

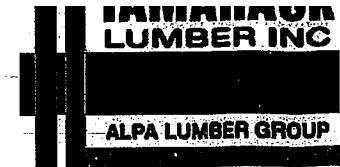
| Products |          |   |       |         |
|----------|----------|---|-------|---------|
| PlotID   | Length   | Product                                 | Plies | Net Qty |
| J1       | 22-00-00 | 11 7/8" NI-40x                          | 2     | 36      |
| J4       | 12-00-00 | 11 7/8" NI-40x                          | 1     | 10      |
| J4 DJ    | 12-00-00 | 11 7/8" NI-40x                          | 2     | 4       |
| J3       | 10-00-00 | 11 7/8" NI-40x                          | 1     | 23      |
| J2       | 20-00-00 | 11 7/8" NI-80                           | 1     | 49      |
| J5       | 18-00-00 | 11 7/8" NI-80                           | 1     | 13      |
| B10 DR   | 6-00-00  | 1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP  | 2     | 2       |
| B19      | 22-00-00 | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 2     | 2       |
| B16      | 12-00-00 | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 2     | 2       |
| B17      | 12-00-00 | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 2     | 2       |
| B11      | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 2     | 2       |
| B18      | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 2     | 2       |
| B14      | 8-00-00  | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 2     | 2       |
| B12      | 6-00-00  | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 2     | 2       |

| Connector Summary |       |               |
|-------------------|-------|---------------|
| Qty               | Manuf | Product       |
| 19                | H1    | IUS2.56/11.88 |
| 12                | H2    | IUS3.56/11.88 |
| 4                 | H3    | HGUS410       |
| 2                 | H5    | HUC312-2      |

REFER TO THE NORDIC  
INSTALLATION GUIDE FOR PROPER  
STORAGE AND INSTALLATION:  
**SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2  
S.P.F. REQ'D UNDER INTERIOR  
UNIFORM LOAD BEARING WALLS.  
**MULTIPLE SQUASH BLOCKS** REQ'D  
UNDER CONCENTRATED LOADS. SEE  
FIGURE 1. **CANTILEVERED JOISTS**  
INCLUDING **CANT' OVER BRICK** REQ. I-  
JOIST BLOCKING ALONG BEARING  
AND RIMBOARD CLOSURE AT ENDS.  
SEE FIGURE 4 & 5 FOR  
REINFORCEMENT REQUIREMENTS.  
FOR **HOLES** INCLUDING **DUCT CHASE**  
AND **FIELD CUT OPENINGS** SEE  
FIGURE 7 TABLES 1 & 2 OF THE  
INSTALLATION GUIDE. **CERAMIC TILE**  
APPLICATION AS PER O.B.C. 9.30.6.

**LOADING:**  
DESIGN LOADS: L/480.000  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 20.0 lb/ft<sup>2</sup>  
TILED AREAS: 20 lb/ft<sub>2</sub>

**SUBFLOOR:** 3/4" GLUED AND NAILED



FROM PLAN DATED:  
APR 2017

**BUILDER:**  
GREENYORK HOMES

**SITE:**  
DEGREY DR

**MODEL:** YORK 2

**ELEVATION:** A

**LOT:**

**CITY:** BRAMPTON

**SALESMAN:** R D  
**DESIGNER:** PL  
**REVISION:**

**DATE:** 2017-05-15

2nd FLOOR

DATE 5/26/17

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS (AS PER PLAN WORK) DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION. MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL. INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGTHS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 2659077 THROUGH DWG# TAM 2658717, INCLUSIVE DATED 5/26/17

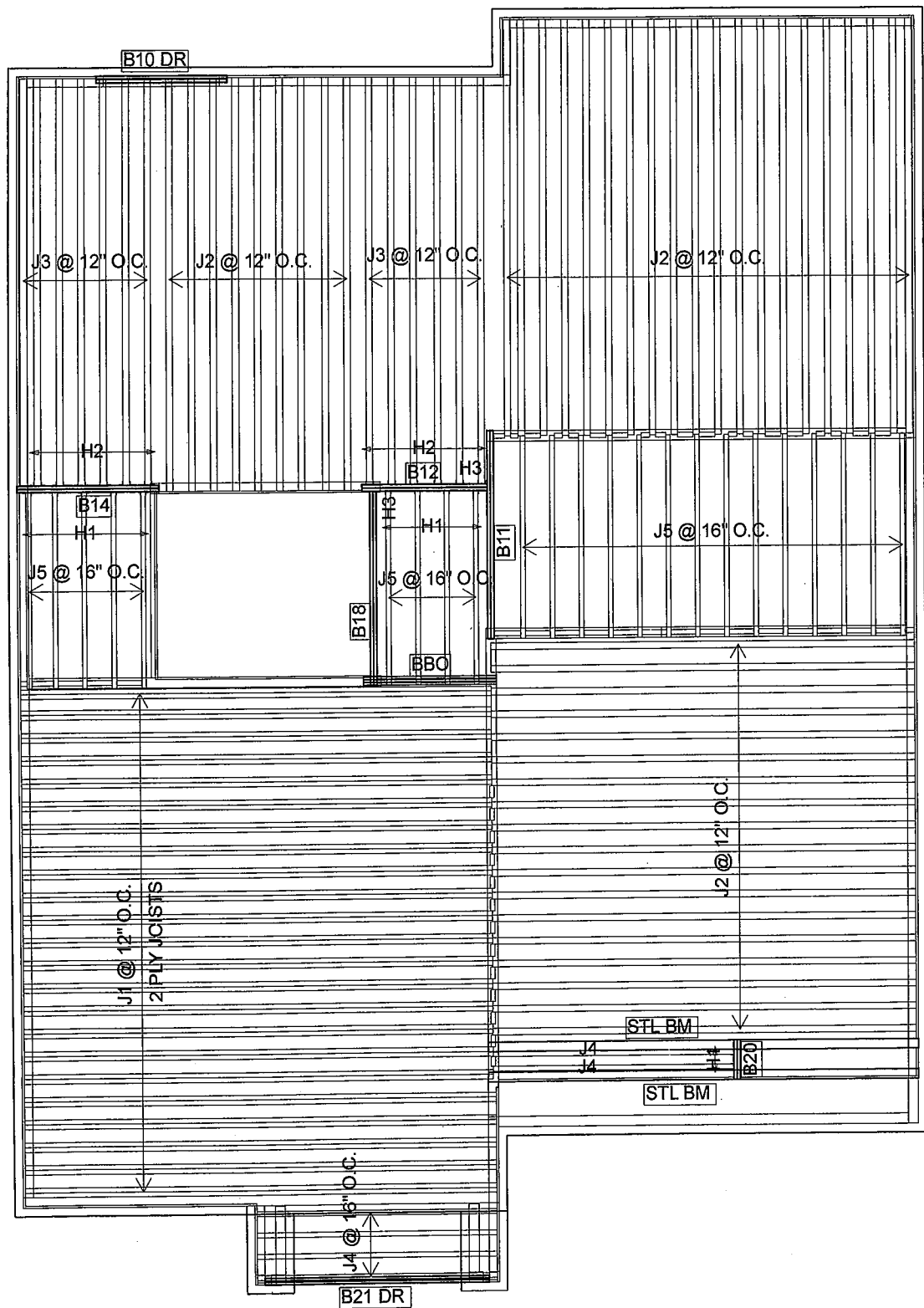
SEALED STRUCTURAL COMPONENTS ONLY:  
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.  
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/160 DEEPER THAN JOIST DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 32.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 2659677  
BCIN: 26064  
FIRM: 29991  
SEALED STRUCTURAL  
COMPONENTS ONLY





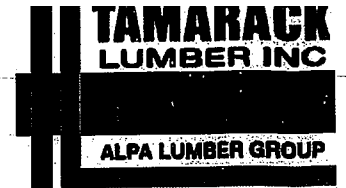
| Products |          |   |       |         |
|----------|----------|---|-------|---------|
| PlotID   | Length   | Product                                 | Plies | Net Qty |
| J1       | 22-00-00 | 11 7/8" NI-40x                          | 2     | 46      |
| J4       | 12-00-00 | 11 7/8" NI-40x                          | 1     | 6       |
| J5       | 10-00-00 | 11 7/8" NI-40x                          | 1     | 23      |
| J2       | 20-00-00 | 11 7/8" NI-80                           | 1     | 47      |
| J3       | 18-00-00 | 11 7/8" NI-80                           | 1     | 13      |
| B21 DR ✓ | 12-00-00 | 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP  | 2     | 2       |
| B10 DR ✓ | 6-00-00  | 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP  | 2     | 2       |
| B11 ✓    | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B18 ✓    | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B14 ✓    | 8-00-00  | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B12 ✓    | 6-00-00  | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B20 ✓    | 2-00-00  | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |

| Connector Summary |       |               |
|-------------------|-------|---------------|
| Qty               | Manuf | Product       |
| 11                | H1    | IUS2.56/11.88 |
| 12                | H2    | IUS3.56/11.88 |
| 2                 | H3    | HGUS410       |

REFER TO THE NORDIC  
INSTALLATION GUIDE FOR PROPER  
STORAGE AND INSTALLATION.  
**SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2  
S.P.F. REQ'D UNDER INTERIOR  
UNIFORM LOAD BEARING WALLS.  
**MULTIPLE SQUASH BLOCKS** REQ'D  
UNDER CONCENTRATED LOADS. SEE  
FIGURE 1. **CANTILEVERED JOISTS**  
INCLUDING **CANT' OVER BRICK** REQ. I-  
JOIST BLOCKING ALONG BEARING  
AND RIMBOARD CLOSURE AT ENDS.  
SEE FIGURE 4 & 5 FOR  
REINFORCEMENT REQUIREMENTS.  
FOR **HOLES** INCLUDING DUCT CHASE  
AND **FIELD CUT OPENINGS** SEE  
FIGURE 7 TABLES 1 & 2 OF THE  
INSTALLATION GUIDE. **CERAMIC TILE**  
APPLICATION AS PER O.B.C. 9.30.6.

**LOADING:**  
DESIGN LOADS: L/480.000  
LIVE LOAD: 40.0 lb/ft<sup>2</sup>  
DEAD LOAD: 20.0 lb/ft<sup>2</sup>  
TILED AREAS: 20 lb/ft<sup>2</sup>

**SUBFLOOR:** 3/4" GLUED AND NAILED



**FROM PLAN DATED:**  
APR 2017

**BUILDER:**  
GREENYORK HOMES

**SITE:**  
DEGREY DR

**MODEL:** YORK 2

**ELEVATION:** B

**LOT:**

**CITY:** BRAMPTON

**SALESMAN:** R D  
**DESIGNER:** PL  
**REVISION:**

**DATE:** 2017-05-19

**2nd FLOOR**

**DATE** 5-26-17

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS (AS PER PLAN WORK) DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION. MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL. INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGTHS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

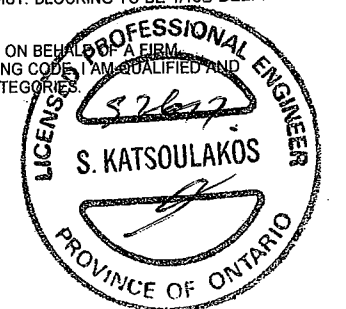
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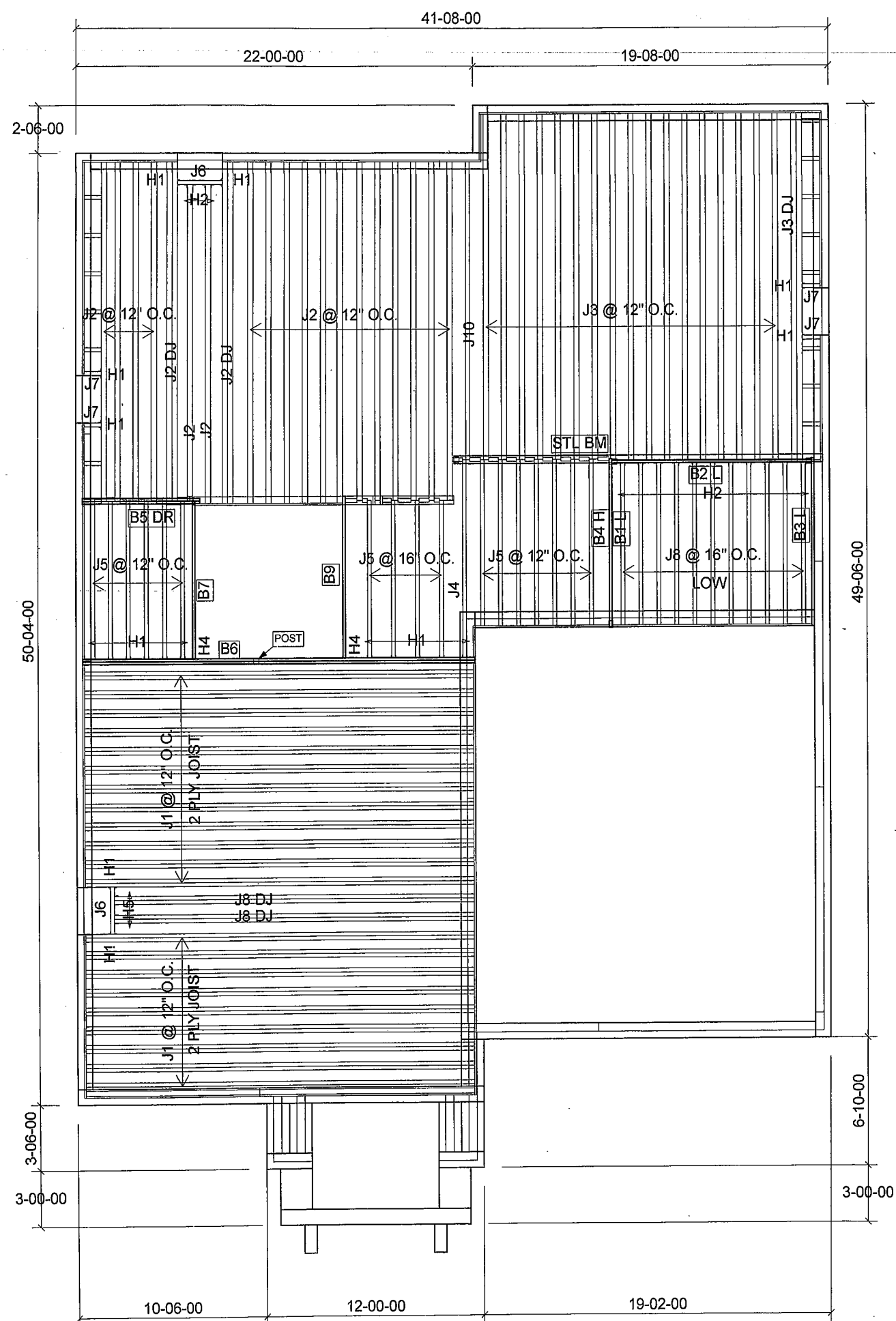
SEALED STRUCTURAL COMPONENTS ONLY: 26584-17 - 26585-17  
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.  
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/160 DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM.  
REGISTERED UNDER SUBSECTION 32.5 OF THE ONTARIO BUILDING CODE, I AM QUALIFIED AND  
THE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 26597-17  
BCIN: 26064  
FIRM: 29991  
SEALED STRUCTURAL  
COMPONENTS ONLY

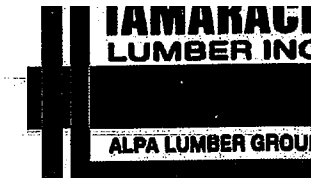




| Products |          |   |       |         |
|----------|----------|---|-------|---------|
| PlotID   | Length   | Product                                 | Plies | Net Qty |
| J8       | 10-00-00 | 9 1/2" NI-40x                           | 1     | 11      |
| J1       | 22-00-00 | 11 7/8" NI-40x                          | 2     | 42      |
| J8 DJ    | 20-00-00 | 11 7/8" NI-40x                          | 2     | 4       |
| J10      | 16-00-00 | 11 7/8" NI-40x                          | 1     | 1       |
| J4       | 12-00-00 | 11 7/8" NI-40x                          | 1     | 1       |
| J5       | 10-00-00 | 11 7/8" NI-40x                          | 1     | 17      |
| J6       | 4-00-00  | 11 7/8" NI-40x                          | 1     | 2       |
| J7       | 2-00-00  | 11 7/8" NI-40x                          | 1     | 4       |
| J3       | 20-00-00 | 11 7/8" NI-80                           | 1     | 17      |
| J3 DJ    | 20-00-00 | 11 7/8" NI-80                           | 2     | 2       |
| J2       | 18-00-00 | 11 7/8" NI-80                           | 1     | 18      |
| J2 DJ    | 18-00-00 | 11 7/8" NI-80                           | 2     | 4       |
| B2 L     | 12-00-00 | 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP  | 1     | 1       |
| B1 L     | 10-00-00 | 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP  | 1     | 1       |
| B3 L     | 10-00-00 | 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP  | 1     | 1       |
| B6       | 22-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B4 H     | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 1     | 1       |
| B7       | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 1     | 1       |
| B9       | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 1     | 1       |
| B5 DR    | 8-00-00  | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |

| Connector Summary |       |               |
|-------------------|-------|---------------|
| Qty               | Manuf | Product       |
| 11                | H1    | IUS2.56/11.88 |
| 2                 | H1    | IUS2.56/11.88 |
| 4                 | H1    | IUS2.56/11.88 |
| 2                 | H1    | IUS2.56/11.88 |
| 11                | H2    | IUS2.56/9.5   |
| 2                 | H2    | IUS3.56/11.88 |
| 2                 | H4    | HUS1.81/10    |
| 2                 | H5    | HU312-2       |

UPDATED



FROM PLAN DATED: APR 2017

BUILDER: GREENYORK HOMES

SITE: DEGREY DR

MODEL: YORK 2

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: R D

DESIGNER: PL

REVISION:

NOTES:

REFER TO THE **NORDIC INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION.

**SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7, TABLES 1 & 2. **CERAMIC TILE** APPLICATION AS PER O.B.C 9.30.6.

LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft<sup>2</sup>

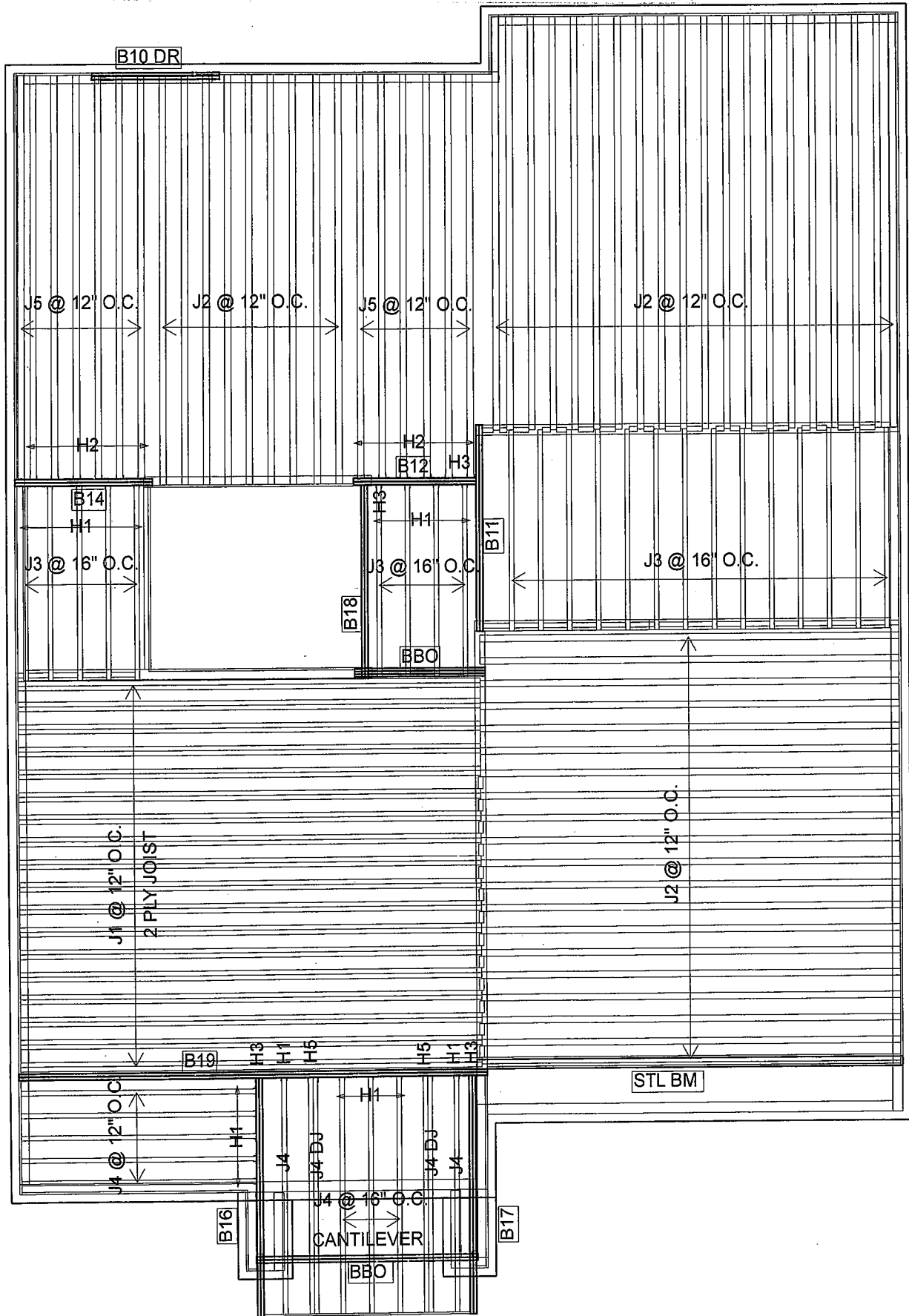
DEAD LOAD: 20.0 lb/ft<sup>2</sup>

TILED AREAS: 20 lb/ft

**SUBFLOOR:** 3/4" GLUED AND NAILED

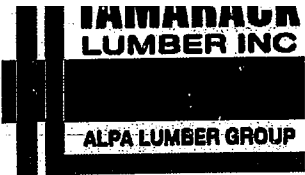
DATE: 2017-05-15

1st FLOOR



| Products |          |   |       |         |
|----------|----------|---|-------|---------|
| PlotID   | Length   | Product                                 | Plies | Net Qty |
| J1       | 22-00-00 | 11 7/8" NI-40x                          | 2     | 36      |
| J4       | 12-00-00 | 11 7/8" NI-40x                          | 1     | 10      |
| J4 DJ    | 12-00-00 | 11 7/8" NI-40x                          | 2     | 4       |
| J3       | 10-00-00 | 11 7/8" NI-40x                          | 1     | 23      |
| J2       | 20-00-00 | 11 7/8" NI-80                           | 1     | 49      |
| J5       | 18-00-00 | 11 7/8" NI-80                           | 1     | 13      |
| B10 DR   | 6-00-00  | 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP  | 2     | 2       |
| B19      | 22-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B16      | 12-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B17      | 12-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B11      | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B18      | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B14      | 8-00-00  | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B12      | 6-00-00  | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |

| Connector Summary |       |               |
|-------------------|-------|---------------|
| Qty               | Manuf | Product       |
| 19                | H1    | IUS2.56/11.88 |
| 12                | H2    | IUS3.56/11.88 |
| 4                 | H3    | HGUS410       |
| 2                 | H5    | HUC312-2      |



