

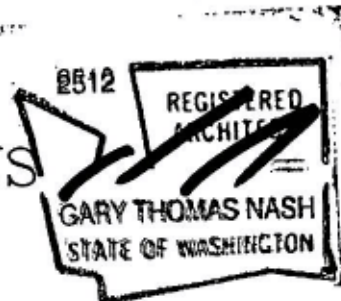


Architects & Planners



**PETRIE RESIDENCE
3315 97TH AVE SE
MERCER ISLAND, WA**

BEAM
CALCULATIONS



REVISED 05/05/06

RECEIVED

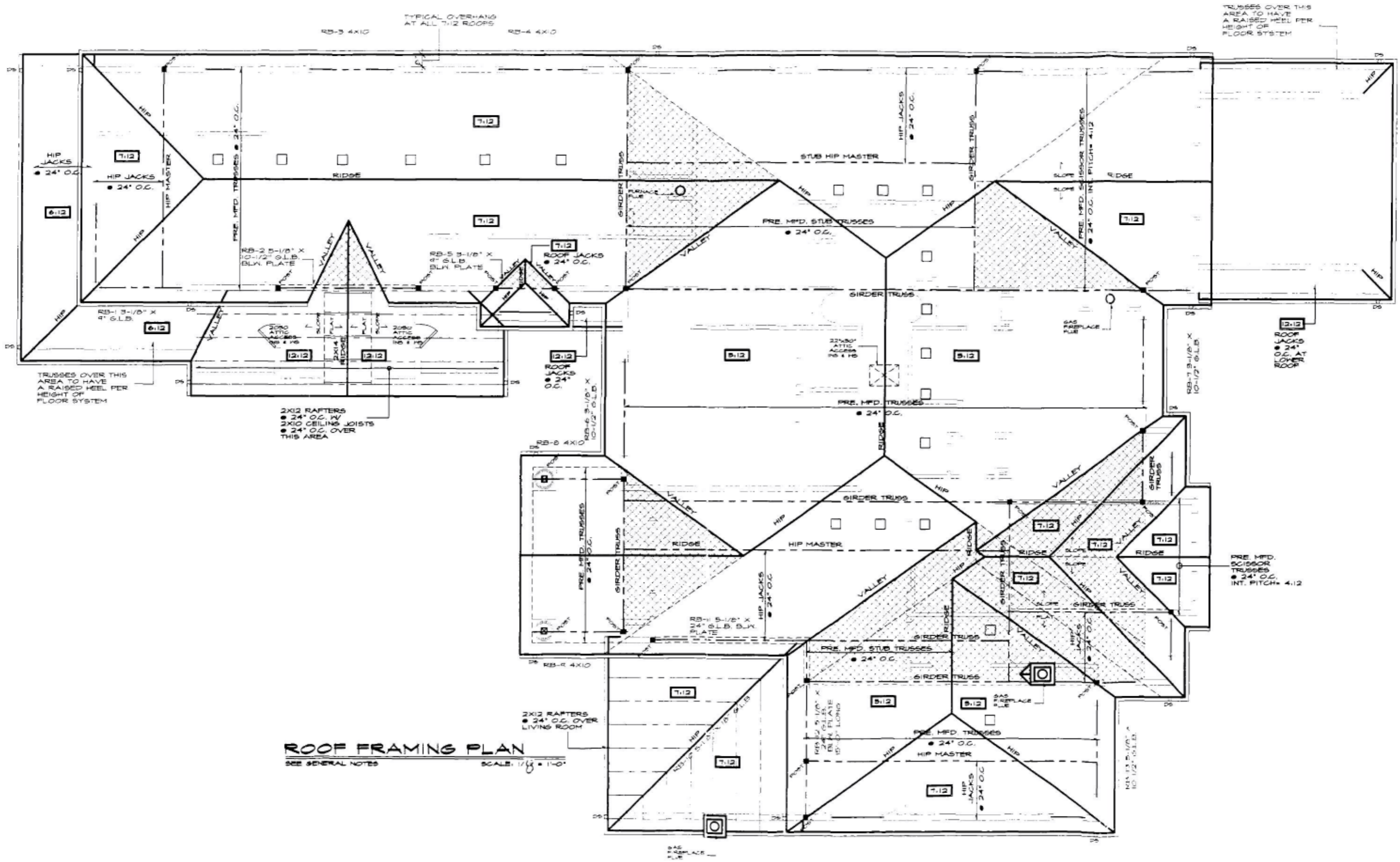
MAY 18 2006

CITY OF MERCER ISLAND
DEVELOPMENT SERVICES

2003 IBC
AUGUST 1, 2005

11644 N.E. 80th St. Kirkland, WA 98033 (425) 828-4117 Fax (425) 822-1918
8101 S.W. Nyberg Rd., Suite 214 Tualatin, OR 97062 (503) 692-8127 Fax (503) 691-0517
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REVISED 7/29/04

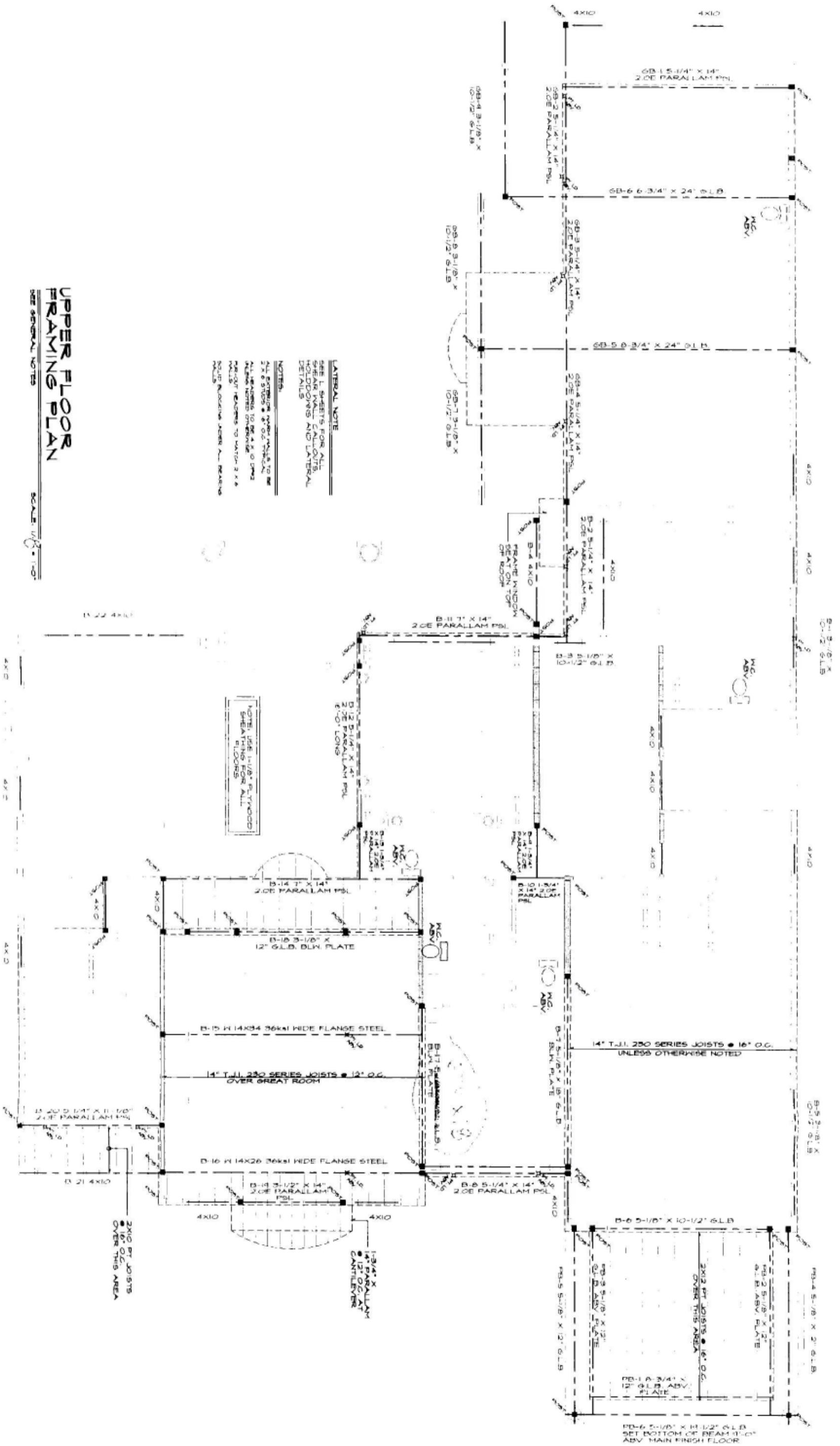


ROOF FRAMING PLAN
 SEE GENERAL NOTES
 SCALE: 1/8" = 1'-0"

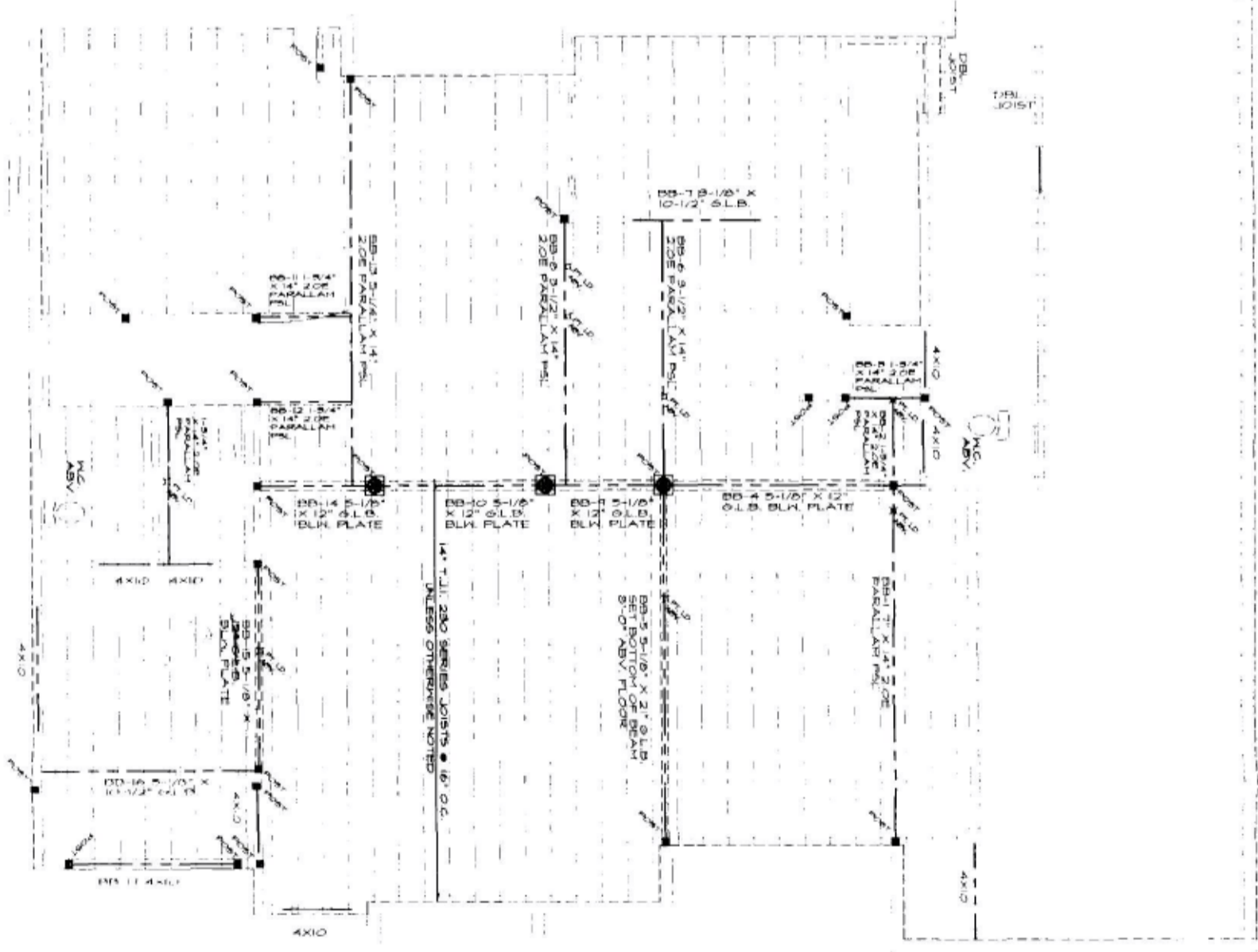
UPPER FLOOR FRAMING PLAN

SEE GENERAL NOTES

SCALE: 1/8" = 1'-0"



NOTE: USE 1/2" PLYWOOD SHEATHING FOR ALL FLOORS



MAIN FLOOR
FRAMING PLAN
SCALE: 1/8" = 1'-0"



Architects & Planners

BEAM DESIGN DATA

CLIENT: _____
PROJECT: _____
DATE: _____
NAME: _____

Roof Loads:

LL 25 #/sf
DL 35 #/sf
Total 60 #/sf
Unless Noted Otherwise

Floor Loads:

LL 40 #/sf
DL 10 #/sf
Total 50 #/sf

Deck Loads:

LL 60 #/sf
DL 10 #/sf
Total 70 #/sf

Soil: 2000 PSF Min.
Concrete: Per IBC 03
Masonry: Per IBC 03
Steel: Per IBC 03
Wood: Per IBC 03
Nailing: Per IBC 03

4" Beam: Douglas Fir #2
fv = 95
fb = 875 PSI
E = 1,600,000

6" Beam: Douglas Fir #2
fv = 85
fb = 875 PSI
E = 1,300,000

Joists & Rafter: Hem Fir #2
fv = 75
fb = 850 PSI
E = 1,300,000

Glu-Lam Beams:
fv = 165 PSI
fb = 2,400 PSI (reduced by size factor, CF*KI)
E = 1,800,000

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PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-1

BEDROOM TWO

Date: 1/27/06

Selection

3-1/8x 9 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 0.9 in² R2= 3.3 in² DL Defl 0.02 in Suggested Camber 0.03 in

Data

Beam Span	6.5 ft	Reaction 1 LL	320 #	Reaction 2 LL	1130 #
Beam Wt per ft	6.83 #	Reaction 1 TL	610 #	Reaction 2 TL	2118 #
Bm Wt Included	44 #	Maximum V	2118 #		
Max Moment	1907 #	Max V (Reduced)	1776 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	42.19	28.13	0.05	0.02
Critical	9.53	14.02	0.33	0.22
Status	OK	OK	OK	OK
Ratio	23%	50%	14%	11%

Values

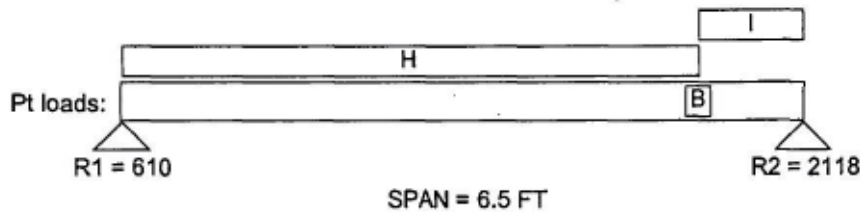
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
925	B = 1739	5.5	50	H = 90	0	5.5
			250	I = 450	5.5	6.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-2

PLAYROOM

Date: 1/27/06

Selection
Conditions

5-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 4.5 in ²	R2= 4.5 in ²	DL Defl	0.13 in	Suggested Camber	0.20 in
Beam Span	12.5 ft	Reaction 1 LL	1563 #	Reaction 2 LL	1563 #	
Beam Wt per ft	13.08 #	Reaction 1 TL	2894 #	Reaction 2 TL	2894 #	
Bm Wt Included	163 #	Maximum V	2894 #			
Max Moment	9044 #	Max V (Reduced)	2489 #			
TL Max Defl	L / 240	TL Actual Defl	L / 526			
LL Max Defl	L / 360	LL Actual Defl	L / 974			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.29	0.15
Critical	45.22	19.65	0.63	0.42
Status	OK	OK	OK	OK
Ratio	48%	37%	46%	37%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

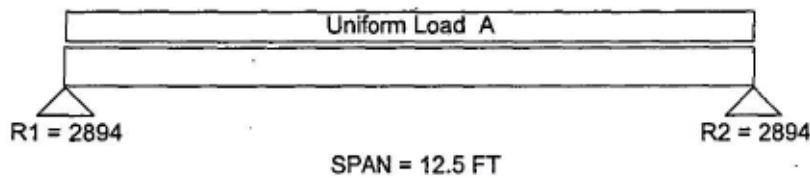
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 250

Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-3

PLAYROOM

Date: 1/27/06

Selection 4x 10 DF-L #2 Lu = 0.0 Ft

Conditions NDS '91

Min Bearing Area R1= 2.4 in² R2= 2.4 in² DL Defl 0.02 in

Data

Beam Span	6.5 ft	Reaction 1 LL	813 #	Reaction 2 LL	813 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1488 #	Reaction 2 TL	1488 #
Bm Wt Included	51 #	Maximum V	1488 #		
Max Moment	2418 #'	Max V (Reduced)	1135 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.05	0.03
Critical	27.64	17.92	0.33	0.22
Status	OK	OK	OK	OK
Ratio	55%	55%	15%	13%

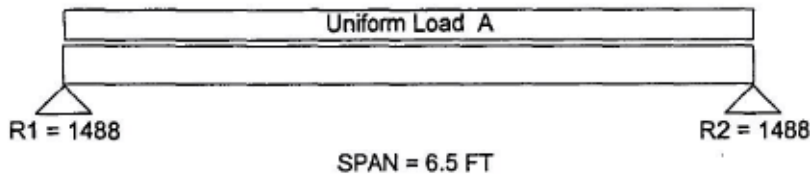
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads Uniform LL: 250 Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-4

BEDROOM THREE

Date: 1/27/06

Selection 4x 10 DF-L #2 Lu = 0.0 Ft

Conditions NDS '91

Min Bearing Area R1= 2.4 in² R2= 2.4 in² DL Defl 0.02 in

Data

Beam Span	6.5 ft	Reaction 1 LL	813 #	Reaction 2 LL	813 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1488 #	Reaction 2 TL	1488 #
Bm Wt Included	51 #	Maximum V	1488 #		
Max Moment	2418 #'	Max V (Reduced)	1135 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.05	0.03
Critical	27.64	17.92	0.33	0.22
Status	OK	OK	OK	OK
Ratio	55%	55%	15%	13%

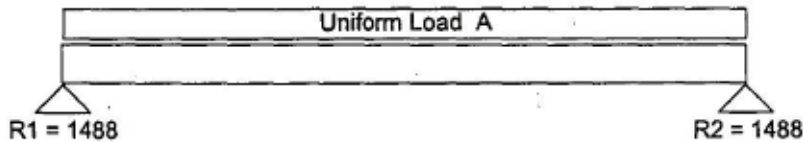
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads Uniform LL: 250 Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-5

HALL

Date: 1/27/06

Selection
Conditions

3-1/8x 9 GLB 24F-V4 DF/DF Lu = 0.0 Ft

<u>Data</u>	Min Bearing Area	R1= 1.9 in ²	R2= 1.9 in ²	DL Defl	0.01 in	Suggested Camber	0.02 in
	Beam Span	5.5 ft	Reaction 1 LL	688 #	Reaction 2 LL	688 #	
	Beam Wt per ft	6.83 #	Reaction 1 TL	1256 #	Reaction 2 TL	1256 #	
	Bm Wt Included	38 #	Maximum V	1256 #			
	Max Moment	1727 #'	Max V (Reduced)	914 #			
	TL Max Defl	L / 240	TL Actual Defl	L / >1000			
	LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	42.19	28.13	0.03	0.02
Critical	8.64	7.21	0.28	0.18
Status	OK	OK	OK	OK
Ratio	20%	26%	10%	8%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc.L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

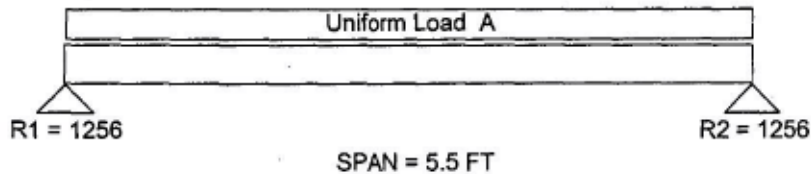
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 250

Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BEDROOM FOUR

RB-6

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 6.3 in² R2= 6.3 in² DL Defl 0.08 in Suggested Camber 0.12 in

Data

Beam Span	8.0 ft	Reaction 1 LL	2252 #	Reaction 2 LL	2252 #
Beam Wt per ft	7.97 #	Reaction 1 TL	4084 #	Reaction 2 TL	4084 #
Bm Wt Included	64 #	Maximum V	4084 #		
Max Moment	8168 #	Max V (Reduced)	3191 #		
TL Max Defl	L / 240	TL Actual Defl	L / 555		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.17	0.10
Critical	40.84	25.19	0.40	0.27
Status	OK	OK	OK	OK
Ratio	71%	77%	43%	36%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

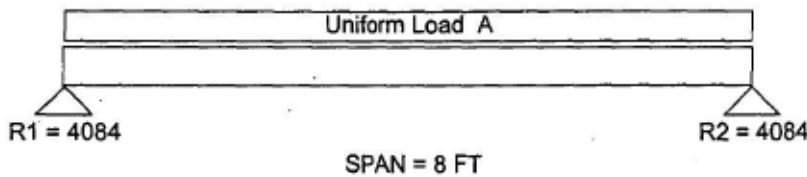
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 563

Uniform TL: 1013 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

MASTER BATHROOM

RB-7

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 5.5 in² R2= 5.5 in² DL Defl 0.05 in Suggested Camber 0.07 in

Data

Beam Span	7.0 ft	Reaction 1 LL	1971 #	Reaction 2 LL	1971 #
Beam Wt per ft	7.97 #	Reaction 1 TL	3573 #	Reaction 2 TL	3573 #
Bm Wt Included	56 #	Maximum V	3573 #		
Max Moment	6253 #	Max V (Reduced)	2680 #		
TL Max Defl	L / 240	TL Actual Defl	L / 828		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.10	0.06
Critical	31.27	21.16	0.35	0.23
Status	OK	OK	OK	OK
Ratio	54%	64%	29%	24%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

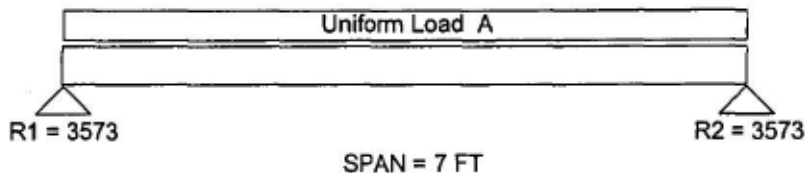
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 563

Uniform TL: 1013 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-8

ENTRY

Date: 1/27/06

Selection 4x 10 DF-L #2 Lu = 0.0 Ft

Conditions NDS '91

Min Bearing Area R1= 2.5 in² R2= 2.5 in² DL Defl 0.04 in

Data

Beam Span	8.0 ft	Reaction 1 LL	852 #	Reaction 2 LL	852 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1563 #	Reaction 2 TL	1563 #
Bm Wt Included	63 #	Maximum V	1563 #		
Max Moment	3127 #	Max V (Reduced)	1262 #		
TL Max Defl	L / 240	TL Actual Defl	L / 986		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.10	0.05
Critical	35.74	19.93	0.40	0.27
Status	OK	OK	OK	OK
Ratio	72%	62%	24%	20%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

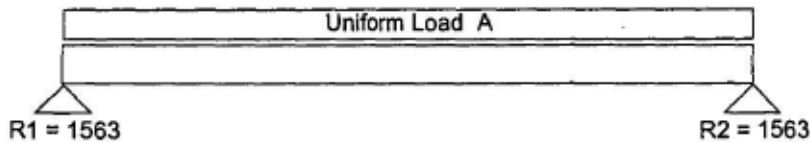
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 213

Uniform TL: 383 = A



SPAN = 8 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

ENTRY

RB-9

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 2.5 in² R2= 2.5 in² DL Defl 0.04 in

Data

Beam Span	8.0 ft	Reaction 1 LL	852 #	Reaction 2 LL	852 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1563 #	Reaction 2 TL	1563 #
Bm Wt Included	63 #	Maximum V	1563 #		
Max Moment	3127 #	Max V (Reduced)	1262 #		
TL Max Defl	L / 240	TL Actual Defl	L / 986		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.10	0.05
Critical	35.74	19.93	0.40	0.27
Status	OK	OK	OK	OK
Ratio	72%	62%	24%	20%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

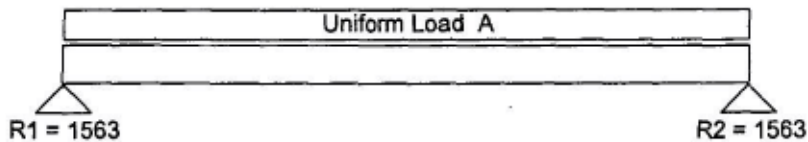
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 213

Uniform TL: 383 = A



SPAN = 8 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-10

LIVING ROOM

Date: 1/27/06

Selection
Conditions

5-1/8x 18 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Increasing Load,
Min Bearing Area R1= 3.0 in² R2= 5.6 in² DL Defl 0.13 in Suggested Camber 0.20 in

Beam Span	21.21 ft	Reaction 1 LL	938 #	Reaction 2 LL	1875 #
Beam Wt per ft	22.42 #	Reaction 1 TL	1925 #	Reaction 2 TL	3613 #
Bm Wt Included	475 #	Maximum V	3613 #		
Max Moment	15034 #'	Max V (Reduced)	2888 #		
TL Max Defl	L / 240	TL Actual Defl	L / 939		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	276.75	92.25	0.27	0.14
Critical	78.36	22.80	1.06	0.71
Status	OK	OK	OK	OK
Ratio	28%	25%	26%	20%

Values

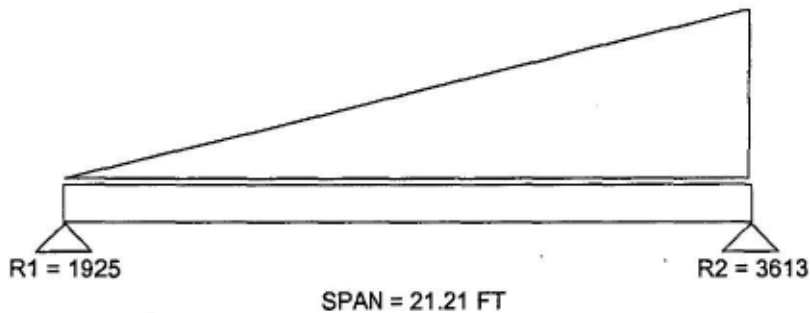
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _l (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2302	190	1.8	650

Adjustments

Cv Volume	0.959			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Increasing LL = 2813 Increasing TL = 5063



The increasing load is total pounds on the beam. Beam weight and any uniform load is PLF.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-11

USE 5 1/8 x 24 GLB.

FOYER

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 4.2 in ²	R2= 8.9 in ²	DL Defl	0.12 in	Suggested Camber	0.18 in
Beam Span	13.0 ft	Reaction 1 LL	1444 #	Reaction 2 LL	3031 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	2715 #	Reaction 2 TL	5772 #	
Bm Wt Included	194 #	Maximum V	5772 #			
Max Moment	9834 #	Max V (Reduced)	5397 #			
TL Max Defl	L / 240	TL Actual Defl	L / 606			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.26	0.14
Critical	49.17	42.61	0.65	0.43
Status	OK	OK	OK	OK
Ratio	40%	69%	40%	31%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

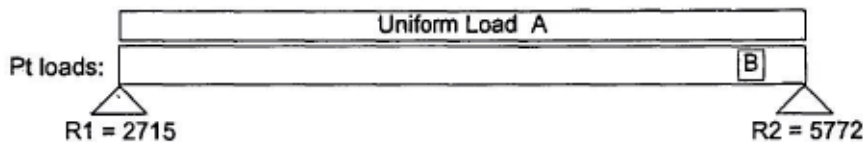
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 200

Uniform TL: 360 = A

Point LL	Point TL	Distance
1875	B = 3613	12.0



SPAN = 13 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-12

STAIRS

Date: 1/27/06

Selection 5-1/8x 24 GLB 24F-V8 DF/DF Lu = 0.0 Ft Lu @ OH = 0.0 Ft

Conditions Overhang, Uplift @ R1,
Min Bearing Area R1= -0.5 in² R2= 30.2 in²

Data

Beam Span	11.5 ft	Reaction 1 LL	-173 #	Reaction 2 LL	10429 #
Beam Wt per ft	29.89 #	Reaction 1 TL	-300 #	Reaction 2 TL	19630 #
Bm Wt Included	463 #	Maximum V	12259 #	Overhang Length	4.0 ft
Max Moment	44115 #	Max V (Reduced)	11029 #	Total Beam Length	15.5 ft
TL Max Defl	L / 240	TL Actual Defl	L / < -1000	OH TL Actual Defl	L / 833
LL Max Defl	L / 360	LL Actual Defl	L / < -1000	OH LL Actual Defl	L / >1000

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl	OH TL Defl	OH LL Defl
Actual	492.00	123.00	-0.04	-0.02	0.12	0.06
Critical	222.48	87.07	0.58	0.38	0.40	0.27
Status	OK	OK	OK	OK	OK	OK
Ratio	45%	71%	7%	5%	29%	23%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2379	190	1.8	650

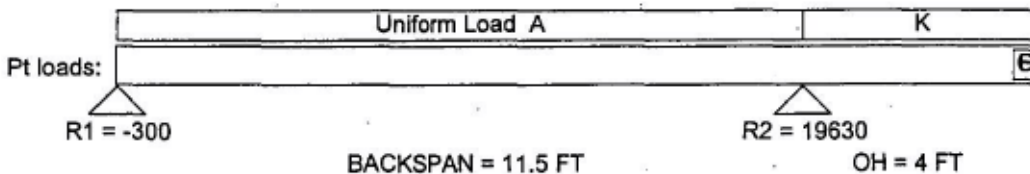
Adjustments

Cv Volume	0.991			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0
CI Stability @ OH	1.0000	Rb = 0.00	Le @ OH = 0.00 Ft	

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
3031	F = 5772 (OH)	4.0	325	K = 585 (OH)	0	4.0
2188	G = 4027 (OH)	4.0				

Uniform LL: 325 Uniform TL: 585 = A (Uniform Ld on Backspan)



Uniform and partial uniform loads are lbs per lineal ft. Overhanging load distances are from R2.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-13

DEN

Date: 1/27/06

Selection
Conditions

5-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 3.4 in ²	R2= 3.9 in ²	DL Defl	0.03 in	Suggested Camber	0.05 in
Beam Span	7.5 ft	Reaction 1 LL	1171 #	Reaction 2 LL	1367 #	
Beam Wt per ft	13.08 #	Reaction 1 TL	2239 #	Reaction 2 TL	2550 #	
Bm Wt Included	98 #	Maximum V	2550 #			
Max Moment	5439 #	Max V (Reduced)	2149 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.07	0.04
Critical	27.19	16.96	0.38	0.25
Status	OK	OK	OK	OK
Ratio	29%	32%	18%	14%

Values

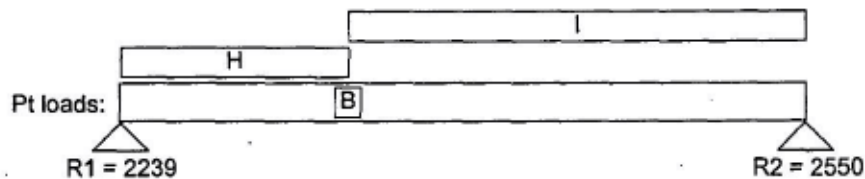
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
788	B = 1541	2.5	50	H = 90	0	2.5
			325	I = 585	2.5	7.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-1

LAUNDRY

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 6.9 in ²	R2= 4.8 in ²	DL Defl	0.01 in	Suggested Camber	0.02 in
Beam Span	4.0 ft	Reaction 1 LL	2496 #	Reaction 2 LL	1766 #	
Beam Wt per ft	7.97 #	Reaction 1 TL	4468 #	Reaction 2 TL	3094 #	
Bm Wt Included	32 #	Maximum V	4468 #			
Max Moment	5648 #	Max V (Reduced)	3647 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.03	0.02
Critical	28.24	28.80	0.20	0.13
Status	OK	OK	OK	OK
Ratio	49%	88%	15%	12%

Values

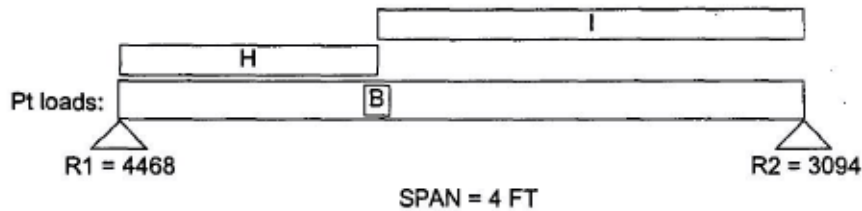
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
2357	B = 4485	1.5	570	H = 930	0	1.5
			420	I = 660	1.5	4.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-2

COVERED PORCH

Date: 1/27/06

Selection 5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 9.3 in² R2= 17.6 in² DL Defl 0.10 in

Date

Beam Span	11.0 ft	Reaction 1 LL	3252 #	Reaction 2 LL	6142 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6026 #	Reaction 2 TL	11464 #
Bm Wt Included	253 #	Maximum V	11464 #		
Max Moment	19346 #	Max V (Reduced)	5010 #		
TL Max Defl	L / 240	TL Actual Defl	L / 583		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.23	0.12
Critical	81.44	39.55	0.55	0.37
Status	OK	OK	OK	OK
Ratio	47%	54%	41%	33%

Values

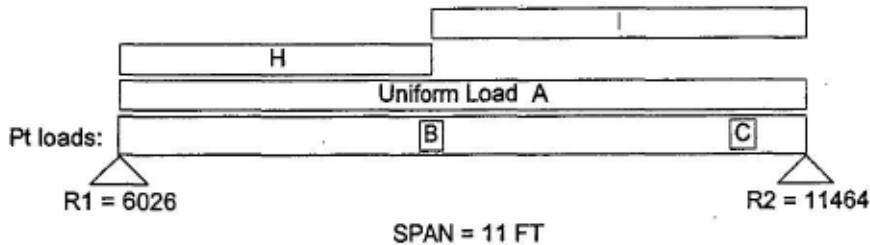
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

		Uniform LL: 63	Uniform TL: 118 = A			
Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
688	B = 1256	5.0	410	H = 730	0	5.0
3743	C = 6953	10.0	370	I = 680	5.0	11.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-3

HALL

Date: 1/27/06

Selection
Conditions

5-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area R1= 9.3 in² R2= 9.3 in² DL Defl <0.01 in. Suggested Camber <0.01 in.

Beam Span	2.0 ft	Reaction 1 LL	3071 #	Reaction 2 LL	3071 #
Beam Wt per ft	13.08 #	Reaction 1 TL	6025 #	Reaction 2 TL	6025 #
Bm Wt Included	26 #	Maximum V	6025 #		
Max Moment	5879 #	Max V (Reduced)	5769 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.00	<0.01
Critical	29.39	45.54	0.10	0.07
Status	OK	OK	OK	OK
Ratio	31%	85%	5%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

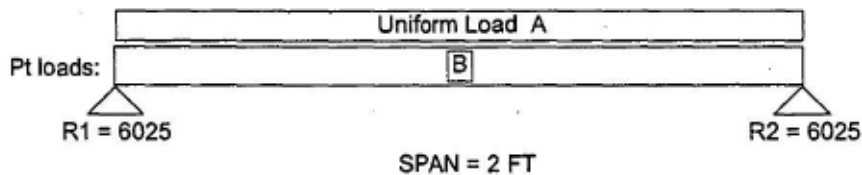
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform TL: 280 = A

Point LL	Point TL	Distance
6142	B = 11464	1.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

PORCH

B-4

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 0.9 in² R2= 0.9 in² DL Defl 0.02 in

Data

Beam Span	8.5 ft	Reaction 1 LL	268 #	Reaction 2 LL	268 #
Beam Wt per ft	7.87 #	Reaction 1 TL	535 #	Reaction 2 TL	535 #
Bm Wt Included	67 #	Maximum V	535 #		
Max Moment	1137 #'	Max V (Reduced)	438 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.04	0.02
Critical	12.99	6.91	0.43	0.28
Status	OK	OK	OK	OK
Ratio	26%	21%	9%	7%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

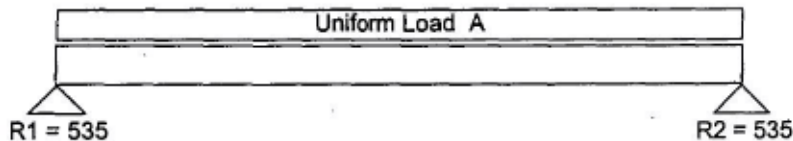
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 63

Uniform TL: 118 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-5

CASUAL DINING

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 4.7 in ²	R2= 4.7 in ²	DL Defl	0.02 in	Suggested Camber	0.03 in
Beam Span	6.0 ft	Reaction 1 LL	1890 #	Reaction 2 LL	1890 #	
Beam Wt per ft	7.97 #	Reaction 1 TL	3039 #	Reaction 2 TL	3039 #	
Bm Wt Included	48 #	Maximum V	3039 #			
Max Moment	4558 #'	Max V (Reduced)	2153 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.05	0.03
Critical	22.79	16.99	0.30	0.20
Status	OK	OK	OK	OK
Ratio	40%	52%	18%	17%

Values

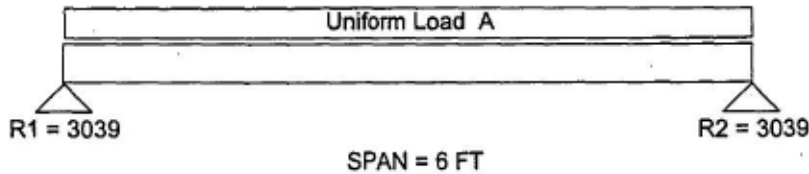
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _∥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 630 Uniform TL: 1005 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

CASUAL DINING

B-6

Date: 1/27/06

Selection

5-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 5.0 in² R2= 5.0 in² DL Defl 0.06 in Suggested Camber 0.10 in

Data

Beam Span	12.0 ft	Reaction 1 LL	2520 #	Reaction 2 LL	2520 #
Beam Wt per ft	13.08 #	Reaction 1 TL	3258 #	Reaction 2 TL	3258 #
Bm Wt Included	157 #	Maximum V	3258 #		
Max Moment	9775 #	Max V (Reduced)	2783 #		
TL Max Defl	L / 240	TL Actual Defl	L / 507		
LL Max Defl	L / 360	LL Actual Defl	L / 655		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.28	0.22
Critical	48.88	21.97	0.60	0.40
Status	OK	OK	OK	OK
Ratio	52%	41%	47%	55%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

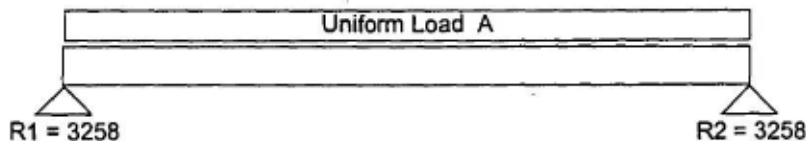
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 420

Uniform TL: 530 = A



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

CASUAL DINING

B-7

Date: 1/27/06

Selection

5-1/8x 18 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 9.5 in² R2= 9.5 in² DL Defl 0.06 in Suggested Camber 0.08 in

Data

Beam Span	16.0 ft	Reaction 1 LL	4800 #	Reaction 2 LL	4800 #
Beam Wt per ft	22.42 #	Reaction 1 TL	6179 #	Reaction 2 TL	6179 #
Bm Wt Included	359 #	Maximum V	6179 #		
Max Moment	24717 #	Max V (Reduced)	5021 #		
TL Max Defl	L / 240	TL Actual Defl	L / 757		
LL Max Defl	L / 360	LL Actual Defl	L / 975		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	276.75	92.25	0.25	0.20
Critical	125.25	39.64	0.80	0.53
Status	OK	OK	OK	OK
Ratio	45%	43%	32%	37%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2368	190	1.8	650

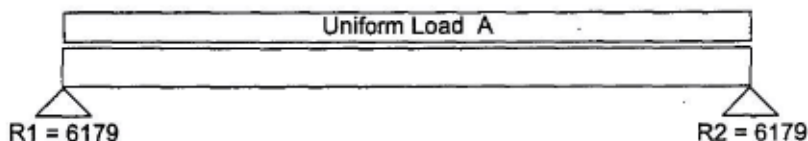
Adjustments

Cv Volume	0.987			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 600

Uniform TL: 750 = A



SPAN = 16 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

SITTING ROOM

B-8

Date: 1/27/06

Selection

5-1/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 10.2 in² R2= 10.2 in² DL Defl 0.10 in

Data

Beam Span	11.5 ft	Reaction 1 LL	3263 #	Reaction 2 LL	3267 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6618 #	Reaction 2 TL	6640 #
Bm Wt Included	264 #	Maximum V	6640 #		
Max Moment	12978 #'	Max V (Reduced)	5242 #		
TL Max Defl	L / 240	TL Actual Defl	L / 689		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.20	0.10
Critical	54.63	41.39	0.58	0.38
Status	OK	OK	OK	OK
Ratio	32%	56%	35%	26%

Values

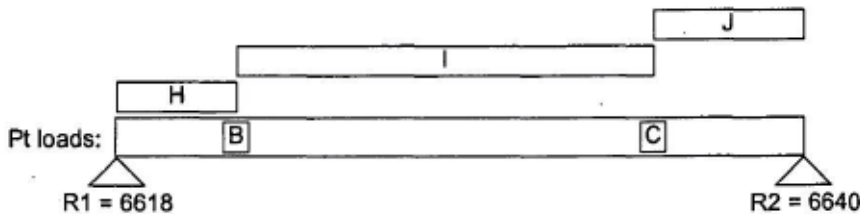
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1971	B = 3573	2.0	575	H = 1175	0	2.0
1971	C = 3573	9.0		I = 80	2.0	9.0
			575	J = 1175	9.0	11.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

HALL

B-9

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.1 in² R2= 2.1 in² DL Defl <0.01 in.

Data

Beam Span	4.5 ft	Reaction 1 LL	1080 #	Reaction 2 LL	1080 #
Beam Wt per ft	7.66 #	Reaction 1 TL	1367 #	Reaction 2 TL	1367 #
Bm Wt Included	34 #	Maximum V	1367 #		
Max Moment	1538 #	Max V (Reduced)	658 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	6.47	5.20	0.23	0.15
Status	OK	OK	OK	OK
Ratio	11%	21%	3%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

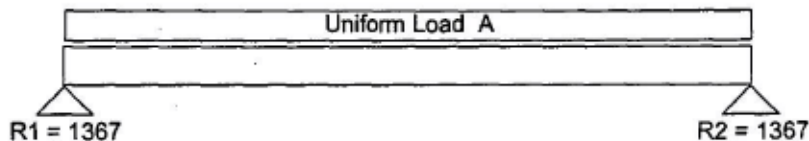
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 480

Uniform TL: 600 = A



SPAN = 4.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-10

HALL

Date: 1/27/06

Selection 1-3/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.4 in² R2= 1.2 in² DL Defl <0.01 in.

Data

Beam Span	4.5 ft	Reaction 1 LL	735 #	Reaction 2 LL	615 #
Beam Wt per ft	7.66 #	Reaction 1 TL	934 #	Reaction 2 TL	782 #
Bm Wt Included	34 #	Maximum V	934 #		
Max Moment	1712 #	Max V (Reduced)	844 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	7.21	6.66	0.23	0.15
Status	OK	OK	OK	OK
Ratio	13%	27%	4%	5%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

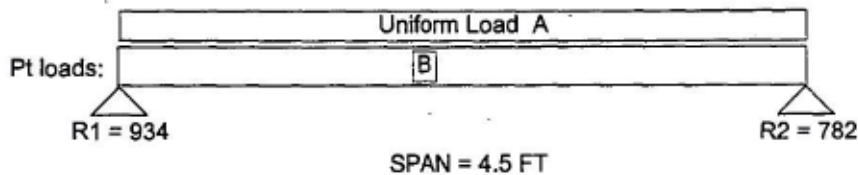
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 60 Uniform TL: 70 = A

Point LL	Point TL	Distance
1080	B = 1367	2.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

DINING ROOM

B-11

Date: 1/27/06

Selection

7x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 12.6 in² R2= 12.6 in² DL Defl 0.20 in

Data

Beam Span	14.5 ft	Reaction 1 LL	4082 #	Reaction 2 LL	4082 #
Beam Wt per ft	30.63 #	Reaction 1 TL	8182 #	Reaction 2 TL	8175 #
Bm Wt Included	444 #	Maximum V	8182 #		
Max Moment	23842 #	Max V (Reduced)	6871 #		
TL Max Defl	L / 240	TL Actual Defl	L / 438		
LL Max Defl	L / 360	LL Actual Defl	L / 877		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	228.67	98.00	0.40	0.20
Critical	100.36	54.24	0.73	0.48
Status	OK	OK	OK	OK
Ratio	44%	55%	55%	41%

Values

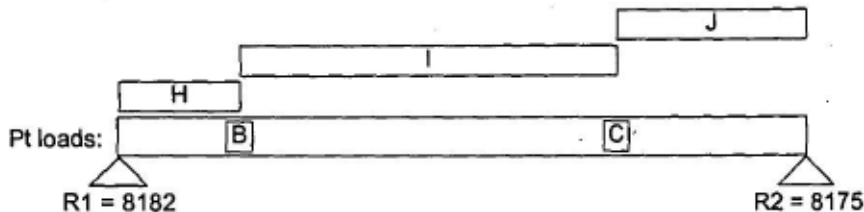
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
2252	B = 4084	2.5	563	H = 1093	0	2.5
2252	C = 4084	10.5		I = 80	2.5	10.5
			563	J = 1093	10.5	14.5



SPAN = 14.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-12

DINING ROOM

Date: 1/27/06

Selection 5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft Lu @ OH = 0.0 Ft

Conditions Overhang,
Min Bearing Area R1= 3.1 in² R2= 26.9 in² DL Defl 0.00 in

Date

Beam Span	13.0 ft	Reaction 1 LL	1668 #	Reaction 2 LL	9554 #
Beam Wt per ft	22.97 #	Reaction 1 TL	2035 #	Reaction 2 TL	17494 #
Bm Wt Included	310 #	Maximum V	14355 #	Overhang Length	0.5 ft
Max Moment	7175 #'	Max V (Reduced)	2674 #	Total Beam Length	13.5 ft
TL Max Defl	L / 240	TL Actual Defl	L / >1000	OH TL Actual Defl	L / < -1000
LL Max Defl	L / 360	LL Actual Defl	L / >1000	OH LL Actual Defl	L / < -1000

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl	OH TL Defl	OH LL Defl
Actual	171.50	73.50	0.06	0.06	0.00	0.00
Critical	30.20	21.11	0.65	0.43	0.05	0.03
Status	OK	OK	OK	OK	OK	OK
Ratio	18%	29%	9%	13%	3%	13%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

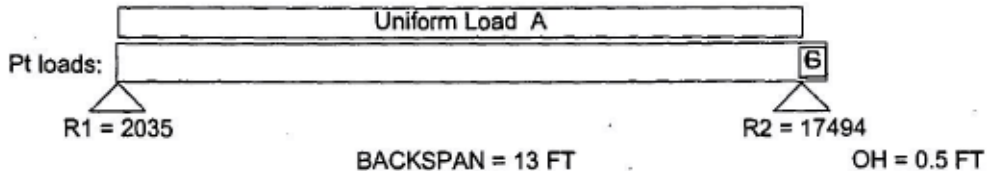
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0
CI Stability @ OH	1.0000	Rb = 0.00	Le @ OH = 0.00 Ft	

Loads

Uniform LL: 300 Uniform TL: 375 = A (Uniform Ld on Backspan)

Point LL	Point TL	Distance
4082	F = 8182 (OH)	0.5
3240	G = 6162 (OH)	0.5



Uniform and partial uniform loads are lbs per lineal ft. Overhanging load distances are from R2.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

HALL

B-14

Date: 1/27/06

Selection

7x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 3.8 in² R2= 3.2 in² DL Defl 0.11 in

Data

Beam Span	21.0 ft	Reaction 1 LL	1687 #	Reaction 2 LL	1393 #
Beam Wt per ft	30.63 #	Reaction 1 TL	2440 #	Reaction 2 TL	2066 #
Bm Wt Included	643 #	Maximum V	2440 #		
Max Moment	11835 #	Max V (Reduced)	2229 #		
TL Max Defl	L / 240	TL Actual Defl	L / 723		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	228.67	98.00	0.35	0.24
Critical	49.82	17.60	1.05	0.70
Status	OK	OK	OK	OK
Ratio	22%	18%	33%	34%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

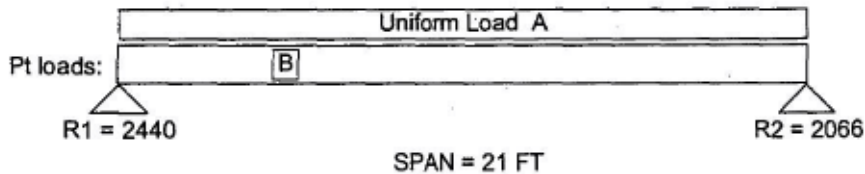
CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 120

Uniform TL: 150 = A

Point LL	Point TL	Distance
560	B = 713	5.0



SPAN = 21 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GREAT ROOM

B-15

Date: 1/27/06

Selection

W 14x 34 36 ksi Wide Flange Steel

Lateral Support at: Lc = 7.1 ft max.

Conditions

Actual Size is 6-3/4 x 14 in.,

Min Bearing Length R1= 1.0 in. R2= 1.0 in. DL Defl 0.18 in Suggested Camber 0.27 in

Date

Beam Span	22.0 ft	Reaction 1 LL	4522 #	Reaction 2 LL	1640 #
Beam Wt per ft	34.0 #	Reaction 1 TL	8625 #	Reaction 2 TL	3189 #
Bm Wt Included	748 #	Maximum V	8625 #		
Max Moment	42569 #	Max V (Reduced)	N/A		
TL Max Defl	L / 240	TL Actual Defl	L / 687		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	48.60	3.98	0.38	0.20
Critical	21.50	0.60	1.10	0.73
Status	OK	OK	OK	OK
Ratio	44%	15%	35%	27%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)
Base Value Fy	36000	36000	29.0
Base Adjusted	23760	14400	29.0

Adjustments

YP Factor, Lc	0.66	0.40
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At Point Loads: Provide these minimum bearing lengths in inches or provide web stiffeners.

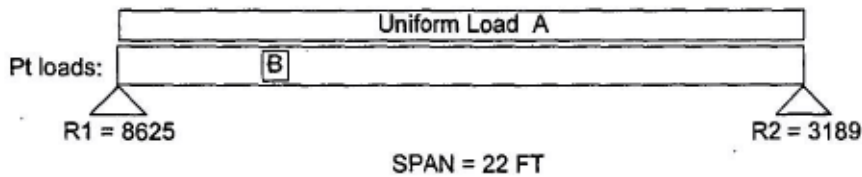
B = 1.0 C = 1.0

Loads

Uniform LL: 40

Uniform TL: 50 = A

Point LL	Point TL	Distance
4382	B = 8305	5.0
900	C = 1661	5.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg.# 6464-622

CUSTOM

GREAT ROOM

B-16

Date: 1/27/06

Selection

W 14x 26 36 ksi Wide Flange Steel

Lateral Support at: Lc = 5.3 ft max.

