	0'- 5 9/16"	1.25D + 1.5L	1.00	1186 lb	2240 lb	Passed - 53%
Live Load (LL) Pos. Defl.:	4'- 1/2"	L		0.056"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 1/2"	D + L		0.085"	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	1193 lb		2240 lb	18348 lb	Passed - 53%
2	5-08	1.25D + 1.5L	1.00	1163 lb		2240 lb	18348 lb	Passed - 52%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	8'- 1"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'	8'- 1"	FC1 Floor Decking (Plan View Fill)	Top	2 lb/ft	5 lb/ft	-	-
Uniform	3'- 5 3/4"	7'- 5 3/4"	Smoothed Load	Back	75 lb/ft	148 lb/ft	-	-
Tapered	0'- 5 3/4"	3'- 5 3/4"	Smoothed Load	Back	80 To 67 lb/ft	151 lb/ft	-	-
Tapered	5'- 11 3/4"	8'- 1"	FC1 Floor Decking (Plan View Fill)	Top	-	8 To 4 lb/ft	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	Pt1(i48887)	286 lb	557 lb	-	-
2	7'- 7 1/2"	8'- 1"	Pt1(i48890)	281 lb	542 lb	-	-

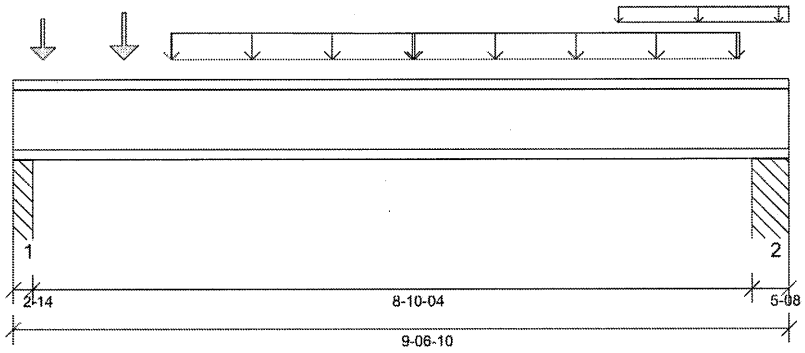
DESIGN NOTES

- 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.

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A W Sunken M...** Level: **Ground Floor** Label: **B14 (LOW) - i48937** 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 04/19/2022 15:59



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'- 10 1/2"

Factored Resistance of Support Material:

- 1334 psi Column @ 0'- 1 7/8"
- 1334 psi Column @ 9'- 2 1/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 5 3/8"	1.25D + 1.5L	1.00	3464 lb ft	5580 lb ft	Passed - 62%
Factored Shear:	0'- 2 15/16"	1.25D + 1.5L	1.00	1803 lb	2240 lb	Passed - 80%
Live Load (LL) Pos. Defl.:	4'- 7 3/4"	L		0.119"	L/360	Passed - L/895
Total Load (TL) Pos. Defl.:	4'- 7 3/4"	D + L		0.180"	L/240	Passed - L/591

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	2-14	1.25D + 1.5L	1.00	1804 lb		2105 lb	9590 lb	Passed - 86%
2	5-08	1.25D + 1.5L	1.00	1442 lb		2240 lb	18348 lb	Passed - 64%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 6 5/8"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	4'- 11 3/8"	8'- 11 3/8"	Smoothed Load	Front	75 lb/ft	150 lb/ft	-	-
Tapered	1'- 11 3/8"	4'- 11 3/8"	Smoothed Load	Front	82 To 69 lb/ft	155 lb/ft	-	-
Tapered	7'- 5 3/8"	9'- 6 5/8"	FC1 Floor Decking (Plan View Fill)	Top	-	11 To 6 lb/ft	-	-
Point	0'- 4 3/8"	0'- 4 3/8"	J2(i48915)	Front	97 lb	195 lb	-	-
Point	1'- 4 3/8"	1'- 4 3/8"	J2(i48935)	Front	121 lb	234 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 7/8"	Pt1(i48936)	436 lb	845 lb	-	-
2	9'- 1 1/8"	9'- 6 5/8"	Pt1(i48938)	346 lb	667 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.

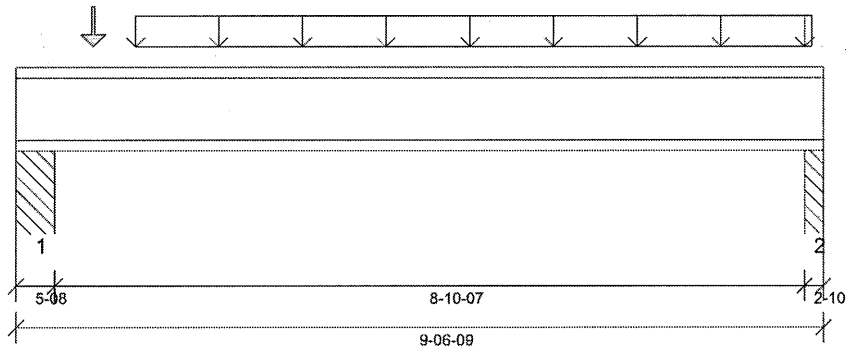
SB046715

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A W Sunken M...** Level: **Ground Floor** Label: **B15 (LOW) - i48920** 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 04/19/2022 15:59



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,

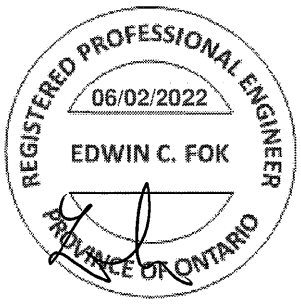
Lateral Restraint Requirements:

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'- 4 1/2"
- 1334 psi Column @ 9'- 4 15/16"



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 10 15/16"	1.25D + 1.5L	1.00	4300 lb ft	5580 lb ft	Passed - 77%
Factored Shear:	9'- 3 7/8"	1.25D + 1.5L	1.00	1883 lb	2240 lb	Passed - 84%
Live Load (LL) Pos. Defl.:	4'- 10 3/4"	L		0.147"	L/360	Passed - L/723
Total Load (TL) Pos. Defl.:	4'- 10 3/4"	D + L		0.222"	L/240	Passed - L/478

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	1834 lb		2240 lb	18348 lb	Passed - 82%
2	2-10	1.25D + 1.5L	1.00	1884 lb		2075 lb	8758 lb	Passed - 91%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 6 9/16"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	1'- 4 15/16"	9'- 4 15/16"	Smoothed Load	Front	97 lb/ft	195 lb/ft	-	-
Point	0'- 10 15/16"	0'- 10 15/16"	J2(i48889)	Front	88 lb	176 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	Pt1(i48888)	440 lb	856 lb	-	-
2	9'- 3 15/16"	9'- 6 9/16"	Pt1(i48936)	451 lb	880 lb	-	-

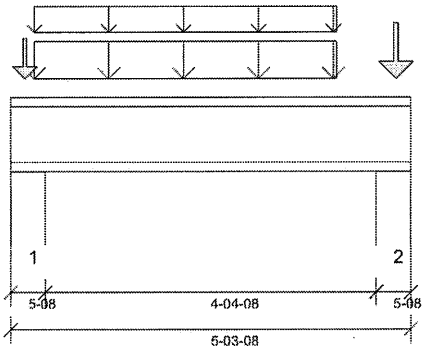
DESIGN NOTES

- 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.