FROM PLAN DATED: APR 2017

BUILDER: GREENYORK HOMES

SITE: DEGREY DR

MODEL: YORK 2

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: R D

DESIGNER: PL

REVISION:

**NOTES:**  
REFER TO THE NORDIC **INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. **CERAMIC TILE** APPLICATION AS PER O.B.C. 9.30.6

**LOADING:**

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft<sup>2</sup>

DEAD LOAD: 20.0 lb/ft<sup>2</sup>

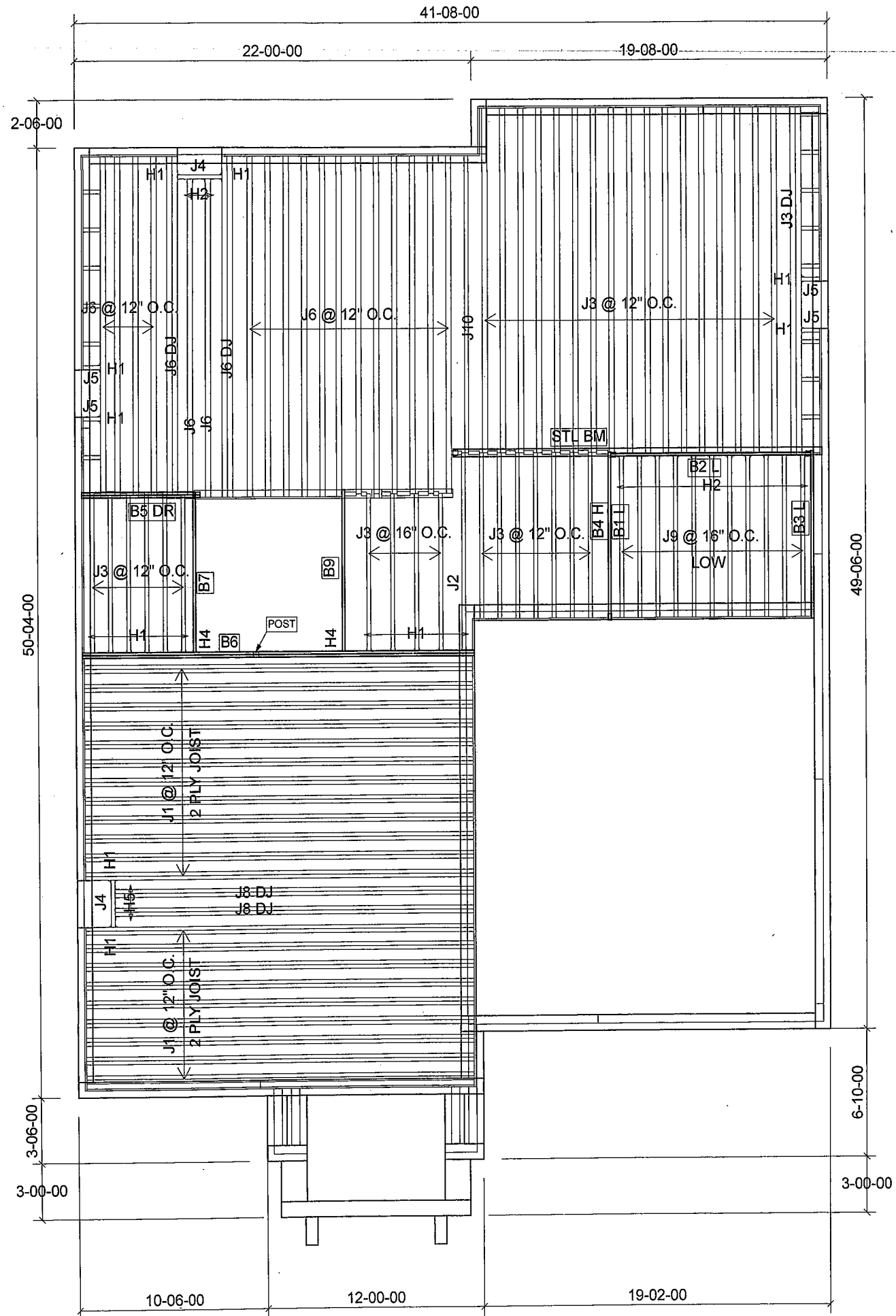
TILED AREAS: 20 lb/ft<sup>2</sup>

**SUBFLOOR:** 3/4" GLUED AND NAILED

DATE: 2017-05-15

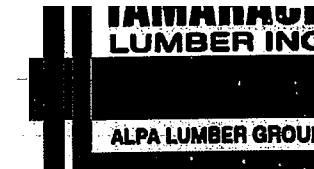
2nd FLOOR





| Products |          |   |       |         |
|----------|----------|---|-------|---------|
| PlotID   | Length   | Product                                 | Plies | Net Qty |
| J9       | 10-00-00 | 9 1/2" NI-40x                           | 1     | 11      |
| J1       | 22-00-00 | 11 7/8" NI-40x                          | 2     | 42      |
| J8 DJ    | 20-00-00 | 11 7/8" NI-40x                          | 2     | 4       |
| J10      | 16-00-00 | 11 7/8" NI-40x                          | 1     | 1       |
| J2       | 12-00-00 | 11 7/8" NI-40x                          | 1     | 1       |
| J3       | 10-00-00 | 11 7/8" NI-40x                          | 1     | 17      |
| J4       | 4-00-00  | 11 7/8" NI-40x                          | 1     | 2       |
| J5       | 2-00-00  | 11 7/8" NI-40x                          | 1     | 4       |
| J3       | 20-00-00 | 11 7/8" NI-80                           | 1     | 17      |
| J3 DJ    | 20-00-00 | 11 7/8" NI-80                           | 2     | 2       |
| J6       | 18-00-00 | 11 7/8" NI-80                           | 1     | 18      |
| J6 DJ    | 18-00-00 | 11 7/8" NI-80                           | 2     | 4       |
| B2 L     | 12-00-00 | 1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP  | 1     | 1       |
| B1 L     | 10-00-00 | 1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP  | 1     | 1       |
| B3 L     | 10-00-00 | 1-3/4" x 9-1/2" VERSA-LAM@ 2.0 3100 SP  | 1     | 1       |
| B6       | 22-00-00 | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 2     | 2       |
| B4 H     | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 1     | 1       |
| B7       | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 1     | 1       |
| B9       | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 1     | 1       |
| B5 DR    | 8-00-00  | 1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP | 2     | 2       |

| Connector Summary |       |               |
|-------------------|-------|---------------|
| Qty               | Manuf | Product       |
| 11                | H1    | IUS2.56/11.88 |
| 2                 | H1    | IUS2.56/11.88 |
| 4                 | H1    | IUS2.56/11.88 |
| 2                 | H1    | IUS2.56/11.88 |
| 11                | H2    | IUS2.56/9.5   |
| 2                 | H2    | IUS3.56/11.88 |
| 2                 | H4    | HUS1.81/10    |
| 2                 | H5    | HU312-2       |



FROM PLAN DATED: APR 2017

BUILDER: GREENYORK HOMES

SITE: DEGREY DR

MODEL: YORK 2

ELEVATION: B

LOT:

CITY: BRAMPTON

SALESMAN: R D

DESIGNER: PL

REVISION:

#### NOTES:

REFER TO THE **NORDIC INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION.

**SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7, TABLES 1 & 2. **CERAMIC TILE** APPLICATION AS PER O.B.C 9.30.6.

#### LOADING:

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft<sup>2</sup>

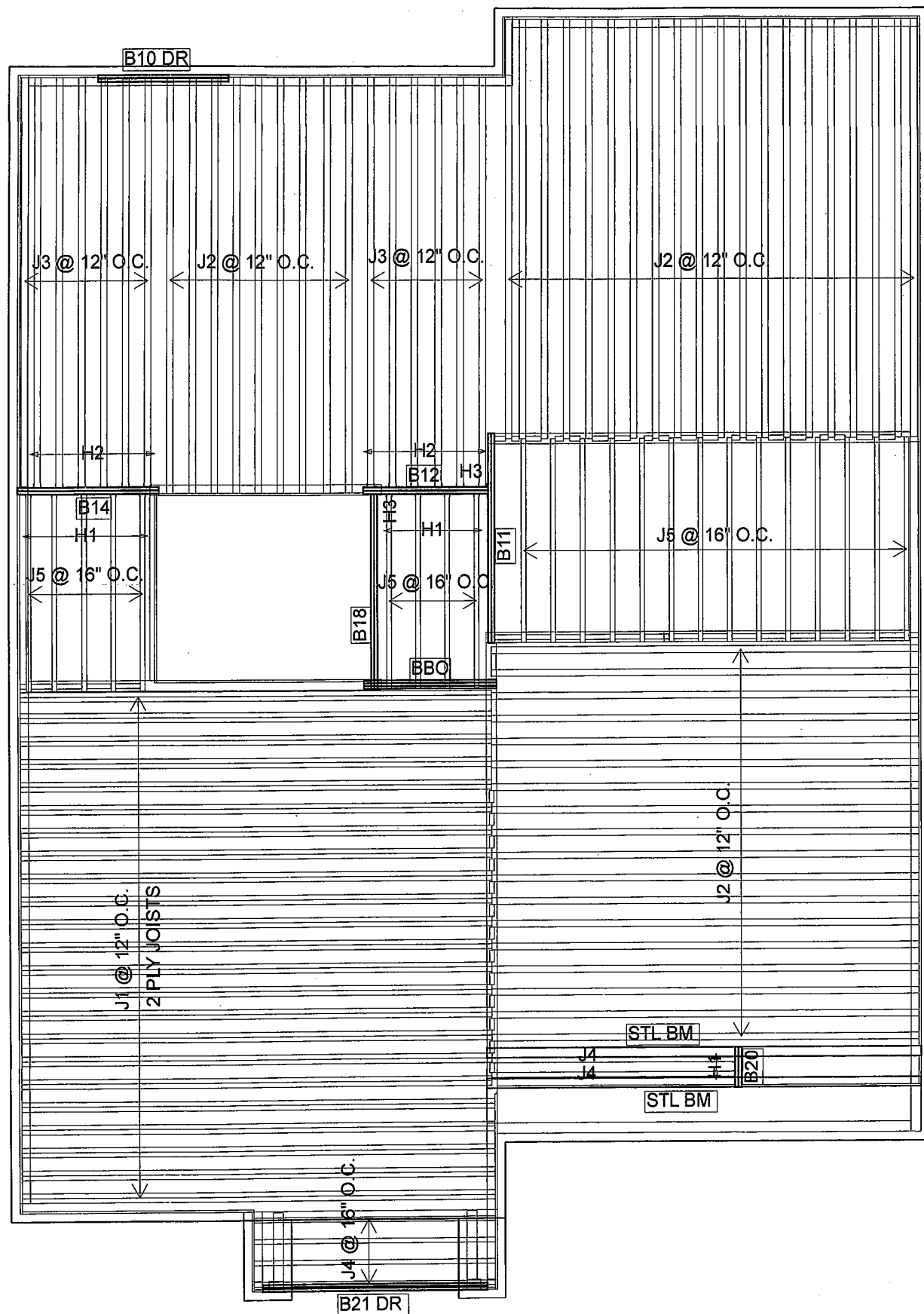
DEAD LOAD: 20.0 lb/ft<sup>2</sup>

TILED AREAS: 20 lb/ft<sup>2</sup>

**SUBFLOOR:** 3/4" GLUED AND NAILED

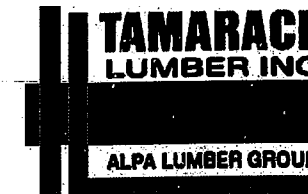
DATE: 2017-05-15

1st FLOOR



| Products |          |   |       |         |
|----------|----------|---|-------|---------|
| PlotID   | Length   | Product                                 | Plies | Net Qty |
| J1       | 22-00-00 | 11 7/8" NI-40x                          | 2     | 46      |
| J4       | 12-00-00 | 11 7/8" NI-40x                          | 1     | 6       |
| J5       | 10-00-00 | 11 7/8" NI-40x                          | 1     | 23      |
| J2       | 20-00-00 | 11 7/8" NI-80                           | 1     | 47      |
| J3       | 18-00-00 | 11 7/8" NI-80                           | 1     | 13      |
| B21 DR   | 12-00-00 | 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP  | 2     | 2       |
| B10 DR   | 6-00-00  | 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP  | 2     | 2       |
| B11      | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B18      | 10-00-00 | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B14      | 8-00-00  | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B12      | 6-00-00  | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |
| B20      | 2-00-00  | 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP | 2     | 2       |

| Connector Summary |       |               |
|-------------------|-------|---------------|
| Qty               | Manuf | Product       |
| 11                | H1    | IUS2.56/11.88 |
| 12                | H2    | IUS3.56/11.88 |
| 2                 | H3    | HGUS410       |



FROM PLAN DATED: APR 2017

BUILDER: GREENYORK HOMES

SITE: DEGREY DR.

MODEL: YORK 2

ELEVATION: B

LOT:

CITY: BRAMPTON

SALESMAN: R D

DESIGNER: PL

REVISION:

**NOTES:**

REFER TO THE NORDIC **INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. **MULTIPLE SQUASH BLOCKS** REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. **CANTILEVERED JOISTS** INCLUDING **CANT' OVER BRICK** REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND **FIELD CUT OPENINGS** SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. **CERAMIC TILE** APPLICATION AS PER O.B.C. 9.30.6

**LOADING:**

DESIGN LOADS: L/480.000

LIVE LOAD: 40.0 lb/ft<sup>2</sup>

DEAD LOAD: 20.0 lb/ft<sup>2</sup>

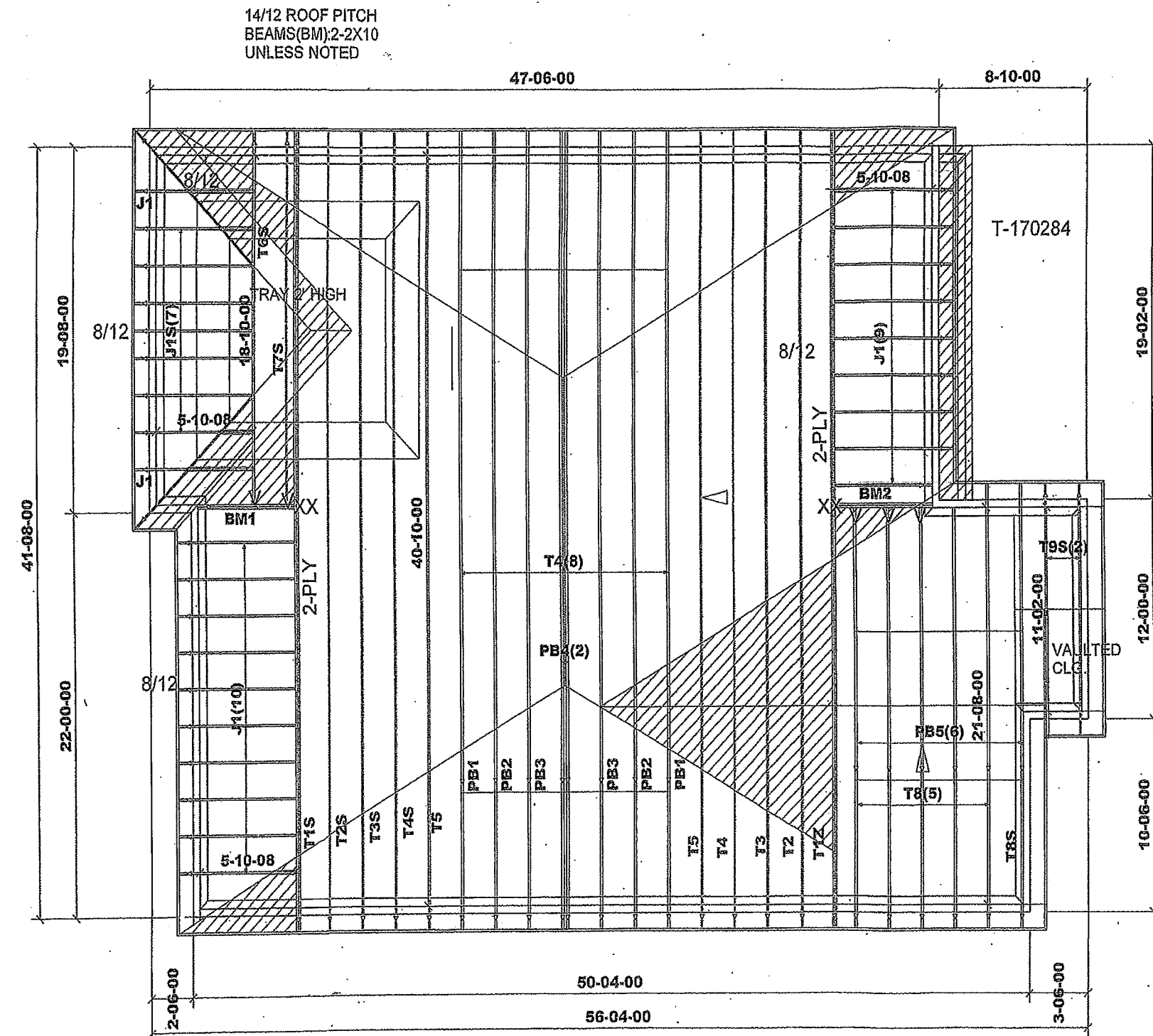
TILED AREAS: 20 lb/ft

**SUBFLOOR:** 3/4" GLUED AND NAILED

DATE: 2017-05-19

2nd FLOOR





12" FINISH O.H  
R.T.M.C  
2X6 EXTERIOR WALLS  
ASPHALT SHINGLES  
2X6 FASCIA BOARD

ALL CONVENTIONAL ROOF FRAMING TO CONFORM TO PART 9 OF THE OBC. LATEST EDITION ROOF RAFTERS THAT MEET OR CROSS OVER TRUSSES ARE TO BE 2"x4"SPF@ 24"o.c. WITH A 2"x4"SPF VERTICAL POST TO THE TRUSS UNDER AT EACH CROSS POINT. POSTS LONGER THAN 6' TO BE LATERALLY BRACED SO THAT THE DISTANCE BETWEEN END POINTS AND BETWEEN ROWS OF BRACING DOES NOT EXCEED 6'.

DESIGN CONFORMS WITH THE RELEVANT SECTION OF THE LATEST EDITION OF O.B.C. PART.9

DESIGN LOADS:  
GROUND SNOW LOAD  
S<sub>s</sub> = 1.3 kPa  
TC DEAD 3 PSF  
BC LIVE 10.5 PSF  
BC DEAD 7 PSF

DENOTES CONVENTIONAL FRAMING

HARDWARE  
LJS26DS(V)  
HGUS26-2(XX)

DATE: 4-27-17  
BCIN: 26064; FIRM: BCIN #29991  
ENGINEERING ONLY-DIMENSIONS TO BE VERIFIED ON SITE

SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFIED BY QUALIFIED BUILDING DESIGNER.  
ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO TRUSS INSTALLATION. ALL NOTES DESIGNATING PER PLAN WORK DO NOT REPRESENT A PART OF THE SCOPE OF THIS SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT.  
ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY THE BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNERS PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE ROOF TRUSS COMPONENTS REVIEWED IN THIS SUBMISSION.

LOT SPECIFIC SCHEDULE 1 REQUIRED FOR EACH INDIVIDUAL LOT.

DWG #TAM THROUGH DWG #TAM, INCLUSIVE, DATED:

STRUCTURAL COMPONENTS ONLY; THIS LAYOUT MUST BE READ TOGETHER WITH REFERENCED TRUSS COMPONENT DRAWINGS AND SEALED HARDWARE DRAWINGS. HANGERS AND HARDWARE SPECIFIED ON THIS LAYOUT ONLY. REFER TO ATTACHED SEALED REFERENCED DRAWINGS FOR ADDITIONAL BRACING REQUIREMENTS. (IF BRACING IS SHOWN TO BE REQUIRED PROVIDE THE FOLLOWING BRACING):

PROVIDE 1 ROW OF 2 X 4 #2 SPF CONTINUOUS LATERAL BRACES ALONG WEB MEMBERS SPECIFIED ON REFERENCED SEALED TRUSS COMPONENT DRAWINGS USING 2 - 3/4" COMMON WIRE NAILS PER WEB MEMBER. THEN PROVIDE 2 X 4 #2 SPF "X-BRACING" ALONG THESE SAME WEB MEMBERS AT LOCATIONS INDICATED (\*) USING THE SAME NAILING. PROVIDE BLOCKING IF REQUIRED (DO NOT ARCH BRACING).  
PROVIDE 2 X 4 #2 SPF T-BRACE ALONG FULL LENGTH OF LATERALLY BRACED WEB MEMBERS OF 1 PLY TRUSSES COMPONENTS REQUIRING "T-BRACE" USING 1 ROW OF 3-1/4" COMMON WIRE NAILS AT 6" O/C. SIMILARLY PROVIDE 2 X 6 BRACE WITH 2 ROWS OF NAILING FOR 2 PLY TRUSS COMPONENTS AND 2 X 8 BRACE WITH 3 ROWS OF NAILING FOR 3 PLY TRUSS COMPONENTS.

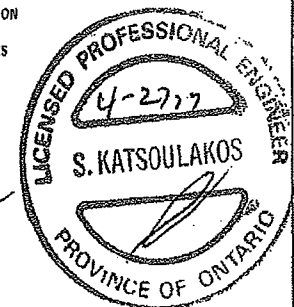
(1) 2 X 6 #2 SPF ON FLAT OVER PLYWOOD SHEATHING.  
(2) 2 X 6 #2 SPF RIDGE BEAM SUPPORTED AT EACH END OVER BASE TRUSS COMPONENTS AND AT LOCATIONS MARKED BY "X".  
(3) 2 X 6 #2 SPF ROOF RAFTERS AT 24" O/C WITH MAXIMUM SUPPORT SPAN 6'-0" (ADD 2 X 4 VERTICAL SUPPORTS TO TRUSS BASE BELOW WHERE NECESSARY).

ALL CONVENTIONAL FRAMING TO BE DISTRIBUTED UNIFORMLY ALONG BASE TRUSS COMPONENTS. PROVIDE 2 X 4 KNEE-WALLS WHERE NECESSARY WITH STUDS AT 24" O/C.

ALL CONVENTIONAL FRAMING TO CONFORM TO ONTARIO BUILDING CODE (CURRENT EDITION).

