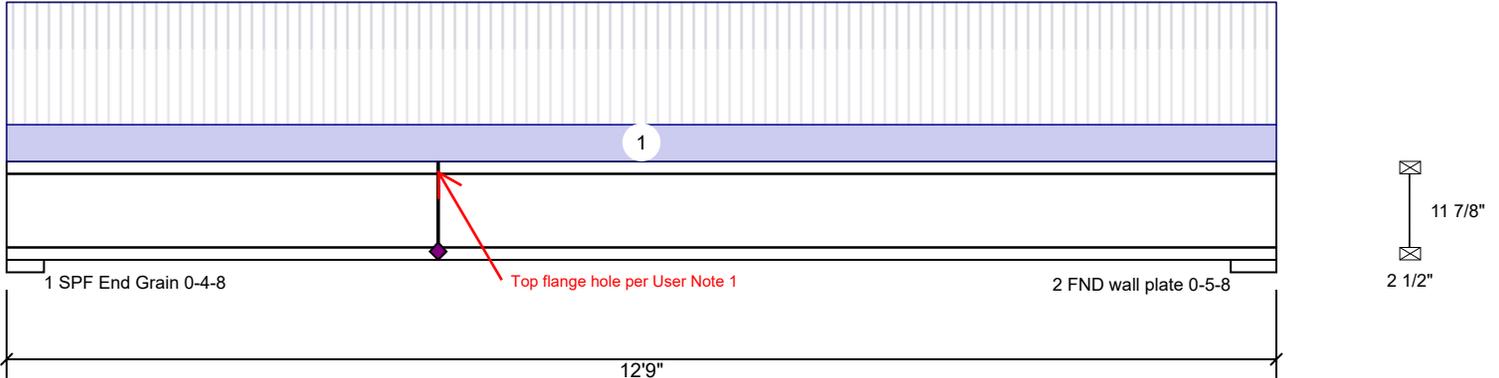


**FJ13 BLI 40 11.875" - No Repair Required**  
**See User Note 1**

Level: Level



**Member Information**

|                     |               |                |  |
|---------------------|---------------|----------------|--|
| Type:               | Joist         | Application:   | Floor  |
| Spacing:            | 16" o.c.      | Design Method: | ASD  |
| Moisture Condition: | Dry           | Building Code: | IBC 2018                                       |
| Deflection LL:      | 480           | Load Sharing:  | No   |
| Deflection TL:      | 240           | Deck:          | 23/32 APA Rated Sheathing OSB Nailed and Glued |
| Importance:         | Normal - II   |                |  |
| Temperature:        | Temp <= 100°F |                |  |
| General Load        |               |                |  |
| Floor Live:         | 40 PSF        |                |  |
| Dead:               | 2 PSF         |                |  |
| Snow:               | 10 PSF        |                |  |
| Wind:               | 10 PSF        |                |  |
| Construction:       | 10 PSF        |                |  |

**Reactions PATTERNED lb (Uplift)**

| Brg | Direction | Live | Dead | Snow | Wind | Const |
|-----|-----------|------|------|------|------|-------|
| 1   | Vertical  | 338  | 101  | 0    | 0    | 0     |
| 2   | Vertical  | 342  | 103  | 0    | 0    | 0     |

**Bearings**

| Bearing            | Length | Dir. | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|--------------------|--------|------|------|--------------|-------|----------|-----------|
| 1 - SPF End Grain  | 4.500" | Vert | 31%  | 101 / 338    | 439   | L        | D+L       |
| 2 - FND wall plate | 5.500" | Vert | 31%  | 103 / 342    | 445   | L        | D+L       |

**Analysis Results**

| Analysis     | Actual         | Location | Allowed       | Capacity | Comb. | Case |
|--------------|----------------|----------|---------------|----------|-------|------|
| Moment       | 1257 ft-lb     | 6'4"     | 3545 ft-lb    | 35%      | D+L   | L    |
| Shear        | 413 lb         | 4 1/2"   | 1480 lb       | 28%      | D+L   | L    |
| LL Defl inch | 0.077 (L/1865) | 6'4"     | 0.301 (L/480) | 26%      | L     | L    |
| TL Defl inch | 0.101 (L/1435) | 6'4"     | 0.602 (L/240) | 17%      | D+L   | L    |

