CITY OF PORTLAND, MAINE RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/30/16

Design - Planning - Inspection
Andy Vanasse, P.E.
PO Box 1892
Wells, ME 04090

7/5/2016

Chris Marshall
190 Coyle St
Portland, ME

RE: 190 Coyle St- Second Floor Beam Design

Dear Chris,

Below describes the 24' +/- long continuous spanning, glulam beam and exposed center column support suitable for the support of the second floor, including the transfer of loads from the above floors and roof structure. In addition, the beam and column have been sized to meet the 1-hour rating requirements using section M16: Fire Design, from the ASD/LRFD Manual for Engineered Wood Construction, Table M16.2-5 Design Load Ratios for Compression Members Exposed on Four Sides, and Table M16.2-2 Design Loads for Bending Members Exposed on Three Sides. When ordering these products, it critical that they be special ordered as a Fire Rated product so that they be constructed correctly to meet code requirements. Also request a signed letter of certification stating the members where constructed to meet the IBC code for continuous beam Fire Rated construction. The manufacture typically submits this letter free of charge.

- Beam: 24F-V5 STK G-LAM, 8 ¾" x 16 ½", 1 PLY, (Anthony Forest Products)
- Colum: 8 ¾" x 11" G-LAM, 1 PLY (Anthony Forest Prodects)

As you are aware, the beam and column are only a part of the necessary structural system. Attached to this letter are several sketches to help plan for the complete system. Please keep in mind, the connections may need to be revised to meet the 1 hour fire rated requirement. I have also attached American Forest & Paper Association approved suggestions to help in this matter. Let me know if you have any questions or require additional design.

Best Regards,

Andy Vanasse, P.E.

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PORTLAND

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SK-1 PARTIAL SECTION

NTS

DRAFT

PROGRESS PRINT

3/30

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SK-2 DETAIL @ POST CONNECTION

NTS

NOTE: DO NOT CUT BEAM PER OWNER'S REQUEST.

PROGRESS PRINT

PRELIMINARY

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M16.3 Wood Connections

Where 1-hour fire endurance is required, connectors and fasteners must be protected from fire exposure by 1.5" of wood, fire-rated gypsum board, or any coating approved for a 1-hour rating. Typical details for commonly used fasteners and connectors in timber framing are shown in Figure M16.3-1 through Figure M16.3-6.

Figure M16.3-1 Beam to Column Connection - Connection Not Exposed to Fire

ELEVATION

Figure M16.3-2 Beam to Column Connection - Connection Exposed to Fire Where Appearance is a Factor

END VIEW ELEVATION

Figure M16.3-3 Ceiling Construction

SECTION

Figure M16.3-4 Beam to Column Connection - Connection Exposed to Fire Where Appearance is Not a Factor

ELEVATION

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Figure M16.3-5 Column Connections Covered

ELEVATION

Figure M16.3-6 Beam to Girder - Concealed Connection

ELEVATION

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BEAM AT END WALL WITH FLOOR JOIST OVER BEAM

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BEAM AT END WALL BEARING