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND THE FIRM IS REGISTERED, IN THE APPROPRIATE CLASSES AND/OR CATEGORIES.  
REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG #TAM 19713-17  
BCIN: 26064  
FIRM: 29991  
SEALED STRUCTURAL COMPONENTS ONLY



APRIL 27, 2017  
THE FOLLOWING DRAWING NUMBERS REPRESENT THE IDENTIFIERS OF THE SEALED DRAWINGS OF THE TRUSS COMPONENTS IDENTIFIED ON THIS LAYOUT:  
(LAYOUT: 44080/281389)  
DWG #TAM19664-17 THROUGH DWG #TAM19683-17, INCLUSIVE, AND ALL DATED 4-27-17;  
DWG #TAM6305-14 DATED 3-05-14 (CONVENTIONAL FRAMED VALLEY STANDARD)  
(STRUCTURAL COMPONENTS ONLY)

|                   |  |                            |  |  |  |                   |  |                                   |  |
|-------------------|--|----------------------------|--|--|--|-------------------|--|-----------------------------------|--|
| Job Track: 44080  |  | Builder: GREENYORK HOMES / |  | Location: BRAMPTON   |  | Model: YORK 2 / A |  | Elevation: C:\MITEK\CA742\AJOB\B1 |  |
| Layout ID: 281389 |  | Project: DEGREY DRIVE      |  | THESE DRAWINGS CONSTITUTE THE PROPERTY OF TAMARACK ROOF TRUSSES INC. SHALL NOT BE REPRODUCED, PUBLISHED, OR REDISTRIBUTED IN ANY MANNER OR UTILIZED FOR ANY PURPOSE OTHER THAN THE MANUFACTURE OF TRUSSES BY TAMARACK ROOF TRUSSES INC AND WILL BE RETRACTED BY TAMARACK ROOF TRUSSES INC IF UTILIZED FOR ANY OTHER PURPOSE. |  |                   |  |                                   |  |
| Plan Log: 91851   |  | Date: 4/26/2017            |  | Designer: JG   |  | MITEK ver 7.5.0   |  |                                   |  |

A circular professional seal for a Licensed Professional Engineer in the Province of Ontario. The seal features the text "LICENSED PROFESSIONAL ENGINEER" at the top and "PROVINCE OF ONTARIO" at the bottom. In the center, the name "S. KATSOULAKOS" is printed, with the license number "42237" handwritten above it. A stylized signature is written across the bottom half of the seal.

## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

|  |  |   |   |  |          |
|--|--|---|---|--|----------|
| <b>A. Project Information</b>  |  |   |   | <b>Application number:</b>   |          |
| Building number, street name   |  |   |   | Unit no.   | Lot/con. |
| Municipality CITY OF BRAMPTON  |  | Postal code   | Plan number/ other description                      |  |          |
| <b>B. Individual who reviews and takes responsibility for design activities</b>  |  |   |   |  |          |
| Name<br><b>SAM KATSOULAKOS, P. ENG.</b>  |  |   | Firm<br><b>MICRO CITY ENGINEERING SERVICES INC.</b> |  |          |
| Street address<br><b>R.R #1, PO BOX 61</b>   |  |   |   | Unit no.   | Lot/con. |
| Municipality<br><b>GLENCOE</b>   |  | Postal code<br><b>N0L 1M0</b>   | Province<br><b>ONTARIO</b>                          | E-mail   |          |
| Telephone number<br><b>(519) 287-2242 Business</b>   |  | Fax number<br><b>(519) 287-5750</b>   |   | Cell number  |          |
| <b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]</b>   |  |   |   |  |          |
| <input type="checkbox"/> House<br><input type="checkbox"/> Small Buildings<br><input type="checkbox"/> Large Buildings<br><input type="checkbox"/> Complex Buildings   |  | <input type="checkbox"/> HVAC – House<br><input type="checkbox"/> Building Services<br><input type="checkbox"/> Detection, Lighting and Power<br><input type="checkbox"/> Fire Protection |   | <input checked="" type="checkbox"/> Building Structural<br><input type="checkbox"/> Plumbing – House<br><input type="checkbox"/> Plumbing – All Buildings<br><input type="checkbox"/> On-site Sewage Systems |          |
| Description of designer's work: <b>GREENYORK HOMES – DEGREY DR – MODEL: YORK 2 – ELEV. A</b><br><b>1ST FLOOR (SCHEDULE IS NOT ISSUED AS LOT SPECIFIC)</b><br>REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY<br>TAMARACK ROOF TRUSSES INC. (SEE DWG #TAM26594-17 DATED 5-26-17).<br>SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFIED BY QUALIFIED BUILDING DESIGNER.   |  |   |   |  |          |
| <b>D. Declaration of Designer</b>  |  |   |   |  |          |
| I, <b>SAM KATSOULAKOS, P. ENG</b> declare that (choose one as appropriate):<br><div style="text-align: center;">(print name)</div> <input checked="" type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.<br><br>Individual BCIN: <u>26064</u><br><br>Firm BCIN: <u>29991</u><br><br><input type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.<br>Individual BCIN: _____<br><br>Basis for exemption from registration: _____<br><input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code.<br>Basis for exemption from registration and qualification: _____ |  |   |   |  |          |
| I certify that:<br>1. The information contained in this schedule is true to the best of my knowledge.<br>2. I have submitted this application with the knowledge and consent of the firm.  |  |   |   |  |          |
| Date   |  | Signature of Designer   |   |  |          |

**NOTE:**

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d). of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG#TAM26594-17-S  
DWG#TAM26598-17-S

## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

| A. Project Information   |                               |   | Application number: |          |
|--|-------------------------------|---|---------------------|----------|
| Building number, street name   |                               |   | Unit no.            | Lot/con. |
| Municipality CITY OF BRAMPTON  | Postal code                   | Plan number/ other description                      |                     |          |
| B. Individual who reviews and takes responsibility for design activities   |                               |   |                     |          |
| Name<br><b>SAM KATSOULAKOS, P. ENG.</b>  |                               | Firm<br><b>MICRO CITY ENGINEERING SERVICES INC.</b> |                     |          |
| Street address<br><b>R.R #1, PO BOX 61</b>   |                               |   | Unit no.            | Lot/con. |
| Municipality<br><b>GLENCOE</b>   | Postal code<br><b>N0L 1M0</b> | Province<br><b>ONTARIO</b>                          | E-mail              |          |
| Telephone number<br><b>(519) 287-2242 Business</b>   |                               | Fax number<br><b>(519) 287-5750</b>                 | Cell number         |          |
| C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]  |                               |   |                     |          |
| <input type="checkbox"/> House <input type="checkbox"/> HVAC – House <input checked="" type="checkbox"/> Building Structural<br><input type="checkbox"/> Small Buildings <input type="checkbox"/> Building Services <input type="checkbox"/> Plumbing – House<br><input type="checkbox"/> Large Buildings <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Plumbing – All Buildings<br><input type="checkbox"/> Complex Buildings <input type="checkbox"/> Fire Protection <input type="checkbox"/> On-site Sewage Systems  |                               |   |                     |          |
| Description of designer's work <b>GREENYORK HOMES – DEGREY DR – MODEL: YORK 2 – ELEV. B.</b><br><b>1ST FLOOR (SCHEDULE IS NOT ISSUED AS LOT SPECIFIC)</b><br>REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK ROOF TRUSSES INC. (SEE DWG #TAM26595-17 DATED 5-26-17).<br>SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFIED BY QUALIFIED BUILDING DESIGNER.  |                               |   |                     |          |
| D. Declaration of Designer   |                               |   |                     |          |
| I, <u>SAM KATSOULAKOS, P. ENG</u> declare that (choose one as appropriate):<br><div style="text-align: center;">(print name)</div> <input checked="" type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.<br><br>Individual BCIN: <u>26064</u><br><br>Firm BCIN: <u>29991</u><br><br><input type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.<br>Individual BCIN: _____<br><br>Basis for exemption from registration: _____<br><input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code.<br>Basis for exemption from registration and qualification: _____ |                               |   |                     |          |
| I certify that:<br>1. The information contained in this schedule is true to the best of my knowledge.<br>2. I have submitted this application with the knowledge and consent of the firm.  |                               |   |                     |          |
| Date   |                               | Signature of Designer                               |                     |          |

**NOTE:**

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG#TAM26595-17-S  
DWG#TAM26599-17-S

## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

|  |                               |   |                            |          |
|--|-------------------------------|---|----------------------------|----------|
| <b>A. Project Information</b>  |                               |   | <b>Application number:</b> |          |
| Building number, street name   |                               |   | Unit no.                   | Lot/con. |
| Municipality CITY OF BRAMPTON  | Postal code                   | Plan number/ other description                      |                            |          |
| <b>B. Individual who reviews and takes responsibility for design activities</b>  |                               |   |                            |          |
| Name<br><b>SAM KATSOULAKOS, P. ENG.</b>  |                               | Firm<br><b>MICRO CITY ENGINEERING SERVICES INC.</b> |                            |          |
| Street address<br><b>R.R #1, PO BOX 61</b>   |                               |   | Unit no.                   | Lot/con. |
| Municipality<br><b>GLENCOE</b>   | Postal code<br><b>N0L 1M0</b> | Province<br><b>ONTARIO</b>                          | E-mail                     |          |
| Telephone number<br><b>(519) 287-2242 Business</b>   |                               | Fax number<br><b>(519) 287-5750</b>                 | Cell number                |          |
| <b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]</b>   |                               |   |                            |          |
| <input type="checkbox"/> House <input type="checkbox"/> HVAC – House <input checked="" type="checkbox"/> Building Structural<br><input type="checkbox"/> Small Buildings <input type="checkbox"/> Building Services <input type="checkbox"/> Plumbing – House<br><input type="checkbox"/> Large Buildings <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Plumbing – All Buildings<br><input type="checkbox"/> Complex Buildings <input type="checkbox"/> Fire Protection <input type="checkbox"/> On-site Sewage Systems  |                               |   |                            |          |
| Description of designer's work: <b>GREENYORK HOMES – DEGREY DR – MODEL: YORK 2 – ELEV. A</b><br><b>2ND FLOOR (SCHEDULE IS NOT ISSUED AS LOT SPECIFIC)</b><br>REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY<br>TAMARACK ROOF TRUSSES INC. (SEE DWG #TAM26596-17 DATED 5-26-17).<br>SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFIED BY QUALIFIED BUILDING DESIGNER.   |                               |   |                            |          |
| <b>D. Declaration of Designer</b>  |                               |   |                            |          |
| I, <u>SAM KATSOULAKOS, P. ENG</u> declare that (choose one as appropriate):<br><div style="text-align: center;">(print name)</div> <input checked="" type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.<br><br>Individual BCIN: <u>26064</u><br><br>Firm BCIN: <u>29991</u><br><br><input type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.<br>Individual BCIN: _____<br><br>Basis for exemption from registration: _____<br><input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code.<br>Basis for exemption from registration and qualification: _____ |                               |   |                            |          |
| I certify that:<br>1. The information contained in this schedule is true to the best of my knowledge.<br>2. I have submitted this application with the knowledge and consent of the firm.  |                               |   |                            |          |
| Date   |                               | Signature of Designer                               |                            |          |

**NOTE:**

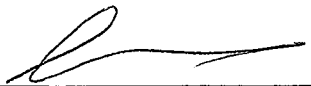
- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG#TAM26596-17-S  
DWG#TAM26600-17-S

52617

## Schedule 1: Designer Information


Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

| A. Project Information   |                                     | Application number:   |          |
|--|-------------------------------------|---|----------|
| Building number, street name   |                                     | Unit no.  | Lot/con. |
| Municipality CITY OF BRAMPTON  | Postal code                         | Plan number/ other description  |          |
| B. Individual who reviews and takes responsibility for design activities   |                                     |   |          |
| Name<br><b>SAM KATSOULAKOS, P. ENG.</b>  |                                     | Firm<br><b>MICRO CITY ENGINEERING SERVICES INC.</b>   |          |
| Street address<br><b>R.R #1, PO BOX 61</b>   |                                     | Unit no.  | Lot/con. |
| Municipality<br><b>GLENCOE</b>   | Postal code<br><b>N0L 1M0</b>       | Province<br><b>ONTARIO</b>  | E-mail   |
| Telephone number<br><b>(519) 287-2242 Business</b>   | Fax number<br><b>(519) 287-5750</b> | Cell number   |          |
| C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]  |                                     |   |          |
| <input type="checkbox"/> House<br><input type="checkbox"/> Small Buildings<br><input type="checkbox"/> Large Buildings<br><input type="checkbox"/> Complex Buildings   |                                     | <input type="checkbox"/> HVAC – House<br><input type="checkbox"/> Building Services<br><input type="checkbox"/> Detection, Lighting and Power<br><input type="checkbox"/> Fire Protection |          |
| <input checked="" type="checkbox"/> Building Structural<br><input type="checkbox"/> Plumbing – House<br><input type="checkbox"/> Plumbing – All Buildings<br><input type="checkbox"/> On-site Sewage Systems   |                                     |   |          |
| Description of designer's work: <b>GREENYORK HOMES – DEGREY DR – MODEL: YORK 2 – ELEV. B</b><br><b>2ND FLOOR (SCHEDULE IS NOT ISSUED AS LOT SPECIFIC)</b><br>REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY<br>TAMARACK ROOF TRUSSES INC. (SEE DWG #TAM26597-17 DATED 5-26-17).<br>SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFIED BY QUALIFIED BUILDING DESIGNER. |                                     |   |          |
| D. Declaration of Designer   |                                     |   |          |
| I, <u>SAM KATSOULAKOS, P. ENG</u> declare that (choose one as appropriate):<br>(print name)  |                                     |   |          |
| <input checked="" type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.  |                                     |   |          |
| Individual BCIN: <u>26064</u><br>Firm BCIN: <u>29991</u>   |                                     |   |          |
| <input type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.  |                                     |   |          |
| Individual BCIN: _____<br>Basis for exemption from registration: _____   |                                     |   |          |
| <input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code.  |                                     |   |          |
| Basis for exemption from registration and qualification: _____   |                                     |   |          |
| I certify that:  |                                     |   |          |
| 1. The information contained in this schedule is true to the best of my knowledge.   |                                     |   |          |
| 2. I have submitted this application with the knowledge and consent of the firm.   |                                     |   |          |
| Date <u>5/26/17</u>  |                                     | Signature of Designer   |          |

**NOTE:**

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG#TAM 26592-17-S  
DWG#TAM 26601-17-S

5/26/17  




# NORDIC STRUCTURES

**COMPANY**  
TAMARACK LUMBER INC.  
3269 NORTH SERVICE ROAD  
BURLINGTON ONTARIO  
May 8, 2017 07:29

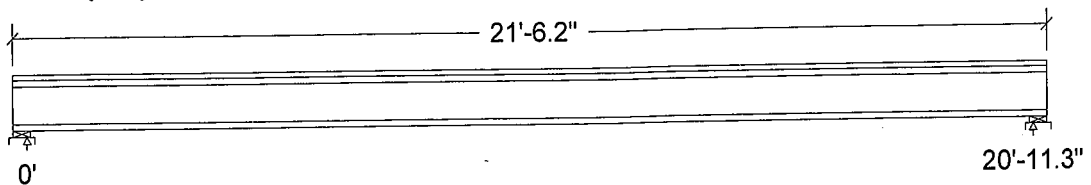
**PROJECT**  
J1 1ST FLOOR

## Design Check Calculation Sheet Nordic Sizer – Canada 6.4

### Loads:

| Load  | Type | Distribution | Pat-<br>tern | Location [ft]<br>Start End | Magnitude<br>Start End | Unit |
|-------|------|--------------|--------------|----------------------------|------------------------|------|
| Load1 | Dead | Full Area    |              |                            | 20.00                  | psf  |
| Load2 | Live | Full Area    |              |                            | 40.00                  | psf  |

### Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in) :



|             |       |  |       |
|-------------|-------|--|-------|
| Unfactored: |       |  |       |
| Dead        | 209   |  | 209   |
| Live        | 419   |  | 419   |
| Factored:   |       |  |       |
| Total       | 890   |  | 890   |
| Bearing:    |       |  |       |
| Resistance  |       |  |       |
| Joist       | 4672  |  | 4672  |
| Support     | 13452 |  | 13452 |
| Des ratio   |       |  |       |
| Joist       | 0.19  |  | 0.19  |
| Support     | 0.07  |  | 0.07  |
| Load case   | #2    |  | #2    |
| Length      | 4-3/8 |  | 4-3/8 |
| Min req'd   | 1-3/4 |  | 1-3/4 |
| Stiffener   | No    |  | No    |
| Kd          | 1.00  |  | 1.00  |
| KB support  | 1.00  |  | 1.00  |
| fcp sup     | 769   |  | 769   |
| Kzcp sup    | 1.00  |  | 1.00  |

### Nordic Joist 11-7/8" NI-40x 2-ply Floor joist @ 12" o.c.

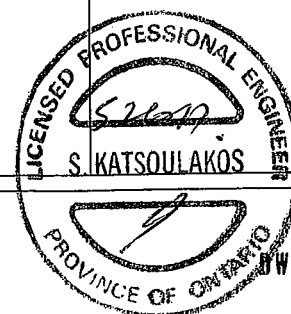
Supports: All - Lumber Sill plate, No.1/No.2

Total length: 21'-6.2"; 3/4" nailed and glued OSB sheathing

**This section PASSES the design code check.**

### Limit States Design using CSA O86-14 and Vibration Criterion:

| Criterion    | Analysis Value | Design Value | Unit   | Analysis/Design |
|--------------|----------------|--------------|--------|-----------------|
| Shear        | Vf = 890       | Vr = 4672    | lbs    | Vf/Vr = 0.19    |
| Moment (+)   | Mf = 4659      | Mr = 12509   | lbs-ft | Mf/Mr = 0.37    |
| Perm. Defl'n | 0.11 = <L/999  | 0.70 = L/360 | in     | 0.16            |
| Live Defl'n  | 0.23 = <L/999  | 0.52 = L/480 | in     | 0.43            |
| Total Defl'n | 0.34 = L/739   | 1.05 = L/240 | in     | 0.32            |
| Bare Defl'n  | 0.25 = <L/999  | 0.70 = L/360 | in     | 0.36            |
| Vibration    | Lmax = 20'-11  | Lv = 23'-1   | ft     |                 |
| Defl'n       | = 0.024        | = 0.031      | in     | 0.78            |



NO. TAM 2656817  
STRUCTURAL  
COMPONENT ONLY



**Additional Data:**

| FACTORS: | f/E           | KD   | KH   | KZ | KL    | KT | KS | KN | LC# |
|----------|---------------|------|------|----|-------|----|----|----|-----|
| Vr       | 2336          | 1.00 | 1.00 | -  | -     | -  | -  | -  | #2  |
| Mr+      | 6255          | 1.00 | 1.00 | -  | 1.000 | -  | -  | -  | #2  |
| EI       | 371.1 million | -    | -    | -  | -     | -  | -  | -  | #2  |

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake  
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls \_=no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

**CALCULATIONS:**Deflection: E<sub>I</sub>eff = 413e06 lb-in<sup>2</sup>/ply K= 6.18e06 lbs/ply

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

**Design Notes:**

CONFORMS TO UBC 2012

1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-14 Engineering Design in Wood standard (May 2014 edition).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis 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 this component based on the design criteria and loadings shown.



DWG NO. TAM2656B-17  
STRUCTURAL  
COMPONENT ONLY

# NORDIC STRUCTURES

**COMPANY**  
TAMARACK LUMBER INC.  
3269 NORTH SERVICE ROAD  
BURLINGTON ONTARIO  
May 8, 2017 07:34

**PROJECT**  
J1 2ND FLOOR

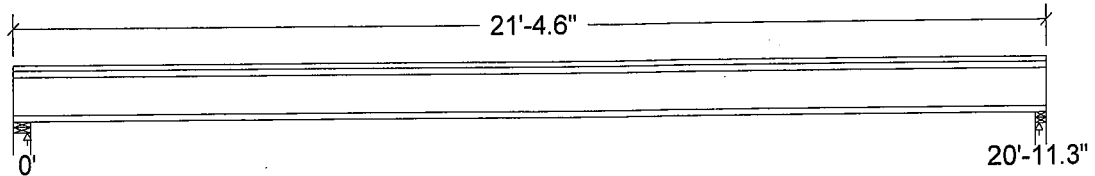
## Design Check Calculation Sheet

Nordic Sizer – Canada 6.4

### Loads:

| Load  | Type | Distribution | Pat-tern | Location [ft]<br>Start End | Magnitude<br>Start End | Unit |
|-------|------|--------------|----------|----------------------------|------------------------|------|
| Load1 | Dead | Full Area    |          |                            | 20.00                  | psf  |
| Load2 | Live | Full Area    |          |                            | 40.00                  | psf  |

### Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in) :



|             |       |  |       |
|-------------|-------|--|-------|
| Unfactored: |       |  |       |
| Dead        | 209   |  | 209   |
| Live        | 419   |  | 419   |
| Factored:   |       |  |       |
| Total       | 890   |  | 890   |
| Bearing:    |       |  |       |
| Resistance  |       |  |       |
| Joist       | 4672  |  | 4306  |
| Support     | 15470 |  | 9513  |
| Des ratio   |       |  |       |
| Joist       | 0.19  |  | 0.21  |
| Support     | 0.06  |  | 0.09  |
| Load case   | #2    |  | #2    |
| Length      | 4-3/8 |  | 2-3/4 |
| Min req'd   | 1-3/4 |  | 1-3/4 |
| Stiffener   | No    |  | No    |
| Kd          | 1.00  |  | 1.00  |
| KB support  | 1.00  |  | 1.00  |
| fcp sup     | 769   |  | 769   |
| Kzcp sup    | 1.15  |  | 1.13  |

Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

### Nordic Joist 11-7/8" NI-40x 2-ply Floor joist @ 12" o.c.

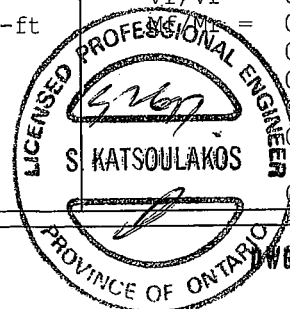
Supports: All - Lumber Wall, No. 1/No.2

Total length: 21'-4.6"; 3/4" nailed and glued OSB sheathing with 1/2" gypsum ceiling

**This section PASSES the design code check.**

### Limit States Design using CSA O86-14 and Vibration Criterion:

| Criterion    | Analysis Value | Design Value | Unit   | Analysis/Design |
|--------------|----------------|--------------|--------|-----------------|
| Shear        | Vf = 890       | Vr = 4672    | lbs    | Vf/Vr = 0.19    |
| Moment (+)   | Mf = 4659      | Mr = 12509   | lbs-ft | Mf/Mr = 0.37    |
| Perm. Defl'n | 0.11 = <L/999  | 0.70 = L/360 | in     | 0.16            |
| Live Defl'n  | 0.23 = <L/999  | 0.52 = L/480 | in     | 0.43            |
| Total Defl'n | 0.34 = L/739   | 1.05 = L/240 | in     | 0.32            |
| Bare Defl'n  | 0.25 = <L/999  | 0.70 = L/360 | in     | 0.36            |
| Vibration    | Lmax = 20'-11  | Lv = 23'-7   | ft     |                 |
| Defl'n       | = 0.023        | = 0.031      | in     | 0.74            |



NO. TAM 26569.17  
STRUCTURAL  
COMPONENT ONLY

**Additional Data:**

| FACTORS: | f/E           | KD   | KH   | KZ | KL    | KT | KS | KN | LC# |
|----------|---------------|------|------|----|-------|----|----|----|-----|
| Vr       | 2336          | 1.00 | 1.00 | -  | -     | -  | -  | -  | #2  |
| Mr+      | 6255          | 1.00 | 1.00 | -  | 1.000 | -  | -  | -  | #2  |
| EI       | 371.1 million | -    | -    | -  | -     | -  | -  | -  | #2  |

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake  
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls \_=no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

**CALCULATIONS:**Deflection: E<sub>I</sub>eff = 413e06 lb-in<sup>2</sup>/ply K= 6.18e06 lbs/ply

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

**Design Notes:**

CONFORMS TO OBC 2012

1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-14 Engineering Design in Wood standard (May 2014 edition).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis 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 this component based on the design criteria and loadings shown.



