

| Seco     |   |  |  |
|----------|---|--|--|
|          | n   | d Flo  | or   |
|          |   | Flush)<br>Descr  |  |
| J4       | 31  | NJ40L  | •  |
| J3       |   | NJ40L  |  |
| J6       |   | NJ40U  |  |
| J8       |   | NJ60U  |  |
| J2<br>J5 | _   | NJ60L  |  |
| J1       |   | NJH  |  |
| LVL/L    | S   |  | sh)  |
| Labe     | $\overline{}$   | Descr  | _  |
| F9       |   | Forex  | 00051-114  |
| F8       |   | Forex  | 000Fb LV   |
| 10       |   |  | 000Fb LVI  |
| F15      |   | Forex  | 00051 114  |
| F7       | _   | Forex  | 000Fb LVI  |
|          |   | 2.0E-3   | 000Fb LVI  |
| F6       |   | Forex  | li il i   |
|          |   |  | 000Fb LVI  |
| F5       |   | Forex<br>2.0E-3  | 000Fb LVI  |
| Rim E    | 30  |  |  |
| Labe     | )(  | Descr  | iption   |
| R1       |   |  | d Rimboa   |
| Llong    |   | Plus 1   | .125 X 9.5   |
| Hang     | er  |  |  |
|          |   |  |  |
| Labe     | ı   | Pcs  | Descript   |
| H2       | İ   | 2  | LF179  |
| НЗ       | 4   | 1  | LT259  |
| H5       |   | 12   | MIT49.5  |
| Block    |   | Descr  | intion   |
| BLK'     |   | NJH  | iption   |
| <u> </u> | Т   | NOTE   | S:   |
|          | ľ   | 1012   | .0.  |
|          | 1   | . Fram   | er to verify   |
|          | 2   | . Doub   | le joist onl   |
|          | 3   |  | er membe<br>I 2x4 block  |
|          |   | . Instal   | I single-ply   |
|          | ۱,  |  | ard/rimjois<br>to Nascoi   |
|          |   |  | sh blocks  |
|          | ı   |  | at level jois  |
|          | ш   |  |  |
|          | 17  |  | evels floor  |
|          |   | . Load   |  |
|          |   | . Load<br>I. It sha  | evels floor<br>transfer bl   |
|          | 8   | Load<br>I. It sha<br>faster  | evels floor<br>transfer bl<br>II be the fr   |
|          | E F   | '. Load<br>I. It sha<br>faster<br>Refer to   | evels floor<br>transfer bl<br>Il be the fr<br>ned as per   |
|          | F   | 7. Load<br>8. It sha<br>faster<br>Refer to<br>polting r  | evels floor<br>transfer bl<br>Il be the fr<br>ned as per<br>Multiple M<br>equiremer  |
|          | F b   | <ol> <li>Load</li> <li>It shates</li> <li>Refer to solting r</li> <li>Rim partim depl</li> </ol>   | evels floor<br>transfer bl<br>Il be the fr<br>ned as per<br>Multiple M<br>equiremer<br>allel to jois<br>th @ 16°o/   |
|          | F b   | 7. Load<br>B. It sha<br>faster<br>Refer to<br>colting r<br>Rim par<br>im depl<br>supporti  | evels floor<br>transfer bl<br>Il be the fr<br>ned as per<br>Multiple M<br>equiremer<br>allel to jois<br>th @ 16°o/<br>ng the floo  |
|          | F to se fe  | 7. Load<br>3. It sha<br>faster<br>Refer to<br>colting r<br>Rim par<br>im depl<br>supportioundati   | evels floor<br>transfer bl<br>Il be the fr<br>ned as per<br>Multiple M<br>equiremer<br>allel to jois<br>th @ 16"o/<br>ng the floo<br>on walls, a   |
|          | F b F r s f b b   | Z. Load<br>J. It sha<br>faster<br>Refer to<br>colling r<br>Rim par<br>im depl<br>supporti<br>oundati<br>oracing  | evels floor<br>transfer bl<br>Il be the fr<br>ned as per<br>Multiple N<br>requiremer<br>allel to jois<br>th @ 16"oo<br>on walls, a<br>for lateral  |
|          | F to S feet b   | 7. Load<br>3. It sha<br>faster<br>Refer to<br>colting r<br>Rim partim depl<br>supportioundation<br>oracing<br>Hatch a  | evels floor transfer bl II be the fr ned as per Multiple Mequiremer allel to jois th @ 16"o/ ng the floo on walls, a for lateral   |
|          | F b F r s f b b   | 7. Load<br>faster<br>faster<br>Refer to<br>solting r<br>Rim parti<br>supporti<br>oundati<br>oracing<br>latch a<br>f 5 PSI  | evels floor transfer bil II be the frad as per Multiple Mequiremer allel to jois the @ 16"of ong walls, a for lateral re represe   |
|          | F b F r s f b b F c                                       | Z. Load J. It shat faster Refer to colling r Rim parim deple supportion dation acing Hatch a f 5 PSI The frant   | evels floor transfer bil II be the free as per Multiple Mequiremer allel to jois the @ 16"o/ng the floor on walls, a for lateral re represe ining show   |
|          | F to F to S find to S                                     | Z. Load J. It shat faster Refer to colling regime deplication acting regime and for the frame of | evels floor transfer bil II be the fred as per Multiple Mequiremer allel to jois the @ 16" of ng the floor on walls, a for lateral re represe ining show octural dray  |
|          | F b F r s f b b F c T a p                                 | Z. Load Z. Load Z. It sha     faster Refer to colling r Rim par im depl supporti coundati oracing Hatch a S. F. S. The fram ind stru orior to  | evels floor transfer bil I be the free as per Multiple Mequiremer allel to jois the Mequiremer allel to jois the Mequiremer for on walls, a for lateral are represed in the Mequirement of the Mequirement  |
|          | F b F r s f b b F c T a p                                 | Z. Load Z. Load Z. It sha     faster Refer to colling r Rim par im depl supporti coundati oracing Hatch a S. F. S. The fram ind stru orior to  | evels floor transfer bil II be the fred as per Multiple Mequiremer allel to jois the @ 16" of ng the floor on walls, a for lateral re represe ining show octural dray  |
|          | F b F r s f c b F c T a p                                 | Z. Load B. It sha faster to colting r Rim parim deplupportioundation acing Hatch a for 5 PSI The framind struction to contact the contact to contact the contact to contact the contact to contact the | evels floor transfer bil I be the free as per Multiple Mequiremer allel to jois the Mequiremer allel to jois the Mequiremer for on walls, a for lateral are represed in the Mequirement of the Mequirement  |
|          | F to F to S to S to S to S to S to S to                   | Z. Load S. It sha faster Refer to solding r Rim par im depl supporti oracing Hatch a of 5 PSI The fram orior to ARCH ARDIN HARDIN   | evels floor transfer bil II be the fire as per Multiple Mequiremer allel to jois the @ 16"of ng the floor on walls, a for lateral re represed in the manner of the manner  |
|          | F F F F F F F F F F F F F F F F F F F                     | . Load J. It share faster to colling r Refer to colling r Rim par im depl upport in depl upport in depl upport r racing Hatch a f 5 PSI he frar ind stru rior to ARCH ARCHIN 4 Jardi ate: R  | evels floor transfer bil II be the fir ned as per Multiple Mequiremer allel to jois him @ 16" of no walls, a for lateral re represe ining show cutural draveonstructic IITECTU   |
|          | F b F r s f b b F c T a c c c c c c c c c c c c c c c c c | . Load J. It share faster fast | evels floor transfer bil II be the fire as per Multiple Mequiremer allel to jois the @ 16"of ng the floor on walls, a for lateral re represed in the manner of the manner  |
|          | F b F r s f b b F c T a c c c c c c c c c c c c c c c c c | . Load b. It sha faster faster kefer to koolting r Rim par Rim par Rim par Rim par Rim depip Lupport L | evels floor transfer bil II be the free as per Multiple Mequiremer allel to jois the @ 16" of on walls, a for lateral are represed a per ming show cutural draveconstructic street and per   |
|          | F b F r s f b b F c T a c c c c c c c c c c c c c c c c c | . Load  J. It sha  faster to  to  foolding r  Rim par  Rim par  Rim par  Rim par  Rim par  Ar  Ar  ARDIN  A | evels floor transfer bil II be the fire as per Multiple Mequiremer allel to jois the @ 16"0, on walls, a for lateral are represeding show cutural draveonstructic street of the wall by the man of the service of the wall by  |
|          | F b F r s f b b F c T a c c c c c c c c c c c c c c c c c | . Load b. It shan faster to to cool the cool to cool the cool that coo | evels floor transfer bil II be the fire as per Multiple Mequiremer allel to jois him @ 16"0, on walls, a for lateral are represedured as the modern of the m |
|          | F b F r s f b b F c T a c c c c c c c c c c c c c c c c c | . Load J. It sha faster Aster Aster It sha I | evels floor transfer bil II be the fire as per Multiple Mequiremer allel to jois him @ 16"0, on walls, a for lateral re represe ming show ctural draveconstructic IITECTU  DESIGN n Dr, Suite v. 1, 4/26 No. 18-24 Clover 12A DBC 2012 Nascor CC VL CCMC   |
|          | F b F r s f b b F c T a c c c c c c c c c c c c c c c c c | . Loadd J. It sha faster to cook of the co | evels floor transfer bil II be the fire as per Multiple Mequiremer allel to jois him @ 16"0, on walls, a for lateral are represedured as the modern of the m |

|                |                |  |            |         |            |       |        |                |          | Page             | 20 of 27 IM0918-062 | 2                       |
|----------------|----------------|--|------------|---------|------------|-------|--------|----------------|----------|------------------|---------------------|-------------------------|
|                | d Flo          |  |            |         |            |       |        |                |          |                  |                     |                         |
|                | Flush)         |  |            |         | _          |       |        |                |          | 1                | MIAC                | COR                     |
|                | Descri         |  | Width      | _       | pth        | (     | Qty    | Plies          | Pcs      | Length           | MAS                 | CUR                     |
| J4             | NJ40U          |  | 3.5        | _       | 9.5        |       |        |                | 3        | 18-0-0           |                     |                         |
| J3             | NJ40U<br>NJ40U |  | 3.5        | _       | 9.5        |       |        |                | 10       | 16-0-0           | Layout Name         |                         |
| J6<br>J8       | NJ60U          |  | 3.5<br>3.5 | _       | 9.5<br>9.5 |       |        |                | 8<br>12  | 14-0-0<br>18-0-0 | CLOVER 12A          |                         |
| J2             | NJ60U          |  | 3.5        | _       | 9.5        |       |        |                | 23       | 16-0-0           | Design Method       |                         |
| J5             | NJ60U          |  | 3.5        | _       | 9.5        |       |        |                | 9        | 6-0-0            | LSD                 |                         |
| J1             | NJH            |  | 2.5        | _       | 9.5        |       |        |                | 1_       | 12-0-0           | Description         | were and the second     |
|                | L (Flus        | sh)  |            | -       |            |       |        |                |          | ,                |                     |                         |
|                | Descr          |  | Width      | De      | pth        | (     | Qty    | Plies          | Pcs      | Length           | Created             |                         |
| F9             | Forex          |  | 1.75       |         | 9.5        |       | 1      | 2              | 2        | 16-0-0           | June 25, 2018       |                         |
|                |                | 000Fb LVL  |            |         |            |       |        |                |          |                  | Builder             |                         |
| F8             | Forex          | 00051 114  | 1.75       |         | 9.5        |       | 1      | 2              | 2        | 12-0-0           | GREENPARK           |                         |
| F15            | Forex          | 000Fb LVL  | 1.75       | +-      | 9.5        | _     | 1      | 2              | 2        | 8-0-0            | Sales Rep           |                         |
| -15            |                | 000Fb LVL  | 1.75       |         | 9.5        |       | ٠,     | 2              | 2        | 0-0-0            | RM                  |                         |
| F7             | Forex          |  | 1.75       |         | 9.5        |       | 1      | 2              | 2        | 6-0-0            | Designer            |                         |
|                |                | 000Fb LVL  |            |         |            |       |        |                |          |                  | RO                  |                         |
| F6             | Forex          | III MARKANIA MARKANI | 1.75       |         | 9.5        |       |        |                | 1        | 6-0-0            | Shipping            |                         |
|                | _              | 000Fb LVL  |            |         |            |       |        |                |          |                  |                     |                         |
| F5             | Forex          | 000Fb LVL  | 1.75       |         | 9.5        |       |        |                | 1        | 4-0-0            | Project             |                         |
| n Bo           |                | OUGI D LVL   |            |         |            |       | -      |                |          |                  | Builder's Projec    | t                       |
|                | Descri         | intion   | Width      | I De    | pth        |       | Qty    | Plies          | Pcs      | Length           | Kott Lumber         | Company                 |
| R1             |                | d Rimboard   | 1.125      | _       | 9.5        | -     | x (y   | 1 1103         | 14       | 12               | 14 Anderson Blvd    |                         |
|                |                | 125 X 9.5  | 1.120      |         | 0.0        |       |        |                |          | 12               | Stouffville, Ontari | o                       |
| ngei           |                |  |            | 1       |            |       |        |                |          |                  | Canada              |                         |
| -              |                |  |            |         |            |       | Bea    | am/Girder      | Sup      | ported           | K2H7V1              |                         |
|                |                |  |            |         |            |       |        |                | M        | ember            | 905-642-4400        |                         |
| abel           | Pcs            | Descriptio   | n s        | Skew    | Slo        | pe    | fa     | steners        | fas      | teners           | Job Path            |                         |
| 12             | 2              | LF179  |            |         |            |       |        | 10 10d         |          | (1 1/4WS         | S:\CUSTOMERS        | GREENPARK               |
| 13             | 11             | LT259  |            |         |            |       |        | 10dx1 1/2      | _        | 0dx1 1/2         | MINNISALE HO        | MES\MODELS\BLC          |
| <del>1</del> 5 | 12             | MIT49.5  | - 5        |         |            |       | 4      | 10dx1 1/2      | 4 10     | 0dx1 1/2         |                     | AIFLOORSICLOVE          |
| ckin           |                | ,,   | 140 141    | 15      |            |       |        | De I           |          | I                | 12A.isl             |                         |
|                | Descri         | ption  | Width      | _       | pth        | _     | Qty    | Plies          | Pcs      | Length           | Second Floor        |                         |
|                | NJH            |  | 2.5        |         | 9.5        | L     | inFt   |                | Varies   | 35-0-0           | Design Method       | LSD                     |
|                | NOTE           | S:   |            |         |            |       |        |                |          |                  | Building Code 1     | NBCC 2010 / OBC<br>2012 |
|                |                |  |            |         | 2005       |       |        |                |          |                  | Floor               | 2012                    |
|                |                | er to verify d<br>e joist only i   |            |         |            |       |        |                |          |                  | Loads               |                         |
| - 1            |                | er member i  |            |         |            |       |        |                |          |                  | Live                | 40                      |
|                | 3. Install     | 2x4 blockin  | g @ 24"    | o/c un  | der p      | arall | el nor | n-load bear    |          | S.               | Dead                | 15                      |
| - 1            |                | single-ply f   | lush wind  | low he  | eader      | alor  | ng ins | ide face of    |          |                  | Deflection Joist    |                         |
| - 1,           |                | ard/rimjoist.<br>to Nascor s   | necifier ( | wide f  | or ins     | talla | tion v | vorks          |          |                  | LL Span L/          | 480                     |
|                |                | sh blocks re   |            |         |            |       |        |                | ng on    |                  | TL Span L/          | 360                     |
|                |                | t level joists   |            | upport  | loadi      | ing f | rom a  | bove exce      | eding    |                  | LL Cant 2L/         | 480                     |
|                | ****           | vels floor or<br>transfer bloo   |            | inetall | od ur      | ndor  | all no | int loade      |          |                  | TL Cant 2L/         | 360                     |
|                |                | I be the fran  |            |         |            |       |        |                | ams are  |                  | Deflection Girde    |                         |
|                |                | ed as per th   |            |         |            |       |        |                |          |                  | LL Span L/          | 360                     |
| - 1.           | D-64-          | NA16:-1- NA  |            |         | D          | .4.:1 | A1     | . tl:          | ·        |                  | TL Span L/          | 240                     |
|                |                | Multiple Me<br>equirements   |            | nnecu   | ים חס      | etali | to ply | to ply naii    | ing or   |                  | LL Cant 2L/         | 480                     |
| - 1            | ooiling i      | cquirement   |            |         |            |       |        |                |          |                  | TL Cant 2L/         | 240                     |
|                |                | allel to joists  |            |         |            |       |        |                |          | han              | Decking             |                         |
|                |                | h @ 16"o/c)<br>ng the floor  |            |         |            |       |        |                |          |                  | Deck                | SPF Plywood             |
|                |                | on walls, an   |            |         |            |       |        |                |          | nd               | Thickness           | 5/8"                    |
|                |                | for lateral sta  |            |         |            |       |        |                |          |                  | Fastener            | Nailed & Glued          |
| - [.           | lotel c        | 'a rance   | n nor      | n 611   | for-       | 1.046 | on -   | ddition = 1 -1 | and lead |                  | Vibration           |                         |
|                | Hatch ar       | e represent  | s cerami   | ured    | HOOL       | with  | an ac  | rollional de   | au ioad  |                  | Ceiling:            | Gypsum 1/2"             |
|                |                |  |            |         |            |       |        |                |          |                  |                     |                         |
|                |                | ning shown   |            |         |            |       |        |                |          | 4-,4-0           |                     |                         |
|                |                | ctural drawin<br>construction.   |            | eul En  | Alline     | si (O | i evie | w and app      | urve tne | ueviation        |                     |                         |
| 12             |                |  |            |         |            |       |        |                |          |                  | l .                 |                         |

**URAL DRAWINGS:** 

GROUP INC. te 3A 6/2018

- O.Reg 332/12 as amended
- CMC 13535-R
- C -14056-R
- -086-09

NJ 9.5

NJ40U 9.5

NJ60U 9.5

Forex 2.0E-3000Fb LVL 1.75 X 9.5

NJH 9.5

2787-R APA PR-L310(C)

2000 M

All other components and structural elements supporting the floor system such as

beams, walls, columns and foundation walls and footings including anchorage of

components and bracing for lateral stability are the responsibility of others.

detail.