Conditions

Actual Size is 5 x 13-7/8 in.,

Min Bearing Length R1= 0.9 in. R2= 0.9 in. DL Defl 0.14 in Suggested Camber 0.21 in

Data

Beam Span	22.0 ft	Reaction 1 LL	2468 #	Reaction 2 LL	1037 #
Beam Wt per ft	26.0 #	Reaction 1 TL	4744 #	Reaction 2 TL	1985 #
Bm Wt Included	572 #	Maximum V	4744 #		
Max Moment	23185 #	Max V (Reduced)	N/A		
TL Max Defl	L / 240	TL Actual Defl	L / 893		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	35.30	3.55	0.30	0.15
Critical	11.71	0.33	1.10	0.73
Status	OK	OK	OK	OK
Ratio	33%	9%	27%	21%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)
Base Value Fy	36000	36000	29.0
Base Adjusted	23760	14400	29.0

Adjustments

YP Factor, Lc 0.66 0.40

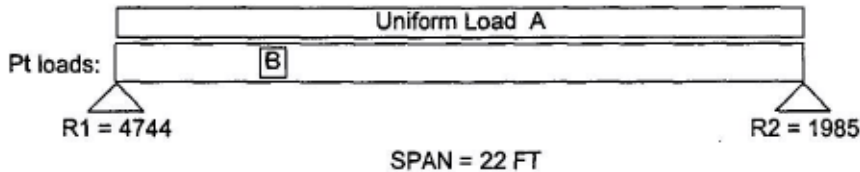
At Point Loads: Provide these minimum bearing lengths in inches or provide web stiffeners.
B = 0.9 C = 0.9

Loads

Uniform LL: 40

Uniform TL: 50 = A

Point LL	Point TL	Distance
1725	B = 3396	5.0
900	C = 1661	5.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-17

SITTING ROOM

Date: 5/16/06

Selection
Conditions

6-3/4x 18 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 20.6 in ² R2= 11.8 in ²	DL Defl	0.07 in	Suggested Camber	0.10 in
Beam Span	13.0 ft	Reaction 1 LL	8128 #	Reaction 2 LL	5094 #
Beam Wt per ft	29.52 #	Reaction 1 TL	13394 #	Reaction 2 TL	7645 #
Bm Wt Included	384 #	Maximum V	13394 #		
Max Moment	29856 #	Max V (Reduced)	11925 #		
TL Max Defl	L / 240	TL Actual Defl	L / 873		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	364.50	121.50	0.18	0.11
Critical	152.32	94.14	0.65	0.43
Status	OK	OK	OK	OK
Ratio	42%	77%	27%	26%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2352	190	1.8	650

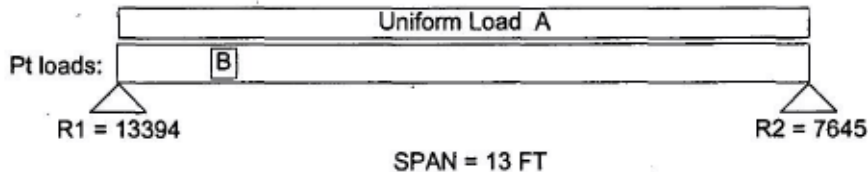
Adjustments

Cv Volume	0.980			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 680 Uniform TL: 950 = A

Point LL	Point TL	Distance
4382	B = 8305	2.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GREAT ROOM

B-18

Date: 1/27/06

Selection

3-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.1 in² R2= 1.1 in² DL Defl <0.01 in. Suggested Camber 0.01 in

Data

Beam Span	9.0 ft	Reaction 1 LL	540 #	Reaction 2 LL	540 #
Beam Wt per ft	9.11 #	Reaction 1 TL	716 #	Reaction 2 TL	716 #
Bm Wt Included	82 #	Maximum V	716 #		
Max Moment	1611 #	Max V (Reduced)	557 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	75.00	37.50	0.03	0.02
Critical	8.06	4.40	0.45	0.30
Status	OK	OK	OK	OK
Ratio	11%	12%	6%	7%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

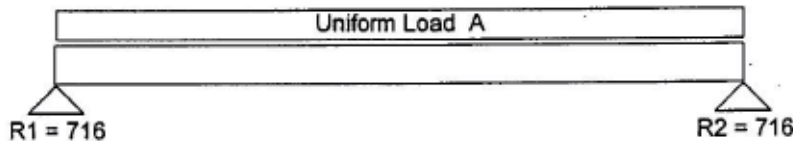
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 120

Uniform TL: 150 = A



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GREAT ROOM

B-19

Date: 1/27/06

Selection

3-1/2x 14 2.0E T J Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 3.0 in² R2= 3.0 in² DL Defl 0.02 in

Data

Beam Span	10.0 ft	Reaction 1 LL	1200 #	Reaction 2 LL	1200 #
Beam Wt per ft	15.31 #	Reaction 1 TL	1977 #	Reaction 2 TL	1977 #
Bm Wt Included	153 #	Maximum V	1977 #		
Max Moment	4941 #	Max V (Reduced)	1515 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	114.33	49.00	0.06	0.04
Critical	20.80	11.96	0.50	0.33
Status	OK	OK	OK	OK
Ratio	18%	24%	12%	11%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

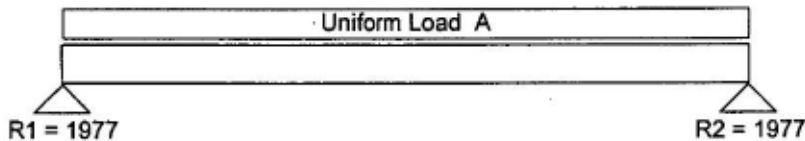
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 240

Uniform TL: 380 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

LIBRARY

B-20

Date: 1/27/06

Selection

5-1/4x 11-7/8 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 7.3 in² R2= 7.6 in² DL Defl 0.12 in

Data

Beam Span	12.0 ft	Reaction 1 LL	2661 #	Reaction 2 LL	2779 #
Beam Wt per ft	19.48 #	Reaction 1 TL	4746 #	Reaction 2 TL	4949 #
Bm Wt Included	234 #	Maximum V	4949 #		
Max Moment	10175 #	Max V (Reduced)	4133 #		
TL Max Defl	L / 240	TL Actual Defl	L / 529		
LL Max Defl	L / 360	LL Actual Defl	L / 928		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.39	62.34	0.27	0.16
Critical	42.05	32.63	0.60	0.40
Status	OK	OK	OK	OK
Ratio	34%	52%	45%	39%

Values

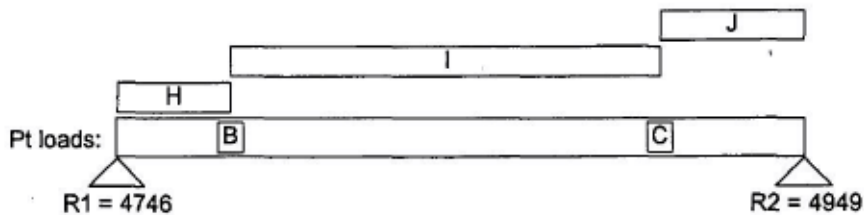
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2903	190	1.8	650

Adjustments

CF Size Factor	1.001			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1171	B = 2239	2.0	445	H = 805	0	2.0
1367	C = 2550	9.5	120	I = 140	2.0	9.5
			445	J = 805	9.5	12.0



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

LIBRARY

B-21

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 1.4 in² R2= 1.4 in² DL Defl 0.04 in

Data

Beam Span	12.0 ft	Reaction 1 LL	720 #	Reaction 2 LL	720 #
Beam Wt per ft	7.87 #	Reaction 1 TL	887 #	Reaction 2 TL	887 #
Bm Wt Included	94 #	Maximum V	887 #		
Max Moment	2662 #	Max V (Reduced)	773 #		
TL Max Defl	L / 240	TL Actual Defl	L / 772		
LL Max Defl	L / 360	LL Actual Defl	L / 951		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.19	0.15
Critical	30.42	12.21	0.60	0.40
Status	OK	OK	OK	OK
Ratio	61%	38%	31%	38%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

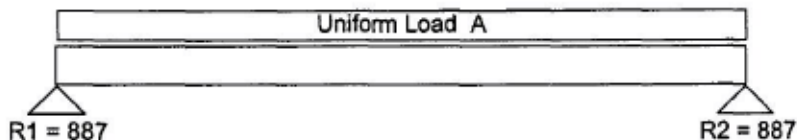
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 120

Uniform TL: 140 = A



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

LIVING ROOM

B-22

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 1.3 in² R2= 1.3 in² DL Defl 0.01 in

Data

Beam Span	6.0 ft	Reaction 1 LL	450 #	Reaction 2 LL	450 #
Beam Wt per ft	7.87 #	Reaction 1 TL	834 #	Reaction 2 TL	834 #
Bm Wt Included	47 #	Maximum V	834 #		
Max Moment	1250 #	Max V (Reduced)	619 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.02	0.01
Critical	14.29	9.78	0.30	0.20
Status	OK	OK	OK	OK
Ratio	29%	30%	7%	6%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

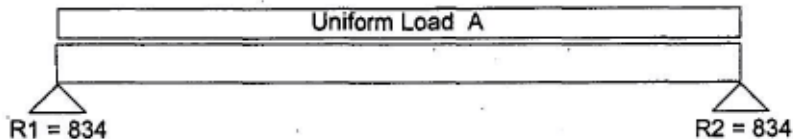
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 150

Uniform TL: 270 = A



SPAN = 6 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-1

Date: 1/27/06

Selection

5-1/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 6.5 in² R2= 6.5 in² DL Defl 0.27 in

Data

Beam Span	18.0 ft	Reaction 1 LL	2007 #	Reaction 2 LL	2007 #
Beam Wt per ft	22.97 #	Reaction 1 TL	4194 #	Reaction 2 TL	4194 #
Bm Wt Included	413 #	Maximum V	4194 #		
Max Moment	18872 #	Max V (Reduced)	3650 #		
TL Max Defl	L / 240	TL Actual Defl	L / 425		
LL Max Defl	L / 360	LL Actual Defl	L / 888		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.51	0.24
Critical	79.44	28.82	0.90	0.60
Status	OK	OK	OK	OK
Ratio	46%	39%	57%	41%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

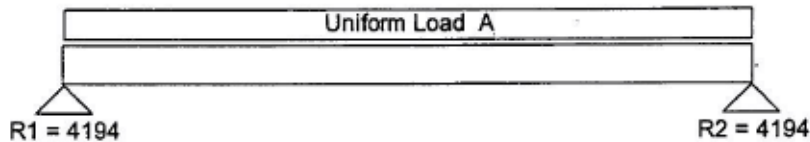
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 223

Uniform TL: 443 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-2

GARAGE

Date: 1/27/06

Selection
Conditions

5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area	R1= 9.4 in ² R2= 13.1 in ²	DL Defl	0.23 in
Beam Span	14.0 ft	Reaction 1 LL	3141 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6122 #
Bm Wt Included	322 #	Maximum V	8508 #
Max Moment	28348 #	Max V (Reduced)	7177 #
TL Max Defl	L / 240	TL Actual Defl	L / 325
LL Max Defl	L / 360	LL Actual Defl	L / 593
Reaction 2 LL	5057 #	Reaction 2 TL	8508 #

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.52	0.28
Critical	119.33	56.66	0.70	0.47
Status	OK	OK	OK	OK
Ratio	70%	77%	74%	61%

Values

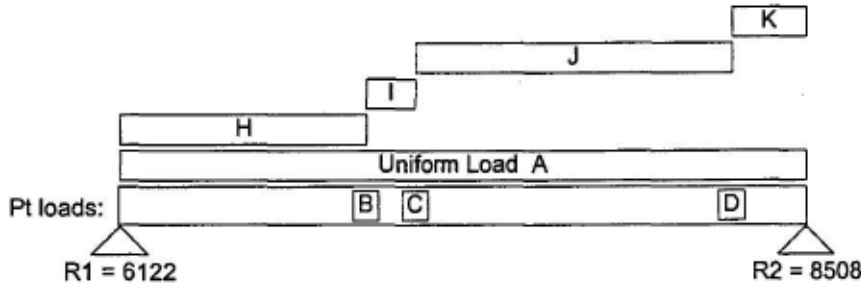
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Uniform LL: 63		Uniform TL: 113 = A	
			Par Unif LL	Par Unif TL	Start	End
2007	B = 4194	5.0		H = 80	0	5.0
320	C = 610	6.0	350	I = 710	5.0	6.0
1130	D = 2218	12.5	380	J = 475	6.0	12.5
			693	K = 1005	12.5	14.0



SPAN = 14 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-3

Date: 1/27/06

Selection

5-1/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 12.0 in² R2= 10.3 in² DL Defl 0.11 in

Data

Beam Span	12.0 ft	Reaction 1 LL	5058 #	Reaction 2 LL	4539 #
Beam Wt per ft	22.97 #	Reaction 1 TL	7790 #	Reaction 2 TL	6725 #
Bm Wt Included	276 #	Maximum V	7790 #		
Max Moment	26114 #	Max V (Reduced)	6453 #		
TL Max Defl	L / 240	TL Actual Defl	L / 462		
LL Max Defl	L / 360	LL Actual Defl	L / 722		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.31	0.20
Critical	109.93	50.95	0.60	0.40
Status	OK	OK	OK	OK
Ratio	64%	69%	52%	50%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

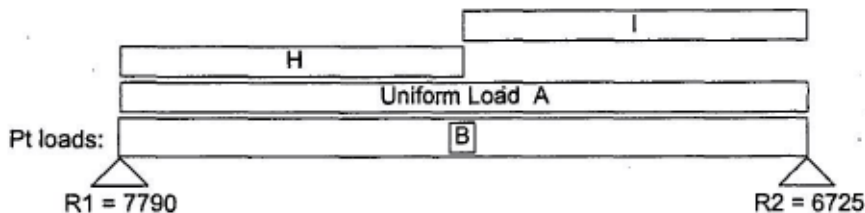
CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 63

Uniform TL: 118 = A

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1563	B = 2894	6.0	693	H = 1005	0	6.0
			520	I = 650	6.0	12.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-4

GARAGE

Date: 1/27/06

Selection
Conditions

5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area R1= 10.3 in² R2= 12.0 in² DL Defl 0.11 in

Beam Span	12.0 ft	Reaction 1 LL	4539 #	Reaction 2 LL	5058 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6725 #	Reaction 2 TL	7790 #
Bm Wt Included	276 #	Maximum V	7790 #		
Max Moment	26114 #'	Max V (Reduced)	6453 #		
TL Max Defl	L / 240	TL Actual Defl	L / 462		
LL Max Defl	L / 360	LL Actual Defl	L / 722		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.31	0.20
Critical	109.93	50.95	0.60	0.40
Status	OK	OK	OK	OK
Ratio	64%	69%	52%	50%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

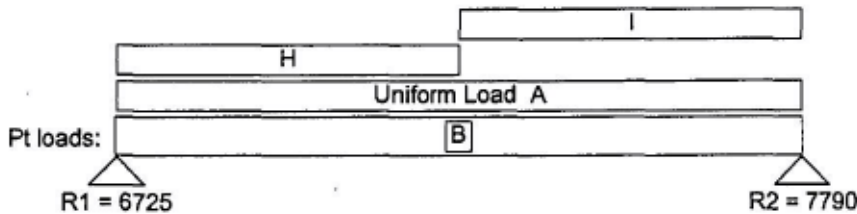
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 63 Uniform TL: 118 = A

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1563	B = 2894	6.0	520	H = 650	0	6.0
			693	I = 1005	6.0	12.0



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-5

GARAGE

Date: 5/16/06

Selection
Conditions

8-3/4x 24 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 19.5 in ²	R2= 9.3 in ²	DL Defl	0.59 in	Suggested Camber	0.89 in
Beam Span	26.0 ft	Reaction 1 LL	780 #	Reaction 2 LL	780 #	
Beam Wt per ft	51.03 #	Reaction 1 TL	12659 #	Reaction 2 TL	6068 #	
Bm Wt Included	1327 #	Maximum V	12659 #			
Max Moment	92147 #	Max V (Reduced)	12417 #			
TL Max Defl	L / 240	TL Actual Defl	L / 499			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	840.00	210.00	0.63	0.03
Critical	532.18	98.03	1.30	0.87
Status	OK	OK	OK	OK
Ratio	63%	47%	48%	4%

Values

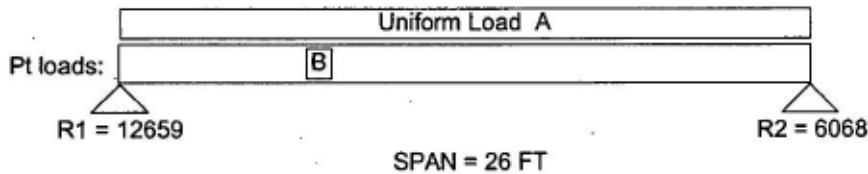
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2078	190	1.8	650

Adjustments

Cv Volume	0.866			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Uniform LL: 60	Uniform TL: 70 = A
Point TL	Distance	
B = 7790	7.5	
C = 7790	7.5	



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-6

Date: 1/27/06

Selection

6-3/4x 24 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 25.1 in² R2= 7.5 in² DL Defl 0.21 in Suggested Camber 0.31 in

Data

Beam Span	24.0 ft	Reaction 1 LL	9915 #	Reaction 2 LL	2965 #
Beam Wt per ft	39.37 #	Reaction 1 TL	16338 #	Reaction 2 TL	4885 #
Bm Wt Included	945 #	Maximum V	16338 #		
Max Moment	73913 #	Max V (Reduced)	14959 #		
TL Max Defl	L / 240	TL Actual Defl	L / 522		
LL Max Defl	L / 360	LL Actual Defl	L / 838		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	648.00	162.00	0.55	0.34
Critical	412.63	118.10	1.20	0.80
Status	OK	OK	OK	OK
Ratio	64%	73%	46%	43%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2150	190	1.8	650

Adjustments

Cv Volume	0.896			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
5057	B = 8508	5.0	325	H = 650	0	5.0
5058	C = 7190	5.0	60	I = 70	5.0	24.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-7

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.6 in² R2= 1.7 in² DL Defl 0.02 in Suggested Camber 0.04 in

Data

Beam Span	9.0 ft	Reaction 1 LL	750 #	Reaction 2 LL	602 #
Beam Wt per ft	7.97 #	Reaction 1 TL	1060 #	Reaction 2 TL	1089 #
Bm Wt Included	72 #	Maximum V	1089 #		
Max Moment	2411 #	Max V (Reduced)	874 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.06	0.04
Critical	12.06	6.90	0.45	0.30
Status	OK	OK	OK	OK
Ratio	21%	21%	14%	14%

Values

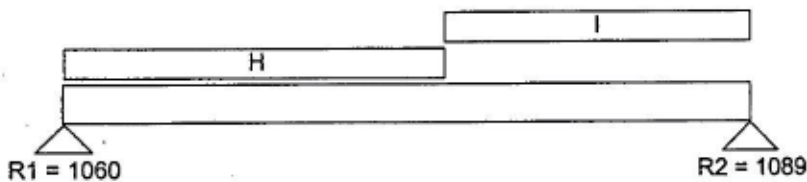
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Par Unif LL	Par Unif TL	Start	End
	180	H = 225	0	5.0
	113	I = 238	5.0	9.0



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-8

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.6 in² R2= 1.7 in² DL Defl 0.02 in Suggested Camber 0.04 in

Data

Beam Span	9.0 ft	Reaction 1 LL	750 #	Reaction 2 LL	602 #
Beam Wt per ft	7.97 #	Reaction 1 TL	1060 #	Reaction 2 TL	1089 #
Bm Wt Included	72 #	Maximum V	1089 #		
Max Moment	2411 #	Max V (Reduced)	874 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.06	0.04
Critical	12.06	6.90	0.45	0.30
Status	OK	OK	OK	OK
Ratio	21%	21%	14%	14%

Values

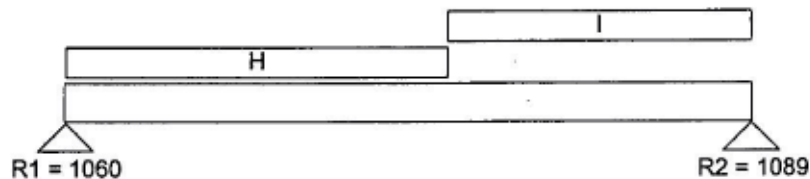
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Par Unif LL	Par Unif TL	Start	End
	180	H = 225	0	5.0
	113	I = 238	5.0	9.0



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-9

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.3 in² R2= 1.3 in² DL Defl 0.02 in Suggested Camber 0.04 in

Data

Beam Span	9.0 ft	Reaction 1 LL	450 #	Reaction 2 LL	450 #
Beam Wt per ft	7.97 #	Reaction 1 TL	846 #	Reaction 2 TL	846 #
Bm Wt Included	72 #	Maximum V	846 #		
Max Moment	1903 #	Max V (Reduced)	681 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.05	0.03
Critical	9.52	5.38	0.45	0.30
Status	OK	OK	OK	OK
Ratio	17%	16%	11%	9%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

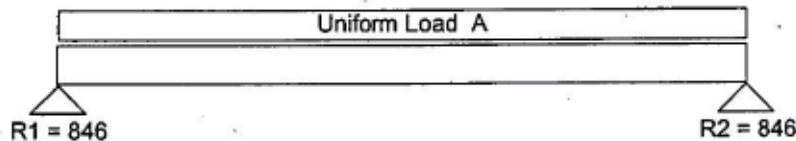
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 100

Uniform TL: 180 = A



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

REAR PORCH

PB-1

Date: 1/27/06

Selection

8-3/4x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 8.0 in² R2= 8.0 in² DL Defl 0.10 in Suggested Camber 0.14 in

Data

Beam Span	14.5 ft	Reaction 1 LL	3625 #	Reaction 2 LL	3625 #
Beam Wt per ft	25.52 #	Reaction 1 TL	5224 #	Reaction 2 TL	5224 #
Bm Wt Included	370 #	Maximum V	5224 #		
Max Moment	18936 #'	Max V (Reduced)	4503 #		
TL Max Defl	L / 240	TL Actual Defl	L / 552		
LL Max Defl	L / 360	LL Actual Defl	L / 795		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	210.00	105.00	0.32	0.22
Critical	96.25	35.55	0.73	0.48
Status	OK	OK	OK	OK
Ratio	46%	34%	44%	45%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2361	190	1.8	650

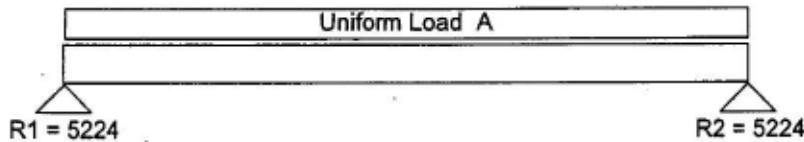
Adjustments

Cv Volume	0.984			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 500

Uniform TL: 695 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-2

REAR PORCH

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 2.0 in ²	R2= 8.5 in ²	DL Defl	0.12 in	Suggested Camber	0.19 in
Beam Span	15.5 ft	Reaction 1 LL	738 #	Reaction 2 LL	3662 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	1319 #	Reaction 2 TL	5532 #	
Bm Wt Included	232 #	Maximum V	5532 #			
Max Moment	8489 #	Max V (Reduced)	5427 #			
TL Max Defl	L / 240	TL Actual Defl	L / 559			
LL Max Defl	L / 360	LL Actual Defl	L / 892			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.33	0.21
Critical	42.45	42.84	0.78	0.52
Status	OK	OK	OK	OK
Ratio	35%	70%	43%	40%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

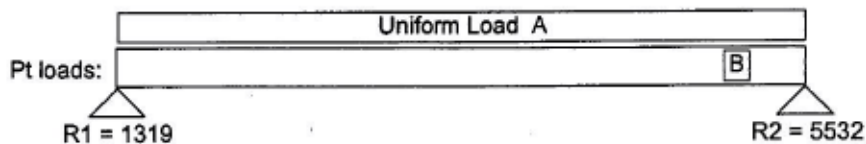
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress	1.00			
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A

Point LL	Point TL	Distance
3625	B = 5224	14.0



SPAN = 15.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-3

REAR PORCH

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 2.0 in ²	R2= 8.5 in ²	DL Defl	0.12 in	Suggested Camber	0.19 in
Beam Span	15.5 ft	Reaction 1 LL	738 #	Reaction 2 LL	3662 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	1319 #	Reaction 2 TL	5532 #	
Bm Wt Included	232 #	Maximum V	5532 #			
Max Moment	8489 #	Max V (Reduced)	5427 #			
TL Max Defl	L / 240	TL Actual Defl	L / 559			
LL Max Defl	L / 360	LL Actual Defl	L / 892			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.33	0.21
Critical	42.45	42.84	0.78	0.52
Status	OK	OK	OK	OK
Ratio	35%	70%	43%	40%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc.L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

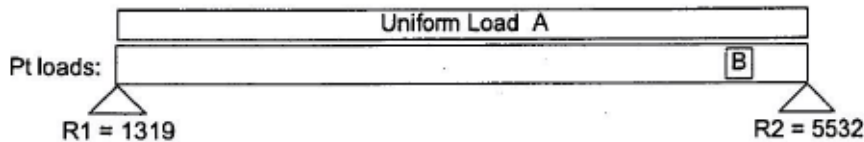
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A

Point LL	Point TL	Distance
3625	B = 5224	14.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

REAR PORCH

PB-4

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.3 in² R2= 1.3 in² DL Defl 0.06 in Suggested Camber 0.09 in

Data

Beam Span	16.0 ft	Reaction 1 LL	400 #	Reaction 2 LL	400 #
Beam Wt per ft	14.94 #	Reaction 1 TL	840 #	Reaction 2 TL	840 #
Bm Wt Included	239 #	Maximum V	840 #		
Max Moment	3358 #	Max V (Reduced)	735 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.12	0.06
Critical	16.79	5.80	0.80	0.53
Status	OK	OK	OK	OK
Ratio	14%	9%	15%	10%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

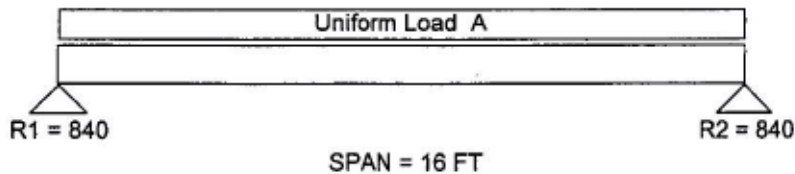
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-5

REAR PORCH

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF	Lu = 0.0 Ft
----------------------------	-------------

Date

Min Bearing Area	R1= 1.3 in ²	R2= 1.3 in ²	DL Defl	0.06 in	Suggested Camber	0.09 in
Beam Span	16.0 ft	Reaction 1 LL	400 #	Reaction 2 LL	400 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	840 #	Reaction 2 TL	840 #	
Bm Wt Included	239 #	Maximum V	840 #			
Max Moment	3358 #	Max V (Reduced)	735 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.12	0.06
Critical	16.79	5.80	0.80	0.53
Status	OK	OK	OK	OK
Ratio	14%	9%	15%	10%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

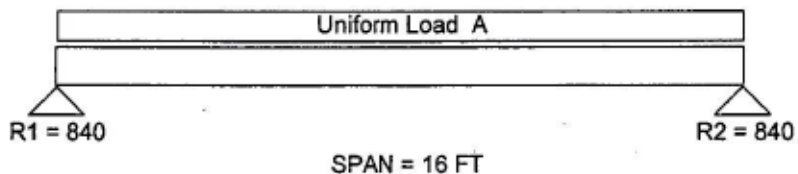
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-6

REAR PORCH

Date: 1/27/06

Selection
Conditions

5-1/8x 19-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 9.9 in ²	R2= 9.9 in ²	DL Defl	0.10 in	Suggested Camber	0.15 in
Beam Span	19.0 ft	Reaction 1 LL	4137 #	Reaction 2 LL	4137 #	
Beam Wt per ft	24.28 #	Reaction 1 TL	6418 #	Reaction 2 TL	6418 #	
Bm Wt Included	461 #	Maximum V	6418 #			
Max Moment	15821 #	Max V (Reduced)	6232 #			
TL Max Defl	L / 240	TL Actual Defl	L / 826			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	324.80	99.94	0.28	0.17
Critical	82.21	49.20	0.95	0.63
Status	OK	OK	OK	OK
Ratio	25%	49%	29%	28%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2309	190	1.8	650

Adjustments

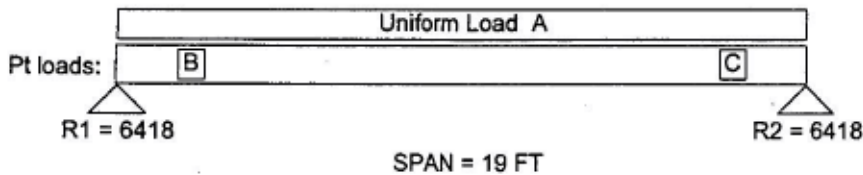
Cv Volume	0.962			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A

Point LL	Point TL	Distance
3662	B = 5332	2.0
3662	C = 5332	17.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-1

Date: 1/27/06

Selection

7x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 12.4 in² R2= 3.2 in² DL Defl 0.13 in

Data

Beam Span	19.0 ft	Reaction 1 LL	6104 #	Reaction 2 LL	1456 #
Beam Wt per ft	30.63 #	Reaction 1 TL	8038 #	Reaction 2 TL	2093 #
Bm Wt Included	582 #	Maximum V	8038 #		
Max Moment	21222 #	Max V (Reduced)	7128 #		
TL Max Defl	L / 240	TL Actual Defl	L / 456		
LL Max Defl	L / 360	LL Actual Defl	L / 615		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	228.67	98.00	0.50	0.37
Critical	89.33	56.27	0.95	0.63
Status	OK	OK	OK	OK
Ratio	39%	57%	53%	59%

Values

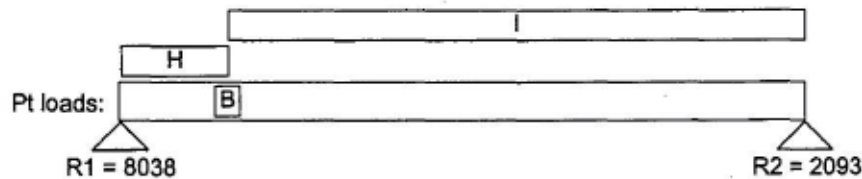
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
4800	B = 6179	3.0	600	H = 750	0	3.0
			60	I = 70	3.0	19.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-2

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.3 in² R2= 2.3 in² DL Defl <0.01 in.

Data

Beam Span	4.0 ft	Reaction 1 LL	1200 #	Reaction 2 LL	1200 #
Beam Wt per ft	7.66 #	Reaction 1 TL	1515 #	Reaction 2 TL	1515 #
Bm Wt Included	31 #	Maximum V	1515 #		
Max Moment	1515 #	Max V (Reduced)	631 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	6.38	4.98	0.20	0.13
Status	OK	OK	OK	OK
Ratio	11%	20%	3%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

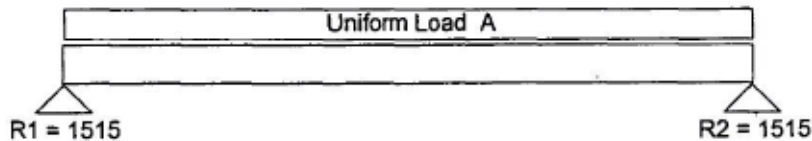
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 600

Uniform TL: 750 = A



SPAN = 4 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-3

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 3.1 in² R2= 3.1 in² DL Defl <0.01 in.

Data

Beam Span	4.0 ft	Reaction 1 LL	1368 #	Reaction 2 LL	1368 #
Beam Wt per ft	7.66 #	Reaction 1 TL	2040 #	Reaction 2 TL	2040 #
Bm Wt Included	31 #	Maximum V	2040 #		
Max Moment	3264 #	Max V (Reduced)	1564 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	13.74	12.35	0.20	0.13
Status	OK	OK	OK	OK
Ratio	24%	50%	7%	7%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

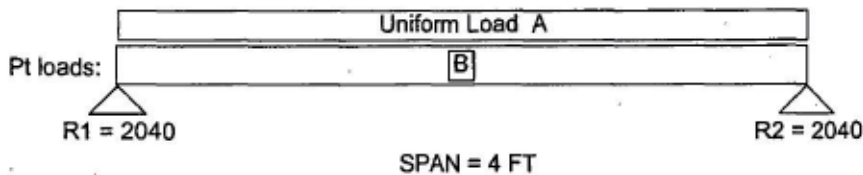
CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 200

Uniform TL: 400 = A

Point LL	Point TL	Distance
1200	B = 1515	2.0
735	C = 934	2.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-4

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 7.8 in² R2= 7.8 in² DL Defl 0.06 in Suggested Camber 0.09 in

Data

Beam Span	12.0 ft	Reaction 1 LL	3960 #	Reaction 2 LL	3960 #
Beam Wt per ft	14.94 #	Reaction 1 TL	5040 #	Reaction 2 TL	5040 #
Bm Wt Included	179 #	Maximum V	5040 #		
Max Moment	15119 #	Max V (Reduced)	4200 #		
TL Max Defl	L / 240	TL Actual Defl	L / 489		
LL Max Defl	L / 360	LL Actual Defl	L / 622		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.29	0.23
Critical	75.60	33.16	0.60	0.40
Status	OK	OK	OK	OK
Ratio	61%	54%	49%	58%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

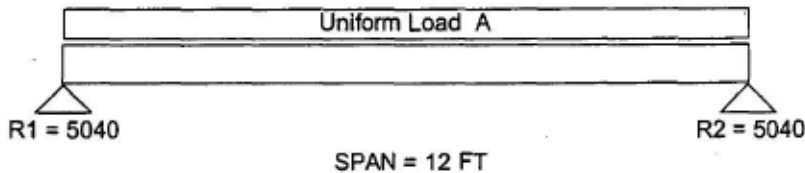
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 660

Uniform TL: 825 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-5

BASEMENT

Date: 1/27/06

Selection
Conditions

5-1/8x 21 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 16.9 in ²	R2= 7.1 in ²	DL Defl	0.15 in	Suggested Camber	0.22 in
Beam Span	19.0 ft	Reaction 1 LL	7751 #	Reaction 2 LL	3137 #	
Beam Wt per ft	26.15 #	Reaction 1 TL	10976 #	Reaction 2 TL	4616 #	
Bm Wt Included	497 #	Maximum V	10976 #			
Max Moment	51951 #	Max V (Reduced)	9618 #			
TL Max Defl	L / 240	TL Actual Defl	L / 487			
LL Max Defl	L / 360	LL Actual Defl	L / 710			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	376.69	107.63	0.47	0.32
Critical	271.97	75.93	0.95	0.63
Status	OK	OK	OK	OK
Ratio	72%	71%	49%	51%

Values

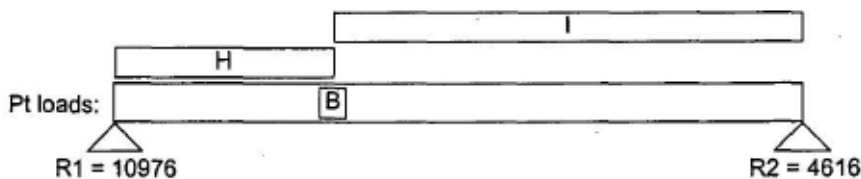
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2292	190	1.8	650

Adjustments

Cv Volume	0.955			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
6508	B = 9685	6.0	600	H = 750	0	6.0
			60	I = 70	6.0	19.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-6

Date: 1/27/06

Selection

3-1/2x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.3 in² R2= 4.3 in² DL Defl 0.08 in

Data

Beam Span	14.0 ft	Reaction 1 LL	1009 #	Reaction 2 LL	1931 #
Beam Wt per ft	15.31 #	Reaction 1 TL	1509 #	Reaction 2 TL	2813 #
Bm Wt Included	214 #	Maximum V	2813 #		
Max Moment	10122 #	Max V (Reduced)	2445 #		
TL Max Defl	L / 240	TL Actual Defl	L / 681		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	114.33	49.00	0.25	0.16
Critical	42.61	19.30	0.70	0.47
Status	OK	OK	OK	OK
Ratio	37%	39%	35%	35%

Values

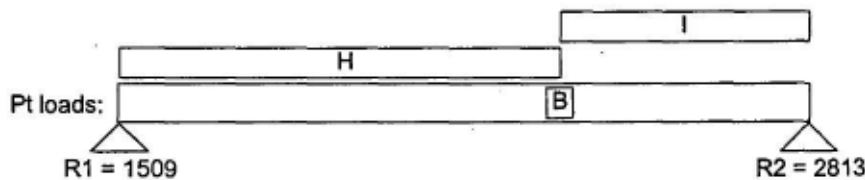
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1200	B = .1977	9.0	60	H = 70	0	9.0
			240	I = 300	9.0	14.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-7

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 4.5 in² R2= 3.4 in² DL Defl 0.01 in Suggested Camber 0.02 in

Data

Beam Span	6.0 ft	Reaction 1 LL	2197 #	Reaction 2 LL	1692 #
Beam Wt per ft	7.97 #	Reaction 1 TL	2956 #	Reaction 2 TL	2201 #
Bm Wt Included	48 #	Maximum V	2956 #		
Max Moment	3986 #	Max V (Reduced)	2424 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.05	0.04
Critical	19.93	19.13	0.30	0.20
Status	OK	OK	OK	OK
Ratio	35%	58%	18%	20%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

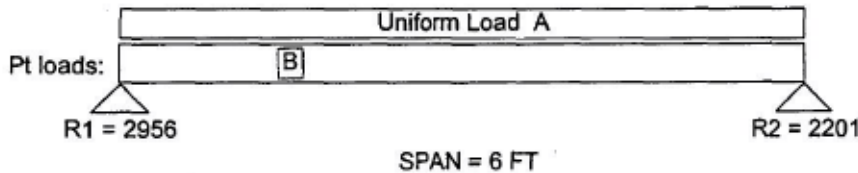
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 480

Uniform TL: 600 = A

Point LL	Point TL	Distance
1009	B = 1509	1.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-8

Date: 1/27/06

Selection

3-1/2x 14 2.0E Tj Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 6.6 in² R2= 2.0 in² DL Defl 0.05 in

Data

Beam Span	14.0 ft	Reaction 1 LL	3313 #	Reaction 2 LL	995 #
Beam Wt per ft	15.31 #	Reaction 1 TL	4258 #	Reaction 2 TL	1326 #
Bm Wt Included	214 #	Maximum V	4258 #		
Max Moment	9066 #	Max V (Reduced)	3680 #		
TL Max Defl	L / 240	TL Actual Defl	L / 713		
LL Max Defl	L / 360	LL Actual Defl	L / 922		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	114.33	49.00	0.24	0.18
Critical	38.16	29.05	0.70	0.47
Status	OK	OK	OK	OK
Ratio	33%	59%	34%	39%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1668	B = 2035	2.0	370	H = 480	0	4.0
560	C = 715	4.0	60	I = 70	4.0	14.0



SPAN = 14 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-9

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 7.0 in² R2= 6.2 in² DL Defl <0.01 in. Suggested Camber 0.01 in

Data

Beam Span	6.5 ft	Reaction 1 LL	3549 #	Reaction 2 LL	3166 #
Beam Wt per ft	14.94 #	Reaction 1 TL	4542 #	Reaction 2 TL	4032 #
Bm Wt included	97 #	Maximum V	4542 #		
Max Moment	7290 #	Max V (Reduced)	3427 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.04	0.03
Critical	36.45	27.05	0.33	0.22
Status	OK	OK	OK	OK
Ratio	30%	44%	14%	16%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _l (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

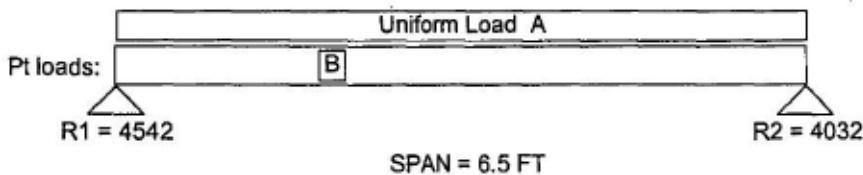
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 880

Uniform TL: 1100 = A

Point LL	Point TL	Distance
995	B = 1326	2.0



SPAN = 6.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-10

BASEMENT

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 7.7 in ²	R2= 7.7 in ²	DL Defl	0.03 in	Suggested Camber	0.04 in
Beam Span	9.0 ft	Reaction 1 LL	3960 #	Reaction 2 LL	3960 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	5017 #	Reaction 2 TL	5017 #	
Bm Wt Included	135 #	Maximum V	5017 #			
Max Moment	11289 #	Max V (Reduced)	3902 #			
TL Max Defl	L / 240	TL Actual Defl	L / 873			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.12	0.10
Critical	56.44	30.81	0.45	0.30
Status	OK	OK	OK	OK
Ratio	46%	50%	27%	33%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

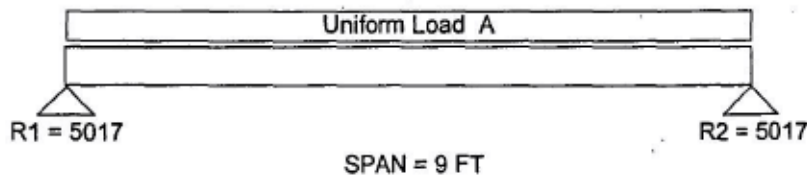
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 880

Uniform TL: 1100 = A



PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-11

BASEMENT

Date: 1/27/06

Selection
Conditions

1-3/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area R1= 1.6 in² R2= 1.6 in² DL Defl <0.01 in.

Beam Span	5.0 ft	Reaction 1 LL	800 #	Reaction 2 LL	800 #
Beam Wt per ft	7.66 #	Reaction 1 TL	1019 #	Reaction 2 TL	1019 #
Bm Wt Included	38 #	Maximum V	1019 #		
Max Moment	1274 #	Max V (Reduced)	544 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	5.36	4.29	0.25	0.17
Status	OK	OK	OK	OK
Ratio	9%	18%	3%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

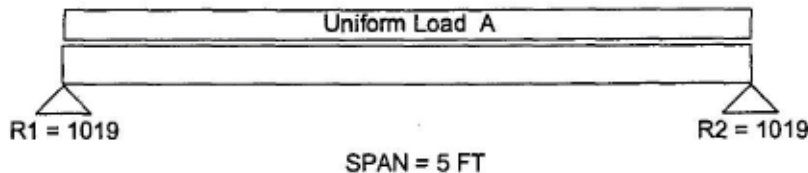
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 320

Uniform TL: 400 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-12

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 0.8 in² R2= 0.8 in² DL Defl <0.01 in.

Data

Beam Span	5.0 ft	Reaction 1 LL	400 #	Reaction 2 LL	400 #
Beam Wt per ft	7.66 #	Reaction 1 TL	519 #	Reaction 2 TL	519 #
Bm Wt Included	38 #	Maximum V	519 #		
Max Moment	649 #	Max V (Reduced)	277 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.00	<0.01
Critical	2.73	2.19	0.25	0.17
Status	OK	OK	OK	OK
Ratio	5%	9%	2%	2%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

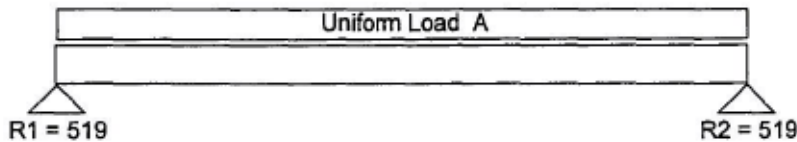
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 160

Uniform TL: 200 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-13

BASEMENT

Date: 1/27/06

Selection 5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.3 in² R2= 3.0 in² DL Defl 0.12 in

Data

Beam Span	21.0 ft	Reaction 1 LL	1049 #	Reaction 2 LL	1411 #
Beam Wt per ft	22.97 #	Reaction 1 TL	1512 #	Reaction 2 TL	1979 #
Bm Wt Included	482 #	Maximum V	1979 #		
Max Moment	11460 #'	Max V (Reduced)	1870 #		
TL Max Defl	L / 240	TL Actual Defl	L / 570		
LL Max Defl	L / 360	LL Actual Defl	L / 788		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.44	0.32
Critical	48.24	14.76	1.05	0.70
Status	OK	OK	OK	OK
Ratio	28%	20%	42%	46%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

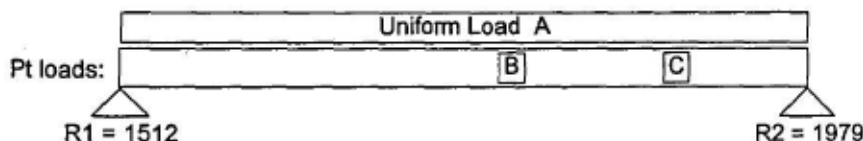
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 60 Uniform TL: 70 = A

Point LL	Point TL	Distance
800	B = 1019	12.0
400	C = 519	17.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-14

BASEMENT

Date: 1/27/06

Selection 5-1/8x 12 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Conditions Min Bearing Area R1= 3.4 in² R2= 5.2 in² DL Defl <0.01 in. Suggested Camber <0.01 in.

Data

Beam Span	5.0 ft	Reaction 1 LL	1682 #	Reaction 2 LL	2529 #
Beam Wt per ft	14.94 #	Reaction 1 TL	2183 #	Reaction 2 TL	3371 #
Bm Wt Included	75 #	Maximum V	3371 #		
Max Moment	3336 #	Max V (Reduced)	2656 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.01	<0.01
Critical	16.68	20.97	0.25	0.17
Status	OK	OK	OK	OK
Ratio	14%	34%	5%	6%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

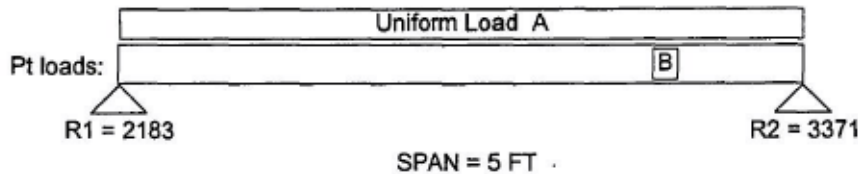
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance
1411	B = 1979	4.0

Uniform LL: 560 Uniform TL: 700 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-15

BASEMENT

Date: 5/16/06

Selection
Conditions

5-1/8x 13-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 9.2 in ² R2= 10.7 in ²	DL Defl	0.08 in	Suggested Camber	0.13 in
Beam Span	11.0 ft	Reaction 1 LL	4336 #	Reaction 2 LL	4784 #
Beam Wt per ft	16.81 #	Reaction 1 TL	6000 #	Reaction 2 TL	6924 #
Bm Wt Included	185 #	Maximum V	6924 #		
Max Moment	20782 #	Max V (Reduced)	5949 #		
TL Max Defl	L / 240	TL Actual Defl	L / 528		
LL Max Defl	L / 360	LL Actual Defl	L / 794		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	155.67	69.19	0.25	0.17
Critical	103.91	46.97	0.55	0.37
Status	OK	OK	OK	OK
Ratio	67%	68%	45%	45%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

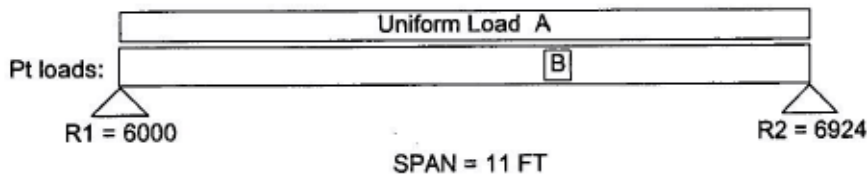
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 680 Uniform TL: 850 = A

Point LL	Point TL	Distance
1640	B = 3389	7.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-16

Date: 1/27/06

Selection

5-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 4.6 in² R2= 4.6 in² DL Defl 0.09 in Suggested Camber 0.14 in

Data

Beam Span	12.0 ft	Reaction 1 LL	1920 #	Reaction 2 LL	1920 #
Beam Wt per ft	13.08 #	Reaction 1 TL	2958 #	Reaction 2 TL	2958 #
Bm Wt Included	157 #	Maximum V	2958 #		
Max Moment	8875 #	Max V (Reduced)	2527 #		
TL Max Defl	L / 240	TL Actual Defl	L / 558		
LL Max Defl	L / 360	LL Actual Defl	L / 860		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.26	0.17
Critical	44.38	19.95	0.60	0.40
Status	OK	OK	OK	OK
Ratio	47%	37%	43%	42%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

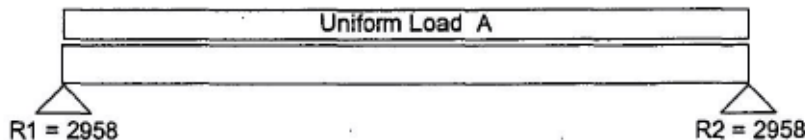
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 320

Uniform TL: 480 = A



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-17

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 2.2 in² R2= 2.2 in² DL Defl 0.03 in

Data

Beam Span	9.0 ft	Reaction 1 LL	1080 #	Reaction 2 LL	1080 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1385 #	Reaction 2 TL	1385 #
Bm Wt Included	71 #	Maximum V	1385 #		
Max Moment	3117 #	Max V (Reduced)	1148 #		
TL Max Defl	L / 240	TL Actual Defl	L / 879		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.12	0.10
Critical	35.62	18.13	0.45	0.30
Status	OK	OK	OK	OK
Ratio	71%	56%	27%	32%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

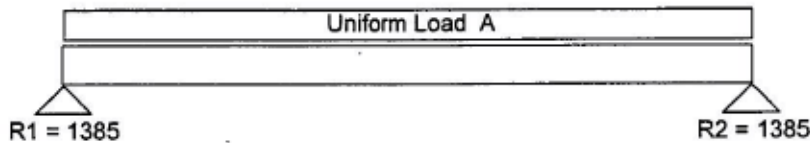
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 240

Uniform TL: 300 = A



Uniform and partial uniform loads are lbs per lineal ft.



Architects & Planners

PETRIE RESIDENCE 3315 97TH AVE SE MERCER ISLAND, WA

BEAM CALCULATIONS



REVISED 05/05/06

RECEIVED

MAY 18 2006

CITY OF MERCER ISLAND
DEVELOPMENT SERVICES

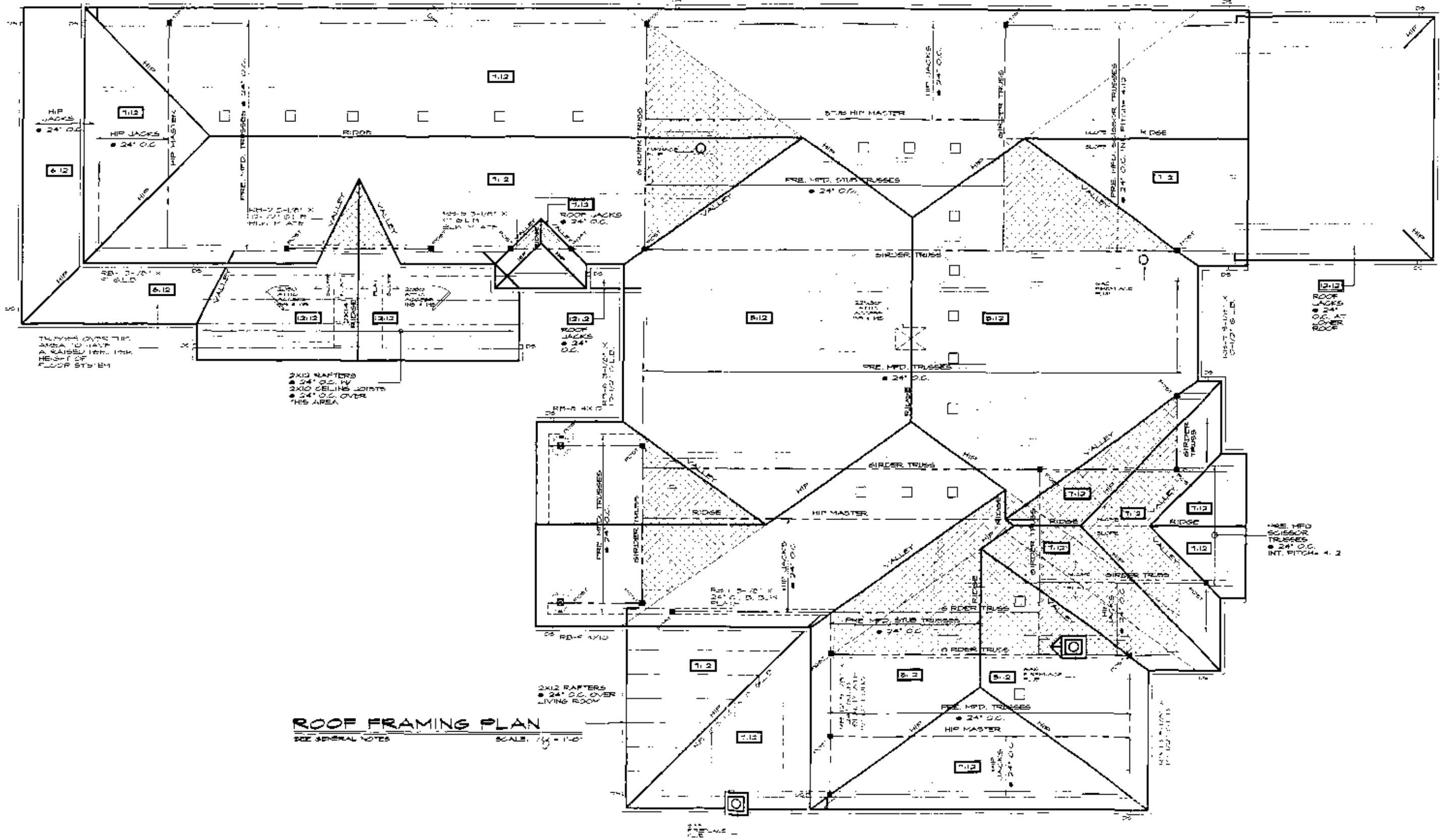
2003 IBC

AUGUST 1, 2005

11644 N.E. 80th St. Kirkland, WA 98033 (425) 828-4117 Fax (425) 822-1918
8101 S.W. Nyberg Rd., Suite 214 Tualatin, OR 97062 (503) 692-8127 Fax (503) 691-0517
WWW.NASHJONESANDERSON.COM

GENERAL NOTES
 AT ALL THE ROOFS

ROOFS OVER THE
 AREA TO HAVE
 A RAISED FLOOR FOR
 THE REASON OF
 LOW WATER



ROOF FRAMING PLAN
 SEE GENERAL NOTES
 SCALE: 1/4" = 1'-0"

TRUSSES OVER THE
 AREA TO HAVE
 A RAISED FLOOR FOR
 THE REASON OF
 LOW WATER

2X12 RAFTERS
 • 24" O.C. W/
 2X10 CEILING JOISTS
 • 24" O.C. OVER
 THIS AREA

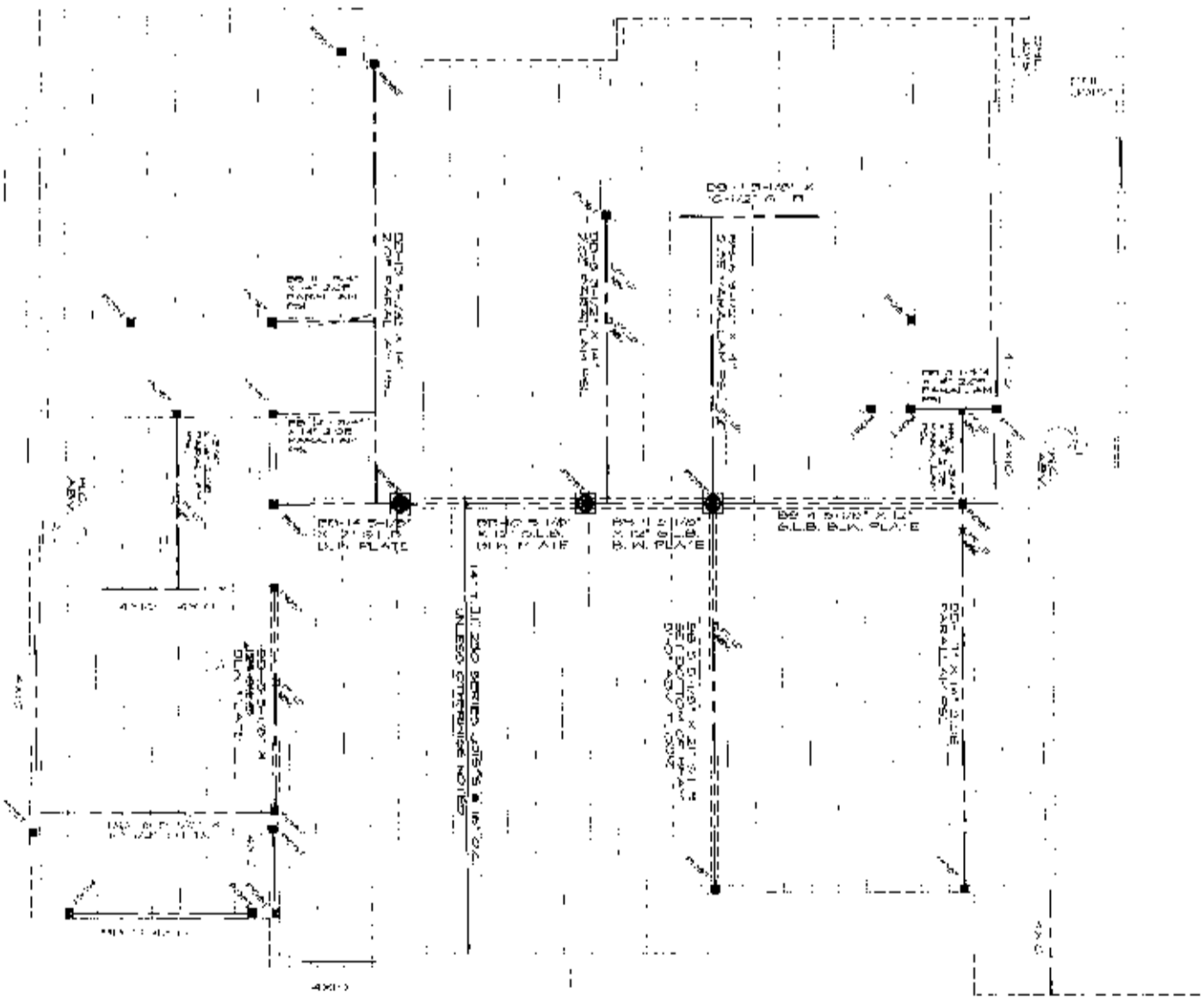
2X12 RAFTERS
 • 24" O.C. OVER
 LIVING ROOM

PRE. MPD.
 SCISSOR
 TRUSSES
 • 24" O.C.
 INT. RITCH 4. 2

NOT TO SCALE
FOR REFERENCE ONLY



MAIN FLOOR PLAN
SITE GENERAL NOTES





Architects & Planners

BEAM DESIGN DATA

CLIENT: _____
PROJECT: _____
DATE: _____
NAME: _____

Roof Loads:

LL 25 #/sf
DL 35 #/sf
Total 60 #/sf
Unless Noted Otherwise

Floor Loads:

LL 40 #/sf
DL 10 #/sf
Total 50 #/sf

Deck Loads:

LL 60 #/sf
DL 10 #/sf
Total 70 #/sf

Soil: 2000 PSF Min.
Concrete: Per IBC 03
Masonry: Per IBC 03
Steel: Per IBC 03
Wood: Per IBC 03
Nailing: Per IBC 03

4" Beam: Douglas Fir #2
fv = 95
fb = 875 PSI
E = 1,600,000

6" Beam: Douglas Fir #2
fv = 85
fb = 875 PSI
E = 1,300,000

Joists & Rafter: Hem Fir #2
fv = 75
fb = 850 PSI
E = 1,300,000

Glu-Lam Beams:
fv = 165 PSI
fb = 2,400 PSI (reduced by size factor, CF*KI)
E = 1,800,000

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PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-1

BEDROOM TWO

Date: 1/27/06

Selection

3-1/8x9 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 0.9 in² R2= 3.3 in² DL Defl 0.02 in Suggested Camber 0.03 in

Data

Beam Span	6.5 ft	Reaction 1 LL	320 #	Reaction 2 LL	1130 #
Beam Wt per ft	6.83 #	Reaction 1 TL	610 #	Reaction 2 TL	2118 #
Bm Wt Included	44 #	Maximum V	2118 #		
Max Moment	1907 #'	Max V (Reduced)	1776 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	42.19	28.13	0.05	0.02
Critical	9.53	14.02	0.33	0.22
Status	OK	OK	OK	OK
Ratio	23%	50%	14%	11%

Values

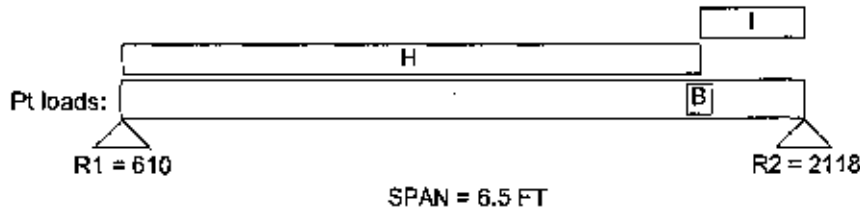
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
925	B = 1739	5.5	50	H = 90	0	5.5
			250	I = 450	5.5	6.6



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChak v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

PLAYROOM

RB-2

Date: 1/27/06

Selection

5-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 4.5 in² R2= 4.5 in² DL Defl 0.13 in Suggested Camber 0.20 in

Data

Beam Span	12.5 ft	Reaction 1 LL	1563 #	Reaction 2 LL	1563 #
Beam Wt per ft	13.08 #	Reaction 1 TL	2894 #	Reaction 2 TL	2894 #
Bm Wt Included	163 #	Maximum V	2894 #		
Max Moment	9044 #	Max V (Reduced)	2489 #		
TL Max Defl	L / 240	TL Actual Defl	L / 526		
LL Max Defl	L / 360	LL Actual Defl	L / 974		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.29	0.15
Critical	45.22	19.85	0.63	0.42
Status	OK	OK	OK	OK
Ratio	48%	37%	46%	37%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

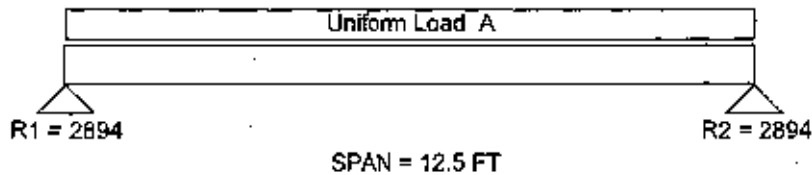
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 250

Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

PLAYROOM

RB-3

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 2.4 in² R2= 2.4 in² DL Defl 0.02 in

Data

Beam Span	6.5 ft	Reaction 1 LL	813 #	Reaction 2 LL	813 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1488 #	Reaction 2 TL	1488 #
Bm Wt Included	51 #	Maximum V	1488 #		
Max Moment	2418 #	Max V (Reduced)	1135 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.05	0.03
Critical	27.64	17.92	0.33	0.22
Status	OK	OK	OK	OK
Ratio	55%	55%	15%	13%

Values

	Fb (psi)	Fv (psi)	E (psi x ml)	Fc _L (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

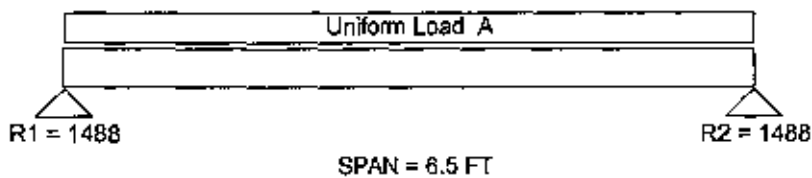
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 250

Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-4

BEDROOM THREE

Date: 1/27/06

Selection 4x10 DF-L #2 Lu = 0.0 Ft

Conditions NDS '91
Min Bearing Area R1= 2.4 in² R2= 2.4 in² DL Defl 0.02 in

Date

Beam Span	6.5 ft	Reaction 1 LL	813 #	Reaction 2 LL	813 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1488 #	Reaction 2 TL	1488 #
Bm Wt Included	51 #	Maximum V	1488 #		
Max Moment	2418 #	Max V (Reduced)	1135 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.05	0.03
Critical	27.64	17.92	0.33	0.22
Status	OK	OK	OK	OK
Ratio	55%	55%	15%	13%

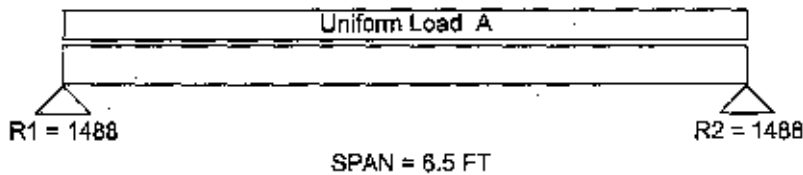
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	L _e = 0.00 Ft	Kbe = 0.0

Loads Uniform LL: 250 Uniform TL: 450 - = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-5

HALL

Date: 1/27/06

Selection
Conditions

3-1/8x 9 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 1.9 in ²	R2= 1.9 in ²	DL Defl	0.01 in	Suggested Camber	0.02 in
Beam Span	5.5 ft	Reaction 1 LL	688 #	Reaction 2 LL	688 #	
Beam Wt per ft	6.83 #	Reaction 1 TL	1256 #	Reaction 2 TL	1256 #	
Bm Wt Included	38 #	Maximum V	1256 #			
Max Moment	1727 #	Max V (Reduced)	914 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	42.19	28.13	0.03	0.02
Critical	8.64	7.21	0.28	0.18
Status	OK	OK	OK	OK
Ratio	20%	26%	10%	8%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

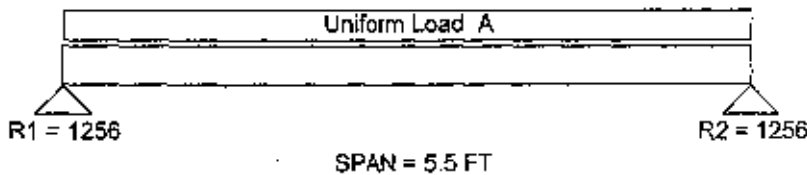
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 250

Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-6

BEDROOM FOUR

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

<u>Data</u>	Min Bearing Area	R1= 6.3 in ²	R2= 6.3 in ²	DL Defl	0.08 in	Suggested Camber	0.12 In
	Beam Span	8.0 ft	Reaction 1 LL	2252 #	Reaction 2 LL	2252 #	
	Beam Wt per ft	7.97 #	Reaction 1 TL	4084 #	Reaction 2 TL	4084 #	
	Bm Wt Included	64 #	Maximum V	4084 #			
	Max Moment	8168 #	Max V (Reduced)	3191 #			
	TL Max Defl	L / 240	TL Actual Defl	L / 555			
	LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.17	0.10
Critical	40.84	25.19	0.40	0.27
Status	OK	OK	OK	OK
Ratio	71%	77%	43%	36%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

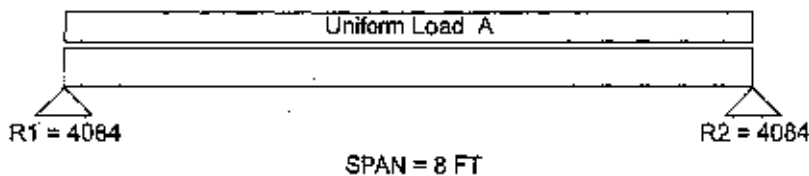
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 563

Uniform TL: 1013 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-7

MASTER BATHROOM

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 5.5 in ²	R2= 5.5 in ²	DL Defl	0.05 in	Suggested Camber	0.07 in
Beam Span	7.0 ft	Reaction 1 LL	1971 #	Reaction 2 LL	1971 #	
Beam Wt per ft	7.97 #	Reaction 1 TL	3573 #	Reaction 2 TL	3573 #	
Bm Wt Included	56 #	Maximum V	3573 #			
Max Moment	6253 #	Max V (Reduced)	2680 #			
TL Max Defl	L / 240	TL Actual Defl	L / 828			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.10	0.06
Critical	31.27	21.16	0.35	0.23
Status	OK	OK	OK	OK
Ratio	54%	64%	29%	24%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

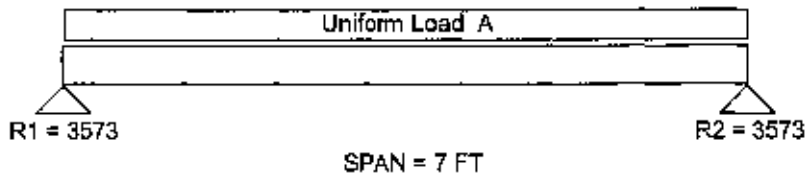
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 563

Uniform TL: 1013 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

ENTRY

RB-8

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 2.5 in² R2= 2.5 in² DL Defl 0.04 in

Date

Beam Span	8.0 ft	Reaction 1 LL	852 #	Reaction 2 LL	852 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1563 #	Reaction 2 TL	1563 #
Bm Wt Included	63 #	Maximum V	1563 #		
Max Moment	3127 #	Max V (Reduced)	1262 #		
TL Max Defl	L / 240	TL Actual Defl	L / 986		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.10	0.05
Critical	35.74	19.93	0.40	0.27
Status	OK	OK	OK	OK
Ratio	72%	62%	24%	20%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

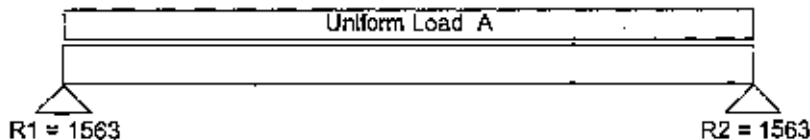
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 213

Uniform TL: 383 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

ENTRY

RB-9

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 2.5 in² R2= 2.5 in² DL Defl 0.04 in

Data

Beam Span	8.0 ft	Reaction 1 LL	852 #	Reaction 2 LL	852 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1563 #	Reaction 2 TL	1563 #
Bm Wt Included	63 #	Maximum V	1563 #		
Max Moment	3127 #	Max V (Reduced)	1262 #		
TL Max Defl	L / 240	TL Actual Defl	L / 986		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.10	0.05
Critical	35.74	19.93	0.40	0.27
Status	OK	OK	OK	OK
Ratio	72%	62%	24%	20%

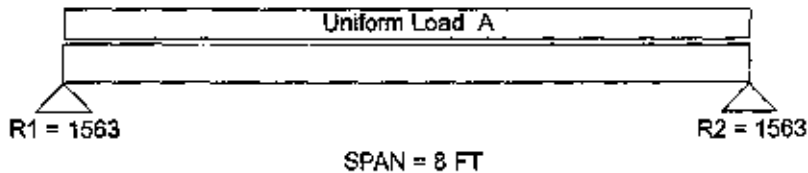
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625
<u>Adjustments</u>				
CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 213

Uniform TL: 383 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-10

LIVING ROOM

Date: 1/27/06

Selection 5-1/8x 18 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Conditions Increasing Load,
Min Bearing Area R1= 3.0 in² R2= 5.6 in² DL Defl 0.13 in Suggested Camber 0.20 in

Data

Beam Span	21.21 ft	Reaction 1 LL	938 #	Reaction 2 LL	1875 #
Beam Wt per ft	22.42 #	Reaction 1 TL	1925 #	Reaction 2 TL	3613 #
Bm Wt included	475 #	Maximum V	3613 #		
Max Moment	15034 #'	Max V (Reduced)	2888 #		
TL Max Defl	L / 240	TL Actual Defl	L / 939		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	276.75	92.25	0.27	0.14
Critical	78.36	22.80	1.06	0.71
Status	OK	OK	OK	OK
Ratio	28%	25%	26%	20%

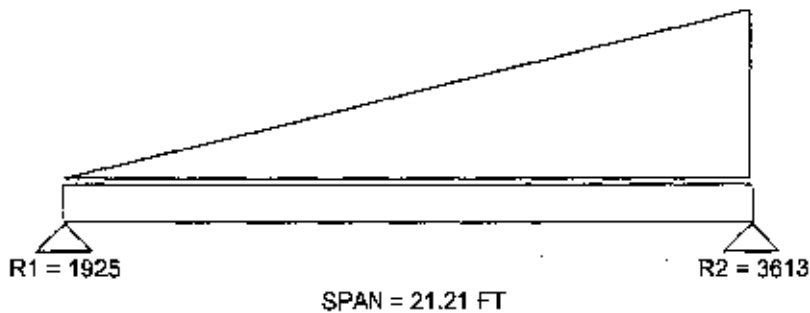
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2302	190	1.8	650

Adjustments

Cv Volume	0.959			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads Increasing LL = 2813 Increasing TL = 5063



The Increasing load is total pounds on the beam. Beam weight and any uniform load is PLF.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-11

use 5 1/8 x 24 GLB.