DWG NO. TAM26569-17  
 STRUCTURAL  
 COMPONENT ONLY

# NORDIC STRUCTURES

**COMPANY**  
TAMARACK LUMBER INC.  
3269 NORTH SERVICE ROAD  
BURLINGTON ONTARIO  
May 8, 2017 07:36

**PROJECT**  
J2 2ND FLOOR

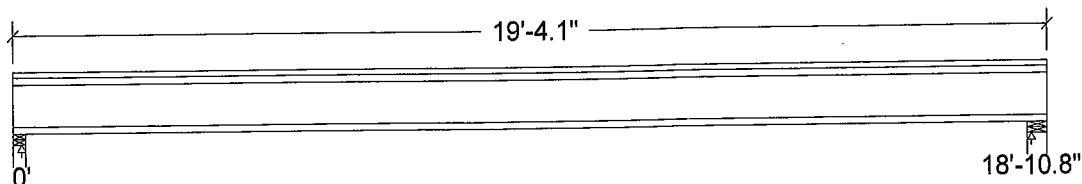
## Design Check Calculation Sheet

Nordic Sizer – Canada 6.4

### Loads:

| Load  | Type | Distribution | Pat-tern | Location [ft]<br>Start End | Magnitude<br>Start End | Unit |
|-------|------|--------------|----------|----------------------------|------------------------|------|
| Load1 | Dead | Full Area    |          |                            | 20.00                  | psf  |
| Load2 | Live | Full Area    |          |                            | 40.00                  | psf  |

### Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in) :



|             |       |  |       |
|-------------|-------|--|-------|
| Unfactored: |       |  |       |
| Dead        | 189   |  | 189   |
| Live        | 378   |  | 378   |
| Factored:   |       |  |       |
| Total       | 803   |  | 803   |
| Bearing:    |       |  |       |
| Resistance  |       |  |       |
| Joist       | 2220  |  | 2336  |
| Support     | 6659  |  | 10829 |
| Des ratio   |       |  |       |
| Joist       | 0.36  |  | 0.34  |
| Support     | 0.12  |  | 0.07  |
| Load case   | #2    |  | #2    |
| Length      | 2-3/4 |  | 4-3/8 |
| Min req'd   | 1-3/4 |  | 1-3/4 |
| Stiffener   | No    |  | No    |
| Kd          | 1.00  |  | 1.00  |
| KB support  | 1.00  |  | 1.00  |
| fcp sup     | 769   |  | 769   |
| Kzcp sup    | 1.13  |  | 1.15  |

Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

### Nordic Joist 11-7/8" NI-80 Floor joist @ 12" o.c.

Supports: All - Lumber Wall, No.1/No.2

Total length: 19'-4.1"; 3/4" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section **PASSES** the design code check.

### Limit States Design using CSA O86-14 and Vibration Criterion:

| Criterion    | Analysis Value | Design Value | Unit   | Analysis/Design |
|--------------|----------------|--------------|--------|-----------------|
| Shear        | Vf = 803       | Vr = 2336    | lbs    | Vf/Vr = 0.34    |
| Moment (+)   | Mf = 3794      | Mr = 11609   | lbs-ft | Mf/Mr = 0.33    |
| Perm. Defl'n | 0.11 = <L/999  | 0.63 = L/360 | in     | 0.17            |
| Live Defl'n  | 0.21 = <L/999  | 0.47 = L/480 | in     | 0.45            |
| Total Defl'n | 0.32 = L/715   | 0.94 = L/240 | in     | 0.34            |
| Bare Defl'n  | 0.24 = L/954   | 0.63 = L/360 | in     | 0.38            |
| Vibration    | Lmax = 18'-11  | Lv = 21'-9   | ft     |                 |
| Defl'n       | = 0.024        | = 0.033      | in     | 0.71            |



NO. TAM 26570-17  
STRUCTURAL  
COMPONENT ONLY

Beam4

Nordic Sizer – Canada 6.4

Page 2

**Additional Data:**

| FACTORS: | f/E           | KD   | KH   | KZ | KL    | KT | KS | KN | LC# |
|----------|---------------|------|------|----|-------|----|----|----|-----|
| Vr       | 2336          | 1.00 | 1.00 | -  | -     | -  | -  | -  | #2  |
| Mr+      | 11609         | 1.00 | 1.00 | -  | 1.000 | -  | -  | -  | #2  |
| EI       | 547.1 million | -    | -    | -  | -     | -  | -  | -  | #2  |

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake  
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls \_=no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

**CALCULATIONS:**Deflection: E<sub>I</sub>eff = 625e06 lb-in<sup>2</sup> K= 6.18e06 lbs

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

**Design Notes:**

CONFORMS TO OBC 2012

1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-14 Engineering Design in Wood standard (May 2014 edition).

2. Please verify that the default deflection limits are appropriate for your application.

3. Refer to technical documentation for installation guidelines and construction details.

4. Nordic I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edge.

6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis 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 this component based on the design criteria and loadings shown.



DWG NO. TAM26570-17  
 STRUCTURAL  
 COMPONENT ONLY

# NORDIC STRUCTURES

**COMPANY**  
TAMARACK LUMBER INC.  
3269 NORTH SERVICE ROAD  
BURLINGTON ONTARIO  
May 8, 2017 07:31

**PROJECT**  
J3 1ST FLOOR

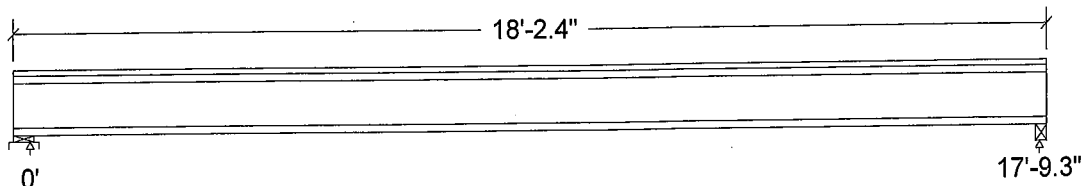
## Design Check Calculation Sheet

Nordic Sizer – Canada 6.4

### Loads:

| Load  | Type | Distribution | Pat-<br>tern | Location [ft]<br>Start End | Magnitude<br>Start End | Unit |
|-------|------|--------------|--------------|----------------------------|------------------------|------|
| Load1 | Dead | Full Area    |              |                            | 20.00                  | psf  |
| Load2 | Live | Full Area    |              |                            | 40.00                  | psf  |

### Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in) :

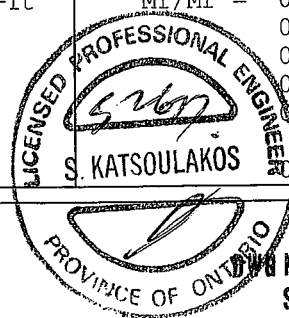


|             |       |  |       |
|-------------|-------|--|-------|
| Unfactored: |       |  |       |
| Dead        | 178   |  | 178   |
| Live        | 355   |  | 355   |
| Factored:   |       |  |       |
| Total       | 755   |  | 755   |
| Bearing:    |       |  |       |
| Resistance  |       |  |       |
| Joist       | 2336  |  | 2198  |
| Support     | 9417  |  | -     |
| Des ratio   |       |  |       |
| Joist       | 0.32  |  | 0.34  |
| Support     | 0.08  |  | -     |
| Load case   | #2    |  | #2    |
| Length      | 4-3/8 |  | 2-1/2 |
| Min req'd   | 1-3/4 |  | 1-3/4 |
| Stiffener   | No    |  | No    |
| Kd          | 1.00  |  | 1.00  |
| KB support  | 1.00  |  | -     |
| fcp sup     | 769   |  | -     |
| Kzcp sup    | 1.00  |  | -     |

**Nordic Joist 11-7/8" NI-80 Floor joist @ 12" o.c.**  
Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Steel Beam, W;  
Total length: 18'-2.4"; 3/4" nailed and glued OSB sheathing  
**This section PASSES the design code check.**

### Limit States Design using CSA O86-14 and Vibration Criterion:

| Criterion    | Analysis Value | Design Value | Unit   | Analysis/Design |
|--------------|----------------|--------------|--------|-----------------|
| Shear        | Vf = 755       | Vr = 2336    | lbs    | Vf/Vr = 0.32    |
| Moment (+)   | Mf = 3356      | Mr = 11609   | lbs-ft | Mf/Mr = 0.29    |
| Perm. Defl'n | 0.08 = <L/999  | 0.59 = L/360 | in     | 0.14            |
| Live Defl'n  | 0.17 = <L/999  | 0.44 = L/480 | in     | 0.38            |
| Total Defl'n | 0.25 = L/845   | 0.89 = L/240 | in     | 0.28            |
| Bare Defl'n  | 0.19 = <L/999  | 0.59 = L/360 | in     | 0.32            |
| Vibration    | Lmax = 17'-9   | Lv = 21'-3   | ft     |                 |
| Defl'n       | = 0.022        | = 0.035      | in     | 0.64            |



**STRUCTURAL  
COMPONENT ONLY**

**Additional Data:**

| FACTORS: | f/E           | KD   | KH   | KZ | KL    | KT | KS | KN | LC# |
|----------|---------------|------|------|----|-------|----|----|----|-----|
| Vr       | 2336          | 1.00 | 1.00 | -  | -     | -  | -  | -  | #2  |
| Mr+      | 11609         | 1.00 | 1.00 | -  | 1.000 | -  | -  | -  | #2  |
| EI       | 547.1 million | -    | -    | -  | -     | -  | -  | -  | #2  |

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake  
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls \_=no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

**CALCULATIONS:**

Deflection: E<sub>IEff</sub> = 625e06 lb-in<sup>2</sup> K= 6.18e06 lbs

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

**Design Notes:**

CONFORMS TO OBC 2012

1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-14 Engineering Design in Wood standard (May 2014 edition).
2. Please verify that the default deflection limits are appropriate for your application.
3. Refer to technical documentation for installation guidelines and construction details.
4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
5. Joists shall be laterally supported at supports and continuously along the compression edge.
6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis 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 this component based on the design criteria and loadings shown.



DWG NO. TAM 26571-17  
STRUCTURAL  
COMPONENT ONLY





# Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement\...\B1 L(4224)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 13:27:52

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

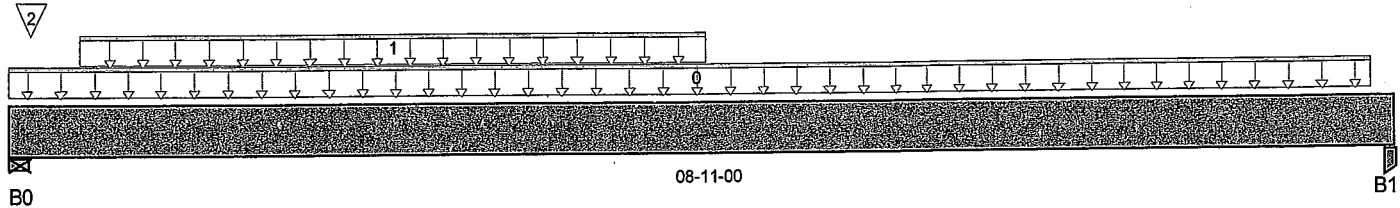
Description: Designs\Flush Beams\Basement\Flush Beams\B1 L(4224

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 08-11-00

## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live      | Dead    | Snow | Wind |
|------------|-----------|---------|------|------|
| B0, 5-1/2" | 1,615 / 0 | 881 / 0 |      |      |
| B1, 3-1/2" | 301 / 0   | 172 / 0 |      |      |

## Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | FC2 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 08-09-04 | 15           | 7            |              |              | n/a   |
| 1   | User Load          | Unf. Lin. (lb/ft) | L    | 00-05-08 | 04-05-08 | 240          | 120          |              |              | n/a   |
| 2   | PBO4(I61)          | Conc. Pt. (lbs)   | L    | 00-01-12 | 00-01-12 | 827          | 465          |              |              | n/a   |

| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 2,699 ft-lbs    | 12,704 ft-lbs       | 21.2%               | 1         | 03-06-11 |
| End Shear        | 1,251 lbs       | 5,785 lbs           | 21.6%               | 1         | 01-03-00 |
| Total Load Defl. | L/999 (0.086")  | n/a                 | n/a                 | 4         | 04-03-01 |
| Live Load Defl.  | L/999 (0.056")  | n/a                 | n/a                 | 5         | 04-03-01 |
| Max Defl.        | 0.086"          | n/a                 | n/a                 | 4         | 04-03-01 |
| Span / Depth     | 10.5            | n/a                 | n/a                 |           | 00-00-00 |

| Bearing Supports | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|------------------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Wall/Plate    | 5-1/2" x 1-3/4" | 3,524 lbs | 68.6%                       | 30%                        | Unspecified |
| B1 Post          | 3-1/2" x 1-3/4" | 666 lbs   | 13.4%                       | 8.9%                       | Unspecified |

## Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

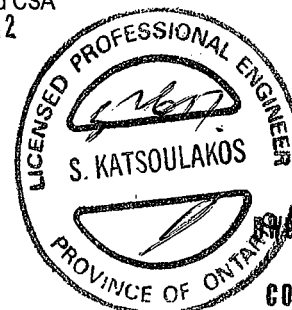
Importance Factor : Normal Part code : Part 9

CONFORMS TO QBC 2012

## Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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NO. TAM26572-17  
STRUCTURAL  
COMPONENT ONLY



# Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement\...\B2 L(i4410)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 13:34:10

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

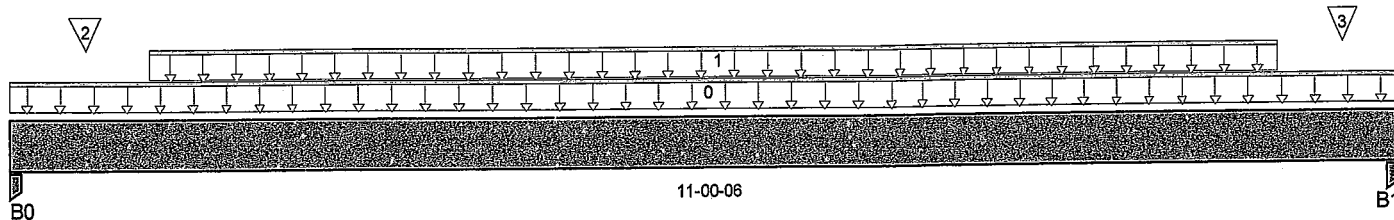
Description: Designs\Flush Beams\Basement\Flush Beams\B2 L(i4410

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 11-00-06

## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live    | Dead    | Snow | Wind |
|------------|---------|---------|------|------|
| B0, 3-1/2" | 926 / 0 | 492 / 0 |      |      |
| B1, 3-1/2" | 940 / 0 | 499 / 0 |      |      |

## Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | FC2 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 11-00-06 | 6            | 3            |              |              | n/a   |
| 1   | Smoothed Load      | Unf. Lin. (lb/ft) | L    | 01-01-02 | 10-01-02 | 169          | 85           |              |              | n/a   |
| 2   | J5(i4364)          | Conc. Pt. (lbs)   | L    | 00-07-02 | 00-07-02 | 147          | 74           |              |              | n/a   |
| 3   | J5(i4355)          | Conc. Pt. (lbs)   | L    | 10-07-02 | 10-07-02 | 134          | 67           |              |              | n/a   |

| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 5,302 ft-lbs    | 12,704 ft-lbs       | 41.7%               | 1         | 05-07-02 |
| End Shear        | 1,791 lbs       | 5,785 lbs           | 31%                 | 1         | 01-01-00 |
| Total Load Defl. | L/423 (0.3")    | 0.529"              | 56.8%               | 4         | 05-05-10 |
| Live Load Defl.  | L/647 (0.196")  | 0.352"              | 55.6%               | 5         | 05-05-10 |
| Max Defl.        | 0.3"            | n/a                 | n/a                 | 4         | 05-05-10 |
| Span / Depth     | 13.4            | n/a                 | n/a                 |           | 00-00-00 |

| Bearing Supports | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|------------------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Post          | 3-1/2" x 1-3/4" | 2,004 lbs | 40.3%                       | 26.8%                      | Unspecified |
| B1 Post          | 3-1/2" x 1-3/4" | 2,034 lbs | 40.9%                       | 27.2%                      | Unspecified |

## Disclosure

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## Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

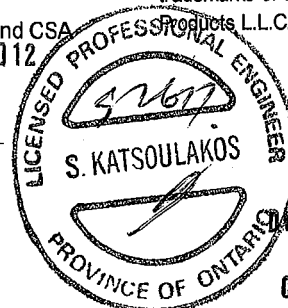
Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO CBC 2012





# Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basement\...B3 L(i4358)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 13:27:52

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

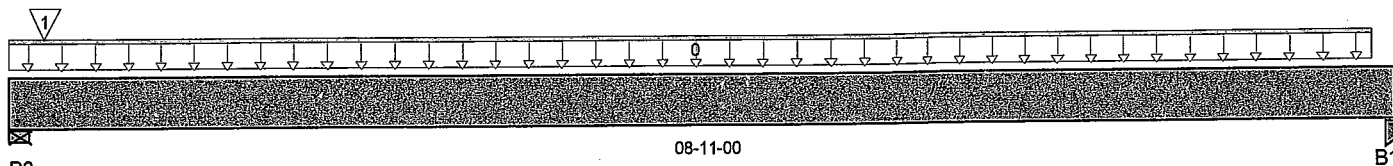
Description: Designs\Flush Beams\Basement\Flush Beams\B3 L(i4358

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 08-11-00

## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live   | Dead   | Snow | Wind |
|------------|--------|--------|------|------|
| B0, 5-1/2" | 84 / 0 | 79 / 0 |      |      |
| B1, 3-1/2" | 49 / 0 | 46 / 0 |      |      |

## Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | FC2 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 08-09-04 | 12           | 6            |              |              | n/a   |
| 1   | 3(i1080)           | Conc. Pt. (lbs)   | L    | 00-02-12 | 00-02-12 | 31           | 31           |              |              | n/a   |

## Controls Summary

|                  | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 265 ft-lbs      | 12,704 ft-lbs       | 2.1%                | 1         | 04-06-08 |
| End Shear        | 101 lbs         | 5,785 lbs           | 1.8%                | 1         | 01-03-00 |
| Total Load Defl. | L/999 (0.009")  | n/a                 | n/a                 | 4         | 04-06-08 |
| Live Load Defl.  | L/999 (0.005")  | n/a                 | n/a                 | 5         | 04-06-08 |
| Max Defl.        | 0.009"          | n/a                 | n/a                 | 4         | 04-06-08 |
| Span / Depth     | 10.5            | n/a                 | n/a                 |           | 00-00-00 |

## Bearing Supports

| Beaming Supports |            |                 |         |      |      |             |
|------------------|------------|-----------------|---------|------|------|-------------|
| B0               | Wall/Plate | 5-1/2" x 1-3/4" | 225 lbs | 4.4% | 1.9% | Unspecified |
| B1               | Post       | 3-1/2" x 1-3/4" | 131 lbs | 2.6% | 1.8% | Unspecified |

## Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

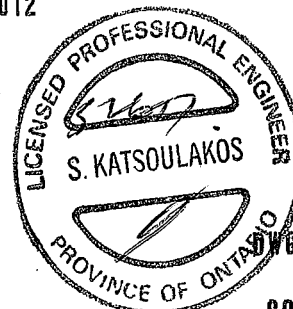
Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

## Disclosure

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NO. TAM26574-17  
STRUCTURAL  
COMPONENT ONLY



# Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basement\...\B4 H(i4257)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 15, 2017 13:27:52

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

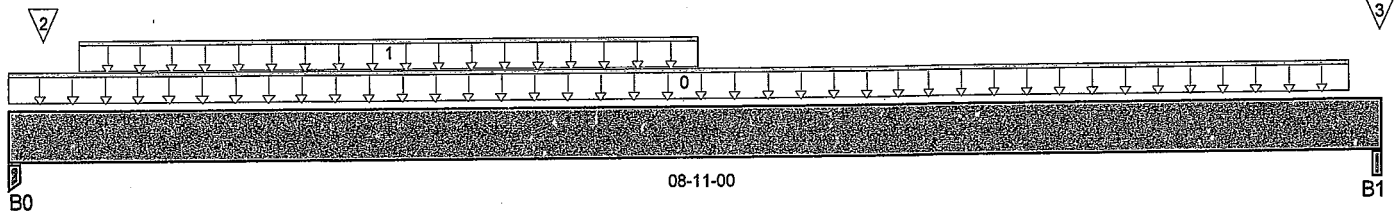
Description: Designs\Flush Beams\Basement\Flush Beams\B4 H(i4257

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 08-11-00

## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live    | Dead    | Snow | Wind |
|------------|---------|---------|------|------|
| B0, 3-1/2" | 814 / 0 | 446 / 0 |      |      |
| B1, 2-1/2" | 429 / 0 | 253 / 0 |      |      |

## Load Summary

| Tag | Description         | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|---------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | FC 1 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 08-08-08 | 23           | 11           |              |              | n/a   |
| 1   | User Load           | Unf. Lin. (lb/ft) | L    | 00-05-08 | 04-05-08 | 240          | 120          |              |              | n/a   |
| 2   | 8(i2454)            | Conc. Pt. (lbs)   | L    | 00-02-12 | 00-02-12 |              | 13           |              |              | n/a   |
| 3   | 2(i1078)            | Conc. Pt. (lbs)   | L    | 08-10-12 | 08-10-12 | 79           | 52           |              |              | n/a   |

| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 3,056 ft-lbs    | 19,364 ft-lbs       | 15.8%               | 1         | 03-06-12 |
| End Shear        | 1,688 lbs       | 7,232 lbs           | 23.3%               | 1         | 01-03-06 |
| Total Load Defl. | L/999 (0.053")  | n/a                 | n/a                 | 4         | 04-03-02 |
| Live Load Defl.  | L/999 (0.035")  | n/a                 | n/a                 | 5         | 04-01-15 |
| Max Defl.        | 0.053"          | n/a                 | n/a                 | 4         | 04-03-02 |
| Span / Depth     | 8.6             | n/a                 | n/a                 |           | 00-00-00 |

| Bearing Supports | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|------------------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Post          | 3-1/2" x 1-3/4" | 1,780 lbs | 35.8%                       | 23.8%                      | Unspecified |
| B1 Beam          | 2-1/2" x 1-3/4" | 960 lbs   | 41.1%                       | 18%                        | Unspecified |

## Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012

## Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWG NO. TAM 26575-17  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basement...\B6(i3030)

Dry | 2 spans | No cantilevers | 0/12 slope (deg)

