

# TOWN OF PLAINFIELD ZONING AND BUILDING PERMIT APPLICATION



Property owner: VICTORIA GEORGE  
 Mailing Address for permit: 23 FREEMAN RD.  
PLAINFIELD N.H. 03781

Phone number: 414-708-8145 Street Address of project 23 FREEMAN RD. PLAINFIELD NH  
 Tax Map and Lot # 000 259 1000023

Permit Type (circle one): building zoning

Please provide a written description of the project including, when appropriate, dimensions: \_\_\_\_\_  
800 SF LIVING SPACE IN CARRIAGE HOUSE

Lot size: 17 acres Proposed project distances to property lines  
 from 300' rear 1000' side 35' side 400'

Zoning District RC1  
 State Approved Septic Design # CA2020022407  
 Driveway Permit # \_\_\_\_\_

Town Use:	
Current Use	Y / N
ZBA	Y / N
PB	Y / N

### Contractor Information

	Builder	Electrician	Plumber
Name	<u>DEAN SELLARS</u>	<u>RPG ELECTRIC # 7803M</u>	<u>GRANCO INC.</u>
Phone #	<u>802-738-4900</u>	<u>802-368-5081</u>	<u>802-738-7814</u>

Applicant's signature: [Signature] Date: Jan 28, 2020

### Required Attachments

Please provide a copy of plans detailing the project. If construction plans are not available attach a hand drawn map detailing the project.

Permits cannot be issued without receipt of the proper fee. If you are unsure of the amount due or have any questions about your application, contact the town office (603-469-3201).

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### TOWN ACTION

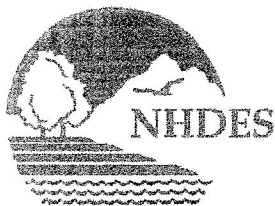
Permit # \_\_\_\_\_ Reviewed \_\_\_\_\_  
 \_\_\_\_\_ Approved \_\_\_\_\_ Building Inspector/Zoning Administrator  
 \_\_\_\_\_ Denied \_\_\_\_\_  
 Date: \_\_\_\_\_

## Jobs First floor

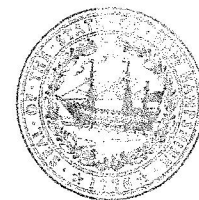
- Beam rises 7"
- Wall replaced.
- Ceiling joist in garage + storage area. (Hangers)  
Over walls in garage.
- Reframe windows to fit New windows. North, East,  
South, West
- Reframe doors- West, East. – Interior doors.
- Frame in new walls, Pad out 2x4 walls to 2x6.
- Frame in new stairway.
- Fire blocks between floors.
- Fire code walls- between garage + living Room.
- Frame storage area slide door.
- Removal- windows, clap boards trim outside
- New ½ (Cdx) siding out, tyvac- new clapboards, trim  
new windows+ doors installed insulations, drywall,  
paint.
- Electrical installed
- Plumbing, septic installed
- Concrete work –(floors)
- Trim
- Insulation
- Kitchen installed – Cabinets ect. Shelf

Jobs  
Second floor

- Windows removed – new installed
- Frame windows
- Closets framed- Dead spaced Framed
- Insulation - Drywell- paint
- Electrical - Flooring, trim
- Bathroom Framed
- Exterior (same as First floor)



The State of New Hampshire  
Department of Environmental Services



Robert R. Scott, Commissioner

## APPROVAL FOR CONSTRUCTION OF INDIVIDUAL SEWAGE DISPOSAL SYSTEM (ISDS)

AS AUTHORIZED BY THE NH DEPARTMENT OF ENVIRONMENTAL SERVICES, WATER DIVISION PURSUANT TO RSA 485-A, WATER POLLUTION AND WASTE DISPOSAL AND ENV-WQ 1000, SUBDIVISION AND INDIVIDUAL SEWAGE DISPOSAL SYSTEM DESIGN RULES.