FOYER

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 4.2 in ²	R2= 8.9 in ²	DL Defl	0.12 In	Suggested Camber	0.18 in
Beam Span	13.0 ft	Reaction 1 LL	1444 #	Reaction 2 LL	3031 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	2715 #	Reaction 2 TL	5772 #	
Bm Wt Included	194 #	Maximum V	5772 #			
Max Moment	9834 #	Max V (Reduced)	5397 #			
TL Max Defl	L / 240	TL Actual Defl	L / 606			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.26	0.14
Critical	49.17	42.61	0.65	0.43
Status	OK	OK	OK	OK
Ratio	40%	69%	40%	31%

Values

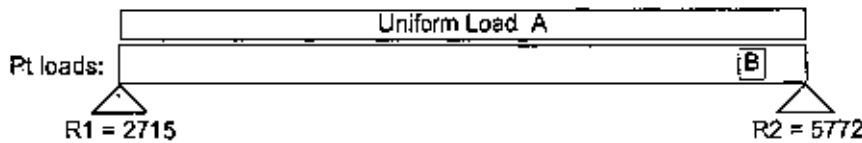
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress	1.00			
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 200 Uniform TL: 360 = A

Point LL	Point TL	Distance
1875	B = 3613	12.0



SPAN = 13 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-12

STAIRS

Date: 1/27/06

Selection
Conditions

5-1/8x 24 GLB 24F-V8 DF/DF Lu = 0.0 Ft Lu @ OH = 0.0 Ft

Overhang, Uplift @ R1,
Min Bearing Area R1= -0.5 in² R2= 30.2 in²

Data

Beam Span	11.5 ft	Reaction 1 LL	-173 #	Reaction 2 LL	10429 #
Beam Wt per ft	29.89 #	Reaction 1 TL	-300 #	Reaction 2 TL	19630 #
Bm Wt Included	463 #	Maximum V	12259 #	Overhang Length	4.0 ft
Max Moment	44115 #	Max V (Reduced)	11029 #	Total Beam Length	15.5 ft
TL Max Defl	L / 240	TL Actual Defl	L / < -1000	OH TL Actual Defl	L / 833
LL Max Defl	L / 360	LL Actual Defl	L / < -1000	OH LL Actual Defl	L / >1000

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl	OH TL Defl	OH LL Defl
Actual	492.00	123.00	-0.04	-0.02	0.12	0.06
Critical	222.48	87.07	0.58	0.38	0.40	0.27
Status	OK	OK	OK	OK	OK	OK
Ratio	45%	71%	7%	5%	29%	23%

Values

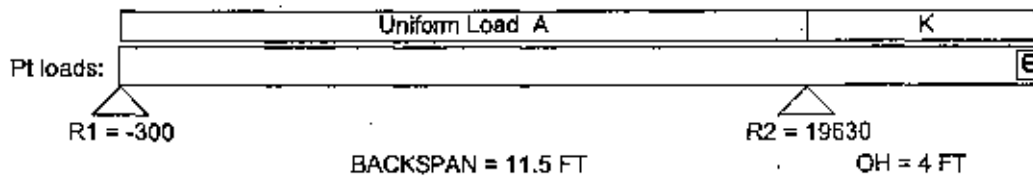
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2379	190	1.8	650

Adjustments

Cv Volume	0.991			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0
CI Stability @ OH	1.0000	Rb = 0.00	Le @ OH = 0.00 Ft	

Loads

		Uniform LL: 325	Uniform TL: 585 = A	(Uniform Ld on Backspan)		
Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
3031	F = 5772 (OH)	4.0	325	K = 585 (OH)	0	4.0
2188	G = 4027 (OH)	4.0				



Uniform and partial uniform loads are lbs per lineal ft. Overhanging load distances are from R2.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-13

DEN

Date: 1/27/06

Selection
Conditions

5-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

<u>Data</u>	Min Bearing Area	R1= 3.4 in ²	R2= 3.9 in ²	DL Defl	0.03 in	Suggested Camber	0.05 in
	Beam Span	7.5 ft	Reaction 1 LL	1171 #	Reaction 2 LL	1367 #	
	Beam Wt per ft	13.08 #	Reaction 1 TL	2239 #	Reaction 2 TL	2550 #	
	Bm Included	98 #	Maximum V	2550 #			
	Max Moment	5439 #	Max V (Reduced)	2149 #			
	TL Max Defl	L / 240	TL Actual Defl	L / >1000			
	LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.07	0.04
Critical	27.19	16.96	0.38	0.25
Status	OK	OK	OK	OK
Ratio	29%	32%	18%	14%

Values

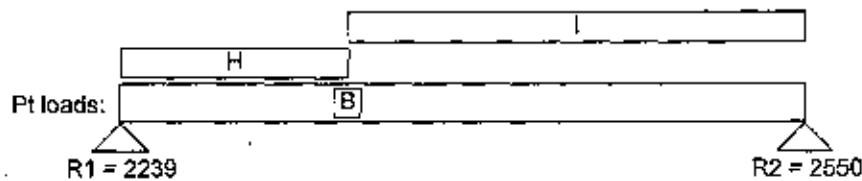
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
788	B = 1541	2.5	50	H = 90	0	2.5
			325	I = 585	2.5	7.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

LAUNDRY

B-1

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 6.9 in² R2= 4.8 in² DL Defl 0.01 in Suggested Camber 0.02 in

Date

Beam Span	4.0 ft	Reaction 1 LL	2496 #	Reaction 2 LL	1766 #
Beam Wt per ft	7.97 #	Reaction 1 TL	4468 #	Reaction 2 TL	3094 #
Bm Wt Included	32 #	Maximum V	4468 #		
Max Moment	5648 #	Max V (Reduced)	3647 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.03	0.02
Critical	28.24	28.80	0.20	0.13
Status	OK	OK	OK	OK
Ratio	49%	88%	15%	12%

Values

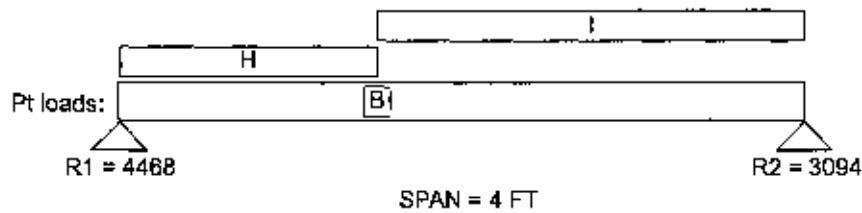
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
2357	B = 4485	1.5	570	H = 930	0	1.5
			420	I = 660	1.5	4.0



SPAN = 4 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-2

COVERED PORCH

Date: 1/27/06

Selection
Conditions

5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area	R1= 9.3 in² R2= 17.6 in²		DL Defl	0.10 in	
Beam Span	11.0 ft	Reaction 1 LL	3252 #	Reaction 2 LL	6142 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6026 #	Reaction 2 TL	11464 #
Bm Wt Included	253 #	Maximum V	11464 #		
Max Moment	19346 #	Max V (Reduced)	5010 #		
TL Max Defl	L / 240	TL Actual Defl	L / 583		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in²)	Shear (in²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.23	0.12
Critical	81.44	39.55	0.55	0.37
Status	OK	OK	OK	OK
Ratio	47%	54%	41%	33%

Values

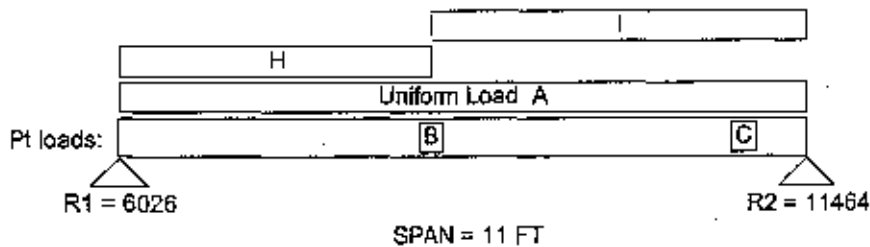
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc.I (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

		Uniform LL: 63	Uniform TL: 118 = A		Start	End
Point LL	Point TL	Distance	Par Unif LL	Par Unif TL		
688	B = 1256	5.0	410	H = 730	0	5.0
3743	C = 8953	10.0	370	I = 680	5.0	11.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-3

HALL

Date: 1/27/06

Selection
Conditions

5-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 9.3 in ²	R2= 9.3 in ²	DL Defl <0.01 in.	Suggested Camber <0.01 in.	
Beam Span	2.0 ft	Reaction 1 LL	3071 #	Reaction 2 LL	3071 #
Beam Wt per ft	13.08 #	Reaction 1 TL	6025 #	Reaction 2 TL	6025 #
Bm Wt Included	26 #	Maximum V	6025 #		
Max Moment	5879 #	Max V (Reduced)	5769 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.00	<0.01
Critical	29.39	45.54	0.10	0.07
Status	OK	OK	OK	OK
Ratio	31%	85%	5%	4%

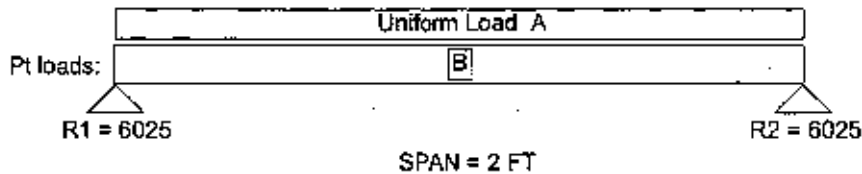
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650
<u>Adjustments</u>				
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Ci Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform TL: 280 = A

Point LL	Point TL	Distance
6142	B = 11464	1.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

PORCH

B-4

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 0.9 in² R2= 0.9 in² DL Defl 0.02 in

Data

Beam Span	8.5 ft	Reaction 1 LL	268 #	Reaction 2 LL	268 #
Beam Wt per ft	7.87 #	Reaction 1 TL	535 #	Reaction 2 TL	535 #
Bm Wt Included	67 #	Maximum V	535 #		
Max Moment	1137 #	Max V (Reduced)	438 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.04	0.02
Critical	12.99	6.91	0.43	0.28
Status	OK	OK	OK	OK
Ratio	26%	21%	9%	7%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	825
Base Adjusted	1050	95	1.6	625

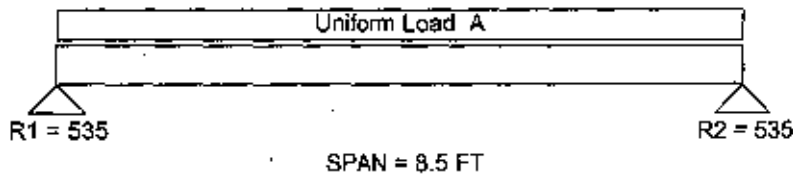
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 63

Uniform TL: 118 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-5

CASUAL DINING

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

	Min Bearing Area	R1= 4.7 in ²	R2= 4.7 in ²	DL Defl	0.02 in	Suggested Camber	0.03 in
<u>Data</u>	Beam Span	6.0 ft	Reaction 1 LL	1890 #	Reaction 2 LL	1890 #	
	Beam Wt per ft	7.97 #	Reaction 1 TL	3039 #	Reaction 2 TL	3039 #	
	Bm Wt Included	48 #	Maximum V	3039 #			
	Max Moment	4558 #	Max V (Reduced)	2153 #			
	TL Max Defl	L / 240	TL Actual Defl	L / >1000			
	LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.05	0.03
Critical	22.79	16.99	0.30	0.20
Status	OK	OK	OK	OK
Ratio	40%	52%	18%	17%

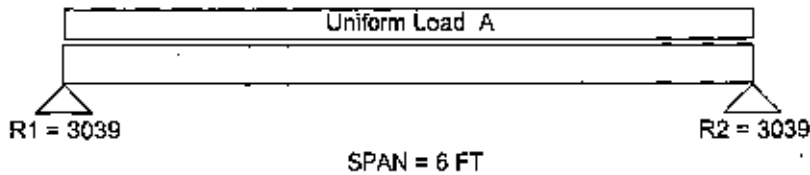
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	850
Base Adjusted	2400	190	1.8	650
<u>Adjustments</u>				
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 630

Uniform TL: 1005 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

CASUAL DINING

B-6

Date: 1/27/06

Selection

5-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 5.0 in² R2= 5.0 in² DL Defl 0.06 in Suggested Camber 0.10 in

Data

Beam Span	12.0 ft	Reaction 1 LL	2520 #	Reaction 2 LL	2520 #
Beam Wt per ft	13.08 #	Reaction 1 TL	3258 #	Reaction 2 TL	3258 #
Bm Wt Included	157 #	Maximum V	3258 #		
Max Moment	9775 #'	Max V (Reduced)	2783 #		
TL Max Defl	L / 240	TL Actual Defl	L / 507		
LL Max Defl	L / 360	LL Actual Defl	L / 655		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.28	0.22
Critical	48.88	21.97	0.60	0.40
Status	OK	OK	OK	OK
Ratio	52%	41%	47%	55%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

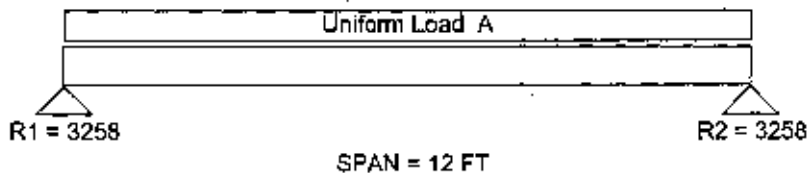
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 420

Uniform TL: 530 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

SITTING ROOM

B-8

Date: 1/27/06

Selection

5-1/4x 14 2.0E T J Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 10.2 in² R2= 10.2 in² DL Defl 0.10 In

Data

Beam Span	11.5 ft	Reaction 1 LL	3263 #	Reaction 2 LL	3267 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6618 #	Reaction 2 TL	6640 #
Bm Wt Included	264 #	Maximum V	6640 #		
Max Moment	12978 #'	Max V (Reduced)	5242 #		
TL Max Defl	L / 240	TL Actual Defl	L / 689		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.20	0.10
Critical	54.63	41.39	0.58	0.38
Status	OK	OK	OK	OK
Ratio	32%	56%	35%	26%

Values

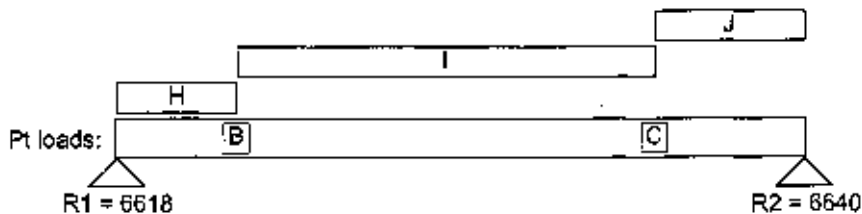
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1971	B = 3573	2.0	575	H = 1175	0	2.0
1971	C = 3573	9.0		I = 80	2.0	9.0
			575	J = 1175	9.0	11.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

HALL

B-10

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.4 in² R2= 1.2 in² DL Defl <0.01 in.

Data

Beam Span	4.5 ft	Reaction 1 LL	735 #	Reaction 2 LL	615 #
Beam Wt per ft	7.66 #	Reaction 1 TL	934 #	Reaction 2 TL	782 #
Bm Wt Included	34 #	Maximum V	934 #		
Max Moment	1712 #	Max V (Reduced)	844 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	7.21	6.66	0.23	0.15
Status	OK	OK	OK	OK
Ratio	13%	27%	4%	5%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

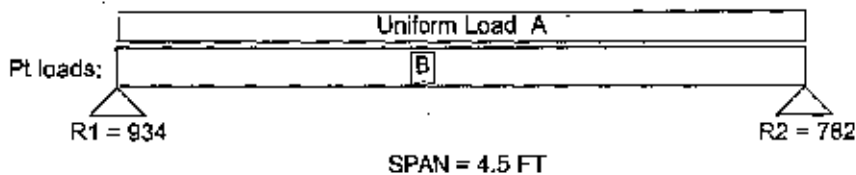
CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	La = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 60

Uniform TL: 70 = A

Point LL	Point TL	Distance
1080	B = 1367	2.0



SPAN = 4.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

DINING ROOM

B-11

Date: 1/27/06

Selection

7x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 12.6 in² R2= 12.8 in² DL Defl 0.20 in

Data

Beam Span	14.5 ft	Reaction 1 LL	4082 #	Reaction 2 LL	4082 #
Beam Wt per ft	30.63 #	Reaction 1 TL	8182 #	Reaction 2 TL	8175 #
Bm Wt included	444 #	Maximum V	8182 #		
Max Moment	23842 #	Max V (Reduced)	6871 #		
TL Max Defl	L / 240	TL Actual Defl	L / 438		
LL Max Defl	L / 360	LL Actual Defl	L / 877		

Attributes

	Section (in²)	Shear (in²)	TL Defl (in)	LL Defl
Actual	228.67	98.00	0.40	0.20
Critical	100.36	54.24	0.73	0.48
Status	OK	OK	OK	OK
Ratio	44%	55%	55%	41%

Values

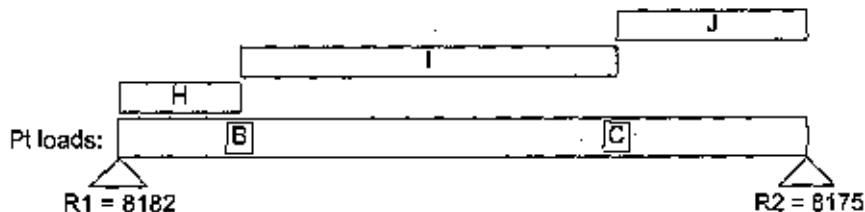
	Fb (psi)	Fv (psi)	E (psi x mfl)	Fc_l (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
2252	B = 4084	2.5	563	H = 1093	0	2.5
2252	C = 4084	10.5		I = 80	2.5	10.5
			563	J = 1093	10.5	14.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-12

DINING ROOM

Date: 1/27/06

Selection 5-1/4x 14 2.0E TJ Parailam® W.S. PSL Lu = 0.0 Ft Lu @ OH = 0.0 Ft

Conditions Overhang,
Min Bearing Area R1= 3.1 in² R2= 26.9 in² DL Defl 0.00 in

Date

Beam Span	13.0 ft	Reaction 1 LL	1668 #	Reaction 2 LL	9554 #
Beam Wt per ft	22.97 #	Reaction 1 TL	2035 #	Reaction 2 TL	17494 #
Bm Wt included	310 #	Maximum V	14355 #	Overhang Length	0.5 ft
Max Moment	7175 #	Max V (Reduced)	2674 #	Total Beam Length	13.5 ft
TL Max Defl	L / 240	TL Actual Defl	L / >1000	OH TL Actual Defl	L / < -1000
LL Max Defl	L / 360	LL Actual Defl	L / >1000	OH LL Actual Defl	L / < -1000

Attributes

	Section (in²)	Shear (in²)	TL Defl (in)	LL Defl	OH TL Defl	OH LL Defl
Actual	171.50	73.50	0.06	0.06	0.00	0.00
Critical	30.20	21.11	0.65	0.43	0.05	0.03
Status	OK	OK	OK	OK	OK	OK
Ratio	18%	29%	9%	13%	3%	13%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

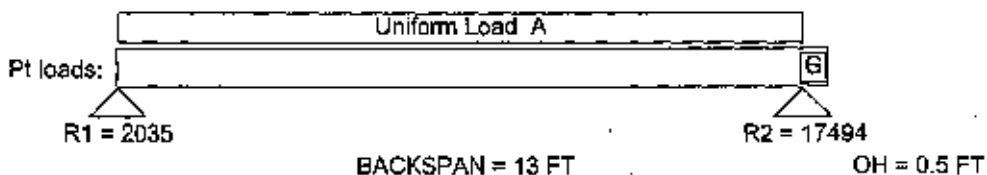
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0
Cl Stability @ OH	1.0000	Rb = 0.00	Le @ OH = 0.00 Ft	

Loads

Point LL	Point TL	Distance
4082	F = 8182 (OH)	0.5
3240	G = 6162 (OH)	0.5

Uniform LL: 300 Uniform TL: 375 = A (Uniform Ld on Backspan)



Uniform and partial uniform loads are lbs per lineal ft. Overhanging load distances are from R2.

PETRIE RESIDENCE

BeamChak v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

HALL

B-14

Date: 1/27/06

Selection

7x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 3.8 in² R2= 3.2 in² DL Defl 0.11 in

Data

Beam Span	21.0 ft	Reaction 1 LL	1687 #	Reaction 2 LL	1393 #
Beam Wt per ft	30.63 #	Reaction 1 TL	2440 #	Reaction 2 TL	2066 #
Bm Wt Included	643 #	Maximum V	2440 #		
Max Moment	11835 #	Max V (Reduced)	2229 #		
TL Max Defl	L / 240	TL Actual Defl	L / 723		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	228.67	98.00	0.35	0.24
Critical	49.82	17.60	1.05	0.70
Status	OK	OK	OK	OK
Ratio	22%	18%	33%	34%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Base Values	2900	190	1.8	850
Base Adjusted	2851	190	1.8	650

Adjustments

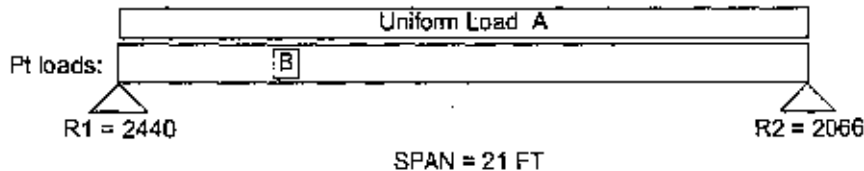
CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 120

Uniform TL: 150 = A

Point LL	Point TL	Distance
560	B = 713	5.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GREAT ROOM

B-15

Date: 1/27/06

Selection

W 14x 34 36 ksi Wide Flange Steel

Lateral Support at: Lc = 7.1 ft max.

Conditions

Actual Size is 6-3/4 x 14 in.,

Min Bearing Length R1= 1.0 in. R2= 1.0 in. DL Defl 0.18 in Suggested Camber 0.27 in

Data

Beam Span	22.0 ft	Reaction 1 LL	4522 #	Reaction 2 LL	1640 #
Beam Wt per ft	34.0 #	Reaction 1 TL	8625 #	Reaction 2 TL	3189 #
Bm Wt Included	748 #	Maximum V	8625 #		
Max Moment	42569 #	Max V (Reduced)	N/A		
TL Max Defl	L / 240	TL Actual Defl	L / 687		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	48.60	3.98	0.38	0.20
Critical	21.50	0.60	1.10	0.73
Status	OK	OK	OK	OK
Ratio	44%	15%	35%	27%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)
Base Value Fy	36000	36000	29.0
Base Adjusted	23760	14400	29.0

Adjustments

YP Factor, Lc	0.66	0.40
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At Point Loads: Provide these minimum bearing lengths in inches or provide web stiffeners.

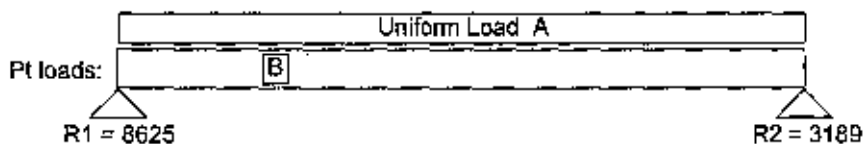
B = 1.0 C = 1.0

Loads

Uniform LL: 40

Uniform TL: 50 = A

Point LL	Point TL	Distance
4382	B = 8305	5.0
900	C = 1661	5.0



SPAN = 22 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg.# 6464-622

CUSTOM

GREAT ROOM

B-16

Date: 1/27/06

Selection **W 14x 26 36 ksi Wide Flange Steel** **Lateral Support at: Lc = 5.3 ft max.**

Conditions Actual Size is 5 x 13-7/8 in.,
Min Bearing Length R1= 0.9 in. R2= 0.9 in. DL Defl 0.14 in Suggested Camber 0.21 in

Data

Beam Span	22.0 ft	Reaction 1 LL	2468 #	Reaction 2 LL	1037 #
Beam Wt per ft	26.0 #	Reaction 1 TL	4744 #	Reaction 2 TL	1985 #
Sm Wt Included	572 #	Maximum V	4744 #		
Max Moment	23185 #	Max V (Reduced)	N/A		
TL Max Defl	L / 240	TL Actual Defl	L / 893		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	35.30	3.55	0.30	0.15
Critical	11.71	0.33	1.10	0.73
Status	OK	OK	OK	OK
Ratio	33%	9%	27%	21%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)
Base Value Fy	36000	36000	29.0
Base Adjusted	23760	14400	29.0

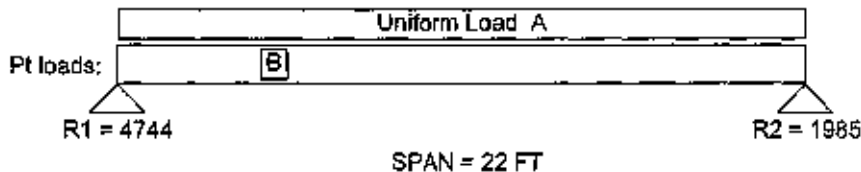
Adjustments

YP Factor, Lc	0.66	0.40	
At Point Loads: Provide these minimum bearing lengths in inches or provide web stiffeners. B = 0.9 C = 0.9			

Loads

Point LL	Point TL	Distance
1725	B = 3396	5.0
900	C = 1661	5.0

Uniform LL: 40 Uniform TL: 50 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-822

CUSTOM

SITTING ROOM

B-17

Date: 5/16/06

Selection

6-3/4x 18 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 20.6 in²R2= 11.8 in² DL Defl 0.07 in Suggested Camber 0.10 in

Data

Beam Span	13.0 ft	Reaction 1 LL	8128 #	Reaction 2 LL	5094 #
Beam Wt per ft	29.52 #	Reaction 1 TL	13394 #	Reaction 2 TL	7645 #
Bm Wt Included	384 #	Maximum V	13394 #		
Max Moment	29856 #	Max V (Reduced)	11925 #		
TL Max Defl	L / 240	TL Actual Defl	L / 873		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	364.50	121.50	0.18	0.11
Critical	152.32	94.14	0.65	0.43
Status	OK	OK	OK	OK
Ratio	42%	77%	27%	26%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2352	190	1.8	650

Adjustments

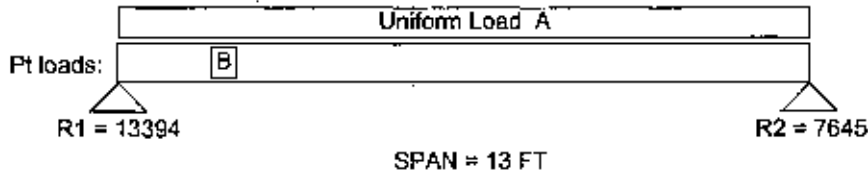
Cv Volume	0.980			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 680

Uniform TL: 950 = A

Point LL	Point TL	Distance
4362	B = 8305	2.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GREAT ROOM

B-18

Date: 1/27/06

Selection

3-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.1 in² R2= 1.1 in² DL Defl < 0.01 in. Suggested Camber 0.01 in

Data

Beam Span	9.0 ft	Reaction 1 LL	540 #	Reaction 2 LL	540 #
Beam Wt per ft	9.11 #	Reaction 1 TL	716 #	Reaction 2 TL	716 #
Bm Wt Included	82 #	Maximum V	716 #		
Max Moment	1611 #	Max V (Reduced)	557 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	75.00	37.50	0.03	0.02
Critical	8.06	4.40	0.45	0.30
Status	OK	OK	OK	OK
Ratio	11%	12%	6%	7%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

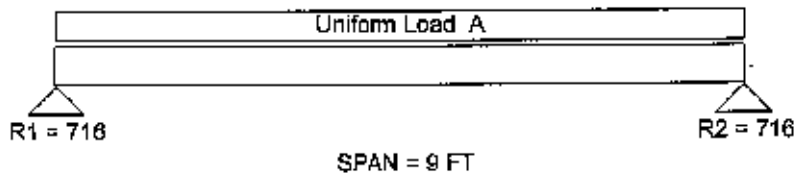
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 120

Uniform TL: 150 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GREAT ROOM

B-19

Date: 1/27/06

Selection

3-1/2x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 3.0 In² R2= 3.0 In² DL Defl 0.02 in

Data

Beam Span	10.0 ft	Reaction 1 LL	1200 #	Reaction 2 LL	1200 #
Beam Wt per ft	15.31 #	Reaction 1 TL	1977 #	Reaction 2 TL	1977 #
Bm Wt Included	153 #	Maximum V	1977 #		
Max Moment	4941 #	Max V (Reduced)	1515 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (In ²)	Shear (In ²)	TL Defl (In)	LL Defl
Actual	114.33	49.00	0.06	0.04
Critical	20.80	11.96	0.50	0.33
Status	OK	OK	OK	OK
Ratio	18%	24%	12%	11%

Values

	Fb (psi)	Fv (psi)	E (psi x mill)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

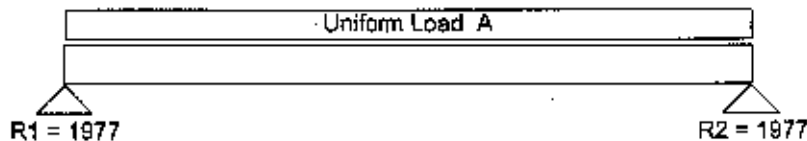
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 240

Uniform TL: 380 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChk v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-20

LIBRARY

Date: 1/27/06

Selection
Conditions

5-1/4x 11-7/8 2.DE TJ Parallam® W.S. PSL Lu = 0.0 Ft

Date

Min Bearing Area	R1= 7.3 in ²	R2= 7.6 in ²	DL Defl	0.12 in	
Beam Span	12.0 ft	Reaction 1 LL	2661 #	Reaction 2 LL	2779 #
Beam Wt per ft	19.48 #	Reaction 1 TL	4746 #	Reaction 2 TL	4949 #
Bm Wt Included	234 #	Maximum V	4949 #		
Max Moment	10175 #	Max V (Reduced)	4133 #		
TL Max Defl	L / 240	TL Actual Defl	L / 529		
LL Max Defl	L / 360	LL Actual Defl	L / 928		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.39	62.34	0.27	0.16
Critical	42.05	32.63	0.60	0.40
Status	OK	OK	OK	OK
Ratio	34%	52%	45%	39%

Values

	Fb (psi)	Fv (psi)	E (psi x mill)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2903	190	1.8	650

Adjustments

CF Size Factor	1.001			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1171	B = 2239	2.0	445	H = 805	0	2.0
1367	C = 2550	9.5	120	I = 140	2.0	9.5
			445	J = 805	9.5	12.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-21

LIBRARY

Date: 1/27/06

Selection
Conditions

4x 10 DF-L #2	Lu = 0.0 Ft
NDS '91	
Min Bearing Area R1= 1.4 in ² R2= 1.4 in ² DL Defl 0.04 in	

Data

Beam Span	12.0 ft	Reaction 1 LL	720 #	Reaction 2 LL	720 #
Beam Wt per ft	7.87 #	Reaction 1 TL	887 #	Reaction 2 TL	887 #
Bm Wt Included	94 #	Maximum V	887 #		
Max Moment	2862 #	Max V (Reduced)	773 #		
TL Max Defl	L / 240	TL Actual Defl	L / 772		
LL Max Defl	L / 360	LL Actual Defl	L / 951		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.19	0.15
Critical	30.42	12.21	0.60	0.40
Status	OK	OK	OK	OK
Ratio	61%	38%	31%	38%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

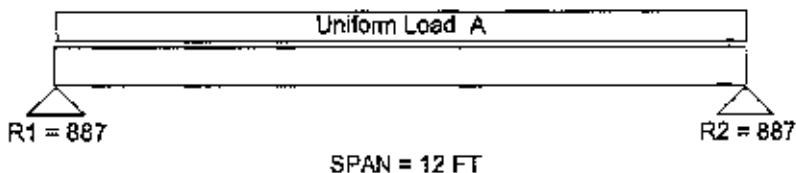
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Ci Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 120

Uniform TL: 140 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

LIVING ROOM

B-22

Date: 1/27/06

Selection 4x 10 DF-L #2 Lu = 0.0 Ft

Conditions NDS '91
Min Bearing Area R1= 1.3 in² R2= 1.3 in² DL Defl 0.01 in

Data

Beam Span	6.0 ft	Reaction 1 LL	450 #	Reaction 2 LL	450 #
Beam Wt per ft	7.87 #	Reaction 1 TL	834 #	Reaction 2 TL	834 #
Bm Wt Included	47 #	Maximum V	834 #		
Max Moment	1250 #	Max V (Reduced)	619 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.02	0.01
Critical	14.29	9.78	0.30	0.20
Status	OK	OK	OK	OK
Ratio	29%	30%	7%	6%

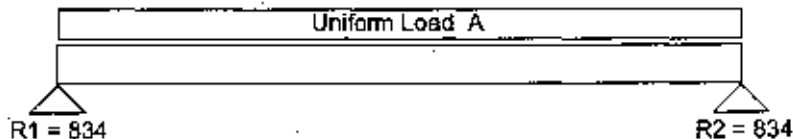
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads Uniform LL: 150 Uniform TL: 270 = A



SPAN = 6 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nesh, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-1

Date: 1/27/06

Selection

5-1/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 6.5 in² R2= 6.5 in² DL Defl 0.27 In

Data

Beam Span	18.0 ft	Reaction 1 LL	2007 #	Reaction 2 LL	2007 #
Beam Wt per ft	22.97 #	Reaction 1 TL	4194 #	Reaction 2 TL	4194 #
Bm Wt Included	413 #	Maximum V	4194 #		
Max Moment	18872 #	Max V (Reduced)	3650 #		
TL Max Defl	L / 240	TL Actual Defl	L / 425		
LL Max Defl	L / 360	LL Actual Defl	L / 888		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.51	0.24
Critical	79.44	26.82	0.90	0.60
Status	OK	OK	OK	OK
Ratio	46%	39%	57%	41%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	FcL (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2651	190	1.8	650

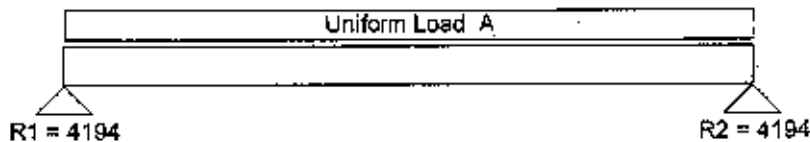
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 223

Uniform TL: 443 = A



SPAN = 18 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-2

GARAGE

Date: 1/27/06

Selection
Conditions

5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Date

Min Bearing Area	R1= 9.4 in ² R2= 13.1 in ²	DL Defl	0.23 in
Beam Span	14.0 ft	Reaction 1 LL	3141 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6122 #
Bm Wt Included	322 #	Maximum V	8508 #
Max Moment	28348 #	Max V (Reduced)	7177 #
TL Max Defl	L / 240	TL Actual Defl	L / 325
LL Max Defl	L / 360	LL Actual Defl	L / 593
Reaction 2 LL	5057 #	Reaction 2 TL	8508 #

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.52	0.28
Critical	119.33	56.66	0.70	0.47
Status	OK	OK	OK	OK
Ratio	70%	77%	74%	61%

Values

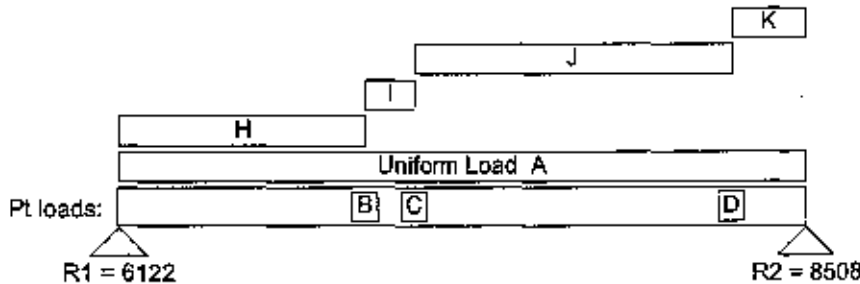
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Uniform LL: 63	Uniform TL: 113 = A			
Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start End
2007	B = 4194	5.0	H = 80		0 5.0
320	C = 610	8.0	I = 710		5.0 6.0
1130	D = 2218	12.5	J = 475		6.0 12.5
			693	K = 1005	12.5 14.0



SPAN = 14 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-3

Date: 1/27/06

Selection

5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 12.0 in² R2= 10.3 in² DL Defl 0.11 in

Data

Beam Span	12.0 ft	Reaction 1 LL	5058 #	Reaction 2 LL	4539 #
Beam Wt per ft	22.97 #	Reaction 1 TL	7790 #	Reaction 2 TL	6725 #
Bm Wt Included	276 #	Maximum V	7790 #		
Max Moment	26114 #	Max V (Reduced)	6453 #		
TL Max Defl	L / 240	TL Actual Defl	L / 462		
LL Max Defl	L / 360	LL Actual Defl	L / 722		

Attributes

	Section (in²)	Shear (in²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.31	0.20
Critical	109.93	50.95	0.60	0.40
Status	OK	OK	OK	OK
Ratio	64%	69%	52%	50%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

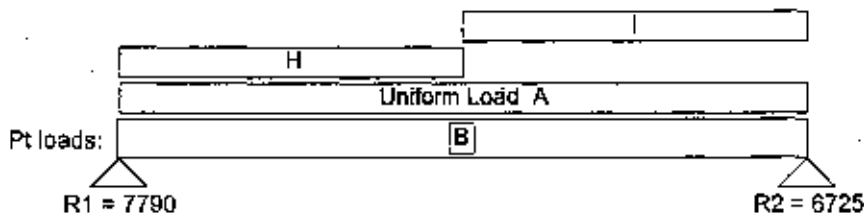
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 63 Uniform TL: 118 = A

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1563	B = 2894	6.0	693	H = 1005	0	6.0
			520	I = 650	6.0	12.0



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-4

GARAGE

Date: 1/27/06

Selection
Conditions

5-1/4x 14 2.0E T J Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area R1= 10.3 in² R2= 12.0 in² DL Defl 0.11 in

Beam Span	12.0 ft	Reaction 1 LL	4539 #	Reaction 2 LL	5058 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6725 #	Reaction 2 TL	7790 #
Bm Wt Included	276 #	Maximum V	7790 #		
Max Moment	26114 #	Max V (Reduced)	6453 #		
TL Max Defl	L / 240	TL Actual Defl	L / 462		
LL Max Defl	L / 360	LL Actual Defl	L / 722		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.31	0.20
Critical	109.93	50.95	0.60	0.40
Status	OK	OK	OK	OK
Ratio	64%	69%	52%	50%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

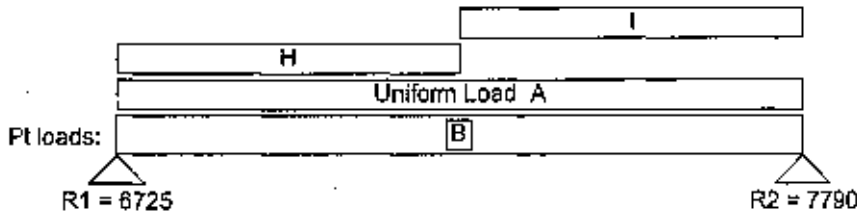
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 63 Uniform TL: 118 = A

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1563	B = 2894	8.0	520	H = 650	0	6.0
			693	I = 1005	6.0	12.0



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-5

GARAGE

Date: 5/16/06

Selection

8-3/4x 24 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 19.5 in² R2= 9.3 in² DL Defl 0.59 in Suggested Camber 0.89 in

Data

Beam Span	26.0 ft	Reaction 1 LL	780 #	Reaction 2 LL	780 #
Beam Wt per ft	51.03 #	Reaction 1 TL	12659 #	Reaction 2 TL	6068 #
Bm Wt Included	1327 #	Maximum V	12659 #		
Max Moment	92147 #	Max V (Reduced)	12417 #		
TL Max Defl	L / 240	TL Actual Defl	L / 499		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	840.00	210.00	0.63	0.03
Critical	532.18	98.03	1.30	0.87
Status	OK	OK	OK	OK
Ratio	63%	47%	48%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2078	190	1.8	650

Adjustments

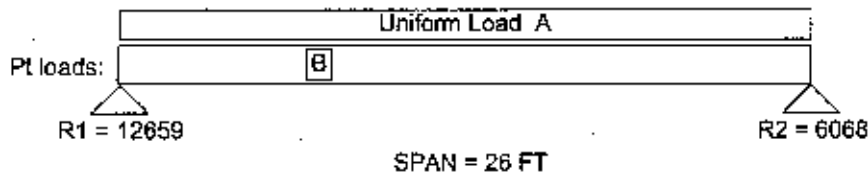
Cv Volume	0.866			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 60

Uniform TL: 70 = A

Point TL	Distance
B = 7790	7.5
C = 7790	7.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-6

Date: 1/27/06

Selection

6-3/4x 24 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 25.1 in² R2= 7.5 in² DL Defl 0.21 in Suggested Camber 0.31 in

Data

Beam Span	24.0 ft	Reaction 1 LL	9915 #	Reaction 2 LL	2965 #
Beam Wt per ft	39.37 #	Reaction 1 TL	16338 #	Reaction 2 TL	4885 #
Bm Wt Included	945 #	Maximum V	16338 #		
Max Moment	73913 #	Max V (Reduced)	14959 #		
TL Max Defl	L / 240	TL Actual Defl	L / 522		
LL Max Defl	L / 360	LL Actual Defl	L / 838		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	648.00	162.00	0.55	0.34
Critical	412.63	118.10	1.20	0.80
Status	OK	OK	OK	OK
Ratio	64%	73%	48%	43%

Values

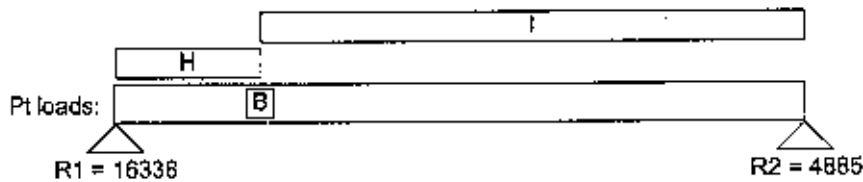
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2150	190	1.8	650

Adjustments

Cv Volume	0.896			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
5057	B = 8508	5.0	325	H = 650	0	5.0
5058	C = 7190	5.0	60	I = 70	5.0	24.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-7

GARAGE

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 1.6 in ²	R2= 1.7 in ²	DL Defl	0.02 in	Suggested Camber	0.04 in
Beam Span	9.0 ft	Reaction 1 LL	750 #	Reaction 2 LL	602 #	
Beam Wt per ft	7.97 #	Reaction 1 TL	1060 #	Reaction 2 TL	1089 #	
Bm Wt Included	72 #	Maximum V	1089 #			
Max Moment	2411 #	Max V (Reduced)	874 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (ln ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.06	0.04
Critical	12.06	6.90	0.45	0.30
Status	OK	OK	OK	OK
Ratio	21%	21%	14%	14%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Par Unif LL	Par Unif TL	Start	End
	180	H = 225	0	5.0
	113	I = 238	5.0	9.0



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-8

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.6 in² R2= 1.7 in² DL Defl 0.02 in Suggested Camber 0.04 in

Data

Beam Span	9.0 ft	Reaction 1 LL	750 #	Reaction 2 LL	602 #
Beam Wt per ft	7.97 #	Reaction 1 TL	1060 #	Reaction 2 TL	1089 #
Bm Wt Included	72 #	Maximum V	1089 #		
Max Moment	2411 #	Max V (Reduced)	874 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.06	0.04
Critical	12.06	6.90	0.45	0.30
Status	OK	OK	OK	OK
Ratio	21%	21%	14%	14%

Values

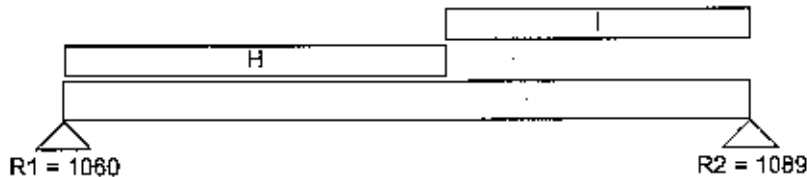
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Par Unif LL	Par Unif TL	Start	End
	180	H = 225	0	5.0
	113	I = 238	5.0	9.0



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-9

GARAGE

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 1.3 in ²	R2= 1.3 in ²	DL Defl	0.02 in	Suggested Camber	0.04 in
Beam Span	9.0 ft	Reaction 1 LL	450 #	Reaction 2 LL	450 #	
Beam Wt per ft	7.97 #	Reaction 1 TL	846 #	Reaction 2 TL	846 #	
Em Wt Included	72 #	Maximum V	846 #			
Max Moment	1903 #	Max V (Reduced)	681 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (ln ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.05	0.03
Critical	9.52	5.38	0.45	0.30
Status	OK	OK	OK	OK
Ratio	17%	16%	11%	9%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

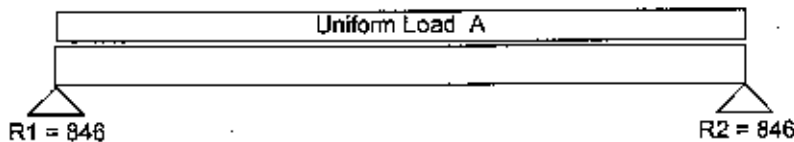
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 100

Uniform TL: 180 = A



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-1

REAR PORCH

Date: 1/27/06

Selection
Conditions

8-3/4x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Min Bearing Area R1= 8.0 in² R2= 8.0 in² DL Defl 0.10 in Suggested Camber 0.14 in

Date

Beam Span	14.5 ft	Reaction 1 LL	3625 #	Reaction 2 LL	3625 #
Beam Wt per ft	25.52 #	Reaction 1 TL	5224 #	Reaction 2 TL	5224 #
Bm Wt Included	370 #	Maximum V	5224 #		
Max Moment	18936 #'	Max V (Reduced)	4503 #		
TL Max Defl	L / 240	TL Actual Defl	L / 552		
LL Max Defl	L / 360	LL Actual Defl	L / 795		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	210.00	105.00	0.32	0.22
Critical	96.25	35.55	0.73	0.48
Status	OK	OK	OK	OK
Ratio	46%	34%	44%	45%

Values

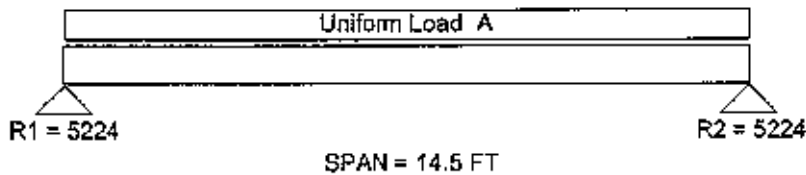
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2361	190	1.8	650

Cv Volume	0.984			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 500

Uniform TL: 695 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChak v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

REAR PORCH

PB-2

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.0 in² R2= 8.5 in² DL Defl 0.12 in Suggested Camber 0.19 in

Data

Beam Span	15.5 ft	Reaction 1 LL	738 #	Reaction 2 LL	3662 #
Beam Wt per ft	14.94 #	Reaction 1 TL	1319 #	Reaction 2 TL	5532 #
Bm Wt Included	232 #	Maximum V	5532 #		
Max Moment	8489 #	Max V (Reduced)	5427 #		
TL Max Defl	L / 240	TL Actual Defl	L / 559		
LL Max Defl	L / 360	LL Actual Defl	L / 892		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.33	0.21
Critical	42.45	42.84	0.78	0.52
Status	OK	OK	OK	OK
Ratio	35%	70%	43%	40%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

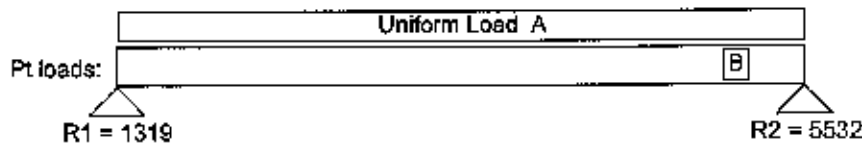
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A

Point LL	Point TL	Distance
3625	B = 5224	14.0



SPAN = 15.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

REAR PORCH

PB-3

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.0 in² R2= 8.5 in² DL Defl 0.12 in Suggested Camber 0.19 in

Data

Beam Span	15.5 ft	Reaction 1 LL	738 #	Reaction 2 LL	3662 #
Beam Wt per ft	14.94 #	Reaction 1 TL	1319 #	Reaction 2 TL	5532 #
Bm Wt Included	232 #	Maximum V	5532 #		
Max Moment	8489 #	Max V (Reduced)	5427 #		
TL Max Defl	L / 240	TL Actual Defl	L / 559		
LL Max Defl	L / 360	LL Actual Defl	L / 892		

Attributes

	Section (in ²)	Shear (In ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.33	0.21
Critical	42.45	42.84	0.78	0.52
Status	OK	OK	OK	OK
Ratio	35%	70%	43%	40%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

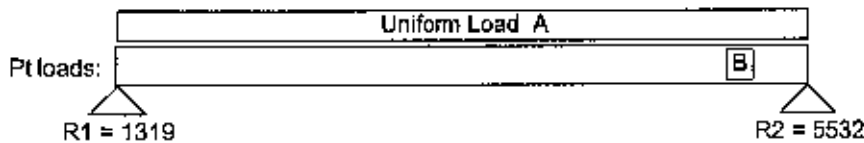
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A

Point LL	Point TL	Distance
3825	B = 5224	14.0



SPAN = 15.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChak v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

REAR PORCH

PB-5

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.3 in² R2= 1.3 in² DL Defl 0.06 in Suggested Camber 0.09 in

Data

Beam Span	16.0 ft	Reaction 1 LL	400 #	Reaction 2 LL	400 #
Beam Wt per ft	14.94 #	Reaction 1 TL	840 #	Reaction 2 TL	840 #
Bm Wt Included	239 #	Maximum V	840 #		
Max Moment	3358 #'	Max V (Reduced)	735 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.12	0.06
Critical	16.79	5.80	0.80	0.53
Status	OK	OK	OK	OK
Ratio	14%	9%	15%	10%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

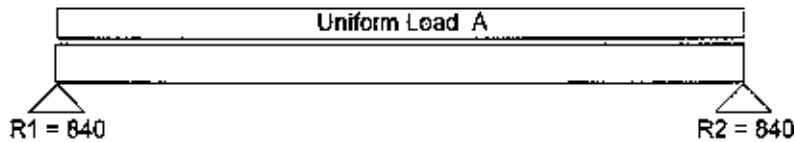
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Ci Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-6

REAR PORCH

Date: 1/27/06

Selection
Conditions

5-1/8x 19-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

MIn Bearing Area	R1= 9.9 in ²	R2= 9.9 in ²	DL Defl	0.10 in	Suggested Camber	0.15 in
Beam Span	19.0 ft	Reaction 1 LL	4137 #	Reaction 2 LL	4137 #	
Beam Wt per ft	24.28 #	Reaction 1 TL	6418 #	Reaction 2 TL	6418 #	
Bm Wt Included	461 #	Maximum V	6418 #			
Max Moment	15821 #	Max V (Reduced)	6232 #			
TL Max Defl	L / 240	TL Actual Defl	L / 826			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (In ³)	Shear (In ²)	TL Defl (In)	LL Defl
Actual	324.80	99.94	0.28	0.17
Critical	82.21	49.20	0.95	0.63
Status	OK	OK	OK	OK
Ratio	25%	49%	29%	26%

Values

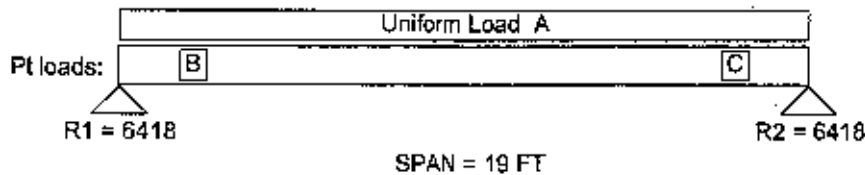
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2309	190	1.8	650

Adjustments

Cv Volume	0.962			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Uniform LL: 50	Uniform TL: 90 = A
Point LL	Point TL	Distance
3662	B = 5332	2.0
3662	C = 5332	17.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-1

Date: 1/27/06

Selection

7x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 12.4 in² R2= 3.2 in² DL Defl 0.13 in

Data

Beam Span	19.0 ft	Reaction 1 LL	6104 #	Reaction 2 LL	1456 #
Beam Wt per ft	30.63 #	Reaction 1 TL	8038 #	Reaction 2 TL	2093 #
Bm Wt Included	582 #	Maximum V	8038 #		
Max Moment	21222 #	Max V (Reduced)	7128 #		
TL Max Defl	L / 240	TL Actual Defl	L / 456		
LL Max Defl	L / 360	LL Actual Defl	L / 615		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	228.67	98.00	0.50	0.37
Critical	89.33	56.27	0.95	0.63
Status	OK	OK	OK	OK
Ratio	39%	57%	53%	59%

Values

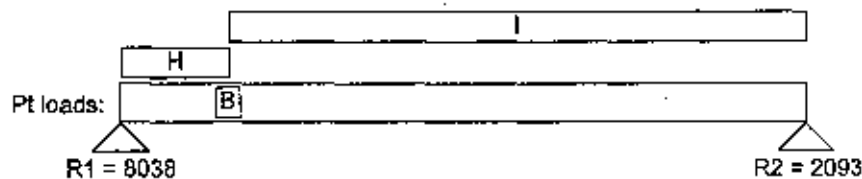
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
4800	B = 6179	3.0	600	H = 750	0	3.0
			60	I = 70	3.0	19.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-2

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.3 in² R2= 2.3 in² DL Defl <0.01 in.