May 5, 2017 15:41:47

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

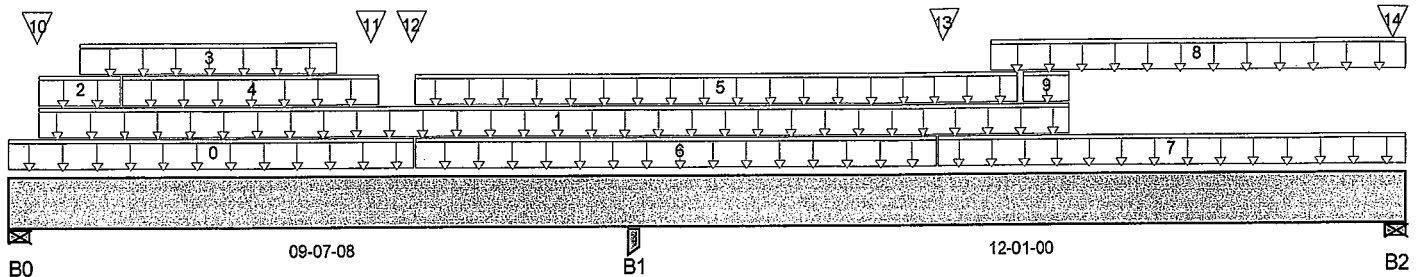
Description: Designs\Flush Beams\Basement\Flush Beams\B6(i3030)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 21-08-08

## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live        | Dead      | Snow | Wind |
|------------|-------------|-----------|------|------|
| B0, 5-1/2" | 1,424 / 418 | 903 / 0   |      |      |
| B1, 3-1/2" | 3,380 / 0   | 3,115 / 0 |      |      |
| B2, 5-1/2" | 2,046 / 98  | 1,186 / 0 |      |      |

## Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | FC1 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 06-03-06 | 15           |              |              |              | n/a   |
| 1   | 6(i1148)           | Unf. Lin. (lb/ft) | L    | 00-05-08 | 16-05-08 |              | 81           |              |              | n/a   |
| 2   | 6(i1148)           | Unf. Lin. (lb/ft) | L    | 00-05-08 | 01-08-12 | 158          | 79           |              |              | n/a   |
| 3   | Smoothed Load      | Unf. Lin. (lb/ft) | L    | 01-01-00 | 05-01-00 | 172          | 86           |              |              | n/a   |
| 4   | -                  | Unf. Lin. (lb/ft) | L    | 01-08-12 | 05-08-12 | 168          | 84           |              |              | n/a   |
| 5   | 6(i1148)           | Unf. Lin. (lb/ft) | L    | 06-03-04 | 15-07-12 | 14           | 7            |              |              | n/a   |
| 6   | FC1 Floor Material | Unf. Lin. (lb/ft) | L    | 06-03-06 | 14-04-10 | 18           | 9            |              |              | n/a   |
| 7   | FC1 Floor Material | Unf. Lin. (lb/ft) | L    | 14-04-10 | 21-08-08 | 15           | 7            |              |              | n/a   |
| 8   | Smoothed Load      | Unf. Lin. (lb/ft) | L    | 15-02-06 | 21-08-08 | 174          | 87           |              |              | n/a   |
| 9   | 6(i1148)           | Unf. Lin. (lb/ft) | L    | 15-08-08 | 16-05-08 | 1,658        | 948          |              |              | n/a   |
| 10  | -                  | Conc. Pt. (lbs)   | L    | 00-05-05 | 00-05-05 | 212          | 130          |              |              | n/a   |
| 11  | J8(i3037)          | Conc. Pt. (lbs)   | L    | 05-07-00 | 05-07-00 | 142          | 71           |              |              | n/a   |
| 12  | B7(i3006)          | Conc. Pt. (lbs)   | L    | 06-02-08 | 06-02-08 | 156          | 364          |              |              | n/a   |
| 13  | B9(i3106)          | Conc. Pt. (lbs)   | L    | 14-05-08 | 14-05-08 | 1,105        | 602          |              |              | n/a   |
| 14  | 4(i1079)           | Conc. Pt. (lbs)   | L    | 21-05-12 | 21-05-12 | 249          | 156          |              |              | n/a   |

| Controls Summary | Factored Demand  | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|------------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 13,926 ft-lbs    | 38,727 ft-lbs       | 36%                 | 3         | 16-00-03 |
| Neg. Moment      | -12,470 ft-lbs   | -38,727 ft-lbs      | 32.2%               | 1         | 09-07-08 |
| End Shear        | 3,490 lbs        | 14,464 lbs          | 24.1%               | 3         | 20-03-02 |
| Cont. Shear      | 5,014 lbs        | 14,464 lbs          | 34.7%               | 1         | 10-09-02 |
| Total Load Defl. | L/720 (0.195")   | 0.584"              | 33.3%               | 10        | 15-10-06 |
| Live Load Defl.  | L/1,106 (0.127") | 0.39"               | 32.5%               | 13        | 15-10-06 |
| Total Neg. Defl. | L/999 (-0.034")  | n/a                 | n/a                 | 10        | 06-10-00 |
| Max Defl.        | 0.195"           | n/a                 | n/a                 | 10        | 15-10-06 |
| Span / Depth     | 11.8             | n/a                 | n/a                 |           | 00-00-00 |



DWG NO. TAM26576-17  
STRUCTURAL  
COMPONENT ONLY



BC CALC® Design Report



Build 5033  
Job Name:  
Address:  
City, Province, Postal Code: BRAMPTON,  
Customer:  
Code reports: CCMC 12472-R

File Name: YORK2.mmdl  
Description: Designs\Flush Beams\Basement\Flush Beams\B6(i3030)  
Specifier:  
Designer:  
Company:  
Misc:

| Bearing Supports | Dim. (L x W)    | Demand    | Demand/<br>Resistance<br>Support | Demand/<br>Resistance<br>Member | Material    |
|------------------|-----------------|-----------|----------------------------------|---------------------------------|-------------|
| B0 Wall/Plate    | 5-1/2" x 3-1/2" | 3,265 lbs | 31.8%                            | 13.9%                           | Unspecified |
| B1 Post          | 3-1/2" x 3-1/2" | 8,965 lbs | 90.1%                            | 60%                             | Unspecified |
| B2 Wall/Plate    | 5-1/2" x 3-1/2" | 4,551 lbs | 44.3%                            | 19.4%                           | Unspecified |

Notes

Design meets Code minimum (L/240) Total load deflection criteria.  
Design meets Code minimum (L/360) Live load deflection criteria.  
Calculations assume member is fully braced.  
Resistance Factor phi has been applied to all presented results per CSA O86.  
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.  
Design based on Dry Service Condition.  
Importance Factor: Normal Part code: Part 9

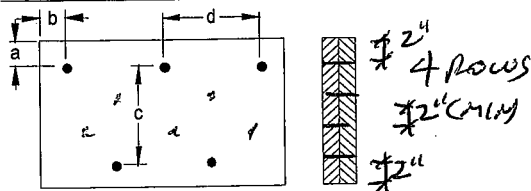
CONFORMS TO OBC 2012

Disclosure

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Connection Diagram



a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 6"

Calculated Side Load = 348.3 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM 26576-17  
STRUCTURAL  
COMPONENT ONLY



Boise Cascade

**Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basement\Flush Beams\B7(i3006)**

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 5, 2017 15:41:48

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

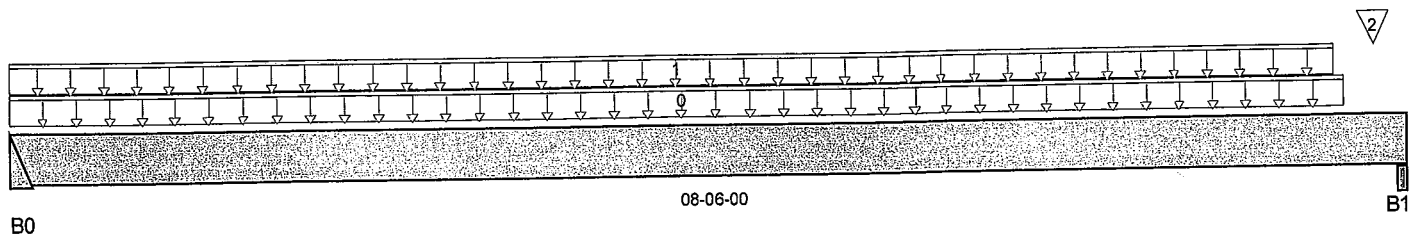
Description: Designs\Flush Beams\Basement\Flush Beams\B7(i3006)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 08-06-00

**Reaction Summary (Down / Uplift) (lbs)**

| Bearing    | Live      | Dead      | Snow | Wind |
|------------|-----------|-----------|------|------|
| B0         | 161 / 0   | 377 / 0   |      |      |
| B1, 3-1/2" | 1,690 / 0 | 1,185 / 0 |      |      |

**Load Summary**

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | FC1 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 08-01-08 | 14           | 7            |              |              | n/a   |
| 1   | 7(i1385)           | Unf. Lin. (lb/ft) | L    | 00-00-00 | 08-00-12 | 25           | 78           |              |              | n/a   |
| 2   | 5(i1110)           | Conc. Pt. (lbs)   | L    | 08-03-08 | 08-03-08 | 1,536        | 831          |              |              | n/a   |

**Controls Summary**

|                  | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 1,053 ft-lbs    | 12,586 ft-lbs       | 8.4%                | 0         | 04-02-04 |
| End Shear        | 489 lbs         | 4,701 lbs           | 10.4%               | 0         | 01-01-14 |
| Total Load Defl. | L/999 (0.026")  | n/a                 | n/a                 | 4         | 04-02-04 |
| Live Load Defl.  | L/999 (0.008")  | n/a                 | n/a                 | 5         | 04-02-04 |
| Max Defl.        | 0.026"          | n/a                 | n/a                 | 4         | 04-02-04 |
| Span / Depth     | 8.3             | n/a                 | n/a                 |           | 00-00-00 |

**Bearing Supports**

|           | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|-----------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Hanger | 2" x 1-3/4"     | 714 lbs   | n/a                         | 19%                        | HUS1.81/10  |
| B1 Beam   | 3-1/2" x 1-3/4" | 4,016 lbs | 60.1%                       | 53.7%                      | Unspecified |

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

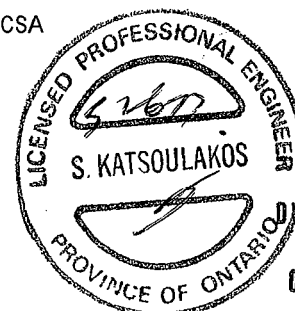
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

**CONFORMS TO DBC 2012****Disclosure**


Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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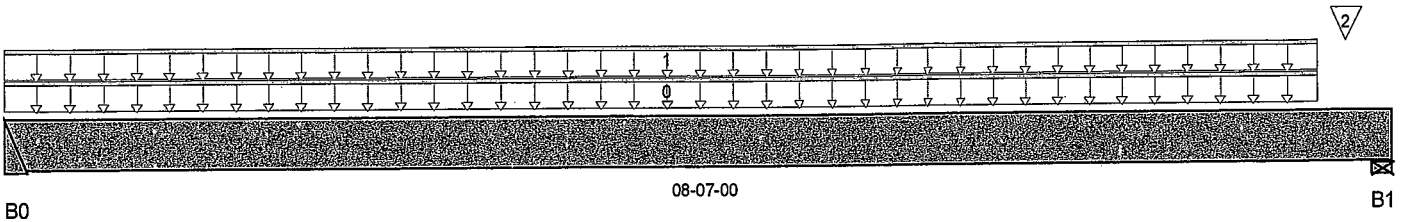


NO. TAM26577-17  
STRUCTURAL  
COMPONENT ONLY



BC CALC® Design Report  Dry | 1 span | No cantilevers | 0/12 slope (deg) May 15, 2017 13:59:55

Build 5033 File Name: YORK2.mmdl  
 Job Name: Description: Designs\Flush Beams\Basement\Flush Beams\B9(i4599)  
 Address: Specifier:  
 City, Province, Postal Code: BRAMPTON, Designer:  
 Customer: Company:  
 Code reports: CCMC 12472-R Misc:



### Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live      | Dead    | Snow | Wind |
|------------|-----------|---------|------|------|
| B0         | 1,118 / 0 | 584 / 0 |      |      |
| B1, 5-1/2" | 1,155 / 0 | 616 / 0 |      |      |

### Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | User Load          | Unf. Lin. (lb/ft) | L    | 00-00-00 | 08-01-08 | 240          | 120          |              |              | n/a   |
| 1   | FC1 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 08-01-08 | 30           | 15           |              |              | n/a   |
| 2   | 5(i1110)           | Conc. Pt. (lbs)   | L    | 08-03-08 | 08-03-08 | 81           | 52           |              |              | n/a   |

| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 4,740 ft-lbs    | 19,364 ft-lbs       | 24.5%               | 1         | 04-01-12 |
| End Shear        | 1,736 lbs       | 7,232 lbs           | 24%                 | 1         | 07-01-10 |
| Total Load Defl. | L/999 (0.081")  | n/a                 | n/a                 | 4         | 04-01-12 |
| Live Load Defl.  | L/999 (0.053")  | n/a                 | n/a                 | 5         | 04-01-12 |
| Max Defl.        | 0.081"          | n/a                 | n/a                 | 4         | 04-01-12 |
| Span / Depth     | 8.2             | n/a                 | n/a                 |           | 00-00-00 |

### Disclosure

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| Bearing Supports | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|------------------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Hanger        | 2" x 1-3/4"     | 2,406 lbs | n/a                         | 56.3%                      | HUS1.81/10  |
| B1 Wall/Plate    | 5-1/2" x 1-3/4" | 2,502 lbs | 48.7%                       | 21.3%                      | Unspecified |

### Notes

Design meets Code minimum (L/240) Total load deflection criteria.  
 Design meets Code minimum (L/360) Live load deflection criteria.  
 Calculations assume member is fully braced.  
 Hanger Manufacturer: Unassigned  
 Resistance Factor phi has been applied to all presented results per CSA O86.  
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.  
 Design based on Dry Service Condition.  
 Importance Factor: Normal Part code: Part 9

CONFORMS TO QBC 2Q12



DWG NO. TAN2657B-17  
 STRUCTURAL  
 COMPONENT ONLY

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

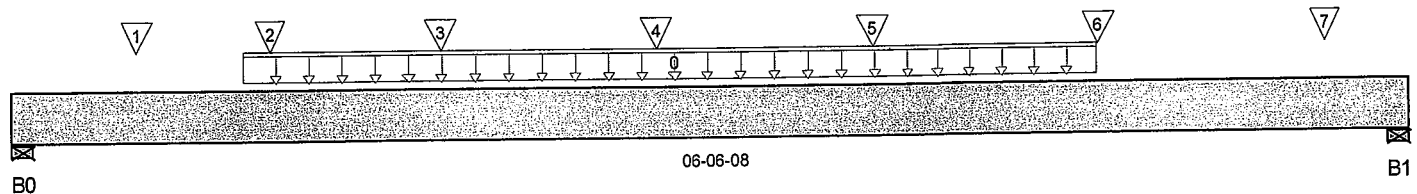
Description: Designs\Dropped Beams\Basement\Dropped Beams\B5 [

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 06-06-08

## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live      | Dead      | Snow | Wind |
|------------|-----------|-----------|------|------|
| B0, 5-1/2" | 1,523 / 0 | 806 / 0   |      |      |
| B1, 4"     | 3,241 / 0 | 2,007 / 0 |      |      |

## Load Summary

| Tag Description | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0 Smoothed Load | Unf. Lin. (lb/ft) | L    | 01-01-00 | 05-01-00 | 168          | 84           |              |              | n/a   |
| 1 J8(i3102)     | Conc. Pt. (lbs)   | L    | 00-07-00 | 00-07-00 | 133          | 67           |              |              | n/a   |
| 2 J4(i3047)     | Conc. Pt. (lbs)   | L    | 01-02-08 | 01-02-08 | 392          | 196          |              |              | n/a   |
| 3 J4(i3056)     | Conc. Pt. (lbs)   | L    | 02-00-00 | 02-00-00 | 316          | 158          |              |              | n/a   |
| 4 J4(i3031)     | Conc. Pt. (lbs)   | L    | 03-00-00 | 03-00-00 | 352          | 176          |              |              | n/a   |
| 5 J4(i3105)     | Conc. Pt. (lbs)   | L    | 04-00-00 | 04-00-00 | 367          | 184          |              |              | n/a   |
| 6 J4 DJ (i3119) | Conc. Pt. (lbs)   | L    | 05-01-00 | 05-01-00 | 370          | 185          |              |              | n/a   |
| 7 -             | Conc. Pt. (lbs)   | L    | 06-01-11 | 06-01-11 | 2,161        | 1,432        |              |              | n/a   |

## Controls Summary

|                  | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 5,003 ft-lbs    | 38,727 ft-lbs       | 12.9%               | 1         | 03-00-00 |
| End Shear        | 2,820 lbs       | 14,464 lbs          | 19.5%               | 1         | 01-05-06 |
| Total Load Defl. | L/999 (0.023")  | n/a                 | n/a                 | 4         | 03-04-06 |
| Live Load Defl.  | L/999 (0.015")  | n/a                 | n/a                 | 5         | 03-04-06 |
| Max Defl.        | 0.023"          | n/a                 | n/a                 | 4         | 03-04-06 |
| Span / Depth     | 5.9             | n/a                 | n/a                 |           | 00-00-00 |

## Bearing Supports

|               | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|---------------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Wall/Plate | 5-1/2" x 3-1/2" | 3,291 lbs | 12.1%                       | 14%                        | Unspecified |
| B1 Wall/Plate | 4" x 3-1/2"     | 7,371 lbs | 64.8%                       | 43.2%                      | Unspecified |

## Notes



DWG NO. TAM 26529-17  
STRUCTURAL  
COMPONENT ONLY



BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

Description: Designs\Dropped Beams\Basement\Dropped Beams\B

Specifier:

Designer:

Company:

Misc:

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume unbraced length of Top: 00-04-02, Bottom: 00-04-02.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

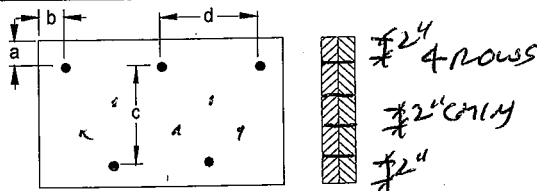
CONFORMS TO OBC 2012

Disclosure

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Connection Diagram



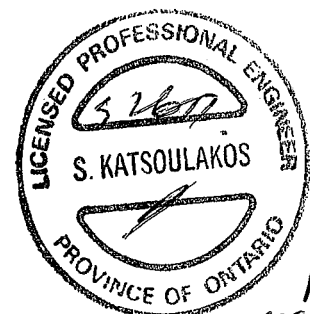
a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 6"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Member has no side loads.

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM 26579-17  
STRUCTURAL  
COMPONENT ONLY

**BC CALC® Design Report**


Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

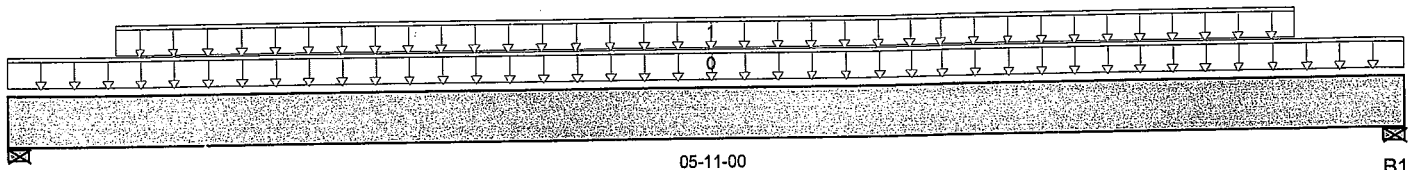
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B10

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 05-11-00

**Reaction Summary (Down / Uplift) (lbs)**

| Bearing | Live    | Dead    | Snow    | Wind |
|---------|---------|---------|---------|------|
| B0, 4"  | 988 / 0 | 826 / 0 | 299 / 0 |      |
| B1, 4"  | 988 / 0 | 827 / 0 | 299 / 0 |      |

**Load Summary**

| Tag | Description   | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|---------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | R1(i3171)     | Unf. Lin. (lb/ft) | L    | 00-00-00 | 05-11-00 | 29           | 117          | 101          |              | n/a   |
| 1   | Smoothed Load | Unf. Lin. (lb/ft) | L    | 00-05-08 | 05-05-08 | 361          | 181          |              |              | n/a   |

| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 3,765 ft-lbs    | 25,408 ft-lbs       | 14.8%               | 1         | 02-11-08 |
| End Shear        | 2,219 lbs       | 11,571 lbs          | 19.2%               | 1         | 01-01-08 |
| Total Load Defl. | L/999 (0.028")  | n/a                 | n/a                 | 35        | 02-11-08 |
| Live Load Defl.  | L/999 (0.017")  | n/a                 | n/a                 | 51        | 02-11-08 |
| Max Defl.        | 0.028"          | n/a                 | n/a                 | 35        | 02-11-08 |
| Span / Depth     | 6.8             | n/a                 | n/a                 |           | 00-00-00 |

| Bearing Supports | Dim. (L x W) | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|------------------|--------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Wall/Plate    | 4" x 3-1/2"  | 2,665 lbs | 23.4%                       | 15.6%                      | Unspecified |
| B1 Wall/Plate    | 4" x 3-1/2"  | 2,665 lbs | 23.4%                       | 15.6%                      | Unspecified |

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.  
 Design meets Code minimum (L/360) Live load deflection criteria.  
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.  
 Resistance Factor phi has been applied to all presented results per CSA O86.  
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.  
 Unbalanced snow loads determined from building geometry were used in selected product's verification.  
 Design based on Dry Service Condition.  
 Importance Factor: Normal Part code: Part 9

**CONFORMS TO OBC 2012**


DWG NO. TAM2658017  
 STRUCTURAL  
 COMPONENT ONLY



BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON;

Customer:

Code reports: CCMC 12472-R

File Name: YORK2.mmdl

Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B1

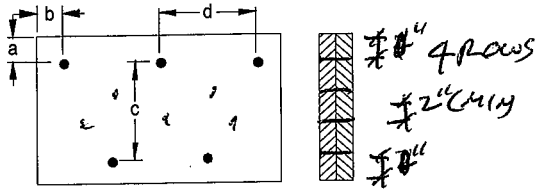
Specifier:

Designer:

Company:

Misc:

Connection Diagram



a minimum = 2" c = 1-1/2"  
b minimum = 3" d = 6"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Member has no side loads.