Second Floor

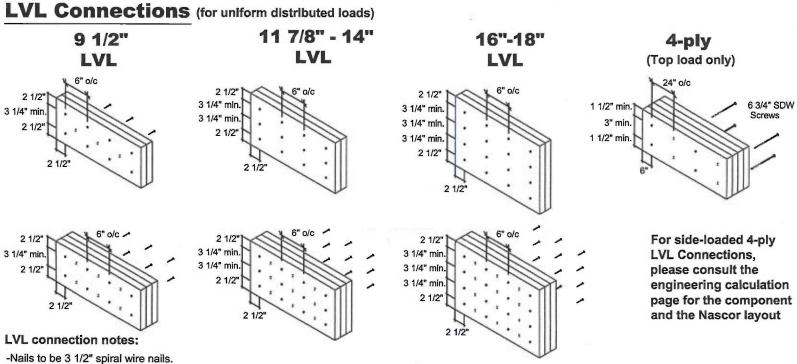
September 13, 2018

# **MULTIPLE MEMBER CONNECTIONS**

# Conventional Connections (for uniform distributed loads) ERKSEN 2x6 2x8 2x10 2-ply MARK 3-ply

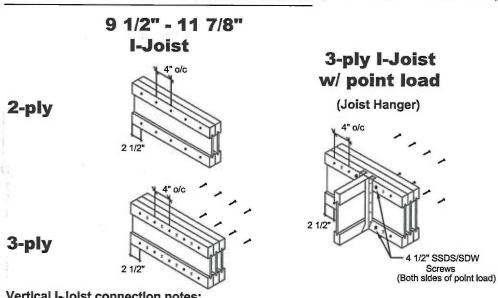
### Conventional connection notes:

- -Nails to be 3" 10d spiral wire nails.
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.



- -Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Minimum 3 1/4" spacing between rows.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail or screw driven from the opposite side.

# Vertical I-Joist Connections (for uniform distributed loads)



# Vertical I-Joist connection notes:

- -Nails to be 3" spiral wire nails.
- -Nails to be located at centre of top and bottom flanges. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.



# **Engineering Note Page (ENP-2)**

**REVISION 2009-10-09** 

# Please read all notes prior to installation of the component

### **DESIGN INFORMATION**

This building component is certified as an individual component for the loads and conditions shown on the calculation and drawing page.

The responsibility of the undersigned engineer is <u>only</u> limited to the calculation of this building component for the loads and conditions shown on this drawing.

The responsibility of the undersigned is limited to the verification of the structural capacity of the NASCOR floor joists and LVL beams based on placement as shown on the layout. The loads applied are limited to the gravity effects of the specified loads. The structural integrity of the building and the effect of wind, uplift, seismic, lateral or other forces, calculation of adequate support and anchorage of components, as well as the dimensions and design loads used to calculate components are the responsibility of the overall building designer.

Floor joists and OSB rim board are designed to carry uniformly distributed loads only. Point loads should be transferred through the floor cavity with squash blocks. Structural elements such as walls, posts, connectors, and squash blocks are the responsibility of the overall building designer.

The undersigned engineer disclaims any responsibility for damages as a result of being furnished faulty or incorrect information, specifications and/or designs.

Installation of NASCOR joists is to be carried out in accordance with the current edition of the manufacturer's approved literature available at <a href="http://www.nascor.ca">http://www.nascor.ca</a>.

### CODE

This building component is designed in accordance with the National Building Code of Canada, the Ontario Building Code, CCMC and Canadian Standards Association guidelines.

### COMPONENT

- 1. The building component used in construction must be the same as indicated on the drawings.
- 2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
- 3. Members consisting of multiple plies must be connected as per the document "Multi-ply Connection Details".
- 4. Pass-thru squash block framing is required at all point loads over bearings.

### HANDLING AND INSTALLATION

Do not drill any hole, cut or notch a certified building component without a written preauthorization.



# MULTIPLE MEMBER CONNECTIONS

### Conventional Connections (for uniform distributed loads)

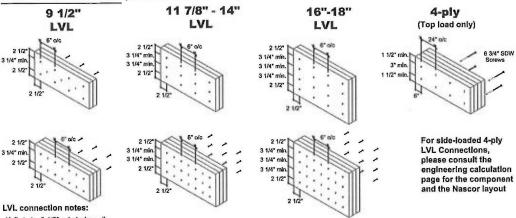
2x12 2x8 2x6 2-ply 3-ply

#### Conventional connection notes:

- -Nails to be 3\* 10d spiral wire nails.

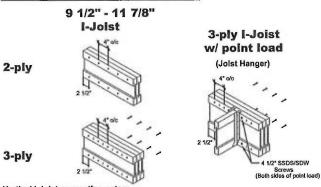
  -Nails to be located a minimum of 2\* from the top and bottom of the member. Start all nails a minimum of 2 1/2\* in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
   "X" represents nail driven from the opposite side.

#### LVL Connections (for uniform distributed loads)



- -Nails to be 3 1/2" spiral wire nails.
- -Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Minimum 3 1/4" spacing between rows.
  -Number of rows and spacing as per details shown, unless noted otherwise.
  -"X" represents nall or screw driven from the opposite side.

#### Vertical I-Joist Connections (for uniform distributed loads)



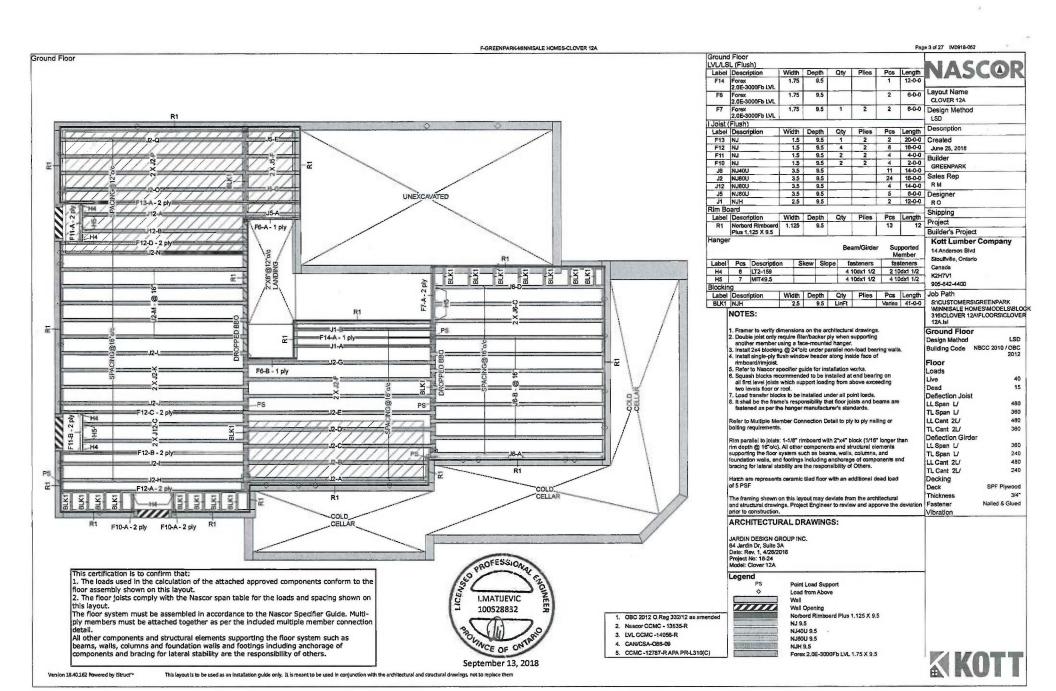
#### Vertical I-Joist connection notes:

- -Nails to be 3" spiral wire nails.
  -Nails to be located at centre of top and bottom flanges. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
   "X" represents nall driven from the opposite side.



3228 Moodle Drive Ottawa, ON K2H 7V1 Ph: 613-838-2775 Fx: 613-838-4751

MULTI -PLY CONNECTION DETAILS





Client:

Project:

Address:

**GREENPARK** 

Date: 9/10/2018

Designer: RO

Job Name: CLOVER 12A

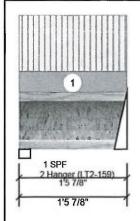
Project #:

9.500"

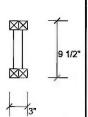
2-Ply - PASSED

Level: Ground Floor

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 



**Member Information** 



Page 1 of 1

| Type:             | Girder  | Application:   | Floor (Residential)  | Brg      | Live    |         | Dead         | Snov  | W        | Wind       |
|-------------------|---------|----------------|----------------------|----------|---------|---------|--------------|-------|----------|------------|
| Plies:            | 2       | Design Method: | LSD                  | 1        | 48      |         | 18           |       | 0        | 0          |
| Moisture Conditio | in: Dry | Building Code: | NBCC 2010 / OBC 2012 | 2        | 49      |         | 18           |       | 0        | 0          |
| Deflection LL:    | 360     | Load Sharing:  | No                   |          |         |         |              |       |          |            |
| Deflection TL:    | 240     | Deck:          | Not Checked          |          |         |         |              |       |          |            |
| Importance:       | Normal  | Vibration:     | Not Checked          |          |         |         |              |       |          |            |
| General Load      |         |                |                      |          |         |         |              |       |          |            |
| Floor Live:       | 40 PSF  | }              |                      | Bearings | and Fac | tored l | Reactions    |       |          |            |
| Dead:             | 15 PSF  |                |                      | Bearing  | Length  | Cap.    | React D/L lb | Total | Ld. Case | Ld. Comb.  |
|                   |         |                |                      | 1 - SPF  | 1.875"  | 4%      | 23/72        | 95    | L        | 1.25D+1.5L |
|                   |         |                |                      | 2-       | 2.000"  | 4%      | 23/73        | 96    | L        | 1.25D+1.5L |
| Analysis Results  |         |                | Hanger               |          |         |         |              |       |          |            |

| Analysis Re  | suits            |          |               |            |            |      |   |
|--------------|------------------|----------|---------------|------------|------------|------|---|
| Analysis     | Actual           | Location | Allowed       | Capacity   | Comb.      | Case | _ |
| Moment       | 27 ft-lb         | 8 7/8"   | 7340 ft-lb    | 0.004 (0%) | 1.25D+1.5L | L    |   |
| Unbraced     | 27 ft-lb         | 8 7/8"   | 6948 ft-lb    | 0.004 (0%) | 1.25D+1.5L | L    |   |
| Shear        | 83 lb            | 1 1/8"   | 3080 lb       | 0.027 (3%) | 1.25D+1.5L | L    |   |
| Perm Defl in | n. 0.000 (L/999) | 0        | 999.000 (L/0) | 0.000 (0%) |            |      |   |
| LL Defl inch | 0.000 (L/999)    | 0        | 999.000 (L/0) | 0.000 (0%) |            |      |   |
| TL Defl inch | 0.000 (L/999)    | 0        | 999.000 (L/0) | 0.000 (0%) |            |      |   |



**Design Notes** 

- 1 Fill all hanger nailing hotes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.

Trib Width Wind Comments Load Type Location Side Dead Live Snow Tie-In 0-0-0 to 1-5-14 (Span)3-3-0 Top **15 PSF** 40 PSF 0 PSF 0 PSF

> READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT **CONTAINS SPECIFICATIONS AND CRITERIA USED** IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

#### Notes

ID

Colourated Structured Designs is responsible only of the structural adequecy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended application, and to verify the dimensions and loads.

### Lumber

Dry service conditions, unless noted otherwise
 Uoist not to be treated with fire retardant or con

- Handling & Installation
- 1. Joist langes must not be cut or drilled
  2. Refer to latest copy of the Lioist product information details for framing details, siftener tables, web hole chart, bridging details, multi-ply fastering details and handling-ferection details
  3. Demaged Lioists must not be used
  4. Design assumes top fange to be laterally restrained by attached shealthing or as specified in engineering notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing langibre 3.5 Inches
 For flat roofs provide proper drainage to prevent

This design is valid until 7/10/2021

Manufacturer Info

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario Canada K2H7V1 905-642-4400





Client: Project: Address: GREENPARK

Date:

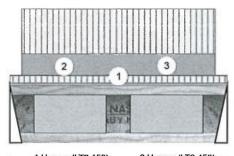
9/10/2018 RO Designer:

Job Name: CLOVER 12A

Project #:

2-Ply - PASSED 9.500"

Level: Ground Floor



1 Hanger (LT2-159)

2 Hanger (LT2-159)

3'



Page 1 of 1

Wind

| Member | Information |
|--------|-------------|
|        |             |

| Ī | Туре:               | Girder |
|---|---------------------|--------|
|   | Plies:              | 2      |
|   | Moisture Condition: | Dry    |
|   | Deflection LL:      | 360    |
|   | Deflection TL:      | 240    |
|   | Importance:         | Normal |
|   | General Load        |        |

40 PSF Floor Live: 15 PSF

Application: Floor (Residential)

Design Method: **Building Code:** NBCC 2010 / OBC 2012

Load Sharing: Deck: Not Checked Vibration: Not Checked

# **Unfactored Reactions UNPATTERNED lb (Uplift)**

| • |     |     |   |   |
|---|-----|-----|---|---|
| 1 | 351 | 170 | 0 | 0 |
| 2 | 351 | 170 | 0 | 0 |
|   |     |     |   |   |

### Analysis Results

Dead:

| Analysis      | Actual             | Location  | Allowed       | Capacity    | Comb.      | Case    |
|---------------|--------------------|-----------|---------------|-------------|------------|---------|
| Moment        | 530 ft-1b          | 1'6"      | 7340 ft-lb    | 0.072 (7%)  | 1.25D+1.5L | L       |
| Unbraced      | 530 ft-lb          | 1'6"      | 4678 ft-lb    | 0.113 (11%) | 1.25D+1.5L | L       |
| Shear         | 731 lb             | 2'10 3/4" | 3080 lb       | 0.237 (24%) | 1.25D+1.5L | L       |
| Perm Defl in. | 0.002<br>(L/17520) | 1'6"      | 0.093 (L/360) | 0.020 (2%)  | D          | Uniform |
| LL Defl inch  | 0.004 (L/8490)     | 1'6"      | 0.093 (L/360) | 0.040 (4%)  | L          | L       |
| TL Defl inch  | 0.006 (L/5719)     | 1'6"      | 0.140 (L/240) | 0.040 (4%)  | D+L        | L       |

#### Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top flange braced at bearings.