S6046716

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A...** Level: **Second Floor** Label: **B16 - i50242** Type: **Beam**	**2 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 04/20/2022 14:09



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: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 4'- 11"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 3 3/4"	1.25D + 1.5L	1.00	2945 lb ft	11160 lb ft	Passed - 26%
Factored Neg. Moment:	4'- 11"	1.25D + 1.5L	1.00	221 lb ft	11160 lb ft	Passed - 2%
Factored Shear:	0'- 5 9/16"	1.25D + 1.5L	1.00	2490 lb	4480 lb	Passed - 56%
Live Load (LL) Pos. Defl.:	2'- 7 5/8"	L		0.022"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	2'- 7 5/8"	D + L		0.031"	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	3281 lb		4480 lb	16918 lb	Passed - 73%
2	5-08	1.25D + 1.5L	1.00	3567 lb		4480 lb	16918 lb	Passed - 80%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	5'- 3 1/2"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'- 3 3/4"	4'- 3 3/4"	Smoothed Load	Front	172 lb/ft	382 lb/ft	-	-
Uniform	0'- 3 3/4"	4'- 3 3/4"	Smoothed Load	Back	78 lb/ft	208 lb/ft	-	-
Point	0'- 2 1/4"	0'- 2 1/4"	J11(i49907)	Front	172 lb	382 lb	-	-
Point	5'- 1 1/8"	5'- 1 1/8"	-	Front	256 lb	607 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	7(i41711)	710 lb	1619 lb	-	-
2	4'- 10"	5'- 3 1/2"	6(i41710)	750 lb	1730 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.
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- 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

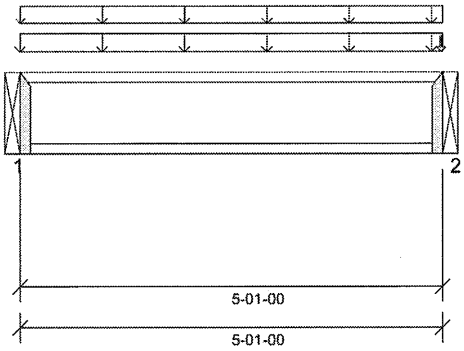
- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

S3047(1)

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A...** Level: **Second Floor** Label: **B17 - i49968** 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 04/20/2022 14:09



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: 5'- 1"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'
- 769 psi Beam @ 5'- 1"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 6 1/2"	1.25D + 1.5L	0.77	421 lb ft	4298 lb ft	Passed - 10%
Factored Shear:	5'- 15/16"	1.25D + 1.5L	0.77	338 lb	1725 lb	Passed - 20%
Total Load (TL) Pos. Defl.:	2'- 6 1/2"	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	1-12	1.25D + 1.5L	0.77	331 lb		1970 lb	-	Passed - 17%
2	1-12	1.25D + 1.5L	0.77	339 lb		1970 lb	-	Passed - 17%

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'	5'- 1"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	-0'	5'- 1"	19(i49845)	Top	61 lb/ft	-	-	-
Uniform	0'	5'- 1"	FC2 Floor Decking (Plan View Fill)	Top	10 lb/ft	26 lb/ft	-	-
Point	5'- 3/4"	5'- 3/4"	19(i49845)	Top	6 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B20(i50472)	186 lb	66 lb	-	-
2	5'- 1"	5'- 1"	B18(i50049)	192 lb	66 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.
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- 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.
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- 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.

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

SG046718

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A...** Level: **Second Floor** Label: **B18 - i50049** Type: **Beam**	**1 Ply Member** **11 7/8" NI-20**	Status: **Design Passed**

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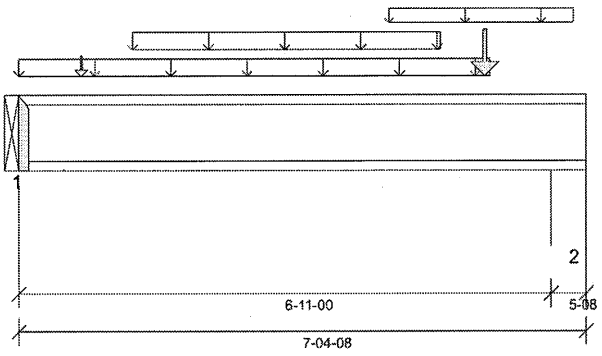

DESIGN INFORMATION

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:

- 769 psi Beam @ 0'
- 615 psi Wall @ 7'

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 5 3/4"	1.25D + 1.5L	0.85	1255 lb ft	4755 lb ft	Passed - 26%
Factored Shear:	6'- 10 15/16"	1.25D + 1.5L	0.85	865 lb	1909 lb	Passed - 45%
Live Load (LL) Pos. Defl.:	3'- 6 11/16"	L		0.017"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 6 15/16"	D + L		0.048"	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	0.85	631 lb		1970 lb	-	Passed - 32%
2	5-08	1.25D + 1.5L	0.85	869 lb		1909 lb	7209 lb	Passed - 46%

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.

* 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'- 4 1/2"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	-0'	6'- 1 1/2"	18(i49844)	Top	61 lb/ft	-	-	-
Uniform	1'- 5 3/4"	5'- 5 3/4"	Smoothed Load	Back	18 lb/ft	48 lb/ft	-	-
Uniform	4'- 9 3/4"	7'- 2 1/2"	FC2 Floor Decking (Plan View Fill)	Top	-	4 lb/ft	-	-
Point	0'- 9 3/4"	0'- 9 3/4"	J6(i49656)	Back	21 lb	55 lb	-	-
Point	6'- 3/4"	6'- 3/4"	-	Top	258 lb	120 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B19(i50162)	315 lb	166 lb	-	-
2	6'- 11"	7'- 4 1/2"	2(i41632)	431 lb	212 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.
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- 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.

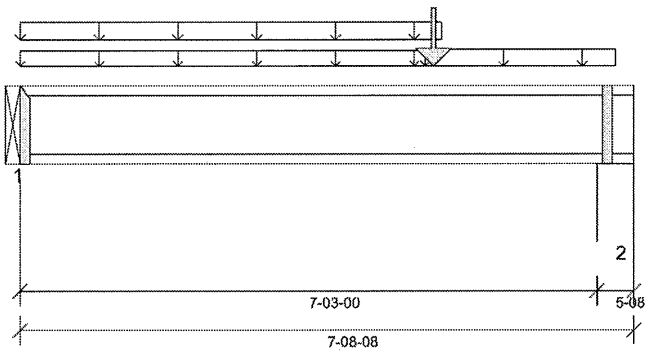
SG046719

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A...** Level: **Second Floor** Label: **B19 - i50162** 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 04/20/2022 14:09



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: 5'- 1"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'
- 615 psi Wall @ 7'- 4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 2 1/4"	1.25D + 1.5L	0.80	1512 lb ft	4480 lb ft	Passed - 34%
Factored Shear:	7'- 2 15/16"	1.25D + 1.5L	0.80	763 lb	1798 lb	Passed - 42%
Live Load (LL) Pos. Defl.:	3'- 11 1/2"	L		0.016"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 10 1/4"	D + L		0.058"	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	1.4D	0.65	461 lb		1970 lb	-	Passed - 23%
2	5-08	1.25D + 1.5L	0.80	778 lb		1798 lb	6791 lb	Passed - 43%

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.

* 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'- 8 1/2"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	0'	5'- 3 1/2"	21(i49846)	Top	61 lb/ft	-	-	-
Uniform	0'	5'- 1"	FC2 Floor Decking (Plan View Fill)	Top	4 lb/ft	11 lb/ft	-	-
Uniform	5'- 1"	7'- 5 3/4"	FC2 Floor Decking (Plan View Fill)	Top	10 lb/ft	28 lb/ft	-	-
Point	5'- 2 5/16"	5'- 2 5/16"	-	Front	328 lb	166 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B20(i50472)	339 lb	99 lb	-	-
2	7'- 3"	7'- 8 1/2"	3(i41631)	379 lb	191 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.

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

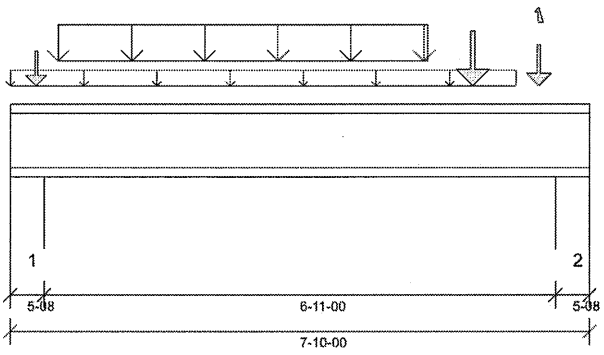
SEO 46720

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A...** Level: **Second Floor** Label: **B20 - i50472** Type: **Beam**	**2 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 04/20/2022 14:10



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:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 7'- 5 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 1 3/4"	1.25D + 1.5L	1.00	6437 lb ft	11160 lb ft	Passed - 58%
Factored Shear:	7'- 4 7/16"	1.25D + 1.5L	1.00	3900 lb	4480 lb	Passed - 87%
Live Load (LL) Pos. Defl.:	3'- 11 1/16"	L		0.073"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 11 3/16"	D + L		0.117"	L/240	Passed - L/710

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	3981 lb		4480 lb	16918 lb	Passed - 89%
2	5-08	1.25D + 1.5L	1.00	3908 lb		4480 lb	16918 lb	Passed - 87%

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	6 lb/ft	-	-	-
Uniform	0'	6'- 10"	20(i49847)	Top	61 lb/ft	-	-	-
Uniform	0'- 7 3/4"	5'- 7 3/4"	Smoothed Load	Front	193 lb/ft	447 lb/ft	-	-
Point	7'- 1 3/4"	7'- 1 3/4"	J8(i50302)	Front	176 lb	428/-19 lb	-	-
Point	0'- 4 3/16"	0'- 4 3/16"	-	Back	364 lb	99 lb	-	-
Point	6'- 3"	6'- 3"	-	Top	391 lb	507 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	17(i49616)	1283 lb	1569/-1 lb	-	-
2	7'- 4 1/2"	7'- 10"	2(i41632)	1079 lb	1722/-18 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.