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWG NO. TAM26580-17  
STRUCTURAL  
COMPONENT ONLY

**BC CALC® Design Report**


Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

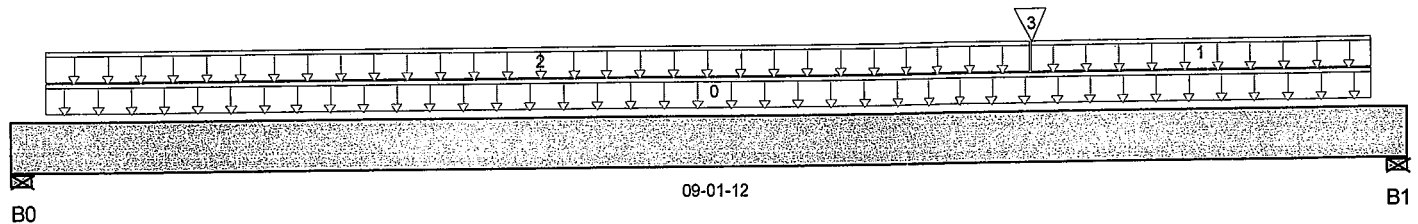
Description: Designs\Flush Beams\1st Floor\Flush Beams\B11(i3152)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 09-01-12

**Reaction Summary (Down / Uplift) ( lbs )**

| Bearing    | Live      | Dead    | Snow | Wind |
|------------|-----------|---------|------|------|
| B0, 5-1/2" | 516 / 0   | 320 / 0 |      |      |
| B1, 5-1/2" | 1,216 / 0 | 685 / 0 |      |      |

**Load Summary**

| Tag Description      | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|----------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0 FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-02-12 | 08-11-00 | 30           | 15           |              |              | n/a   |
| 1 FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 06-08-00 | 08-11-00 | 10           | 5            |              |              | n/a   |
| 2 FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-02-12 | 06-08-00 | 5            | 2            |              |              | n/a   |
| 3 B12(i3153)         | Conc. Pt. (lbs)   | L    | 06-08-00 | 06-08-00 | 1,380        | 719          |              |              | n/a   |

| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 5,328 ft-lbs    | 38,727 ft-lbs       | 13.8%               | 1         | 06-08-00 |
| End Shear        | 2,555 lbs       | 14,464 lbs          | 17.7%               | 1         | 07-08-06 |
| Total Load Defl. | L/999 (0.04")   | n/a                 | n/a                 | 4         | 04-11-07 |
| Live Load Defl.  | L/999 (0.025")  | n/a                 | n/a                 | 5         | 04-11-07 |
| Max Defl.        | 0.04"           | n/a                 | n/a                 | 4         | 04-11-07 |
| Span / Depth     | 8.4             | n/a                 | n/a                 |           | 00-00-00 |

| Bearing Supports | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|------------------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Wall/Plate    | 5-1/2" x 3-1/2" | 1,174 lbs | 11.4%                       | 5%                         | Unspecified |
| B1 Wall/Plate    | 5-1/2" x 3-1/2" | 2,679 lbs | 26.1%                       | 11.4%                      | Unspecified |

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

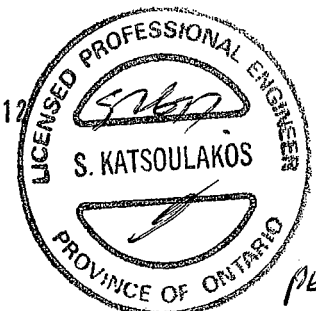
Resistance Factor phi has been applied to all presented results per CSA O86. CONFORMS TO OBC 2012

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9


 DWG NO. TAM26581-17  
 STRUCTURAL  
 COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B11(i3152)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 5, 2017 15:41:48

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B11(i3152)

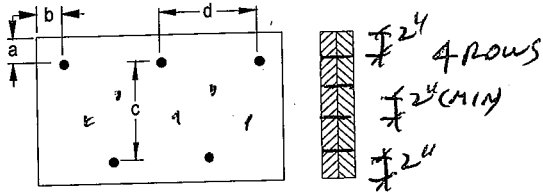
Specifier:

Designer:

Company:

Misc:

## Connection Diagram



a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 6"

Calculated Side Load = 324.6 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 16d or Nails

3 1/2" ARDOX SPIRAL

## Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWG NO. TAM265B1-17  
STRUCTURAL  
COMPONENT ONLY





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor...B12(i3153)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 5, 2017 15:41:48

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

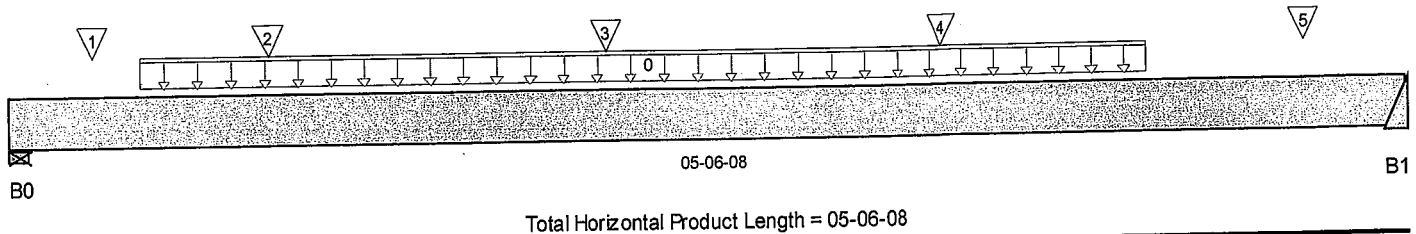
Description: Designs\Flush Beams\1st Floor\Flush Beams\B12(i3153)

Specifier:

Designer:

Company:

Misc:



## Reaction Summary (Down / Uplift) (lbs)

| Bearing | Live      | Dead    | Snow | Wind |
|---------|-----------|---------|------|------|
| B0, 8"  | 1,602 / 0 | 885 / 0 |      |      |
| B1      | 1,376 / 0 | 717 / 0 |      |      |

## Load Summary

| Tag Description | Load Type         | Ref. | Start    | End      | Live 1.00 | Dead 0.65 | Snow 1.00 | Wind 1.15 | Trib. |
|-----------------|-------------------|------|----------|----------|-----------|-----------|-----------|-----------|-------|
| 0 Smoothed Load | Unf. Lin. (lb/ft) | L    | 00-06-04 | 04-06-04 | 356       | 178       |           |           | n/a   |
| 1 B18(i3155)    | Conc. Pt. (lbs)   | L    | 00-04-00 | 00-04-00 | 310       | 204       |           |           | n/a   |
| 2 J5(i3327)     | Conc. Pt. (lbs)   | L    | 01-00-04 | 01-00-04 | 184       | 92        |           |           | n/a   |
| 3 J5(i3341)     | Conc. Pt. (lbs)   | L    | 02-04-04 | 02-04-04 | 226       | 113       |           |           | n/a   |
| 4 J5(i3251)     | Conc. Pt. (lbs)   | L    | 03-08-04 | 03-08-04 | 226       | 113       |           |           | n/a   |
| 5 -             | Conc. Pt. (lbs)   | L    | 05-01-10 | 05-01-10 | 607       | 303       |           |           | n/a   |

## Controls Summary

|                  | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 3,289 ft-lbs    | 38,727 ft-lbs       | 8.5%                | 1         | 02-06-04 |
| End Shear        | 2,035 lbs       | 14,464 lbs          | 14.1%               | 1         | 01-07-14 |
| Total Load Defl. | L/999 (0.01")   | n/a                 | n/a                 | 4         | 03-00-06 |
| Live Load Defl.  | L/999 (0.007")  | n/a                 | n/a                 | 5         | 03-00-06 |
| Max Defl.        | 0.01"           | n/a                 | n/a                 | 4         | 03-00-06 |
| Span / Depth     | 4.9             | n/a                 | n/a                 |           | 00-00-00 |

## Bearing Supports

|               | Dim. (L x W) | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|---------------|--------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Wall/Plate | 8" x 3-1/2"  | 3,509 lbs | 23.5%                       | 10.3%                      | Unspecified |
| B1 Hanger     | 2" x 3-1/2"  | 2,961 lbs | n/a                         | 34.7%                      | HGUS410     |

## Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

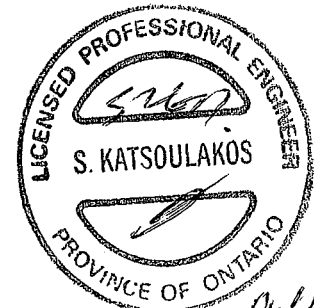
Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012



DWG NO. TAM 265B2-17  
STRUCTURAL  
COMPONENT ONLY

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B12(i3153)

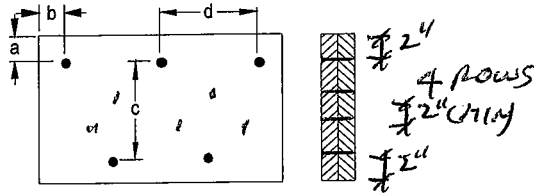
Specifier:

Designer:

Company:

Misc:

Connection Diagram



a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 6"

Calculated Side Load = 708.7 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL

Disclosure

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DWG NO. TAM26582-17  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor...B14(i3158)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 5, 2017 15:41:49

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

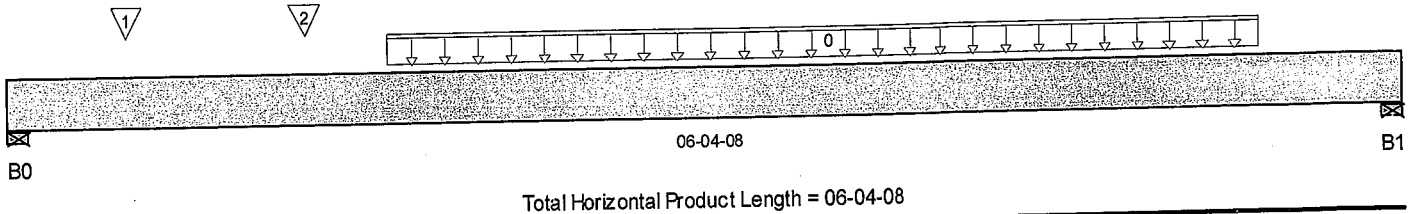
Description: Designs\Flush Beams\1st Floor\Flush Beams\B14(i3158)

Specifier:

Designer:

Company:

Misc:



## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live      | Dead    | Snow | Wind |
|------------|-----------|---------|------|------|
| B0, 5-1/2" | 1,522 / 0 | 801 / 0 |      |      |
| B1, 4-3/4" | 1,435 / 0 | 756 / 0 |      |      |

## Load Summary

| Tag | Description   | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|---------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | Smoothed Load | Unf. Lin. (lb/ft) | L    | 01-08-12 | 05-08-12 | 530          | 265          |              |              | n/a   |
| 1   | J3(i3174)     | Conc. Pt. (lbs)   | L    | 00-06-08 | 00-06-08 | 274          | 137          |              |              | n/a   |
| 2   | -             | Conc. Pt. (lbs)   | L    | 01-04-06 | 01-04-06 | 563          | 282          |              |              | n/a   |

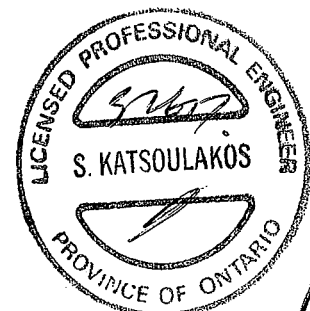
| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 4,564 ft-lbs    | 38,727 ft-lbs       | 11.8%               | 1         | 03-06-08 |
| End Shear        | 2,616 lbs       | 14,464 lbs          | 18.1%               | 1         | 04-11-14 |
| Total Load Defl. | L/999 (0.019")  | n/a                 | n/a                 | 4         | 03-02-12 |
| Live Load Defl.  | L/999 (0.012")  | n/a                 | n/a                 | 5         | 03-02-12 |
| Max Defl.        | 0.019"          | n/a                 | n/a                 | 4         | 03-02-12 |
| Span / Depth     | 5.7             | n/a                 | n/a                 |           | 00-00-00 |

| Bearing Supports | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|------------------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B0 Wall/Plate    | 5-1/2" x 3-1/2" | 3,283 lbs | 31.9%                       | 14%                        | Unspecified |
| B1 Wall/Plate    | 4-3/4" x 3-1/2" | 3,098 lbs | 34.9%                       | 15.3%                      | Unspecified |

## Notes

Design meets Code minimum (L/240) Total load deflection criteria.  
 Design meets Code minimum (L/360) Live load deflection criteria.  
 Calculations assume member is fully braced.  
 Resistance Factor phi has been applied to all presented results per CSA O86.  
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.  
 Design based on Dry Service Condition.  
 Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012



DWG NO. TAM2658317  
 STRUCTURAL  
 COMPONENT ONLY



BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B14(i3158)

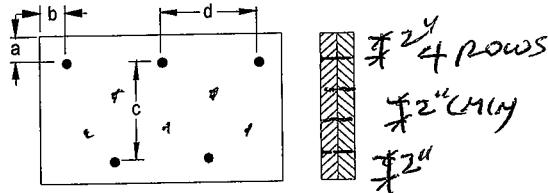
Specifier:

Designer:

Company:

Misc:

Connection Diagram



a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 6"

Calculated Side Load = 685.8 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

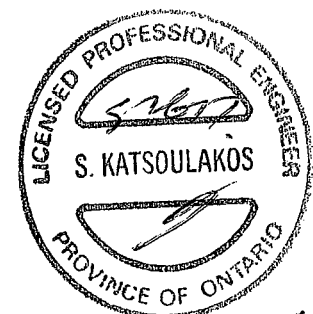
Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWG NO. TAM26583-17  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...B16(i3191)

Dry | 3 spans | Left cantilever | 0/12 slope (deg)

May5, 2017 15:41:49

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

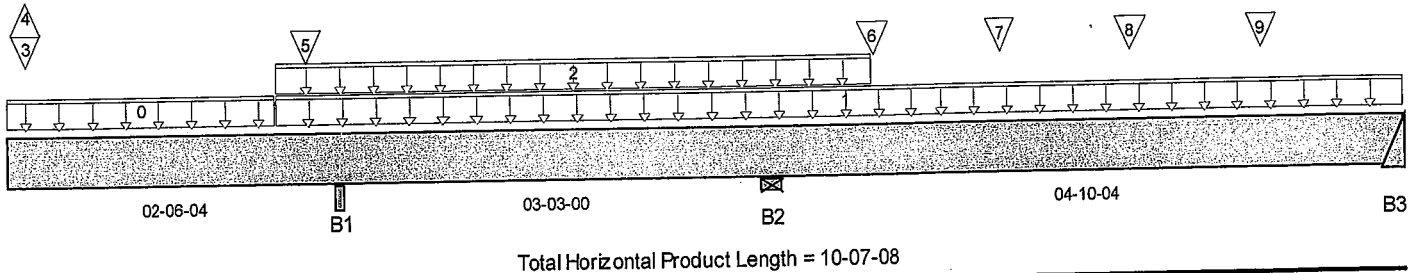
Description: Designs\Flush Beams\1st Floor\Flush Beams\B16(i3191)

Specifier:

Designer:

Company:

Misc:



## Reaction Summary (Down / Uplift) ( lbs )

| Bearing    | Live      | Dead    | Snow    | Wind |
|------------|-----------|---------|---------|------|
| B1, 3-1/2" | 681 / 225 | 479 / 0 | 967 / 0 |      |
| B2, 5-1/2" | 824 / 311 | 231 / 0 | 0 / 474 |      |
| B3         | 439 / 9   | 249 / 0 | 49 / 0  |      |

## Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live 1.00 | Dead 0.65 | Snow 1.00 | Wind 1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|-----------|-----------|-----------|-----------|-------|
| 0   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 02-00-08 | 26        | 13        | 47        |           | n/a   |
| 1   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 02-00-08 | 10-07-08 | 23        | 11        |           |           | n/a   |
| 2   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 02-00-08 | 06-06-08 | 6         | 3         |           |           | n/a   |
| 3   | B15(i3187)         | Conc. Pt. (lbs)   | L    | 00-01-12 | 00-01-12 | 281       | 180       | 420       |           | n/a   |
| 4   | B15(i3187)         | Conc. Pt. (lbs)   | L    | 00-01-12 | 00-01-12 | -54       |           |           |           | n/a   |
| 5   | E25(i3195)         | Conc. Pt. (lbs)   | L    | 02-03-04 | 02-03-04 |           | 71        | 27        |           | n/a   |
| 6   | J4(i3221)          | Conc. Pt. (lbs)   | L    | 06-06-08 | 06-06-08 | 205       | 103       |           |           | n/a   |
| 7   | J4(i3347)          | Conc. Pt. (lbs)   | L    | 07-06-08 | 07-06-08 | 218       | 109       |           |           | n/a   |
| 8   | J4(i3339)          | Conc. Pt. (lbs)   | L    | 08-06-08 | 08-06-08 | 218       | 109       |           |           | n/a   |
| 9   | J4(i3298)          | Conc. Pt. (lbs)   | L    | 09-06-08 | 09-06-08 | 243       | 122       |           |           | n/a   |

| Controls Summary | Factored Demand    | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|--------------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 1,314 ft-lbs       | 38,727 ft-lbs       | 3.4%                | 3         | 08-06-08 |
| Neg. Moment      | -2,754 ft-lbs      | -38,727 ft-lbs      | 7.1%                | 97        | 02-06-04 |
| End Shear        | 883 lbs            | 14,464 lbs          | 6.1%                | 3         | 09-05-10 |
| Cont. Shear      | 1,243 lbs          | 14,464 lbs          | 8.6%                | 97        | 01-04-10 |
| Uplift           | 658 lbs            | n/a                 | n/a                 | 144       | 05-09-04 |
| Total Load Defl. | 2xL/1,998 (0.017") | n/a                 | n/a                 | 243       | 00-00-00 |
| Live Load Defl.  | 2xL/1,998 (0.012") | n/a                 | n/a                 | 336       | 00-00-00 |
| Total Neg. Defl. | L/999 (-0.002")    | n/a                 | n/a                 | 198       | 03-11-01 |
| Max Defl.        | 0.004"             | n/a                 | n/a                 | 198       | 08-02-12 |
| Span / Depth     | 4.8                | n/a                 | n/a                 |           | 00-00-00 |

| Bearing Supports | Dim. (L x W) | Demand | Demand / Resistance Support | Demand / Resistance Member | Material |
|------------------|--------------|--------|-----------------------------|----------------------------|----------|
|------------------|--------------|--------|-----------------------------|----------------------------|----------|



DWG NO. TAM26584.17  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B16(i3191)

Dry | 3 spans | Left cantilever | 0/12 slope (deg)

May 5, 2017 15:41:49

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B16(i3191

Specifier:

Designer:

Company:

Misc:

|    |            |                 |           |       |       |             |
|----|------------|-----------------|-----------|-------|-------|-------------|
| B1 | Beam       | 3-1/2" x 3-1/2" | 2,390 lbs | 36.5% | 16%   | Unspecified |
| B2 | Wall/Plate | 5-1/2" x 3-1/2" | 1,525 lbs | 14.8% | 6.5%  | Unspecified |
| B3 | Hanger     | 2" x 3-1/2"     | 995 lbs   | n/a   | 11.7% | HGUS4 10    |

## Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

## Cautions

Uplift of 658 lbs found at span 2 - Right.

Uplift of 658 lbs found at span 3 - Left.

*Handwritten note: (SIMPSON 1-4254 @ ST-B2)*

## Notes

Design meets User specified (2xL/240) Total load deflection criteria.

Design meets User specified (2xL/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

**CONFORMS TO OBC 2012**

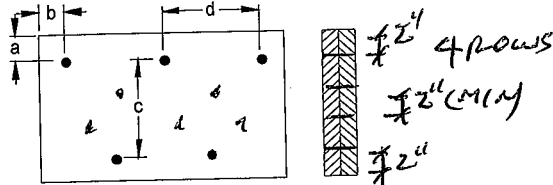
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

## Connection Diagram



a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 6"

Calculated Side Load = 176.9 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 3/4" ARDOX SPIRAL

*Handwritten note: 3/4" ARDOX SPIRAL*



*Handwritten note: 1026*  
DWG NO. TAM26584.19  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B17(i3186)

Dry | 3 spans | Left cantilever | 0/12 slope (deg)

May 5, 2017 15:41:49

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

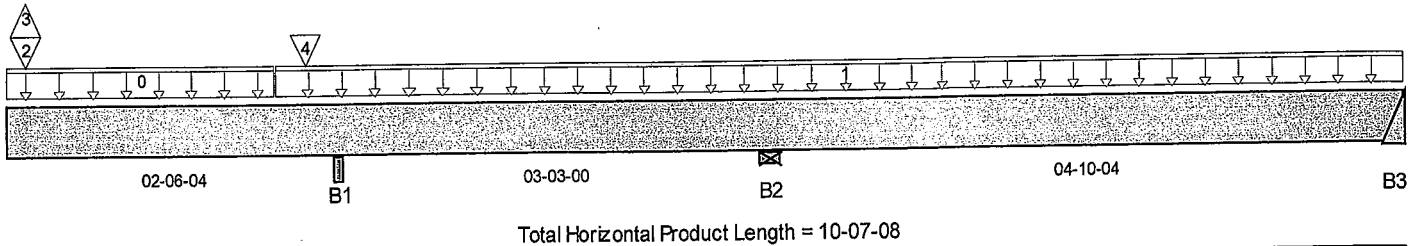
Description: Designs\Flush Beams\1st Floor\Flush Beams\B17(i3186)

Specifier:

Designer:

Company:

Misc:



## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live      | Dead    | Snow    | Wind |
|------------|-----------|---------|---------|------|
| B1, 3-1/2" | 678 / 122 | 508 / 0 | 955 / 0 |      |
| B2, 5-1/2" | 202 / 315 | 0 / 80  | 0 / 478 |      |
| B3         | 93 / 9    | 75 / 0  | 49 / 0  |      |

## Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 02-00-08 | 17           | 9            | 31           |              | n/a   |
| 1   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 02-00-08 | 10-07-08 | 28           | 14           |              |              | n/a   |
| 2   | B15(i3187)         | Conc. Pt. (lbs)   | L    | 00-01-12 | 00-01-12 | 296          | 185          | 444          |              | n/a   |
| 3   | B15(i3187)         | Conc. Pt. (lbs)   | L    | 00-01-12 | 00-01-12 | -57          |              |              |              | n/a   |
| 4   | E20(i1323)         | Conc. Pt. (lbs)   | L    | 02-03-04 | 02-03-04 | 9            | 51           | 19           |              | n/a   |

## Controls Summary

|                  | Factored Demand    | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|--------------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 489 ft-lbs         | 38,727 ft-lbs       | 1.3%                | 104       | 05-09-04 |
| Neg. Moment      | -2,765 ft-lbs      | -38,727 ft-lbs      | 7.1%                | 97        | 02-06-04 |
| End Shear        | 171 lbs            | 14,464 lbs          | 1.2%                | 3         | 09-05-10 |
| Cont. Shear      | 1,224 lbs          | 14,464 lbs          | 8.5%                | 97        | 01-04-10 |
| Uplift           | 973 lbs            | n/a                 | n/a                 | 104       | 05-09-04 |
| Total Load Defl. | 2xL/1,998 (0.016") | n/a                 | n/a                 | 243       | 00-00-00 |
| Live Load Defl.  | 2xL/1,998 (0.012") | n/a                 | n/a                 | 336       | 00-00-00 |
| Total Neg. Defl. | L/999 (-0.002")    | n/a                 | n/a                 | 243       | 03-09-10 |
| Max Defl.        | -0.002"            | n/a                 | n/a                 | 243       | 03-09-10 |
| Span / Depth     | 4.8                | n/a                 | n/a                 |           | 00-00-00 |

## Bearing Supports

|               | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|---------------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B1 Beam       | 3-1/2" x 3-1/2" | 2,407 lbs | 36.8%                       | 16.1%                      | Unspecified |
| B2 Wall/Plate | 5-1/2" x 3-1/2" | 973 lbs   | 9.5%                        | 4.1%                       | Unspecified |
| B3 Hanger     | 2" x 3-1/2"     | 258 lbs   | n/a                         | 3%                         | HGUS4 10    |

## Cautions

Uplift of 973 lbs found at span 2 - Right.) - (SIMPSON 2-HZ-SA @ 0.32)  
Uplift of 973 lbs found at span 3 - Left.