6 Bottom flange braced at bearings

#### Brg Live Dead Snow

|                                 |        |      |              |       |          |            | _ |  |  |  |
|---------------------------------|--------|------|--------------|-------|----------|------------|---|--|--|--|
| Bearings and Factored Reactions |        |      |              |       |          |            |   |  |  |  |
| Bearing                         | Length | Сар. | React D/L lb | Total | Ld. Case | Ld. Comb.  |   |  |  |  |
| 1 -<br>Hanger                   | 2.000" | 28%  | 213 / 527    | 739   | L        | 1.25D+1.5L |   |  |  |  |
| 2-                              | 2.000" | 28%  | 213 / 527    | 739   | L        | 1.25D+1.5L |   |  |  |  |



September 13, 2018

| O DOLLOIN | nange braced at bearings | ).              |             |           |         |         |       |               |
|-----------|--------------------------|-----------------|-------------|-----------|---------|---------|-------|---------------|
| ID        | Load Type                | Location        | Trib Width  | Side      | Dead    | Live    | Snow  | Wind Comments |
| 1         | Tie-In                   | 0-0-0 to 3-0-0  | (Span)1-9-8 | Тор       | 15 PSF  | 40 PSF  | 0 PSF | 0 PSF         |
| 2         | Part. Uniform            | 0-0-0 to 3-0-0  |             | Тор       | 4 PLF   | 0 PLF   | 0 PLF | 0 PLF         |
| 3         | Part Uniform             | 0-2-0 to 2-10-0 |             | Near Face | 108 PLF | 223 PLF | OPLE  | 0 PI F        |

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is required at all point loads over bearings

**Refer to Multiple Member Connection** Detail for ply to ply nailing or bolting requirements

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and leadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 Upoist not to be treated with fire retardant or corresive

#### Handling & Installation

- Handling & Installation

  1. Joist flanges must not be cut or drifted

  2. Refer to latest copy of the Lioist product information details for framing details, stiffener tables, web hole chart, bridging details, multiply frastening details and handling/erection details

  3. Damaged Joists must not be used

  4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches

This design is valid until 7/10/2021

Hanger

Manufacturer Info

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario Canada K2H7V1 905-642-4400



Version 18.40.162 Powered by iStruct™



Client: Project: Address:

**GREENPARK** 

Date:

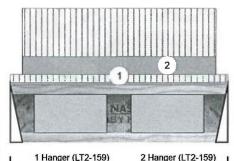
9/10/2018 Designer: RO

Job Name: CLOVER 12A

Project #:

2-Ply - PASSED 9.500"

Level: Ground Floor



1 Hanger (LT2-159)

2 Hanger (LT2-159)

3



Ld. Comb.

9 1/2"

Page 1 of 1

| Member Inform      | nation |                |                      |
|--------------------|--------|----------------|----------------------|
| Type:              | Girder | Application:   | Floor (Residential)  |
| Plies:             | 2      | Design Method: | LSD                  |
| Moisture Condition | : Dry  | Building Code: | NBCC 2010 / OBC 2012 |
| Deflection LL:     | 360    | Load Sharing:  | No                   |
| Deflection TL:     | 240    | Deck:          | Not Checked          |
| Importance:        | Normal | Vibration:     | Not Checked          |
| General Load       |        |                |                      |
| Floor Live:        | 40 PSF |                |                      |
| Dead:              | 15 PSF |                |                      |

|   | Brg | Live | Dead | Snow | Wind |  |
|---|-----|------|------|------|------|--|
|   | 1   | 351  | 132  | 0    | 0    |  |
| 2 | 2   | 351  | 132  | 0    | 0    |  |
|   |     |      |      |      |      |  |

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 

**Bearings and Factored Reactions** 

Bearing Length

#### Analysis Results Analysis Actual Location Allowed Capacity Comb. Case 496 ft-lb 1'6" 7340 ft-lb 0.068 (7%) 1.25D+1.5L L Moment 496 ft-lb 1'6" 4678 ft-lb 0.106 (11%) 1.25D+1.5L L Unbraced 0.222 (22%) 1.25D+1.5L L Shear 685 lb 2'10 3/4" 3080 lb Perm Defl in. 0.001 0.093 (L/360) 0.020 (2%) D Uniform (L/22554) LL Defl inch 0.004 (L/8490) 1'6" 0.093 (L/360) 0.040 (4%) L TL Defl inch 0.005 (L/6168) 0.140 (L/240) 0.040 (4%) D+L

2 000" 27% 165 / 527 692 1 1.25D+1.5L Hanger 2.000" 27% 165 / 527 692 L 1.25D+1.5L Hanger PROFESSIONAL

Cap. React D/L lb

#### **Design Notes**

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top flange braced at bearings.

6 Bottom flange braced at bearings

OVINCE OF ONTER September 13, 2018

| O DOROTT | mange proced at bearings |                 |             |           |        |         |       |       |          |
|----------|--------------------------|-----------------|-------------|-----------|--------|---------|-------|-------|----------|
| ID       | Load Type                | Location        | Trib Width  | Side      | Dead   | Live    | Snow  | Wind  | Comments |
| 1        | Tie-In                   | 0-0-0 to 3-0-0  | (Span)1-9-8 | Тор       | 15 PSF | 40 PSF  | 0 PSF | 0 PSF |          |
| 2        | Part Uniform             | 0-2-0 to 2-10-0 |             | Near Face | 84 PLF | 223 PLF | 0 PLF | 0 PLF |          |

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT **CONTAINS SPECIFICATIONS AND CRITERIA USED** IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is required at all point loads over bearings

Total Ld. Case

I.MATIJEVIC

100528832

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to write the differenties and the intended application, and to write the differenties and the

#### Lumber

chemicals

Handling & Installation

- and ling & Installation

  Jibols flanges must not be cut or drilled

  Refer to latest copy of the Jloist product information
  details for framing details, stiffener tables, web hole
  chart, holding details, mutil-by fastening details and
  handling/serection details

  Damaged Joists must not be used
  Design assumes top flange to be laterally restrained
  by attached sheathing or as specified in engineering
  notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeness for point load as shown Minimum point load bearing length>= 3.5 inches
 For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario Canada 905-642-4400





Client:

GREENPARK

Project: Address: Date:

Designer: RO

Job Name: CLOVER 12A

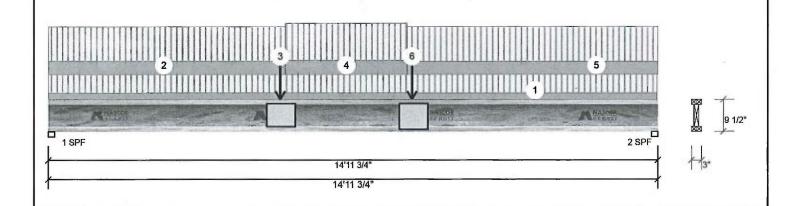
Project #:

2-Ply - PASSED 9.500"

Level: Ground Floor

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 

9/10/2018



#### Girder Application: Floor (Residential) Brg Live Dead Snow Wind Type: Plies: Design Method: 434 162 0 0 1 Moisture Condition: Dry **Building Code:** NBCC 2010 / OBC 2012 2 431 161 0 0 Deflection LL: 360 Load Sharing: Not Checked Deflection TL: 240 Deck: Vibration: Not Checked Importance: Normal General Load 40 PSF Bearings and Factored Reactions Floor Live: Dead: 15 PSF Cap. React D/L lb Total Ld. Case Ld. Comb. Bearing Length 1 - SPF 1.875" 33% 203 / 651 854 1 1 25D+1 5L 2 - SPF 1.875" 33% 202 / 647 849 1 1.25D+1.5L

#### **Analysis Results**

Member Information

| Analysis      | Actual         | Location   | Allowed       | Capacity    | Comb.      | Case    |
|---------------|----------------|------------|---------------|-------------|------------|---------|
| Moment        | 3337 ft-lb     | 7'6 1/16"  | 7340 ft-lb    | 0.455 (45%) | 1.25D+1.5L | L       |
| Unbraced      | 3337 ft-lb     | 7'6 1/16"  | 3363 ft-lb    | 0.992 (99%) | 1.25D+1.5L | L       |
| Shear         | 845 lb         | 1 1/8"     | 3080 lb       | 0.274 (27%) | 1,25D+1.5L | L       |
| Perm Defl in. | 0.095 (L/1866) | 7'5 13/16" | 0.493 (L/360) | 0.190 (19%) | D          | Uniform |
| LL Defl inch  | 0.254 (L/698)  | 7'5 13/16" | 0.493 (L/360) | 0.520 (52%) | L          | L       |
| TL Defl inch  | 0.350 (L/508)  | 7'5 13/16" | 0.740 (L/240) | 0.470 (47%) | D+L        | L       |

#### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 3'7" o.c.

5 Bottom flange braced at bearings.



September 13, 2018

| O DOLLOTT | nunge bruced at bearin | igo.               |              |           |        |        |       |                          |  |
|-----------|------------------------|--------------------|--------------|-----------|--------|--------|-------|--------------------------|--|
| ID        | Load Type              | Location           | Trib Width   | Side      | Dead   | Live   | Snow  | Wind                     | Comments   |
| 1         | Tie-In                 | 0-0-0 to 14-11-8   | (Span)0-10-8 | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF                    |  |
| 2         | Tie-In                 | 0-0-0 to 5-9-14    | (Span)1-7-15 | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF                    |  |
| 3         | Point                  | 5-8-6              |              | Near Face | 18 lb  | 49 lb  | 0 lb  | 0 lb                     | F10  |
| 4         | Tie-In                 | 5-9-14 to 8-9-14   | (Span)1-9-8  | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF                    | The Francisco Courant Disabile                                       |
| 5         | Tie-In                 | 8-9-14 to 14-11-12 | (Span)1-7-15 | Тор       | 15 PSF | 40 PSF | 0 PSF | Pass-<br>Pass-<br>reduii | Thru Framing Squash Block is<br>red at all point loads over bearings |
| 6         | Point                  | 8-11-6             |              | Near Face | 18 lb  | 49 lb  | 0 lb  | 0 lb                     | F10  |
| READ AL   | L NOTES ON THIS PAC    | SE AND ON THE      |              |           |        |        |       | Refer                    | to Multiple Member Connection  |

ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

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### Lumber

- Dry service conditions, unless noted otherwise
   Uoist not to be treated with fire retardant or corre

- Handling & Installation

  1. IJoist flanges must not be cut or drifted

  2. Refer to latest copy of the IJoist product information
  details for framing details, stiffener tables, web hole
  chart, bridging details, multi-ply fastering details and
  handling/eraction details

  3. Damaged boists must not be used

  4. Design assumes top flange to be laterally restrained
  by attached shealthing or as specified in engineering
  notes.
- Provide lateral support at bearing points to avoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
   For flat roofs provide proper drainage to prevent ponding.

Manufacturer Info

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400

Detail for ply to ply nailing or bolting

requirements



Client: Project: Address: **GREENPARK** 

9/10/2018

Designer: RO

Job Name: **CLOVER 12A** 

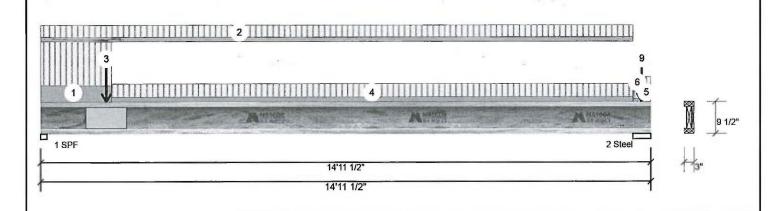
Project #:

9.500"

2-Ply - PASSED

Level: Ground Floor

Unfactored Reactions UNPATTERNED Ib (Unlift)



| Mellinet Tillol   | mation |                |                                       | Omactore    | u neach  | OHS OHI F | TI I PIZIA | ED ID | opinic   |            |
|-------------------|--------|----------------|---------------------------------------|-------------|----------|-----------|------------|-------|----------|------------|
| Type:             | Girder | Application:   | Floor (Residential)                   | Brg         | Live     | De        | ad         | Snov  | /        | Wind       |
| Plies:            | 2      | Design Method: | LSD                                   | 1           | 659      | 2         | 47         | (     | )        | 0          |
| Moisture Conditio | n: Dry | Building Code: | NBCC 2010 / OBC 2012                  | 2           | 511      | 2         | 29         | (     | )        | 0          |
| Deflection LL:    | 360    | Load Sharing:  | No                                    |             |          |           |            |       |          |            |
| Deflection TL:    | 240    | Deck:          | Not Checked                           |             |          |           |            |       |          |            |
| Importance:       | Normal | Vibration:     | Not Checked                           |             |          |           |            |       |          |            |
| General Load      |        |                |                                       |             |          |           |            |       |          |            |
| Floor Live:       | 40 PSF |                |                                       | Bearings a  | and Fact | ored Reac | tions      |       |          |            |
| Dead:             | 15 PSF |                |                                       | Bearing L   | ength.   | Cap. Read | t D/L lb   | Total | Ld. Case | Ld. Comb.  |
|                   |        |                |                                       | 1 - SPF 1   | .875"    | 50% 3     | 09 / 988   | 1297  | L        | 1.25D+1.5L |
|                   |        |                | · · · · · · · · · · · · · · · · · · · | 2 - Steel 5 | .250"    | 34% 2     | 86 / 767   | 1052  | L        | 1.25D+1.5L |

#### **Analysis Results**

Member Information

| Analysis      | Actual         | Location | Allowed       | Capacity    | Comb.      | Case    |
|---------------|----------------|----------|---------------|-------------|------------|---------|
| Moment        | 2527 ft-lb     | 6'2 5/8" | 7340 ft-lb    | 0.344 (34%) | 1.25D+1.5L | L       |
| Unbraced      | 2527 ft-lb     | 6'2 5/8" | 2551 ft-lb    | 0.991 (99%) | 1.25D+1.5L | L       |
| Shear         | 1282 lb        | 1 1/8"   | 3080 lb       | 0.416 (42%) | 1.25D+1.5L | L       |
| Perm Defl in. | 0.072 (L/2422) | 7' 5/16" | 0.483 (L/360) | 0.150 (15%) | D          | Uniform |
| LL Defl inch  | 0.191 (L/909)  | 7' 5/16" | 0.483 (L/360) | 0.400 (40%) | L          | L       |
| TL Defl inch  | 0.263 (L/661)  | 7' 5/16" | 0.724 (L/240) | 0.360 (36%) | D+L        | L       |

#### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 4'2" o.c.

5 Rottom flange braced at bearings



September 13, 2018

| o Dolloin   | nange braved at bearing | gs                |              |          |        |        |       |                 |  |
|-------------|-------------------------|-------------------|--------------|----------|--------|--------|-------|-----------------|--|
| ID          | Load Type               | Location          | Trib Width   | Side     | Dead   | Live   | Snow  | Wind            | Comments   |
| 1           | Tie-In                  | 0-0-0 to 1-8-14   | (Span)3-3-0  | Тор      | 15 PSF | 40 PSF | 0 PSF | 0 PSF           |  |
| 2           | Tie-In                  | 0-0-0 to 14-6-4   | (Span)0-10-8 | Тор      | 15 PSF | 40 PSF | 0 PSF | 0 PSF           |  |
| 3           | Point                   | 1-7-6             |              | Far Face | 132 lb | 351 lb | 0 lb  | 0 lb            | F11  |
| 4           | Tie-In                  | 1-8-14 to 14-6-4  | (Span)0-11-8 | Тор      | 15 PSF | 40 PSF | 0 PSF | 0 PSF           | The Francis - Course Disable   |
| 5           | Tie-In                  | 14-6-4 to 14-11-8 | (Span)0-6-8  | Тор      | 15 PSF | 40 PSF | 0 PSF | Pass-<br>Pestir | Thru Framing Squash Block is red at all point loads over bearings            |
| 6           | Tie-In                  | 14-6-4 to 14-11-8 | (Span)0-9-8  | Тор      | 15 PSF | 40 PSF | 0 PSF | 0 PSF           |  |
| 7           | Point                   | 14-8-14           |              | Тор      | 36 lb  | 96 lb  | 0 lb  | Detail          | to <sub>2</sub> Multiple Member Connection for ply to ply nailing or bolting |
| ontinued or | n page 2                |                   |              |          |        |        |       | requir          | rements  |

#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

### Lumber

Handling & Installation

- rriangling & Installation

  1. Judis flanges must not be cut or drilled

  2. Refer to latest copy of the IJoist product information details for framing details, stiffener tables, web hole chart, bridging details, multiply b

This design is

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing in READ ALL NOTES ON

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT IN THE DESIGN OF THIS COMPONENT.