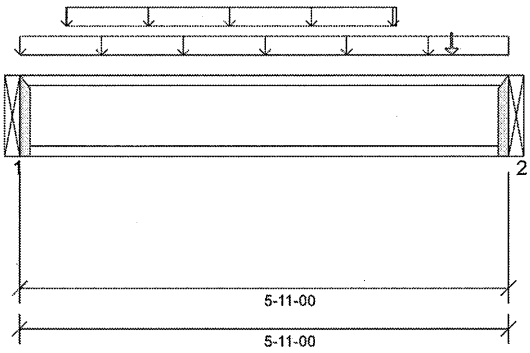
PLY TO PLY CONNECTION

- 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.

SG024672

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A...** Level: **Ground Floor** Label: **B21 - i50584** 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 04/20/2022 14:10



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:

- 769 psi Beam @ 0'
- 769 psi Beam @ 5'- 11"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 7 9/16"	1.25D + 1.5L	0.86	833 lb ft	4771 lb ft	Passed - 17%
Factored Shear:	5'- 10 15/16"	1.25D + 1.5L	0.86	539 lb	1915 lb	Passed - 28%
Total Load (TL) Pos. Defl.:	2'- 11 7/16"	D + L		0.025"	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	0.86	512 lb		1970 lb	-	Passed - 26%
2	1-12	1.25D + 1.5L	0.86	539 lb		1970 lb	-	Passed - 27%

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'	5'- 11"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	-0'	5'- 11"	12(i49611)	Top	68 lb/ft	-	-	-
Uniform	0'- 6 3/4"	4'- 6 3/4"	Smoothed Load	Back	20 lb/ft	53 lb/ft	-	-
Point	5'- 2 3/4"	5'- 2 3/4"	J6(i50568)	Back	21 lb	56 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B24(i50571)	258 lb	126 lb	-	-
2	5'- 11"	5'- 11"	B22(i50580)	263 lb	141 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.

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

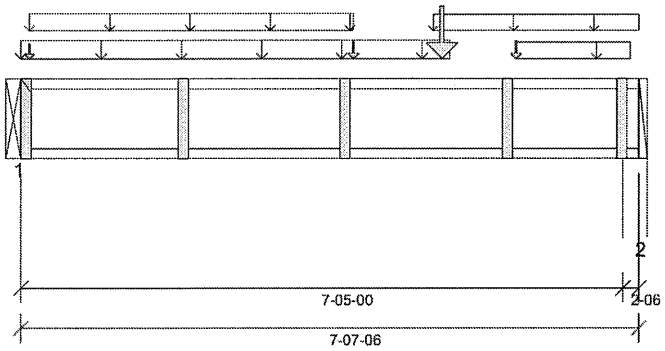
S2046702

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A...** Level: **Ground Floor** Label: **B22 - i50580** 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 04/20/2022 14:10



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'- 9 1/2"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'
- 615 psi Wall @ 7'- 6"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 7 7/16"	1.25D + 1.5L	0.86	1667 lb ft	4796 lb ft	Passed - 35%
Factored Shear:	7'- 4 15/16"	1.25D + 1.5L	0.86	821 lb	1925 lb	Passed - 43%
Live Load (LL) Pos. Defl.:	3'- 11 1/16"	L		0.022"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 10 1/2"	D + L		0.068"	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	0.86	705 lb		1970 lb	-	Passed - 36%
2	2-06	1.25D + 1.5L	0.86	836 lb		1758 lb	3139 lb	Passed - 48%

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.

* 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'- 7 3/8"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	-0'	5'- 3 1/2"	13(i49612)	Top	68 lb/ft	-	-	-
Uniform	0'- 1 1/4"	4'- 1 1/4"	FC1 Floor Decking (Plan View Fill)	Top	11 lb/ft	29 lb/ft	-	-
Uniform	5'- 1"	7'- 7 3/8"	FC1 Floor Decking (Plan View Fill)	Top	6 lb/ft	16 lb/ft	-	-
Uniform	6'- 1 1/4"	7'- 6 1/8"	FC1 Floor Decking (Plan View Fill)	Top	10 lb/ft	27 lb/ft	-	-
Point	0'- 1 1/4"	0'- 1 1/4"	Bk1(i50401)	Front	-	4 lb	-	-
Point	4'- 1 1/4"	4'- 1 1/4"	Bk1(i50274)	Front	11 lb	29 lb	-	-
Point	6'- 1 1/4"	6'- 1 1/4"	Bk1(i50337)	Front	10 lb	26 lb	-	-
Point	5'- 2 5/16"	5'- 2 5/16"	-	Back	279 lb	141 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B23(i50559)	378 lb	162 lb	-	-
2	7'- 5"	7'- 7 3/8"	W19(i41602)	379 lb	235 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.

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

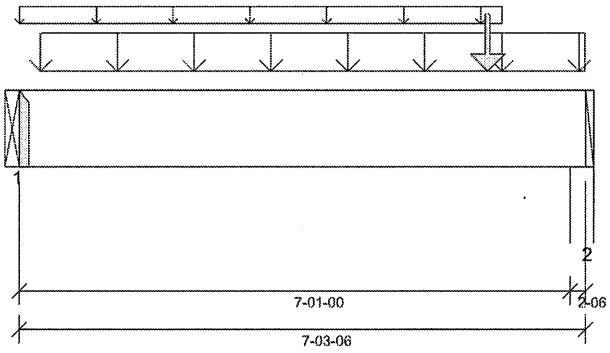
S6046723

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A...** Level: **Ground Floor** Label: **B23 - i50559** 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 04/20/2022 14:11



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'- 8 1/2"

Factored Resistance of Support Material:

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

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 6" O/C STAGGERED IN 2 ROWS

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 9 1/4"	1.25D + 1.5L	1.00	6787 lb ft	26531 lb ft	Passed - 26%
Factored Shear:	6'- 1 1/8"	1.25D + 1.5L	1.00	4095 lb	14414 lb	Passed - 28%
Live Load (LL) Pos. Defl.:	3'- 7 1/4"	L		0.037"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 7 7/16"	D + L		0.061"	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	1-08	1.25D + 1.5L	1.00	3391 lb		6880 lb	-	Passed - 49%
2	2-06	1.25D + 1.5L	1.00	4153 lb		10891 lb	5113 lb	Passed - 81%

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'	7'- 3 3/8"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'	6'- 2 1/2"	14(i49613)	Top	68 lb/ft	-	-	-
Uniform	0'- 3 1/4"	7'- 3 1/4"	Smoothed Load	Front	166 lb/ft	444 lb/ft	-	-
Point	6'- 5/16"	6'- 5/16"	-	Back	402 lb	162 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B24(i50571)	910 lb	1500 lb	-	-
2	7'- 1"	7'- 3 3/8"	W20(i41599)	1181 lb	1787 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.

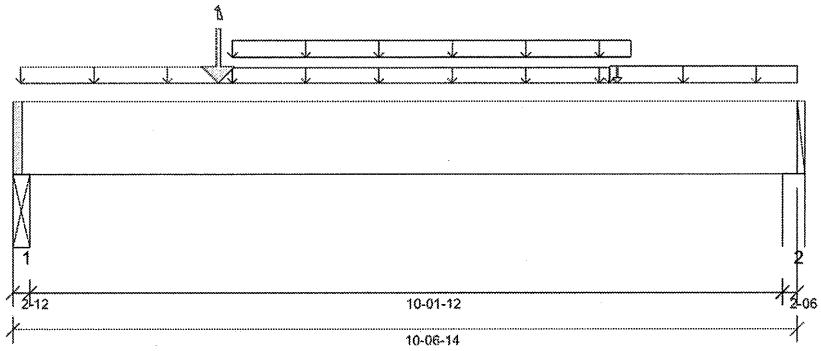
PLY TO PLY CONNECTION

- 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.