## Notes

Page 1 of 2



DWG NO. TAM 2658517  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor...B17(i3186)

Dry | 3 spans | Left cantilever | 0/12 slope (deg)

May 5, 2017 15:41:49

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B17(i3186)

Specifier:

Designer:

Company:

Msc:

Design meets User specified (2xL/240) Total load deflection criteria.

Design meets User specified (2xL/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

**CONFORMS TO OBC 2012**

Unbalanced snow loads determined from building geometry were used in selected products verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

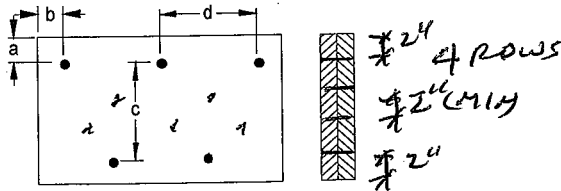
Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

## Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

## Connection Diagram



a minimum = 2" c = 7-7/8"

b minimum = 3" d = 6"

Calculated Side Load = 90.3 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 3/4" x 1/4" Nails

3 1/2" ARDOX SPIRAL



DWG NO. TAM2658517  
STRUCTURAL  
COMPONENT ONLY





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor...B18(i3155)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 5, 2017 15:41:50

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

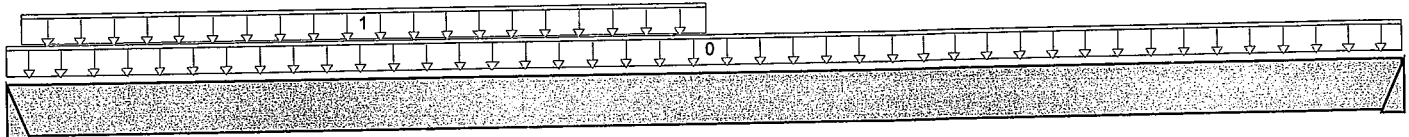
Description: Designs\Flush Beams\1st Floor\Flush Beams\B18(i3155)

Specifier:

Designer:

Company:

Misc:



08-02-04

B1

B0

Total Horizontal Product Length = 08-02-04

## Reaction Summary (Down / Uplift) (lbs)

| Bearing | Live    | Dead    | Snow | Wind |
|---------|---------|---------|------|------|
| B0      | 790 / 0 | 444 / 0 |      |      |
| B1      | 306 / 0 | 202 / 0 |      |      |

## Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 08-02-04 | 17           | 8            |              |              | n/a   |
| 1   | User Load          | Unf. Lin. (lb/ft) | L    | 00-01-00 | 04-01-00 | 240          | 120          |              |              | n/a   |

| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 2,654 ft-lbs    | 38,727 ft-lbs       | 6.9%                | 1         | 03-02-00 |
| End Shear        | 1,135 lbs       | 14,464 lbs          | 7.8%                | 1         | 01-01-14 |
| Total Load Defl. | L/999 (0.02")   | n/a                 | n/a                 | 4         | 03-09-11 |
| Live Load Defl.  | L/999 (0.013")  | n/a                 | n/a                 | 5         | 03-09-11 |
| Max Defl.        | 0.02"           | n/a                 | n/a                 | 4         | 03-09-11 |
| Span / Depth     | 8.1             | n/a                 | n/a                 |           | 00-00-00 |

| Bearing Supports | Dim. (L x W) | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material |
|------------------|--------------|-----------|-----------------------------|----------------------------|----------|
| B0 Hanger        | 2" x 3-1/2"  | 1,741 lbs | n/a                         | 20.4%                      | HGUS410  |
| B1 Hanger        | 2" x 3-1/2"  | 713 lbs   | n/a                         | 8.3%                       | HGUS410  |

## Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO OBC 2012



DWG NO. TAM26586-17  
STRUCTURAL  
COMPONENT ONLY



BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B18(i3155)

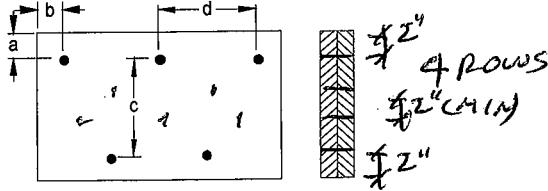
Specifier:

Designer:

Company:

Misc:

### Connection Diagram



a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 6"

Member has no side loads.

Connectors are: 16d <sup>1</sup>/<sub>2</sub>" Nails

3 1/2" ARDOX SPIRAL

### Disclosure

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DWG NO. YAM26586.17  
STRUCTURAL  
COMPONENT ONLY

## BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: YORK2.mmdl

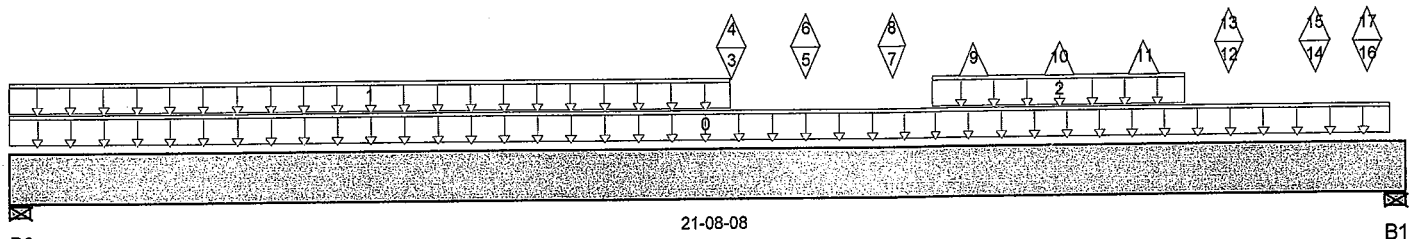
Description: Designs\Flush Beams\1st Floor\Flush Beams\B19(i3188)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 21-08-08

## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live        | Dead    | Snow    | Wind |
|------------|-------------|---------|---------|------|
| B0, 5-1/2" | 704 / 47    | 493 / 0 | 2 / 75  |      |
| B1, 5-1/2" | 1,037 / 142 | 721 / 0 | 7 / 226 |      |

## Load Summary

| Tag Description      | Load Type         | Ref. | Start    | End      | Live 1.00 | Dead 0.65 | Snow 1.00 | Wind 1.15 | Trib. |
|----------------------|-------------------|------|----------|----------|-----------|-----------|-----------|-----------|-------|
| 0 FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 21-05-12 | 9         | 4         |           |           | n/a   |
| 1 FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 11-01-12 | 25        | 12        |           |           | n/a   |
| 2 Smoothed Load      | Unf. Lin. (lb/ft) | L    | 14-03-08 | 18-03-08 | 88        | 42        | 1         |           | n/a   |
| 3 B16(i3191)         | Conc. Pt. (lbs)   | L    | 11-01-12 | 11-01-12 | 431       | 245       | -150      |           | n/a   |
| 4 B16(i3191)         | Conc. Pt. (lbs)   | L    | 11-01-12 | 11-01-12 | -80       |           |           |           | n/a   |
| 5 J4(i3189)          | Conc. Pt. (lbs)   | L    | 12-03-08 | 12-03-08 | 109       | 53        | 1         |           | n/a   |
| 6 J4(i3189)          | Conc. Pt. (lbs)   | L    | 12-03-08 | 12-03-08 | -4        |           |           |           | n/a   |
| 7 J4(i3185)          | Conc. Pt. (lbs)   | L    | 13-07-08 | 13-07-08 | 118       | 56        | 2         |           | n/a   |
| 8 J4(i3185)          | Conc. Pt. (lbs)   | L    | 13-07-08 | 13-07-08 | -4        |           |           |           | n/a   |
| 9 J4(i3190)          | Conc. Pt. (lbs)   | L    | 14-11-08 | 14-11-08 | -4        |           |           |           | n/a   |
| 10 J4(i3192)         | Conc. Pt. (lbs)   | L    | 16-03-08 | 16-03-08 | -4        |           |           |           | n/a   |
| 11 J4(i3194)         | Conc. Pt. (lbs)   | L    | 17-07-08 | 17-07-08 | -4        |           |           |           | n/a   |
| 12 J4(i3181)         | Conc. Pt. (lbs)   | L    | 18-11-08 | 18-11-08 | 118       | 56        | 2         |           | n/a   |
| 13 J4(i3181)         | Conc. Pt. (lbs)   | L    | 18-11-08 | 18-11-08 | -4        |           |           |           | n/a   |
| 14 J4(i3184)         | Conc. Pt. (lbs)   | L    | 20-03-08 | 20-03-08 | 90        | 43        | 1         |           | n/a   |
| 15 J4(i3184)         | Conc. Pt. (lbs)   | L    | 20-03-08 | 20-03-08 | -4        |           |           |           | n/a   |
| 16 -                 | Conc. Pt. (lbs)   | L    | 21-01-06 | 21-01-06 | 60        | 100       | -151      |           | n/a   |
| 17 -                 | Conc. Pt. (lbs)   | L    | 21-01-06 | 21-01-06 | -81       |           |           |           | n/a   |

| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 12,664 ft-lbs   | 38,727 ft-lbs       | 32.7%               | 9         | 11-01-12 |
| End Shear        | 2,233 lbs       | 14,464 lbs          | 15.4%               | 9         | 20-03-02 |
| Total Load Defl. | L/372 (0.674")  | 1.046"              | 64.5%               | 116       | 11-01-12 |
| Live Load Defl.  | L/613 (0.41")   | 0.697"              | 58.8%               | 168       | 11-01-12 |
| Max Defl.        | 0.674"          | n/a                 | n/a                 | 116       | 11-01-12 |
| Span / Depth     | 21.1            | n/a                 | n/a                 |           | 00-00-00 |

| Bearing Supports | Dim. (L x W) | Demand | Demand / Resistance Support | Demand / Resistance Member | Material |
|------------------|--------------|--------|-----------------------------|----------------------------|----------|
|------------------|--------------|--------|-----------------------------|----------------------------|----------|



DWG NO. TAM 2658217  
STRUCTURAL  
COMPONENT ONLY

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK2.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B19(i3188)

Specifier:

Designer:

Company:

Misc:

|    |            |                 |           |       |       |             |
|----|------------|-----------------|-----------|-------|-------|-------------|
| B0 | Wall/Plate | 5-1/2" x 3-1/2" | 1,673 lbs | 16.3% | 7.1%  | Unspecified |
| B1 | Wall/Plate | 5-1/2" x 3-1/2" | 2,459 lbs | 23.9% | 10.5% | Unspecified |

Disclosure

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Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

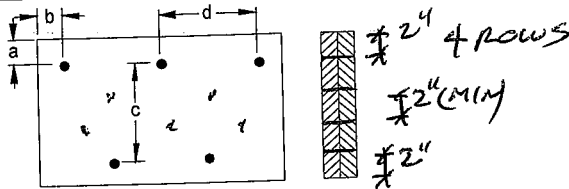
CONFORMS TO OBC 2012

Unbalanced snow loads determined from building geometry were used in selected products verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection Diagram



a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 6"

Calculated Side Load = 102.1 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: Nails

3 1/2" ARDOX SPIRAL



DWG NO. YAM 26587-17  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B16(i4355)

Dry | 3 spans | Left cantilever | 0/12 slope (deg)

May 8, 2017 08:12:11

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK2 ELEV.B.mmdl

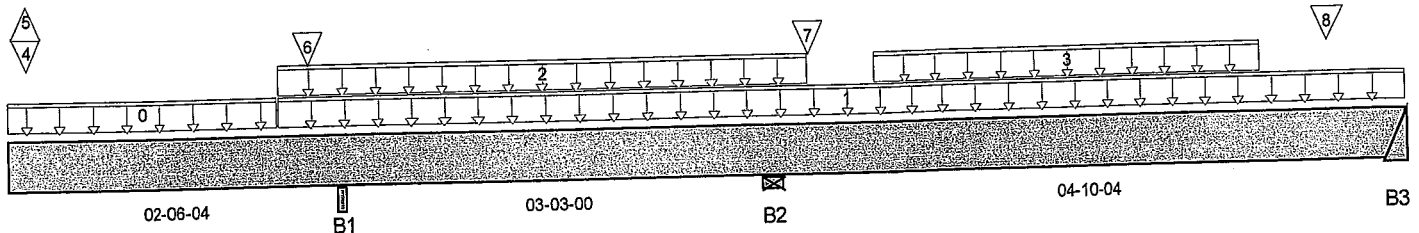
Description: Designs\Flush Beams\1st Floor\Flush Beams\B16(i4355)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 10-07-08

## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live    | Dead  | Snow    | Wind |
|------------|---------|-------|---------|------|
| B1, 3-1/2" | 723/220 | 510/0 | 1,066/0 |      |
| B2, 5-1/2" | 875/326 | 249/0 | 0/510   |      |
| B3         | 499/9   | 278/0 | 53/0    |      |

## Load Summary

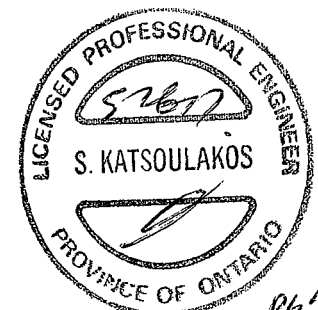
| Tag | Description        | Load Type         | Ref. | Start    | End      | Live 1.00 | Dead 0.65 | Snow 1.00 | Wind 1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|-----------|-----------|-----------|-----------|-------|
| 0   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 02-00-08 | 26        | 13        | 47        |           | n/a   |
| 1   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 02-00-08 | 10-07-08 | 23        | 11        |           |           | n/a   |
| 2   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 02-00-08 | 06-00-08 | 6         | 3         |           |           | n/a   |
| 3   | Smoothed Load      | Unf. Lin. (lb/ft) | L    | 06-06-08 | 09-06-08 | 218       | 109       |           |           | n/a   |
| 4   | B15(i4354)         | Conc. Pt. (lbs)   | L    | 00-01-12 | 00-01-12 | 295       | 187       | 453       |           | n/a   |
| 5   | B15(i4354)         | Conc. Pt. (lbs)   | L    | 00-01-12 | 00-01-12 | -52       |           |           |           | n/a   |
| 6   | E25(i3195)         | Conc. Pt. (lbs)   | L    | 02-03-04 | 02-03-04 | 27        | 86        | 61        |           | n/a   |
| 7   | J4(i4448)          | Conc. Pt. (lbs)   | L    | 06-00-08 | 06-00-08 | 157       | 79        |           |           | n/a   |
| 8   | J4(i4543)          | Conc. Pt. (lbs)   | L    | 10-00-08 | 10-00-08 | 189       | 94        |           |           | n/a   |

## Controls Summary

|                  | Factored Demand    | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|--------------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 1,304 ft-lbs       | 38,727 ft-lbs       | 3.4%                | 3         | 08-00-08 |
| Neg. Moment      | -2,928 ft-lbs      | -38,727 ft-lbs      | 7.6%                | 97        | 02-06-04 |
| End Shear        | 816 lbs            | 14,464 lbs          | 5.6%                | 3         | 09-05-10 |
| Cont. Shear      | 1,317 lbs          | 14,464 lbs          | 9.1%                | 97        | 01-04-10 |
| Uplift           | 703 lbs            | n/a                 | n/a                 | 144       | 05-09-04 |
| Total Load Defl. | 2xL/1,998 (0.018") | n/a                 | n/a                 | 243       | 00-00-00 |
| Live Load Defl.  | 2xL/1,998 (0.013") | n/a                 | n/a                 | 336       | 00-00-00 |
| Total Neg. Defl. | L/999 (-0.003")    | n/a                 | n/a                 | 243       | 03-10-05 |
| Max Defl.        | 0.004"             | n/a                 | n/a                 | 198       | 08-02-00 |
| Span / Depth     | 4.8                | n/a                 | n/a                 |           | 00-00-00 |

## Bearing Supports

| Dim. (L x W) | Demand | Demand / Resistance Support | Demand / Resistance Member | Material |
|--------------|--------|-----------------------------|----------------------------|----------|
|--------------|--------|-----------------------------|----------------------------|----------|



DWG NO. TAM 26500-17  
STRUCTURAL  
COMPONENT ONLY

BC CALC® Design Report



Build 5033  
Job Name:  
Address:  
City, Province, Postal Code: BRAMPTON,  
Customer:  
Code reports: CCMC 12472-R

File Name: YORK2 ELEVB.mmdl  
Description: Designs\Flush Beams\1st Floor\Flush Beams\B16(i4355)  
Specifier:  
Designer:  
Company:  
Msc:

|    |            |                 |           |       |       |             |
|----|------------|-----------------|-----------|-------|-------|-------------|
| B1 | Beam       | 3-1/2" x 3-1/2" | 2,598 lbs | 39.7% | 17.4% | Unspecified |
| B2 | Wall/Plate | 5-1/2" x 3-1/2" | 1,624 lbs | 15.8% | 6.9%  | Unspecified |
| B3 | Hanger     | 2" x 3-1/2"     | 1,122 lbs | n/a   | 13.1% | HGUS4 10    |

**Cautions**

Uplift of 703 lbs found at span 2 - Right.  
Uplift of 703 lbs found at span 3 - Left.

) - (SIMPSON 1-H254 @ 07.32)

**Notes**

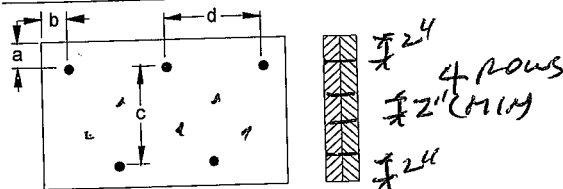
Design meets User specified (2xL/240) Total load deflection criteria.  
Design meets User specified (2xL/360) Live load deflection criteria.  
Calculations assume member is fully braced.  
Hanger Manufacturer: Unassigned  
Resistance Factor phi has been applied to all presented results per CSA O86.  
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.  
Unbalanced snow loads determined from building geometry were used in selected product's verification.  
Design based on Dry Service Condition.  
Importance Factor : Normal Part code : Part 9  
Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

**Disclosure**

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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**Connection Diagram**

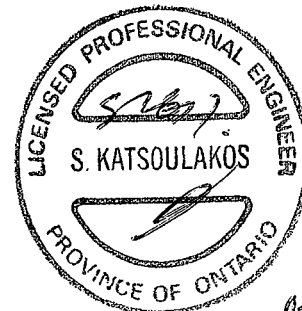


a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 6"

Calculated Side Load = 200.0 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: Nails  
3 1/2" ARDOX SPIRAL



DWG NO. TAM 1650017  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B17(i4353)

Dry | 3 spans | Left cantilever | 0/12 slope (deg)

May 8, 2017 08:12:12

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2 ELEV B.mmdl

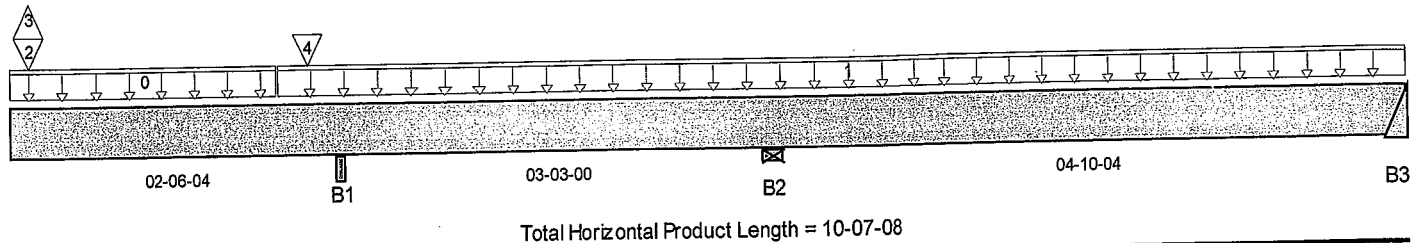
Description: Designs\Flush Beams\1st Floor\Flush Beams\B17(i4353)

Specifier:

Designer:

Company:

Misc:



## Reaction Summary (Down / Uplift) ( lbs )

| Bearing    | Live      | Dead    | Snow      | Wind |
|------------|-----------|---------|-----------|------|
| B1, 3-1/2" | 720 / 118 | 531 / 0 | 1,048 / 0 |      |
| B2, 5-1/2" | 200 / 332 | 0 / 87  | 0 / 514   |      |
| B3         | 95 / 9    | 76 / 0  | 53 / 0    |      |

## Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live 1.00 | Dead 0.65 | Snow 1.00 | Wind 1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|-----------|-----------|-----------|-----------|-------|
| 0   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 02-00-08 | 17        | 9         | 31        |           | n/a   |
| 1   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 02-00-08 | 10-07-08 | 28        | 14        |           |           | n/a   |
| 2   | B15(i4354)         | Conc. Pt. (lbs)   | L    | 00-01-12 | 00-01-12 | 312       | 191       | 479       |           | n/a   |
| 3   | B15(i4354)         | Conc. Pt. (lbs)   | L    | 00-01-12 | 00-01-12 | -55       |           |           |           | n/a   |
| 4   | E20(i1323)         | Conc. Pt. (lbs)   | L    | 02-03-04 | 02-03-04 | 20        | 62        | 44        |           | n/a   |

## Controls Summary

|                  | Factored Demand    | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|--------------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 525 ft-lbs         | 38,727 ft-lbs       | 1.4%                | 104       | 05-09-04 |
| Neg. Moment      | -2,940 ft-lbs      | -38,727 ft-lbs      | 7.6%                | 97        | 02-06-04 |
| End Shear        | 176 lbs            | 14,464 lbs          | 1.2%                | 3         | 09-05-10 |
| Cont. Shear      | 1,298 lbs          | 14,464 lbs          | 9%                  | 97        | 01-04-10 |
| Uplift           | 1,046 lbs          | n/a                 | n/a                 | 104       | 05-09-04 |
| Total Load Defl. | 2xL/1,998 (0.017") | n/a                 | n/a                 | 243       | 00-00-00 |
| Live Load Defl.  | 2xL/1,998 (0.013") | n/a                 | n/a                 | 336       | 00-00-00 |
| Total Neg. Defl. | L/999 (-0.002")    | n/a                 | n/a                 | 243       | 03-09-10 |
| Max Defl.        | -0.002"            | n/a                 | n/a                 | 243       | 03-09-10 |
| Span / Depth     | 4.8                | n/a                 | n/a                 |           | 00-00-00 |

## Bearing Supports

|               | Dim. (L x W)    | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|---------------|-----------------|-----------|-----------------------------|----------------------------|-------------|
| B1 Beam       | 3-1/2" x 3-1/2" | 2,597 lbs | 39.7%                       | 17.4%                      | Unspecified |
| B2 Wall/Plate | 5-1/2" x 3-1/2" | 1,046 lbs | 10.2%                       | 4.5%                       | Unspecified |
| B3 Hanger     | 2" x 3-1/2"     | 263 lbs   | n/a                         | 3.1%                       | HGUS410     |

## Cautions

Uplift of 1,046 lbs found at span 2 - Right.  
Uplift of 1,046 lbs found at span 3 - Left.

)- (SIMPSON 242-SA C (T-32)

## Notes

Page 1 of 2



DWG NO. TAM2658917  
STRUCTURAL  
COMPONENT ONLY

BC CALC® Design Report



Build 5033

**Job Name:**

Address:

City, Province, Postal Code:BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2 ELEV B.mxd

Description: Designs\Flush Beams\1st Floor\Flush Beams\B17(i43)

**Specifier:**

Designer:

Company:

**Misc:**

Design meets User specified (2xL/240) Total load deflection criteria.