Manufacturer Info

Nascor by Kott

**CONTAINS SPECIFICATIONS AND CRITERIA USED** 

Kott Lumber Company 14 Anderson Blvd, Ontario Canada K2H7V1 905-642-4400



Page 2 of 2



Client: Project: Address:

**GREENPARK** 

Date: 9/10/2018

Designer: RO

Job Name: CLOVER 12A

Project #:

9.500" NJ

Load Type

Point

Point

2-Ply - PASSED

Trib Width

Side

Top

Top

Location

14-8-14

14-8-14

Level: Ground Floor

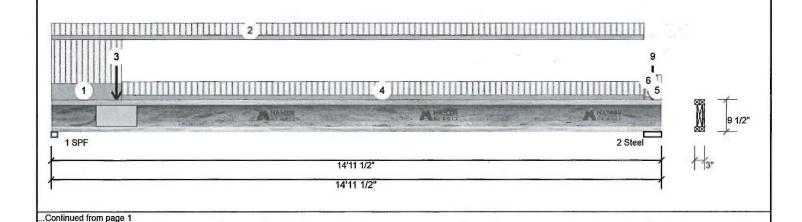
Wind

0 lb J3

0 lb

Comments

Wall Self Weight



Dead

47 lb

27 lb

Live

99 lb

0 lb

Snow

0 lb

0 lb



September 13, 2018

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is required at all point loads over bearings

**Refer to Multiple Member Connection** Detail for ply to ply nailing or bolting requirements

#### Notes

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#### Lumber

- Handling & Installation

  1. Ideal fanges must not be cut or drilled

  2. Refer to latest copy of the Ideal transless declars for framing details, eliffener tables, web hole chart. bidsing details, eliffener tables, web hole chart. bidsing details, multi-by fastening details enchandling/erection details

  3. Damaged Udels must not be used

  4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing lengths—3.5 inches
   For flat roofs provide proper drainage to prevent

Manufacturer Info

Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario K2H7V1



Client:

Address:

**GREENPARK** 

Project:

9/10/2018 Date:

Designer: RO

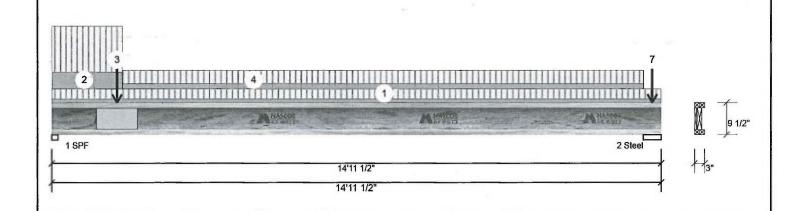
Job Name: CLOVER 12A

Project #:

2-Ply - PASSED

Level: Ground Floor

Unfactored Reactions UNPATTERNED Ib (Uplift)



| Type:              | Girder  | Application:   | Floor (Residential)  | Brg          | Live         | Dead            | Snow           | Wind       |
|--------------------|---------|----------------|----------------------|--------------|--------------|-----------------|----------------|------------|
| Plies:             | 2       | Design Method: | LSD                  | 1            | 634          | 238             | 0              | 0          |
| Moisture Condition | on: Dry | Building Code: | NBCC 2010 / OBC 2012 | 2            | 378          | 157             | 0              | 0          |
| Deflection LL:     | 360     | Load Sharing:  | No                   |              |              |                 |                |            |
| Deflection TL:     | 240     | Deck:          | Not Checked          | 3            |              |                 |                |            |
| Importance:        | Normal  | Vibration:     | Not Checked          | 1            |              |                 |                |            |
| General Load       |         |                |                      |              |              |                 |                |            |
| Floor Live:        | 40 PSF  |                |                      | Bearings a   | and Factored | l Reactions     |                |            |
| Dead:              | 15 PSF  |                |                      | Bearing Le   | ength Ca     | p. React D/L lb | Total Ld. Case | Ld. Comb.  |
|                    |         |                |                      | 1 - SPF 1.   | .875" 49     | % 298 / 951     | 1249 L         | 1.25D+1.5L |
|                    |         |                |                      | 2 - Steel 5. | .250" 25     | % 196 / 567     | 762 L          | 1.25D+1.5L |

#### **Analysis Results**

Member Information

| Analysis      | Actual         | Location | Allowed       | Capacity        | Comb.      | Case    |
|---------------|----------------|----------|---------------|-----------------|------------|---------|
| Moment        | 2359 ft-lb     | 6'1 1/4" | 7340 ft-lb    | 0.321 (32%)     | 1.25D+1.5L | L       |
| Unbraced      | 2359 ft-lb     | 6'1 1/4" | 2370 ft-lb    | 0.995<br>(100%) | 1.25D+1.5L | L       |
| Shear         | 1234 lb        | 1 1/8"   | 3080 lb       | 0.401 (40%)     | 1.25D+1.5L | L       |
| Perm Defl in. | 0.067 (L/2594) | 7'       | 0.483 (L/360) | 0.140 (14%)     | D          | Uniform |
| LL Defl inch  | 0.179 (L/974)  | 7'       | 0.483 (L/360) | 0.370 (37%)     | L          | L       |
| TL Defl inch  | 0.246 (L/708)  | 7'       | 0.724 (L/240) | 0.340 (34%)     | D+L        | L       |

#### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 4'4" o.c.

5 Bottom flange braced at bearings.



September 13, 2018

| O Dollain | nango bracoa at boaring | Ju               |              |           |        |        |       |  |
|-----------|-------------------------|------------------|--------------|-----------|--------|--------|-------|--|
| ID        | Load Type               | Location         | Trib Width   | Side      | Dead   | Live   | Snow  | Wind Comments  |
| 1         | Tie-In                  | 0-0-0 to 14-11-8 | (Span)0-8-8  | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF  |
| 2         | Tie-In                  | 0-0-0 to 1-8-14  | (Span)3-3-0  | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF  |
| 3         | Point                   | 1-7-6            |              | Near Face | 132 lb | 351 lb | 0 lb  | 0 lb F11   |
| 4         | Tie-In                  | 1-8-14 to 14-6-4 | (Span)0-11-8 | Тор       | 15 PSF | 40 PSF | 0 PSF | P888-Thru Framing Squash Block is                    |
| 5         | Point                   | 14-8-14          |              | Тор       | 19 lb  | 51 lb  | 0 lb  | reguired at all point loads over bearings            |
| 6         | Point                   | 14-8-14          |              | Тор       | 16 lb  | 40 lb  | 0 lb  | Refer to Multiple Member Connection                  |
| 7         | Point                   | 14-8-14          |              | Тор       | 14 lb  | 0 lb   | 0 lb  | Detail fwapheitovதிருள்ளி or bolting<br>requirements |

### Notes

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Cacuated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. If is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

### Lumber

Dry service conditions, unless noted otherwise
 Lioist not to be treated with fire retardant or corr

#### chemicals

Handling & Installation

- Handling & Installation

  1. Julist flanges must not be cut or drilled

  2. Refer to latest copy of the Uoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-by fastening details and handling/erection details

  3. Damaged Julists must not be used

  4. Design assumes top flange to be laterally restrained by attached shealthing or as specified in engineering notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation.
 Web stiffeners for point load as shown Minimum point load bearing length.
 For flat roofs provide ponding.
 READ ALL NOTES ENGINEERING NO

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

Nascor by Kott

Manufacturer Info

This design is valid until 7/10/2021

Kott Lumber Company 14 Anderson Blvd, Ontario Canada K2H7V1 905-642-4400





Client:

Address:

GREENPARK Project:

Date:

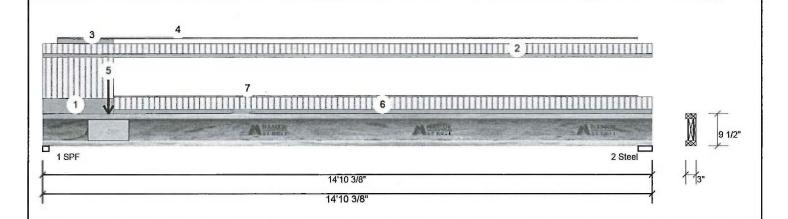
9/10/2018 Designer: RO

Job Name: CLOVER 12A

Project #:

2-Ply - PASSED NJ 9.500"

Level: Ground Floor



| Member Info        | mation |                |                      | Unfactored Reactions UNPATTERNED Ib (Uplift) |           |                   |                |            |  |  |
|--------------------|--------|----------------|----------------------|--|-----------|-------------------|----------------|------------|--|--|
| Туре:              | Girder | Application:   | Floor (Residential)  | Brg  | Live      | Dead              | Snow           | Wind       |  |  |
| Plies:             | 2      | Design Method: | LSD                  | 1  | 646       | 312               | 0              | 0          |  |  |
| Moisture Condition | n: Dry | Building Code: | NBCC 2010 / OBC 2012 | 2  | 305       | 147               | 0              | 0          |  |  |
| Deflection LL:     | 360    | Load Sharing:  | No                   |  |           |                   |                |            |  |  |
| Deflection TL:     | 240    | Deck:          | Not Checked          |  |           |                   |                |            |  |  |
| Importance:        | Normal | Vibration:     | Not Checked          |  |           |                   |                |            |  |  |
| General Load       |        |                |                      |  |           |                   |                |            |  |  |
| Floor Live:        | 40 PSF |                |                      | Bearings a                                   | ind Facto | red Reactions     |                |            |  |  |
| Dead:              | 15 PSF |                |                      | Bearing Le                                   | ength     | Cap. React D/L lb | Total Ld. Case | Ld. Comb.  |  |  |
|                    |        |                |                      | 1 - SPF 1.                                   | .875"     | 53% 390 / 970     | 1360 L         | 1.25D+1.5L |  |  |
|                    |        |                |                      | 2 - Steel 4.                                 | .125"     | 21% 184 / 457     | 641 L          | 1.25D+1.5L |  |  |

#### **Analysis Results**

| Analysis      | Actual         | Location | Allowed       | Capacity        | Comb.      | Case    |
|---------------|----------------|----------|---------------|-----------------|------------|---------|
| Moment        | 2618 ft-lb     | 6'2"     | 7340 ft-lb    | 0.357 (36%)     | 1.25D+1.5L | L       |
| Unbraced      | 2618 ft-lb     | 6'2"     | 2627 ft-lb    | 0.997<br>(100%) | 1.25D+1.5L | L       |
| Shear         | 1345 lb        | 1 1/8"   | 3080 lb       | 0.437 (44%)     | 1.25D+1.5L | L       |
| Perm Defl in. | 0.090 (L/1925) | 7' 1/4"  | 0.483 (L/360) | 0.190 (19%)     | D          | Uniform |
| LL Defl inch  | 0.185 (L/940)  | 7' 3/16" | 0.483 (L/360) | 0.380 (38%)     | L          | L       |
| TL Defl inch  | 0.275 (L/632)  | 7' 1/4"  | 0.724 (L/240) | 0.380 (38%)     | D+L        | L       |

#### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 4'1" o.c.

5 Bottom flange braced at bearings.



September 13, 2018

| ID | Load Type     | Location          | Trib Width   | Side     | Dead   | Live   | Snow  | Wind Comments  |
|----|---------------|-------------------|--------------|----------|--------|--------|-------|--|
| 1  | Tie-In        | 0-0-0 to 1-8-14   | (Span)3-3-0  | Тор      | 15 PSF | 40 PSF | 0 PSF | 0 PSF  |
| 2  | Tie-In        | 0-0-0 to 14-10-6  | (Span)0-9-8  | Тор      | 15 PSF | 40 PSF | 0 PSF | 0 PSF  |
| 3  | Part. Uniform | 0-4-6 to 1-8-14   |              | Тор      | 8 PLF  | 0 PLF  | 0 PLF | 0 PLF  |
| 4  | Part, Uniform | 0-4-6 to 14-6-2   |              | Тор      | 2 PLF  | 0 PLF  | 0 PLF | P&sE-Thru Framing Squash Block is                      |
| 5  | Point         | 1-7-6             |              | Far Face | 170 lb | 351 lb | 0 lb  | reguireฝ <sub>า</sub> at all point loads over bearings |
| 6  | Tie-In        | 1-8-14 to 14-10-6 | (Span)0-11-8 | Тор      | 15 PSF | 40 PSF | 0 PSF | REPEr to Multiple Member Connection                    |
| 7  | Part. Uniform | 1-8-14 to 14-6-2  |              | Тор      | 2 PLF  | 0 PLF  | 0 PLF | Detail for ply to ply nailing or bolting requirements  |

#### Notes

Calculated Shuctured Designs is responsible only of the shuctural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Inlended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 Uoist not to be treated with fire retardant or corrosive

Handling & Installation

- and ling & Installation.

  I Joist flanges must not be cut or driffed.

  Refer to latest copy of the I/oist product information details for framing details, stiffener tables, web hole chart, bridging details, must help hy fastening details and handling/erection details.

  Demaged I/oist must not be used.

  Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

This design is valid until 7/10/2021

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing length
 For fat roofs provide;
 Promiting the ponding ponding recommendation of the provide provide in the provide provi

Nascor by Kott READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

Manufacturer Info

Kott Lumber Company 14 Anderson Blvd, Ontario Canada K2H7V1 905-642-4400





Client:

Address:

**GREENPARK** Project:

Date:

9/13/2018

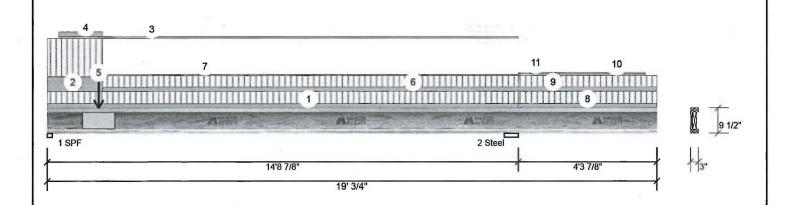
Designer: RO

Job Name: CLOVER 12A

Project #:

2-Ply - PASSED 9.500"

Level: Ground Floor



#### **Unfactored Reactions UNPATTERNED Ib (Uplift) Member Information** Wind Girder Application: Floor (Residential) Brg Live Dead Snow Design Method: LSD Plies: 2 656 320 0 0 Moisture Condition: Dry **Building Code:** NBCC 2010 / OBC 2012 537 0 0 2 266 Load Sharing: Deflection LL: 360 No 240 Deck: Not Checked Deflection TL: Importance: Normal Vibration: Not Checked General Load **Bearings and Factored Reactions** Floor Live: 40 PSF Dead: 15 PSF Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 400 / 1023 1 - SPF 1.875" 55% 1423 L\_ 1.25D+1.5L 25% 332 / 806 1138 LL 1.25D+1.5L 2 - Steel 5.250"

**Analysis Results** 

| Analysis      | Actual             | Location   | Allowed           | Capacity    | Comb.      | Case    |
|---------------|--------------------|------------|-------------------|-------------|------------|---------|
| Neg Moment    | -785 ft-lb         | 14'8 7/8"  | 5578 ft-lb        | 0.141 (14%) | 1.25D+1.5L | _L      |
| Unbraced      | -722 ft-lb         | 14'8 7/8"  | 1887 ft-lb        | 0.383 (38%) | 0.9D+1.5L  | _L      |
| Pos Moment    | 2789 ft-lb         | 6'1 3/16"  | 7340 ft-lb        | 0.380 (38%) | 1.25D+1.5L | L_      |
| Unbraced      | 2789 ft-lb         | 6'1 3/16"  | 2827 ft-lb        | 0.987 (99%) | 1.25D+1.5L | L_      |
| Shear         | 1407 lb            | 1 1/8"     | 3080 lb           | 0.457 (46%) | 1.25D+1.5L | L_      |
| Perm Defl in. | 0.086 (L/2020)     | 6'9 11/16" | 0.481 (L/360)     | 0.180 (18%) | D          | Uniform |
| LL Defl inch  | 0.201 (L/861)      | 7' 3/16"   | 0.481 (L/360)     | 0.420 (42%) | L          | L_      |
| TL Defl inch  | 0.287 (L/604)      | 6'11 3/8"  | 0.721 (L/240)     | 0.400 (40%) | D+L        | L_      |
| LL Cant       | -0.171<br>(2L/606) | Rt Cant    | 0.216<br>(2L/480) | 0.790 (79%) | L          | L_      |
| TL Cant       | -0.226<br>(2L/459) | Rt Cant    | 0.432<br>(2L/240) | 0.520 (52%) | D+L        | L_      |

### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 3'11" o.c.
- 5 Bottom flange must be laterally braced at a maximum of 6'3" o.c.