SE046724

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A + Second A...** Level: **Ground Floor** Label: **B24 - i50571** 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 04/20/2022 14:11



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: 5'- 1"

Factored Resistance of Support Material:

- 769 psi Beam @ 0'- 1 3/4"
- 615 psi Wall @ 10'- 5 1/2"

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

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 9 3/4"	1.25D + 1.5L	1.00	16070 lb ft	26531 lb ft	Passed - 61%
Factored Shear:	1'- 2 5/8"	1.25D + 1.5L	1.00	6177 lb	14414 lb	Passed - 43%
Live Load (LL) Pos. Defl.:	4'- 9 7/16"	L		0.132"	L/360	Passed - L/923
Total Load (TL) Pos. Defl.:	4'- 10 5/16"	D + L		0.251"	L/240	Passed - L/484

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	6296 lb		12612 lb	7402 lb	Passed - 85%
2	2-06	1.25D + 1.5L	1.00	3037 lb		10893 lb	5114 lb	Passed - 59%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 6 7/8"	Self Weight	Top	13 lb/ft	-	-	-
Uniform	0'- 1 1/4"	2'- 11 1/2"	FC1 Floor Decking (Plan View Fill)	Top	16 lb/ft	42 lb/ft	-	-
Uniform	2'- 11 1/2"	8'- 4"	15(i49614)	Top	68 lb/ft	-	-	-
Uniform	2'- 11 1/2"	8'- 1/2"	FC1 Floor Decking (Plan View Fill)	Top	10 lb/ft	26 lb/ft	-	-
Uniform	8'- 1/2"	10'- 6 7/8"	FC1 Floor Decking (Plan View Fill)	Top	19 lb/ft	51 lb/ft	-	-
Point	2'- 9 3/16"	2'- 9 3/16"	-	Front	2213 lb	3069/-1 lb	-	-
Point	8'- 1 3/4"	8'- 1 3/4"	B21(i50584)	Front	258 lb	126 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.)(i41700)	2064 lb	2513/-1 lb	-	-
2	10'- 4 1/2"	10'- 6 7/8"	W19(i41602)	1106 lb	1068 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.

8E046725

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground A W Sunken M...** Level: **Ground Floor** Label: **B25 (LOW) - i51663** Type: **Beam**	**1 Ply Member** **11 7/8" NI-20**	Status: **Design Passed**

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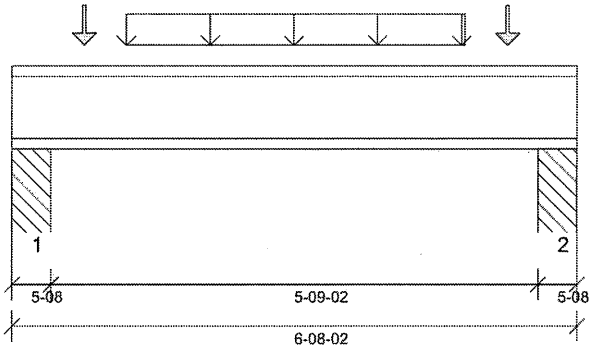


DESIGN INFORMATION

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'- 4 1/2"
- 1334 psi Column @ 6'- 3 5/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 10 1/4"	1.25D + 1.5L	1.00	1846 lb ft	5580 lb ft	Passed - 33%
Factored Shear:	6'- 2 9/16"	1.25D + 1.5L	1.00	1224 lb	2240 lb	Passed - 55%
Live Load (LL) Pos. Defl.:	3'- 4 1/16"	L		0.035"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 4 1/16"	D + L		0.053"	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	1219 lb		2240 lb	18348 lb	Passed - 54%
2	5-08	1.25D + 1.5L	1.00	1226 lb		2240 lb	18348 lb	Passed - 55%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	6'- 8 1/8"	Self Weight	Top	3 lb/ft	-	-	-
Uniform	1'- 4 1/4"	5'- 4 1/4"	Smoothed Load	Front	99 lb/ft	199 lb/ft	-	-
Point	0'- 10 1/4"	0'- 10 1/4"	J3(i51699)	Front	87 lb	174 lb	-	-
Point	5'- 10 1/4"	5'- 10 1/4"	J3(i51694)	Front	85 lb	171 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	Pt1(i51690)	293 lb	569 lb	-	-
2	6'- 2 5/8"	6'- 8 1/8"	Pt1(i51691)	294 lb	572 lb	-	-

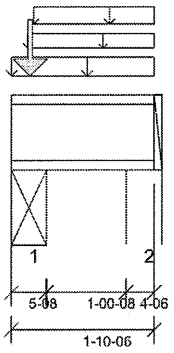
DESIGN NOTES

- 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.

S6046726

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground B + Second B (5,** Level: **Second Floor** Label: **B26 - i48477** Type: **Beam**	**2 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 04/21/2022 11:08



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,

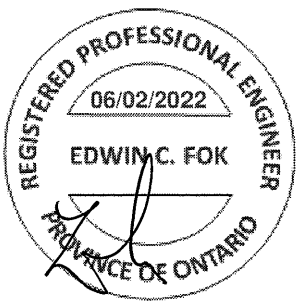
Lateral Restraint Requirements:

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'- 10 5/8"

Factored Resistance of Support Material:

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



ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 9/16"	0.9D + 1.5L	0.75	14 lb ft	8386 lb ft	Passed - 0%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5S	0.95	203 lb ft	10590 lb ft	Passed - 2%
Factored Shear:	0'- 5 9/16"	1.25D + 1.5L	0.75	431 lb	3367 lb	Passed - 13%

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	0.99	1420 lb		4430 lb	20911 lb	Passed - 32%
2	4-06	1.25D + 1.5L	0.75	141 lb		3367 lb	10113 lb	Passed - 4%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	1'- 10 3/8"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	-0'	1'- 10 3/8"	E54(i49572)	Top	101 lb/ft	-	-	-
Uniform	0'- 2 1/2"	1'- 10 3/8"	FC2 Floor Decking (Plan View Fill)	Top	-	8 lb/ft	-	-
Uniform	0'- 3 1/2"	1'- 10 3/8"	E54(i49572)	Top	27 lb/ft	-	42 lb/ft	-
Point	0'- 2 15/16"	0'- 2 15/16"	-	Front	298 lb	159 lb	365 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.)(i41719)	488 lb	166 lb	490 lb	-
2	1'- 6"	1'- 10 3/8"	E9(i41620)	57 lb	8 lb	-59 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.

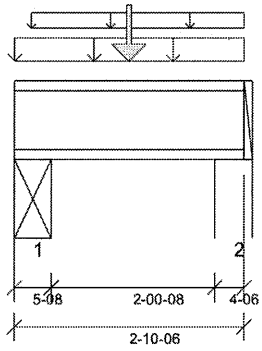
SEQ-4672

MiTek	Customer: **Gold Park Homes** Job Address: **Pine Valley Ph2** City: **Vaughan** Job Track: **45147**	Job Name: **343074 Ground C + Second C (9,** Level: **Second Floor** Label: **B27 - i48477** Type: **Beam**	**2 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 04/22/2022 10:17



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'- 11 5/8"

Factored Resistance of Support Material:

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

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 5 1/8"	1.25D + 1.5L + S	0.96	496 lb ft	10671 lb ft	Passed - 5%
Factored Shear:	0'- 5 9/16"	1.25D + 1.5L + S	0.96	584 lb	4284 lb	Passed - 14%

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	0.96	685 lb		4284 lb	20220 lb	Passed - 16%
2	4-06	1.25D + 1.5L + S	0.96	632 lb		4284 lb	12867 lb	Passed - 15%

SPECIFIED LOADS

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 10 3/8"	Self Weight	Top	6 lb/ft	-	-	-
Uniform	0'	2'- 10 3/8"	E53(i49562)	Top	128 lb/ft	-	42 lb/ft	-
Uniform	0'- 2 1/2"	2'- 10 3/8"	FC2 Floor Decking (Plan View Fill)	Top	3 lb/ft	8 lb/ft	-	-
Point	1'- 5 1/8"	1'- 5 1/8"	J1(i49155)	Front	128 lb	342 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.)(i41719)	271 lb	190 lb	63 lb	-
2	2'- 6"	2'- 10 3/8"	E9(i41620)	249 lb	175 lb	58 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.