**APPLICATION APPROVAL DATE:** 2/24/2020

**APPROVAL NUMBER:** eCA2020022407

**I. PROPERTY INFORMATION**

**Address:** 23 FREEMAN ROAD  
PLAINFIELD NH 03781  
**Subdivision Approval No.:** 5 PLUS ACRES  
**Subdivision Name:**  
**County:** SULLIVAN  
**Tax Map/Lot No.:** 259/23

**II. OWNER INFORMATION**

**Name:** VICTORIA GEORGE  
**Address:** 23 FREEMAN ROAD  
PLAINFIELD NH 03781

**III. APPLICANT INFORMATION**

**Name:** RANDALL F RHOADES  
**Address:** PO BOX 1466  
CHARLESTOWN NH 03603

**IV. DESIGNER INFORMATION**

**Name:** RANDALL F RHOADES  
**Address:** PO BOX 1466  
CHARLESTOWN NH 03603  
**Permit No.:** 01375

**V. SPECIFIC TERMS AND CONDITIONS:** Applicable to this Approval for Construction

**A. TYPE OF SYSTEM:** ENVIROSEPTIC

**B. NO. OF BEDROOMS:** 0

**C. APPROVED FLOW:** 225 GPD

**D. OTHER CONDITIONS AND WAIVERS:**

1. This approval is valid for 4 years from date of approval, per Env-Wq 1004.13.
2. Approved for a 1-bedroom apartment @ 225 GPD.
3. No waivers have been approved.

Travis Guest  
Subsurface Systems Bureau

March 2, 2020

Dean Sellars  
1977 Connecticut River Road  
Springfield, VT 05156

re: 23 Freeman Road, Plainfield, NH  
Structural Opinions regarding Carriage House framing

Dear Dean,

I was asked to look at the structural framing in the main part of the Carriage House, which is to be renovated into living space. In particular, I was asked to comment on the first floor joists and central LVL beam, as well as the roof rafters.

With regards to the floor joists, the existing LVL splits the joist spans unevenly, with 7.5' on the south side and 12.25' on the north side. Existing joists are 1-7/8"x6-3/4", with an average spacing of 19". For a 40 psf total load, joists on the 7.5' dimension are more than adequate at this size and spacing. On the 12.25' spacing, I calculated an extreme fiber stress in bending ( $F_b$ ) of 1,010 psi. Graded #2 Eastern Hemlock has an  $F_b$  of 1,050 psi for floor loads. The lumber in this case likely precedes current grading standards, and was observed to not have a full cross section in several areas, so I don't feel that the current joists are adequate. I would recommend that you add a 2x8 either beside or between each of the existing joists on all the 12.25' joists that remain after the staircase is roughed in.

With regards to replacing the first floor LVL, you would like it to remain in the same location, just raised to provide more head room. I have recommended that LaValley's help you select the actual LVL for the project, as they can select from different suppliers. You can provide them with your end to end dimension. What they will need to know for sizing is the weight on the beam. Based on a 2<sup>nd</sup> floor design load of 40 psf, and a length of 24', the linear load will be 395 lb/ft.

The roof rafters are currently 2.5x5.75, spaced at 21". The roof pitch is roughly 8/12. The published ground snow load for Plainfield is 90 psf at 1300 feet. According to Google Earth, this site is at the 600 foot elevation. The elevation reduction gives a calculated snow load of 75.3 psf. Figuring in all of the other reductions allowed by code, including a metal roof at an 8/12 pitch, I arrived at a final design snow load of 41 psf. Using a total load of 51 psf, I calculated an  $F_b$  of 770 psi. For comparison, graded #2 Eastern Hemlock has an allowable  $F_b$  of 1,250 psi for roof loads. These calculations didn't factor in the

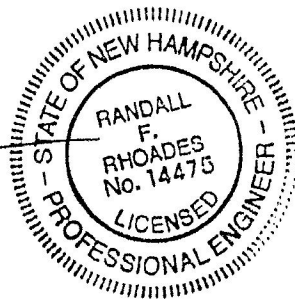
ollar ties, so these numbers are conservative. The only additional rafters that might be needed is if you find an existing rafter that is not full dimension (e.g. if it had bark on it that has come off and affected the dimension) or is heavily cracked. In these circumstances, sister a new 2x6 beside the existing. Obviously the existing roof has been in place for a long time, unheated and likely never shoveled, and does not show signs of distress. The renovated building will be heated, which will improve upon the existing condition.

Please give me a call with any questions you may have.

Sincerely,



Randall Rhoades, PE  
Principal



March 4, 2020

Dean Sellars  
1977 Connecticut River Road  
Springfield, VT 05156

re: 23 Freeman Road, Plainfield, NH  
Structural Opinions regarding Carriage House Concrete

Dear Dean,

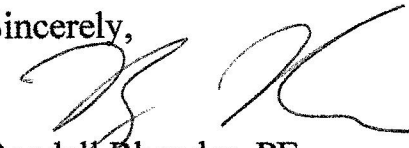
You have asked for comment regarding the existing concrete foundation, specifically with regards to supporting posts for the new construction.