September 13, 2018

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Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

#### Lumber

Dry service conditions, unless noted otherwise
 Lioist not to be treated with fire retardant or corrosive

Handling & Installation

- Handling & Installation

  1. IJoist flanges must not be cut or drilled

  2. Refer to latest copy of the IJoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-by fastering details and handling/eraction details

  3. Damaged Loists must not be used

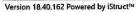
  4. Design assumes top flange to be laterally restrained by attached shealthing or as specified in engineering notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing lengthre 3.5 inches
 For flat roofs provide proper drainage to prevent ponding

Nascor by Kott

Kott Lumber Company 3228 Moodie Dr., Ontario K2H7V1 613-838-2775





Page 2 of 2

isDesign™

Client: Project:

Address:

**GREENPARK** 

9/13/2018

Designer: RO

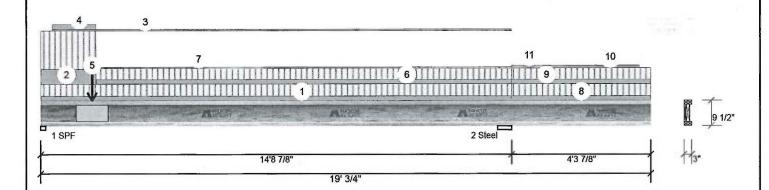
Job Name: **CLOVER 12A** 

Project #:

9.500" NJ

2-Ply - PASSED

Level: Ground Floor



| ID | Load Type     | Location           | Trib Width   | Side      | Dead   | Live   | Snow  | Wind  | Comments |  |
|----|---------------|--------------------|--------------|-----------|--------|--------|-------|-------|----------|--|
| 1  | Tie-In        | 0-0-0 to 14-8-14   | (Span)1-0-8  | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF |          |  |
| 2  | Tie-In        | 0-0-0 to 1-8-14    | (Span)3-3-0  | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF |          |  |
| 3  | Part. Uniform | 0-4-6 to 14-8-14   |              | Тор       | 3 PLF  | 0 PLF  | 0 PLF | 0 PLF |          |  |
| 4  | Part, Uniform | 0-4-6 to 1-8-14    |              | Тор       | 8 PLF  | 0 PLF  | 0 PLF | 0 PLF |          |  |
| 5  | Point         | 1-7-6              |              | Near Face | 170 lb | 351 lb | 0 lb  | 0 lb  | F11      |  |
| 6  | Tie-In        | 1-8-14 to 14-8-14  | (Span)0-11-8 | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF |          |  |
| 7  | Part. Uniform | 1-8-14 to 14-8-14  |              | Тор       | 2 PLF  | 0 PLF  | 0 PLF | 0 PLF |          |  |
| 8  | Tie-In        | 14-8-14 to 19-0-12 | (Span)1-0-8  | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF |          |  |
| 9  | Tie-In        | 14-8-14 to 19-0-12 | (Span)0-11-8 | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF |          |  |
| 10 | Part. Uniform | 14-8-14 to 18-8-6  |              | Тор       | 3 PLF  | 0 PLF  | 0 PLF | 0 PLF |          |  |
| 11 | Part. Uniform | 14-8-14 to 18-8-6  |              | Тор       | 2 PLF  | 0 PLF  | 0 PLF | 0 PLΓ |          |  |



September 13, 2018

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Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

### Lumber

Dry service conditions, unless noted otherwise
 Upoist not to be treated with fire retardant or corresive

Handling & Installation

- Plandilling is installation

  1. Joist flanges must not be cut or drilled

  2. Refer to latest copy of the Lloist product information details for framing details, sufferer tables, web hole chart, bridging details, multi-ply fastering details and handling/erection details

  3. Damaged losists must not be used

  4. Design assumes top flange to be laterally restrained by attached shealthing or as specified in engineering notes.

- 5. Provide lateral support at bearing points to avoid lateral displacement and rotation.
  6. Web stiffeness for point load as shown Minimum point load bearing length>= 3.5 inches
  7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Nascor by Kott

Kott Lumber Company 3228 Moodie Dr., Ontario Canada **K2H7V1** 613-838-2775





Client:

**GREENPARK** 

Project: Address: Date:

9/10/2018 Designer: RO

Job Name: CLOVER 12A

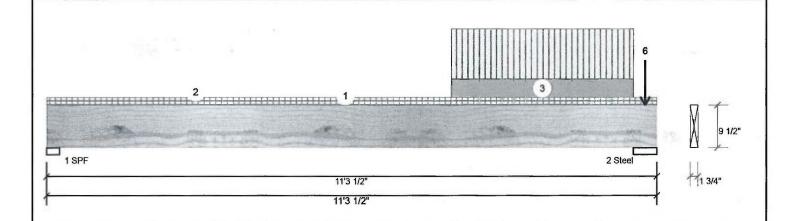
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor

**Unfactored Reactions UNPATTERNED lb (Uplift)** 



| Type:              | Girder | Application:   | Floor (Residential)  | Brg         | Live       | Dead              | Snow           | Wind       |
|--------------------|--------|----------------|----------------------|-------------|------------|-------------------|----------------|------------|
| Plies:             | 1      | Design Method: | LSD                  | 1           | 279        | 126               | 0              | 0          |
| Moisture Condition | n: Dry | Building Code: | NBCC 2010 / OBC 2012 | 2           | 1664       | 703               | 0              | 0          |
| Deflection LL:     | 360    | Load Sharing:  | No                   | 1 -         |            |                   |                |            |
| Deflection TL:     | 240    | Deck:          | Not Checked          |             |            |                   |                |            |
| Importance:        | Normal | Vibration:     | Not Checked          |             |            |                   |                |            |
| General Load       |        |                |                      | -           |            |                   |                |            |
| Floor Live:        | 40 PSF |                |                      | Bearings a  | and Factor | ed Reactions      |                |            |
| Dead:              | 15 PSF |                |                      | Bearing L   | ength      | Cap. React D/L lb | Total Ld. Case | Ld. Comb.  |
|                    |        | 1              |                      | 1-SPF 2     | .875"      | 19% 157 / 418     | 575 L          | 1.25D+1.5L |
|                    |        |                |                      | 2 - Steel 5 | .250"      | 49% 878 / 2497    | 3375 L         | 1.25D+1.5L |

#### **Analysis Results**

**Member Information** 

| Analysis      | Actual         | Location  | Allowed       | Capacity    | Comb.      | Case    |
|---------------|----------------|-----------|---------------|-------------|------------|---------|
| Moment        | 2620 ft-lb     | 7'9 1/4"  | 11362 ft-lb   | 0.231 (23%) | 1.25D+1.5L | L       |
| Unbraced      | 2620 ft-lb     | 7'9 1/4"  | 3471 ft-lb    | 0.755 (75%) | 1.25D+1.5L | L       |
| Shear         | 1247 lb        | 10'1 1/2" | 4638 lb       | 0.269 (27%) | 1.25D+1.5L | L       |
| Perm Defl in. | 0.045 (L/2891) | 6' 7/16"  | 0.358 (L/360) | 0.120 (12%) | D          | Uniform |
| LL Defl inch  | 0.106 (L/1218) | 6'1 3/16" | 0.358 (L/360) | 0.300 (30%) | L          | L       |
| TL Defl inch  | 0.150 (L/857)  | 6' 15/16" | 0.537 (L/240) | 0.280 (28%) | D+L        | L       |

#### **Design Notes**

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.

| 4 Bottom | braced at bearings. |                   |             |      |        |             |       |       | Septembe         |
|----------|---------------------|-------------------|-------------|------|--------|-------------|-------|-------|------------------|
| ID       | Load Type           | Location          | Trib Width  | Side | Dead   | Live        | Snow  | Wind  | Septembe         |
| 1        | Tie-In              | 0-0-0 to 11-3-8   | (Span)0-8-0 | Тор  | 15 PSF | 40 PSF      | 0 PSF | 0 PSF |                  |
| 2        | Tie-In              | 0-0-0 to 11-3-8   | (Span)0-8-0 | Тор  | 15 PSF | 40 PSF      | 0 PSF | 0 PSF |                  |
| 3        | Part. Uniform       | 7-5-15 to 10-10-4 |             | Тор  | 90 PLF | 240 PLF     | 0 PLF | 0 PLF |                  |
| 4        | Point               | 11-0-14           |             | Тор  | 336 lb | 780 lb      | 0 lb  | 0 lb  | BBO3 BBO3        |
| 5        | Point               | 11-0-14           |             | Тор  | 21 lb  | 56 lb       | 0 lb  | 0 lb  | J6               |
| 6        | Point               | 11-0-14           |             | Тор  | 13 lb  | 0 ib        | 0 lb  | 0 lb  | Wall Self Weight |
|          | Self Weight         |                   |             |      | 4 PLF  | Pass-Thru F |       |       |                  |

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the inlended application, and to verify the dimensions and loads. Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

- Handling & Installation

  1. LVL beams must not be cut or drilled

  2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

  5. Provide lateral support at bearing points to avoid lateral displacement and rotation

This design is v

Refer to Multiple Member Connection requirements APA: PR-L318 For flat roofs provide propording

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT **CONTAINS SPECIFICATIONS AND CRITERIA USED** IN THE DESIGN OF THIS COMPONENT.



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Client:

**GREENPARK** 

Project: Address:

Date:

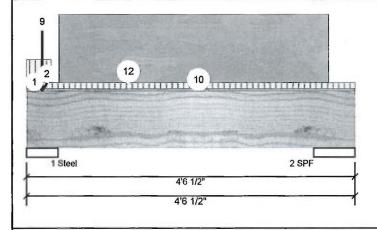
9/10/2018 Designer: RO

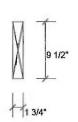
Job Name: CLOVER 12A

Project #:

1.750" X 9.500" - PASSED Level: Ground Floor Forex 2.0E-3000Fb LVL

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 





Page 1 of 2

| Girder | Application:                     | Floor (Residential)   | Brg  | Live   | Dead   | Snow  |   | Wind  |
|--------|----------------------------------|---|--|--|--|---|---|---|
| 1      | Design Method:                   | LSD   | 1  | 924  | 605  | 0   |   | 0   |
| Dry    | <b>Building Code:</b>            | NBCC 2010 / OBC 2012  | 2  | 16   | 173  | 0   |   | 0   |
| 360    | Load Sharing:                    | No  |  |  |  |   |   |   |
| 240    | Deck:                            | Not Checked   |  |  |  |   |   |   |
| Normal | Vibration:                       | Not Checked   |  |  |  |   |   |   |
|        |                                  |   |  |  |  |   |   |   |
| 40 PSF |                                  |   | Bearings a   | and Factore  | d Reactions  |   |   |   |
| 15 PSF |                                  |   | Bearing L  | ength Ca   | p. React D/L lb  | Total Lo  | d. Case   | Ld. Comb.   |
|        |                                  |   | 1 - Steel 5  | .250" 47   | % 756 / 1386   | 2142 L  |   | 1.25D+1.5L  |
|        |                                  |   | 2-SPF 6  | .875"  | % 242 / 0  | 242 U   | niform  | 1.4D  |
|        | 1<br>Dry<br>360<br>240<br>Normal | 1 Design Method: Dry Building Code: 360 Load Sharing: 240 Deck: Normal Vibration: | Design Method: LSD Building Code: NBCC 2010 / OBC 2012 Building Code: NBCC 2010 / OBC 2012 Load Sharing: No Deck: Not Checked Vibration: Not Checked | 1 Design Method: LSD 1 Dry Building Code: NBCC 2010 / OBC 2012 360 Load Sharing: No 240 Deck: Not Checked Normal Vibration: Not Checked  40 PSF Bearings a Bearing L 1 - Steel 5 | 1         Design Method:         LSD         1         924           Dry         Building Code:         NBCC 2010 / OBC 2012         2         16           360         Load Sharing:         No           240         Deck:         Not Checked           Normal         Vibration:         Not Checked           40 PSF         Bearings and Factored           15 PSF         Bearing Length         Ca           1 - Steel         5.250"         47 | 1         Design Method:         LSD         1         924         605           Dry         Building Code:         NBCC 2010 / OBC 2012         2         16         173           360         Load Sharing:         No         Deck:         Not Checked           Normal         Vibration:         Not Checked         Not Checked           40 PSF         Bearings and Factored Reactions           15 PSF         Bearing Length         Cap. React D/L Ib           1 - Steel         5.250"         47%         756 / 1386 | 1         Design Method:         LSD         1         924         605         0           Dry         Building Code:         NBCC 2010 / OBC 2012         2         16         173         0           360         Load Sharing:         No         Not Checked         2         16         173         0           A0 PSF         Vibration:         Not Checked         Not Checked         Bearings and Factored Reactions           Bearings and Factored Reactions         Bearing Length         Cap. React D/L lb         Total Log           1 - Steel         5.250"         47%         756 / 1386         2142         L | 1         Design Method:         LSD         1         924         605         0           Dry         Building Code:         NBCC 2010 / OBC 2012         2         16         173         0           360         Load Sharing:         No         Not Checked         Eearings and Factored Reactions         Vibration:         Bearings and Factored Reactions         Eearings and Fa |

### **Analysis Results**

Member Information

| • |               |                    |           |               |            |       |         |
|---|---------------|--------------------|-----------|---------------|------------|-------|---------|
| ľ | Analysis      | Actual             | Location  | Allowed       | Capacity   | Comb. | Case    |
| l | Moment        | 202 ft-lb          | 2'2 7/16" | 7385 ft-lb    | 0.027 (3%) | 1.4D  | Uniform |
| ŀ | Unbraced      | 202 ft-lb          | 2'2 7/16" | 6805 ft-lb    | 0.030 (3%) | 1.4D  | Uniform |
| ı | Shear         | 125 lb             | 1'2"      | 3015 lb       | 0.042 (4%) | 1.4D  | Uniform |
|   | Perm Defl in. | 0.002<br>(L/18378) | 2'2 1/2"  | 0.122 (L/360) | 0.020 (2%) | D     | Uniform |
|   | LL Defl inch  | 0.000 (L/999)      | 0         | 999.000 (L/0) | 0.000 (0%) |       |         |
|   | TL Defl inch  | 0.003<br>(L/17022) | 2'2 1/2"  | 0.183 (L/240) | 0.010 (1%) | D+L   | L       |

### **Design Notes**

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.

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|-------|--------------------------|-------|
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September 13, 2018

| ID           | Load Type | Location        | Trib Width        | Side | Dead   | Live                    | Snow                          | Wind                  | Comments             |
|--------------|-----------|-----------------|-------------------|------|--------|-------------------------|-------------------------------|-----------------------|----------------------|
| 1            | Tie-In    | 0-0-0 to 0-2-10 | (Span)0-4-2       | Тор  | 15 PSF | 40 PSF                  | 0 PSF                         | 0 PSF                 |                      |
| 2            | Tie-In    | 0-0-0 to 0-4-2  | (Span)<br>0-11-14 | Тор  | 15 PSF | 40 PSF                  | 0 PSF                         | 0 PSF                 |                      |
| 4            | Point     | 0-2-10          |                   | Тор  | 4 lb   | 0 lb                    | 0 lb                          | 0 lb                  | Wall Self Weight     |
| 5            | Point     | 0-2-10          |                   | Тор  | 12 lb  | 0 lb                    | 0 lb                          | 0 lb                  | Wall Self Weight     |
| 6            | Point     | 0-2-10          |                   | Тор  | 390 lb | 839 lb                  | 0 lb                          | 0 lb                  | F15 F15              |
| 7            | Point     | 0-2-10          |                   | Тор  | 20 lb  | Pass-Thru<br>required a | r Framing S<br>It all point I | quash BI<br>oads over | ock is<br>r bearings |
| continued or | n page 2  |                 |                   |      |        |                         | •                             |                       |                      |

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. If it is the responsibility of the customer and/or the contractor to ensure the component switchibility of the Inlended application, and to verify the dimensions and loads.

#### Lumber

#### chemicals

Handling & Installation

- LVL beams must not be cut or drilled

  Refer to manufacturer's product information
  regarding installation requirements, multi-ply
  fastening details, beam strength values, and code

6. For flat roofs provide proper

Refer to Multiple Mampa, Connection Detail for ply to ply nailing or bolting requirements PA: PR-1318

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT **CONTAINS SPECIFICATIONS AND CRITERIA USED** IN THE DESIGN OF THIS COMPONENT.