Date

Beam Span	4.0 ft	Reaction 1 LL	1200 #	Reaction 2 LL	1200 #
Beam Wt per ft	7.66 #	Reaction 1 TL	1515 #	Reaction 2 TL	1515 #
Bm Wt Included	31 #	Maximum V	1515 #		
Max Moment	1515 #	Max V (Reduced)	631 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	6.38	4.98	0.20	0.13
Status	OK	OK	OK	OK
Ratio	11%	20%	3%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

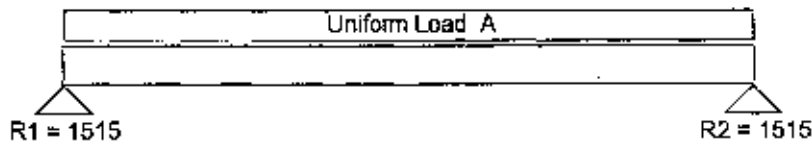
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 800

Uniform TL: 750 = A



SPAN = 4 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-3

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parailam@ W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 3.1 in² R2= 3.1 in² DL Defl <0.01 in.

Date

Beam Span	4.0 ft	Reaction 1 LL	1368 #	Reaction 2 LL	1368 #
Beam Wt per ft	7.66 #	Reaction 1 TL	2040 #	Reaction 2 TL	2040 #
Bm Wt Included	31 #	Maximum V	2040 #		
Max Moment	3264 #	Max V (Reduced)	1564 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	13.74	12.35	0.20	0.13
Status	OK	OK	OK	OK
Ratio	24%	50%	7%	7%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

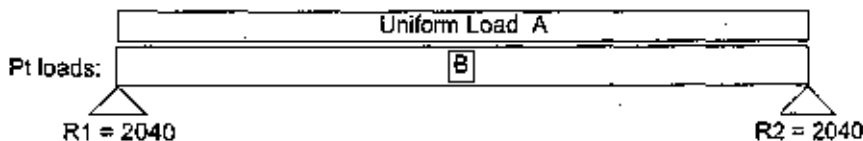
CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 200

Uniform TL: 400 = A

Point LL	Point TL	Distance
1200	B = 1515	2.0
735	C = 934	2.0



SPAN = 4 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-4

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 7.8 in² R2= 7.8 in² DL Defl 0.06 in Suggested Camber 0.09 in

Date

Beam Span	12.0 ft	Reaction 1 LL	3960 #	Reaction 2 LL	3960 #
Beam Wt per ft	14.94 #	Reaction 1 TL	5040 #	Reaction 2 TL	5040 #
Bm Wt Included	179 #	Maximum V	5040 #		
Max Moment	15119 #	Max V (Reduced)	4200 #		
TL Max Defl	L / 240	TL Actual Defl	L / 489		
LL Max Defl	L / 360	LL Actual Defl	L / 622		

Attributes

	Section (in ³)	Shear (In ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.29	0.23
Critical	75.60	33.16	0.60	0.40
Status	OK	OK	OK	OK
Ratio	61%	54%	49%	58%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

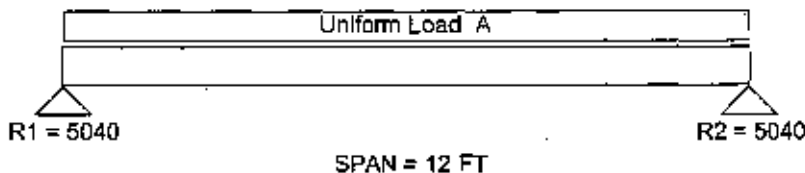
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 660

Uniform TL: 825 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-5

BASEMENT

Date: 1/27/06

Selection
Conditions

5-1/8x 21 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 16.9 in ²	R2= 7.1 in ²	DL Defl	0.15 in	Suggested Camber	0.22 in
Beam Span	19.0 ft	Reaction 1 LL	7751 #	Reaction 2 LL	3137 #	
Beam Wt per ft	26.15 #	Reaction 1 TL	10976 #	Reaction 2 TL	4616 #	
Bm Wt Included	497 #	Maximum V	10976 #			
Max Moment	51951 #	Max V (Reduced)	9618 #			
TL Max Defl	L / 240	TL Actual Defl	L / 487			
LL Max Defl	L / 360	LL Actual Defl	L / 710			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	376.69	107.63	0.47	0.32
Critical	271.97	75.93	0.95	0.63
Status	OK	OK	OK	OK
Ratio	72%	71%	49%	51%

Values

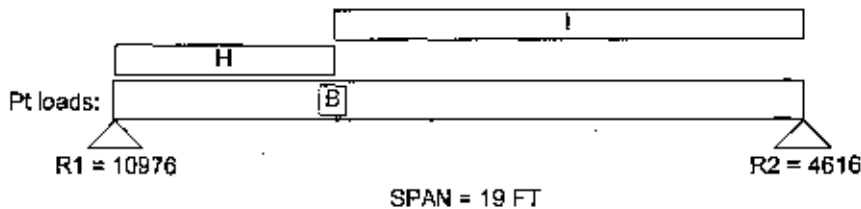
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2292	190	1.8	650

Adjustments

Cv Volume	0.955			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
6508	B = 9685	6.0	600	H = 750	0	6.0
			60	I = 70	6.0	19.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-6

Date: 1/27/06

Selection

3-1/2x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.3 in² R2= 4.3 in² DL Defl 0.08 in

Data

Beam Span	14.0 ft	Reaction 1 LL	1009 #	Reaction 2 LL	1931 #
Beam Wt per ft	15.31 #	Reaction 1 TL	1509 #	Reaction 2 TL	2813 #
Bm Wt Included	214 #	Maximum V	2813 #		
Max Moment	10122 #	Max V (Reduced)	2445 #		
TL Max Defl	L / 240	TL Actual Defl	L / 681		
LL Max Defl	L / 380	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	114.33	49.00	0.25	0.16
Critical	42.61	19.30	0.70	0.47
Status	OK	OK	OK	OK
Ratio	37%	39%	35%	35%

Values

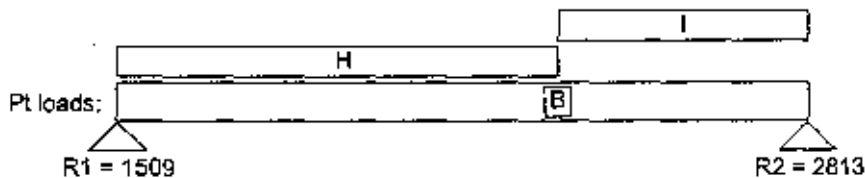
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1200	B = 1977	9.0	60	H = 70	0	9.0
			240	I = 300	9.0	14.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-7

BASEMENT

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

MIn Bearing Area	R1= 4.5 in ²	R2= 3.4 in ²	DL Defl	0.01 In	Suggested Camber	0.02 in
Beam Span	6.0 ft	Reaction 1 LL	2197 #	Reaction 2 LL	1692 #	
Beam Wt per ft	7.97 #	Reaction 1 TL	2956 #	Reaction 2 TL	2201 #	
Bm Wt Included	48 #	Maximum V	2956 #			
Max Moment	3986 #	Max V (Reduced)	2424 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.05	0.04
Critical	19.93	19.13	0.30	0.20
Status	OK	OK	OK	OK
Ratio	35%	58%	18%	20%

Values

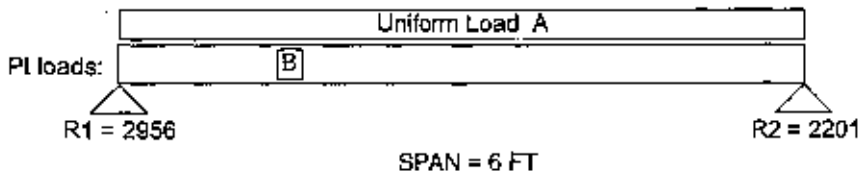
	Fb (psi)	Fv (psi)	E (psi x mill)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Uniform LL: 480	Uniform TL: 600 = A
1009	B = 1509	1.5		



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-8

Date: 1/27/06

Selection

3-1/2x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 6.6 in² R2= 2.0 in² DL Defl 0.05 in

Data

Beam Span	14.0 ft	Reaction 1 LL	3313 #	Reaction 2 LL	995 #
Beam Wt per ft	15.31 #	Reaction 1 TL	4258 #	Reaction 2 TL	1326 #
Bm Wt Included	214 #	Maximum V	4258 #		
Max Moment	9066 #	Max V (Reduced)	3680 #		
TL Max Defl	L / 240	TL Actual Defl	L / 713		
LL Max Defl	L / 360	LL Actual Defl	L / 922		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	114.33	49.00	0.24	0.18
Critical	38.16	29.05	0.70	0.47
Status	OK	OK	OK	OK
Ratio	33%	59%	34%	39%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	FcL (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1668	B = 2035	2.0	370	H = 480	0	4.0
560	C = 715	4.0	60	I = 70	4.0	14.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-9

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 7.0 in² R2= 6.2 in² DL Defl <0.01 in. Suggested Camber 0.01 in

Data

Beam Span	6.5 ft	Reaction 1 LL	3549 #	Reaction 2 LL	3166 #
Beam Wt per ft	14.94 #	Reaction 1 TL	4542 #	Reaction 2 TL	4032 #
Bm Wt Included	97 #	Maximum V	4542 #		
Max Moment	7290 #	Max V (Reduced)	3427 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.04	0.03
Critical	36.45	27.05	0.33	0.22
Status	OK	OK	OK	OK
Ratio	30%	44%	14%	16%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	FcL (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

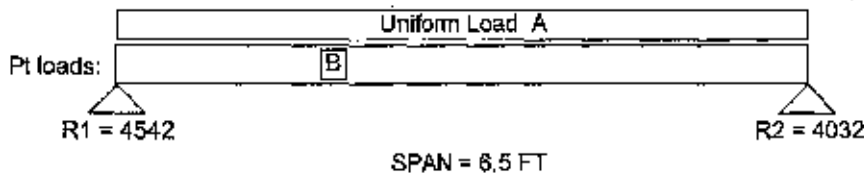
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Ct Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 880

Uniform TL: 1100 = A

Point LL	Point TL	Distance
995	B = 1326	2.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-11

BASEMENT

Date: 1/27/06

Selection
Conditions

1-3/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Min Bearing Area R1= 1.6 In² R2= 1.6 In² DL Defl <0.01 in.

Date

Beam Span	5.0 ft	Reaction 1 LL	800 #	Reaction 2 LL	800 #
Beam Wt per ft	7.66 #	Reaction 1 TL	1019 #	Reaction 2 TL	1019 #
Bm Wt Included	38 #	Maximum V	1019 #		
Max Moment	1274 #	Max V (Reduced)	544 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (In ³)	Shear (In ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	5.36	4.29	0.25	0.17
Status	OK	OK	OK	OK
Ratio	9%	18%	3%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	FcL (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

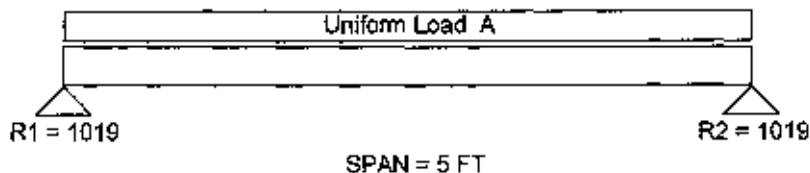
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 320

Uniform TL: 400 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-12

Date: 1/27/06

Selection
Conditions

1-3/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area	R1= 0.8 in ²	R2= 0.8 in ²	DL Defl <0.01 in.
Beam Span	5.0 ft	Reaction 1 LL	400 #
Beam Wt per ft	7.66 #	Reaction 1 TL	519 #
Bm Wt Included	38 #	Maximum V	519 #
Max Moment	649 #	Max V (Reduced)	277 #
TL Max Defl	L / 240	TL Actual Defl	L / >1000
LL Max Defl	L / 360	LL Actual Defl	L / >1000

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.00	<0.01
Critical	2.73	2.19	0.25	0.17
Status	OK	OK	OK	OK
Ratio	5%	9%	2%	2%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	180	1.8	650

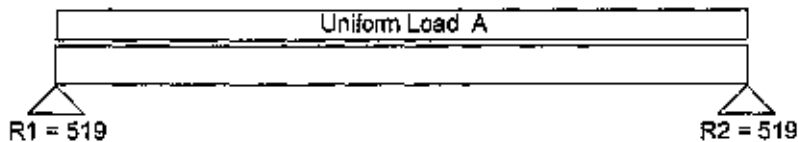
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 160

Uniform TL: 200 = A



SPAN = 5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-13

BASEMENT

Date: 1/27/06

Selection 5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.3 in² R2= 3.0 in² DL Defl 0.12 in

Data

Beam Span	21.0 ft	Reaction 1 LL	1049 #	Reaction 2 LL	1411 #
Beam Wt per ft	22.97 #	Reaction 1 TL	1512 #	Reaction 2 TL	1979 #
Bm Wt Included	482 #	Maximum V	1979 #		
Max Moment	11460 #	Max V (Reduced)	1870 #		
TL Max Defl	L / 240	TL Actual Defl	L / 570		
LL Max Defl	L / 360	LL Actual Defl	L / 788		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.44	0.32
Critical	48.24	14.76	1.05	0.70
Status	OK	OK	OK	OK
Ratio	28%	20%	42%	46%

Values

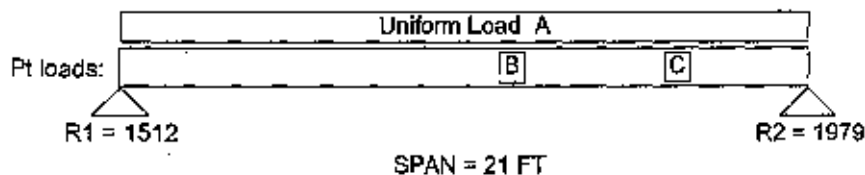
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Uniform LL: 60	Uniform TL: 70 = A
Point LL	Point TL	Distance
800	B = 1019	12.0
400	C = 519	17.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-14

BASEMENT

Date: 1/27/06

Selection 5-1/8x 12 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Conditions Min Bearing Area R1= 3.4 in² R2= 5.2 in² DL Defl <0.01 in. Suggested Camber <0.01 in.

Data

Beam Span	5.0 ft	Reaction 1 LL	1682 #	Reaction 2 LL	2529 #
Beam Wt per ft	14.94 #	Reaction 1 TL	2183 #	Reaction 2 TL	3371 #
Bm Wt Included	75 #	Maximum V	3371 #		
Max Moment	3336 #	Max V (Reduced)	2656 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.01	<0.01
Critical	16.68	20.97	0.25	0.17
Status	OK	OK	OK	OK
Ratio	14%	34%	5%	6%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc1 (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

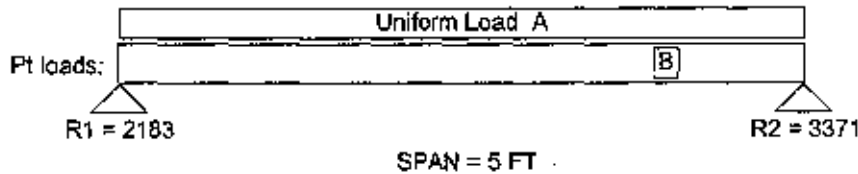
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance
1411	B = 1979	4.0

Uniform LL: 560 Uniform TL: 700 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-15

BASEMENT

Date: 5/16/06

Selection 5-1/8x 13-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 9.2 in² R2= 10.7 in² DL Defl 0.08 in Suggested Camber 0.13 in

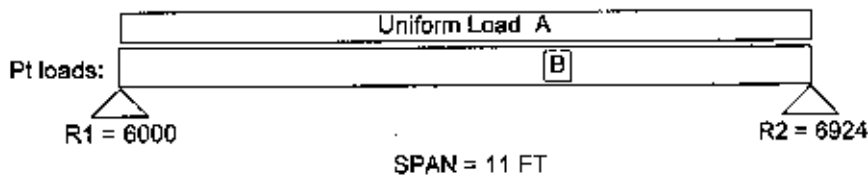
<u>Data</u>					
Beam Span	11.0 ft	Reaction 1 LL	4336 #	Reaction 2 LL	4784 #
Beam Wt per ft	16.81 #	Reaction 1 TL	6000 #	Reaction 2 TL	6924 #
Bm Wt Included	185 #	Maximum V	6924 #		
Max Moment	20782 #	Max V (Reduced)	5949 #		
TL Max Defl	L / 240	TL Actual Defl	L / 528		
LL Max Defl	L / 360	LL Actual Defl	L / 794		

<u>Attributes</u>	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	155.67	69.19	0.25	0.17
Critical	103.91	46.97	0.55	0.37
Status	OK	OK	OK	OK
Ratio	67%	68%	45%	45%

<u>Values</u>	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

<u>Adjustments</u>				
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

<u>Loads</u>	Uniform LL: 680	Uniform TL: 850 = A
Point LL	Point TL	Distance
1640	B = 3389	7.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-16

Date: 1/27/08

Selection

5-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 4.6 in² R2= 4.6 in² DL Defl 0.09 in Suggested Camber 0.14 in

Data

Beam Span	12.0 ft	Reaction 1 LL	1920 #	Reaction 2 LL	1920 #
Beam Wt per ft	13.08 #	Reaction 1 TL	2958 #	Reaction 2 TL	2958 #
Bm Wt Included	157 #	Maximum V	2958 #		
Max Moment	8875 #	Max V (Reduced)	2527 #		
TL Max Defl	L / 240	TL Actual Defl	L / 558		
LL Max Defl	L / 360	LL Actual Defl	L / 860		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.26	0.17
Critical	44.38	19.95	0.60	0.40
Status	OK	OK	OK	OK
Ratio	47%	37%	43%	42%

Values

	Fb (psi)	Fv (psi)	E (psi x ml)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

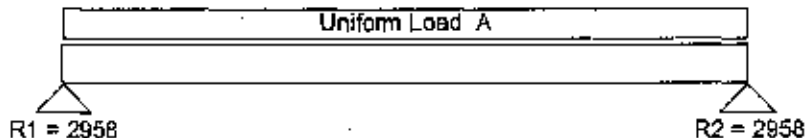
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 320

Uniform TL: 480 = A



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-17

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 2.2 in² R2= 2.2 in² DL Defl 0.03 in

Data

Beam Span	9.0 ft	Reaction 1 LL	1080 #	Reaction 2 LL	1080 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1385 #	Reaction 2 TL	1385 #
Bm Wt Included	71 #	Maximum V	1385 #		
Max Moment	3117 #	Max V (Reduced)	1148 #		
TL Max Defl	L / 240	TL Actual Defl	L / 879		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.12	0.10
Critical	35.62	18.13	0.45	0.30
Status	OK	OK	OK	OK
Ratio	71%	56%	27%	32%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	FcL (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

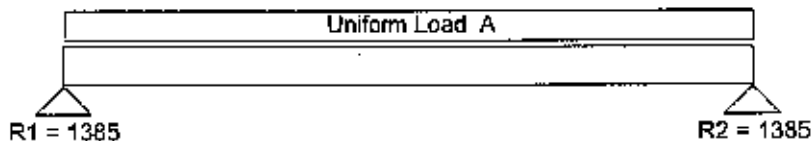
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 240

Uniform TL: 300 = A



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

Brian McWatters

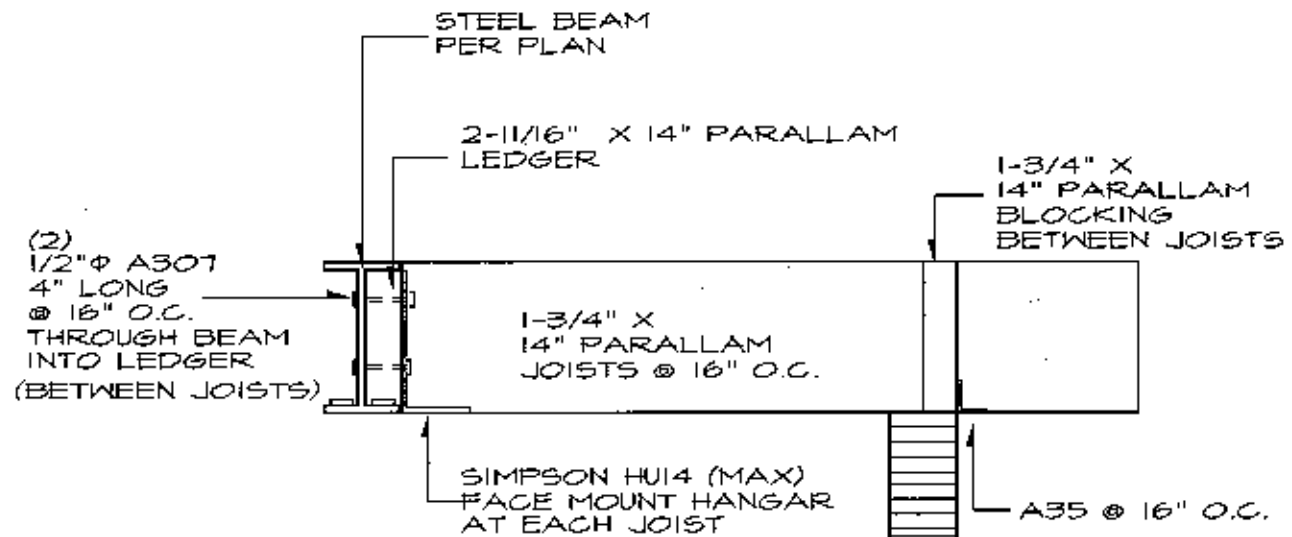
From: Michael Johnson [michael@nashjonesanderson.com]
Sent: Monday, June 05, 2006 3:31 PM
To: Brian McWatters
Subject: Petrie Residence



Brian,

Attached is a detail for the beam to joist connection at the Great Room. I also recalculated B-19 to be a glu-lam beam instead of a parallam so that way the cantilevered joists would not have to be hung and the beam but could ride over the top of the header. Let me know when you receive this and let me know if there is anything else I can send to you.

Thank You
Mike Johnson
Nash Jones Anderson



STEEL BEAM TO
PARALLAM JOISTS
CONNECTION DETAIL

3

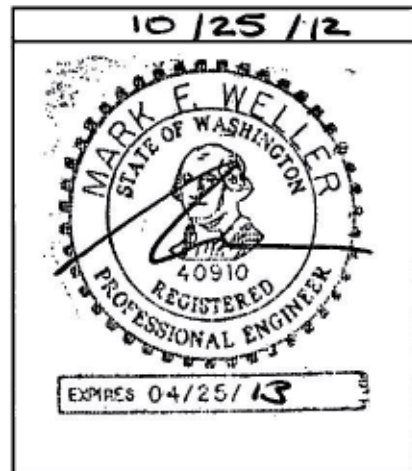
NO SCALE

**DECK DESIGN
FOR
THE PETRIE RESIDENCE**

A KAREN CRENSHAW DESIGN

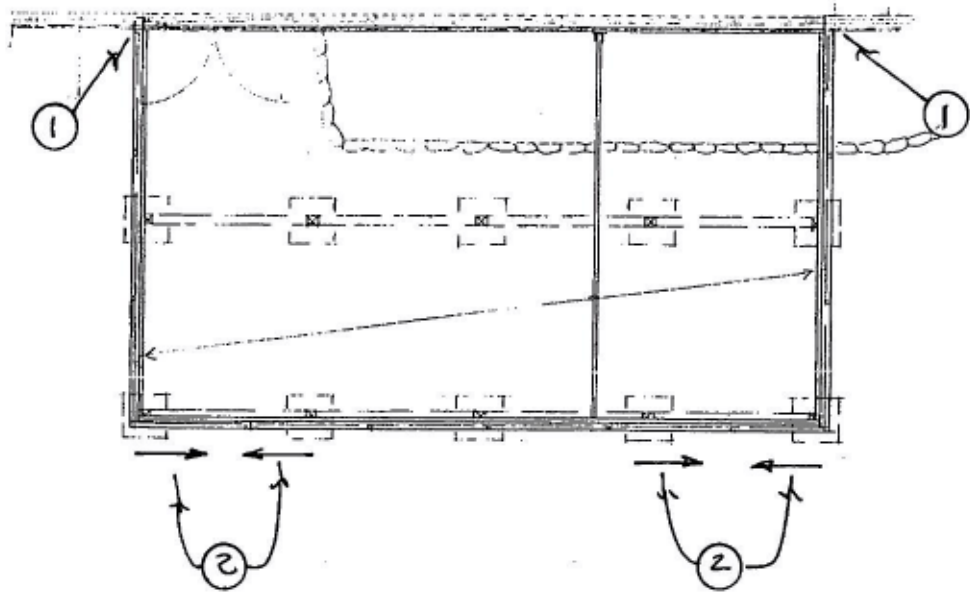
MERCER ISLAND, WASHINGTON

NOTE: This stamp applies to the members and assemblies described in these calculations only and is only valid if it is a wet stamp.



WELLER CONSULTING
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BOTHELL, WA 98021
(425) 488 - 9868
(425) 486 - 6715 FAX

PROJECT NO. 12-013 L
DATE 10/25/12
PREPARED BY Mark Weller, P.E.



- ① PROVIDE DTT2 HOLDOWN, SEE ATTACHED DETAIL
- ② PROVIDE DIAGONAL BRACING PER ATTACHED DETAIL
NOTE → INDICATES DIRECTION OF BRACING

DECK PLAN

THE PETRIE RESIDENCE

DECK FRAMING

TYPICAL DECK JOIST

Date: 10/25/12

Selection PT 2x 10 HF #2 @ 16 in oc Lu = 0.0 Ft

Conditions NDS 2005, Repetitive Use, Incised
 Min Bearing Area R1= 0.7 in² R2= 0.7 in² (1.5) DL Defl= 0.02 in

Data

Beam Span	8.5 ft	Reaction 1 LL	227 #	Reaction 2 LL	227 #
Beam Wt per ft	0 #	Reaction 1 TL	283 #	Reaction 2 TL	283 #
Bm Wt Included	0 #	Maximum V	283 #		
Max Moment	602 #	Max V (Reduced)	232 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	21.39	13.88	0.07	0.05
Critical	8.40	2.90	0.43	0.28
Status	OK	OK	OK	OK
Ratio	39%	21%	17%	18%

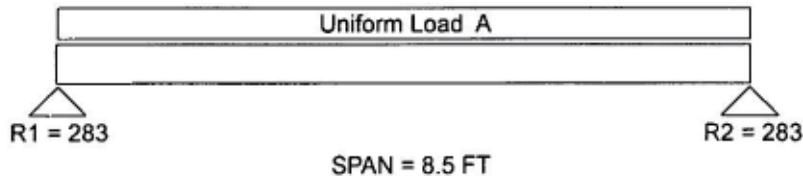
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Reference Values	850	150	1.3	405
Adjusted Values	860	120	1.2	405

Adjustments

CF Size Factor	1.100			
Cd Duration	1.00	1.00		
Cr Repetitive	1.15			
Ch Shear Stress		N/A		
Ci Incised	0.80	0.80	0.95	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	

Loads Uniform LL: 53 Uniform TL: 67 = A



Uniform and partial uniform loads are lbs per lineal ft.

THE PETRIE RESIDENCE

DECK FRAMING

TYPICAL DECK BEAM

Date: 10/25/12

Selection PT 6x 10 HF #2 Lu = 0.0 Ft

Conditions NDS 2005, Incised

Min Bearing Area R1= 4.1 in² R2= 4.1 in² (1.5) DL Defl= 0.03 in

Data

Beam Span	7.5 ft	Reaction 1 LL	1275 #	Reaction 2 LL	1275 #
Beam Wt per ft	12.7 #	Reaction 1 TL	1641 #	Reaction 2 TL	1641 #
Bm Wt Included	95 #	Maximum V	1641 #		
Max Moment	3078 #	Max V (Reduced)	1295 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	82.73	52.25	0.08	0.06
Critical	68.39	17.34	0.38	0.25
Status	OK	OK	OK	OK
Ratio	83%	33%	22%	24%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Reference Values	675	140	1.1	405
Adjusted Values	540	112	1.0	405

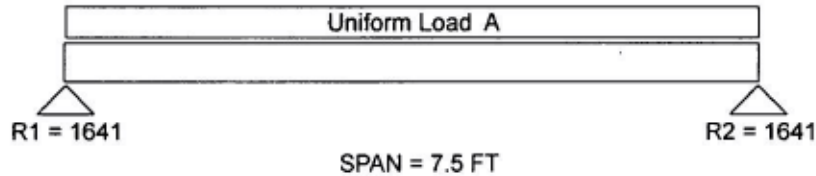
Adjustments

CF Size Factor	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		N/A		
Ci Incised	0.80	0.80	0.95	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	

Loads

Uniform LL: 340

Uniform TL: 425 = A

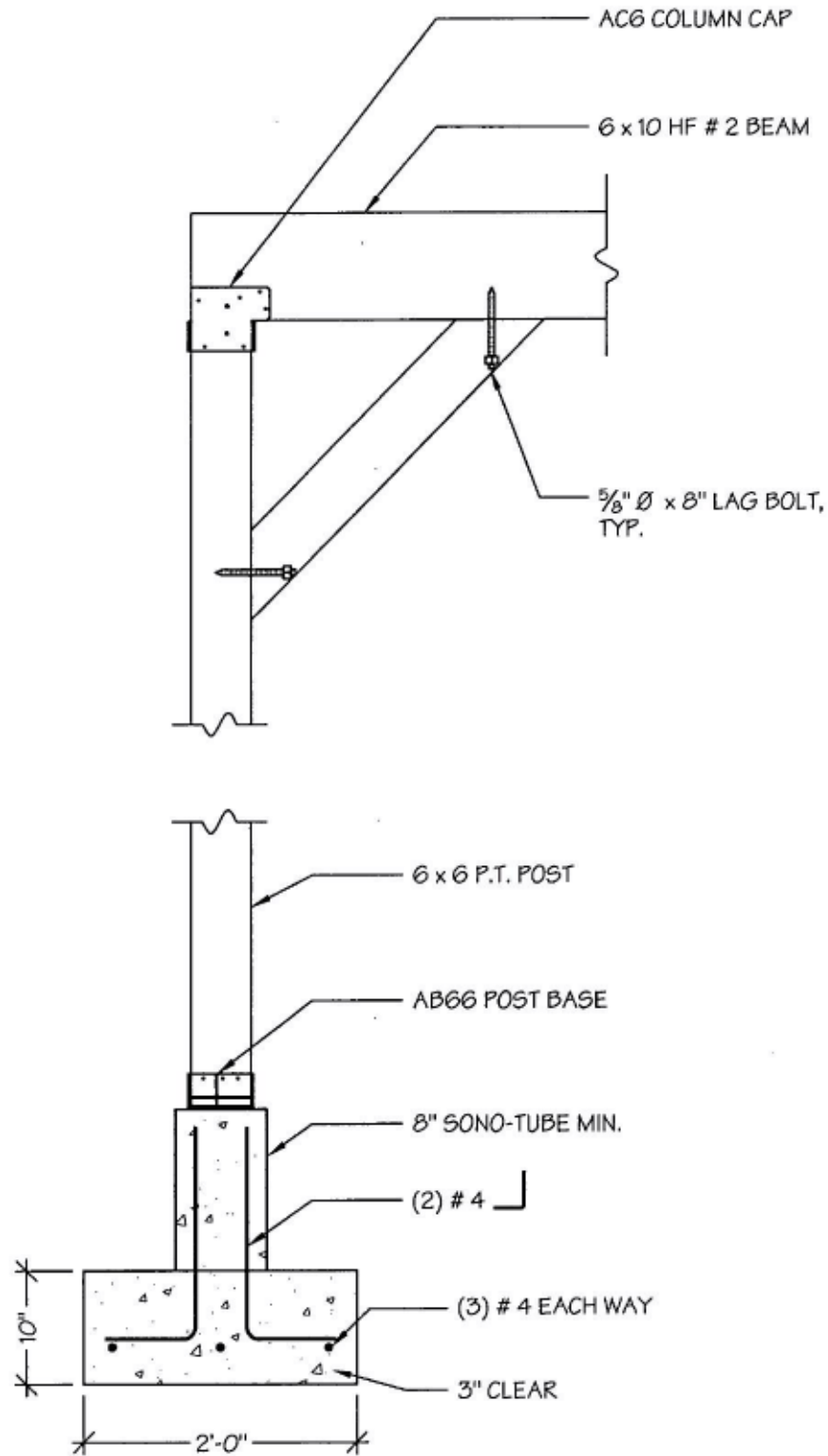


Uniform and partial uniform loads are lbs per lineal ft.

WC

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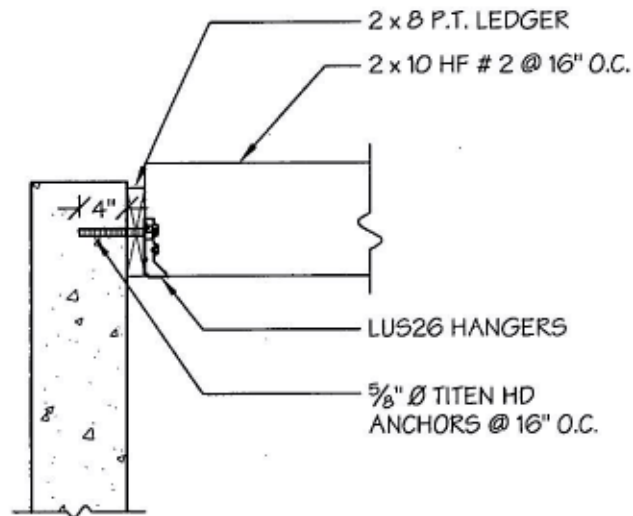


TYPICAL BRACING DETAIL

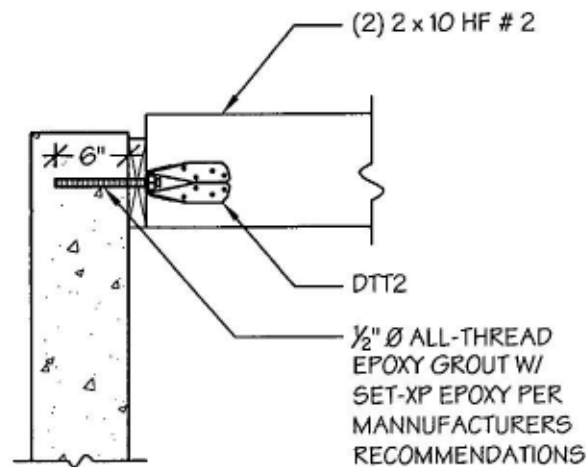
WC

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TYPICAL LEDGER DETAIL

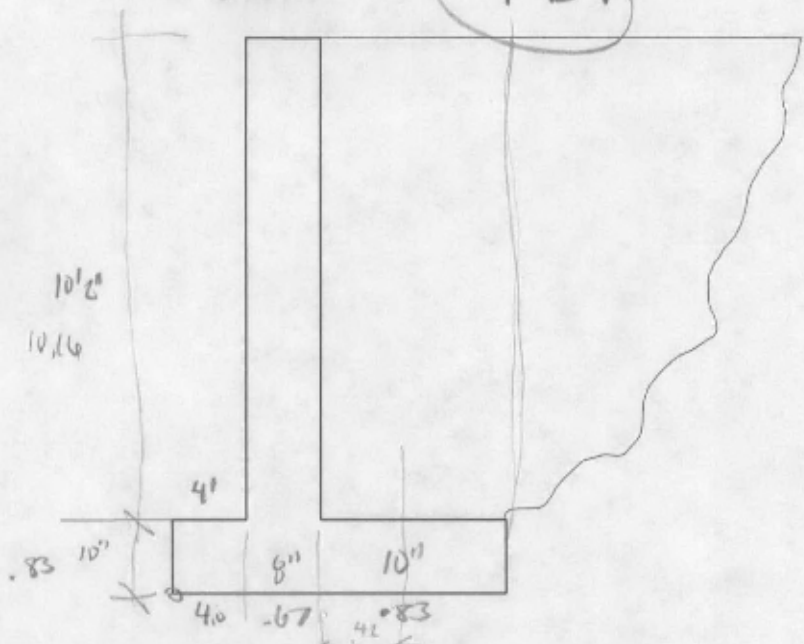


DTT2 HOLDOWN DETAIL

Permit Number: 0602-124

FDI

date: _____



- equivalent fluid pressure (pcf) = 35 pcf
- concrete strength (psi) = 2500 psi
- concrete weight (pcf) = 150 pcf
- steel grade (ksi) = 60 ksi
- soil weight (pcf) = 100 pcf 120?
- C_f = coefficient of soil friction = 0.30

$R = \text{retained force} = \frac{[\text{soil EFP in pcf}] \times [\text{height of retaining wall in ft}]^2}{2}$

$R = \frac{35(11)^2}{2} = 2117.5 \#$

OTM = overturning moment = $R \times \text{height of wall} / 3$ (centroid of triangle is one-third up)

$OTM = 2117.5 \times 11 / 3 = 7764 \#-1$

RM = resisting moment = [soil area x soil weight x moment arm] + [wall area x concrete weight x moment arm] + [footing area x concrete weight x moment arm]

$RM = (83 \times 10.16 \times 120 \times 5.09) + (67 \times 11 \times 150 \times 4.34) + (1.93 \times 5.5 \times 150 \times 4.12)$
 $5151 \quad 4798 \quad 1883 = 11832$

$SF_{ot} = \text{safety factor for overturning (must be } \geq 1.5 \text{ per IBC 1806.1)} = RM / OTM$

$SF_{ot} = \frac{10237}{7764} = 1.3 \quad \frac{11832}{7764} = 1.52 \text{ OK}$

RS = resistance to slide = $C_f \times [(\text{soil area} \times \text{soil weight}) + (\text{wall area} \times \text{concrete weight}) + (\text{footing area} \times \text{concrete weight})]$

$RS = [83(10.16)(120) + 67(11)(150) + 83(5.5)(150)] \times C_f$
 $(1012 + 1106 + 745) \times 0.3 = 841$

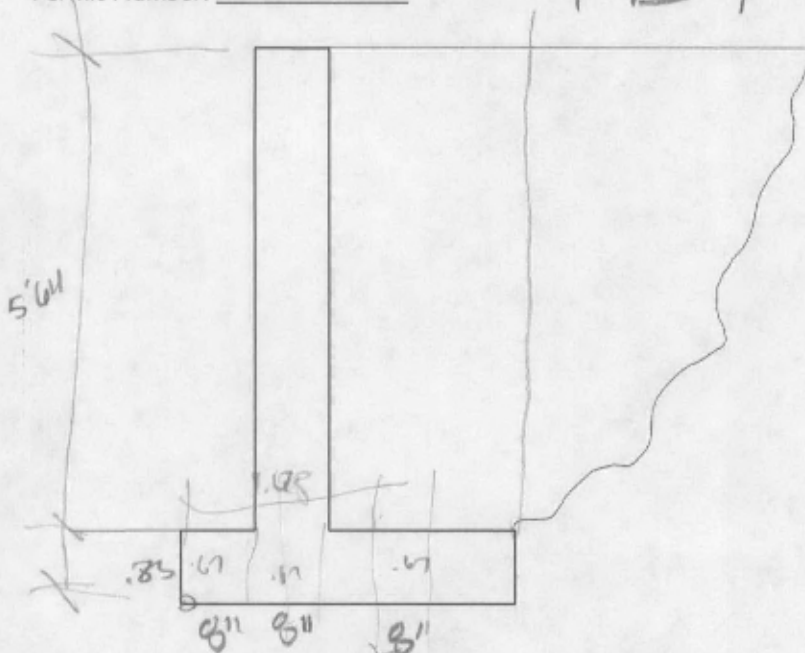
$SF_{rs} = RS / R$ (must be ≥ 1.5 per IBC 1806.1)

$SF_{rs} = \frac{841}{2117.5} = 0.397!$

Permit Number: _____

FD4

date: _____



- equivalent fluid pressure (pcf) = 35 pcf
- concrete strength (psi) = 2500 psi
- concrete weight (pcf) = 150 pcf
- steel grade (ksi) = 60 ksi
- soil weight (pcf) = 100 pcf
- C_f = coefficient of soil friction = 0.30

$R = \text{retained force} = \frac{[\text{soil EFP in pcf}] \times [\text{height of retaining wall in ft}]^2}{2}$

$R = \frac{35(5)^2}{2} = 529\#$

OTM = overturning moment = $R \times \text{height of wall} / 3$ (centroid of triangle is one-third up)

$OTM = 529\# \times 5 / 3 = 971\#-1$

RM = resisting moment = [soil area x soil weight x moment arm] + [wall area x concrete weight x moment arm] + [footing area x concrete weight x moment arm]

$RM = 1.67 \times 120 \times 55 \times 1.475 + 1.67(55)150 \times 0.93(2)(150) + 1.67(55)150 \times 1.005$
 $442.2 \times 1.675 \quad 552.75 \times 1.005 \quad 249 \quad 1545\#$
 $741 + 555.5 + 249$

SF_{ot} = safety factor for overturning (must be ≥ 1.5 per IBC 1806.1) = RM / OTM

$SF_{ot} = 1545 / 971 = 1.59$ (OK)

RS = resistance to slide = $C_f \times [(\text{soil area} \times \text{soil weight}) + (\text{wall area} \times \text{concrete weight}) + (\text{footing area} \times \text{concrete weight})]$

$RS = 0.3(442 + 553 + 249) = 373.2$

SF_{rs} = RS / R (must be ≥ 1.5 per IBC 1806.1)

$SF_{rs} =$

PINNED @ BOTTOM

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facsimile transmittal

PETRIE 0602-121

To: BRIAN McWATTERS	Fax: 206-236-3645
From: DOUG JAMIESON	Date: 6/3/2006
Re: PETRIE	Pages: 5

BRIAN

Thank you for your cooperation. I feel this should do it, if not please call me @ 1-253-797-4570.

1. Please find a new calc for FD5 sim, sht 11A of 11. This shows no net sliding on the footing. Note the 130 # w4 is main floor dead load and some wall load only, less than will actually be there.
2. Please find FD5 sim.
3. Please find revised F1 (in two sheets) with estimated excavation cuts. This makes the foundation sections easier for us to understand.

Thanks again
Doug



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Consulting Engineers723 9TH AVE STE B • KIRKLAND WA 98033
(425) 803-2581 • FAX (425) 803-3289JOB NAME WA / PETRIE
JOB NO. _____ BY DJ²
DATE 6/3/06 SHEET NO. F11A OF 11**TYPICAL CANTILEVERED RETAINING WALL**

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
0.33	Cf			Coefficient of friction against sliding (includes Factor of Safety of 1.5)
4	a		ft	Height of earth above "base"
130	w4		#	Weight on top of wall
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
1.00	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	4.83	ft	Overall height of equivalent fluid
	Lf	2.50	ft	Total footing width
	fs	766	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	808	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	0.83	ft	
	X	1.02	ft	Location of resultant force
	2Lf/3	1.66	ft	
	F	408	#	Total horizontal force
	Fk	-1	#	Net sliding force per foot
	FS	2.928		Net factor against overturning
	Mot	657	# - ft	Overturning moment
	Mr	1,925	# - ft	Resisting moment
	Mu	635	# - ft	Ultimate moment for concrete design
	W	1,239	#	Total weight on footing
	w1	398	#	Soil weight on heel (120 pcf)
	w2	400	#	Weight of wall
	w3	311	#	Weight of footing
	x1	2.08	ft	
	x2	1.33	ft	
	x3	1.25	ft	
	x4	1.33	ft	

f_c = 2500 psif_y = 40 ksi

d = 6 in

Mu = 0.64 k-ft

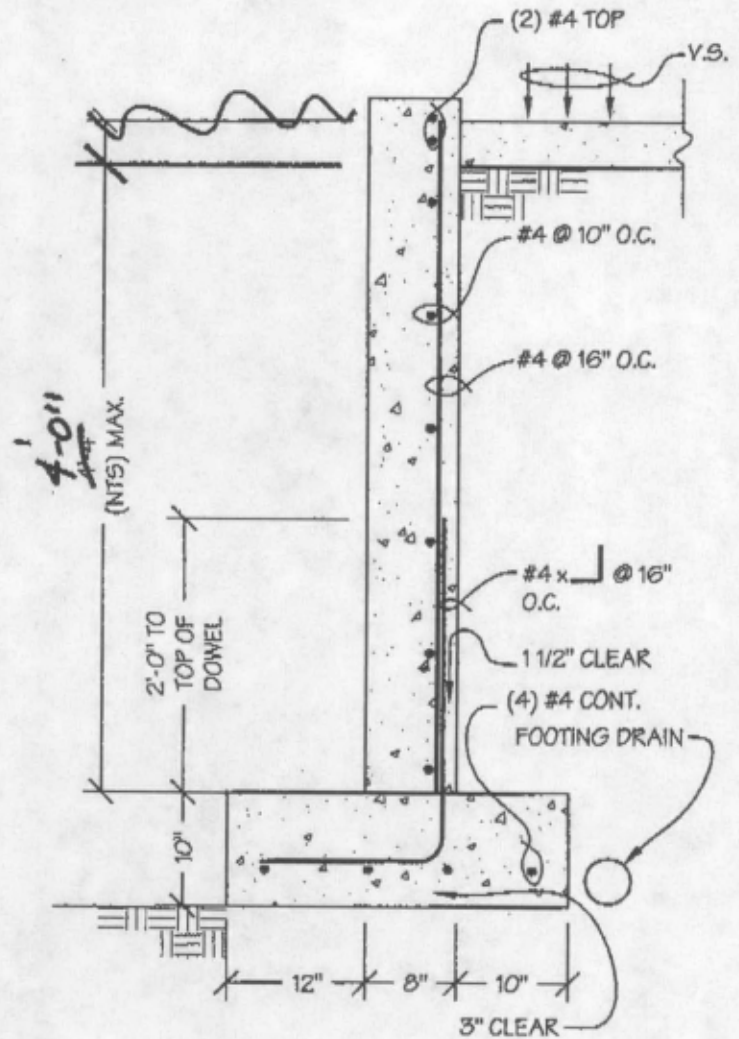
As = 0.15 in² #4 @ 16" o.c.**RECEIVED**

JUN - 5 2006

CITY OF MERCER ISLAND
DEVELOPMENT SERVICESCALCS FOR FDS SIM

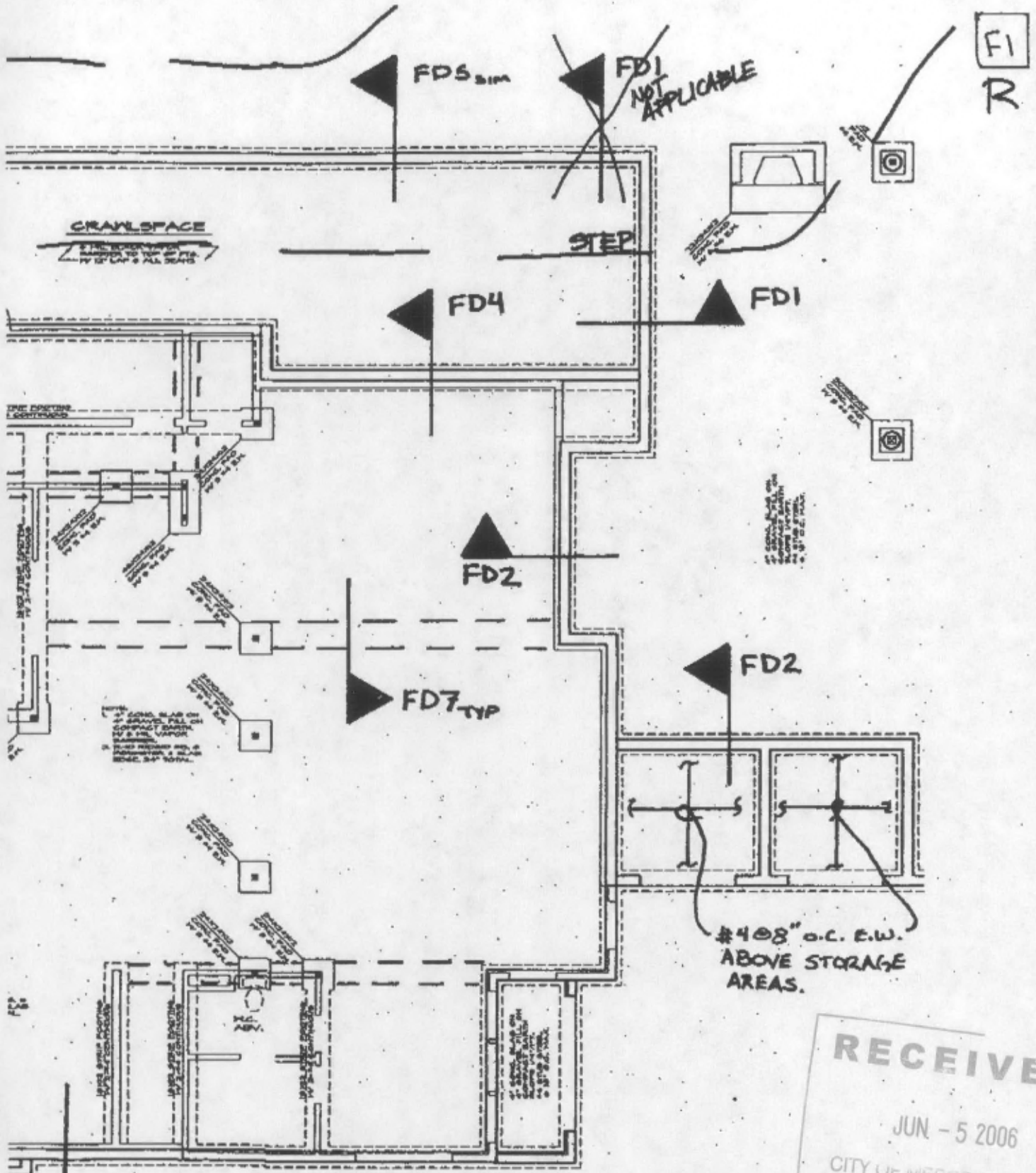
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JOB NAME NJA/PETRIE
 JOB NO. 25384 BY JDW DJ²
 DATE 1/11/06 6/3/06 SHEET NO. F5A OF 11



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 DEVELOPMENT SERVICES

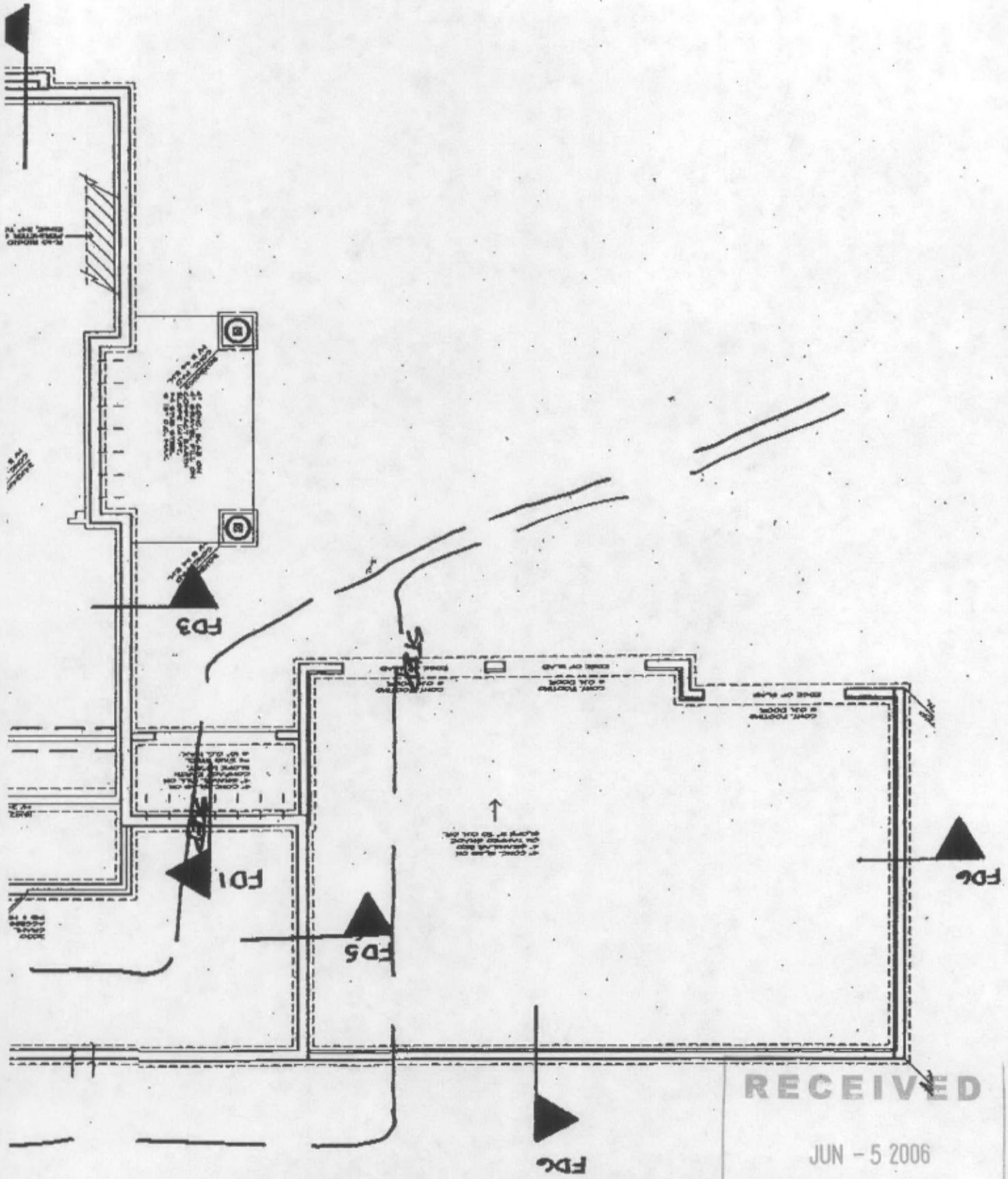
DETAIL FD5 SIM



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FOUNDATION PLAN

FD



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CITY OF MERCER ISLAND
DEVELOPMENT SERVICES



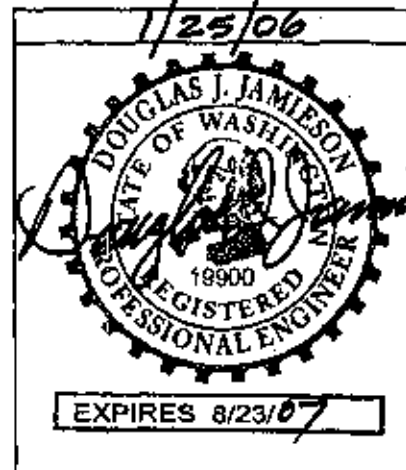
STRUCTURAL DESIGN

FOR

THE PETRIE RESIDENCE

A NASH, JONES & ANDERSON PLAN

MERCER ISLAND, WASHINGTON



NOTE: This stamp applies to the members and assemblies described in these calculations only and is only valid if it is a wet stamp.

Jamieson Consulting Job No. 25384

COPY

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DESIGN CRITERIA

PER THE 2003 INTERNATIONAL BUILDING CODE

WIND PER SECTION 1609

Section 1609.6 Simplified method

Design Wind Pressure: $p_s = \lambda \cdot I_w \cdot p_{s30}$

where: λ = Exposure Factor

I_w = Importance Factor

p_{s30} = Base Design Pressure

SITE/PROJECT SPECIFIC VALUES:

Basic Wind Speed = 85 mph (V_{3s})

= 70 mph (V_{fm})

$\lambda = 1.40$ Exposure "C" (<30')

$I_w = 1.00$ $K_{zT} = 1.00$

p_{s30} = see Table 1609.6.2.1 (1)

EARTHQUAKE PER SECTION 1614

Design Per ASCE 7-02

Section 9.5.5 Equivalent Lateral Force Procedure

Base Shear: $V = C_s \cdot W$

where: C_s = Seismic Response Coefficient

W = Effective Seismic Weight

SITE/PROJECT SPECIFIC VALUES:

$S_r = 0.4916$ per USGS Latitude/Longitude

$S_s = 1.4460$ per USGS Latitude/Longitude

Site Class D (Default)

Seismic Design Category D

$R = 6.5$ from Table 9.5.2.2

$I = 1.00$

$C_s = 0.1483$ per Section 9.5.5.2.1

STANDARD DESIGN INFORMATION

The information described below is to be used unless otherwise noted on the plans.

WOOD DESIGN per Sections 2301 & 2301.2.1 Allowable Strength Design
when applicable; per 2308 Conventional Light-Frame Construction

MINIMUM NAILING REQUIREMENTS per Table 2304.9.1

Horizontal Sheathing: OSB w/ 10d BOX nails Roof & Floor 6" o.c. @ supported edges, 12" o.c. field

ROOF: 7/16" OSB w/ 10d BOX nails Allowable Diaphragm Shear = $170 \times .93 \times 61/64 = 150$ plf

FLOOR: 3/4" OSB w/ 10d BOX nails Allowable Diaphragm Shear = $215 \times .93 \times 71/66 = 165$ plf

ANCHOR BOLTS:

5/8" Dia. X 10", A307 or better, w/ 7" min. Embedment. $V = 1104$ # / bolt

CONCRETE DESIGN per Chapter 19 & ACI 318-02

concrete $f'_c = 2500$ psi (USD design) $f'_c = 3000$ psi (for weathering)

rebar $f_y = 40,000$ psi

MISCELLANEOUS HARDWARE

SIMPSON Strong-Tie Connectors or equal

JAMIESON CONSULTING

CONSULTING ENGINEERS

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email: doug@jamiesonconsulting.net

SHEAR WALL SCHEDULE

(see 2003 IBC table 2306.4.1 & Section 2306.4.1)

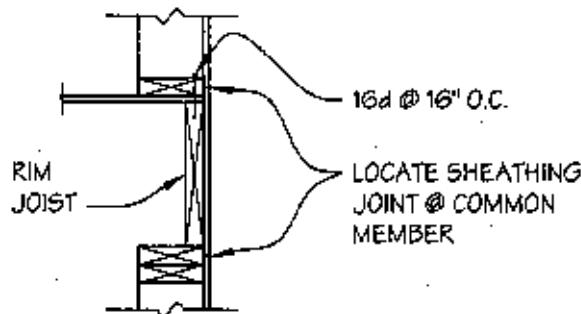
All shear walls to be sheathed from top plate to bottom plate unless noted otherwise.
Block all panel edges. Nail spacing is for all panel edges. Space nails @ 12" o.c.
along intermediate framing members.