REGISTERED PROFESSIONAL ENGINEER
06/02/2022
EDWIN C. FOK
PROVINCE OF ONTARIO

3204678

NORDIC
STRUCTURES

Maximum Floor Spans – M4.1, 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:	3/4 in. nailed-glued oriented strand board (OSB) sheathing

Maximum Floor Spans

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

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

Notes:

1. 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.
2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

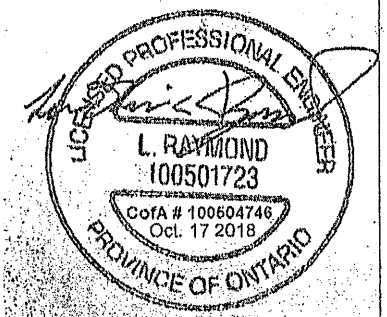
The construction details for residential designs are prone to changes.

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/

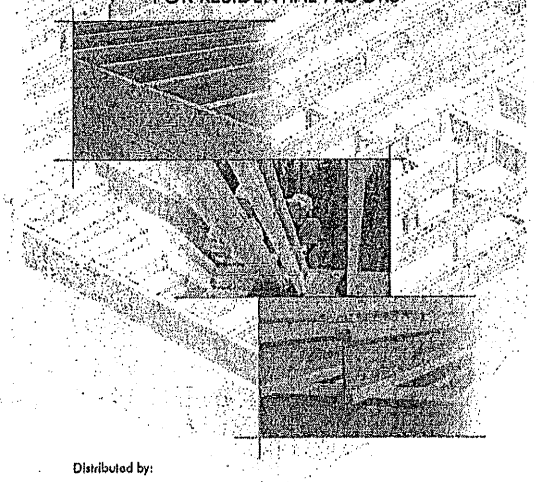
This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.

Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)



NORDIC ENGINEERED WOOD

INSTALLATION GUIDE
FOR RESIDENTIAL FLOORS



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SAFETY AND CONSTRUCTION PRECAUTIONS

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

Never stack building materials over unsheathed I-joists. Once sheathed, do not over-stress I-joist 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.

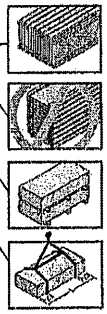
Avoid Accidents by Following these Important Guidelines:

1. 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.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges 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 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 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 stamps or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole size and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

STORAGE AND HANDLING GUIDELINES

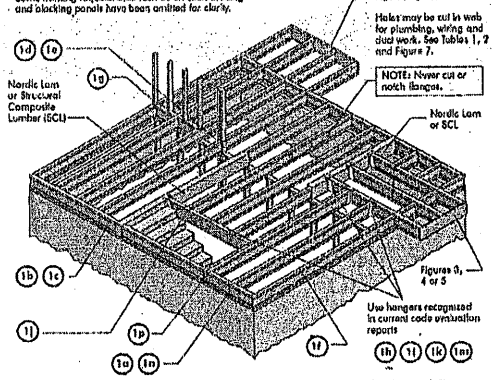
1. Bundle wrap can be slippery when wet. Avoid walking on wrapped bundles.
2. Store, stack, and handle I-joists vertically and level only.
3. Always stack and handle I-joists in the upright position only.
4. Do not store I-joists in direct contact with the ground and/or flatwise.
5. Protect I-joists 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

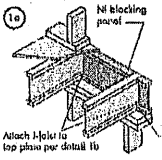
1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, contact your supplier.
2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true 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 loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the 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 may 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 spacings: Space 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



All nails shown in the above detail's are assumed to be common wire nails unless otherwise noted. 3" (0.122" 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 not shown to scale for clarity.

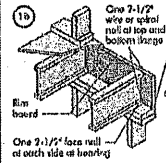
1a



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.

1b



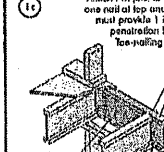
To avoid splitting flange, start nails at least 1-1/2" from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

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

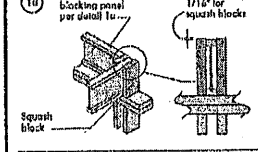
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
1-1/8" Rim Board Plus	8,090

*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.

1c



1d



Pair of Squash Blocks	Maximum Factored Vertical per Pair of Squash Blocks (lbs)	
	3-1/2" wide	5-1/2" wide
2x Lumber	5,600	8,600
1-1/8" Rim Board Plus	4,300	6,600

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

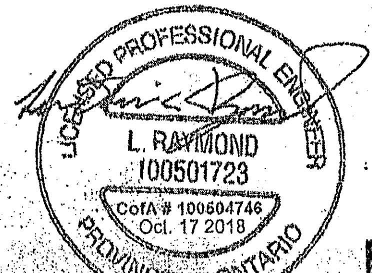
The construction details for residential designs are prone to changes.

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.

Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)



MAXIMUM FLOOR SPANS

1. 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 1.50L + 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.
2. 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 CGSB-71.26 Standard. No concrete topping or bridging element was assumed. Increased spans may be achieved with the used of gypsum and/or a row of blocking at mid-span.
3. Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
5. 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.
6. Tables are based on Limit States Design per CAN/CSA O86-09 Standard, and NBC 2010.
7. SI units conversions 1 inch = 25.4 mm
   1 foot = 0.305 m

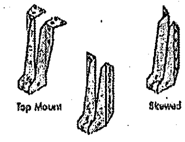
MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS
SIMPLE AND MULTIPLE SPANS

9-1/2"	NI-20	15'-1"	14'-2"	13'-9"	13'-5"	16'-3"	15'-1"	14'-10"	14'-7"
	NI-40x	16'-1"	15'-2"	14'-8"	14'-9"	17'-8"	16'-5"	15'-10"	15'-6"
	NI-60	16'-3"	15'-4"	14'-10"	14'-11"	17'-7"	16'-7"	16'-0"	16'-4"
	NI-70	17'-1"	16'-1"	15'-6"	15'-7"	18'-7"	17'-4"	16'-9"	17'-2"
	NI-80	17'-3"	16'-3"	15'-8"	15'-9"	18'-10"	17'-6"	16'-11"	17'-5"
11-7/8"	NI-20	16'-11"	16'-0"	15'-5"	15'-6"	18'-4"	17'-3"	16'-8"	16'-7"
	NI-40x	18'-1"	17'-0"	16'-5"	16'-6"	20'-0"	18'-6"	17'-9"	17'-7"
	NI-60	18'-4"	17'-3"	16'-7"	16'-9"	20'-3"	18'-9"	18'-0"	18'-9"
	NI-70	19'-6"	18'-0"	17'-4"	17'-6"	21'-6"	19'-11"	19'-0"	19'-8"
	NI-80	19'-9"	18'-3"	17'-6"	17'-7"	21'-9"	20'-2"	19'-3"	19'-11"
	NI-90	20'-2"	18'-7"	17'-10"	17'-11"	22'-5"	20'-7"	19'-8"	19'-9"
	NI-90x	20'-4"	18'-9"	17'-11"	18'-0"	22'-8"	20'-9"	19'-10"	20'-5"
14"	NI-40x	20'-1"	18'-7"	17'-10"	17'-11"	22'-2"	20'-6"	19'-8"	19'-4"
	NI-60	20'-5"	18'-11"	18'-1"	18'-2"	22'-7"	20'-11"	20'-0"	20'-10"
	NI-70	21'-7"	20'-0"	19'-1"	19'-2"	23'-10"	22'-1"	21'-1"	21'-10"
	NI-80	21'-11"	20'-3"	19'-4"	19'-5"	24'-3"	22'-5"	21'-5"	22'-2"
	NI-90	22'-3"	20'-8"	19'-9"	19'-9"	24'-9"	22'-10"	21'-10"	21'-10"
	NI-90x	22'-7"	20'-11"	19'-11"	20'-0"	25'-0"	[illegible]	22'-0"	22'-9"
16"	NI-60	22'-3"	20'-8"	19'-9"	19'-10"	24'-7"	22'-9"	21'-9"	22'-9"
	NI-70	23'-6"	21'-9"	20'-9"	20'-10"	26'-0"	24'-0"	22'-11"	23'-9"
	NI-80	23'-11"	22'-1"	21'-1"	21'-2"	26'-5"	24'-5"	23'-3"	24'-1"
	NI-90	24'-5"	22'-6"	21'-6"	21'-6"	26'-11"	24'-10"	23'-9"	23'-9"
	NI-90x	24'-8"	22'-9"	21'-9"	21'-10"	27'-3"	25'-2"	24'-0"	24'-10"

CCMC EVALUATION REPORT 13032-R

I-JOIST HANGERS

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



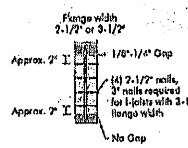
WEB STIFFENERS

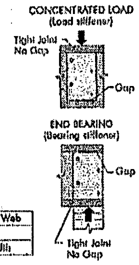
RECOMMENDATIONS:

- A *bearing stiffener* is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found of 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 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



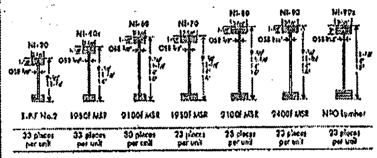


See table below for web stiffener size requirements

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

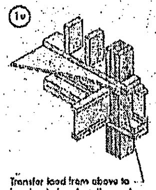


33 pieces per unit	33 pieces per unit	30 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit

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.