This design is vi

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Address:

**GREENPARK** 

9/10/2018 Date:

RO Designer:

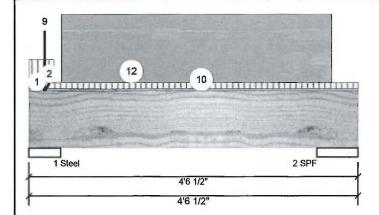
Job Name: CLOVER 12A

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor



Page 2 of 2

| Continued | from page 1   |                 |             |      |        |        |       |       |                            |
|-----------|---------------|-----------------|-------------|------|--------|--------|-------|-------|----------------------------|
| ID        | Load Type     | Location        | Trib Width  | Side | Dead   | Live   | Snow  | Wind  | Comments                   |
| 8         | Point         | 0-2-10          |             | Тор  | 5 lb   | 14 lb  | 0 lb  | 0 lb  | J5                         |
| 9         | Point         | 0-2-10          |             | Тор  | 17 lb  | 0 lb   | 0 lb  | 0 lb  | Wall Self Weight           |
| 10        | Tie-In        | 0-2-10 to 4-6-8 | (Span)0-4-2 | Тор  | 15 PSF | 40 PSF | 0 PSF | 0 PSF |                            |
| 12        | Part. Uniform | 0-5-6 to 4-2-2  |             | Тор  | 80 PLF | 0 PLF  | 0 PLF | 0 PLF | Partition Wall Self Weight |
|           | Self Weight   |                 |             |      | 4 PLF  |        |       |       |                            |



September 13, 2018

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Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and leadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended application, and to verify the distribution of the Intended application, and to verify the distribution of the Structure of the Intended application, and to verify the distribution of the Intended application, and to verify the distribution of the Intended application, and to verify the distribution of the Intended application, and to verify the distribution of the Intended application and Intended app

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

### Handling & Installation

- I. UV. beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code
- regarding installation requirements, multi-ply fastering details, bean strength values, and code approvable agreement of the strength values, and code approvable agreement of the strength values of the strength value of

Manufacturer Info

Forex APA: PR-L318 Kott Lumber Company 14 Anderson Blvd, Ontario Canada K2H7V1 905-642-4400



Client:

Project: Address: GREENPARK

Date:

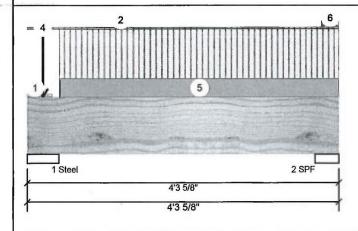
9/10/2018

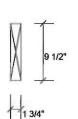
Designer: RO Job Name: CLOVER 12A

Project #:

1.750" X 9.500" - PASSED Level: Ground Floor Forex 2.0E-3000Fb LVL

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 





Page 1 of 1

| Туре:              | Girder  | Application:   | Floor (Residential)  | Brg           | Live        | Dead         | Snow           | Wind       |
|--------------------|---------|----------------|----------------------|---------------|-------------|--------------|----------------|------------|
| Plies:             | 1       | Design Method: | LSD                  | 1             | 386         | 172          | 0              | 0          |
| Moisture Condition | on: Dry | Building Code: | NBCC 2010 / OBC 2012 | 2             | 459         | 181          | 0              | 0          |
| Deflection LL:     | 360     | Load Sharing:  | No                   |               |             |              |                |            |
| Deflection TL:     | 240     | Deck:          | Not Checked          | 1             |             |              |                |            |
| Importance:        | Normal  | Vibration:     | Not Checked          |               |             |              |                |            |
| General Load       |         |                |                      |               |             |              |                |            |
| Floor Live:        | 40 PSF  |                |                      | Bearings a    | nd Factored | Reactions    |                |            |
| Dead:              | 15 PSF  | 9.             |                      | Bearing Le    | ngth Cap.   | React D/L lb | Total Ld. Case | Ld. Comb.  |
|                    |         |                |                      | 1 - Steel 5.2 | 250" 12%    | 214 / 579    | 793 L          | 1.25D+1.5L |
|                    |         | 1              |                      | 2 - SPF 4.0   | 000" 21%    | 226 / 689    | 914 L          | 1.25D+1.5L |
|                    |         |                |                      |               |             |              |                |            |

**Analysis Results** 

Member Information

| Analysis      | Actual             | Location  | Allowed       | Capacity    | Comb.      | Case    |
|---------------|--------------------|-----------|---------------|-------------|------------|---------|
| Moment        | 720 ft-lb          | 2'2 7/16" | 11362 ft-lb   | 0.063 (6%)  | 1.25D+1.5L | L       |
| Unbraced      | 720 ft-lb          | 2'2 7/16" | 9250 ft-lb    | 0.078 (8%)  | 1.25D+1.5L | L       |
| Shear         | 447 lb             | 1'2"      | 4638 lb       | 0.096 (10%) | 1.25D+1.5L | L       |
| Perm Defl in. | 0.002<br>(L/18627) | 2'2 1/2"  | 0.122 (L/360) | 0.020 (2%)  | D          | Uniform |
| LL Defl inch  | 0.006 (L/7335)     | 2'2 1/2"  | 0.122 (L/360) | 0.050 (5%)  | L          | L       |
| TL Defl inch  | 0.008 (L/5263)     | 2'2 1/2"  | 0.183 (L/240) | 0.050 (5%)  | D+L        | L       |

#### **Design Notes**

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings



September 13, 2018

| 4 DURUIII | braced at bearings. |                  |              |      |        |         |       |        |   |
|-----------|---------------------|------------------|--------------|------|--------|---------|-------|--------|---|
| ID        | Load Type           | Location         | Trib Width   | Side | Dead   | Live    | Snow  | Wind   | Comments  |
| 1         | Tie-In              | 0-0-0 to 0-4-2   | (Span)0-5-2  | Тор  | 15 PSF | 40 PSF  | 0 PSF | 0 PSF  |   |
| 2         | Tie-In              | 0-0-0 to 4-3-10  | (Span)0-3-14 | Тор  | 15 PSF | 40 PSF  | 0 PSF | 0 PSF  |   |
| 3         | Point               | 0-2-10           |              | Тор  | 6 lb   | 0 lb    | 0 lb  | 0 lb   | Wall Self Weight  |
| 4         | Point               | 0-2-10           |              | Тор  | 12 lb  | 0 lb    | 0 lb  | 0 lb   | Wall Self Weight  |
| 5         | Part. Uniform       | 0-5-6 to 4-3-10  |              | Тор  | 79 PLF | 210 PLF | 0 PLF | Pass-  | Thru Framing Squash Block is red at all point loads over bearings               |
| 6         | Tie-In              | 4-0-12 to 4-3-10 | (Span)1-0-2  | Тор  | 15 PSF | 40 PSF  | 0 PSF | 0 PSF  | tou at an point louds over souringe   |
|           | Self Weight         |                  |              |      | 4 PLF  |         |       | Detail | to Multiple Member Connection<br>I for ply to ply nailing or bolting<br>rements |

Colculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

### Lumber

chemicals

Handling & Installation

- andling & Installation
  LVL beams must not be cut or drilled
  Refer to manufacturer's product information
  regarding installation requirements, multi-ply
  festening details, beam strength values, and code
  approvals
  Damaged Beams must not be used
  Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  sterial displacement and rotation

Manufacturer Info

Forex APA: PR-L318

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT **CONTAINS SPECIFICATIONS AND CRITERIA USED** IN THE DESIGN OF THIS COMPONENT. This design is v

Kott Lumber Company 14 Anderson Blvd, Ontario K2H7V1 905-642-4400





Address:

**GREENPARK** 

9/10/2018

Designer: RO

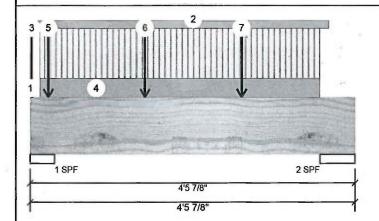
Job Name: 'CLOVER 12A

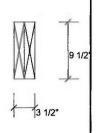
Project #:

Forex 2.0E-3000Fb LVL 1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor





Page 1 of 2

| Member Infor       | ember Information |                |                      |            | Unfactored Reactions UNPATTERNED Ib (Uplift) |                   |                |            |  |  |
|--------------------|-------------------|----------------|----------------------|------------|--|-------------------|----------------|------------|--|--|
| Туре:              | Girder            | Application:   | Floor (Residential)  | Brg        | Live   | Dead              | Snow           | Wind       |  |  |
| Plies:             | 2                 | Design Method: | LSD                  | 1          | 1590   | 799               | 0              | 0          |  |  |
| Moisture Condition | n: Dry            | Building Code: | NBCC 2010 / OBC 2012 | 2          | 1179   | 585               | 0              | 0          |  |  |
| Deflection LL:     | 360               | Load Sharing:  | No                   |            |  |                   |                |            |  |  |
| Deflection TL:     | 240               | Deck:          | Not Checked          | 1          |  |                   |                |            |  |  |
| Importance:        | Normal            | Vibration:     | Not Checked          | 1          |  |                   |                |            |  |  |
| General Load       |                   |                |                      |            |  |                   |                |            |  |  |
| Floor Live:        | 40 PSF            |                |                      | Bearings a | nd Facto                                     | ored Reactions    |                |            |  |  |
| Dead:              | 15 PSF            | 4              |                      | Bearing Le | ength  | Cap. React D/L lb | Total Ld. Case | Ld. Comb.  |  |  |
|                    |                   |                |                      | 1 - SPF 4. | 000"   | 39% 998 / 2385    | 3384 L         | 1.25D+1.5L |  |  |
|                    |                   |                |                      | 2-SPF 5.   | 875"   | 20% 731 / 1769    | 2499 L         | 1.25D+1.5L |  |  |

#### **Analysis Results**

| Analysis      | Actual         | Location  | Allowed       | Capacity    | Comb.      | Case    |
|---------------|----------------|-----------|---------------|-------------|------------|---------|
| Moment        | 2573 ft-lb     | 2'1 7/8"  | 22724 ft-lb   | 0.113 (11%) | 1.25D+1.5L | L       |
| Unbraced      | 2573 ft-lb     | 2'1 7/8"  | 22724 ft-lb   | 0.113 (11%) | 1.25D+1.5L | L       |
| Shear         | 1814 lb        | 3'3 1/4"  | 9277 lb       | 0.196 (20%) | 1.25D+1.5L | L       |
| Perm Defl in. | 0.005 (L/8914) | 2'2 1/16" | 0.126 (L/360) | 0.040 (4%)  | D          | Uniform |
| LL Defl inch  | 0.011 (L/4269) | 2'2 1/16" | 0.126 (L/360) | 0.080 (8%)  | L          | L       |
| TL Defl inch  | 0.016 (L/2886) | 2'2 1/16" | 0.190 (L/240) | 0.080 (8%)  | D+L        | L       |

#### **Design Notes**

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 T
- 6 B
- 7 L

| TOP DIAC  | ed at bearings.            |                       |            |      |         |         |       |                |                                       |
|-----------|----------------------------|-----------------------|------------|------|---------|---------|-------|----------------|---------------------------------------|
| Bottom I  | oraced at bearings.        |                       |            |      |         |         |       |                |                                       |
| Lateral s | elenderness ratio based or | n full section width. |            |      |         |         |       |                |                                       |
| )         | Load Type                  | Location              | Trib Width | Side | Dead    | Live    | Snow  | Wind           | Comments                              |
|           | Part. Uniform              | 0-0-0 to 0-0-0        |            | Тор  | 101 PLF | 268 PLF | 0 PLF | 0 PLF          | J6                                    |
|           | Part. Uniform              | 0-0-0 to 4-1-8        |            | Тор  | 64 PLF  | 0 PLF   | 0 PLF | 0 PLF          | Wall Self Weight                      |
|           | Point                      | 0-0-4                 |            | Тор  | 116 lb  | 181 lb  | 0 lb  |                | Tfi%uF∛Framing Squash Block is        |
|           | Part. Uniform              | 0-1-9 to 4-0-0        |            | Тор  | 158 PLF | 422 PLF | 0 PLF | <b>Ledh</b> ii | regடிat all point loads over bearings |
|           |                            |                       |            |      |         |         |       |                |                                       |

72 lb

Near Face

**Point** Continued on page 2...

4

Notes

Manufacturer Info

193 lb

Forex APA: PR-L318

0 lb

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September 13, 2018

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting

Lumber

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- Handling & Installation

0-3-0

- LVL beams must not be cut or drilled
   Refer to manufacturer's product regarding installation requirement fastening details, beam strength value.
- approvals
  Damaged Beams must not be used
  Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT. This design is



requirements



Client:

Address:

**GREENPARK** Project:

9/10/2018 Designer: RO

Job Name: CLOVER 12A

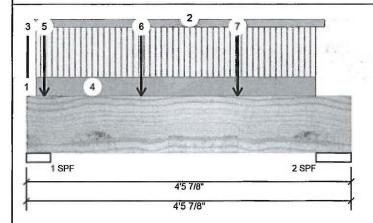
Project #:

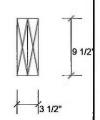
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor





Page 2 of 2

| ID | Load Type   | Location | Trib Width | Side      | Dead   | Live   | Snow | Wind | Comments |
|----|-------------|----------|------------|-----------|--------|--------|------|------|----------|
| 6  | Point       | 1-7-0    |            | Near Face | 136 lb | 362 lb | 0 lb | 0 lb | J6       |
| 7  | Point       | 2-11-0   |            | Near Face | 150 lb | 401 lb | 0 lb | 0 lb | J6       |
|    | Self Weight |          |            |           | 8 PLF  |        |      |      |          |



September 13, 2018

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

#### Notes

Calculated Structured Designs is responsible only of the structural edequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Inlended application, and to verify the dimensions and loads.

#### Lumber

Handling & Installation

- LVL beams must not be cut or drilled
   Refer to manufacturer's product inform regarding installation requirements, mulifastening details, beam strength values, and
- approvals

  Damaged Beams must not be used

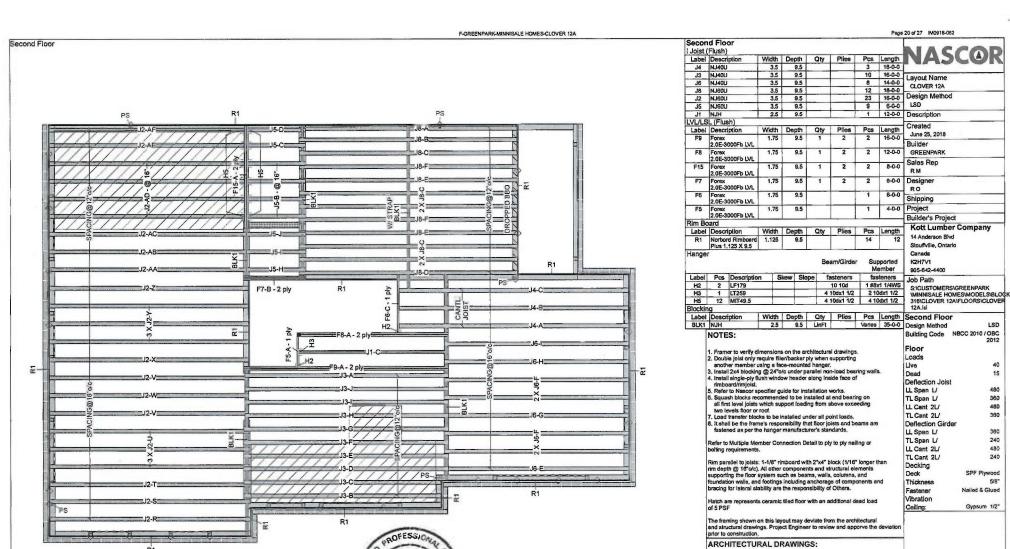
  Design assumes top edge is laterally restrained

  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

Manufacturer Info Forex APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada K2H7V1 905-642-4400

Version 18.40.162 Powered by iStruct™



This certification is to confirm that:

1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.

2. The floor joists comply with the Nascor span table for the loads and spacing shown on this layout.

The floor system must be assembled in accordance to the Nascor Specifier Guide. Multiply members must be attached together as per the included multiple member connection

All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.

Legend 111111

Point Load Support Load from Above Watt Opening Norbord Rimboard Plus 1,125 X 9.5

NJ 9.5 NJ40U 9.5 NJ80U 9.5 NJH 9.5

Forex 2.0E-3000Fb LVL 1.75 X 9.5

64 Jardin Dr. Sulte 3A Date: Rev. 1, 4/25/2018 Project No: 18-24 Model: Clover 12A

- 1. OBC 2012 O.Reg 332/12 as amended
- 2. Nascor CCMC 13535-R
- 3 TVI CCMC -14056-R

JARDIN DESIGN GROUP INC.