P1-6	v = 206 plf	7/16" OSB, w/ 8d (0.113" Ø) nails @ 6" o.c. Anchorage (interior walls only) to SINGLE joist or blkg below: 16d (box) @ 5" o.c.
P1-4	v = 350 plf	7/16" OSB, w/ 8d (0.113" Ø) nails @ 4" o.c. Anchorage (interior walls only) to SINGLE joist or blkg below: 16d (box) @ 3" o.c.
P1-3	v = 490 plf	7/16" OSB, w/ 8d (0.113" Ø) nails @ 3" o.c. note: use min 3" nominal studs @ adjoining panel edges Anchorage (interior walls only) to 4x (min) BEAM or blkg below: 16d (box) @ 3" o.c.
P1-2	v = 640 plf	7/16" OSB, w/ 8d (0.113" Ø) nails @ 2" o.c. note: use min 3" nominal studs @ adjoining panel edges Anchorage (interior walls only) to 4x (min) BEAM or blkg below: 16d (box) @ 2" o.c. (stag)
P2-2	v = 1280 plf	7/16" OSB, (2 sides) w/ 8d (0.113" Ø) COMMON nails @ 2" o.c. note: use min 3" nominal studs @ adjoining panel edges and min 3" nominal bottom plate. Anchorage (interior walls only) to DOUG-FIR BEAM below: use 5/8" x 6" lag screws @ 6" o.c.

The shear values above are based upon the use of 8d box nails with a full head, a shank diameter of 0.113", and a minimum penetration of 1.375". From Table 2306.4.1 use 15/32; 8d values with a 0.719 factor w/ 1.4 increase for wind.

P1-2C	v = 840 plf	7/16" OSB, w/ 8d (0.131" Ø) COMMON nails @ 2" o.c. note: use min 3" nominal studs @ adjoining panel edges Anchorage (interior walls only) to DOUG-FIR BEAM below: use SIMPSON SDS 1/4 x 4 1/2 screws @ 4" o.c.
--------------	--------------------	--

The shear values above are based upon the use of 8d common nails with a full head, a shank diameter of 0.131", and a minimum penetration of 1.375". From Table 2306.4.1 use 15/32; 8d values with a 0.9375 factor w/ 1.4 increase for wind.



SHEAR TRANSFER @ EXTERIOR WALL

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SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

SEISMIC: V = 0.1483 W

Wr = 3917 SF @ (15 + 20 + 10) psf = 176,265 #
 Wuf = 3720 SF @ (10 + 15) psf & 443 SF @ (15 + 20 + 10) = 112,935 #
 Wmf = 1981 SF @ (10 + 15) psf = 49,525 #

Dead Loads:

Roof = 15 psf (horz. framing) & 20 psf (tile roof dl) & 10 psf (partition)
 Floor = 10 psf (horz. framing) & 15 psf (partition)

Vertical Distribution

Level	w	h	w x h	%
Roof	176,265	30	5287950	66%
Roof	112,935	20	2258700	28%
Upper Flr	49,525	10	495250	6%
Total	338,725		8041900	

therefore: Vr = 33032 #
 Vr = 14109 #
 Vuf = 3094 # 47,41
 Total = 50236 #

Redundancy Factor: Check max "v" for p = 1
 $v = 2 \times V / A^{(1/2)}$ A = 3917 sf v (max) = 1056 plf

UPPER FLOOR SHEAR WALLS

Wall	SIDE/SIDE: V =	L(eff) =	Section	Length	v =	shear	Notes
* REAR	16	5563		13.75		405	
RRM	21	7302		14		522	max S/S
RMID	10	3477		14		248	
MID	10	3477		28.5		122	258
FMID	22	7650		19.5		392	
FRONT	16	5563		11.5		484	
TOTAL	95	33,032					

Wall	FRONT/BACK: V =	L(eff) =	Section	Length	v =	shear	Notes
LEFT	11	5677		64.5		88	
LCEN	23	11871		20		594	
RCEN	23	11871		17		698	max F/B
RIGHT	7	3613		33		109	200
TOTAL	64	33,032					

SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

Redundancy Factor:	Check max "v" for p = 1		
$v = 2 \times V / A^{(1/2)}$	A = 4613 sf.	v (max) =	1388 plf

MAIN FLOOR SHEAR WALLS

SIDE/SIDE: V = 14109		L(eff) = 114.0	v = 124			
Wall	L(eff)	V	Section	Length	shear	Notes
DRE	8	990		2	495	
* REAR	19	7915		12	660	max S/S
RRRM	15	1857		16.5	113	
RRM	10	8540		16.5	518	
RMID	11	4839		10	484	
MID	6	4220		21.5	196	
FMID	25	10744		22	486	
FRONT	20	8039		20	402	
TOTAL	114	47,142				

FRONT/BACK: V = 14109		L(eff) = 64.0	v = 220			
Wall	L(eff)	V	Section	Length	shear	Notes
LEFT	11	8103		71.5	113	
LCEN	17	15619		31	504	
CEN	16	3527		10.5	336	
RCEN	14	14957		23	650	max F/B
RIGHT	6	4936		23.5	210	
TOTAL	64	47,142				

Redundancy Factor:	Check max "v" for p = 1		
$v = 2 \times V / A^{(1/2)}$	A = 4613 sf.	v (max) =	1479 plf

LOWER FLOOR SHEAR WALLS

SIDE/SIDE: V = 3094		L(eff) = 44.0	v = 70			
Wall	L(eff)	V	Section	Length	shear	Notes
DRE	0	990		2	495	
* REAR	8	8477		46	184	
RRRM	12	2700		6.25	432	
RRM	14	9524		16.5	577	max S/S
MID	10	9761		48	203	
FMID	0	10744		26	413	
FRONT	0	8039		24	335	
TOTAL	44	50,236				

FRONT/BACK: V = 3094		L(eff) = 52.0	v = 59			
Wall	L(eff)	V	Section	Length	shear	Notes
LEFT	0	8103		98	83	
LCEN	15	11473		18	637	
LCEN	0	5038		10	504	
CEN	15	4420		4	1105	
RCEN	16	15909		12	1326	max S/S
RIGHT	6	3822		20	191	
RIGHT	0	1470		19	77	
TOTAL	52	50,236				

NOTE: Redundancy Factor "p" = 1.0

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

For ALLOWABLE STRESS DESIGN use Wind or (Earthquake / 1.4)

WIND:	side/side	Fr =	118 SF @ 20.16 psf =	2379 #	A	<30	
			131 SF @ 3.22 psf =	422 #	B	<30	
			301 SF @ 14.56 psf =	4383 #	C	<30	
			458 SF @ 3.36 psf =	1539 #	D	<30	
			Total Roof s/s: Fr =	8722 #			
		Fuf =	211 SF @ 20.16 psf =	4254 #	A	<30	
		33 SF @ 3.22 psf =	106 #	B	<30		
		758 SF @ 14.56 psf =	11007 #	C	<30		
		Total Upper Floor s/s: Fuf =	15387 #				
		Fmf =	137 SF @ 20.16 psf =	2762 #	A	<30	
		89 SF @ 14.56 psf =	1296 #	C	<30		
	front/back	Fr =	157 SF @ 20.16 psf =	3165 #	A	<30	
		59 SF @ 3.22 psf =	190 #	B	<30		
		188 SF @ 14.56 psf =	2737 #	C	<30		
		284 SF @ 3.36 psf =	954 #	D	<30		
		Total Roof f/b: Fr =	7047 #				
Fuf =		274 SF @ 20.16 psf =	5524 #	A	<30		
		399 SF @ 14.56 psf =	5809 #	C	<30		
		Total Upper Floor f/b: Fuf =	11333 #				
		Fmf =	137 SF @ 20.16 psf =	2762 #	A	<30	
		47 SF @ 14.56 psf =	684 #	C	<30		
		Total Upper Floor f/b: Fuf =	3446 #	Total f/b =	21826		

side/side	Fr =	1008 SF @ 10.00 psf =	10080 # "10 psf min"
	Fuf =	1000 SF @ 10.00 psf =	10000 # "10 psf min"
	Fmf =	226 SF @ 10.00 psf =	2260 # "10 psf min"
		# Total s/s =	22,340
front/back	Fr =	688 SF @ 10.00 psf =	6880 # "10 psf min"
	Fuf =	673 SF @ 10.00 psf =	6730 # "10 psf min"
	Fmf =	184 SF @ 10.00 psf =	1840 # "10 psf min"
		# Total f/b =	15,450

SEISMIC: V = 0.1483 W

	Wr = 3917 SF @ (15 + 20 + 10) psf =	176,265 #
Wuf = 3720 SF @ (10 + 15) psf & 443 SF @ (15 + 20 + 10) =		112,935 #
Wmf = 1981 SF @ (10 + 15) psf =		49,525 #

Dead Loads:

Roof = 15 psf (horz. framing) & 20 psf (tile roof dl) & 10 psf (partition)
 Floor = 10 psf (horz. framing) & 15 psf (partition)

Vertical Distribution

Level	w	h	w x h	%
Roof	176,265	30	5287950	66%
Upper Flr	112,935	20	2258700	28%
Main Flr	49,525	10	495250	6%
Total	338,725		8041900	

therefore: Vr = 23595 #
 Vuf = 10078 #
 Vmf = 2210 #

Total 35893

SUMMARY: Seismic controls entire structure.

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

UPPER FLOOR SHEAR WALLS

SIDE/SIDE: V =		23595	L(eff) = 95.0	v =		248 plf	Seismic	
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
REAR	16	3974	a	3	289	P1-2	2.10	
			b	3	289	P1-2	2.10	
			c	2.75	289	P1-2C	2.29	
			d	2.5	289	P1-2C	2.24	
			e	2.5	289	P1-2C	2.24	
				13.75				
RRM	21	5216	a	10.5	213	P1-4	1.40	
			b	14	213	P1-4	1.40	
				24.5				
RMID	10	2484	a	14	177	P1-6	1.40	
MID	10	2484	a	6	87	P1-6	1.40	
			b	6	87	P1-6	1.40	
			c	16.5	87	P1-6	1.40	
				28.5				
FMID	22	5464	a	13.5	280	P1-3	1.40	
			b	6	280	P1-3	1.40	
				19.5				
FRONT	16	3974	a	11.5	346	P1-3	1.40	
TOTAL	95	23595						

FRONT/BACK: V =		23595	L(eff) = 64.0	v =		369 plf	Seismic		
Wall	L(eff)	V	Section	Length	shear	Type	Factor		
LEFT	11	4055	13	a	9.5	63	P1-6	1.40	
				b	6.5	63	P1-6	1.40	
				c	10	63	P1-6	1.40	
				d	12	63	P1-6	1.40	
				e	4.5	63	P1-6	1.40	
				f	10	63	P1-6	1.40	
				g	12	63	P1-6	1.40	
				64.5					
LCEN	23	8479	9	a	8	202	P1-4	1.40	
				b	6	202	P1-4	1.40	
				c	6	202	P1-4	1.40	
				d	14	202	P1-4	1.40	
				e	8	202	P1-4	1.40	
				42					
RCEN	23	8479	14	a	9	499	P1-2C	1.40	
				b	8	499	P1-2C	1.40	
				17					
RIGHT	7	2581	7	a	18.5	78	P1-6	1.40	
				b	14.5	78	P1-6	1.40	
TOTAL	64	23595			33				

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

MAIN FLOOR SHEAR WALLS

SIDE/SIDE: V =		10078	L(eff) = 114.0		v =	88 plf	Seismic	
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
DRE	8	707	a	1	354	POST	7.00	
			b	1	354	POST	7.00	
REAR	19	5654		2				
			a	3.5	471	P1-2C	1.40	
			b	3.5	471	P1-2C	1.40	
			c	2.5	471	P1-2C	1.40	
RRRM	15	1326	d	2.5	471	P1-2C	1.40	
				12				
RRM	10	6100	a	11.5	68	P1-6	1.40	
			b	8	68	P1-6	1.40	
RMID	11	3456		19.5				
			a	9.25	370	P1-2	1.40	
MID	6	3014	b	7.25	370	P1-2	1.40	
				16.5				
FMID	25	7674	a	10	346	P1-3	1.40	
			a	10.5	140	P1-6	1.40	
			b	7	140	P1-6	1.40	
FRONT	20	5742	c	4	140	P1-3	1.75	
				21.5				
TOTAL	114	33673	a	11	349	P1-3	1.40	
			b	11	349	P1-3	1.40	
				22				
			a	20	287	P1-3	1.40	
FRONT/BACK: V =		10078	L(eff) = 64.0		v =	157 plf	Seismic	
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
LEFT	11	5788	a	35	81	P1-6	1.40	
			b	8	81	P1-6	1.40	
			c	5.5	81	P1-6	1.40	
			d	5	81	P1-6	1.40	
			e	18	81	P1-6	1.40	
				71.5				
LCEN	17	11156	a	4	360	P1-2	1.75	
			b	3	360	P1-2C	2.10	
			c	3	360	P1-2C	2.10	
			d	15	360	P1-2	1.40	
			e	6	360	P1-2	1.40	
				31				
GEN	16	2520	a	10.5	240	P1-4	1.40	
RCEN	14	10684	a	23	465	P1-2C	1.40	
RIGHT	6	3525	a	7	150	P1-6	1.40	
			b	16.5	150	P1-6	1.40	
TOTAL	64	33673		23.5				

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

LOWER FLOOR SHEAR WALLS

SIDE/SIDE: V =		2210	L(eff) = 44.0	v =		50 plf	Seismic	
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
DRE	0	707	a	1	354	CONC	6.30	
			b	1	354	CONC	6.30	
REAR	8	6055		2				
			a	19	132	CONC	1.40	
			b	11	132	CONC	1.40	
			c	16	132	CONC	1.40	
RRRM	12	1929		46				
			a	2.75	309	P1-2C	2.29	
			b	3.5	309	P1-2	1.80	
RRM	14	6803		6.25				
			a	5.5	412	P1-2	1.40	
			b	11	412	P1-2	1.40	
MID	10	6972		16.5				
			a	20	145	CONC	1.40	
			b	11	145	CONC	1.40	
			c	17	145	CONC	1.40	
FMID	0	7674	a	48	295	CONC	1.40	
			a	26	239	CONC	1.40	
FRONT	0	5742	a	24	239	CONC	1.40	
TOTAL	44	35883						
FRONT/BACK: V =		2210	L(eff) = 52.0	v =		42 plf	Seismic	
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
LEFT		5788	a	98	59	CONC	1.40	
LCEN	15	8195	a	18	455	P1-2	1.40	
LCEN	0	3599	a	4	360	CONC	1.58	
			b	3	360	CONC	2.10	
			c	3	360	CONC	2.10	
				10				
CEN	15	3157	a	4	789	CONC	1.58	
RCEN	16	11364	a	8	947	P2-2	1.40	
			b	4	947	P2-2	1.58	
				12				
RIGHT	6	2730	a	20	137	CONC	1.40	
RIGHT	0	1050	a	11	95	P1-6	1.40	
			b	8	95	P1-6	1.40	
TOTAL	52	35883		19				

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

HORIZONTAL DIAPHRAGM SHEARS / LOAD PATH

ROOF DIAPHRAGM

- REAR: v @ 3' walls = 6' x 289 plf / 18' = 96 plf, OK
v @ 2.75' wall = 2.75' x 289 plf / 11' = 72 plf, OK
v @ 2.5' walls = 2.5' x 289 plf / 6' = 120 plf, OK
- RRM: V @ 10.5' wall = 10.5' x 213 plf = 2237 #
SHEATH Truss L = 2237 # / 300 plf = 8', SEE Detail
PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
V @ 14' wall = 14' x 213 plf = 2982 #
ADD Blocking panels over wall, N = 2982 # / (300 plf x 2') = (5) Panels, SEE Detail
PROVIDE 10d @ 4" O.C. Roof sheathing blocking panel top chord
- RMID: V @ 14' wall = 14' x 177 plf = 2478 #
SHEATH Truss L = 2478 # / 350 plf = 8', v = 2478 # / 9' / 2 = 138 plf, SEE Detail
PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
- MID: V @ 6' wall = 6' x 79 plf = 474 #
SHEATH Truss L = 474 # / 300 plf = 4', SEE Detail
- FMID: V @ 13.5' wall = 13.5' x 280 plf = 3780 #
SHEATH Truss L = 3780 # / 300 plf = 13', SEE Detail
PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
V @ 6' wall = 6' x 280 plf = 1680 #, T = 1680 # - 8' x 150 plf = 480 #
LOCATE "Rafter" In line with wall, ADD TS22 Wall top plate to "Rafter", SEE Detail.
PROVIDE 10d @ 4" O.C. Roof sheathing to "Rafter"
- FRONT: v = 3974 # / 19' = 209 plf, BLOCK Roof sheathing panel edges to 5',
v @ 5' = 209 plf - (209 plf / 16') x 5' = 144 plf, OK
- LCEN: v @ 8' & 6' walls = 20' x 202 plf / 44' = 92 plf, ADD TS22 Beam to wall top plate.
V @ 14' wall = 14' x 202 plf = 2828 #
SHEATH Truss L = 2828 # / 300 plf = 10', SEE Detail
PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
V @ 8' wall = 8' x 202 plf = 1616 #
SHEATH Truss L = 1616 # / 300 plf = 6', SEE Detail
PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
- RCEN: v @ 9' wall = 9' x 499 plf / 16' = 280 plf,
V @ 9' wall = 9' x 499 plf = 4491 #
SHEATH Truss L = 9', V = 8' x 300 plf = 2400 # SEE Detail
PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
ADD Blocking panels over wall, V = (4) Panels x 300 plf x 2' = 2400 #, SEE Detail
PROVIDE 10d @ 4" O.C. Roof sheathing blocking panel top chord
V_{TOTAL} = V_{SHEATHING} + V_{PANEL} = 4800 #, OK
v @ 8' wall = 499 plf, V = 8' x 499 plf = 3992 #,
PROVIDE P1-2 Blocking panels, N = 3992 # / 500 plf x 2' = (4) panels
PROVIDE (2) A35 Blocking panel to wall top plate
BLOCK Roof sheathing panel edges to 8',
v @ 8' = [(499 plf x 8') - (499 plf / 23') x 10'] / (8' + 2 x 10') = 135 plf, OK

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE**UPPER FLOOR DIAPHRAGM**

Note: Sheathing is continuous at all exterior walls.

- DRE: MOMENT Resisting posts, SEE Detail
- REAR: v @ 3' walls = 170 plf,
ADD (4) A35 Rim to strong wall top plate.
v @ 2.5' walls = 110 plf,
ADD (4) A35 Rim to strong wall top plate.
- RRRM: v @ 11.5' wall = 68 plf, LOCATE Joist over wall,
EXTEND Shear wall sheathing and nailing to joist, SEE Detail
v @ 8' wall = 68 plf, LOCATE Joist over wall,
EXTEND Shear wall sheathing and nailing to joist, SEE Detail
- RRM: v @ 9.25' wall = 9.25' wall x 370 plf / 18' / 2 = 95 plf,
LOCATE Joist over wall, EXTEND Shear wall sheathing and nailing to joist, SEE Detail
V = 7.25' x 370 plf = 2683 #, v @ 7.25' wall = 7.25' wall x 370 plf / 26' = 103 plf,
LOCATE 3 1/2" Joist over wall, L = 7',
EXTEND Shear wall sheathing and nailing to Joist, SEE Detail
T = 2683 # - (5' x 165 plf) = 1857 #, ADD (2) CS16 Joist to beam.
- R MID: v = 3456 # / 21' = 165 plf,
LOCATE Joist over wall, L = 21',
EXTEND Shear wall sheathing and nailing to joist, SEE Detail
PROVIDE (2) CS16 @ all breaks in 21' long joist.
- MID: v @ 10.5' wall = 140 plf,
LOCATE Joist over wall, EXTEND Shear wall sheathing and nailing to joist, SEE Detail
v @ 7' wall = 140 plf,
LOCATE Joist over wall, EXTEND Shear wall sheathing and nailing to joist, SEE Detail
v @ 4' wall = 79 plf, NO ADDITIONAL LOAD ADDED AT THIS LEVEL.
HOWEVER, ENTIRE LOAD FROM ABOVE TRANSFERS INTO THIS PANEL.
HENCE P1-3 NAILING
- FMID: v @ 11' walls = 7674 # / (26' + 21') = 163 plf,
LOCATE Joist over wall, EXTEND Shear wall sheathing and nailing to joist, SEE Detail
PROVIDE 10d @ 4" O.C. floor sheathing to joist.
PROVIDE A35 @ 32" O.C. Rim to wall top plate.
- FRONT: v = 5742 # / 24' = 239 plf, BLOCK Lower roof sheathing panel edges,
PROVIDE 10d @ 4" O.C. roof sheathing to blocking.
PROVIDE Ledger W/ (3) SDS1/4 x 3 1/2 Screws @ 16" O.C. Ledger to Studs.
PROVIDE A35 @ 32" O.C. Blocking to wall top plate.
- LCEN: v @ 4' wall = 4' x 360 plf / 14' = 103 plf, OK
v @ 3' walls = 6' x 360 plf / 25' = 86 plf, OK
v @ 15' wall = 15' x 360 plf / (31' + 19') = 108 plf,
PROVIDE Blocking over wall, ADD A35 @ 32" O.C. Blocking to wall top plate/header/beam.
ADD TS22 Beam to wall top plate
v @ 6' wall = 6' x 360 plf / 24' = 90 plf,
PROVIDE Blocking over wall, ADD A35 @ 32" O.C. Blocking to wall top plate
ADD TS22 Beam to wall top plate
- CEN: v @ 10.5' wall = 10.5' x 240 plf / 24' = 105 plf,
PROVIDE Blocking over wall, ADD A35 @ 32" O.C. Blocking to wall top plate
ADD TS22 Beam to wall top plate
- RCEN: v @ 23' wall = 465 plf x 23' / 27' = 396 plf,
BLOCK Floor sheathing panel edges to shear walls above W/ 3" Nominal blocking
PROVIDE 10d @ 2.5" O.C. floor sheathing to blocking.
ADD A35 16" O.C. Blocking to wall top plate
PROVIDE 10d @ 2.5" O.C. floor sheathing to blocking over wall

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

MAIN FLOOR DIAPHRAGM

Note: Sheathing is continuous at all exterior walls.

- RRRM: $v = 1929 \# / 11' = 175 \text{ plf}$, (Shear wall above is 1' off line, no diaphragm blocking req'd)
ADD A35 @ 32" O.C. Blocking to wall top plate.
PROVIDE 10d @ 4" O.C. floor sheathing to blocking over wall
- RRM: $v @ 5.5' \text{ wall} = 5.5' \times 412 \text{ plf} / 16.5' = 137 \text{ plf}$, OK
LOCATE Joist over wall, $L = 16.5'$,
EXTEND Shear wall sheathing and nailing to joist, SEE Detail
PROVIDE (2) CS16 @ all breaks in 16.5' joist.
 $v @ 11' \text{ wall} = 11' \times 412 \text{ plf} / 16' = 283 \text{ plf}$,
LOCATE Rim joist over wall, $L = 16'$,
EXTEND Shear wall sheathing and nailing to joist, SEE Detail
- FMD: ADD A35 @ 32" O.C. rim joist to sill plate
- LCEN: $v @ 18' \text{ wall} = 455 \text{ plf}$, LOCATE 3 1/2" "Joist" over wall,
EXTEND Shear wall sheathing and nailing to 'Joist', SEE Detail
- CEN: **PROVIDE 3" Nominal Sill plate this wall**
PROVIDE 3 1/2" 'Rim' Over wall
ADD MST60 Beam to 3 1/2" 'Rim', SEE Detail
- RCEN: $v = 11364 \# / 27' = 421 \text{ plf}$,
(Note Shear wall above anchors directly to 3 1/2 PSL 'Joist' Below.
LOCATE 3 1/2" PSL 'Joist' Over walls, $L = 27'$, ADD MST60 @ all breaks in beam.
EXTEND Shear wall sheathing and nailing to both sides of 'Joist', SEE Detail
ADD LPT4 @ 6" O.C. 'Joist' to sill plate @ 4' wall.

ANCHOR BOLTS

USE 5/8" Ø Anchor Bolts @ 5' - 0" o.c. Unless Notes Otherwise (U.N.O.)

$v (/l) = 830 \times 1.33 = 1104 \# / 5 = 221 \text{ plf}$

NOTE: If $v (/l) > 350 \text{ plf}$ Then $V(\text{bolt}) = 1104 / 2 = 552 \#$

- REAR: $v @ 2.66' \text{ Strong walls} = 5.33' \times 607 \text{ plf} / 19' = 170 \text{ plf}$, OK
3" SILL PLATE REQ'D THIS WALL
- RRRM: $V @ 2.75' \text{ wall} = 2.75' \times 309 \text{ plf} = 850 \#$, OK
 $V @ 3.5' \text{ wall} = 3.5' \times 309 \text{ plf} = 1082 \#$, OK
- RRM: $V @ 5.5' \text{ wall} = 5.5' \times 412 \text{ plf} = 2266 \#$, (5) 5/8" A.B. REQUIRED
 $V @ 11' \text{ wall} = 11' \times 412 \text{ plf} = 4532 \#$, (9) 5/8" A.B. REQUIRED
- FMD: $V @ 11' \text{ wall} = 11' \times 349 \text{ plf} = 3839 \#$, (4) 5/8" A.B. REQUIRED
- FRONT: $v = 5742 \#$, (6) 5/8" A.B. OK
- LCEN: $V @ 4' \text{ wall} = 4' \times 360 \text{ plf} = 1440 \#$, (3) 5/8" A.B. REQUIRED
 $V @ 3' \text{ wall} = 3' \times 360 \text{ plf} = 1080 \#$, (2) 5/8" A.B. Ok
 $V @ 18' \text{ wall} = 8195 \#$, (15) 5/8" A.B. REQUIRED
- CEN: $V = 3157 \#$, (3) 5/8" A.B. REQUIRED
3" SILL PLATE REQ'D THIS WALL
- RCEN: $V @ 8' \text{ wall} = 8' \times 947 \text{ plf} = 7576 \#$, (7) 5/8" A.B. REQUIRED
3" SILL PLATE REQ'D THIS WALL
 $V @ 4' \text{ wall} = 4' \times 947 \text{ plf} = 3788 \#$, (4) 5/8" A.B. REQUIRED
3" SILL PLATE REQ'D THIS WALL

OVERTURNING - HOLDOWNS FOR THE PETRIE RESIDENCE

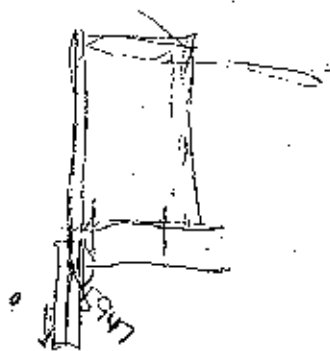
Note: 0.67 DL +/- W >>> 0.9 DL +/- E / 1.4

WALL	L	V	H	Mot	wdl	Mr	Mnet	T	END CONDITIONS*	
									L / FR	R / BK
UPPER FLOOR WALLS										
SIDE/SIDE										
REAR	3	289	9.0	7803	90	271	7532	2511	5(2)	5(2)
	3	289	9.0	7803	90	271	7532	2511	5(2)	5(2)
	2.75	289	9.0	7153	90	228	6925	2518	5(2)	5(2)
	2.5	289	8.0	5780	80	168	5613	2245	5(2)	5(2)
	2.5	289	8.0	5780	80	168	5613	2245	5(2)	5(2)
RRM	10.5	213	9.0	20117	90	3324	16793	1599	5(2)	5(2)
	14	213	9.0	26823	90	5909	20914	1494	5(2)	5(2)
RMD	14	177	9.0	22353	90	5909	16443	1175	2 & 4(4)	5
MID	6	87	9.0	4706	90	1085	3620	603	2 & 4(2)	5
	6	87	9.0	4706	90	1085	3620	603	2 & 4(2)	5
	16.5	87	9.0	12941	90	8208	4733	287	1	1
FMD	13.5	280	9.0	34045	90	5495	28550	2115	5(2)	5(2)
	8	280	9.0	15131	90	1085	14046	2341	5(2)	5(2)
FRONT	11.5	346	9.0	35764	90	3987	31777	2763	5(2)	5(2)
FRONT / BACK										
LEFT	9.5	63	9.0	5376	90	2721	2655	279	1	3
	6.5	63	9.0	3678	90	1274	2404	370	3	3
	10	63	9.0	5659	90	3015	2644	264	3	3
	12	63	9.0	6790	90	4342	2449	204	3	3
	4.5	63	9.0	2546	90	611	1936	430	3	3
	10	63	9.0	5659	90	3015	2644	264	3	3
	12	63	9.0	6790	90	4342	2449	204	3	3
LCEN	8	202	9.0	14536	90	1930	12806	1576	5(2)	5(2)
	6	202	9.0	10902	90	1085	9817	1636	2 & 4(4)	5(2)
	6	202	9.0	10902	90	1085	9817	1636	5(2)	5(2)
	14	202	9.0	25438	90	5909	19528	1395	5	2 & 4(4)
	8	202	9.0	14536	90	1930	12806	1576	5(2)	5(2)
RCEN	9	499	9.0	40401	90	2442	37959	4218	7	7
	8	499	9.0	35912	90	1930	33983	4248	7	7
RIGHT	18.5	78	9.0	13021	90	10319	2702	146	1	3
	14.5	78	9.0	10205	90	6339	3866	267	3	3
MAIN FLOOR WALLS										
SIDE/SIDE										
REAR	3.5	471	10.0	16489	100	410	23611	6746	9	9
	3.5	471	10.0	16489	100	410	23611	6746	9	9
	2.5	471	8.0	9423	80	168	14868	5947	9	9
	2.5	471	8.0	9423	80	168	14868	5947	9	9
RRRM	11.5	68	10.0	7820	100	4430	3390	295	5	2 & 4(1)
	8	68	10.0	5440	100	2144	3296	412	5	2 & 4(1)
RRM	9.25	370	10.0	34195	100	2866	31329	3387	7	7
	7.25	370	10.0	26802	100	1761	25041	3454	7	7
RMD	10	346	10.0	34561	100	3350	31211	3121	7	7
MID	10.5	140	10.0	14720	100	3693	11026	1050	5	5
	7	140	10.0	9813	100	1642	8172	1167	6	6
	4	140	10.0	5608	100	536	5072	1268	6	6
FMD	11	349	10.0	38371	100	4054	34317	3120	6	6
	11	349	10.0	38371	100	4054	34317	3120	6	1, 2, & 4(4)
FRONT	20	287	10.0	57419	100	13400	44019	2201	6	1

OVERTURNING - HOLDOWNS FOR THE PETRIE RESIDENCE

Note: 0.67 DL +/- W >>> 0.9 DL +/- E / 1.4

WALL	L	V	H	Mot	wdl	Mr	Mnet	T	END CONDITIONS*	
									L / FR	R / BK
FRONT / BACK										
LEFT	35	81	10.0	28330	100	41038	-12707	-363	OK	OK
	8	81	10.0	6476	100	2144	4332	541	2 & 4(1)	2 & 4(1)
	5.5	81	10.0	4452	100	1013	3439	626	6	6
	5	81	10.0	4047	100	838	3210	642	3, 2 & 4(4)	3, 2 & 4(4)
	18	81	10.0	14570	100	10854	3716	206	3	3
LCEN	4	360	10.0	14395	100	536	13859	3465	6	6
	3	360	10.0	10796	100	302	10495	3498	6	6
	3	360	10.0	10796	100	302	10495	3498	6	6
	15	360	10.0	53982	100	7538	46445	3096	7	7
	6	360	10.0	21593	100	1206	20387	3398	7	7
CEN	10.5	240	10.0	25195	100	3693	21502	2048	5(2)	5(2)
RCEN	23	465	10.0	106839	100	17722	89117	3875	7	1
RIGHT	7	150	10.0	10501	100	1642	8860	1286	6	5
	16.5	150	10.0	24753	100	9120	15633	947	5	5
LOWER FLOOR WALLS										
SIDE/SIDE										
RRRM	2.75	309	9.0	7638	90	228	7410	2989	7	7
	3.5	309	9.0	9721	90	369	9352	3084	7	7
RRM	5.5	412	9.0	20408	90	912	19496	3545	7	7
	11	412	9.0	40817	90	3648	37169	3379	7	7
FRONT / BACK										
LCEN	18	455	9.0	73754	90	9769	110430	6136	8	8
RCEN	8	947	9.0	68183	90	1930	66253	8282	9	9
	4	947	9.0	34091	90	482	33609	8402	9	9
RIGHT	11	95	9.0	9451	90	3648	5803	528	2 & 4(2)	2 & 4(2)
	8	95	9.0	6874	90	1930	4944	618	6	6
*END CONDITIONS										
	Pdl	Dead load reaction at end of wall								
	1	Perpendicular Exterior Wall T(max) = V(corner) = H x v(min)								
	2	Perpendicular Wall (min) 5 - 16d nails = 5 x 109 = 545 #								
	3	Over / Under openings T(max) = h(net) x 198 # / ft								
	4	A 35 Framing Anchors = 450 # each								
	5	CS 16 Strap = 1465 #								
	6	STHD14 or STHD14RJ @ 4430 #								
	7	HTT 22 @ 4650 #								
	8	HDQ8 @ 7210 #								
	9	HHDQ11-SDS2.5 @ 8615 #, W/ 6 x 6 HF STUD								

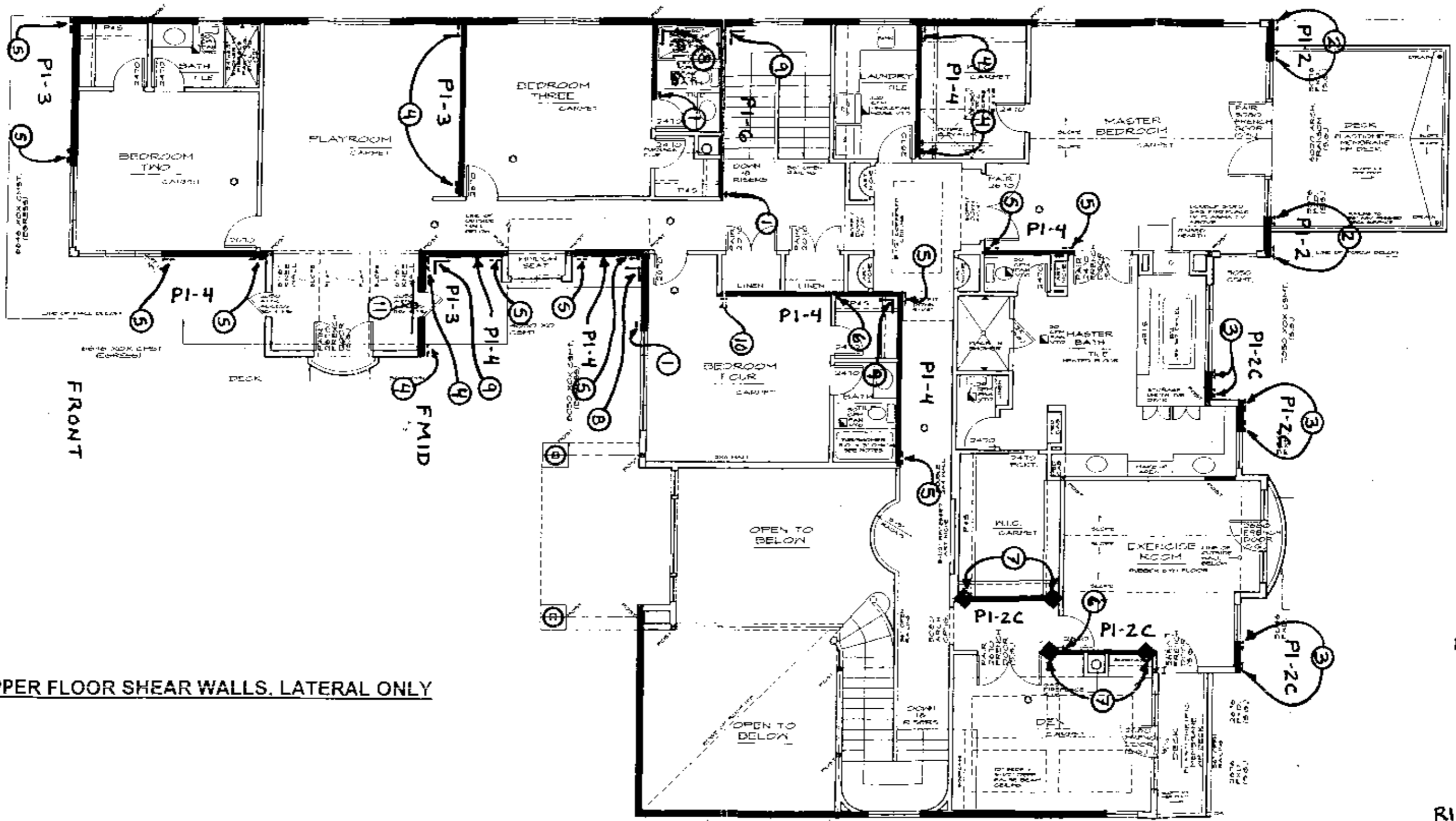


ROOF DIAPHRAGM LATERAL NOTES

- ① SHEATH TRUSS L = 13'. PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ② SHEATH TRUSS L = 13'. PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ③ SHEATH TRUSS L = 8'. PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ④ SHEATH TRUSS L = 6'. PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ⑤ SHEATH TRUSS L = 4'. PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ⑥ ADD (5) BLOCKING PANELS OVER WALL. PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TOP OF BLOCKING PANEL, SEE DETAIL C
- ⑦ ADD (4) P1-2 BLOCKING PANELS OVER WALL, PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TOP OF BLOCKING PANEL, SEE DETAIL D
- ⑧ LOCATE RAFTER IN LINE WITH WALL. PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO RAFTER, SEE DETAIL E
- ⑨ ADD TS22 RAFTER TO WALL TOP PLATE
- ⑩ ADD TS22 GIRDER TRUSS TO WALL TOP PLATE
- ⑪ ADD TS22 BEAM TO WALL TOP PLATE
- ⑫ BLOCK ROOF SHEATHING PANEL EDGES THIS AREA WITH 3" NOMINAL
BLOCKING. PROVIDE 10d @ 2.5" O.C. ROOF SHEATHING TO BLOCKING.
- ⑬ BLOCK ROOF SHEATHING PANEL EDGES THIS AREA
BLOCKING. PROVIDE 10d @ 4" O.C. ROOF SHEATHING TO BLOCKING.
- ⑭ PROVIDE BLOCKING OVER WALL, PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO BLOCKING
- ⑮ ADD (4) BLOCKING PANELS OVER WALL, PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TOP OF BLOCKING PANEL. SEE DETAIL C

UPPER FLOOR SHEAR WALLS, LATERAL NOTES

- ① CS16 TO JOIST BELOW
- ② DOUBLE CS16 TO WALL BELOW
- ③ DOUBLE CS16 TO HEADER BELOW
- ④ DOUBLE CS16 TO DOUBLE JOIST BELOW
- ⑤ DOUBLE CS16 TO BEAM BELOW
- ⑥ HOLD BACK STUD TO ALLOW FOR CONTINUOUS SHEAR WALL SHEATHING AND NAILING.
- ⑦ HTT22 TO 3 1/2 X 14 PSL "JOIST" BELOW. SEE DETAIL F
- ⑧ ADD (2) A35 TO CORNER. SEE DETAIL G
- ⑨ ADD (4) A35 TO CORNER. SEE DETAIL G
- ⑩ CS16 TO BLOCKING BELOW. SEE DETAIL H
- ⑪ ADD CS16 ABOVE AND BELOW OPENING, SEE DETAIL O

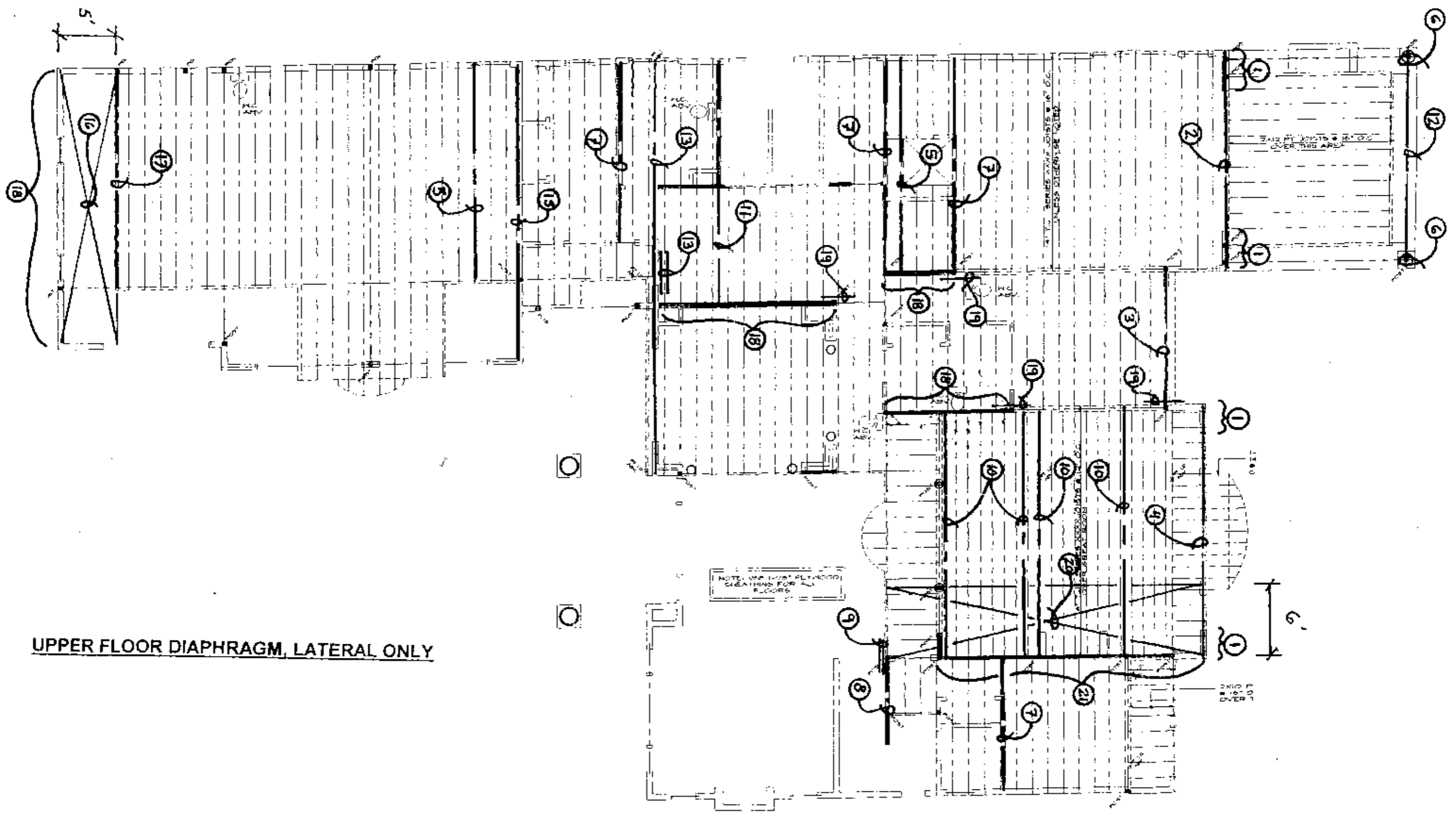


UPPER FLOOR SHEAR WALLS. LATERAL ONLY

NOTE: ALL EXTERIOR WALLS AND GABLE ENDS TO BE PI-6, U.N.O.

UPPER FLOOR DIAPHRAGM LATERAL NOTES

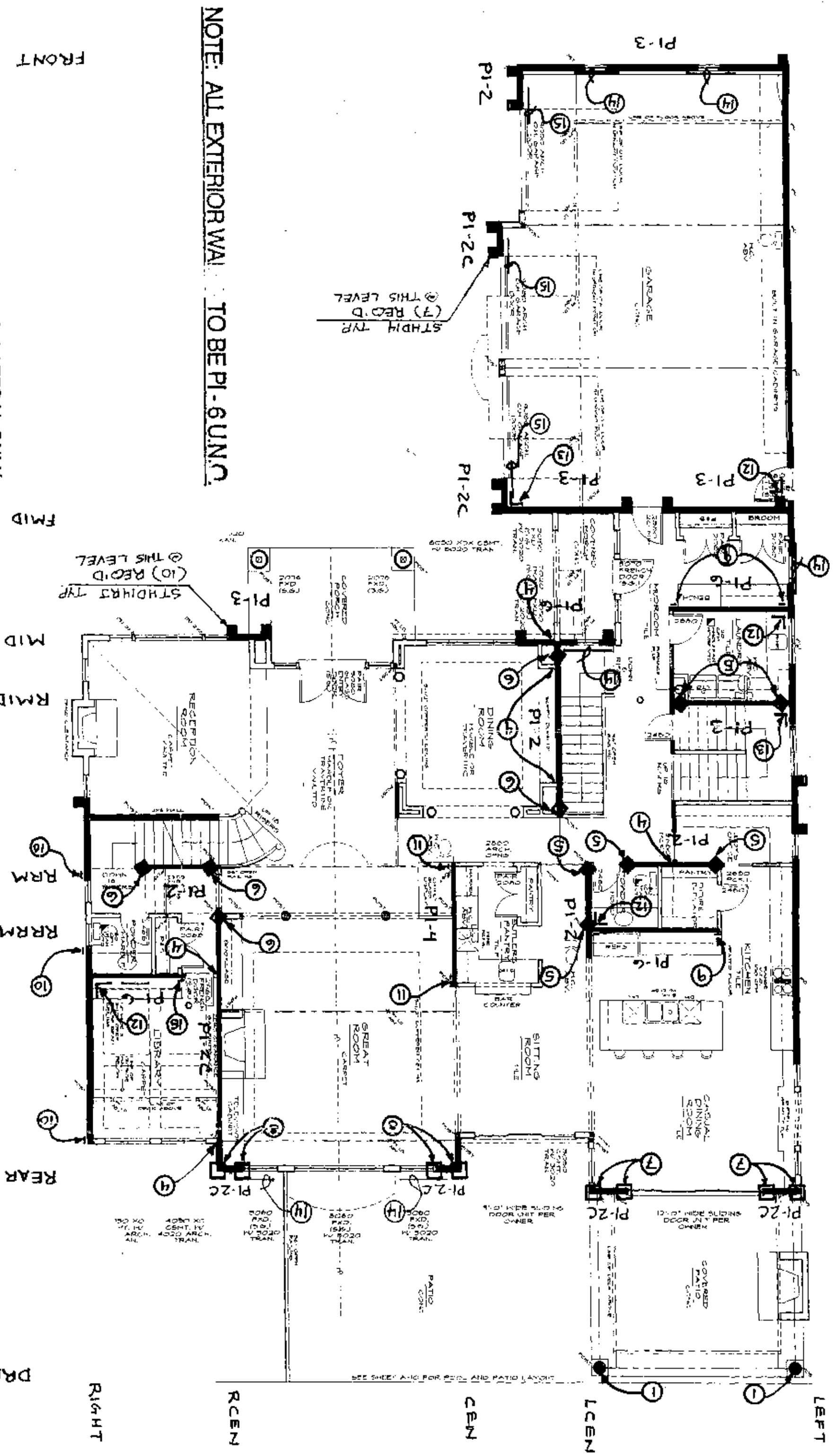
- ① ADD (4) A35 RIM TO WALL TOP PLATE
- ② EXTEND HEADER OVER SHEAR WALLS, L = 19'
- ③ EXTEND HEADER OVER SHEAR WALLS, L = 12'
- ④ EXTEND HEADER OVER SHEAR WALLS, L = 22'
- ⑤ LOCATE DOUBLE JOIST BELOW SHEAR WALL ABOVE.
- ⑥ CCOQ CAP TO 6 X 4 X 1/4 TUBE STEEL COLUMN, SEE DETAIL J
- ⑦ LOCATE LSL JOIST OVER WALL, EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ⑧ LOCATE 3 1/2" LSL "JOIST" OVER WALL, EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I_{SIM}
- ⑨ ADD (2) CS*6 BEAM TO 3 1/2" LSL "JOIST"
- ⑩ LOCATE 3 1/2 X 14 PSL "JOIST" FOR HTT22 ABOVE, SEE DETAIL F
- ⑪ LOCATE LSL JOIST OVER WALL, L = 21'. PROVIDE (2) CS16 @ ALL BREAKS IN JOIST
EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ⑫ PROVIDE CONTINUOUS BEAM OVER BOTH POSTS.
- ⑬ LOCATE LSL JOIST BELOW SHEAR WALL ABOVE & OVER SHEAR WALL BELOW, L = 35', PROVIDE (2) CS15 @ ALL BREAKS IN JOIST
EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ⑭ LOCATE LSL JOIST BELOW SHEAR WALL ABOVE & OVER SHEAR
- ⑮ LOCATE LSL JOIST OVER WALL, L = 26', PROVIDE (2) CS16 @ ALL BREAKS IN JOIST
PROVIDE 10d @ 4" O.C. FLOOR SHEATHING TO JOIST,
ADD A35 @ 32" O.C. JOIST TO WALL TOP PLATE
- ⑯ BLOCK LOWER ROOF SHEATHING PANEL EDGES,
PROVIDE 10d @ 4" O.C. ROOF SHEATHING TO BLOCKING,
- ⑰ PROVIDE 2 X 12 LEDGER W/ (3) SDS1/4 X 3 1/2 SCREWS @ 16" O.C. LEDGER TO STUDS.
- ⑱ PROVIDE A35 @ 32" O.C. BLOCKING TO WALL TOP PLATE
- ⑲ ADD TS22 BEAM TO WALL TOP PLATE
- ⑳ BLOCK FLOOR SHEATHING PANEL EDGES W/ 3" NOMINAL BLOCKING
PROVIDE 10d @ 2.5" O.C. FLOOR SHEATHING TO BLOCKING.
- ㉑ PROVIDE 10d @ 2.5" O.C. FLOOR SHEATHING TO BLOCKING OVER WALL.
ADD A35 @ 16" O.C. BLOCKING TO WALL TOP PLATE



UPPER FLOOR DIAPHRAGM, LATERAL ONLY

MAIN FLOOR SHEAR WALLS, LATERAL NOTES

- ① 4 X 6 STEEL TUBE, SEE DETAIL J
- ② NOT USED.
- ③ NOT USED.
- ④ HOLD BACK STUD TO ALLOW FOR CONTINUOUS SHEAR WALL SHEATHING AND NAILING
- ⑤ HTT 22. TO BEAM BELOW, SEE DETAIL F
- ⑥ HTT 22, TO WALL. SEE DETAIL M
- ⑦ HHQ11-SDS2.5, W/ 6 x 6 HF, RIM CONDITION STUD. SEE DETAIL K
- ⑧ HHQ11-SDS2.5, W/ 6 x 6 HF, RIM CONDITION STUD. SEE DETAIL L
- ⑨ CS16 TO JOIST BELOW
- ⑩ CS16 TO WALL BELOW
- ⑪ DOUBLE CS16 TO BEAM BELOW
- ⑫ ADD (1) A35 TO CORNER, SEE DETAIL G
- ⑬ ADD (4) A35 TO CORNER. SEE DETAIL G
- ⑭ ADD CS16 ABOVE AND BELOW OPENING SEE DETAIL O
- ⑮ ADD CS16 ABOVE OPENING, SEE DETAIL O
- ⑯ CS16 TO BLOCKING BELOW. SEE DETAIL H



NOTE: ALL EXTERIOR WALL TO BE P1-6 UNQ.

MAIN FLOOR SHEAR WALLS, LATERAL ONLY

FRONT

F MID

MID

R MID

R RM

R RM

REAR

DRF

RIGHT

RCEN

CEN

LCEN

LEFT

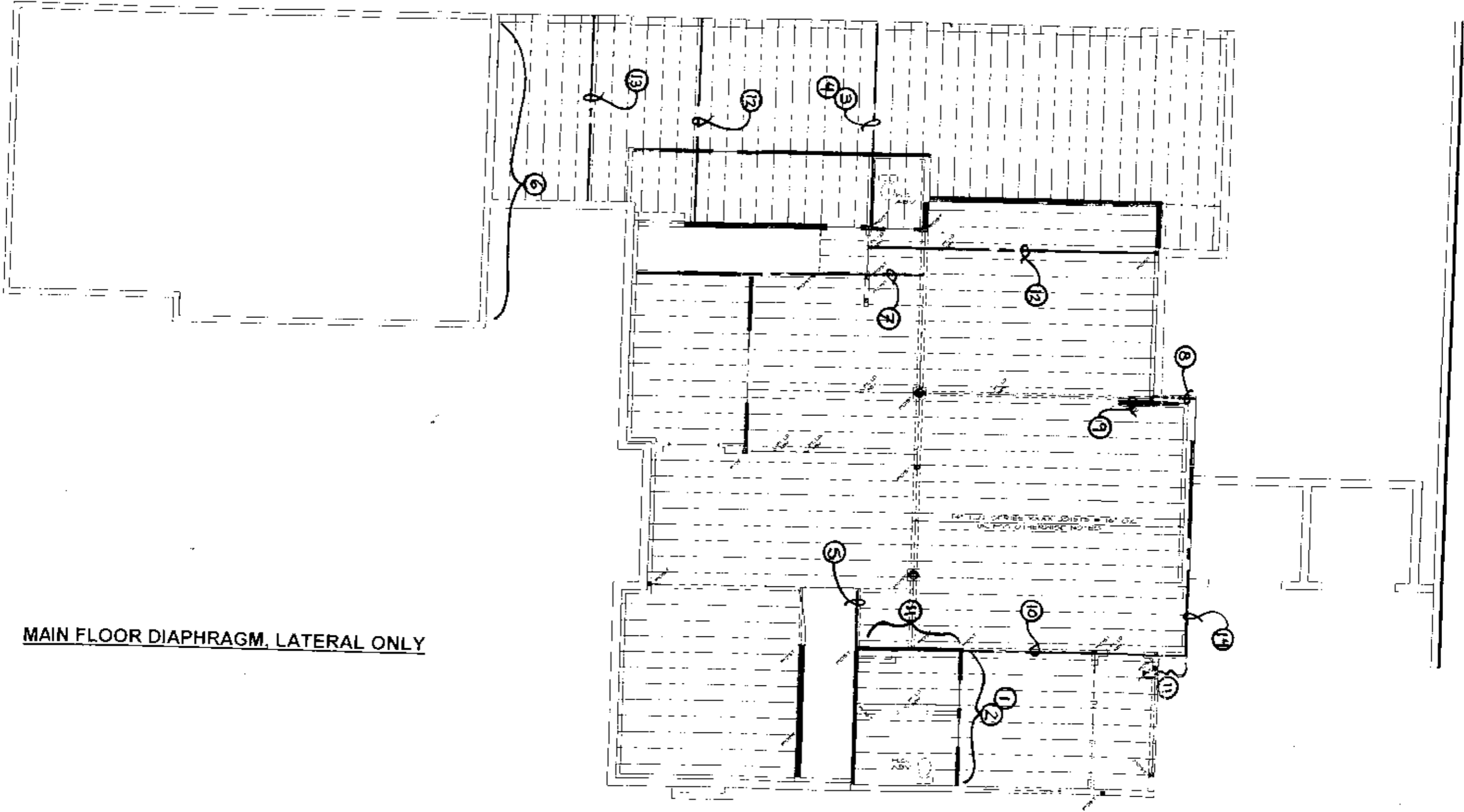
STAIR TYP (7) REQ'D @ THIS LEVEL

STAIR TYP (10) REQ'D @ THIS LEVEL

SEE SHEET A10 FOR POOL AND PATIO LAYOUT

MAIN FLOOR DIAPHRAGM LATERAL NOTES

- ① ADD A35 @ 32" O.C. BLOCKING TO WALL TOP PLATE
- ② PROVIDE 10d @ 4" O.C. FLOOR SHEATHING TO BLOCKING OVER WALL.
- ③ LOCATE 3 1/2" LSL JOIST OVER WALL, EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ④ PROVIDE (2) CS16 @ ALL BREAKS IN JOIST
- ⑤ LOCATE LSL "RIM" JOIST, L = 16', OVER WALL. EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ⑥ ADD A35 @ 32" O.C. RIM JOIST TO SILL PLATE.
- ⑦ LOCATE 3 1/2" LSL "JOIST" OVER WALL, EXTEND SHEAR WALL SHEATHING AND NAILING TO "JOIST" SEE DETAIL I_{SM}
- ⑧ PROVIDE 3 1/2" LSL RIM OVER WALL.
(NOTE 3" NOMINAL SILL PLATE REQUIRED BELOW RIM)
- ⑨ ADD MST60 RIM TO BEAM
- ⑩ LOCATE 5 1/4" PSL JOIST OVER WALLS, L = 27',
ADD MST60 @ ALL BREAKS IN JOIST
- ⑪ EXTEND SHEAR WALL SHEATHING AND NAILING TO
3 1/2" LSL JOIST BOTH SIDES, SEE DETAIL O
- ⑫ LOCATE 3 1/2" LSL JOIST BELOW SHEAR WALL ABOVE, L = 23' - 6" +/-
- ⑬ LOCATE LSL JOIST BELOW SHEAR WALL ABOVE, L = 23' - 6" +/-
- ⑭ PROVIDE 5 1/4" PSL RIM, L = 18', W/ LPT4 @ 16" O.C. BEAM TO SILL PLATE



MAIN FLOOR DIAPHRAGM, LATERAL ONLY

LOWER FLOOR SHEAR WALLS, LATERAL NOTES

- ① HOLD BACK STUD TO ALLOW FOR CONTINUOUS SHEAR WALL SHEATHING AND NAILING
- ② HTT22, SILL CONDITION. SEE DETAIL P
- ③ HDQ8, SILL CONDITION. SEE DETAIL Q
- ④ HHDQ11-SDS2.5, W/ 6 x 6 HF, SILL CONDITION STUD, SEE DETAIL S

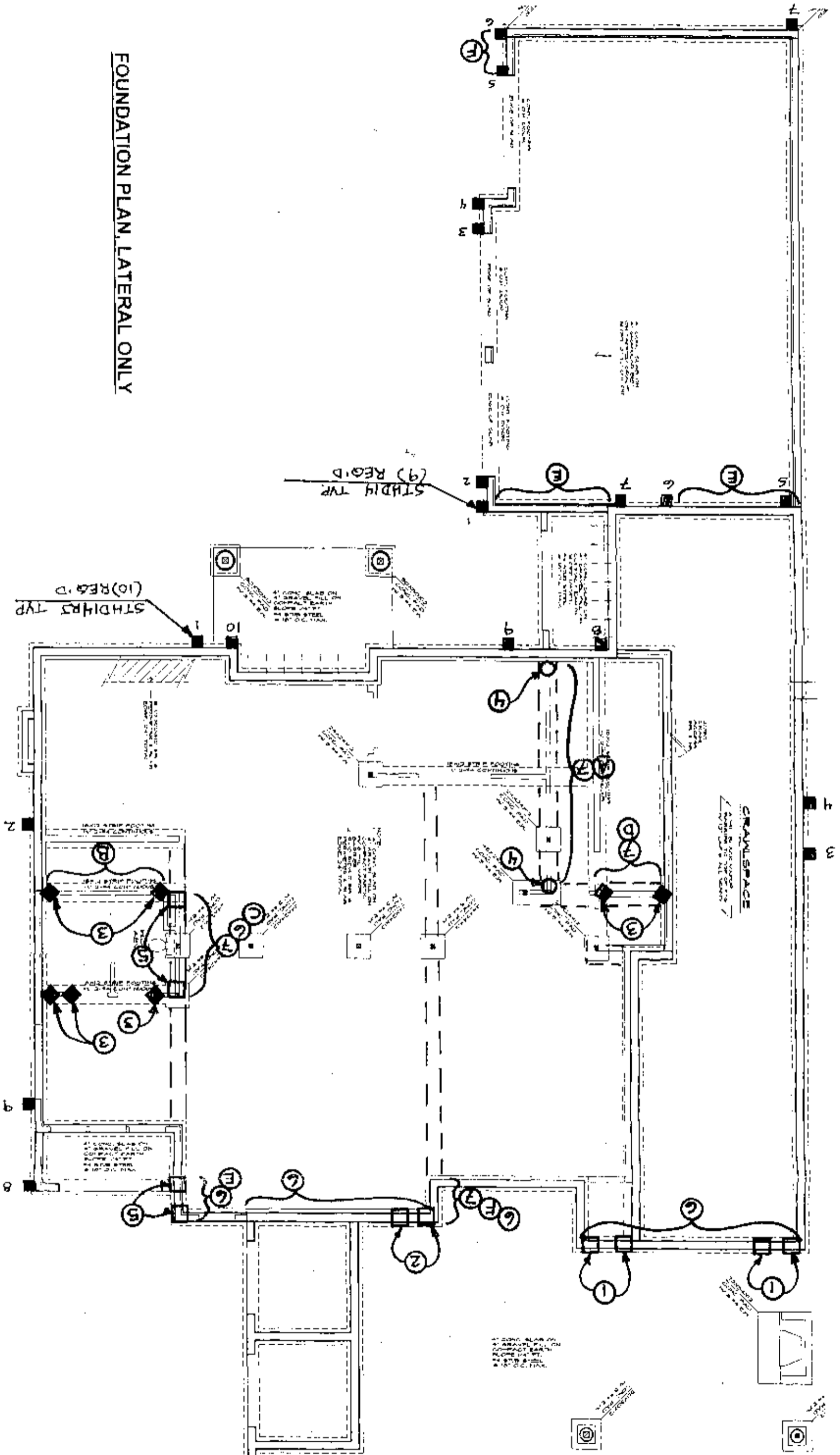
FOUNDATION PLAN, LATERAL NOTES

- ① 1" ALL THREAD FOR HDDQ11-SDS2.5, W/ 6 x 6 HF, RIM CONDITION STUD, SEE DETAIL K
- ② 1" ALL THREAD FOR HDDQ11-SDS2.5, W/ 6 x 6 HF, RIM CONDITION STUD, SEE DETAIL L
- ③ 5/8" ALL THREAD FOR HTT22. SILL CONDITION SEE DETAIL P
- ④ 7/8" ALL THREAD FOR HDQ8 SILL CONDITION, SEE DETAIL Q
- ⑤ 1" ALL THREAD FOR H7/8" ALL THREAD FOR HDQ11-SDS2.5, W/ 6 x 6 HF, SILL CONDITION STUD, SEE DETAIL R
- ⑥ **3" NOMINAL SILL PLATE REQUIRED THIS WALL**
- ⑦ PROVIDE CONTINUOUS STRIP FOOTING BELOW SHEAR WALL

5/8" A.B W/ 2" X 2" X 3/16" WASHERS @ 5'-0" O.C. REQUIRED U.N.O.

