

Design Criteria

Roof:

Live load = 25psf
Dead load = 10psf
35psf

Upper Floor:

Live load = 30psf
Dead load = 10psf
40psf

Lower floor:

Live load = 40psf
Dead load = 10psf
50psf

Walls:

Dead load **15psf**

Roof:

11'-2"x 6'-8"x 35psf

Walls:

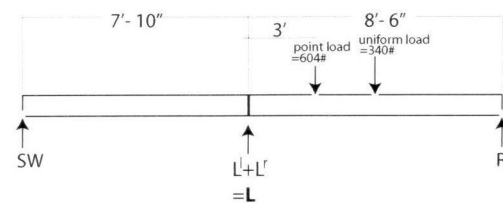
8'x 6'-8"x 15psf = 800#

8'x 5'-2"x 15psf = 620#

= 2606#

= 1420#

4026#



$$0 = (604\#)(3') - L_{pl}(8'-6'')$$

$$L_{pl} = 1812\# / 8'-6''$$

$$L' = 213\# + 340\# / 2$$

$$L' = 383\#$$

$$R_{pl} = 604\# - 213\# =$$

$$R = 427\# + 340\# / 2$$

$$R = 561\#$$

$$L = 7'-10" \times 40\text{psf} / 2$$

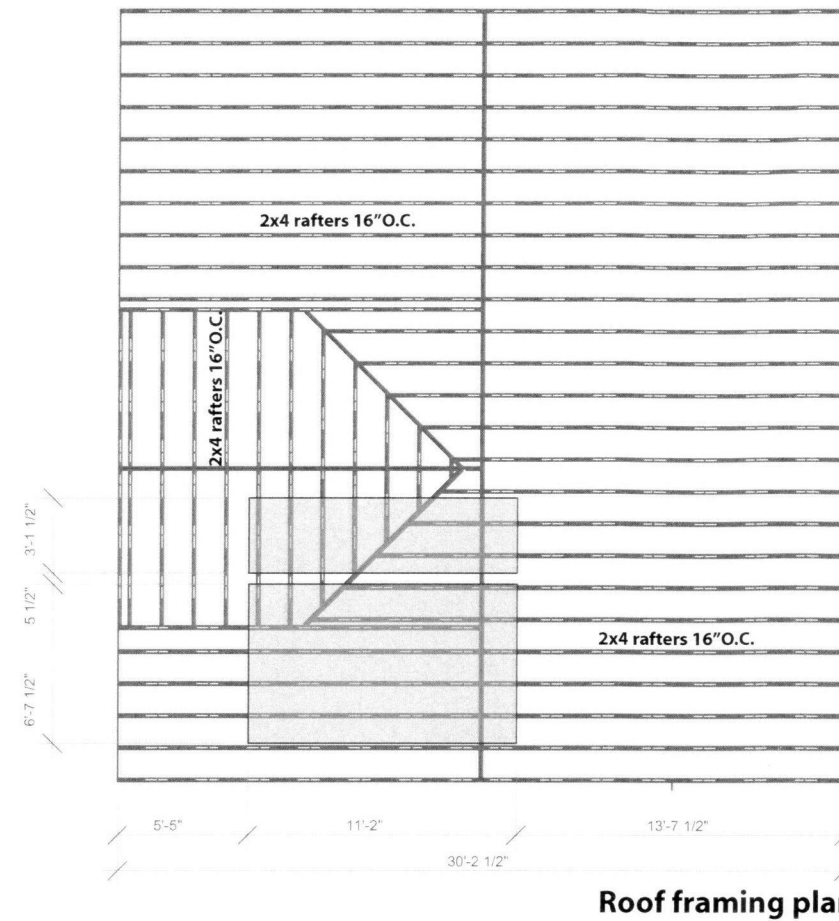
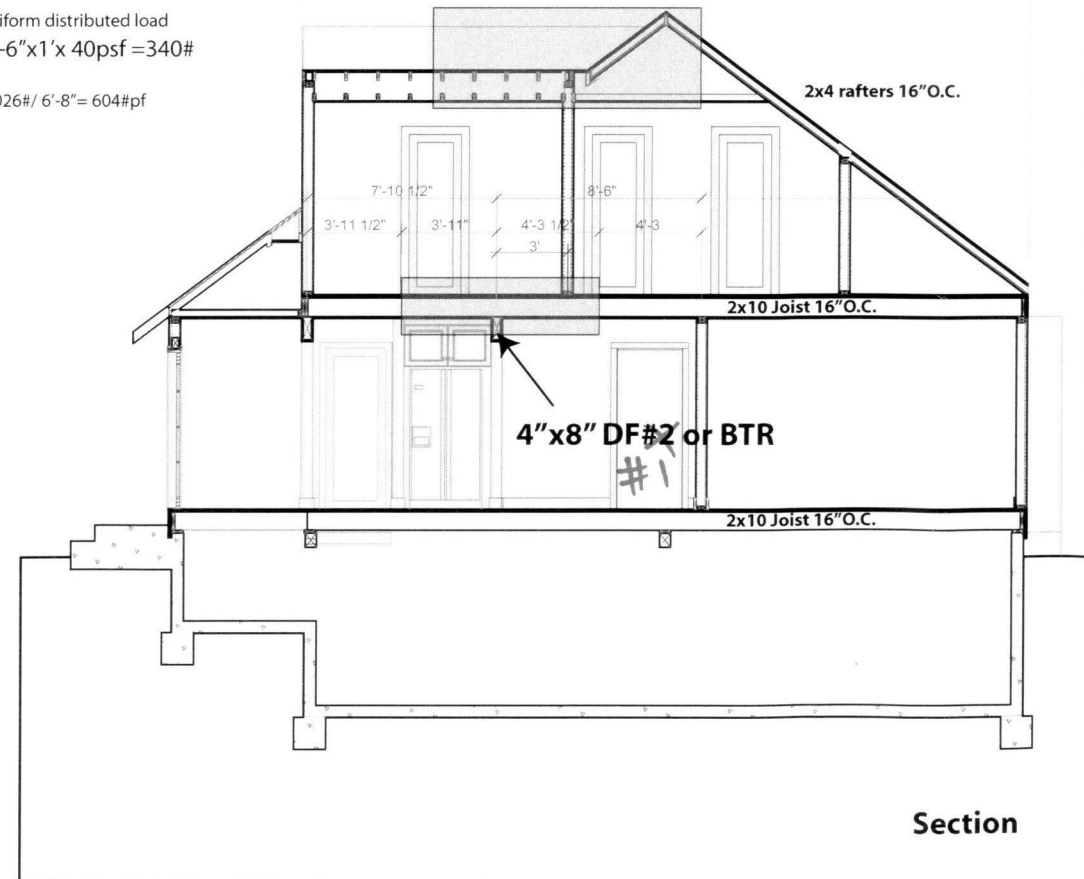
$$L = 157\#$$