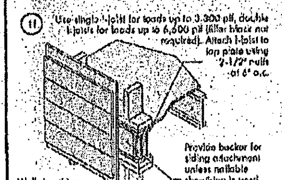
1v



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

1f

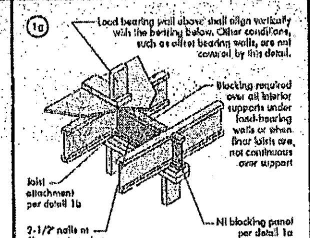
Use single I-joist for loads up to 3,300 plf, double I-joists for loads up to 6,600 plf (filler block not required). Attach I-joist to top plate using 2-1/2" nails at 6" o.c.



Rim board may be used in lieu of I-joists. Backer is not required when rim board is used. Bracing per code shall be carried to the foundation.

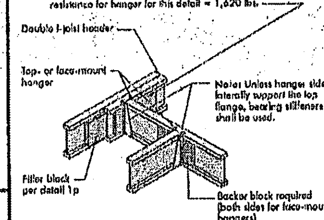
1g

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



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.



For hanger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support concentrated loads.

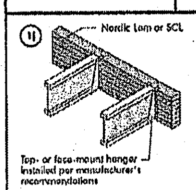
BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

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 sawn 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".

1j

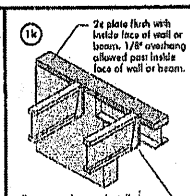


Top- or face-mount hanger installed per manufacturer's recommendations

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.

1k

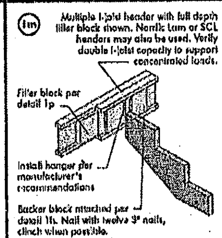


Top-mount hanger installed per manufacturer's recommendations

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

1m

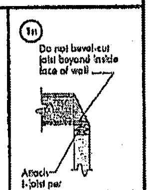
Multiple I-joist header with full depth filler block shown. Nordic Lam or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.



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

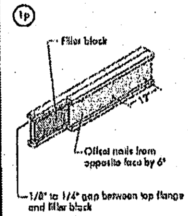
Maximum support capacity = 1,620 lbs.

1n



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

1p



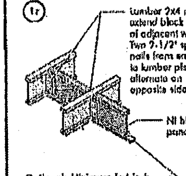
Notes:

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 lbf/ft. Verify double I-joist capacity.

FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

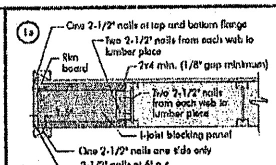
Flange Size	Joist Depth	Filler Block Size
2-1/2" x 1-1/2"	9-1/2"	2-1/8" x 6"
	11-7/8"	2-1/8" x 8"
	14"	2-1/8" x 10"
	16"	2-1/8" x 12"
3-1/2" x 1-1/2"	9-1/2"	3" x 6"
	11-7/8"	3" x 8"
	14"	3" x 10"
	16"	3" x 12"
3-1/2" x 2"	11-7/8"	3" x 7"
	14"	3" x 9"
	16"	3" x 11"

1r



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

1s



Notes:
- 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.

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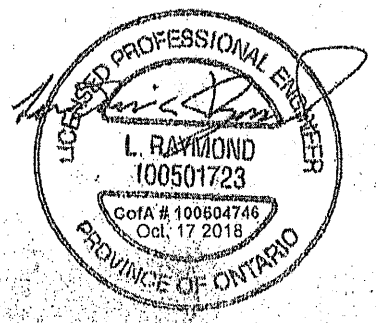
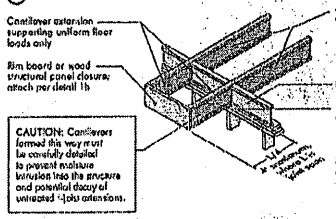
This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.

Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)

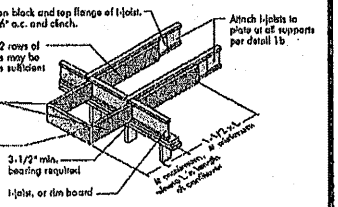


CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

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

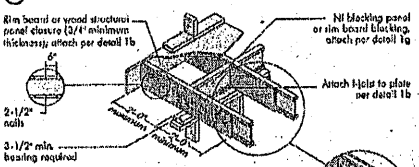


3b LUMBER CANTILEVER DETAIL FOR BALCONIES (No Wall Load)



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

4a Method 1 — SHEATHING REINFORCEMENT ONE SIDE

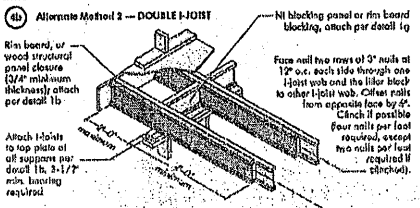


Method 2 — SHEATHING REINFORCEMENT TWO SIDES

- Use same installation as Method 1 but reinforce both sides of I-Joist with sheathing.
- 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 or all supports per detail 1b. Verify reinforced I-Joist capacity.

4b Alternate Method 2 — DOUBLE I-JOIST



Block I-Joists together with filler blocks for the full length of the reinforcement. For I-Joist flange widths greater than 3 inches place an additional row of 3" nails along the centerline of the reinforcing panel from each side. Clinch when possible.

FIGURE 4 (continued)

See table below for NI reinforcement requirements at cantilever.

For hip roofs with the jack trusses running parallel to the cantilevered floor joists, the I-Joist reinforcement requirements for a span of 25 ft. shall be permitted to be used.

CANTILEVER REINFORCEMENT METHODS ALLOWED

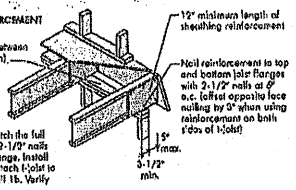
9-1/2	24	N	N	1	2	N	1	2	X	N	2	X	X
	28	N	N	1	X	N	1	2	X	N	2	X	X
	30	N	1	2	X	N	1	2	X	1	2	X	X
	32	N	1	2	X	N	2	X	X	1	X	X	X
	34	N	1	2	X	N	2	X	X	1	X	X	X
	36	N	1	2	X	1	2	X	X	1	X	X	X
11-7/8	26	1	N	N	1	1	N	1	2	2	N	1	X
	28	1	N	N	1	2	N	1	2	2	1	1	X
	30	1	N	1	1	2	N	1	2	X	1	2	X
	32	1	N	1	2	2	1	1	2	X	1	2	X
	34	1	N	1	2	2	1	2	X	X	1	2	X
	36	2	N	1	2	X	1	2	X	X	2	X	X
	38	2	N	1	2	X	1	2	X	X	2	X	X
14	24	N	N	N	N	N	N	N	1	N	N	N	1
	26	N	N	N	N	N	N	N	1	N	N	1	1
	28	N	N	N	N	N	N	N	1	N	N	1	2
	30	N	N	N	1	N	N	N	1	N	N	1	2
	32	N	N	N	1	N	N	N	1	N	N	1	2
	34	N	N	N	1	N	N	1	1	N	N	1	2
	36	N	N	N	1	N	N	1	2	N	N	1	2
	38	N	N	N	1	N	N	1	2	N	N	1	2
	40	N	N	N	1	N	N	1	2	N	N	1	2
16	24	N	N	N	N	N	N	N	1	N	N	N	1
	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	1	N	N	N	1	N	N	1	1
	34	N	N	N	1	N	N	N	1	N	N	1	2
	36	N	N	N	1	N	N	N	1	N	N	1	2
	38	N	N	N	1	N	N	N	1	N	N	1	2
	40	N	N	N	1	N	N	1	2	N	N	1	2

1. N = No reinforcement required.
   1 = NI reinforced with 3/4" wood structural panel on one side only.
   2 = 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, 55 psf floor total load, and 60 psf wall load. Wall load is based on 2'-0" maximum width window or door openings.