- Ⓐ (15) 5/8" A.B. REQUIRED
- Ⓑ (9) 5/8" A.B. REQUIRED
- Ⓒ (7) 5/8" A.B. REQUIRED
- Ⓓ (5) 5/8" A.B. REQUIRED
- Ⓔ (4) 5/8" A.B. REQUIRED
- Ⓕ (3) 5/8" A.B. REQUIRED

FOUNDATION PLAN, LATERAL ONLY



PILE FOUNDATION DESIGN
PER I.B.C. SECTION 1805.7 (NON - CONSTRAINED)

Equation: $d = 0.5A \{1 + [1 + (4.36H/A)]^{1/2}\}$

P = 354 # A = 0.92 psf

h = 10 ft b = 3 ft

So, d = 4.09 ft SEE ATTACHED DETAIL "J"

USE 4 X 4 X 1/2 TUBE STEEL COLUMN

Joint Coordinates

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Joint Temperature (F)
N1	0	0	0
N2	0	0	0

Member Data

Member Label	I Joint	J Joint	Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb TOM	End Releases I-End J-End AVM AVM	End Offsets I-End J-End (in) (in)	Inactive Code	Length (ft)
M1	N1	N1		SEC1	STL	Y				0
M2	N1	N2		SEC1	STL	Y				10

Sections

Section Label	Database Shape	Material Label	Area (in ²)	SA (0,180)	SA (90,270)	I (90,270) (in ⁴)	I (0,180) (in ⁴)	T/C Only
SEC1	TU4X4X8	STL	6.36	1.2	1.2	12.3	12.3	
SEC2		STL	1	1.2	1.2	1	1	
SEC3		STL	1	1.2	1.2	1	1	

Boundary Conditions

Joint Label	X Translation (k/in)	Y Translation (k/in)	Rotation (k-ft/rad)
N1	Reaction	Reaction	Reaction

Basic Load Case Data

BLC No.	Basic Load Case Description	Category Code	Category Description	Gravity X Y	Load Type Totals Joint Point Direct Dist.
1		None			

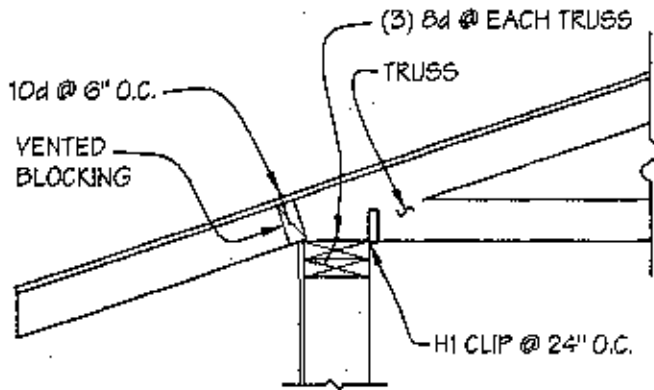
Member Deflections, By Combination

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	(n) L/y Ratio
1	M2	1	0	0	NC
		2	0	-0.049	2428.614
		3	0	-0.179	669.61
		4	0	-0.363	330.945
		5	0	-0.573	209.504

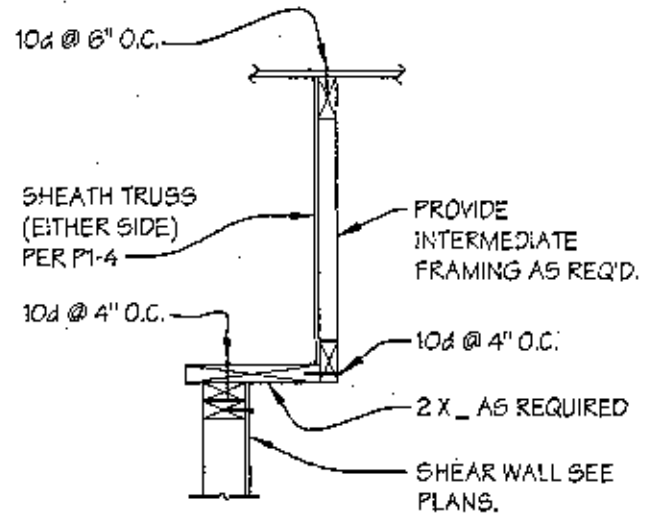
Member AISC ASD 9th Code Checks, By Combination

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	ASD Eqn.	Message
1	M1	- Steel code					- Steel code check not calculate...
	M2	291	0	0.007	0	H1-2	

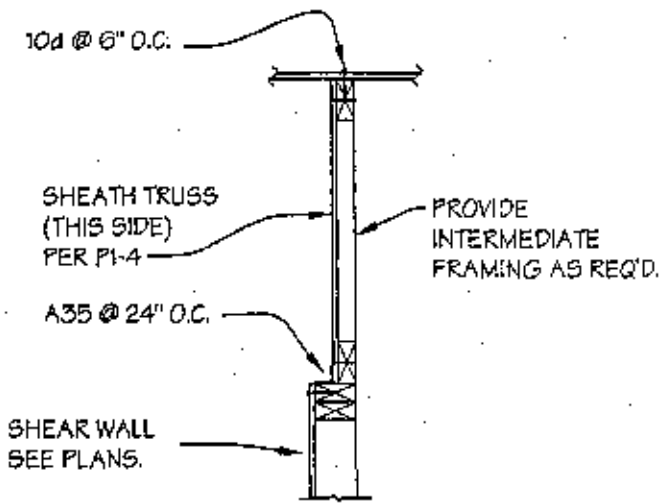
OK!



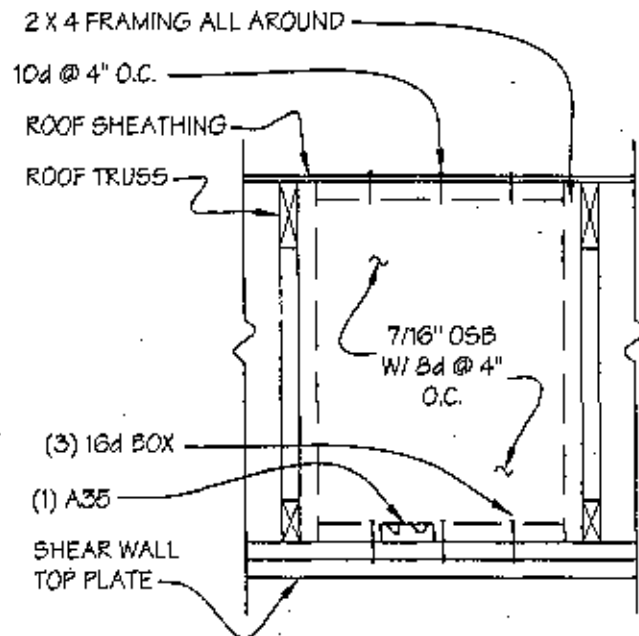
DETAIL A



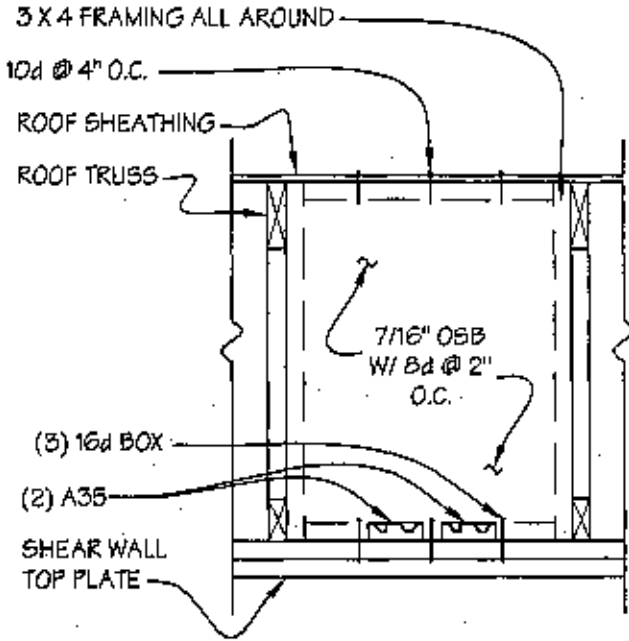
DETAIL B



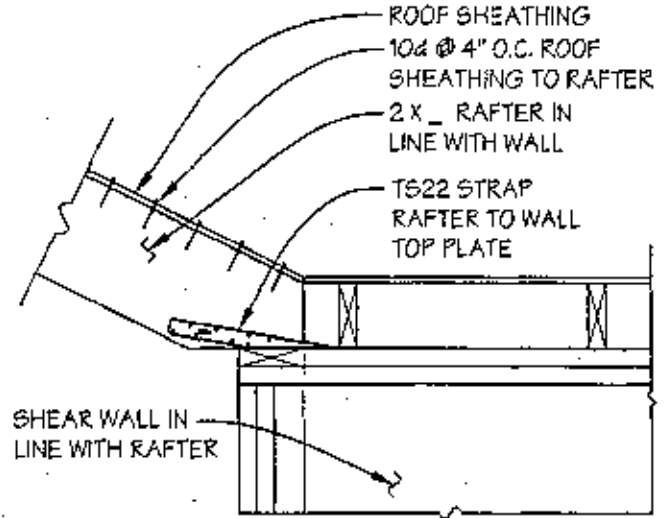
DETAIL B SIM



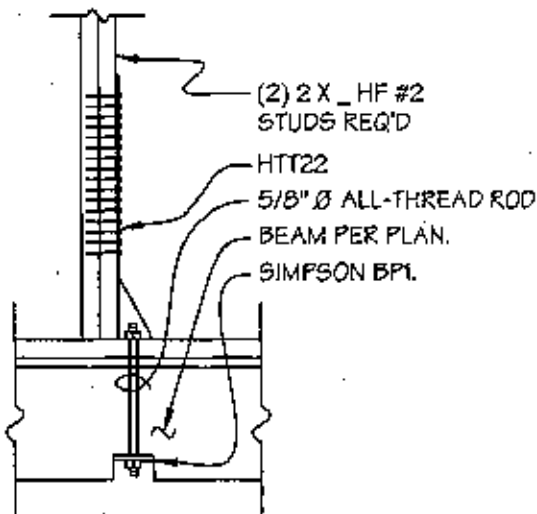
DETAIL C



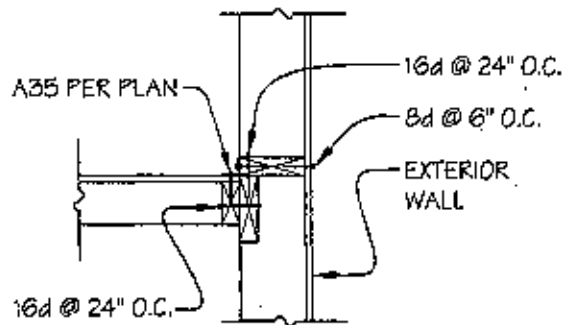
DETAIL D



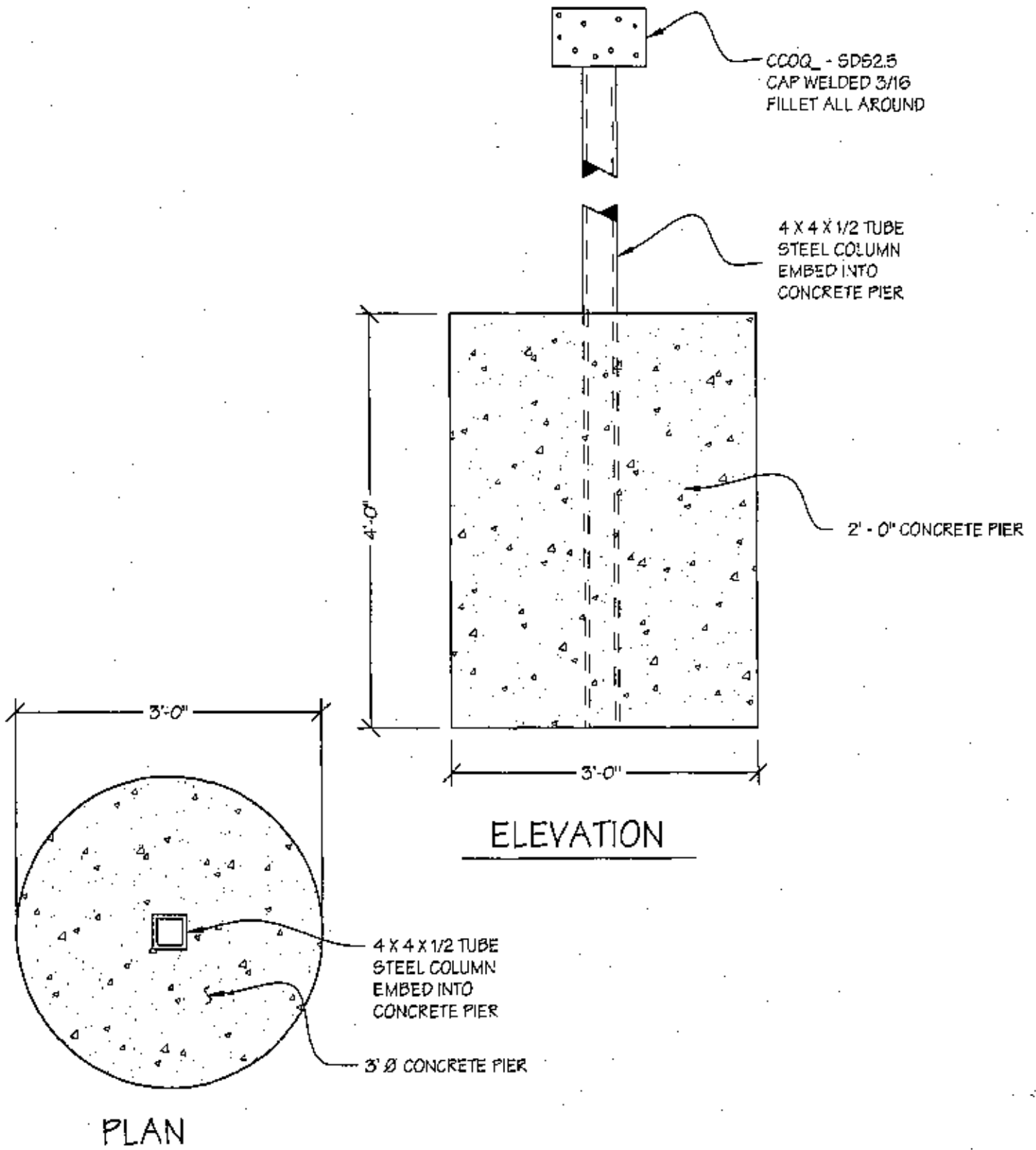
DETAIL E



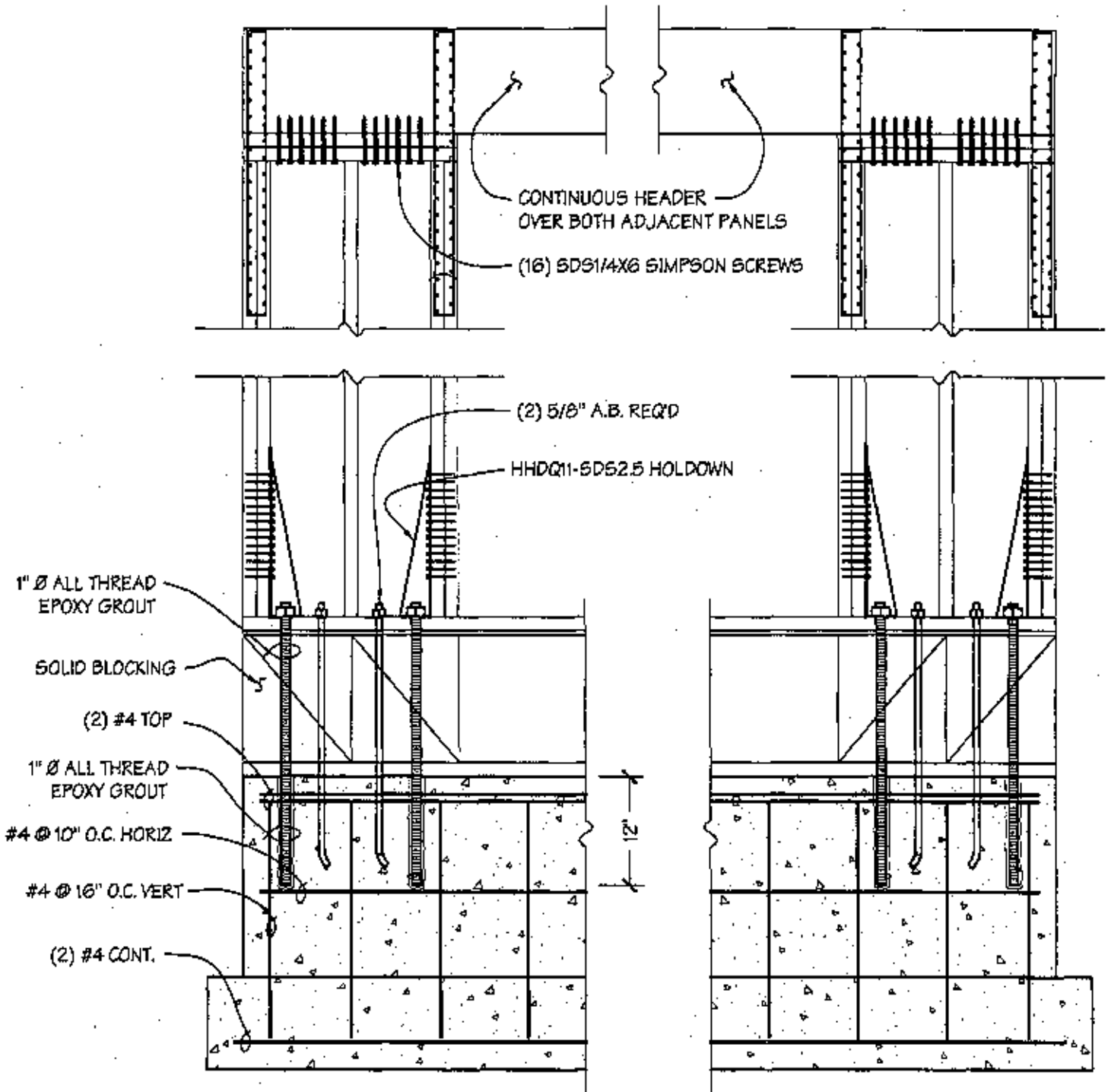
DETAIL F



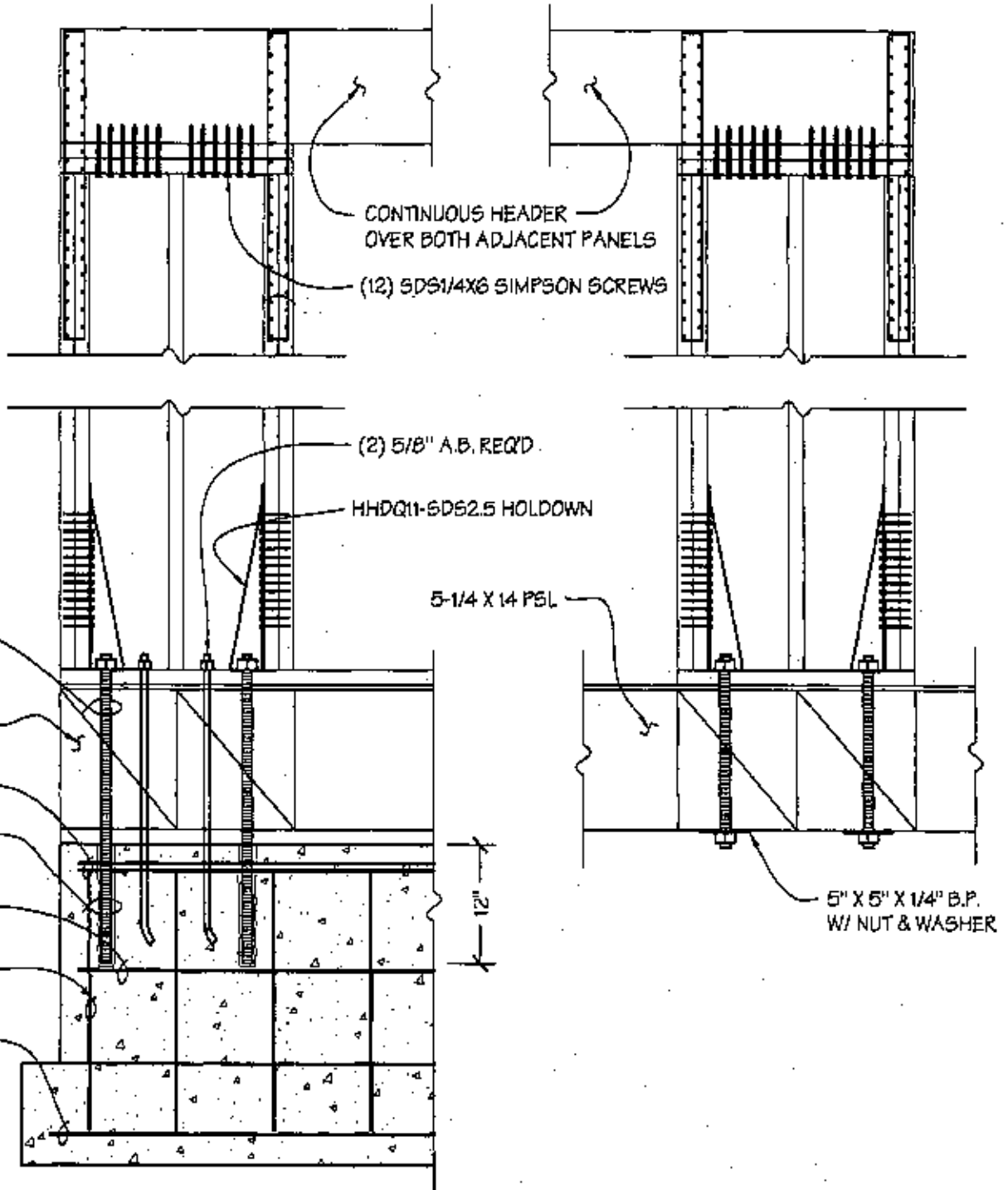
DETAIL G



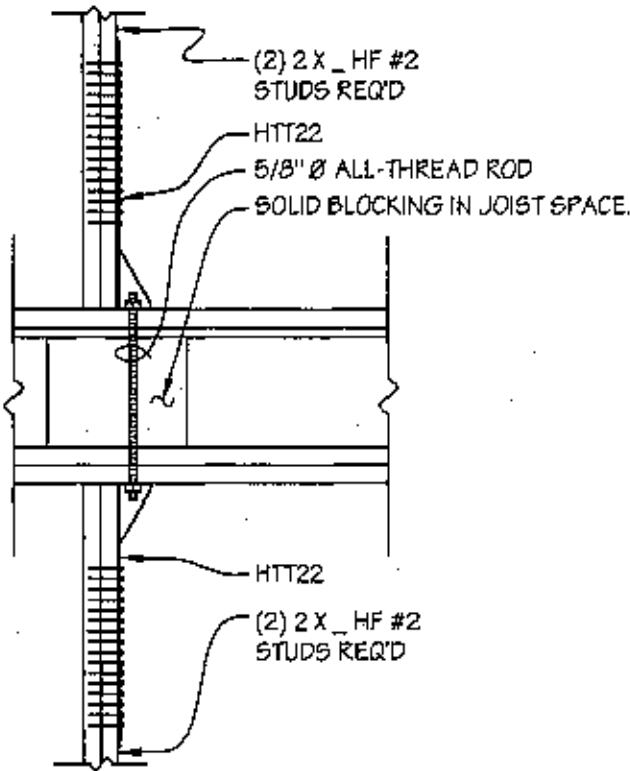
DETAIL J



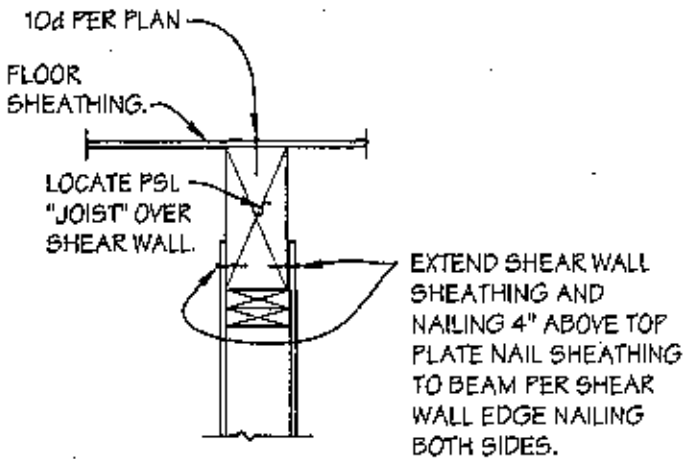
DETAIL K



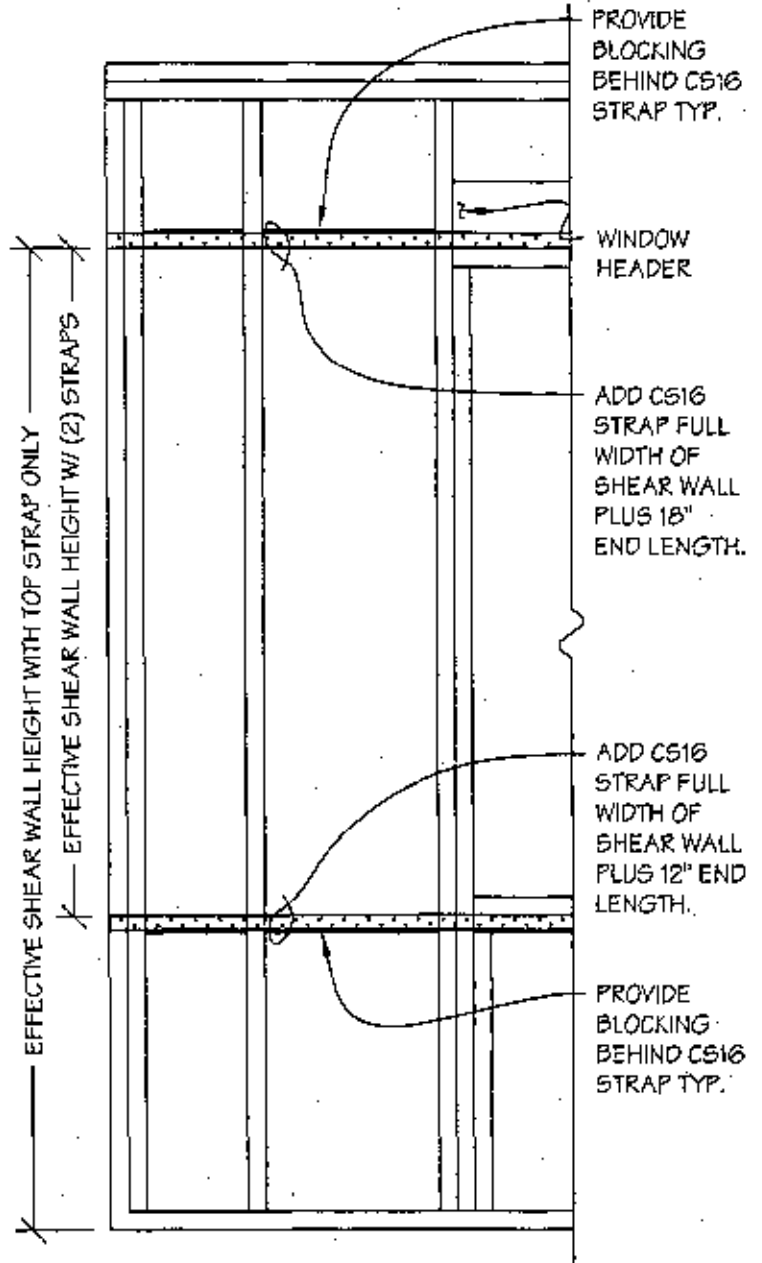
DETAIL L



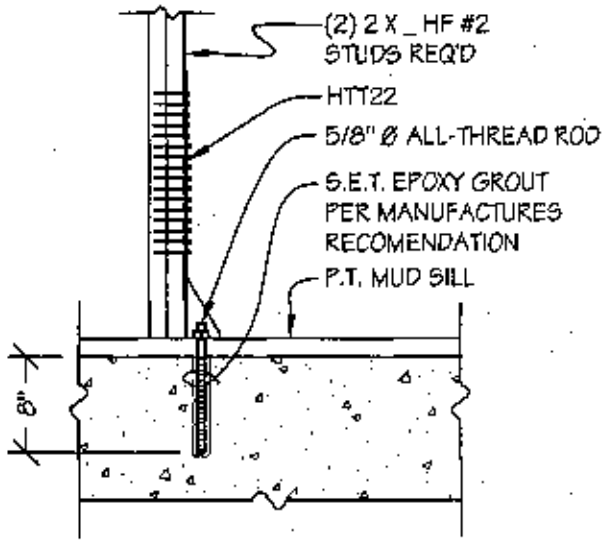
DETAIL M



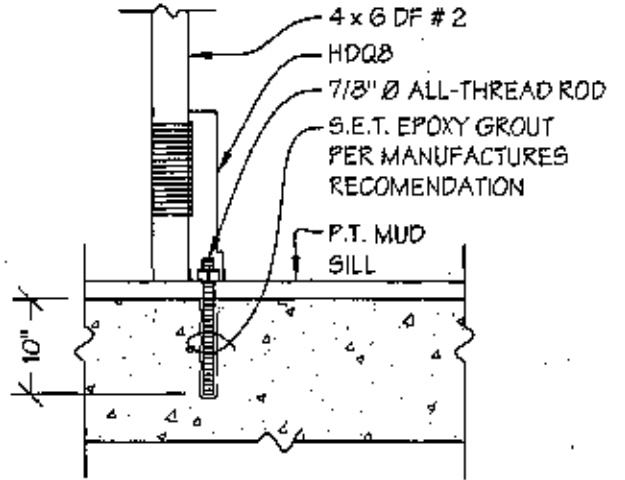
DETAIL O



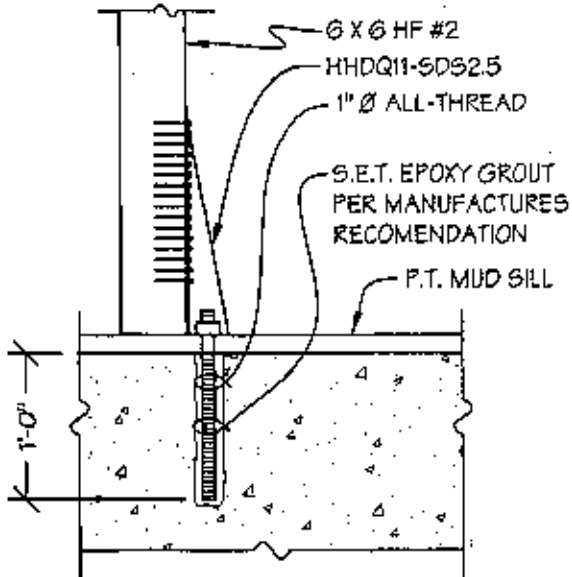
DETAIL N



DETAIL P



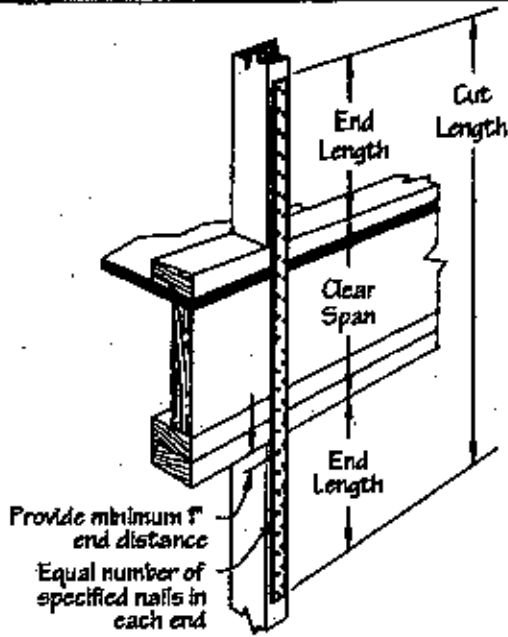
DETAIL Q



DETAIL R

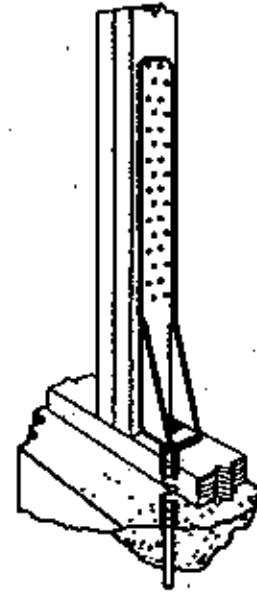
TYPICAL END CONDITIONS

L36



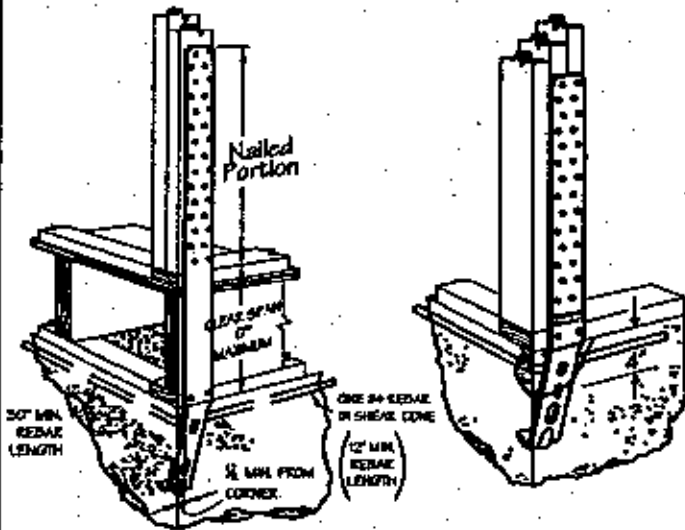
CS16 W/ (22) 10d T = 1465 #
 MST48 W/ (34) 16d T = 2945 #

Simpson Strong-Tie CS16



HTT22 W/ (32) 16d SINKERS: T = 4650 #

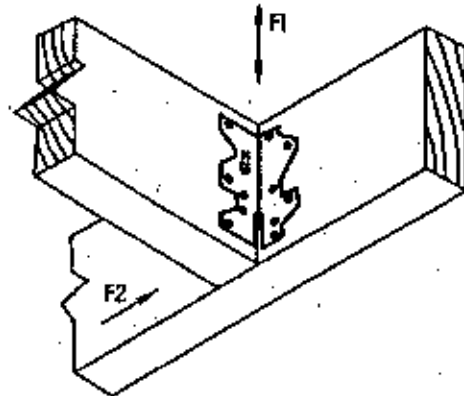
Simpson Strong-Tie HTT22



STHD14RJ
 (Rim Joist Installation)

STHD Corner
 (Installation on 3-2x studs)

STHD14 OR STHD14RJ W/ (38) 16d SINKERS: T = 4430 #
 STHD10 OR STHD10RJ W/ (28) 16d SINKERS: T = 2990 #



A35 W/ (12) 8d F = 450 #

A35 Framing Anchor

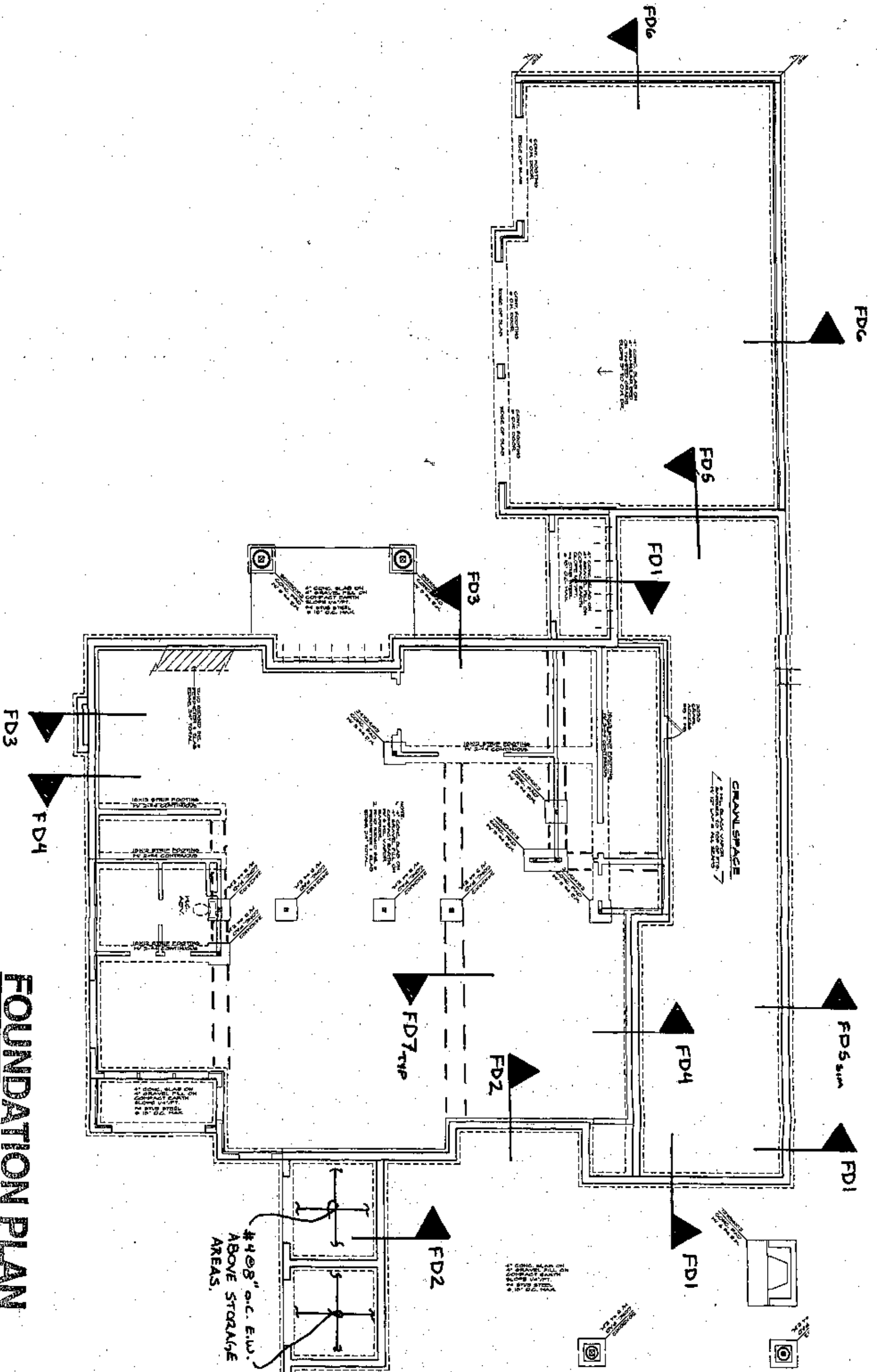
**SIMPSON
 STRONG-TIE**

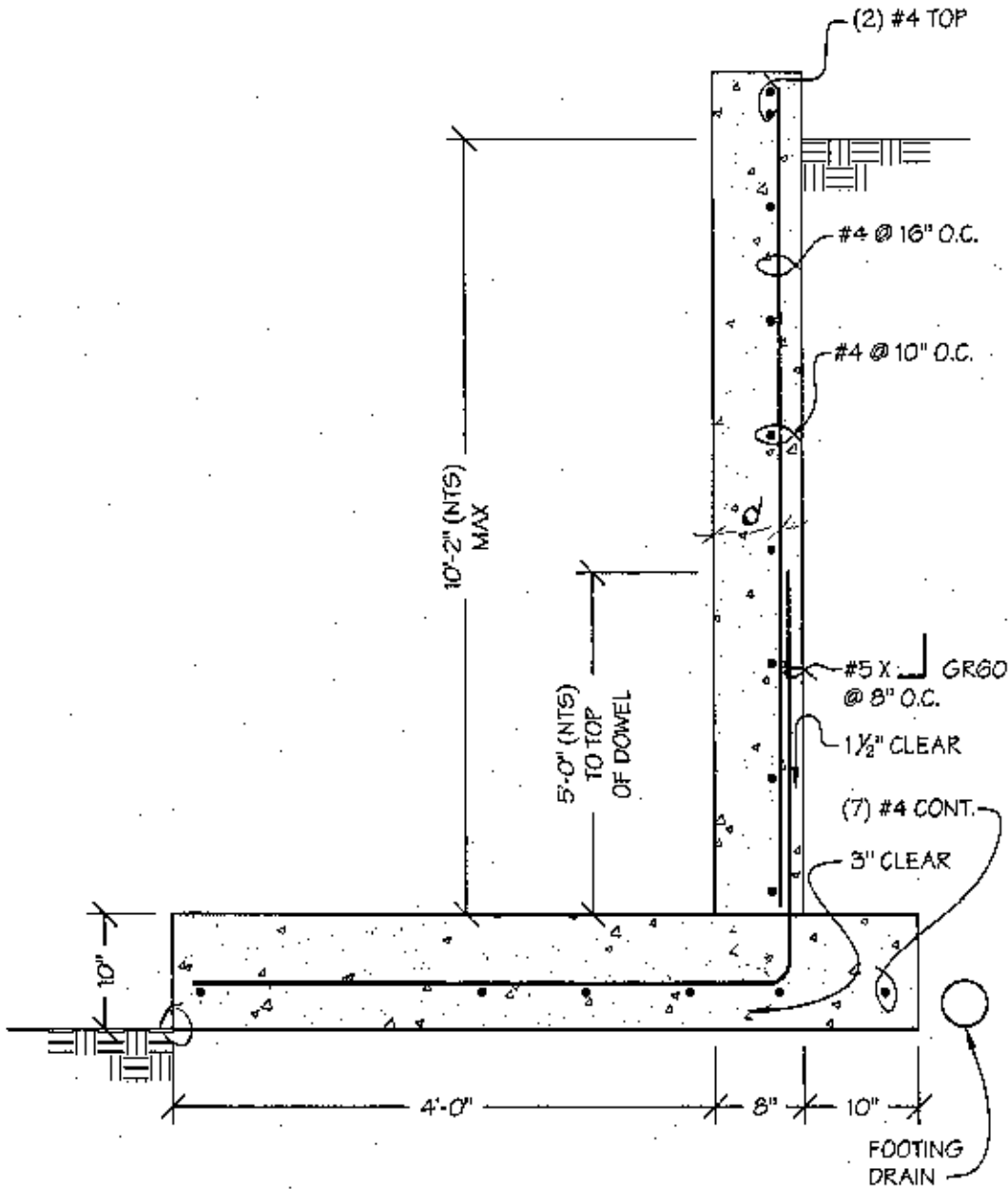
WOOD
 CONSTRUCTION
 CONNECTORS

JC JAMESON CONSULTING
 Consulting Engineers

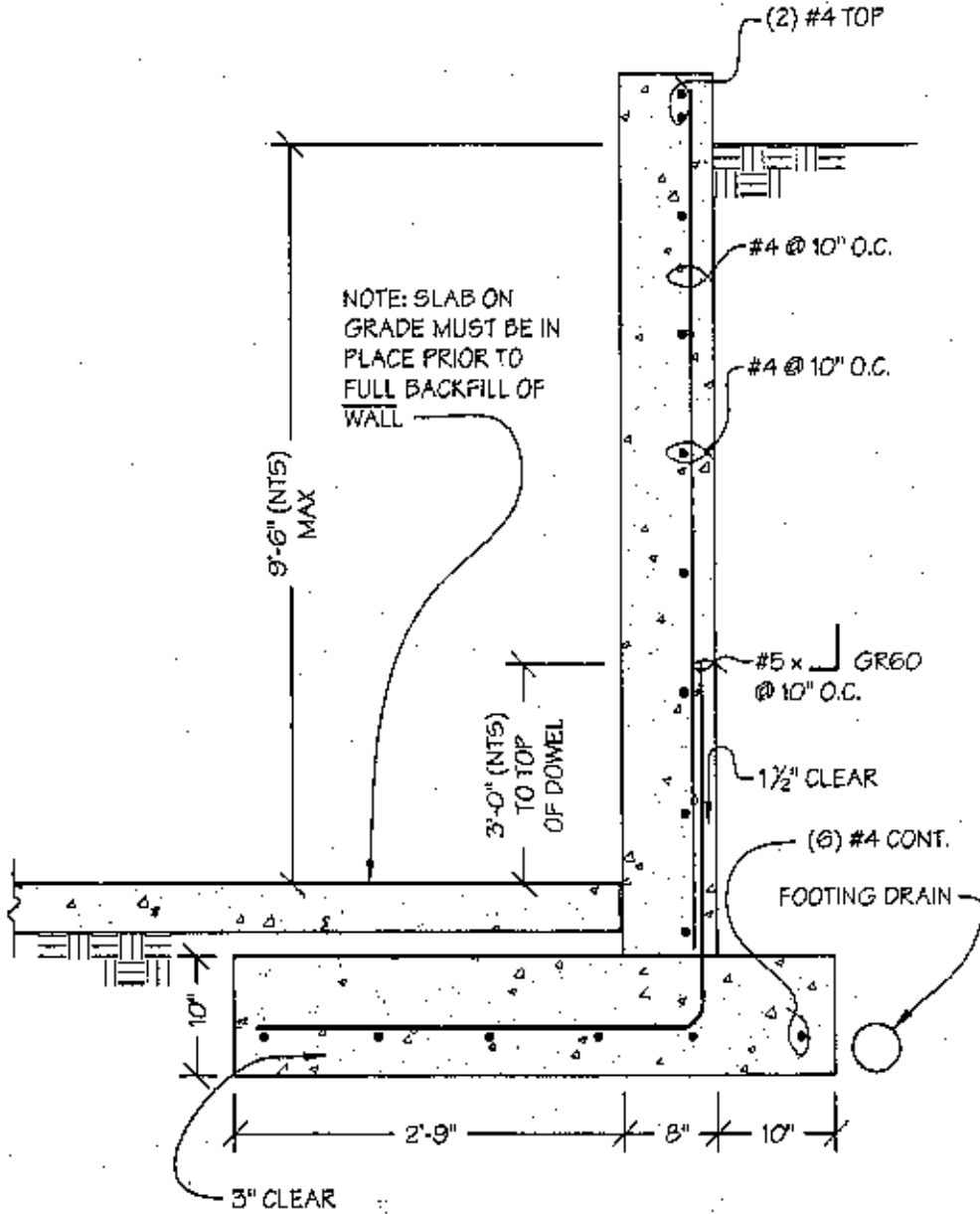
733 7TH AVE STE 108 • KIRKLAND WA 98033
 (425) 803-2581 • FAX (425) 803-3289

FOUNDATION PLAN

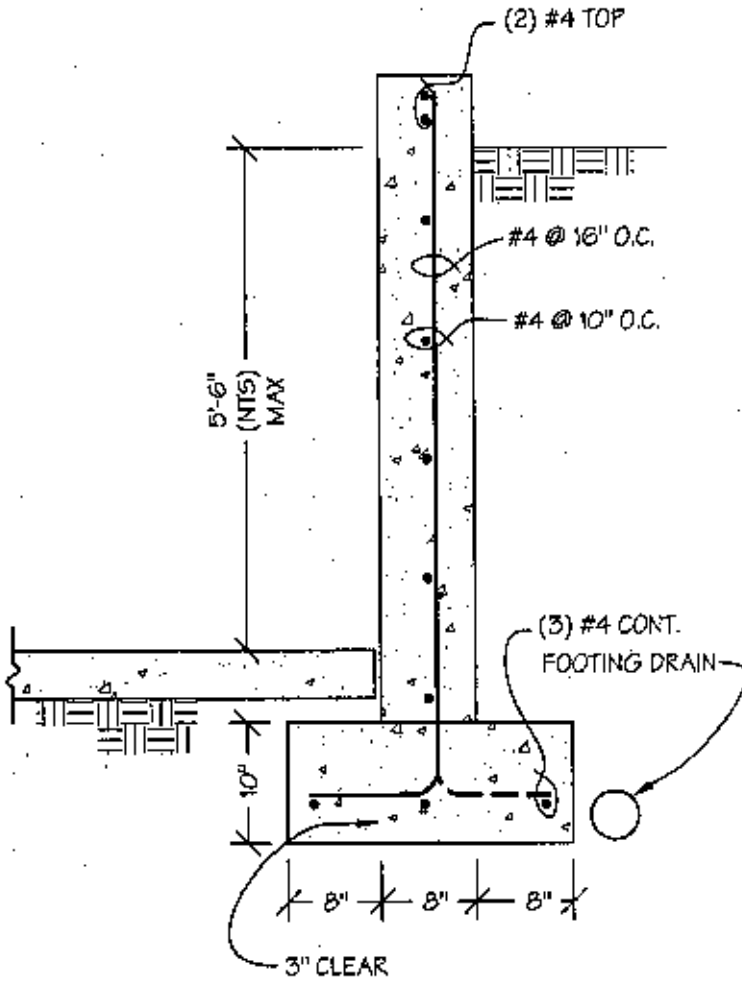




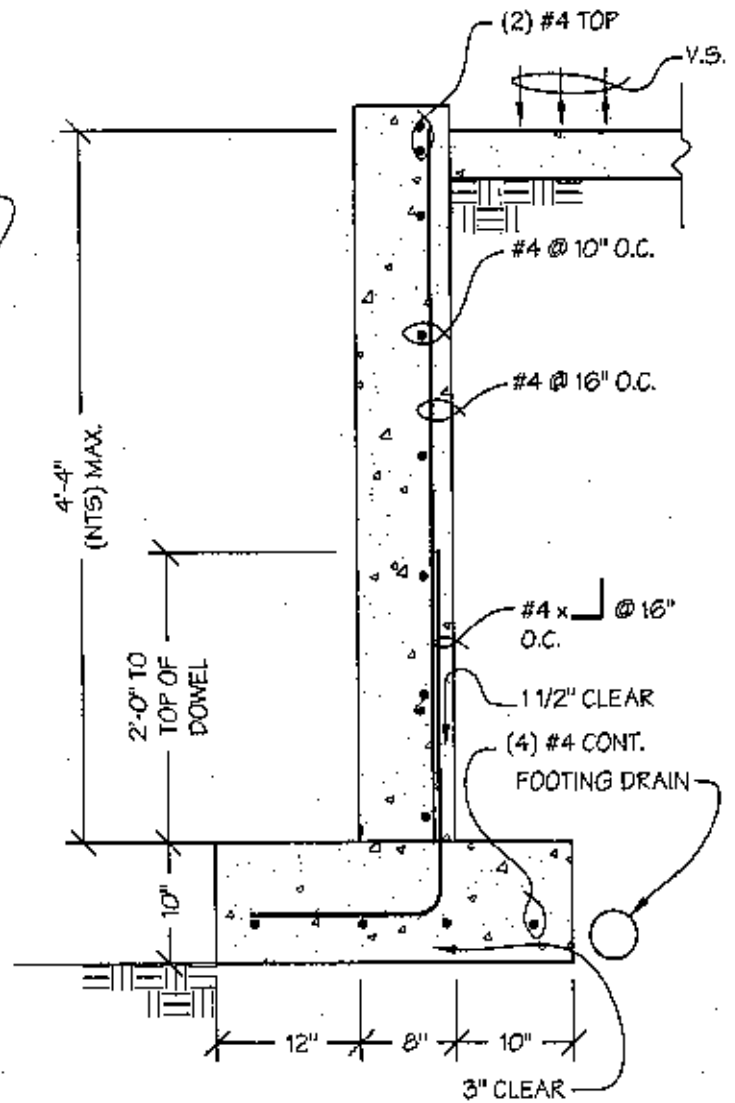
DETAIL FD1



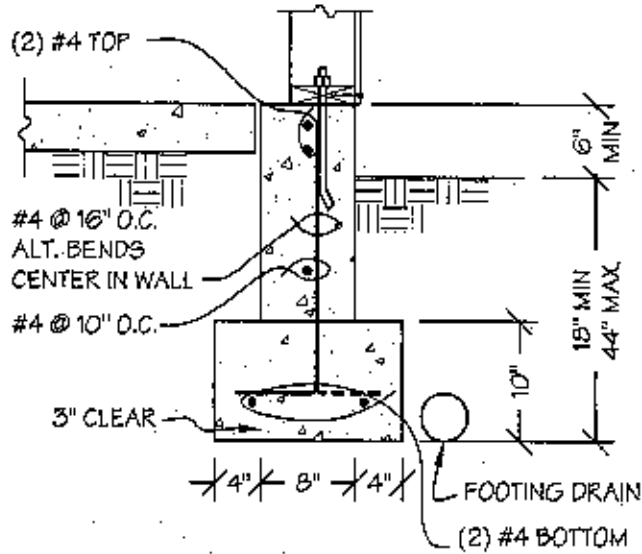
DETAIL FD3



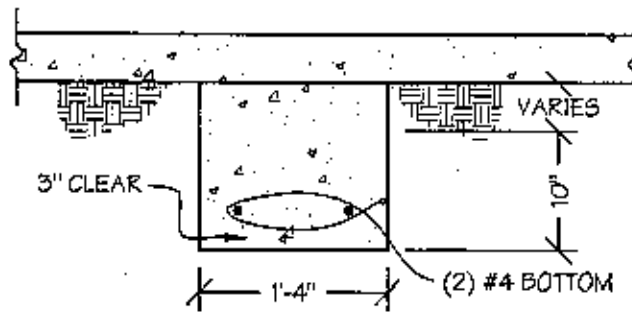
DETAIL FD4



DETAIL FD5



DETAIL FD6



DETAIL FD7

TYPICAL CANTILEVERED RETAINING WALL

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
0.33	Cf			Coefficient of friction against sliding (includes Factor of Safety of 1.5)
10.17	a		ft	Height of earth above "base"
50	w4		#	Weight on top of wall
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
4.00	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	11.00	ft	Overall height of equivalent fluid
	Lf	6.50	ft	Total footing width
	fs	1,239	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,310	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	1.83	ft	
	X	1.41	ft	Location of resultant force
	2Lf/3	3.66	ft	
	F	2,118	#	Total horizontal force
	Fk	1,205	#	Net sliding force per foot
	FS	1.501		Net factor against overturning
	Mot	7,764	# - ft	Overturning moment
	Mr	11,655	# - ft	Resisting moment
	Mu	10,431	# - ft	Ultimate moment for concrete design
	W	2,765	#	Total weight on footing
	w1	1013	#	Soil weight on heel (120 pcf)
	w2	1018	#	Weight of wall
	w3	684	#	Weight of footing
	x1	5.08	ft	
	x2	4.33	ft	
	x3	2.75	ft	
	x4	4.33	ft	

f_c = 2500 psi

f_y = 60 ksi

d = 8 in

M_u = 10.44 k-ft

A_s = 0.47 in² #5 GR 60 @ 8" o.c.

FIND "H" for #4 @ 16" o.c.

M_u = 1.99 k-ft "H" = 5.75'

CALC FOR DETAIL FD1

CANTILEVERED RETAINING WALL W/ BASE SLAB

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
10	a		ft	Height of earth above base slab
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
3.08	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	10.00	ft	Overall height of equivalent fluid
	Lf	4.58	ft	Total footing width
	fs	1,375	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,448	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	1.53	ft	
	X	1.18	ft	Location of resultant force
	2Lf/3	3.05	ft	
	F	1,750	#	Total horizontal force
	FS	1,620		Net factor against overturning
	Mot	5,833	# - ft	Overturning moment
	Mr	8,865	# - ft	Resisting moment
	Mu	9,917	# - ft	Ultimate moment for concrete design
	W	2,566	#	Total weight on footing
	w1	996	#	Soil weight on heel (120 pcf)
	w2	1001	#	Weight of wall
	w3	570	#	Weight of footing
	x1	4.16	ft	
	x2	3.41	ft	
	x3	2.29	ft	

$f_c = 2500$ psi

$f_y = 60$ ksi

$d = 8$ in

$M_u = 9.92$ k-ft

$A_s = 0.41$ in² # 5 GR 60 @ 9" o.c.