- 4. CAN/CSA-086-09
- 5. CCMC -12787-R APA PR-L310(C)

Version 18.40.162 Powered by iStruct\*\*

This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them

I.MATUEVIC

100528832

INCE OF ONTA

September 13, 2018





Client:

Address:

**GREENPARK** Project:

9/10/2018

Designer: RO

Job Name: CLOVER 12A

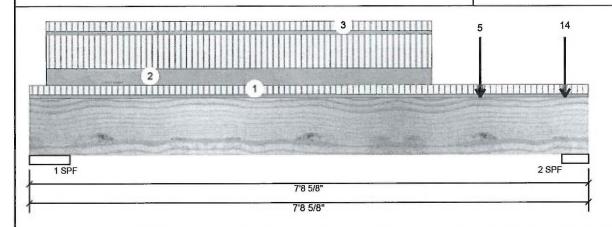
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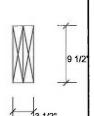
Forex 2.0E-3000Fb LVL

1.750" X 9.500" 2-Ply - PASSED

Bra

Level: Second Floor





Page 1 of 2

| Member Inform       | nation |  |
|---------------------|--------|--|
| Туре:               | Girder |  |
| Plies:              | 2      |  |
| Moisture Condition: | Dry    |  |
| Deflection LL:      | 360    |  |
| Deflection TL:      | 240    |  |
| Importance:         | Normal |  |

40 PSF

**15 PSF** 

Application: Floor (Residential) Design Method: LSD **Building Code:** 

Load Sharing:

Deck: Vibration: NBCC 2010 / OBC 2012

No Not Checked Not Checked

| Unfactored | Postione  | LINDATT | EDNED  | lh.  | (Unlife) |
|------------|-----------|---------|--------|------|----------|
| uniactored | Reactions | DIALALI | EKIAED | ID : | (Opinity |

| Brg | Live | Dead | Snow | Wind |
|-----|------|------|------|------|
| 1   | 1677 | 780  | 0    | 0    |
| 2   | 1370 | 654  | 19   | 0    |

### **Bearings and Factored Reactions**

| Bearing | Length | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb.           |
|---------|--------|------|--------------|-------|----------|---------------------|
| 1-SPF   | 6.751" | 24%  | 975 / 2516   | 3490  | L        | 1.25D+1.5L          |
| 2 - SPF | 4.375" | 31%  | 818 / 2065   | 2882  | L        | 1.25D+1.5L<br>+0.5S |

Wind

0 PSF

Manufacturer Info

Comments

### **Analysis Results**

General Load

Floor Live:

Dead:

| Analysis      | Actual   | Location                                 | Allowed   | Capacity  | Comb.   | Case  |
|---------------|--|--|---|---|---|---|
| Moment        | 5490 ft-lb   | 3'11 3/16"                               | 22724 ft-lb   | 0.242 (24%)   | 1.25D+1.5L  | L   |
| Unbraced      | 5490 ft-lb   | 3'11 3/16"                               | 21779 ft-lb   | 0.252 (25%)   | 1.25D+1.5L  | L   |
| Shear         | 3268 lb  | 6'7 1/2"                                 | 9277 lb   | 0.352 (35%)   | 1.25D+1.5L  | L   |
| Perm Defl in. | 0.025 (L/3274)   | 3'11 3/8"                                | 0.231 (L/360)   | 0.110 (11%)   | D   | Uniform   |
| LL Defl inch  | 0.054 (L/1523)   | 3'11 3/8"                                | 0.231 (L/360)   | 0.240 (24%)   | L+0.5S  | L   |
| TL Defl inch  | 0.080 (L/1040)   | 3'11 3/8"                                | 0.346 (L/240)   | 0.230 (23%)   | D+L+0.5S  | L   |
|               | Moment<br>Unbraced<br>Shear<br>Perm Defl in.<br>LL Defl inch | Moment 5490 ft-lb<br>Unbraced 5490 ft-lb | Moment         5490 ft-lb         3'11 3/16"           Unbraced         5490 ft-lb         3'11 3/16"           Shear         3268 lb         6'7 1/2"           Perm Defl in.         0.025 (L/3274)         3'11 3/8"           LL Defl inch         0.054 (L/1523)         3'11 3/8" | Moment         5490 ft-lb         3'11 3/16"         22724 ft-lb           Unbraced         5490 ft-lb         3'11 3/16"         21779 ft-lb           Shear         3268 lb         6'7 1/2"         9277 lb           Perm Defl in.         0.025 (L/3274)         3'11 3/8"         0.231 (L/360)           LL Defl inch         0.054 (L/1523)         3'11 3/8"         0.231 (L/360) | Moment         5490 ft-lb         3'11 3/16"         22724 ft-lb         0.242 (24%)           Unbraced         5490 ft-lb         3'11 3/16"         21779 ft-lb         0.252 (25%)           Shear         3268 lb         6'7 1/2"         9277 lb         0.352 (35%)           Perm Defl in.         0.025 (L/3274)         3'11 3/8"         0.231 (L/360)         0.110 (11%)           LL Defl inch         0.054 (L/1523)         3'11 3/8"         0.231 (L/360)         0.240 (24%) | Moment         5490 ft-lb         3'11 3/16"         22724 ft-lb         0.242 (24%) 1.25D+1.5L           Unbraced         5490 ft-lb         3'11 3/16"         21779 ft-lb         0.252 (25%) 1.25D+1.5L           Shear         3268 lb         6'7 1/2"         9277 lb         0.352 (35%) 1.25D+1.5L           Perm Defl in.         0.025 (L/3274)         3'11 3/8"         0.231 (L/360)         0.110 (11%) D           LL Defl inch         0.054 (L/1523)         3'11 3/8"         0.231 (L/360)         0.240 (24%) L+0.5S |

#### Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width

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|-------|----------------------|
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| 18    | DVINCE OF ONTRE      |

September 13, 2018

| / Lateral | Sienueiness failu Daseu | on fall section maar. |              |           |         |         |       |
|-----------|-------------------------|-----------------------|--------------|-----------|---------|---------|-------|
| ID        | Load Type               | Location              | Trib Width   | Side      | Dead    | Live    | Snow  |
| 1         | Tie-In                  | 0-0-0 to 7-8-10       | (Span)3-11-8 | Тор       | 15 PSF  | 40 PSF  | 0 PSF |
| 2         | Part. Uniform           | 0-2-12 to 5-6-12      |              | Far Face  | 141 PLF | 289 PLF | 0 PLF |
| 3         | Part. Uniform           | 0-2-12 to 5-6-12      |              | Near Face | 30 PLF  | 80 PLF  | 0 PLF |
| 4         | Point                   | 6-2-12                |              | Far Face  | 178 lb  | 361 lb  | 0 lb  |
| 5         | Point                   | 6-2-12                |              | Near Face | 38 lb   | 101 lb  | 0 lb  |
|           | 2                       |                       |              |           |         |         |       |

0 PLF Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Continued on page 2...

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the inlended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Handling & Installation

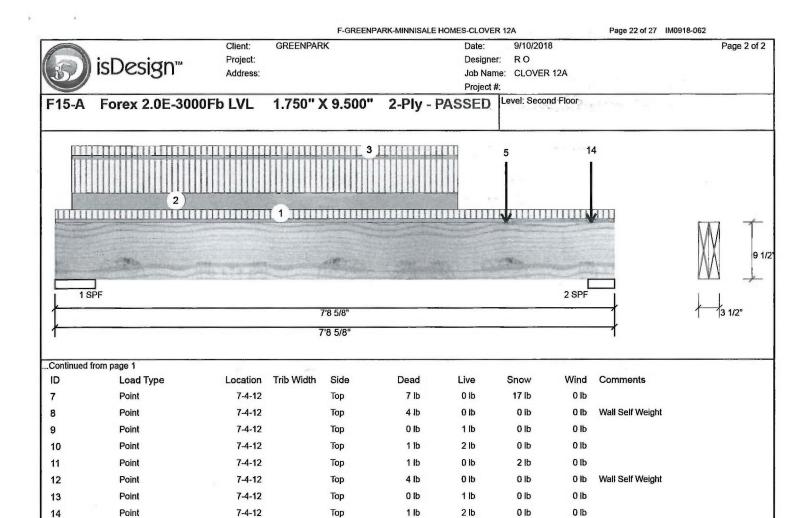
- LVL beams must not be cut or drilled Refer to manufacturer's product informa regarding installation requirements, multi fastening details, beam strength values, and of
- approvals
  Damaged Beams must not be used
  Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to i
  lateral displacement and rotation

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

This design is valid until 7/10/2021

Kott Lumber Company 14 Anderson Bivd, Ontario Canada K2H7V1 905-642-4400





8 PLF



September 13, 2018

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is required at all point loads over bearings

**Refer to Multiple Member Connection** Detail for ply to ply nailing or bolting requirements

#### Notes

Self Weight

#### Lumber

Handling & Installation

- LVL beams must not be cut or drilled
   Refer to manufacturer's product inform regarding installation requirements, must fastening details, beam strength values, and
- approvals
  Demaged Beams must not be used
  Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario K2H7V1 905-642-4400



Address:

GREENPARK

9/10/2018 Date:

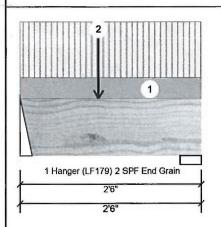
Designer: RO

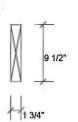
**CLOVER 12A** Job Name:

Level: Second Floor

Project #

1.750" X 9.500" - PASSED Forex 2.0E-3000Fb LVL





Wind

Page 1 of 1

| Member Info       | mation |                |                      |
|-------------------|--------|----------------|----------------------|
| Type:             | Girder | Application:   | Floor (Residential)  |
| Plies:            | 1      | Design Method: | LSD                  |
| Moisture Conditio | n: Dry | Building Code: | NBCC 2010 / OBC 2012 |
| Deflection LL:    | 360    | Load Sharing:  | No                   |
| Deflection TL:    | 240    | Deck:          | Not Checked          |
| Importance:       | Normal | Vibration:     | Not Checked          |
| General Load      |        |                |                      |
| Floor Live:       | 40 PSF |                |                      |
| Dead:             | 15 PSF |                |                      |

| 1 | 236 | 94 | U | U |
|---|-----|----|---|---|
| 2 | 220 | 88 | 0 | 0 |
|   |     |    |   |   |
|   |     |    |   |   |
|   |     |    |   |   |

Dead

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 

#### **Analysis Results** Analysis Actual Location Allowed Capacity Comb. 378 ft-lb 1'1" 11362 ft-lb 0.033 (3%) 1.25D+1.5L L Moment 1'1" 10620 ft-lb 0.036 (4%) 1.25D+1.5L L 378 ft-lb Unbraced 0.074 (7%) 1.25D+1.5L L 10 3/4" 4638 lb Shear 341 lb Perm Defl in. 0.001 1'1" 0.072 (L/360) 0.010 (1%) D Uniform (L/35992)0.002 1'1" 0.072 (L/360) 0.030 (3%) L LL Defl inch (L/13989) 0.003 1'1" 0.108 (L/240) 0.020 (2%) D+L TL Defl inch (L/10074)

**Bearings and Factored Reactions** Cap. React D/L lb

Live

Total Ld. Case Bearing Length Ld. Comb. 2.000" 18% 117 / 357 474 L 1.25D+1.5L Hanger 2 - SPF 3.500" 10% 1.25D+1.5L 110 / 330 440 L

End Grain

Brg

PROFESSIONAL I.MATIJEVIC 100528832 OVINCE OF ONTRE

September 13, 2018

| 1 | Fill | all | hanger | nailing | holes |
|---|------|-----|--------|---------|-------|
|   | LIII | all | nanyei | Hamilia | Holes |

**Design Notes** 

- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.

| ID | Load Type   | Location       | Trib Width   | Side      | Dead   | Live   | Snow  | Wind  | Comments |
|----|-------------|----------------|--------------|-----------|--------|--------|-------|-------|----------|
| 1  | Tie-In      | 0-0-0 to 2-6-0 | (Span)3-7-11 | Тор       | 15 PSF | 40 PSF | 0 PSF | 0 PSF |          |
| 2  | Point       | 1-1-0          |              | Near Face | 104 lb | 276 lb | 0 lb  | 0 lb  | J1       |
|    | Self Weight |                |              |           | 4 PLF  |        |       |       |          |

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Lumber

chemicals

Handling & Installation

- ams must not be cut or drilled to manufacturer's product infor ng installation requirements, m

For flat roofs provide proper drainage to prevent ponding

Forex APA: PR-L318

Manufacturer Info

Kott Lumber Company 14 Anderson Blvd, Ontario K2H7V1





Address:

**GREENPARK** 

9/13/2018

Designer: RO

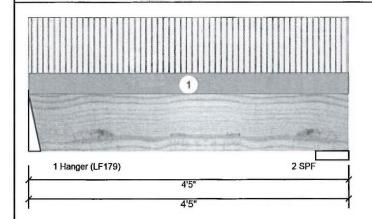
Job Name: CLOVER 12A

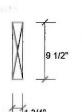
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Second Floor





Page 1 of 1

| Member Inf   | ormation                                    |  |                                 |   |            |               | Unfacto                  | red React        | ions U           | <b>NPATTERNI</b>         | ED Ib (     | Uplift)        |                         |
|--|---|--|---------------------------------|---|------------|---------------|--------------------------|------------------|------------------|--------------------------|-------------|----------------|-------------------------|
| Type: Girder Plies: 1  Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance: Normal General Load Floor Live: 40 PSF Dead: 15 PSF |   | Application  Design M  Building C  Load Sha  Deck:  Vibration: | ethod: L<br>Code: N<br>rring: N | loor (Residenti<br>SD<br>BCC 2010 / O<br>to<br>lot Checked<br>lot Checked |            | Brg<br>1<br>2 | Live<br>165<br>188       | tored L          | Dead<br>70<br>80 | Sno                      | w<br>0<br>0 | Wind<br>0<br>0 |                         |
| Dead:  | 15 PSF                                      |  |                                 | -   |            |               | Bearing<br>1 -<br>Hanger | Length<br>2.000" |                  | React D/L lb<br>87 / 248 | 335         | 10             | Ld. Comb.<br>1.25D+1.5L |
| Analysis Res   |   |  |                                 |   |            |               | 2 - SPF                  | 5.500"           | 6%               | 99 / 283                 | 382         |                | 1.25D+1.5L              |
| Analysis   | Actual                                      | Location   |                                 | Capacity  | Comb.      | Case          |                          |                  |                  |                          | _           | -              |                         |
| Moment   | 311 ft-lb                                   | 2' 3/4"  | 11362 ft-lb                     | 0.027 (3%)  |            |               |                          |                  |                  |                          | OROF        | ESSION         |                         |
| Unbraced   | 311 ft-lb                                   | 2' 3/4"  | 8938 ft-lb                      |   | 1.25D+1.5L |               |                          |                  |                  | .0                       |             |                | Y.                      |
| Shear  | 189 lb                                      | 10 3/4"  |                                 |   | 1.25D+1.5L | L             | 1                        |                  |                  | 15                       |             |                | 1.31                    |
| Perm Defl in.  | 0.001<br>(L/40340)                          | 2' 13/16"  | 0.131 (L/360)                   | 0.010 (1%)  | D          | Uniform       |                          |                  |                  | LICENSES                 | I.MA        | TIJEVIC        | <b>コ</b> [[]            |
| LL Defl inch   | 0.003<br>(L/17048)                          | 2' 13/16"  | 0.131 (L/360)                   | 0.020 (2%)  | L          | L             |                          |                  |                  | 13                       | 1005        | 528832         | A CNGINEER              |
| TL Defl inch   | 0.004<br>(L/11984)                          | 2' 13/16"  | 0.196 (L/240)                   | 0.020 (2%)  | D+L        | L             |                          |                  |                  | 12                       | 7           | li)            | 7.1                     |
|  | es<br>er nailing holes.<br>designed to be s | upported on the  | a bottom adaa                   | anly  |            |               | -                        |                  |                  | 10                       | VINCE       | OF ON          | TARL                    |
| 3 Top braced   |   | upported on ti   | ie bollom euge                  | orny.   |            |               |                          |                  |                  | Se                       | ptem        | ber 13, 2      | 018                     |

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

Live

80 PLF

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

#### Notes

ID

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended Lumber

4 Bottom braced at bearings

Load Type

Self Weight

Uniform

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Handling & Installation

Location

Trib Width

Side

Top

1.VJ. beams must not be cut or drilled
 2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
 3. Damaged Beams must not be used

approvals
Damaged Beams must not be used
Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation

Dead

30 PLF

4 PLF

Forex

Snow

0 PLF

APA: PR-L318

Manufacturer Info

Wind

0 PLF

Comments

Kott Lumber Company 3228 Moodie Dr., Ontario Canada K2H7V1 613-838-2775







Address:

**GREENPARK** 

Date: 9/10/2018

Designer: RO Job Name: CLOVER 12A

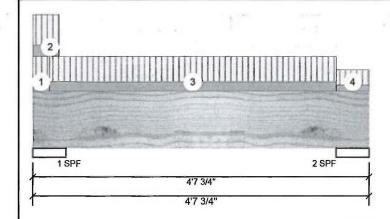
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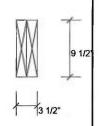
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor





Page 1 of 1

| Member Inform       | nation |                |                      | Unfactored Reactions UNPATTERNED Ib (Uplift) |           |         |              |       |          |            |
|---------------------|--------|----------------|----------------------|--|-----------|---------|--------------|-------|----------|------------|
| Туре:               | Girder | Application:   | Floor (Residential)  | Brg  | Live      |         | Dead         | Sno   | W        | Wind       |
| Plies:              | 2      | Design Method: | LSD                  | 1  | 36        |         | 31           |       | 0        | 0          |
| Moisture Condition: | Dry    | Building Code: | NBCC 2010 / OBC 2012 | 2  | 28        |         | 28           |       | 0        | 0          |
| Deflection LL:      | 360    | Load Sharing:  | No                   |  |           |         |              |       |          |            |
| Deflection TL:      | 240    | Deck:          | Not Checked          |  |           |         |              |       |          |            |
| Importance:         | Normal | Vibration:     | Not Checked          |  |           |         |              |       |          |            |
| General Load        |        |                |                      |  |           |         |              |       |          |            |
| Floor Live:         | 40 PSF |                |                      | Bearing                                      | s and Fac | tored R | leactions    |       |          |            |
| Dead:               | 15 PSF |                |                      | Bearing                                      | Length    | Cap.    | React D/L lb | Total | Ld. Case | Ld. Comb.  |
|                     |        |                |                      | 1 - SPF                                      | 5.500"    | 1%      | 39 / 53      | 92    | L        | 1.25D+1.5L |
|                     |        |                |                      | 2-SPF  | 5,500"    | 1%      | 35 / 42      | 77    | L        | 1.25D+1.5L |

### **Analysis Results**

| Analysis      | Actual        | Location | Allowed       | Capacity   | Comb.      | Case |
|---------------|---------------|----------|---------------|------------|------------|------|
| Moment        | 65 ft-lb      | 2'3 7/8" | 22724 ft-lb   | 0.003 (0%) | 1.25D+1.5L | L    |
| Unbraced      | 65 ft-lb      | 2'3 7/8" | 22724 ft-lb   | 0.003 (0%) | 1.25D+1.5L | L    |
| Shear         | 40 lb         | 3'5 1/2" | 9277 lb       | 0.004 (0%) | 1.25D+1.5L | L    |
| Perm Defl in. | 0.000 (L/999) | 0        | 999.000 (L/0) | 0.000 (0%) |            |      |
| LL Defl inch  | 0.000 (L/999) | 0        | 999.000 (L/0) | 0.000 (0%) |            |      |
| TL Defl inch  | 0.000 (L/999) | 0        | 999.000 (L/0) | 0.000 (0%) |            |      |

#### Design Notes

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on full section width.



September 13, 2018

| 0  |             |                   |              |      |        |        |       |  |
|----|-------------|-------------------|--------------|------|--------|--------|-------|--|
| ID | Load Type   | Location          | Trib Width   | Side | Dead   | Live   | Snow  | Wind Comments                              |
| 1  | Tie-In      | 0-0-0 to 0-2-12   | (Span)0-7-12 | Тор  | 15 PSF | 40 PSF | 0 PSF | 0 PSF                                      |
| 2  | Tie-In      | 0-0-0 to 0-4-6    | (Span)0-9-4  | Тор  | 15 PSF | 40 PSF | 0 PSF | 0 PSF                                      |
| 3  | Tie-In      | 0-2-12 to 4-2-4   | (Span)0-7-12 | Тор  | 15 PSF | 40 PSF | 0 PSF | 0 PSF                                      |
| 4  | Tie-In      | 4-2-4 to 4-7-12   | (Span)0-4-12 | Тор  | 15 PSF | 40 PSF | 0 PSF | 0.PSF<br>Pass-Thru Framing Squash Block is |
|    | Self Weight | READ ALL NOTES O  |              |      | 8 PLF  |        |       | required at all point loads over bearings  |
|    |             | IS AN INTEGRAL PA |              |      | 1      |        |       | Refer to Multiple Member Connection        |

Notes

### Lumber

Handling & Installation

IN THE DESIGN OF THIS COMPONENT.

- LVL beams must not be cut or drilled
   Refer to manufacturer's product regarding installation requirements
- approvals

  Damaged Beams must not be used

  Design assumes top edge is laterally restrained

  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

Forex APA: PR-L318

Manufacturer Info

Kott Lumber Company 14 Anderson Blvd, Onlario Canada K2H7V1 905-642-4400

Detail for ply to ply nailing or bolting

This design is valid until 7/10/2021



requirements



Client:

Address:

**GREENPARK** 

Project:

Date:

9/10/2018 Designer: RO

Job Name: CLOVER 12A

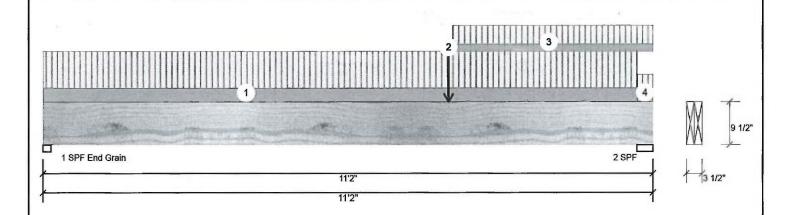
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

evel: Second Floor



| Member Inforn       | nation |            | Service American |                      |                | actored Reactions UNPATTERNED lb (Uplift) |         |              |       |          |              |
|---------------------|--------|------------|------------------|----------------------|----------------|---|---------|--------------|-------|----------|--------------|
| Туре:               | Girder |            | Application:     | Floor (Residential)  | Brg            | Live                                      |         | Dead         | Snov  | ,        | Wind         |
| Plies:              | 2      |            | Design Method:   | LSD                  | 1              | 147                                       |         | 100          | (     | )        | 0            |
| Moisture Condition: | Dry    |            | Building Code:   | NBCC 2010 / OBC 2012 | 2              | 181                                       |         | 116          | (     | )        | 0            |
| Deflection LL:      | 360    |            | Load Sharing:    | No                   |                |   |         |              |       |          |              |
| Deflection TL:      | 240    |            | Deck:            | Not Checked          |                |   |         |              |       |          |              |
| Importance:         | Normal |            | Vibration:       | Not Checked          |                |   |         |              |       |          |              |
| General Load        |        |            |                  |                      |                |   |         |              |       |          |              |
| Floor Live:         | 40 PSF |            | ls.              |                      | Bearings       | and Fac                                   | tored F | Reactions    |       |          |              |
| Dead:               | 15 PSF |            |                  |                      | Bearing        | Length                                    | Сар.    | React D/L lb | Total | Ld. Case | Ld. Comb.    |
|                     |        |            |                  |                      | 1 - SPF<br>End | 1.750"                                    | 8%      | 125 / 221    | 345   | L        | 1.25D+1.5L   |
| Analysis Result     | 5      |            |                  |                      | Grain          | 0.5000                                    | 00/     | 445 1074     | 440   |          | 4.050 - 4.51 |
| Analysis Act        | ual    | Location A | llowed Capaci    | ty Comb. Case        | 2-SPF          | 3.500"                                    | 6%      | 145 / 271    | 416   | L        | 1.25D+1.5L   |

#### 0.043 (4%) 1.25D+1.5L L 972 ft-lb 5'9 9/16" 22724 ft-lb Moment 0.048 (5%) 1.25D+1.5L L Unbraced 972 ft-lb 5'9 9/16" 20397 ft-lb 336 lb 10'1 3/4" 9277 lb 0.036 (4%) 1.25D+1.5L L Shear Perm Defl in. 0.013 5'7 1/16" 0.362 (L/360) 0.040 (4%) D Uniform (L/10035) LL Defl inch 0.019 (L/6814) 5'7 1/16" 0.362 (L/360) 0.050 (5%) L TL Defl inch 0.032 (L/4058) 5'7 1/16" 0.543 (L/240) 0.060 (6%) D+L



- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on full section width



September 13, 2018

| ID | Load Type   | Location  | Trib Width                                      | Side                                   | Dead   | Live   | Snow  | Wind   | Comments  |
|----|-------------|---|---|--|--------|--------|-------|--------|---|
| 1  | Tie-In      | 0-0-0 to 10-10-8  | (Span)1-3-4                                     | Тор                                    | 15 PSF | 40 PSF | 0 PSF | 0 PSF  |   |
| 2  | Point       | 7-5-2   |   | Far Face                               | 8 lb   | 0 lb   | 0 lb  | 0 lb   | F6  |
| 3  | Tie-In      | 7-6-0 to 11-2-0   | (Span)0-7-12                                    | Тор                                    | 15 PSF | 40 PSF | 0 PSF | 0 PSF  |   |
| 4  | Tie-In      | 10-10-8 to 11-2-0   | (Span)0-8-4                                     | Тор                                    | 15 PSF | 40 PSF | 0 PSF |        | Thru Framing Squash Block is  |
|    | Self Weight | READ ALL NOTES ON   | THIS PAGE AND                                   | ON THE                                 | 8 PLF  |        |       | requi  | red at all point loads over bearings  |
|    |             | ENGINEERING NOTE P<br>IS AN INTEGRAL PART<br>CONTAINS SPECIFICA<br>IN THE DESIGN OF THI | AGE ENP-2. TH<br>OF THIS DRAW<br>TIONS AND CRIT | E NOTE PAGE<br>ING AS IT<br>FERIA USED |        |        |       | Detail | to Multiple Member Connection<br>I for ply to ply nailing or bolting<br>rements |
|    |             |   |   |  |        |        | T     |        | I Martin Common   |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product in regarding installation requirements, fastening details, beam strength values, and the strength values.
- tastening details, beam strengen values, and code approvals

  Damaged Beams must not be used

  Design assumes top edge is laterally restrained

  Provide lateral support at bearing points to avoid lateral displacement and rotation

For flat roots provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info

Forex APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Onlario Canada Canada K2H7V1 905-642-4400





Client: Address:

**GREENPARK** Project:

Date:

9/10/2018

Designer: RO Job Name: CLOVER 12A

Project #:

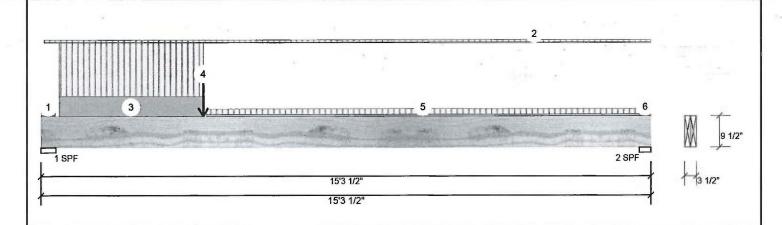
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor

Unfactored Reactions UNPATTERNED Ib (Uplift)



| Aleilibei Tilloi   | mation  | * *            |                      | Office reactions of ATTERIALD ID (Oping) |           |        |              |       |          |            |  |
|--------------------|---------|----------------|----------------------|--|-----------|--------|--------------|-------|----------|------------|--|
| Туре:              | Girder  | Application:   | Floor (Residential)  | Brg                                      | Live      |        | Dead         | Snov  | v        | Wind       |  |
| Plies:             | 2       | Design Method: | LSD                  | 1  | 1110      |        | 478          |       | 0        | 0          |  |
| Moisture Condition | on: Dry | Building Code: | NBCC 2010 / OBC 2012 | 2  | 424       |        | 218          | ,     | 0        | O          |  |
| Deflection LL:     | 360     | Load Sharing:  | No                   |  |           |        |              |       |          |            |  |
| Deflection TL:     | 240     | Deck:          | Not Checked          |  |           |        |              |       |          |            |  |
| Importance:        | Normal  | Vibration:     | Not Checked          |  |           |        |              |       |          |            |  |
| General Load       |         |                |                      |  |           |        |              |       |          |            |  |
| Floor Live:        | 40 PSF  | 196            |                      | Bearings                                 | and Facto | ored F | Reactions    |       |          |            |  |
| Dead:              | 15 PSF  |                |                      | Bearing I                                | Length    | Cap.   | React D/L lb | Total | Ld. Case | Ld. Comb.  |  |
|                    |         |                |                      | 1 - SPF 4                                | 4.500"    | 23%    | 598 / 1665   | 2263  | L        | 1.25D+1.5L |  |
|                    |         |                |                      | 2-SPF :                                  | 3.500"    | 12%    | 272 / 635    | 908   | L        | 1.25D+1.5L |  |

#### **Analysis Results**

Member Information

| Analysis      | Actual         | Location  | Allowed       | Capacity    | Comb.      | Case    |
|---------------|----------------|-----------|---------------|-------------|------------|---------|
| Moment        | 5139 ft-lb     | 4' 5/8"   | 22724 ft-lb   | 0.226 (23%) | 1.25D+1.5L | L       |
| Unbraced      | 5139 ft-lb     | 4' 5/8"   | 18427 ft-lb   | 0.279 (28%) | 1.25D+1.5L | L       |
| Shear         | 1917 lb        | 1'1 1/4"  | 9277 lb       | 0.207 (21%) | 1.25D+1.5L | L       |
| Perm Defl in. | 0.089 (L/2000) | 7'2 5/16" | 0.492 (L/360) | 0.180 (18%) | D          | Uniform |
| LL Defi inch  | 0.189 (L/937)  | 7' 7/8"   | 0.492 (L/360) | 0.380 (38%) | L          | L       |
| TL Defl inch  | 0.277 (L/638)  | 7'1 3/8"  | 0.738 (L/240) | 0.380 (38%) | D+L        | L       |

#### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on full section width.



September 13, 2018

Wind Comments

| טו | Load Type     | Location         | i rib vylatn | Side     | Dead   | Live    | Snow  | vvina   | Comments                        |
|----|---------------|------------------|--------------|----------|--------|---------|-------|---|---------------------------------|
| 1  | Tie-In        | 0-0-0 to 0-4-6   | (Span)0-7-12 | Тор      | 15 PSF | 40 PSF  | 0 PSF | 0 PSF   |                                 |
| 2  | Tie-In        | 0-1-0 to 15-3-8  | (Span)0-6-4  | Тор      | 15 PSF | 40 PSF  | 0 PSF | 0 PSF   |                                 |
| 3  | Part. Uniform | 0-5-8 to 4-0-10  |              | Тор      | 90 PLF | 240 PLF | 0 PLF | 0 PLF   |                                 |
| 4  | Point         | 4-0-10           |              | Far Face | 94 lb  | 238 lb  | 0 lb  | 0 lb  | F5                              |
| 5  | Tie-In        | 4-1-8 to 15-0-0  | (Span)1-2-12 | Тор      | 15 PSF | 40 PSF  | 0 PSF | READ AL   | L NOTES ON THIS PAGE AND ON THE |
| 6  | Tie-In        | 15-0-0 to 15-3-8 | (Span)0-5-12 | Тор      | 15 PSF | 40 PSF  | 0 PSF | ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE<br>IS AN INTEGRAL PART OF THIS DRAWING AS IT |                                 |
|    | Self Weight   |                  |              |          | 8 PLF  |         |       | CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.              |                                 |

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended application, and to verify the dimensions and loads.

#### Lumber

chemicals

Handling & Installation

Handling & Installation

1. LVL beams must not be cut or drilled

2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

3. Damaged Beams must not be used

4. Design assumes top edge is laterally restrained

5. Provide lateral support at bearing points to avoid lateral displacement and rotation

Taile Middle

For flat roofs provide propording

Manufacturer info Pass-Thru Francia Squash Block is required at all point holds over bearings

> Refer to Multiple Member Connection Detail for ply to ply nailing or bolting

requirements
This design is valid until 7/10/2021

Kott Lumber Company 14 Anderson Blvd, Onlario Canada K2H7V1 905-642-4400