   For larger openings, or multiple 2'-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 board, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
5. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

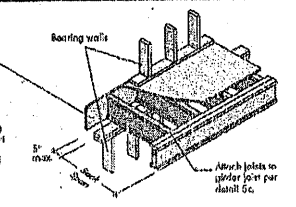
BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

5a SHEATHING REINFORCEMENT



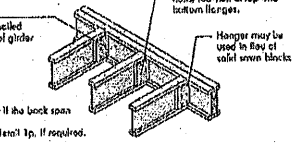
Note: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c. top and bottom flange. Install with face grain horizontal. Attach I-Joist to plate at all supports per detail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

5b SET-BACK DETAIL



Notes:
- Provide full depth blocking between joists over support (not shown for clarity)
- Attach I-Joist to plate at all supports per detail 1b.
- 3-1/2" minimum I-Joist bearing required.

5c SET-BACK CONNECTION



Notes:
- Verify girder joist capacity if the back span exceeds the joist spacing.
- Attach double I-Joist per detail 1p, if required.

FIGURE 5 (continued)

See table below for NI reinforcement requirements at cantilever.

For hip roofs with the jack trusses running parallel to the cantilevered floor joists, the I-Joist reinforcement requirements for a span of 26 ft. shall be permitted to be used.

BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

9-1/2	26	1	X	X	X	2	X	X	X	2	X	X	X
	28	1	X	X	X	2	X	X	X	2	X	X	X
	30	2	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
	36	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	X	X	X	X	X	X	X	X	X	X	X
	36	X	X	X	X	X	X	X	X	X	X	X	X
	38	X	X	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	X	X	X	X
	36	1	X	X	X	2	X	X	X	X	X	X	X
	38	1	X	X	X	2	X	X	X	X	X	X	X
	40	1	X	X	X	2	X	X	X	X	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	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	X	X	X	X
	36	1	X	X	X	2	X	X	X	X	X	X	X
	38	1	X	X	X	2	X	X	X	X	X	X	X
	40	2	X	X	X	2	X	X	X	X	X	X	X

1. N = No reinforcement required.
   1 = NI reinforced with 3/4" wood structural panel on one side only.
   2 = 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, 55 psf floor total load, and 60 psf wall load. Wall load is based on 2'-0" maximum width window or door openings.

   For larger openings, or multiple 2'-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 board, the Roof Truss Span is equivalent to the distance between the supporting walls as if a truss is used.
5. Cantilevered joists supporting girder trusses or roof beams may require additional reinforcing.

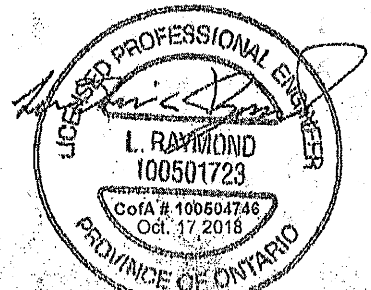
The construction details for residential designs are prone to changes.

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.

Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)



WEB HOLES

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

1. 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.
2. I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. Whenever possible, field-cut holes should be centred on the middle of the web.
4. 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 or bottom of the hole or opening and the adjacent I-joist flange.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. Limit three maximum size holes per span, of which one may be a duct chase opening.
12. 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
9-1/2"	[illegible]	[illegible]	[illegible]
11-7/8"	[illegible]	[illegible]	[illegible]
14"	[illegible]	[illegible]	[illegible]
16"	[illegible]	[illegible]	[illegible]

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

OPTIONAL:

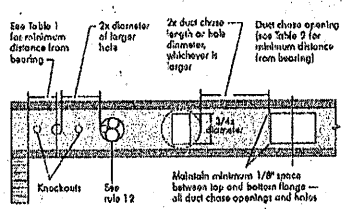
The above table is based on the I-joists used at their maximum span. If the I-joists are placed at less than their full maximum span (see Maximum Floor Spans), the minimum distance from the centreline of the hole to the face of any support (D) as given above may be reduced as follows:

$D_{reduced} = \frac{L_{actual}}{SAF} \times D$

Where:
- $D_{reduced}$ = Distance from the inside face of any support to centre of hole, reduced for less-than-maximum span applications (ft). The reduced distance shall not be less than 6 inches from the face of the support to edge of the hole.
- L_{actual} = The actual measured span distance between the inside faces of supports (ft).
- SAF = Span Adjustment Factor given in this table.
- D = The minimum distance from the inside face of any support to centre of hole from this table.

If $\frac{L_{actual}}{SAF}$ is greater than 1, use 1 in the above calculation for $\frac{L_{actual}}{SAF}$.

FIGURE 7
FIELD-CUT HOLE LOCATOR



A knockout is NOT considered a hole, may be utilized wherever it occurs and may be ignored for purposes of calculating minimum distances between holes.

Knockouts are prescored 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.

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.)
9-1/2"	[illegible]	[illegible]
11-7/8"	[illegible]	[illegible]
14"	[illegible]	[illegible]
16"	[illegible]	[illegible]

1. Above table may be used for I-joist spacing of 24 inches on centre or less.
2. Duct chase opening location distance is measured from inside face of supports to centre of opening.
3. The above table is based on simple-span joists only. For other applications, contact your local distributor.
4. 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.

INSTALLING THE GLUED FLOOR SYSTEM

1. Wipe any mud, dirt, water, or ice from I-joist flanges before gluing.
2. 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.
3. Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
4. 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.
5. Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joist. Apply glue in a winding pattern on wide areas, such as with double I-joists.
6. Apply two lines of glue on I-joists where panel ends butt to assure proper gluing of each end.
7. After the first row of panels is in place, spread glue in the groove of 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-joist flanges.
8. Tap the second row of panels into place, using a block to protect groove edges.
9. 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.)
10. 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)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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"

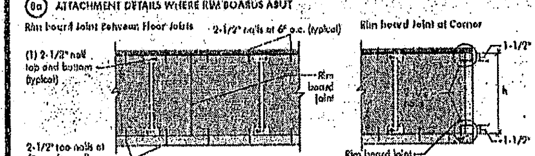
1. Fasteners of sheathing and subflooring shall conform to the above table.
2. Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown driven with the crown parallel to framing.
3. Flooring screws shall not be less than 1/8-inch in diameter.
4. Special conditions may impose heavy traffic and concentrated loads that require construction in excess of the minimums shown.
5. Use only adhesives conforming to CAN/CGSB-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.: NRC-CNRC, *National Building Code of Canada 2010, Table 9.23.3.5.*

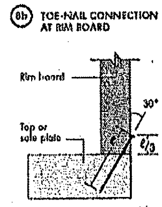
IMPORTANT NOTE:
Floor sheathing must be field glued to the I-joist flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joist spans must be verified with your local distributor.

RIM BOARD INSTALLATION DETAILS

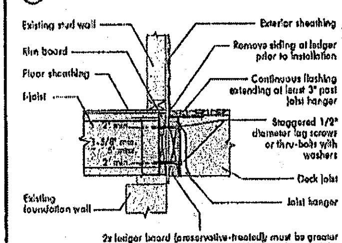
(8a) ATTACHMENT DETAILS WHERE RIM BOARDS ABUT

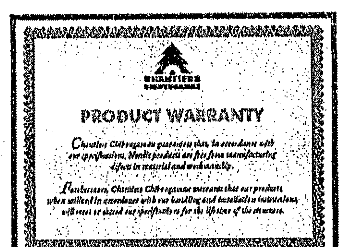


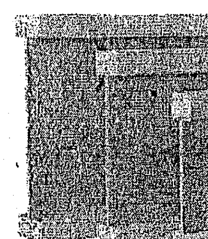
(8b) TOE-NAIL CONNECTION AT RIM BOARD



(8c) 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL



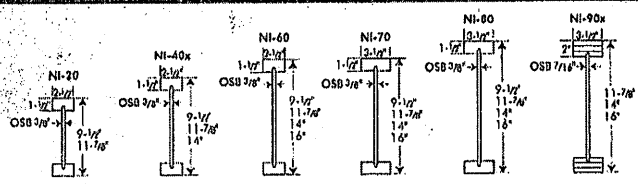




CONSTRUCTION DETAILS FOR RESIDENTIAL FLOORS

NORDIC ENGINEERED WOOD

www.nordicewp.com



S-P-F No. 2	1950f MSR	2100f MSR	1950f MSR	2100f MSR	NPG Lumber
33 pieces per unit	33 pieces per unit	33 pieces per unit	23 pieces per unit	23 pieces per unit	23 pieces per unit