FIND "H" for #4 @ 9" o.c.

$M_u = 3.56$ k-ft "H" = 7.0'

NOTE: SLAB ON GRADE MUST
BE IN PLACE PRIOR TO FULL
BACKFILL OF WALL

CALC FOR DETAIL FD2

CANTILEVERED RETAINING WALL W/ BASE SLAB

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
9.5	a		ft	Height of earth above base slab
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
2.75	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	9.50	ft	Overall height of equivalent fluid
	Lf	4.25	ft	Total footing width
	fs	1,394	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,464	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	1.42	ft	
	X	1.10	ft	Location of resultant force
	2Lf/3	2.83	ft	
	F	1,579	#	Total horizontal force
	FS	1,535		Net factor against overturning
	Mot	5,001	# - ft	Overturning moment
	Mr	7,679	# - ft	Resisting moment
	Mu	8,502	# - ft	Ultimate moment for concrete design
	W	2,425	#	Total weight on footing
	w1	946	#	Soil weight on heel (120 pcf)
	w2	950	#	Weight of wall
	w3	529	#	Weight of footing
	x1	3.83	ft	
	x2	3.08	ft	
	x3	2.12	ft	

f_c = 2500 psi

f_y = 60 ksi

d = 6 in

M_u = 8.5 k-ft

A_s = 0.37 in² # 5 GR 60 @ 10" o.c.

FIND "H" for #4 @ 10" o.c.

M_u = 3.17 k-ft "H" = 6.75'

NOTE: SLAB ON GRADE MUST
BE IN PLACE PRIOR TO FULL
BACKFILL OF WALL

CALC FOR DETAIL FD3

CANTILEVERED RETAINING WALL W/ BASE SLAB

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
5.50	a		ft	Height of earth above base slab
0	w4		#	Weight on top of wall
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
0.67	toe		ft	Length of toe
0.67	heel		ft	Length of heel
	H	5.50	ft	Overall height of equivalent fluid
	Lf	2.00	ft	Total footing width
	fs	1,634	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,818	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	0.67	ft	
	X	0.45	ft	Location of resultant force
	2Lf/3	1.33	ft	
	F	529	#	Total horizontal force
	FS	1.58		Net factor against overturning
	Mot	971	# - ft	Overturning moment
	Mr	1,534	# - ft	Resisting moment
	Mu	1,650	# - ft	Ultimate moment for concrete design
	W	1,240	#	Total weight on footing
	w1	440	#	Soil weight on heel (120 pcf)
	w2	550	#	Weight of wall
	w3	249	#	Weight of footing
	x1	1.67	ft	
	x2	1.00	ft	
	x3	1.00	ft	
	x4	1.00	ft	

$f_c = 2500$ psi
 $f_y = 40$ ksi (# 4)
 $M_u = 0.6$ k-ft
 $d = 4$ in
 $A_s = 0.15$ in²

NOTE: SLAB ON GRADE MUST BE IN PLACE
PRIOR TO FULL BACKFILL OF WALL.

4 @ 16" o.c.

CALC FOR DETAIL FD4

TYPICAL CANTILEVERED RETAINING WALL w/ 50 psf vehicle surcharge

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
0.33	Cf			Coefficient of friction against sliding (includes Factor of Safety = 1.5)
4.33	a		ft	Height of earth above "base"
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
1.00	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	5.16	ft	Overall height of equivalent fluid
	Lf	2.50	ft	Total footing width
	fs	1,293	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,445	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	0.83	ft	
	X	0.58	ft	Location of resultant force
	2Lf/3	1.67	ft	
	F	682	#	Total horizontal force
	Fk	280	#	Net sliding force
	FS	1.540		Net factor against overturning
	Mot	1,270	# - ft	Overturning moment
	Mr	1,958	# - ft	Resisting moment
	Mu	1,602	# - ft	Ultimate moment for concrete design
	W	1,219	#	Total weight on footing
	w1	473	#	Soil weight on heel (120 pcf)
	w2	435	#	Weight of wall
	w3	311	#	Weight of footing
	x1	2.09	ft	
	x2	1.34	ft	
	x3	1.25	ft	

fc = 2500 psi

fy = 40 ksi

d = 6 in

Mu = 1.61 k-ft

As = 0.15 in² #4 @ 16" o.c.

CALC FOR DETAIL FD5



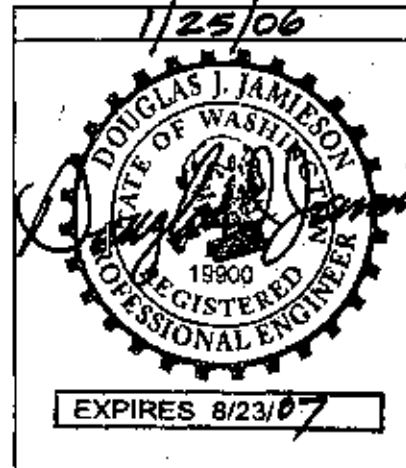
**STRUCTURAL DESIGN
FOR
THE PETRIE RESIDENCE**

A NASH, JONES & ANDERSON PLAN

MERCER ISLAND, WASHINGTON



OK



NOTE: This stamp applies to the members and assemblies described in these calculations only and is only valid if it is a wet stamp.

Jamieson Consulting Job No. 25384

COPY

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FAX 803-3289

DESIGN CRITERIA

PER THE 2003 INTERNATIONAL BUILDING CODE

WIND PER SECTION 1609

Section 1609.6 Simplified method

Design Wind Pressure: $p_s = \lambda * I_w * p_{s30}$

where: λ = Exposure Factor

I_w = Importance Factor

p_{s30} = Base Design Pressure

SITE/PROJECT SPECIFIC VALUES:

Basic Wind Speed = 85 mph (V_{3s})

= 70 mph (V_{fm})

$\lambda = 1.40$ Exposure "C" (<30')

$I_w = 1.00$ $K_{zT} = 1.00$

p_{s30} = see Table 1609.6.2.1 (1)

EARTHQUAKE PER SECTION 1614

Design Per ASCE 7-02

Section 9.5.5 Equivalent Lateral Force Procedure

Base Shear: $V = C_s * W$

where: C_s = Seismic Response Coefficient

W = Effective Seismic Weight

SITE/PROJECT SPECIFIC VALUES:

$S_1 = 0.4916$ per USGS Latitude/Longitude

$S_2 = 1.4460$ per USGS Latitude/Longitude

Site Class D (Default)

Seismic Design Category D

$R = 6.5$ from Table 9.5.2.2

$I = 1.00$

$C_s = 0.1483$ per Section 9.5.5.2.1

STANDARD DESIGN INFORMATION

The information described below is to be used unless otherwise noted on the plans.

WOOD DESIGN per Sections 2301 & 2301.2.1 Allowable Strength Design
when applicable; per 2308 Conventional Light-Frame Construction

* MINIMUM NAILING REQUIREMENTS per Table 2304.9.1

Horizontal Sheathing: OSB w/ 10d BOX nails Roof & Floor 6" o.c. @ supported edges, 12" o.c. field

ROOF: 7/16" OSB w/ 10d BOX nails Allowable Diaphragm Shear = $170 \times .93 \times 61/64 = 150$ plf

FLOOR: 3/4" OSB w/ 10d BOX nails Allowable Diaphragm Shear = $215 \times .93 \times 71/86 = 165$ plf

ANCHOR BOLTS:

5/8" Dia. X 10", A307 or better, w/ 7" min. Embedment $V = 1104$ # / bolt

CONCRETE DESIGN per Chapter 19 & ACI 318-02

concrete $f_c = 2500$ psi (USD design) $f_c = 3000$ psi (for weathering)

rebar $f_y = 40,000$ psi

MISCELLANEOUS HARDWARE

SIMPSON Strong-Tie Connectors or equal

JAMIESON CONSULTING

CONSULTING ENGINEERS

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SHEAR WALL SCHEDULE

(see 2003 IBC table 2306.4.1 & Section 2306.4.1)

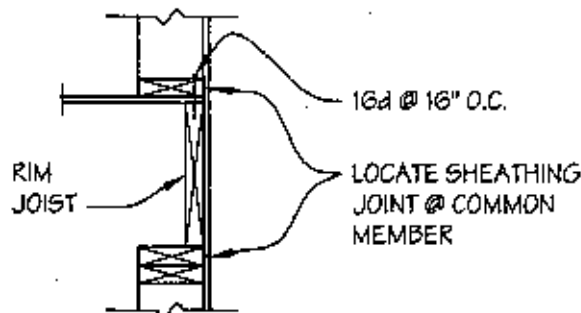
All shear walls to be sheathed from top plate to bottom plate unless noted otherwise.
Block all panel edges. Nail spacing is for all panel edges. Space nails @ 12" o.c.
along intermediate framing members.

P1-6	v = 206 plf	7/16" OSB, w/ 8d (0.113" Ø) nails @ 6" o.c. Anchorage (interior walls only) to SINGLE Joist or blkg below: 16d (box) @ 5" o.c.
P1-4	v = 350 plf	7/16" OSB, w/ 8d (0.113" Ø) nails @ 4" o.c. Anchorage (interior walls only) to SINGLE Joist or blkg below: 16d (box) @ 3" o.c.
P1-3	v = 490 plf	7/16" OSB, w/ 8d (0.113" Ø) nails @ 3" o.c. note: use min 3" nominal studs @ adjoining panel edges Anchorage (interior walls only) to 4x (min) BEAM or blkg below: 16d (box) @ 3" o.c.
P1-2	v = 640 plf	7/16" OSB, w/ 8d (0.113" Ø) nails @ 2" o.c. note: use min 3" nominal studs @ adjoining panel edges Anchorage (interior walls only) to 4x (min) BEAM or blkg below: 16d (box) @ 2" o.c. (stag)
P2-2	v = 1280 plf	7/16" OSB, (2 sides) w/ 8d (0.113" Ø) COMMON nails @ 2" o.c. note: use min 3" nominal studs @ adjoining panel edges and min 3" nominal bottom plate. Anchorage (interior walls only) to DOUG-FIR BEAM below: use 5/8" x 6" lag screws @ 6" o.c.

The shear values above are based upon the use of 8d box nails with a full head, a shank diameter of 0.113", and a minimum penetration of 1.375". From Table 2306.4.1 use 15/32; 8d values with a 0.719 factor w/ 1.4 increase for wind.

P1-2C	v = 840 plf	7/16" OSB, w/ 8d (0.131" Ø) COMMON nails @ 2" o.c. note: use min 3" nominal studs @ adjoining panel edges Anchorage (interior walls only) to DOUG-FIR BEAM below: use SIMPSON SDS 1/4 x 4 1/2 screws @ 4" o.c.
--------------	--------------------	---

The shear values above are based upon the use of 8d common nails with a full head, a shank diameter of 0.131", and a minimum penetration of 1.375". From Table 2306.4.1 use 15/32; 8d values with a 0.9375 factor w/ 1.4 increase for wind.



SHEAR TRANSFER @ EXTERIOR WALL

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SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

SEISMIC: V = 0.1483 W

Wr = 3917 SF @ (15 + 20 + 10) psf = 178,265 #
 Wuf = 3720 SF @ (10 + 15) psf & 443 SF @ (15 + 20 + 10) = 112,935 #
 Wmf = 1981 SF @ (10 + 15) psf = 49,525 #

Dead Loads:

Roof = 15 psf (horz. framing) & 20 psf (tile roof dl) & 10 psf (partition)
 Floor = 10 psf (horz. framing) & 15 psf (partition)

Vertical Distribution

Level	w	h	w x h	%
Roof	178,265	30	5287950	66%
Roof	112,935	20	2258700	28%
Upper Flr	49,525	10	495250	6%
Total	338,725		8041900	

therefore: Vr = 33032 #
 Vr = 14109 #
 Vuf = 3084 #
 Total = 50236 #

Redundancy Factor:	Check max "v" for p = 1
$v = 2 \times V / A^{1/2}$	A = 3917 sf v (max) = 1056 plf

UPPER FLOOR SHEAR WALLS

SIDE/SIDE: V = 33032		L(eff) = 95.0	v = 348 plf	Notes
Wall	L(eff)	V	Section Length	shear
REAR	16	5563	13.75	405
RRM	21	7302	14	522
RMID	10	3477	14	248
MID	10	3477	28.5	122
FMID	22	7650	19.5	392
FRONT	16	5563	11.5	484
TOTAL	95	33,032		

FRONT/BACK: V = 33032		L(eff) = 64.0	v = 516	Notes
Wall	L(eff)	V	Section Length	shear
LEFT	11	5677	64.5	88
LCEN	23	11871	20	594
RCEN	23	11871	17	698
RIGHT	7	3613	33	109
TOTAL	64	33,032		

SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

Redundancy Factor:	Check max "v" for p = 1		
$v = 2 \times V / A^{(1/2)}$	A = 4613 sf	v (max) =	1388 plf

MAIN FLOOR SHEAR WALLS

SIDE/SIDE: V = 14109		L(eff) = 114.0		v = 124		
Wall	L(eff)	V	Section	Length	shear	Notes
DRE	8	990		2	495	
REAR	19	7915		12	660	max S/S
RRRM	15	1857		16.5	113	
RRM	10	8540		16.5	518	
RMID	11	4839		10	484	
MID	6	4220		21.5	196	
FMID	25	10744		22	488	
FRONT	20	8039		20	402	
TOTAL	114	47,142				

FRONT/BACK: V = 14109		L(eff) = 64.0		v = 220		
Wall	L(eff)	V	Section	Length	shear	Notes
LEFT	11	8103		71.5	113	
LCEN	17	15619		31	504	
CEN	16	3527		10.5	336	
RCEN	14	14957		23	650	max F/B
RIGHT	6	4936		23.5	210	
TOTAL	64	47,142				

Redundancy Factor:	Check max "v" for p = 1		
$v = 2 \times V / A^{(1/2)}$	A = 4613 sf	v (max) =	1479 plf

LOWER FLOOR SHEAR WALLS

SIDE/SIDE: V = 3094		L(eff) = 44.0		v = 70		
Wall	L(eff)	V	Section	Length	shear	Notes
DRE	0	990		2	495	
REAR	8	8477		46	184	
RRRM	12	2700		6.25	432	
RRM	14	9524		16.5	577	max S/S
MID	10	9761		48	203	
FMID	0	10744		26	413	
FRONT	0	8039		24	335	
TOTAL	44	50,236				

FRONT/BACK: V = 3094		L(eff) = 52.0		v = 59		
Wall	L(eff)	V	Section	Length	shear	Notes
LEFT	0	8103		98	83	
LCEN	15	11473		18	637	
LCEN	0	5038		10	504	
CEN	15	4420		4	1105	
RCEN	16	15909		12	1326	max S/S
RIGHT	6	3822		20	191	
RIGHT	0	1470		19	77	
TOTAL	52	50,236				

NOTE: Redundancy Factor "p" = 1.0

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

For ALLOWABLE STRESS DESIGN use Wind or (Earthquake / 1.4)

WIND:	side/side	Fr =	118 SF @ 20.16 psf =	2379 #	A	<30	
			131 SF @ 3.22 psf =	422 #	B	<30	
			301 SF @ 14.56 psf =	4383 #	C	<30	
			458 SF @ 3.36 psf =	1539 #	D	<30	
			Total Roof s/s: Fr =	8722 #			
		Fuf =	211 SF @ 20.16 psf =	4254 #	A	<30	
		33 SF @ 3.22 psf =	106 #	B	<30		
		756 SF @ 14.56 psf =	11007 #	C	<30		
		Total Upper Floor s/s: Fuf =	15367 #				
	Fmf =	137 SF @ 20.16 psf =	2762 #	A	<30		
		89 SF @ 14.56 psf =	1296 #	C	<30		
		Total Upper Floor s/s: Fuf =	4058 #	Total s/s =	28147		
front/back	Fr =	157 SF @ 20.16 psf =	3165 #	A	<30		
		59 SF @ 3.22 psf =	190 #	B	<30		
		188 SF @ 14.56 psf =	2737 #	C	<30		
		284 SF @ 3.36 psf =	954 #	D	<30		
		Total Roof f/b: Fr =	7047 #				
	Fuf =	274 SF @ 20.16 psf =	5524 #	A	<30		
		399 SF @ 14.56 psf =	5809 #	C	<30		
		Total Upper Floor f/b: Fuf =	11333 #				
	Fmf =	137 SF @ 20.16 psf =	2762 #	A	<30		
		47 SF @ 14.56 psf =	684 #	C	<30		
		Total Upper Floor f/b: Fuf =	3446 #	Total f/b =	21826		

side/side	Fr =	1008 SF @ 10.00 psf =	10080 # "10 psf min"
	Fuf =	1000 SF @ 10.00 psf =	10000 # "10 psf min"
	Fmf =	226 SF @ 10.00 psf =	2260 # "10 psf min"
		# Total s/s =	22,340
front/back	Fr =	688 SF @ 10.00 psf =	6880 # "10 psf min"
	Fuf =	673 SF @ 10.00 psf =	6730 # "10 psf min"
	Fmf =	184 SF @ 10.00 psf =	1840 # "10 psf min"
		# Total f/b =	15,450

SEISMIC: V = 0.1483 W

	Wr = 3917 SF @ (15 + 20 + 10) psf =	176,265 #
Wuf = 3720 SF @ (10 + 15) psf & 443 SF @ (15 + 20 + 10) =		112,935 #
Wmf = 1981 SF @ (10 + 15) psf =		49,525 #

Dead Loads:

Roof = 15 psf (horz. framing) & 20 psf (tile roof dt) & 10 psf (partition)
 Floor = 10 psf (horz. framing) & 15 psf (partition)

Vertical Distribution

Level	w	h	w x h	%
Roof	176,265	30	5287950	66%
Upper Flr	112,935	20	2258700	28%
Main Flr	49,525	10	495250	6%
Total	338,725		8041900	

therefore: Vr = 23595 #
 Vuf = 10078 #
 Vmf = 2210 #

Total 35883

SUMMARY: Seismic controls entire structure.

COMBINED WIND & SEISMIC ANALYSIS # 26384 FOR THE PETRIE RESIDENCE

UPPER FLOOR SHEAR WALLS

SIDE/SIDE: V =		23595	L(eff) = 95.0	v =		248 plf	Seismic	
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
REAR	16	3974	a	3	289	P1-2	2.10	
			b	3	289	P1-2	2.10	
			c	2.75	289	P1-2C	2.29	
			d	2.5	289	P1-2C	2.24	
			e	2.5	289	P1-2C	2.24	
				13.75				
RRM	21	5216	a	10.5	213	P1-4	1.40	
			b	14	213	P1-4	1.40	
				24.5				
RMID	10	2484	a	14	177	P1-6	1.40	
MID	10	2484	a	6	87	P1-6	1.40	
			b	6	87	P1-6	1.40	
			c	16.5	87	P1-6	1.40	
				28.5				
FMID	22	5464	a	13.5	280	P1-3	1.40	
			b	6	280	P1-3	1.40	
				19.5				
FRONT	16	3974	a	11.5	346	P1-3	1.40	
TOTAL	95	23595						

FRONT/BACK: V =		23595	L(eff) = 64.0	v =		369 plf	Seismic				
Wall	L(eff)	V	Section	Length	shear	Type	Factor				
LEFT	11	4055	13	a	9.5	63	P1-6	1.40			
			b	6.5	63	P1-6	1.40				
			c	10	63	P1-6	1.40				
			d	12	63	P1-6	1.40				
			e	4.5	63	P1-6	1.40				
			f	10	63	P1-6	1.40				
			g	12	63	P1-6	1.40				
							64.5				
							8	202	P1-4	1.40	
RCEN	23	8479	9	b	6	202	P1-4	1.40			
			c	6	202	P1-4	1.40				
			d	14	202	P1-4	1.40				
			e	8	202	P1-4	1.40				
							42				
RCEN	23	8479	14	a	9	499	P1-2C	1.40			
			b	8	499	P1-2C	1.40				
				17							
RIGHT	7	2581	7	a	18.5	78	P1-6	1.40			
			b	14.5	78	P1-6	1.40				
				33							
TOTAL	64	23595									

Handwritten note: "SIDE WALL 12' x 12' a' DON'T BVA - DTM MID C"

COMBINED WIND & SEISMIC ANALYSIS # 26384 FOR THE PETRIE RESIDENCE

MAIN FLOOR SHEAR WALLS

SIDE/SIDE: V =		10078	L(eff) = 114.0	v =		88 plf	Seismic	
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
DRE	8	707	a	1	354	POST	7.00	
			b	1	354	POST	7.00	
				2				
REAR	19	5854	a	3.5	471	P1-2C	1.40	
			b	3.5	471	P1-2C	1.40	
			c	2.5	471	P1-2C	1.40	
			d	2.5	471	P1-2C	1.40	
				12				
RRRM	15	1326	a	11.5	68	P1-6	1.40	
			b	8	68	P1-6	1.40	
				19.5				
RRM	10	6100	a	9.25	370	P1-2	1.40	
			b	7.25	370	P1-2	1.40	
				16.5				
RMD	11	3458	a	10	346	P1-3	1.40	
MID	6	3014	a	10.5	140	P1-6	1.40	
			b	7	140	P1-6	1.40	
			c	4	140	P1-3	1.75	
				21.5				
FMID	25	7674	a	11	349	P1-3	1.40	
			b	11	349	P1-3	1.40	
				22				
FRONT	20	5742	a	20	287	P1-3	1.40	
TOTAL	114	33673						
FRONT/BACK: V =		10078	L(eff) = 64.0	v =		157 plf	Seismic	
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
LEFT	11	5788	a	35	81	P1-6	1.40	
			b	8	81	P1-6	1.40	
			c	5.5	81	P1-6	1.40	
			d	5	81	P1-6	1.40	
			e	18	81	P1-6	1.40	
				71.5				
LGENS	17	11156	a	4	360	P1-2	1.75	
			b	3	360	P1-2C	2.10	
			c	3	360	P1-2C	2.10	
			d	15	360	P1-2	1.40	
			e	6	360	P1-2	1.40	
				31				
CEN	16	2520	a	10.5	240	P1-4	1.40	
RCEN	14	10684	a	23	485	P1-2C	1.40	
RIGHT	6	3525	a	7	150	P1-6	1.40	
			b	16.5	150	P1-6	1.40	
TOTAL	64	33673		23.5				

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

LOWER FLOOR SHEAR WALLS

SIDE/SIDE: V =		2210	L(eff) =	44.0	v =	50 plf		Seismic
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
DRE	0	707	a	1	354	CONC	6.30	
			b	1	354	CONC	6.30	
REAR	8	6055	a	2				
			a	19	132	CONC	1.40	
			b	11	132	CONC	1.40	
RRRM	12	1929	c	16	132	CONC	1.40	
			a	46				
			a	2.75	309	P1-2C	2.29	
RRM	14	6803	b	3.5	309	P1-2	1.80	
			a	6.25				
MID	10	8972	a	5.5	412	P1-2	1.40	
			b	11	412	P1-2	1.40	
FMID	0	7674	a	16.5				
			a	20	145	CONC	1.40	
			b	11	145	CONC	1.40	
FRONT	0	5742	c	17	145	CONC	1.40	
			a	48				
TOTAL	44	35883		26	295	CONC	1.40	
			a	24	239	CONC	1.40	

FRONT/BACK: V =		2210	L(eff) =	52.0	v =	42 plf		Seismic
Wall	L(eff)	V	Section	Length	shear	Type	Factor	
LEFT		5788	a	98	59	CONC	1.40	
LCEN	15	8195	a	18	455	P1-2	1.40	
LCEN	0	3599	a	4	360	CONC	1.58	
			b	3	360	CONC	2.10	
			c	3	360	CONC	2.10	
				10				
CEN	15	3157	a	4	789	CONC	1.58	
RCEN	16	11364	a	8	947	P2-2	1.40	
			b	4	947	P2-2	1.58	
				12				
RIGHT	6	2730	a	20	137	CONC	1.40	
RIGHT	0	1050	a	11	95	P1-6	1.40	
			b	8	95	P1-6	1.40	
TOTAL	62	35883		19				

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

HORIZONTAL DIAPHRAGM SHEARS / LOAD PATH

ROOF DIAPHRAGM

- REAR: v @ 3' walls = 6' x 289 plf / 18' = 96 plf, OK
 v @ 2.75' wall = 2.75' x 289 plf / 11' = 72 plf, OK
 v @ 2.5' walls = 2.5' x 289 plf / 6' = 120 plf, OK
- RRM: V @ 10.5' wall = 10.5' x 213 plf = 2237 #
 SHEATH Truss L = 2237 # / 300 plf = 8', SEE Detail
 PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
 V @ 14' wall = 14' x 213 plf = 2982 #
 ADD Blocking panels over wall, N = 2982 # / (300 plf x 2') = (5) Panels, SEE Detail
 PROVIDE 10d @ 4" O.C. Roof sheathing blocking panel top chord
- RMID: V @ 14' wall = 14' x 177 plf = 2478 #
 SHEATH Truss L = 2478 # / 350 plf = 8', v = 2478 # / 9' / 2 = 138 plf, SEE Detail
 PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
- MID: V @ 6' wall = 6' x 79 plf = 474 #
 SHEATH Truss L = 474 # / 300 plf = 4', SEE Detail
- FMID: V @ 13.5' wall = 13.5' x 280 plf = 3780 #
 SHEATH Truss L = 3780 # / 300 plf = 13', SEE Detail
 PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
 V @ 6' wall = 6' x 280 plf = 1680 #, T = 1680 # - 8' x 150 plf = 480 #
 LOCATE "Rafter" In line with wall, ADD TS22 Wall top plate to "Rafter", SEE Detail.
 PROVIDE 10d @ 4" O.C. Roof sheathing to "Rafter"
- FRONT: v = 3974 # / 19' = 209 plf, BLOCK Roof sheathing panel edges to 5',
 v @ 5' = 209 plf - (209 plf / 16') x 5' = 144 plf, OK
- LCEN: v @ 8' & 6' walls = 20' x 202 plf / 44' = 92 plf, ADD TS22 Beam to wall top plate.
 V @ 14' wall = 14' x 202 plf = 2828 #
 SHEATH Truss L = 2828 # / 300 plf = 10', SEE Detail
 PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
 V @ 8' wall = 8' x 202 plf = 1616 #
 SHEATH Truss L = 1616 # / 300 plf = 6', SEE Detail
 PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
- RCEN: v @ 9' wall = 9' x 499 plf / 16' = 280 plf,
 V @ 9' wall = 9' x 499 plf = 4491 #
 SHEATH Truss L = 9', V = 8' x 300 plf = 2400 # SEE Detail
 PROVIDE 10d @ 4" O.C. Roof sheathing to truss top chord.
 ADD Blocking panels over wall, V = (4) Panels x 300 plf x 2' = 2400 #, SEE Detail
 PROVIDE 10d @ 4" O.C. Roof sheathing blocking panel top chord
 V_{TOTAL} = V_{SHEATHING} + V_{PANEL} = 4800 #, OK
 v @ 8' wall = 499 plf, V = 8' x 499 plf = 3992 #,
 PROVIDE P1-2 Blocking panels, N = 3992 # / 500 plf x 2' = (4) panels
 PROVIDE (2) A35 Blocking panel to wall top plate
 BLOCK Roof sheathing panel edges to 8',
 v @ 8' = [(499 plf x 8') - (499 plf / 23') x 10'] / (8' + 2 x 10') = 135 plf, OK

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

UPPER FLOOR DIAPHRAGM

Note: Sheathing is continuous at all exterior walls.

- DRE: MOMENT Resisting posts, SEE Detail
- REAR: v @ 3' walls = 170 plf,
ADD (4) A35 Rim to strong wall top plate.
v @ 2.5' walls = 110 plf,
ADD (4) A35 Rim to strong wall top plate.
- RRRM: v @ 11.5' wall = 68 plf, LOCATE Joist over wall,
EXTEND Shear wall sheathing and nailing to joist, SEE Detail
v @ 8' wall = 68 plf, LOCATE Joist over wall,
EXTEND Shear wall sheathing and nailing to joist, SEE Detail
- RRM: v @ 9.25' wall = 9.25' wall x 370 plf / 18' / 2 = 95 plf,
LOCATE Joist over wall, EXTEND Shear wall sheathing and nailing to joist, SEE Detail
V = 7.25' x 370 plf = 2683 #, v @ 7.25' wall = 7.25' wall x 370 plf / 26' = 103 plf,
LOCATE 3 1/2" Joist over wall, L = 7',
EXTEND Shear wall sheathing and nailing to Joist, SEE Detail
- RMID: T = 2683 # - (5' x 165 plf) = 1857 #, ADD (2) CS16 Joist to beam,
v = 3456 # / 21' = 165 plf,
LOCATE Joist over wall, L = 21',
EXTEND Shear wall sheathing and nailing to joist, SEE Detail
PROVIDE (2) CS16 @ all breaks in 21' long joist.
- MID: v @ 10.5' wall = 140 plf,
LOCATE Joist over wall, EXTEND Shear wall sheathing and nailing to joist, SEE Detail
v @ 7' wall = 140 plf,
LOCATE Joist over wall, EXTEND Shear wall sheathing and nailing to joist, SEE Detail
v @ 4' wall = 79 plf, NO ADDITIONAL LOAD ADDED AT THIS LEVEL.
HOWEVER, ENTIRE LOAD FROM ABOVE TRANSFERS INTO THIS PANEL.
HENCE P1-3 NAILING
- FMID: v @ 11' walls = 7674 # / (26' + 21') = 163 plf,
LOCATE Joist over wall, EXTEND Shear wall sheathing and nailing to joist, SEE Detail
PROVIDE 10d @ 4" O.C. floor sheathing to joist.
PROVIDE A35 @ 32" O.C. Rim to wall top plate.
- FRONT: v = 5742 # / 24' = 239 plf, BLOCK Lower roof sheathing panel edges,
PROVIDE 10d @ 4" O.C. roof sheathing to blocking.
PROVIDE Ledger W/ (3) SDS1/4 x 3 1/2 Screws @ 16" O.C. Ledger to Studs.
PROVIDE A35 @ 32" O.C. Blocking to wall top plate.
- * LCEN: v @ 4' wall = 4' x 360 plf / 14' = 103 plf, OK. *TOP PLATE NO DISCOUNT*
v @ 3' walls = 6' x 360 plf / 25' = 86 plf, OK
v @ 15' wall = 15' x 360 plf / (31' + 19') = 108 plf,
PROVIDE Blocking over wall, ADD A35 @ 32" O.C. Blocking to wall top plate/header/beam.
ADD TS22 Beam to wall top plate
v @ 6' wall = 6' x 360 plf / 24' = 90 plf,
PROVIDE Blocking over wall, ADD A35 @ 32" O.C. Blocking to wall top plate
ADD TS22 Beam to wall top plate
- CEN: v @ 10.5' wall = 10.5' x 240 plf / 24' = 105 plf,
PROVIDE Blocking over wall, ADD A35 @ 32" O.C. Blocking to wall top plate
ADD TS22 Beam to wall top plate
- RCEN: v @ 23' wall = 465 plf x 23' / 27' = 396 plf,
BLOCK Floor sheathing panel edges to shear walls above W/ 3" Nominal blocking
PROVIDE 10d @ 2.5" O.C. floor sheathing to blocking.
ADD A35 16" O.C. Blocking to wall top plate
PROVIDE 10d @ 2.5" O.C. floor sheathing to blocking over wall

COMBINED WIND & SEISMIC ANALYSIS # 25384 FOR THE PETRIE RESIDENCE

MAIN FLOOR DIAPHRAGM

Note: Sheathing is continuous at all exterior walls.

- RRRM: $v = 1929 \# / 11' = 175 \text{ plf}$, (Shear wall above is 1' off line, no diaphragm blocking req'd)
 ADD A35 @ 32" O.C. Blocking to wall top plate.
 PROVIDE 10d @ 4" O.C. floor sheathing to blocking over wall
- RRM: $v @ 5.5' \text{ wall} = 5.5' \times 412 \text{ plf} / 16.5' = 137 \text{ plf}$, OK
 LOCATE Joist over wall, $L = 16.5'$
 EXTEND Shear wall sheathing and nailing to joist, SEE Detail
 PROVIDE (2) CS16 @ all breaks in 16.5' joist.
 $v @ 11' \text{ wall} = 11' \times 412 \text{ plf} / 16' = 283 \text{ plf}$,
 LOCATE Rim joist over wall, $L = 16'$
 EXTEND Shear wall sheathing and nailing to joist, SEE Detail
- FMID: ADD A35 @ 32" O.C. rim joist to sill plate
- LCEN: $v @ 18' \text{ wall} = 455 \text{ plf}$, LOCATE 3 1/2" Joist over wall,
 EXTEND Shear wall sheathing and nailing to Joist, SEE Detail
- CEN: **PROVIDE 3" Nominal Sill plate this wall**
 PROVIDE 3 1/2" Rim Over wall
 ADD MST60 Beam to 3 1/2" Rim, SEE Detail
- RCEN: $v = 11364 \# / 27' = 421 \text{ plf}$,
 (Note Shear wall above anchors directly to 3 1/2 PSL Joist Below.
 LOCATE 3 1/2" PSL Joist Over walls, $L = 27'$, ADD MST60 @ all breaks in beam.
 EXTEND Shear wall sheathing and nailing to both sides of Joist, SEE Detail
 ADD LPT4 @ 6" O.C. Joist to sill plate @ 4' wall.

ANCHOR BOLTS

USE 5/8" Ø Anchor Bolts @ 5' - 0" o.c. Unless Notes Otherwise (U.N.O.)

$v (/l) = 830 \times 1.33 = 1104 \# / 5 = 221 \text{ plf}$

NOTE: If $v (/l) > 350 \text{ plf}$ Then $V(\text{bolt}) = 1104 / 2 = 552 \#$

- REAR: $v @ 2.66' \text{ Strong walls} = 5.33' \times 607 \text{ plf} / 19' = 170 \text{ plf}$, OK
3" SILL PLATE REQ'D THIS WALL
- RRRM: $V @ 2.75' \text{ wall} = 2.75' \times 309 \text{ plf} = 850 \#$, OK
 $V @ 3.5' \text{ wall} = 3.5' \times 309 \text{ plf} = 1082 \#$, OK
- RRM: $V @ 5.5' \text{ wall} = 5.5' \times 412 \text{ plf} = 2266 \#$, (5) 5/8" A.B. REQUIRED
 $V @ 11' \text{ wall} = 11' \times 412 \text{ plf} = 4532 \#$, (9) 5/8" A.B. REQUIRED
- FMID: $V @ 11' \text{ wall} = 11' \times 349 \text{ plf} = 3839 \#$, (4) 5/8" A.B. REQUIRED
- FRONT: $v = 5742 \#$, (6) 5/8" A.B. OK
- LCEN: $V @ 4' \text{ wall} = 4' \times 360 \text{ plf} = 1440 \#$, (3) 5/8" A.B. REQUIRED
 $V @ 3' \text{ wall} = 3' \times 360 \text{ plf} = 1080 \#$, (2) 5/8" A.B. OK
 $V @ 18' \text{ wall} = 8195 \#$, (15) 5/8" A.B. REQUIRED
- CEN: $V = 3157 \#$, (3) 5/8" A.B. REQUIRED
3" SILL PLATE REQ'D THIS WALL
- RCEN: $V @ 8' \text{ wall} = 8' \times 947 \text{ plf} = 7576 \#$, (7) 5/8" A.B. REQUIRED
3" SILL PLATE REQ'D THIS WALL
 $V @ 4' \text{ wall} = 4' \times 947 \text{ plf} = 3788 \#$, (4) 5/8" A.B. REQUIRED
3" SILL PLATE REQ'D THIS WALL

OVERTURNING - HOLDDOWNS FOR THE PETRIE RESIDENCE

Note: 0.67 DL +/- W >>> 0.9 DL +/- E / 1.4

WALL	L	V	H	Mot	wdl	Mr	Mnet	T	END CONDITIONS*	
									L / FR	R / BK
UPPER FLOOR WALLS										
SIDE/SIDE										
REAR	3	289	9.0	7803	90	271	7532	2511	5(2)	5(2)
	3	289	9.0	7803	90	271	7532	2511	5(2)	5(2)
	2.75	289	9.0	7153	90	228	6925	2518	5(2)	5(2)
	2.5	289	8.0	5780	80	168	5613	2245	5(2)	5(2)
	2.5	289	8.0	5780	80	168	5613	2245	5(2)	5(2)
RRM	10.5	213	9.0	20117	90	3324	16793	1599	5(2)	5(2)
	14	213	9.0	26823	80	5909	20914	1494	5(2)	5(2)
RMID	14	177	9.0	22353	90	5909	16443	1175	2 & 4(4)	5
MID	6	87	9.0	4706	90	1085	3620	603	2 & 4(2)	5
	6	87	9.0	4706	90	1085	3620	603	2 & 4(2)	5
	16.5	87	9.0	12941	90	8208	4733	287	1	1
F MID	13.5	280	9.0	34045	90	5495	28550	2115	5(2)	5(2)
	6	280	9.0	15131	90	1085	14046	2341	5(2)	5(2)
FRONT	11.5	346	9.0	35764	90	3987	31777	2763	5(2)	5(2)
FRONT / BACK										
LEFT	9.5	63	9.0	5376	90	2721	2655	279	1	3
	6.5	63	9.0	3678	90	1274	2404	370	3	3
	10	63	9.0	5659	90	3015	2644	264	3	3
	12	63	9.0	6790	90	4342	2449	204	3	3
	4.5	63	9.0	2546	90	611	1936	430	3	3
	10	63	9.0	5659	90	3015	2644	264	3	3
	12	63	9.0	6790	90	4342	2449	204	3	3
LCEN	8	202	9.0	14536	90	1930	12606	1576	5(2)	5(2)
	6	202	9.0	10902	90	1085	9817	1636	2 & 4(4)	5(2)
	6	202	9.0	10902	90	1085	9817	1636	5(2)	5(2)
	14	202	9.0	25438	90	5909	19528	1395	5	2 & 4(4)
	8	202	9.0	14536	90	1930	12606	1576	5(2)	5(2)
RCEN	9	499	9.0	40401	90	2442	37959	4218	7	7
	8	499	9.0	35912	90	1930	33983	4248	7	7
RIGHT	18.5	78	9.0	13021	90	10319	2702	146	1	3
	14.5	78	9.0	10205	90	8339	3866	267	3	3
MAIN FLOOR WALLS										
SIDE/SIDE										
REAR	3.5	471	10.0	16489	100	410	23611	6746	9	9
	3.5	471	10.0	16489	100	410	23611	6746	9	9
	2.5	471	8.0	9423	80	168	14868	5947	9	9
	2.5	471	8.0	9423	80	168	14868	5947	9	9
RRRM	11.5	68	10.0	7820	100	4430	3390	295	5	2 & 4(1)
	8	68	10.0	5440	100	2144	3296	412	5	2 & 4(1)
RRM	9.25	370	10.0	34195	100	2866	31329	3387	7	7
	7.25	370	10.0	26802	100	1761	25041	3454	7	7
RMID	10	346	10.0	34561	100	3350	31211	3121	7	7
MID	10.5	140	10.0	14720	100	3693	11026	1050	5	5
	7	140	10.0	9813	100	1642	8172	1167	6	6
	4	140	10.0	5608	100	536	5072	1268	6	6
F MID	11	349	10.0	38371	100	4054	34317	3120	6	6
	11	349	10.0	38371	100	4054	34317	3120	6	1, 2, & 4(4)
FRONT	20	287	10.0	57419	100	13400	44019	2201	6	1

OVERTURNING - HOLDDOWNS FOR THE PETRIE RESIDENCE

Note: 0.67 DL +/- W >>> 0.9 DL +/- E / 1.4

WALL	L	V	H	Mot	wdl	Mr	Mnet	T	END CONDITIONS*	
									L / FR	R / BK
FRONT / BACK										
LEFT	35	81	10.0	28330	100	41038	-12707	-363	OK	OK
	8	81	10.0	6476	100	2144	4332	541	2 & 4(1)	2 & 4(1)
	5.5	81	10.0	4452	100	1013	3439	625	6	6
	5	81	10.0	4047	100	838	3210	642	3, 2 & 4(4)	3, 2 & 4(4)
	18	81	10.0	14570	100	10854	3716	206	3	3
LCEN	4	360	10.0	14395	100	536	13859	3465	6	6
	3	360	10.0	10796	100	302	10495	3498	6	6
	3	360	10.0	10796	100	302	10495	3498	6	6
	15	360	10.0	53982	100	7538	46445	3096	7	7
	6	360	10.0	21593	100	1206	20387	3398	7	7
CEN	10.5	240	10.0	25195	100	3693	21502	2048	5(2)	5(2)
RCEN	23	465	10.0	106839	100	17722	89117	3875	7	1
RIGHT	7	150	10.0	10501	100	1642	8860	1266	6	5
	16.5	150	10.0	24753	100	9120	15633	947	5	5
LOWER FLOOR WALLS										
SIDE/SIDE										
RRRM	2.75	309	9.0	7638	90	228	7410	2989	7	7
	3.5	309	9.0	9721	90	369	9352	3084	7	7
RRM	5.5	412	9.0	20408	90	912	19496	3545	7	7
	11	412	9.0	40817	90	3648	37169	3379	7	7
FRONT / BACK										
LCEN	18	455	9.0	73754	90	9769	110430	6135	8	8
RCEN	8	947	9.0	68183	90	1930	68253	8282	9	9
	4	947	9.0	34091	90	482	33609	8402	9	9
RIGHT	11	95	9.0	9451	90	3648	5803	528	2 & 4(2)	2 & 4(2)
	8	95	9.0	6874	90	1930	4944	618	6	6
*END CONDITIONS										
	Pdl	Dead load reaction at end of wall								
	1	Perpendicular Exterior Wall T(max) = V(corner) = H x v(min)								
	2	Perpendicular Wall (min) 5 - 16d nails = 5 x 109 = 545 #								
	3	Over / Under openings T(max) = h(net) x 198 # / ft								
	4	A 35 Framing Anchors = 450 # each								
	5	CS 16 Strap = 1465 #								
	6	STHD14 or STHD14RJ @ 4430 #								
	7	HTT 22 @ 4650 #								
	8	HDQ8 @ 7210 #								
	9	HHDQ11-SDS2.5 @ 9615 #, W/ 6 x 6 HF STUD								

ROOF DIAPHRAGM LATERAL NOTES

- ① SHEATH TRUSS L = 13', PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ② SHEATH TRUSS L = 10', PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ③ SHEATH TRUSS L = 8', PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ④ SHEATH TRUSS L = 6', PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ⑤ SHEATH TRUSS L = 4', PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TRUSS TOP CHORD, SEE DETAIL B
- ⑥ ADD (5) BLOCKING PANELS OVER WALL, PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TOP OF BLOCKING PANEL, SEE DETAIL C
- ⑦ ADD (4) P1-2 BLOCKING PANELS OVER WALL, PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TOP OF BLOCKING PANEL, SEE DETAIL D
- ⑧ LOCATE RAFTER IN LINE WITH WALL, PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO RAFTER, SEE DETAIL E
- ⑨ ADD TS22 RAFTER TO WALL TOP PLATE
- ⑩ ADD TS22 GIRDER TRUSS TO WALL TOP PLATE
- ⑪ ADD TS22 BEAM TO WALL TOP PLATE
- ⑫ BLOCK ROOF SHEATHING PANEL EDGES THIS AREA WITH 3" NOMINAL
BLOCKING, PROVIDE 10d @ 2.5" O.C. ROOF SHEATHING TO BLOCKING.
- ⑬ BLOCK ROOF SHEATHING PANEL EDGES THIS AREA
BLOCKING, PROVIDE 10d @ 4" O.C. ROOF SHEATHING TO BLOCKING.
- ⑭ PROVIDE BLOCKING OVER WALL, PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO BLOCKING
- ⑮ ADD (4) BLOCKING PANELS OVER WALL, PROVIDE 10d @ 4" O.C.
ROOF SHEATHING TO TOP OF BLOCKING PANEL, SEE DETAIL C

UPPER FLOOR SHEAR WALLS, LATERAL NOTES

- ① CS16 TO JOIST BELOW
- ② DOUBLE CS16 TO WALL BELOW
- ③ DOUBLE CS16 TO HEADER BELOW
- ④ DOUBLE CS16 TO DOUBLE JOIST BELOW
- ⑤ DOUBLE CS16 TO BEAM BELOW
- ⑥ HOLD BACK STUD TO ALLOW FOR CONTINUOUS SHEAR WALL SHEATHING AND NAILING.
- ⑦ HTT22 TO 3 1/2 X 14 PSL "JOIST" BELOW, SEE DETAIL F
- ⑧ ADD (2) A35 TO CORNER, SEE DETAIL G
- ⑨ ADD (4) A35 TO CORNER, SEE DETAIL G
- ⑩ CS16 TO BLOCKING BELOW, SEE DETAIL H
- ⑪ ADD CS16 ABOVE AND BELOW OPENING, SEE DETAIL O

UPPER FLOOR DIAPHRAGM LATERAL NOTES

- ① ADD (4) A35 RIM TO WALL TOP PLATE
- ② EXTEND HEADER OVER SHEAR WALLS, L = 19'
- ③ EXTEND HEADER OVER SHEAR WALLS, L = 12'
- ④ EXTEND HEADER OVER SHEAR WALLS, L = 22'
- ⑤ LOCATE DOUBLE JOIST BELOW SHEAR WALL ABOVE.
- ⑥ CCOQ CAP TO 6 X 4 X 1/4 TUBE STEEL COLUMN, SEE DETAIL J
- ⑦ LOCATE LSL JOIST OVER WALL, EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ⑧ LOCATE 3 1/2" LSL "JOIST" OVER WALL, EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I_{SM}
- ⑨ ADD (2) CS16 BEAM TO 3 1/2" LSL "JOIST"
- ⑩ LOCATE 3 1/2 X 14 PSL "JOIST" FOR HTT22 ABOVE, SEE DETAIL F
- ⑪ LOCATE LSL JOIST OVER WALL, L = 21', PROVIDE (2) CS16 @ ALL BREAKS IN JOIST
EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ⑫ PROVIDE CONTINUOUS BEAM OVER BOTH POSTS.
- ⑬ LOCATE LSL JOIST BELOW SHEAR WALL ABOVE & OVER SHEAR WALL BELOW, L = 35'. PROVIDE (2) CS16 @ ALL BREAKS IN JOIST,
EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ⑭ LOCATE LSL JOIST BELOW SHEAR WALL ABOVE & OVER SHEAR
- ⑮ LOCATE LSL JOIST OVER WALL, L = 26'. PROVIDE (2) CS16 @ ALL BREAKS IN JOIST
PROVIDE 10d @ 4" O.C. FLOOR SHEATHING TO JOIST,
ADD A35 @ 32" O.C. JOIST TO WALL TOP PLATE.
- ⑯ BLOCK LOWER ROOF SHEATHING PANEL EDGES,
PROVIDE 10d @ 4" O.C. ROOF SHEATHING TO BLOCKING,
- ⑰ PROVIDE 2 X 12 LEDGER W/ (3) SDS1/4 X 3 1/2 SCREWS @ 16" O.C. LEDGER TO STUDS.
- ⑱ PROVIDE A35 @ 32" O.C. BLOCKING TO WALL TOP PLATE.
- ⑲ ADD TS22 BEAM TO WALL TOP PLATE
- ⑳ BLOCK FLOOR SHEATHING PANEL EDGES W/ 3" NOMINAL BLOCKING
PROVIDE 10d @ 2.5" O.C. FLOOR SHEATHING TO BLOCKING.
- ㉑ PROVIDE 10d @ 2.5" O.C. FLOOR SHEATHING TO BLOCKING OVER WALL.
ADD A35 @ 16" O.C. BLOCKING TO WALL TOP PLATE

MAIN FLOOR SHEAR WALLS, LATERAL NOTES

- ① 4 X 6 STEEL TUBE, SEE DETAIL J
- ② NOT USED.
- ③ NOT USED.
- ④ HOLD BACK STUD TO ALLOW FOR CONTINUOUS SHEAR WALL SHEATHING AND NAILING
- ⑤ HTT 22, TO BEAM BELOW, SEE DETAIL F
- ⑥ HTT 22, TO WALL, SEE DETAIL M
- ⑦ HHQ11-SDS2.5, W/ 6 x 6 HF, RIM CONDITION STUD, SEE DETAIL K
- ⑧ HHQ11-SDS2.5, W/ 6 x 6 HF, RIM CONDITION STUD, SEE DETAIL L
- ⑨ CS16 TO JOIST BELOW
- ⑩ CS16 TO WALL BELOW
- ⑪ DOUBLE CS16 TO BEAM BELOW
- ⑫ ADD (1) A35 TO CORNER, SEE DETAIL G
- ⑬ ADD (4) A35 TO CORNER, SEE DETAIL G
- ⑭ ADD CS16 ABOVE AND BELOW OPENING, SEE DETAIL O
- ⑮ ADD CS16 ABOVE OPENING, SEE DETAIL O
- ⑯ CS16 TO BLOCKING BELOW, SEE DETAIL H

MAIN FLOOR DIAPHRAGM LATERAL NOTES

- ① ADD A35 @ 32" O.C. BLOCKING TO WALL TOP PLATE
- ② PROVIDE 10d @ 4" O.C. FLOOR SHEATHING TO BLOCKING OVER WALL.
- ③ LOCATE 3 1/2" LSL JOIST OVER WALL, EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ④ PROVIDE (2) CS16 @ ALL BREAKS IN JOIST
- ⑤ LOCATE LSL "RIM" JOIST, L = 16', OVER WALL, EXTEND SHEAR WALL SHEATHING AND NAILING TO JOIST, SEE DETAIL I
- ⑥ ADD A35 @ 32" O.C. RIM JOIST TO SILL PLATE.
- ⑦ LOCATE 3 1/2" LSL "JOIST" OVER WALL, EXTEND SHEAR WALL SHEATHING AND NAILING TO "JOIST" SEE DETAIL I_{SM}
- ⑧ PROVIDE 3 1/2" LSL RIM OVER WALL,
NOTE 3" NOMINAL SILL PLATE REQUIRED BELOW RIM
- ⑨ ADD MST60 RIM TO BEAM
- ⑩ LOCATE 5 1/4" PSL JOIST OVER WALLS, L = 27',
ADD MST60 @ ALL BREAKS IN JOIST
- ⑪ EXTEND SHEAR WALL SHEATHING AND NAILING TO
3 1/2" LSL JOIST BOTH SIDES, SEE DETAIL O
- ⑫ LOCATE 3 1/2" LSL JOIST BELOW SHEAR WALL ABOVE, L = 23' - 6" +/-
- ⑬ LOCATE LSL JOIST BELOW SHEAR WALL ABOVE, L = 23' - 6" +/-
- ⑭ PROVIDE 5 1/4" PSL RIM, L = 18', W/ LPT4 @ 16" O.C. BEAM TO SILL PLATE

LOWER FLOOR SHEAR WALLS, LATERAL NOTES

- ① HOLD BACK STUD TO ALLOW FOR CONTINUOUS SHEAR WALL SHEATHING AND NAILING
- ② HTT22, SILL CONDITION, SEE DETAIL P
- ③ HDQ8, SILL CONDITION, SEE DETAIL Q
- ④ HDDQ11-SDS2.5, W/ 6 x 6 HF, SILL CONDITION STUD, SEE DETAIL S

FOUNDATION PLAN, LATERAL NOTES

- ① 1" ALL THREAD FOR HDDQ11-SDS2.5, W/ 6 x 6 HF, RIM CONDITION STUD, SEE DETAIL K
- ② 1" ALL THREAD FOR HDDQ11-SDS2.5, W/ 6 x 6 HF, RIM CONDITION STUD, SEE DETAIL L
- ③ 5/8" ALL THREAD FOR HTT22, SILL CONDITION, SEE DETAIL P
- ④ 7/8" ALL THREAD FOR HDQ8, SILL CONDITION, SEE DETAIL Q
- ⑤ 1" ALL THREAD FOR H7/8" ALL THREAD FOR HDQ11-SDS2.5, W/ 6 x 6 HF, SILL CONDITION STUD, SEE DETAIL R
- ⑥ **3" NOMINAL SILL PLATE REQUIRED THIS WALL**
- ⑦ PROVIDE CONTINUOUS STRIP FOOTING BELOW SHEAR WALL.

5/8" A.B W/ 2" X 2" X 3/16" WASHERS @ 5'-0" O.C. REQUIRED U.N.O.

- Ⓐ (15) 5/8" A.B. REQUIRED
- Ⓑ (9) 5/8" A.B. REQUIRED
- Ⓒ (7) 5/8" A.B. REQUIRED
- Ⓓ (5) 5/8" A.B. REQUIRED
- Ⓔ (4) 5/8" A.B. REQUIRED
- Ⓕ (3) 5/8" A.B. REQUIRED

PILE FOUNDATION DESIGN
PER I.B.C. SECTION 1805.7 (NON - CONSTRAINED)

Equation: $d = 0.5A \{1 + [1 + (4.36H/A)]^{1/2}\}$

P = 354 # **A =** 0.92 psf

h = 10 ft **b =** 3 ft

So, d = 4.09 ft SEE ATTACHED DETAIL "J"

USE 4 X 4 X 1/2 TUBE STEEL COLUMN.

27

Joint Coordinates

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Joint Temperature (F)
N1	0	0	0
N2	0	0	0

Member Data

Member Label	I Joint	J Joint	Rotate (degrees)	Shape / Section Set	Material Sel	Phys Memb	End Releases I-End J-End	End Offsets I-End J-End	Inactive Code	Length (ft)
M1	N1	N1		SEC1	STL	Y	AVM AVM			0
M2	N1	N2		SEC1	STL	Y				10

Sections

Section Label	Database Shape	Material Label	Area (in ²)	SA (0,180)	SA (90,270)	I (90,270) (in ⁴)	I (0,180) (in ⁴)	T/C Only
SEC1	TU4X4X8	STL	6.36	1.2	1.2	12.3	12.3	
SEC2		STL		1.2	1.2	1	1	
SEC3		STL	1	1.2	1.2	1	1	

Boundary Conditions

Joint Label	X Translation (k/in)	Y Translation (k/in)	Rotation (k-ft/rad)
N1	Reaction	Reaction	Reaction

Basic Load Case Data

BLC No.	Basic Load Case Description	Category Code	Category Description	Gravity X Y	Load Type Totals Joint Point Direct Dist.
1		None			1

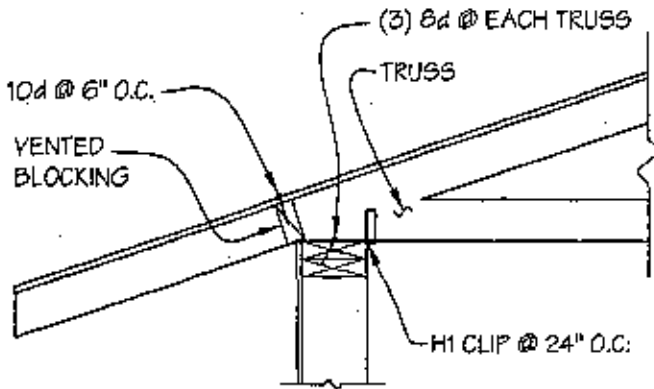
Member Deflections, By Combination

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	(n) L/y Ratio
1	M2	1	0	0	NC
		2	0	-049	2428.611
		3	0	-179	669.61
		4	0	-363	330.945
		5	0	-573	209.504

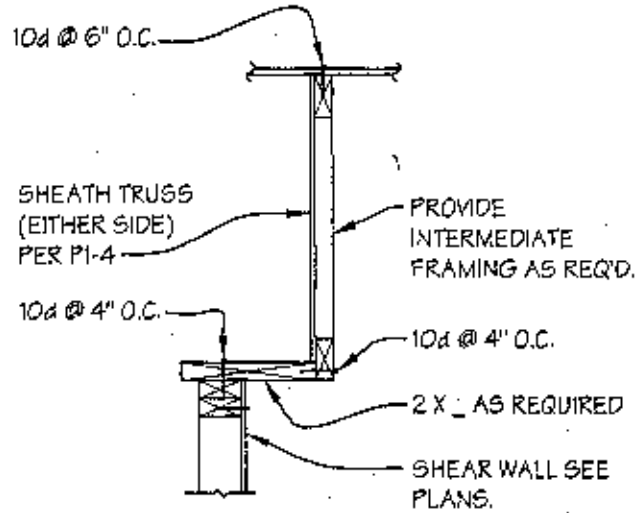
Member AISC ASD 9th Code Checks, By Combination

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	ASD Eqn.	Message
1	M1	- Steel code					- Steel code check not calculate
	M2	284	0	.007	0	H1.2	

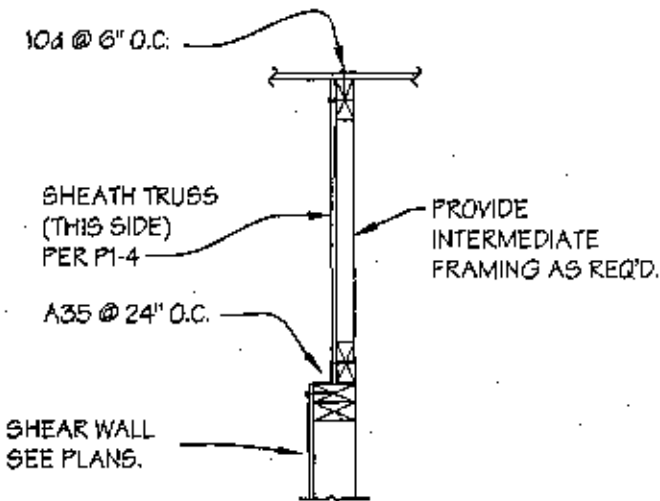
OK!