Design meets User specified ( $2xL/360$ ) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor  $\phi$  has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

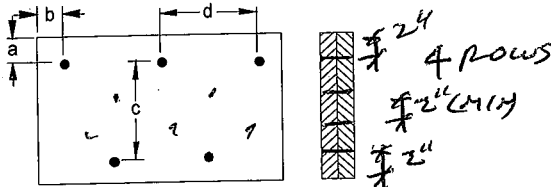
Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor : Normal      Part code : Part 9

Cantilevers require sheathed bottom flanges, blocking at cantilever support and closure at ends.

### Connection Diagram



a minimum = 2"      c = 7-7/8"  
b minimum = 3"      d = ~~20'~~ 6"

Calculated Side Load = 97.0 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 3d Nails, 3d Nails

3 1/2" ARDOX SPIRAL

## Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALCO®, BC FRAMER®, AJS™,  
ALLJOIST®, BC RIM BOARD™, BC®,  
BOISE GLULAM™, SIMPLE FRAMING  
SYSTEM®, VERSA-LAM®, VERSA-RIM  
PLUS®, VERSA-RIM®,  
VERSA-STRAND®, VERSA-STUD® are  
trademarks of Boise Cascade Wood  
Products L.L.C.



DWG NO. TAM26509-17  
 STRUCTURAL  
 COMPONENT ONLY





# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B19(i4352)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 8, 2017 08:12:12

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2 ELEV.B.mmdl

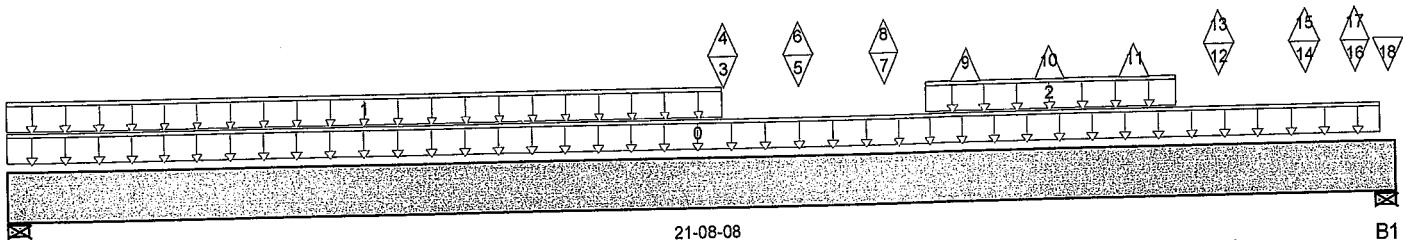
Description: Designs\Flush Beams\1st Floor\Flush Beams\B19(i4352)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 21-08-08

## Reaction Summary (Down / Uplift) (lbs)

| Bearing    | Live        | Dead    | Snow    | Wind |
|------------|-------------|---------|---------|------|
| B0, 5-1/2" | 646 / 49    | 464 / 0 | 3 / 81  |      |
| B1, 5-1/2" | 1,039 / 150 | 692 / 0 | 8 / 245 |      |

## Load Summary

| Tag | Description        | Load Type         | Ref. | Start    | End      | Live 1.00 | Dead 0.65 | Snow 1.00 | Wind 1.15 | Trib. |
|-----|--------------------|-------------------|------|----------|----------|-----------|-----------|-----------|-----------|-------|
| 0   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 21-05-12 | 9         | 4         |           |           | n/a   |
| 1   | FC3 Floor Material | Unf. Lin. (lb/ft) | L    | 00-00-00 | 11-01-12 | 15        | 7         |           |           | n/a   |
| 2   | Smoothed Load      | Unf. Lin. (lb/ft) | L    | 14-03-08 | 18-03-08 | 88        | 42        | 1         |           | n/a   |
| 3   | B16(i4355)         | Conc. Pt. (lbs)   | L    | 11-01-12 | 11-01-12 | 485       | 271       | -162      |           | n/a   |
| 4   | B16(i4355)         | Conc. Pt. (lbs)   | L    | 11-01-12 | 11-01-12 | -85       |           |           |           | n/a   |
| 5   | J4(i4358)          | Conc. Pt. (lbs)   | L    | 12-03-08 | 12-03-08 | 109       | 53        | 1         |           | n/a   |
| 6   | J4(i4358)          | Conc. Pt. (lbs)   | L    | 12-03-08 | 12-03-08 | -4        |           |           |           | n/a   |
| 7   | J4 DJ (i4357)      | Conc. Pt. (lbs)   | L    | 13-07-08 | 13-07-08 | 118       | 56        | 3         |           | n/a   |
| 8   | J4 DJ (i4357)      | Conc. Pt. (lbs)   | L    | 13-07-08 | 13-07-08 | -4        |           |           |           | n/a   |
| 9   | J4(i4555)          | Conc. Pt. (lbs)   | L    | 14-11-08 | 14-11-08 | -4        |           |           |           | n/a   |
| 10  | J4(i4412)          | Conc. Pt. (lbs)   | L    | 16-03-08 | 16-03-08 | -4        |           |           |           | n/a   |
| 11  | J4(i4486)          | Conc. Pt. (lbs)   | L    | 17-07-08 | 17-07-08 | -4        |           |           |           | n/a   |
| 12  | J4 DJ (i4392)      | Conc. Pt. (lbs)   | L    | 18-11-08 | 18-11-08 | 118       | 56        | 3         |           | n/a   |
| 13  | J4 DJ (i4392)      | Conc. Pt. (lbs)   | L    | 18-11-08 | 18-11-08 | -4        |           |           |           | n/a   |
| 14  | J4(i4356)          | Conc. Pt. (lbs)   | L    | 20-03-08 | 20-03-08 | 91        | 44        | 1         |           | n/a   |
| 15  | J4(i4356)          | Conc. Pt. (lbs)   | L    | 20-03-08 | 20-03-08 | -3        |           |           |           | n/a   |
| 16  | -                  | Conc. Pt. (lbs)   | L    | 21-01-00 | 21-01-00 | 60        | 61        | -164      |           | n/a   |
| 17  | -                  | Conc. Pt. (lbs)   | L    | 21-01-00 | 21-01-00 | -87       |           |           |           | n/a   |
| 18  | FC3 Floor Material | Conc. Pt. (lbs)   | L    | 21-07-02 | 21-07-02 |           | 10        |           |           | n/a   |

| Controls Summary | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 12,656 ft-lbs   | 38,727 ft-lbs       | 32.7%               | 9         | 11-01-12 |
| End Shear        | 2,226 lbs       | 14,464 lbs          | 15.4%               | 9         | 20-03-02 |
| Total Load Defl. | L/377 (0.667")  | 1.046"              | 63.7%               | 116       | 11-01-12 |
| Live Load Defl.  | L/619 (0.405")  | 0.697"              | 58.1%               | 168       | 11-01-12 |
| Max Defl.        | 0.667"          | n/a                 | n/a                 | 116       | 11-01-12 |
| Span / Depth     | 21.1            | n/a                 | n/a                 |           | 00-00-00 |



DWG NO. TAM 26590-17  
STRUCTURAL  
COMPONENT ONLY

**BC CALC® Design Report**


Build 5033  
 Job Name:  
 Address:  
 City, Province, Postal Code: BRAMPTON,  
 Customer:  
 Code reports: CCMC 12472-R

File Name: YORK2 ELEV.B.mmdl  
 Description: Designs\Flush Beams\1st Floor\Flush Beams\B19(i4352)  
 Specifier:  
 Designer:  
 Company:  
 Misc:

|                         |            | Dim. (L x W)    | Demand    | Demand/<br>Resistance<br>Support | Demand/<br>Resistance<br>Member | Material    |
|-------------------------|------------|-----------------|-----------|----------------------------------|---------------------------------|-------------|
| <b>Bearing Supports</b> |            |                 |           |                                  |                                 |             |
| B0                      | Wall/Plate | 5-1/2" x 3-1/2" | 1,550 lbs | 15.1%                            | 6.6%                            | Unspecified |
| B1                      | Wall/Plate | 5-1/2" x 3-1/2" | 2,428 lbs | 23.6%                            | 10.3%                           | Unspecified |

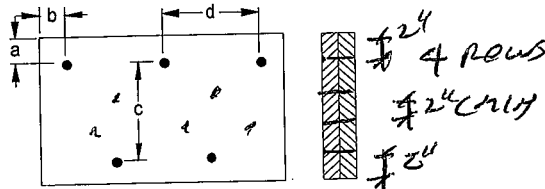
**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.  
 Design meets Code minimum (L/360) Live load deflection criteria.  
 Calculations assume member is fully braced.  
 Resistance Factor phi has been applied to all presented results per CSA O86.  
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.  
**CONFORMS TO OBC 2012**  
 Unbalanced snow loads determined from building geometry were used in selected product's verification.  
 Design based on Dry Service Condition.  
 Importance Factor: Normal Part code: Part 9

**Disclosure**

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods.  
 Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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**Connection Diagram**


a minimum = 2" c = 7-7/8"  
 b minimum = 3" d = 6"

Calculated Side Load = 103.4 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 3-1/4" Automatic Gun Nails

**3 1/2" ARDOX SPIRAL**



DWG NO. YAM 26590-17  
**STRUCTURAL COMPONENT ONLY**



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B20(i4568)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May8, 2017 08:12:12

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2 ELEV.B.mmdl

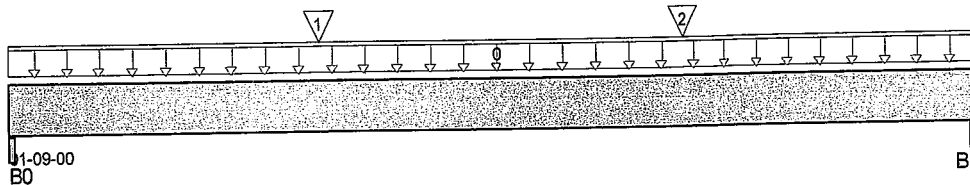
Description: Designs\Flush Beams\1st Floor\Flush Beams\B20(i4568)

Specifier:

Designer:

Company:

Msc:



Total Horizontal Product Length = 01-09-00

## Reaction Summary (Down / Uplift) (lbs)

| Bearing | Live    | Dead    | Snow   | Wind |
|---------|---------|---------|--------|------|
| B0, 5"  | 169 / 0 | 368 / 0 | 63 / 0 |      |
| B1, 5"  | 208 / 0 | 243 / 0 | 63 / 0 |      |

## Load Summary

| Tag | Description | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|-------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | User Load   | Unf. Lin. (lb/ft) | L    | 00-00-00 | 01-09-00 | 34           | 115          | 72           |              | n/a   |
| 1   | -           | Conc. Pt. (lbs)   | L    | 00-06-11 | 00-06-11 | 134          | 298          |              |              | n/a   |
| 2   | J4(i4365)   | Conc. Pt. (lbs)   | L    | 01-02-08 | 01-02-08 | 183          | 91           |              |              | n/a   |

## Controls Summary

|              | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|--------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment  | 88 ft-lbs       | 25,173 ft-lbs       | 0.3%                | 0         | 00-07-00 |
| End Shear    | 110 lbs         | 14,464 lbs          | 0.8%                | 13        | 00-04-02 |
| Span / Depth | 1.1             | n/a                 | n/a                 |           | 00-00-00 |

## Bearing Supports

|         | Dim. (L x W) | Demand  | Demand / Resistance Support | Demand / Resistance Member | Material    |
|---------|--------------|---------|-----------------------------|----------------------------|-------------|
| B0 Beam | 5" x 3-1/2"  | 515 lbs | 8.5%                        | 3.7%                       | Unspecified |
| B1 Beam | 5" x 3-1/2"  | 648 lbs | 6.9%                        | 3%                         | Unspecified |

## Notes

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

CONFORMS TO OBC 2012

Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



DWG NO. TAM26591-17  
STRUCTURAL  
COMPONENT ONLY

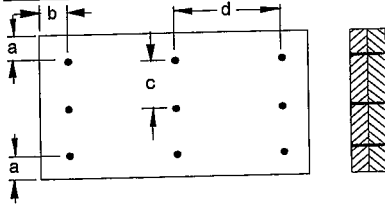
BC CALC® Design Report



Build 5033  
Job Name:  
Address:  
City, Province, Postal Code: BRAMPTON,  
Customer:  
Code reports: CCMC 12472-R

File Name: YORK 2 ELEV B.mmdl  
Description: Designs\Flush Beams\1st Floor\Flush Beams\B20(i4568)  
Specifier:  
Designer:  
Company:  
Misc:

Connection Diagram



a minimum = 2" c = 3-15/16"  
b minimum = 3" d = 6"

Calculated Side Load = 532.4 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

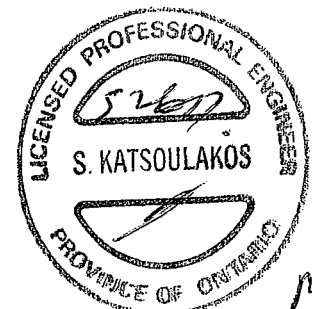
Connectors are: 16d <sup>5/16"</sup> Nails

<sup>3/2"</sup> ARDOX SPIRAL

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWG NO. TAM 2659/11  
STRUCTURAL  
COMPONENT ONLY

**BC CALC® Design Report**


Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: YORK 2 ELEV B.mmdl

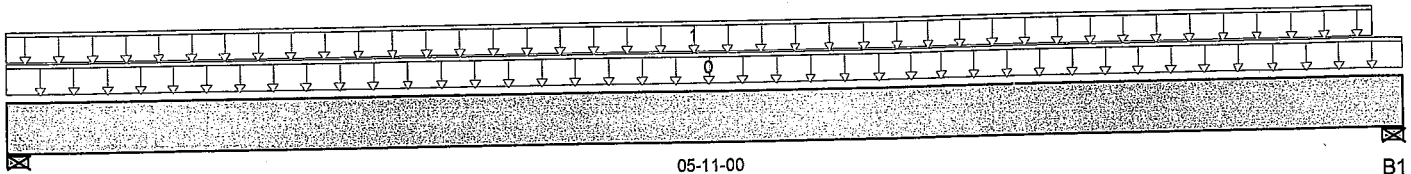
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B10

Specifier:

Designer:

Company:

Misc:



B0

B1

Total Horizontal Product Length = 05-11-00

**Reaction Summary (Down / Uplift) ( lbs )**

| Bearing | Live      | Dead    | Snow    | Wind |
|---------|-----------|---------|---------|------|
| B0, 4"  | 1,257 / 0 | 968 / 0 | 337 / 0 |      |
| B1, 4"  | 1,122 / 0 | 901 / 0 | 337 / 0 |      |

**Load Summary**

| Tag | Description   | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|---------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | R1 (i4419)    | Unf. Lin. (lb/ft) | L    | 00-00-00 | 05-11-00 | 36           | 123          | 114          |              | n/a   |
| 1   | Smoothed Load | Unf. Lin. (lb/ft) | L    | 00-00-00 | 05-09-08 | 374          | 188          |              |              | n/a   |

**Controls Summary**

|                  | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 3,765 ft-lbs    | 25,408 ft-lbs       | 14.8%               | 1         | 03-03-08 |
| End Shear        | 2,185 lbs       | 11,571 lbs          | 18.9%               | 1         | 01-01-08 |
| Total Load Defl. | L/999 (0.029")  | n/a                 | n/a                 | 35        | 02-11-12 |
| Live Load Defl.  | L/999 (0.017")  | n/a                 | n/a                 | 51        | 02-11-12 |
| Max Defl.        | 0.029"          | n/a                 | n/a                 | 35        | 02-11-12 |
| Span / Depth     | 6.8             | n/a                 | n/a                 |           | 00-00-00 |

**Bearing Supports**

| Beaming Support |            |             |           |       |       |             |
|-----------------|------------|-------------|-----------|-------|-------|-------------|
| B0              | Wall/Plate | 4" x 3-1/2" | 3,264 lbs | 28.7% | 19.1% | Unspecified |
| B1              | Wall/Plate | 4" x 3-1/2" | 2,979 lbs | 26.2% | 17.4% | Unspecified |

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.  
 Design meets Code minimum (L/360) Live load deflection criteria.  
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.  
 Resistance Factor phi has been applied to all presented results per CSA O86.  
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.  
 Unbalanced snow loads determined from building geometry were used in selected product's verification.  
 Design based on Dry Service Condition.  
 Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012


 DWG NO. TAM26592-17  
 STRUCTURAL  
 COMPONENT ONLY

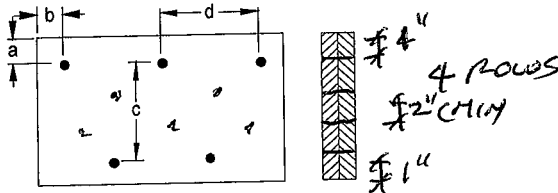
BC CALC® Design Report



Build 5033  
Job Name:  
Address:  
City, Province, Postal Code: BRAMPTON,  
Customer:  
Code reports: CCMC 12472-R

File Name: YORK 2 ELEV B.mmdl  
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B1  
Specifier:  
Designer:  
Company:  
Misc:

Connection Diagram



a minimum = 2" c = 3-1/2"  
b minimum = 3" d = 6"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.  
Member has no side loads.

Connectors are: 16d Common Nails

3 1/2" ARDOX SPIRAL

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.



NO. 2659217  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor...IB21 DR (i5517)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

May 19, 2017 08:35:51

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: YORK 2 ELEV.B.mmdl

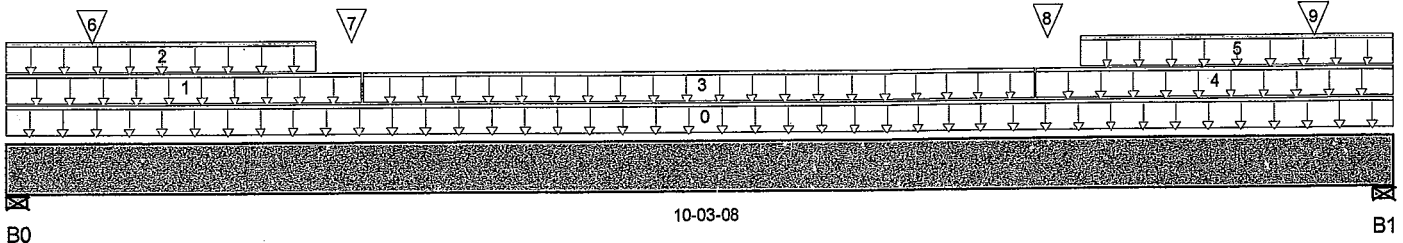
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B21

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 10-03-08

## Reaction Summary (Down / Uplift) (lbs)

| Bearing     | Live    | Dead    | Snow    | Wind |
|-------------|---------|---------|---------|------|
| B0, 11-1/2" | 364 / 0 | 677 / 0 | 430 / 0 |      |
| B1, 11"     | 364 / 0 | 674 / 0 | 425 / 0 |      |

## Load Summary

| Tag | Description | Load Type         | Ref. | Start    | End      | Live<br>1.00 | Dead<br>0.65 | Snow<br>1.00 | Wind<br>1.15 | Trib. |
|-----|-------------|-------------------|------|----------|----------|--------------|--------------|--------------|--------------|-------|
| 0   | R3(i5510)   | Unf. Lin. (lb/ft) | L    | 00-00-00 | 10-03-08 | 6            | 3            |              |              | n/a   |
| 1   | R3(i5510)   | Unf. Lin. (lb/ft) | L    | 00-00-00 | 02-07-08 |              | 81           |              |              | n/a   |
| 2   | R3(i5510)   | Unf. Lin. (lb/ft) | L    | 00-00-00 | 02-03-08 | 37           | 35           | 83           |              | n/a   |
| 3   | R3(i5510)   | Unf. Lin. (lb/ft) | L    | 02-07-08 | 07-07-08 |              | 41           |              |              | n/a   |
| 4   | R3(i5510)   | Unf. Lin. (lb/ft) | L    | 07-07-08 | 10-03-08 |              | 81           |              |              | n/a   |
| 5   | R3(i5510)   | Unf. Lin. (lb/ft) | L    | 07-11-08 | 10-03-08 | 37           | 35           | 83           |              | n/a   |
| 6   | J4(i5509)   | Conc. Pt. (lbs)   | L    | 00-07-08 | 00-07-08 | 140          | 70           |              |              | n/a   |
| 7   | R3(i5510)   | Conc. Pt. (lbs)   | L    | 02-06-08 | 02-06-08 | 105          | 142          | 237          |              | n/a   |
| 8   | R3(i5510)   | Conc. Pt. (lbs)   | L    | 07-08-08 | 07-08-08 | 104          | 141          | 234          |              | n/a   |
| 9   | J4(i5509)   | Conc. Pt. (lbs)   | L    | 09-08-04 | 09-08-04 | 143          | 72           |              |              | n/a   |

## Controls Summary

|                  | Factored Demand | Factored Resistance | Demand / Resistance | Load Case | Location |
|------------------|-----------------|---------------------|---------------------|-----------|----------|
| Pos. Moment      | 1,896 ft-lbs    | 25,408 ft-lbs       | 7.5%                | 13        | 05-03-06 |
| End Shear        | 978 lbs         | 11,571 lbs          | 8.5%                | 13        | 01-09-00 |
| Total Load Defl. | L/999 (0.042")  | n/a                 | n/a                 | 45        | 05-01-08 |
| Live Load Defl.  | L/999 (0.019")  | n/a                 | n/a                 | 61        | 05-01-08 |
| Max Defl.        | 0.042"          | n/a                 | n/a                 | 45        | 05-01-08 |
| Span / Depth     | 10.8            | n/a                 | n/a                 |           | 00-00-00 |

## Bearing Supports

|    | Dim. (L x W)                | Demand    | Demand / Resistance Support | Demand / Resistance Member | Material    |
|----|-----------------------------|-----------|-----------------------------|----------------------------|-------------|
| B0 | Wall/Plate 11-1/2" x 3-1/2" | 1,673 lbs | 5.1%                        | 3.4%                       | Unspecified |
| B1 | Wall/Plate 11" x 3-1/2"     | 1,661 lbs | 5.3%                        | 3.5%                       | Unspecified |

## Notes



HWB NO. TAM 2659317  
STRUCTURAL  
COMPONENT ONLY

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: YORK 2 ELEV B.mxd

Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B2

Specifier:

Designer:

Company:

Misc:

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Unbalanced snow loads determined from building geometry were used in selected products verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

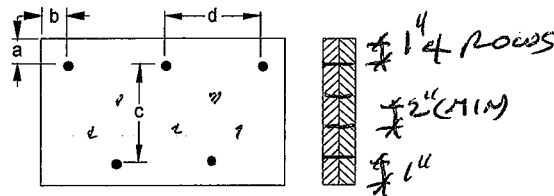
CONFORMS TO OBC 2012

**Disclosure**

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

BC CALO®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

**Connection Diagram**



a minimum = 1" c = 1-1/2"  
b minimum = 3" d = 6"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Member has no side loads.

Connectors are: 16d Nails

3 1/2" ARDOX SPIRAL



0468 NO. TAM 26593.17  
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