**Location Analysis**

| Analysis Type | Location | Max Value  | Ld. Comb. | Ld. Case |
|---------------|----------|------------|-----------|----------|
| Pos Moment    | 4'4"     | 1118 ft-lb | D+L       | L        |
| Shear         | 4'4"     | 139 lb     | D+L       | L        |
| Down Defl     | 4'4"     | 0.088      | D+L       | L        |

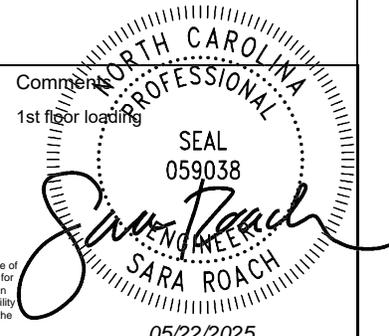
**Design Notes**

- Bearing 2: FND wall plate; fcp = 0 psi (user input)
- Provide support to prevent lateral movement and rotation at the end bearings.
- Bottom flange must be laterally braced at bearings.

**User Notes**

- Location Analysis represents a vertical hole through one leg of top flange. The web was not disturbed. This design based on scaling of provided photograph. No definitive cross-section dimensions of joist flange hole were provided. No repair required.

| ID | Load Type | Location | Trib Width | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments          |
|----|-----------|----------|------------|----------|--------|-----------|----------|-------------|-------------------|
| 1  | Uniform   |          | 1-4-0      | 12 PSF   | 40 PSF | 0 PSF     | 0 PSF    | 0 PSF       | 1st floor loading |



A seal on this document indicates acceptance of professional engineering responsibility solely for the individual component based on the design criteria shown on this sheet only. The suitability & use of this component for any structure is the responsibility of the Building Designer.

05/22/2025

**Notes**

Calculated Structural 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
- Joist not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

- Joist flanges must not be cut or drilled
- Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection 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 stiffeners 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 9/3/2027

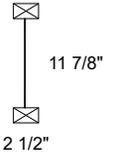
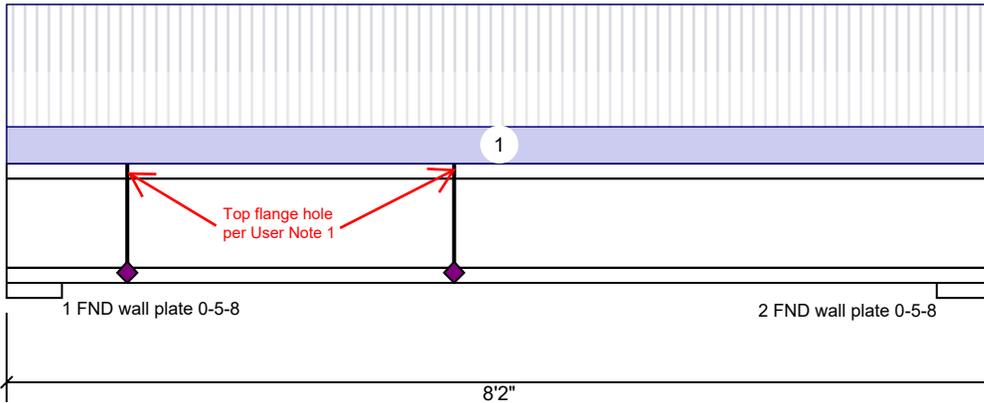
**Manufacturer Info**

BlueLinX  
 1950 Spectrum Circle, Suite 300  
 Marietta, GA 30067  
 877-914-7770  
 www.buildoncenter.com  
 ICC-ES: ESR-1262, ESR-1290

Professional Builders Supply  
 3941 US Highway 421 North, NC  
 USA  
 28401  
 910-386-4300