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:

1. 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.
2. I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. Whenever possible, field-cut holes should be centred on the middle of the web.
4. 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 or bottom of the hole or opening and the adjacent I-joist flange.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. All holes and duct chase openings shall be cut in a workmanlike manner in accordance with the restrictions listed above and as illustrated in Figure 7.
11. Limit three maximum size holes per span, of which one may be a duct chase opening.
12. 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	9	10	10-3/4	11	12	12-3/4
9-1/2"	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	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'-9"	6'-3"	8'-0"	8'-4"	---	---	---	---	---	---	---	---	---
	NI-80	2'-3"	3'-6"	5'-0"	6'-5"	8'-2"	8'-8"	---	---	---	---	---	---	---	---	---
11-7/8"	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	---	---	---	---	---	---
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	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"	---	---	---	---	---	---
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	---	---	---	---	---	---
	NI-90x	0'-7"	0'-8"	0'-9"	2'-5"	4'-4"	4'-9"	6'-3"	---	---	---	---	---	---	---	---
14"	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"	---	---	---
	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-90x	0'-7"	0'-8"	0'-8"	2'-0"	3'-9"	4'-2"	5'-5"	7'-3"	8'-5"	9'-2"	---	---	---	---	---
16"	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'-6"	4'-10"	5'-3"	6'-3"	7'-8"	8'-6"	9'-2"	10'-8"	12'-0"	12'-4"	14'-0"	15'-6"
	NI-80	0'-7"	1'-3"	2'-6"	3'-10"	5'-3"	5'-6"	6'-6"	8'-0"	9'-0"	9'-6"	11'-0"	12'-3"	12'-9"	14'-5"	16'-0"
	NI-90x	0'-7"	0'-8"	0'-9"	2'-0"	3'-6"	4'-0"	5'-0"	6'-9"	7'-9"	8'-4"	10'-2"	11'-6"	12'-0"	---	---

1. Above table may be used for I-joist spacing of 24 inches on centre or less.
2. Hole location distance is measured from inside face of supports to centre of hole.
3. Distances in this chart are based on uniformly loaded joists.
4. 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

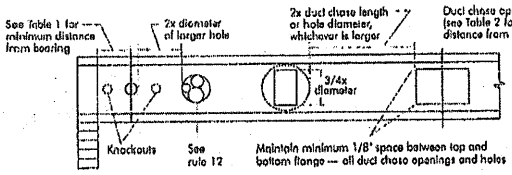
Simple Span Only

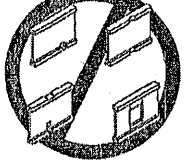
Joist Depth	Joist Series	Minimum Distance from Inside Face of Supports to Centre of Opening (ft - in.) Duct Chase Length (in.) 8	10	12	14	16	18	20	22	24
9-1/2"	NI-20	4'-1"	4'-5"	4'-10"	5'-4"	5'-8"	6'-1"	6'-6"	7'-1"	7'-5"
	NI-40x	5'-2"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"
	NI-60	5'-4"	5'-9"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

1. Above table may be used for I-joist spacing of 24 inches on centre or less.
2. Duct chase opening location distance is measured from inside face of supports to centre of opening.
3. The above table is based on simple-span joists only. For other applications, contact your local distributor.
4. 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.
5. The chart 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 prescored 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.

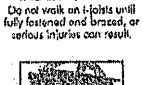
Never drill, cut or notch the flange, or over-cut the web.

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 I-joists until fully fastened and braced, or serious injuries can result.



Never stack building materials over unsheathed I-joists. Once sheathed, do not 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:

1. 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.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges 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 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 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.

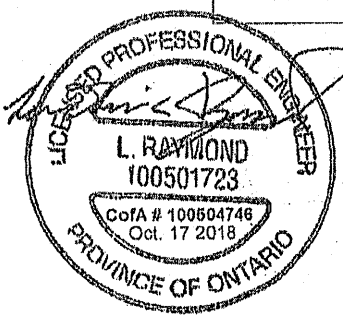
Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines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

CHANTIERS CHIBOUGAMAU

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.

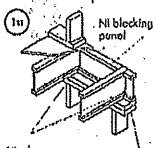
Details released after September 2013 supersedes N-303

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.

Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)

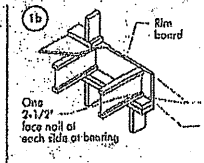
1a



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.

1b

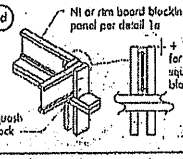


Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
1-1/8" Rim Board Plus	8,090

*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.

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

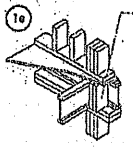
1d



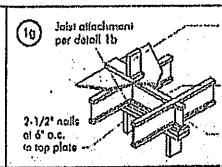
Pair of Squash Blocks	Maximum Factored Vertical Load per Pair of Squash Blocks (lbs)	
	3-1/2" wide	5-1/2" wide
2x Lumber	5,000	8,500
1-1/8" Rim Board Plus	4,200	6,600

Provide lateral bracing per detail 1a or 1b

1e



1g

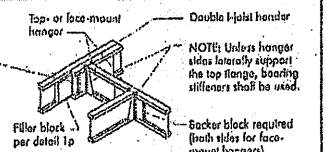


1h Backer block (use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 3" nails through the web and filler block where the backer block will fit. Clinch. Install backer flush to top flange. Use twelve 3" nails, clinched when possible. Maximum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

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

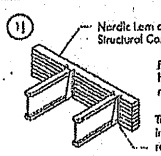
Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

* Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn 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".



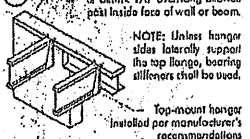
For hanger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support concentrated loads.

1i

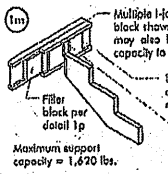


NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

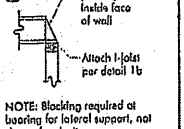
1k



1m

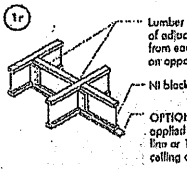


1n

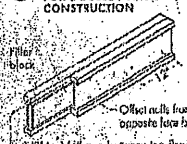


NOTE: Blocking required at bearing for lateral support, not shown for clarity.

1r



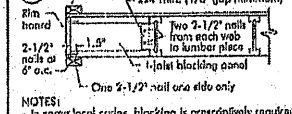
1p FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION



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 lbs/ft. Verify double I-joist capacity.

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

1s



NOTES:
- 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.

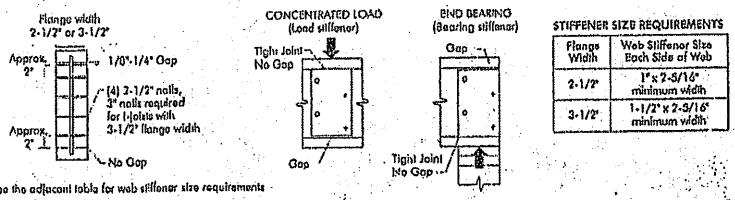
All nails shown in the above details are assumed to be common wire nails, unless otherwise noted. 3" (0.122" dia.) common spiral nails may be substituted for 2-1/2" (0.120" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale 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 of 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 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 2,270 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.

FIGURE 2
WEB STIFFENER INSTALLATION DETAILS



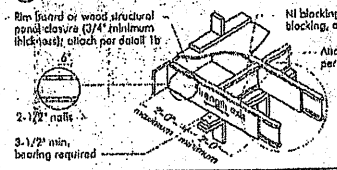
STIFFENER SIZE REQUIREMENTS

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

See the adjacent table for web stiffener size requirements

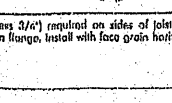
CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

4a Method 1 — SHEATHING REINFORCEMENT ONE SIDE



Method 2 — SHEATHING REINFORCEMENT TWO SIDES

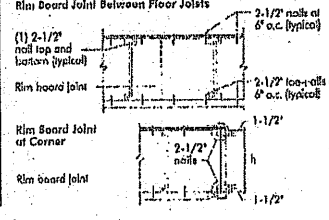
Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.



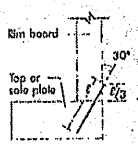
NOTE: Canadian softwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail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

RIM BOARD INSTALLATION DETAILS

6a ATTACHMENT DETAILS WHERE RIM BOARDS ABUT



6b TOE-NAIL CONNECTION AT RIM BOARD



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.

Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)