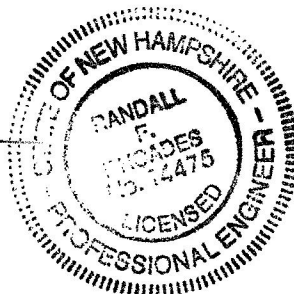
You have looked into the existing perimeter concrete, and reported to me that the footing appears to be 3" thick, and extends a few inches beyond an 8" wide x 16" high concrete stem wall. That likely translates to a 12" wide footing. While this doesn't meet current codes, it is more than adequate to bear the weight of this building. The highest point loads will be for the posts at the end of the new LVL in the ceiling of the first floor of the living space. Based on a 5.5 square inch post, and the previously calculated loads on this LVL, the bearing of these posts on the concrete is just under 200 psi. Even "old" concrete in good shape can be assumed to be a minimum of 2,500 psi in compression. Based on my observations of the concrete in other locations in this building, I believe you will find the concrete to be acceptable for the intended use. The posts, or 2x6's, will bear on a sill plate, use L-brackets or similar to attach posts to the sill.

One thing to consider in your discussions with the Town is that these posts already bear on the concrete in the same place that the replacement posts will bear, and you are adding little extra weight beyond what the framing has historically been subjected to.

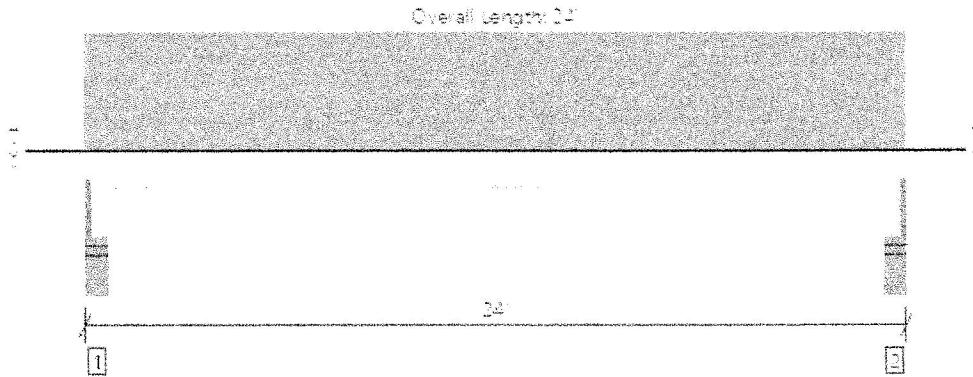
Please give me a call with any questions you may have.

Sincerely,

  
Randall Rhoades, PE  
Principal



Level, Floor: Flush Beam  
**4 piece(s) 1 3/4" x 18" 2.0E Microllam® LVL**



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	9597 @ 4"	12644 (4.25")	Passed (76%)	—	1.0 D + 1.0 L (All Spans)
Shear (lbs)	8101 @ 1' 11 1/2"	23940	Passed (34%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	54904 @ 12'	77506	Passed (71%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.584 @ 12'	0.583	Passed (L/480)	—	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.841 @ 12'	1.167	Passed (L/333)	—	1.0 D + 1.0 L (All Spans)

System : Floor  
 Member Type : Flush Beam  
 Building Use : Residential  
 Building Code : IBC 2015  
 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 10' 3" o/c based on loads applied, unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 23' 10" o/c based on loads applied, unless detailed otherwise.
- Member should be side-loaded from both sides of the member or braced to prevent rotation.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Stud wall - SPF	5.50"	4.25"	3.23"	2957	6720	9677	1 1/4" Rim Board
2 - Stud wall - SPF	5.50"	4.25"	3.23"	2957	6720	9677	1 1/4" Rim Board

• Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	1 1/4" to 23' 10 3/4"	N/A	36.8	—	
1 - Uniform (PSF)	0 to 24' (Front)	7' 9"	15.0	40.0	Default Load
2 - Uniform (PSF)	0 to 24' (Back)	6' 3"	15.0	40.0	Default Load

**Weyerhaeuser Notes**

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Martin Williams Lavalley Building Supply Inc. (603) 863-1050 mwilliams@lavalleys.com	