**FJ9 BLI 40 11.875" -- No Repair Required**  
**See User Note 1**

Level: Level



**Member Information**

|                     |               |                |  |
|---------------------|---------------|----------------|--|
| Type:               | Joist         | Application:   | Floor  |
| Spacing:            | 16" o.c.      | Design Method: | ASD  |
| Moisture Condition: | Dry           | Building Code: | IBC 2018                                       |
| Deflection LL:      | 480           | Load Sharing:  | No   |
| Deflection TL:      | 240           | Deck:          | 23/32 APA Rated Sheathing OSB Nailed and Glued |
| Importance:         | Normal - II   |                |  |
| Temperature:        | Temp <= 100°F |                |  |
| General Load        |               |                |  |
| Floor Live:         | 40 PSF        |                |  |
| Dead:               | 2 PSF         |                |  |
| Snow:               | 10 PSF        |                |  |
| Wind:               | 10 PSF        |                |  |
| Construction:       | 10 PSF        |                |  |

**Reactions PATTERNED lb (Uplift)**

| Brg | Direction | Live | Dead | Snow | Wind | Const |
|-----|-----------|------|------|------|------|-------|
| 1   | Vertical  | 218  | 65   | 0    | 0    | 0     |
| 2   | Vertical  | 218  | 65   | 0    | 0    | 0     |

**Bearings**

| Bearing            | Length | Dir. | Cap. | React D/L lb | Total | Ld. Case | Ld. Comb. |
|--------------------|--------|------|------|--------------|-------|----------|-----------|
| 1 - FND wall plate | 5.500" | Vert | 20%  | 65 / 218     | 283   | L        | D+L       |
| 2 - FND wall plate | 5.500" | Vert | 20%  | 65 / 218     | 283   | L        | D+L       |

**Analysis Results**

| Analysis     | Actual         | Location  | Allowed       | Capacity | Comb. | Case |
|--------------|----------------|-----------|---------------|----------|-------|------|
| Moment       | 471 ft-lb      | 4'1"      | 3545 ft-lb    | 13%      | D+L   | L    |
| Shear        | 251 lb         | 7'8 1/2"  | 1480 lb       | 17%      | D+L   | L    |
| LL Defl inch | 0.014 (L/6137) | 4'1 1/16" | 0.184 (L/480) | 8%       | L     | L    |
| TL Defl inch | 0.019 (L/4720) | 4'1 1/16" | 0.369 (L/240) | 5%       | D+L   | L    |

**Location Analysis**

| Analysis Type | Location | Max Value | Ld. Comb. | Ld. Case |
|---------------|----------|-----------|-----------|----------|
| Pos Moment    | 1'       | 142 ft-lb | D+L       | L        |
| Shear         | 1'       | 214 lb    | D+L       | L        |
| Down Defl     | 1'       | 0.005     | D+L       | L        |
| Pos Moment    | 3'8 1/2" | 467 ft-lb | D+L       | L        |
| Shear         | 3'8 1/2" | 26 lb     | D+L       | L        |
| Down Defl     | 3'8 1/2" | 0.019     | D+L       | L        |

**Design Notes**

- Bearing 1: FND wall plate; fcp = 0 psi (user input), Bearing 2: FND wall plate; fcp = 0 psi (user input)
- Provide support to prevent lateral movement and rotation at the end bearings.
- Bottom flange must be laterally braced at bearings.

**User Notes**

- Location Analysis points represent two vertical holes through one leg of top flange. The web was not disturbed. This design based on scaling of provided photograph. No definitive cross-section dimensions of joist flange holes were provided. No repair required.

| ID | Load Type | Location | Trib Width | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments          |
|----|-----------|----------|------------|----------|--------|-----------|----------|-------------|-------------------|
| 1  | Uniform   |          | 1-4-0      | 12 PSF   | 40 PSF | 0 PSF     | 0 PSF    | 0 PSF       | 1st floor loading |

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**Notes**

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- Lumber**
- Dry service conditions, unless noted otherwise
  - Joist not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

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