$$L = L' + L' = 157\# + 383\#$$

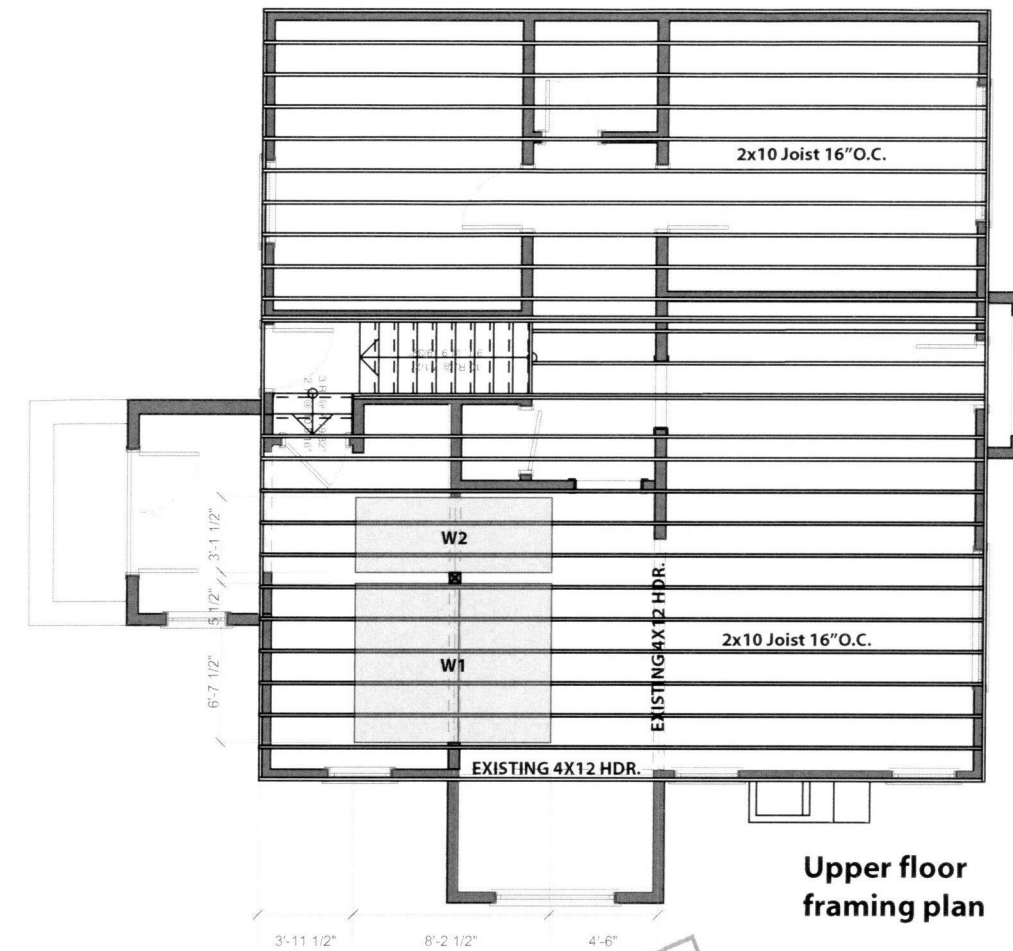
$$L = 540\#$$

uniform distributed load
8'-6"x1'x 40psf = 340#

$$4026\# / 6'-8'' = 604\#\text{pf}$$



Roof framing plan



Upper floor framing plan

WOOD BEAMS - SAFE LOAD TABLES

See instructions for use of tables on page 58.

Symbols used in the tables are as follows:

F_b = Allowable unit stress in extreme fiber in bending, psi.

W = Total uniformly distributed load, pounds

w = Load per linear foot of beam, pounds

F_v = Horizontal shear stress, psi, induced by load W

E = Modulus of elasticity, 1000 psi, induced by load W for $l/360$ limit

Beam sizes are expressed as nominal sizes, inches, but calculations are based on net dimensions of S4S sizes.

SIZE OF BEAM	F_b									
	900	1000	1100	1200	1300	1400	1500	1600	1800	2000
7' - 0" SPAN CONT'D										
4 x 8	W	2628	2920	3212	3504	3796	4088	4380	4672	5256
	w	375	417	458	500	542	584	625	667	750
	F_v	77	86	94	103	112	120	129	138	155
	E	782	868	955	1042	1129	1216	1303	1390	1564
										1737

$$w = 540\# \quad 540\# < 542\#$$

$$W1 = (540\#)(7') = 3780\# < 3796\#$$

$$W2 = (540\#)(3'-2'') = 1710\# < 3796\#$$

Use 4"x8" DF#2 or BTR for headers W1 and W2

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Project:

Portland
Oregon

Drawing Title

**Structural Calcs
for Headers**

Drawing Status

REVISION

Date

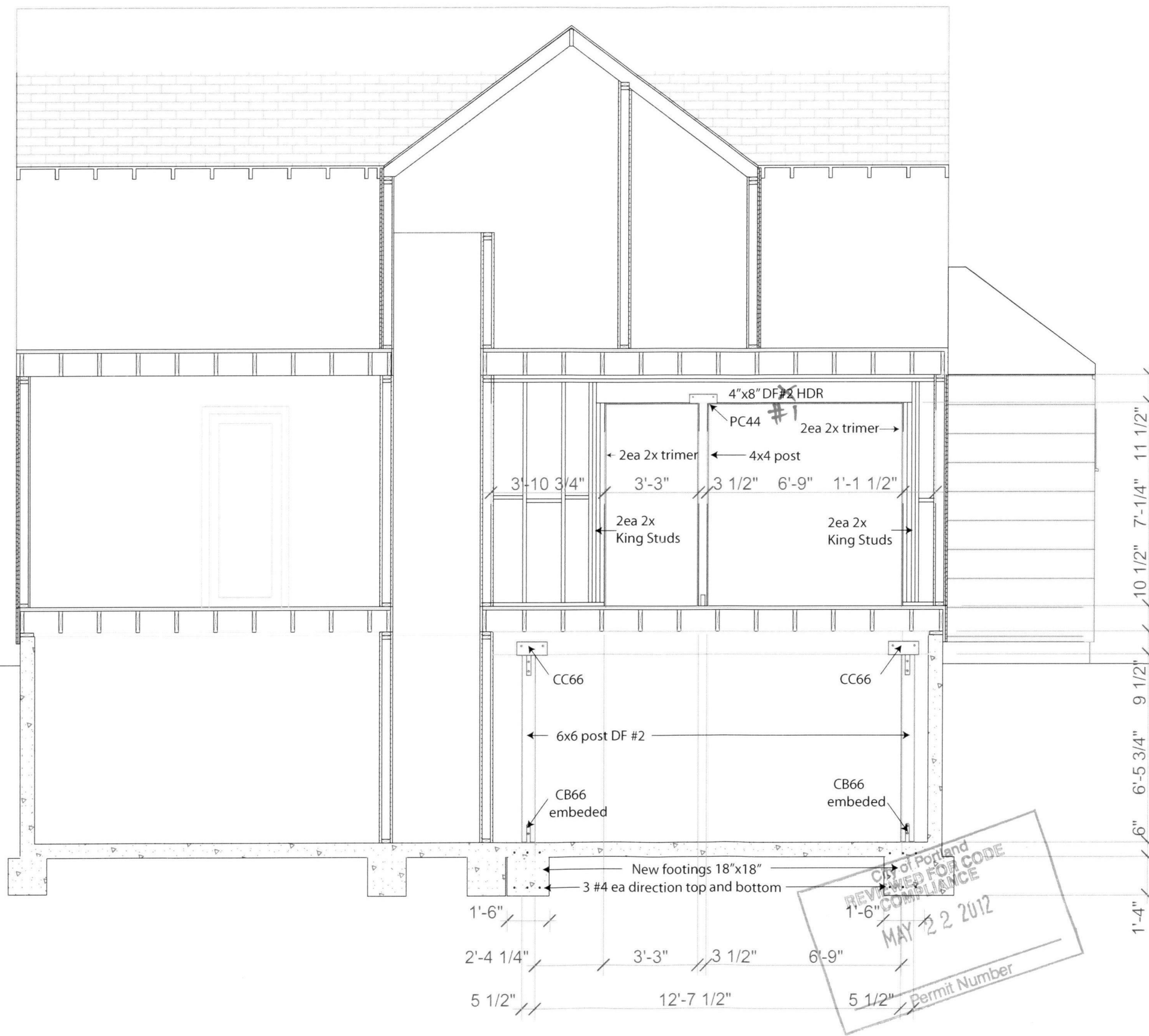
5-17-12

Scales

1/8" = 1'

Drawing Number

S-1.0



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Project:

Portland
Oregon

Drawing Title

**Structural
Section 2**

Drawing Status

REVISION

Date

5-17-12

Scales

1/4"=1'

Drawing Number

S-1.2