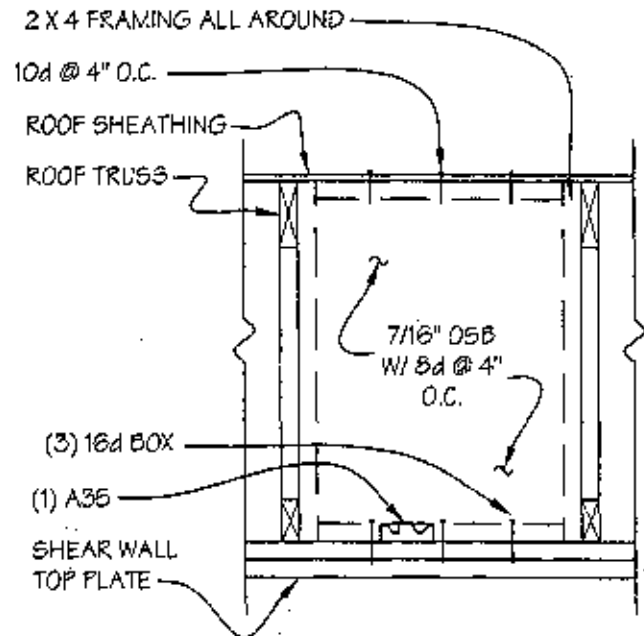
DETAIL A



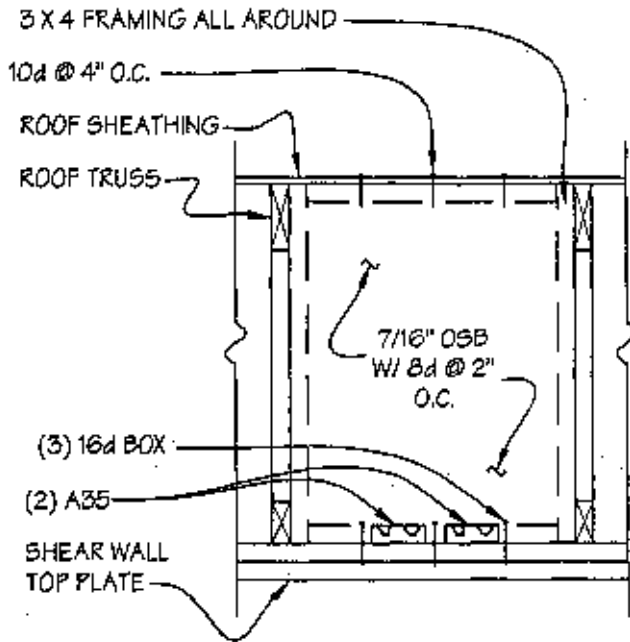
DETAIL B



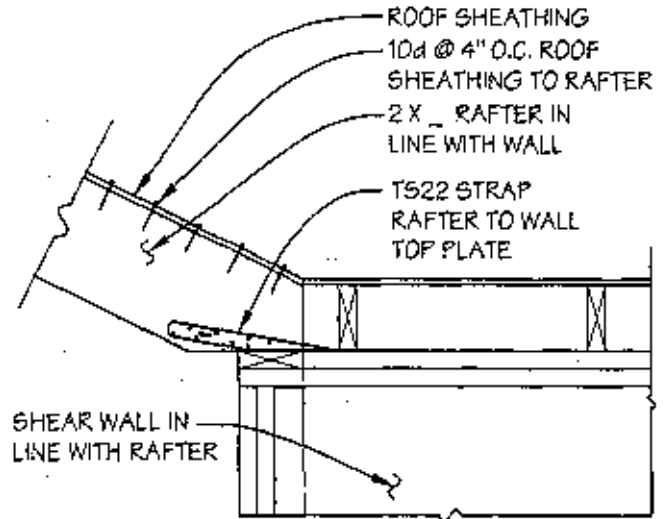
DETAIL B SIM



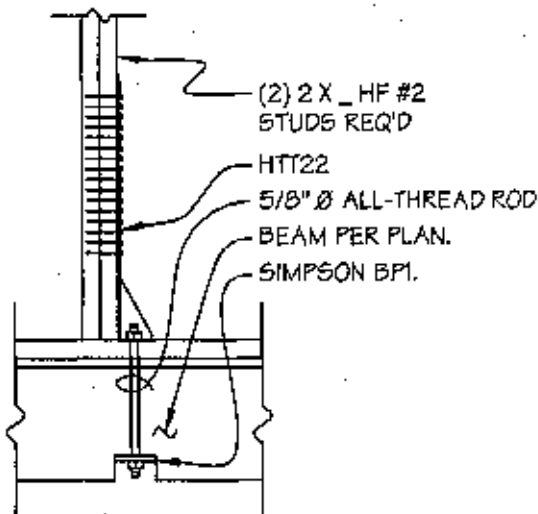
DETAIL C



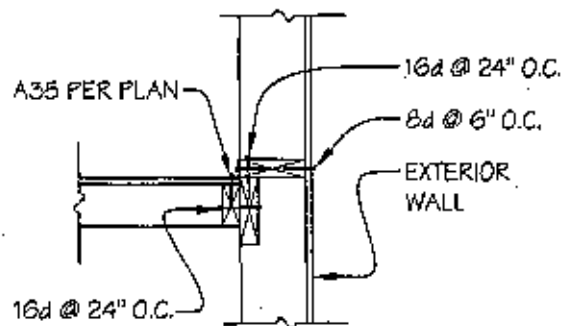
DETAIL D



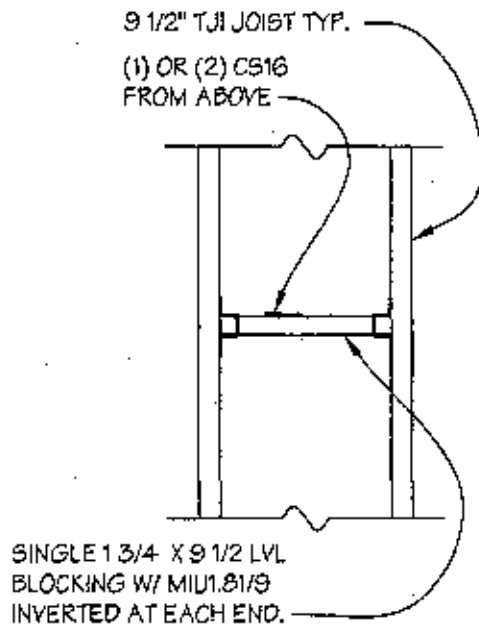
DETAIL E



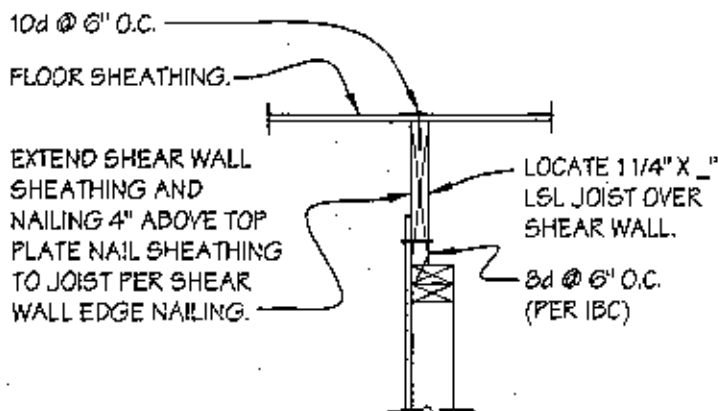
DETAIL F



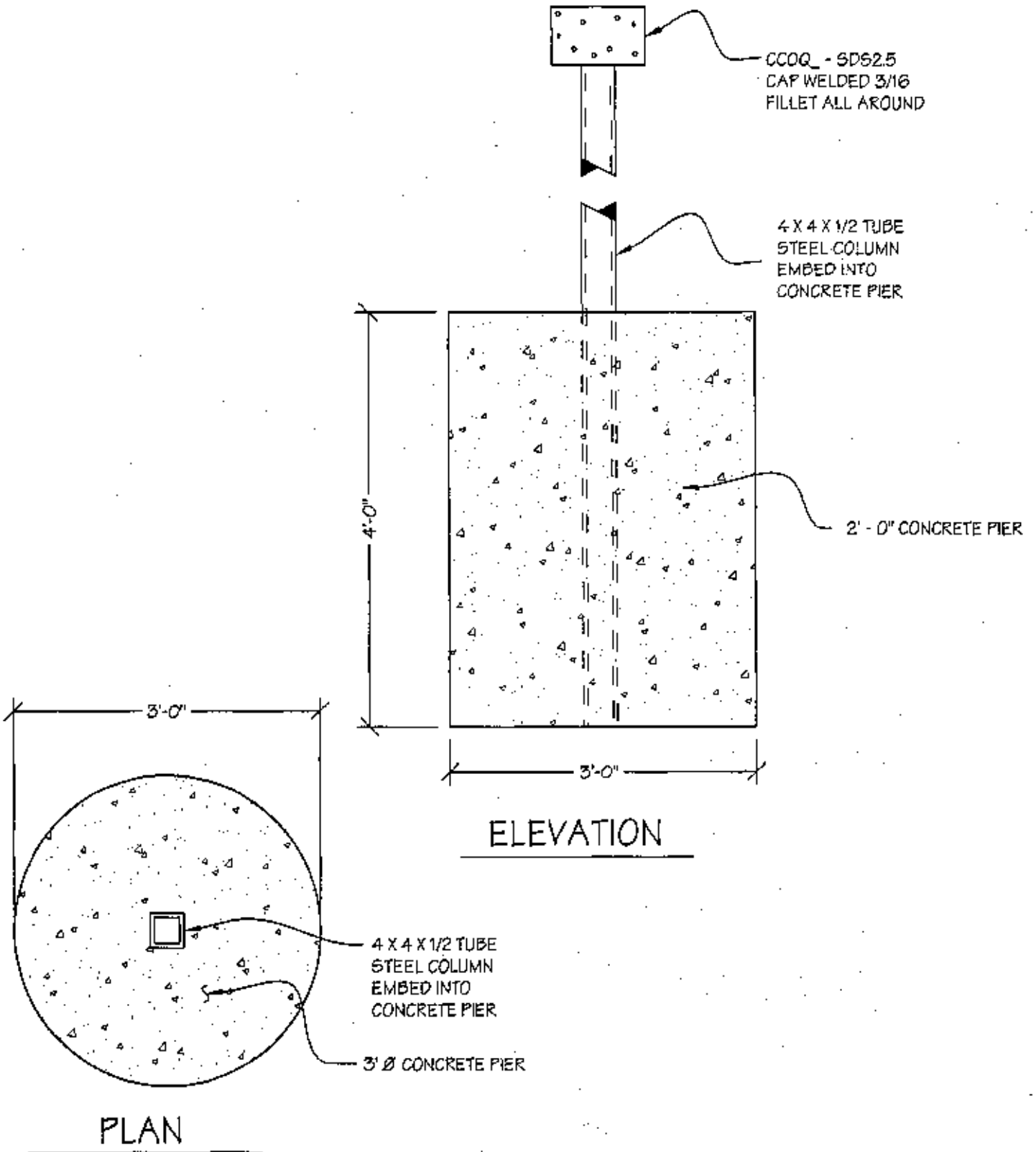
DETAIL G



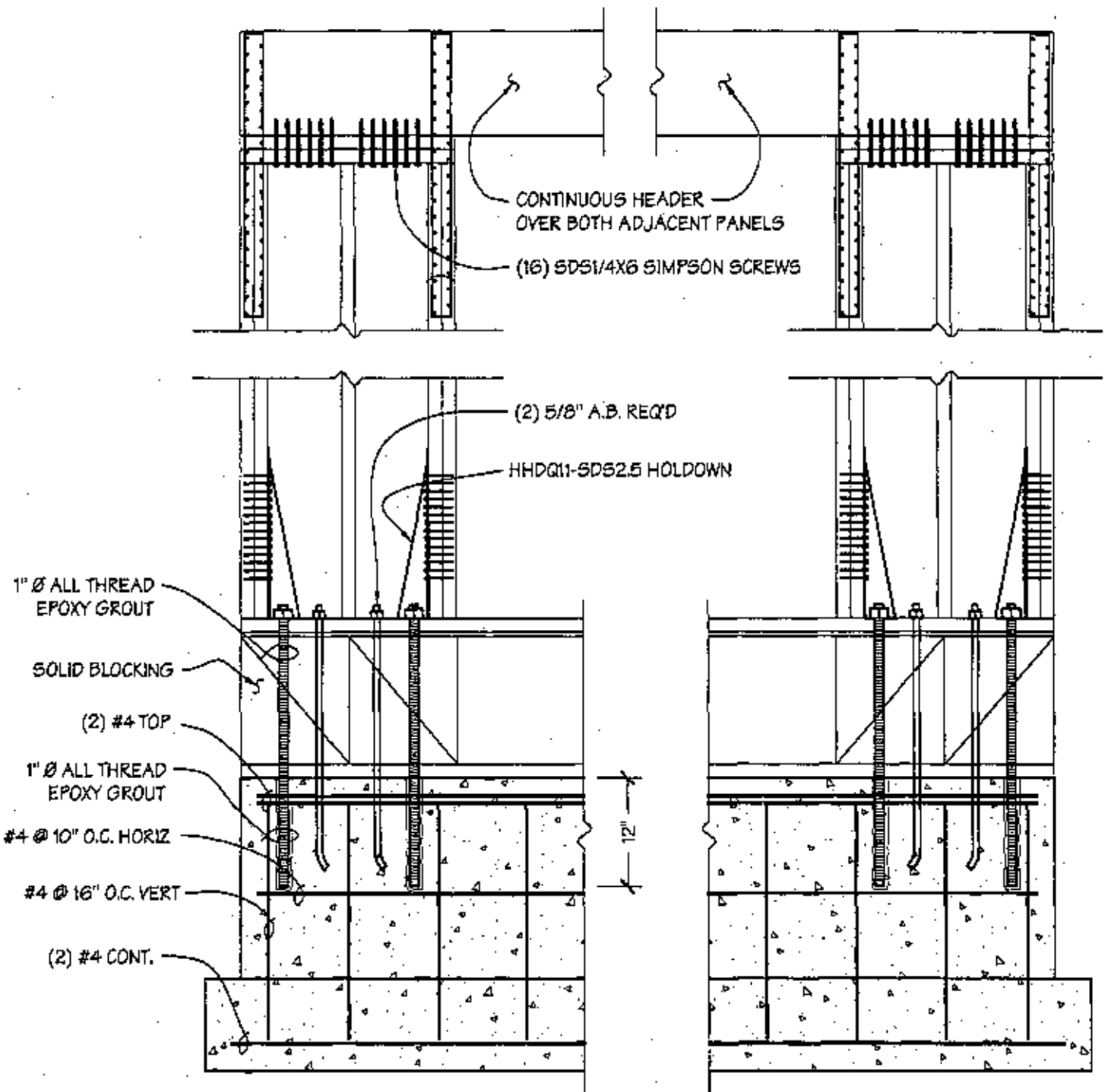
DETAIL H



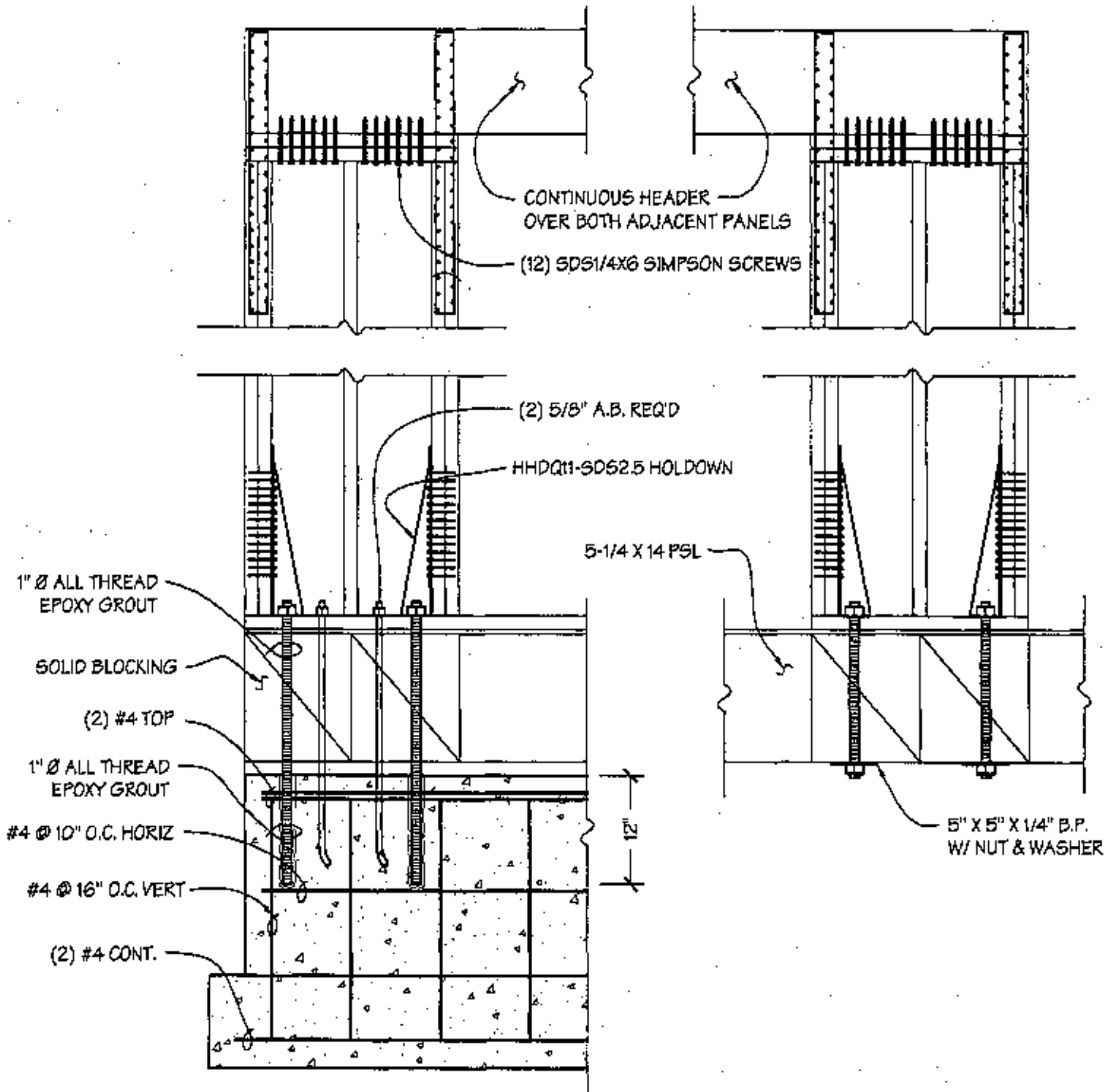
DETAIL I



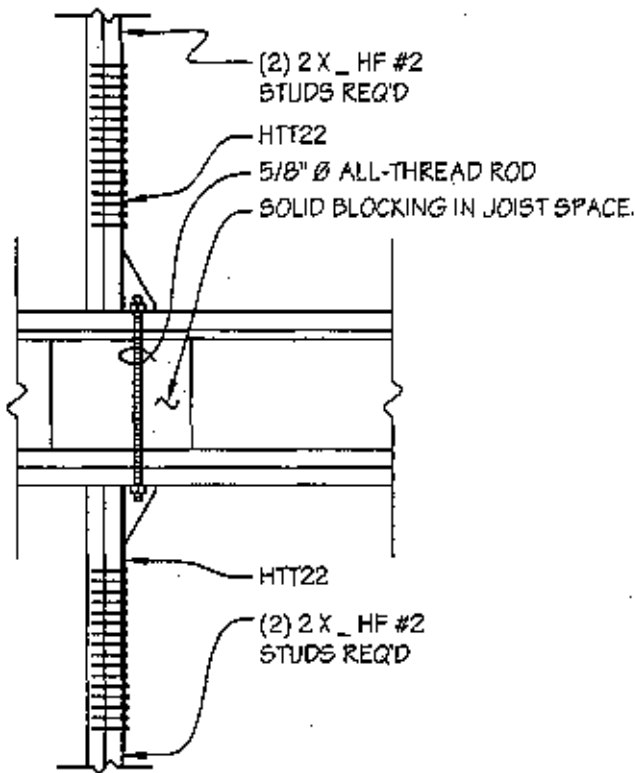
DETAIL J



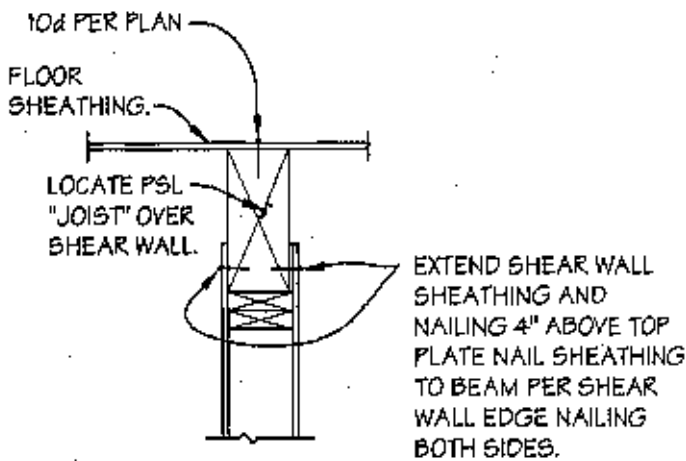
DETAIL K



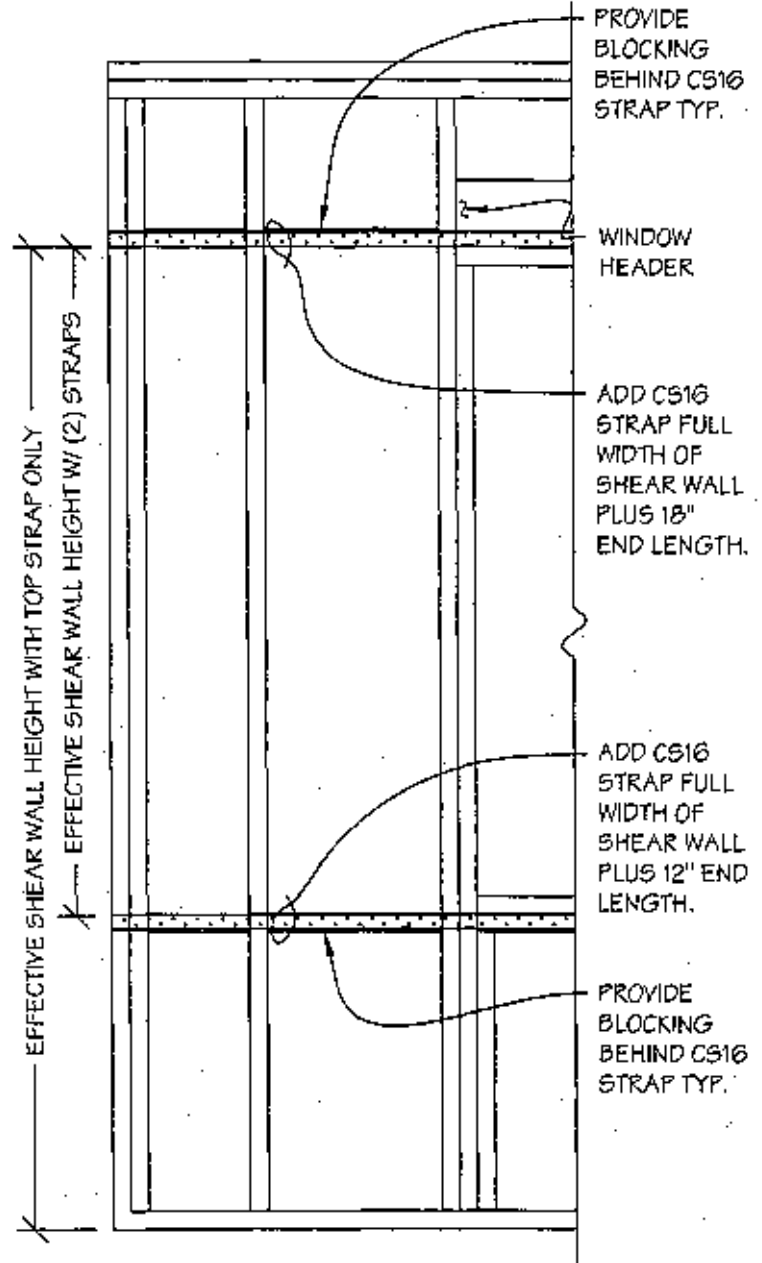
DETAIL L



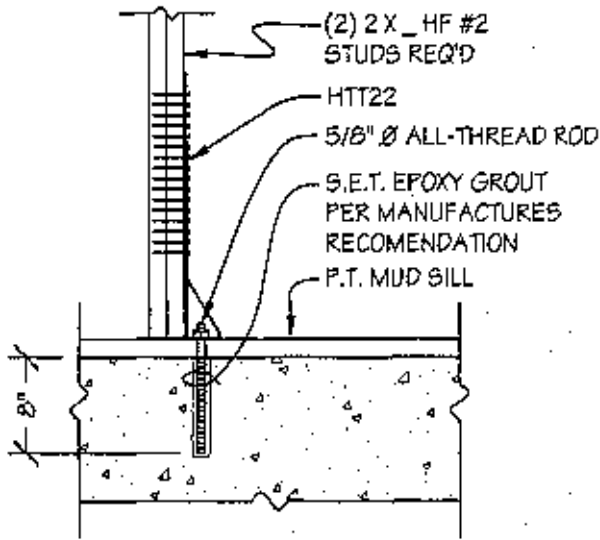
DETAIL M



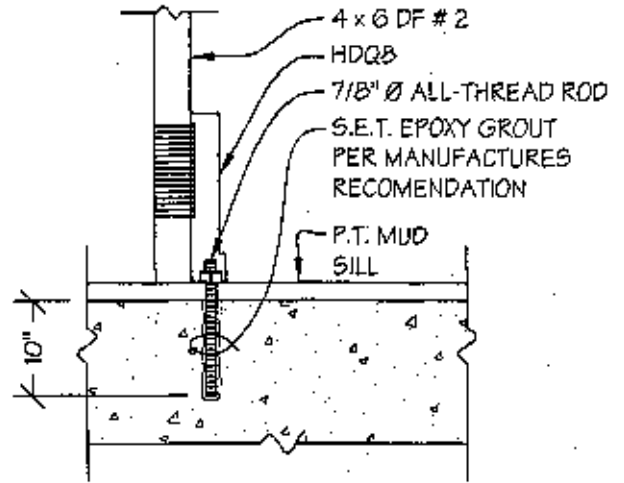
DETAIL O



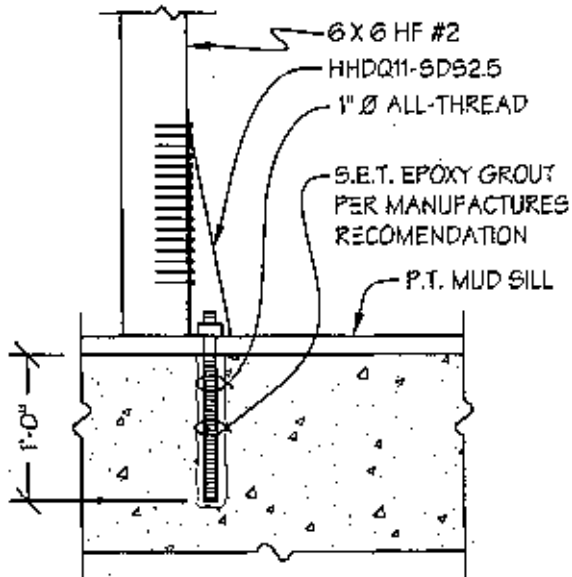
DETAIL N



DETAIL P



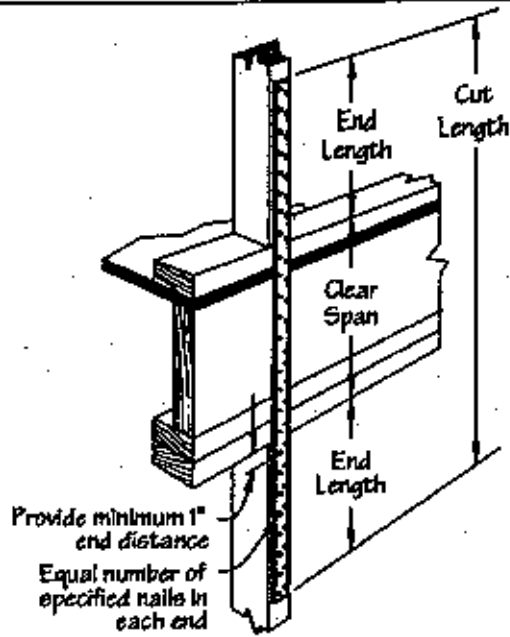
DETAIL Q



DETAIL R

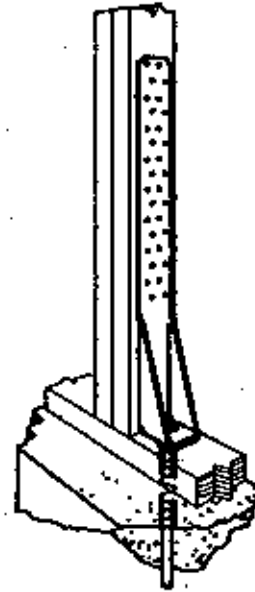
TYPICAL END CONDITIONS

L36



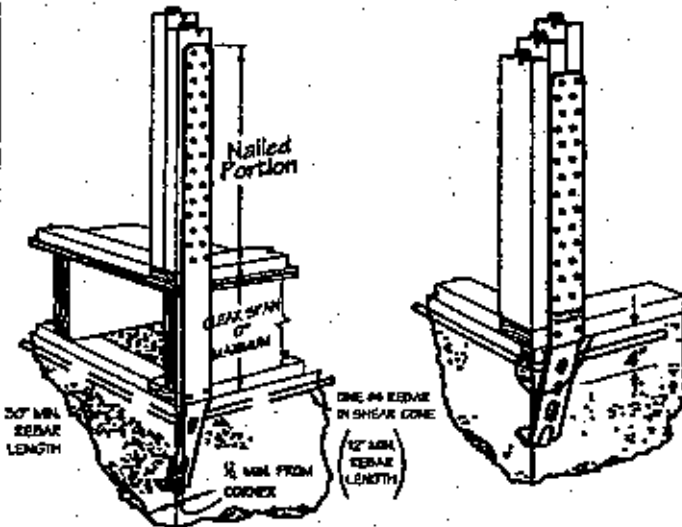
CS16 W/ (22) 10d T = 1465 #
MST48 W/ (34) 16d T = 2945 #

Simpson Strong-Tie CS16



HTT22 W/ (32) 16d SINKERS: T = 4650 #

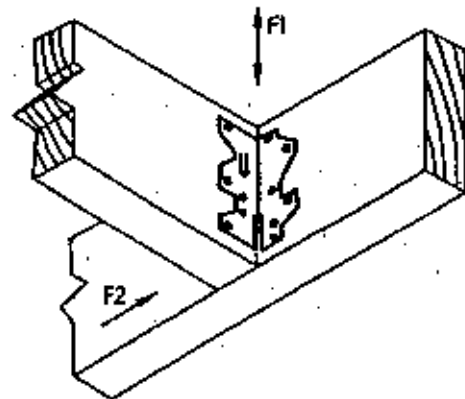
Simpson Strong-Tie HTT22



STHD14RJ
(Rim Joist Installation)

STHD Corner
(Installation on 3-2x studs)

STHD14 OR STHD14RJ W/ (38) 16d SINKERS: T = 4430 #
STHD10 OR STHD10RJ W/ (28) 16d SINKERS: T = 2990 #



A35 W/ (12) 8d F = 450 #

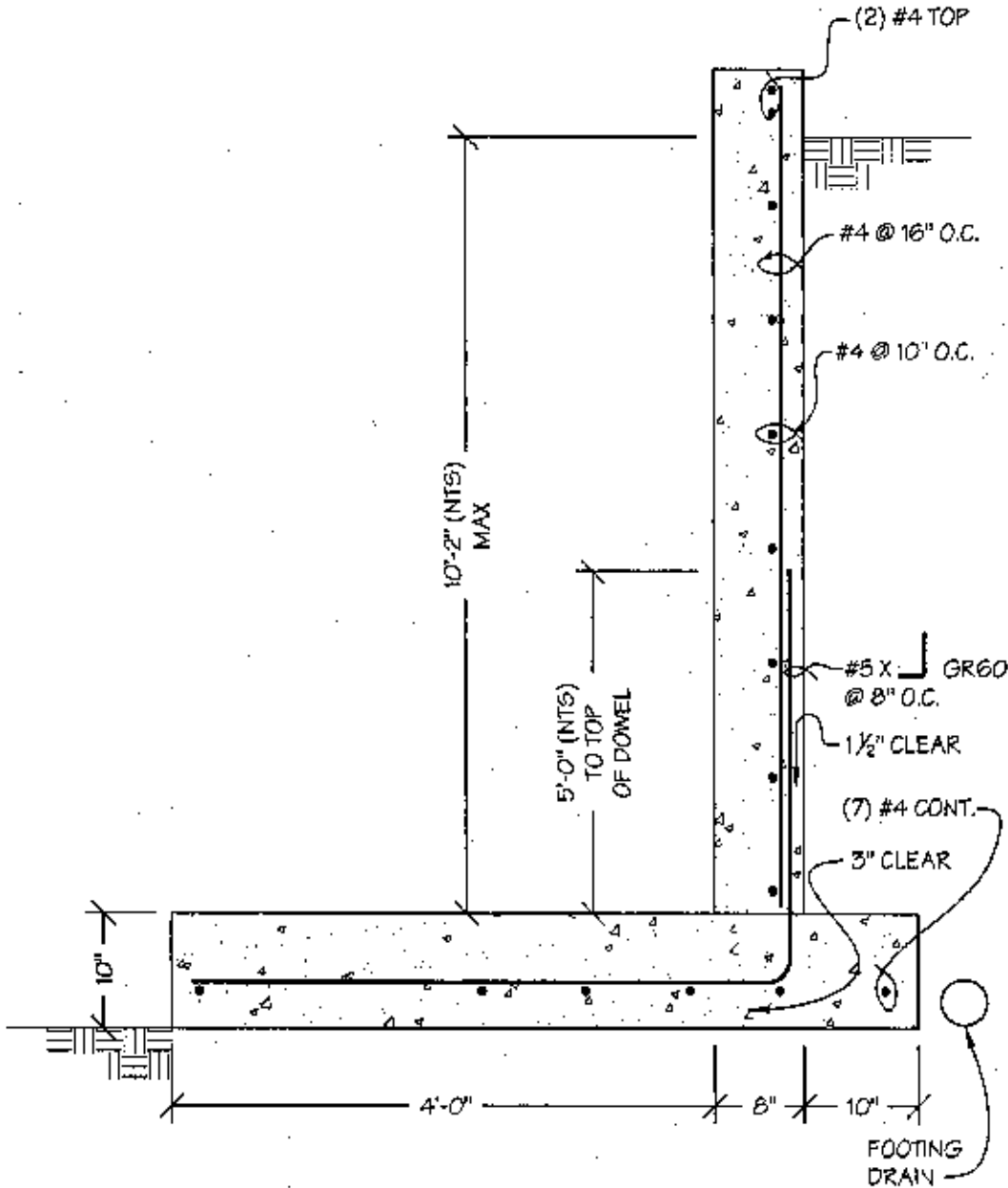
A35 Framing Anchor

**SIMPSON
STRONG-TIE**

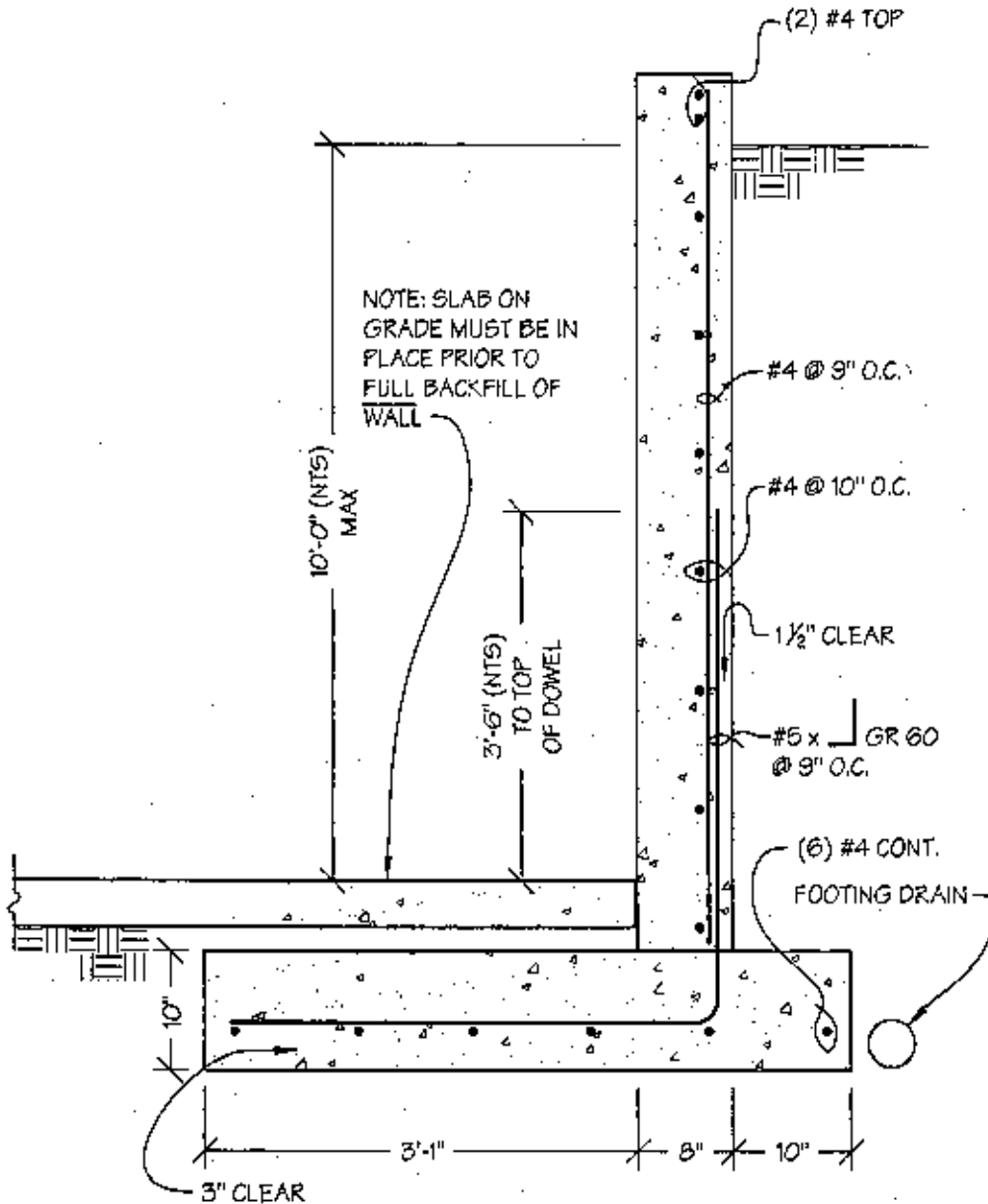
WOOD
CONSTRUCTION
CONNECTORS

JC JAMIESON CONSULTING
Consulting Engineers

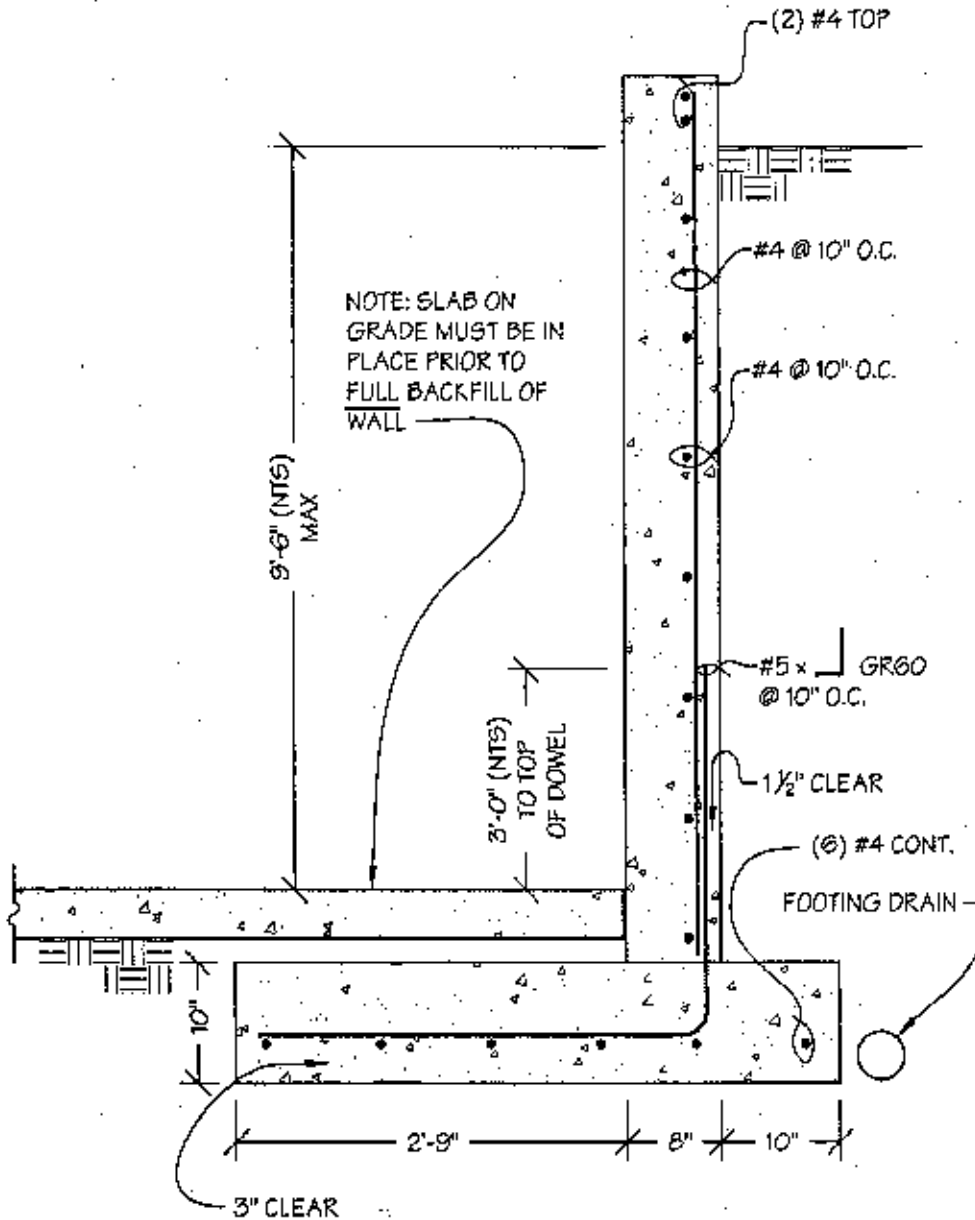
733 7TH AVE STE 108 • KIRKLAND WA 98033
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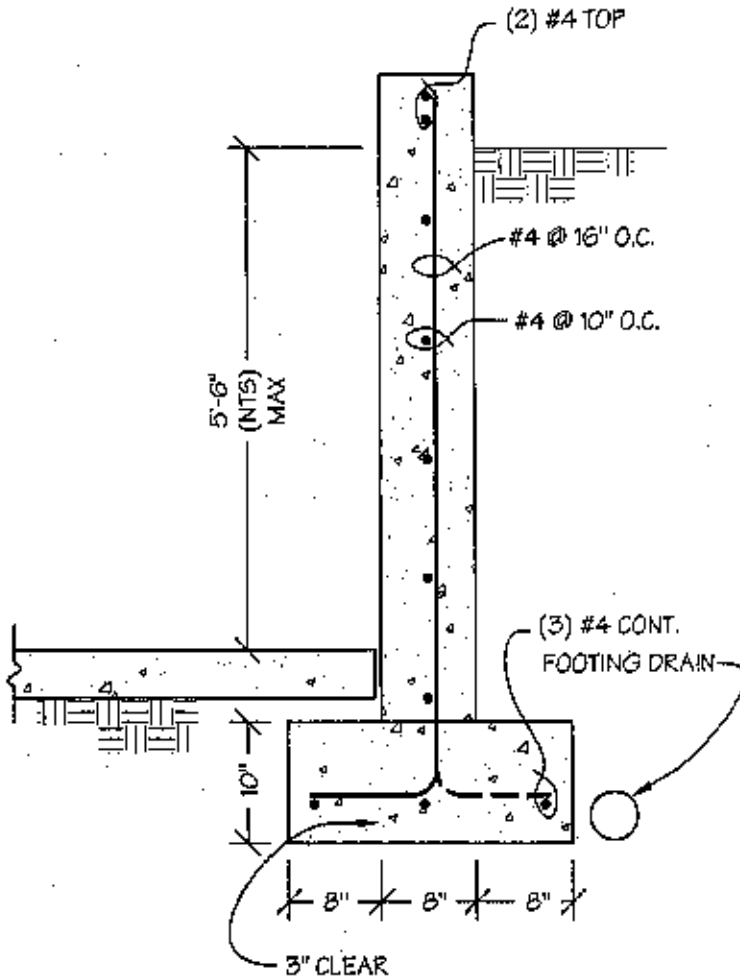
DETAIL FD1



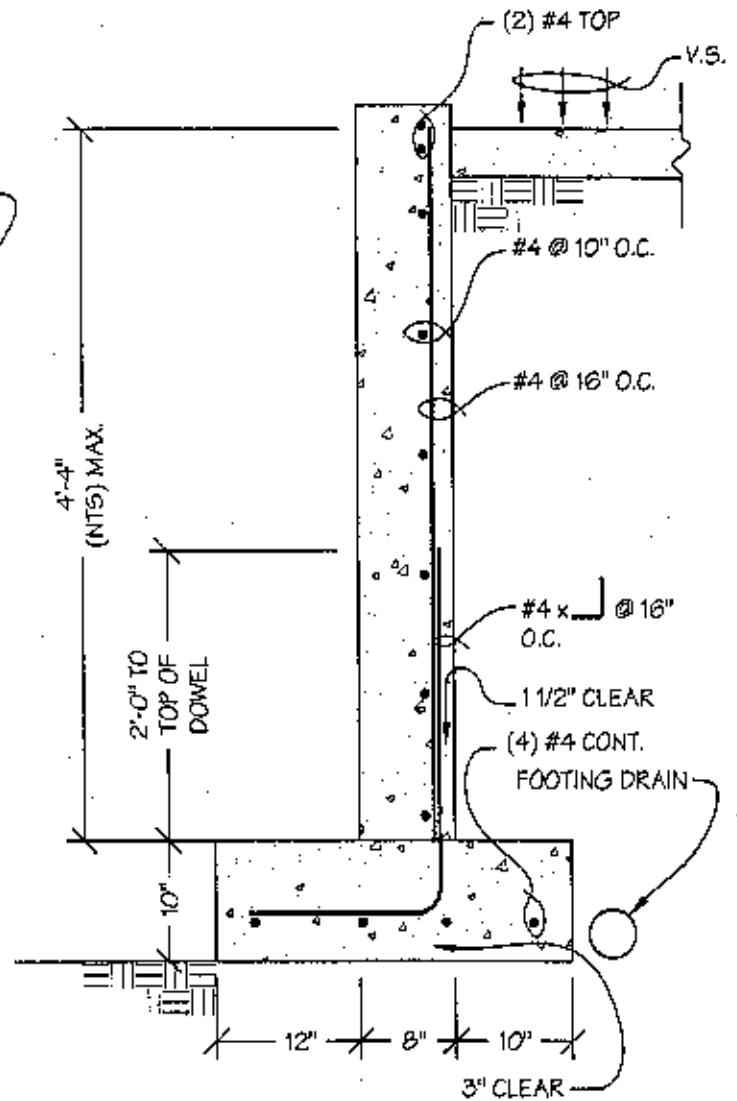
DETAIL FD2



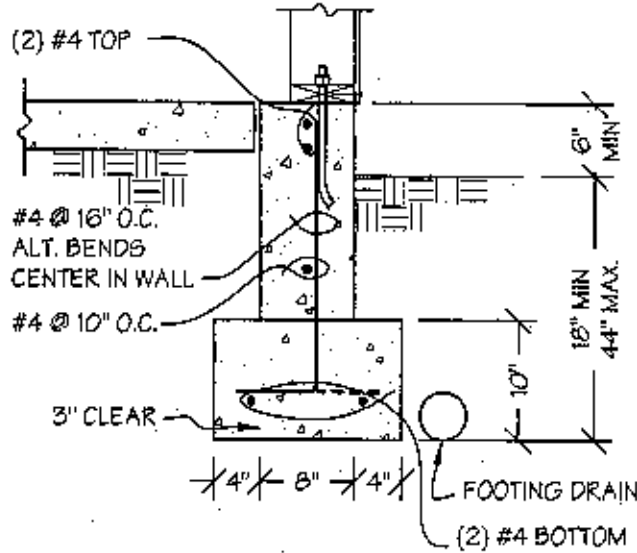
DETAIL FD3



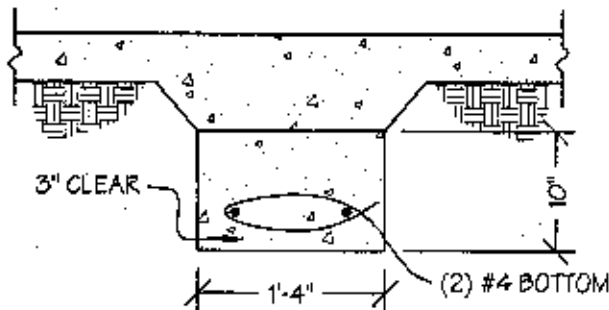
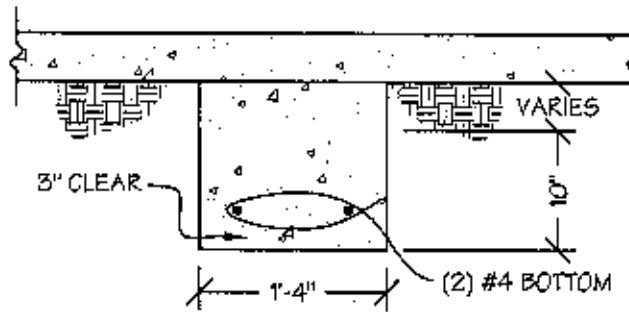
DETAIL FD4



DETAIL FD5



DETAIL FD6



DETAIL FD7

TYPICAL CANTILEVERED RETAINING WALL

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
0.33	Cf			Coefficient of friction against sliding (includes Factor of Safety of 1.5)
10.17	a		ft	Height of earth above "base"
50	w4		#	Weight on top of wall
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
4.00	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	11.00	ft	Overall height of equivalent fluid
	Lf	5.50	ft	Total footing width
	fs	1,239	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,310	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	1.83	ft	
	X	1.41	ft	Location of resultant force
	2Lf/3	3.66	ft	
	F	2,118	#	Total horizontal force
	Fk	1,205	#	Net sliding force per foot
	FS	1.501		Net factor against overturning
	Mot	7,764	# - ft	Overturning moment
	Mr	11,655	# - ft	Resisting moment
	Mu	10,431	# - ft	Ultimate moment for concrete design
	W	2,765	#	Total weight on footing
	w1	1013	#	Soil weight on heel (120 pcf)
	w2	1018	#	Weight of wall
	w3	684	#	Weight of footing
	x1	5.08	ft	
	x2	4.33	ft	
	x3	2.75	ft	
	x4	4.33	ft	

fc = 2500 psi

fy = 60 ksi

d = 6 in

Mu = 10.44 k-ft

As = 0.47 in² # 5 GR 60 @ 8" o.c.

FIND "H" for #4 @ 16" o.c.

Mu = 1.99 k-ft "H" = 5.75'

CALC FOR DETAIL FD1

CANTILEVERED RETAINING WALL W/ BASE SLAB

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
10	a		ft	Height of earth above base slab
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
3.08	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	10.00	ft	Overall height of equivalent fluid
	Lf	4.58	ft	Total footing width
	fs	1,375	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,448	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	1.53	ft	
	X	1.18	ft	Location of resultant force
	2Lf/3	3.05	ft	
	F	1,750	#	Total horizontal force
	FS	1,520		Net factor against overturning
	Mot	5,833	# - ft	Overturning moment
	Mr	8,865	# - ft	Resisting moment
	Mu	9,917	# - ft	Ultimate moment for concrete design
	W	2,566	#	Total weight on footing
	w1	996	#	Soil weight on heel (120 pcf)
	w2	1001	#	Weight of wall
	w3	570	#	Weight of footing
	x1	4.16	ft	
	x2	3.41	ft	
	x3	2.29	ft	

f_c = 2500 psi

f_y = 60 ksi

d = 6 in

M_u = 9.92 k-ft

A_s = 0.41 in² # 5 GR 60 @ 9" o.c.

FIND "H" for #4 @ 9" o.c.

M_u = 3.66 k-ft "H" = 7.0'

NOTE: SLAB ON GRADE MUST
BE IN PLACE PRIOR TO FULL
BACKFILL OF WALL

CALC FOR DETAIL FD2

CANTILEVERED RETAINING WALL W/ BASE SLAB

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EQP		# / ft ³	Equivalent fluid pressure
9.5	a		ft	Height of earth above base slab
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
2.75	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	9.50	ft	Overall height of equivalent fluid
	Lf	4.25	ft	Total footing width
	fs	1,394	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,464	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	1.42	ft	
	X	1.10	ft	Location of resultant force
	2Lf/3	2.83	ft	
	F	1,579	#	Total horizontal force
	FS	1,535		Net factor against overturning
	Mot	5,001	# - ft	Overturning moment
	Mr	7,679	# - ft	Resisting moment
	Mu	8,502	# - ft	Ultimate moment for concrete design
	W	2,425	#	Total weight on footing
	w1	946	#	Soil weight on heel (120 pcf)
	w2	950	#	Weight of wall
	w3	529	#	Weight of footing
	x1	3.83	ft	
	x2	3.08	ft	
	x3	2.12	ft	

fc = 2500 psi

fy = 60 ksi

d = 6 in

Mu = 8.5 k-ft

As = 0.37 in² # 5 GR 60 @ 10" o.c.

FIND "H" for #4 @ 10" o.c.

Mu = 3.17 k-ft "H" = 6.75'

NOTE: SLAB ON GRADE MUST
BE IN PLACE PRIOR TO FULL
BACKFILL OF WALL

CALC FOR DETAIL FD3

CANTILEVERED RETAINING WALL W/ BASE SLAB

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
5.50	a		ft	Height of earth above base slab
0	w4		#	Weight on top of wall
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
0.67	toe		ft	Length of toe
0.67	heel		ft	Length of heel
	H	5.50	ft	Overall height of equivalent fluid
	Lf	2.00	ft	Total footing width
	fs	1,634	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,818	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	0.67	ft	
	X	0.45	ft	Location of resultant force
	2L/3	1.33	ft	
	F	529	#	Total horizontal force
	FS	1.58		Net factor against overturning
	Mot	971	# - ft	Overturning moment
	Mr	1,534	# - ft	Resisting moment
	Mu	1,650	# - ft	Ultimate moment for concrete design
	W	1,240	#	Total weight on footing
	w1	440	#	Soil weight on heel (120 pcf)
	w2	550	#	Weight of wall
	w3	249	#	Weight of footing
	x1	1.67	ft	
	x2	1.00	ft	
	x3	1.00	ft	
	x4	1.00	ft	

$f_c = 2500$ psi

$f_y = 40$ ksi (# 4)

$M_u = 0.6$ k-ft

$d = 4$ in

$A_s = 0.15$ in² # 4 @ 16" o.c.

NOTE: SLAB ON GRADE MUST BE IN PLACE
PRIOR TO FULL BACKFILL OF WALL.

###

TYPICAL CANTILEVERED RETAINING WALL w/ 50 psf vehicle surcharge

INPUT	NAME	OUTPUT	UNITS	COMMENT
0.35	EFP		# / ft ³	Equivalent fluid pressure
0.33	Cf = <i>0.35 w/o</i>			Coefficient of friction against sliding (includes Factor of Safety = 1.5)
4.33	a		ft	Height of earth above "base"
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
1.00	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	6.16	ft	Overall height of equivalent fluid
	Lf	2.50	ft	Total footing width
	fs	1,293	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,445	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	0.83	ft	
	X	0.56	ft	Location of resultant force
	2Lf/3	1.67	ft	
	F	682	#	Total horizontal force
	Fk	280	#	Net sliding force
	FS	1.540		Net factor against overturning
	Mot	1,270	# - ft	Overturning moment
	Mr	1,956	# - ft	Resisting moment
	Mu	1,802	# - ft	Ultimate moment for concrete design
	W	1,219	#	Total weight on footing
	w1	473	#	Soil weight on heel (120 pcf)
	w2	435	#	Weight of wall
	w3	311	#	Weight of footing
	x1	2.09	ft	
	x2	1.34	ft	
	x3	1.25	ft	

f_c = 2500 psi

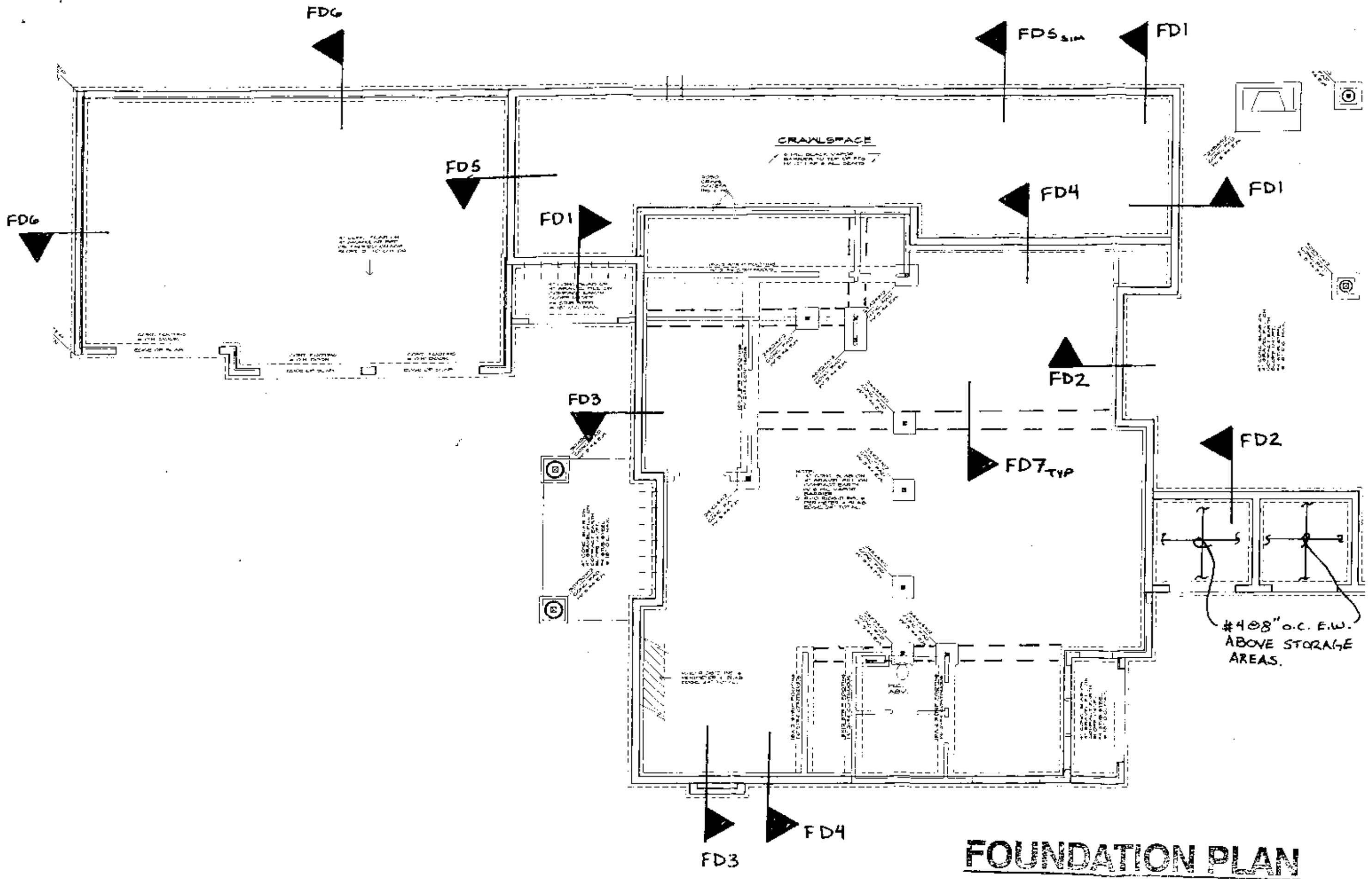
f_y = 40 ksi

d = 6 in

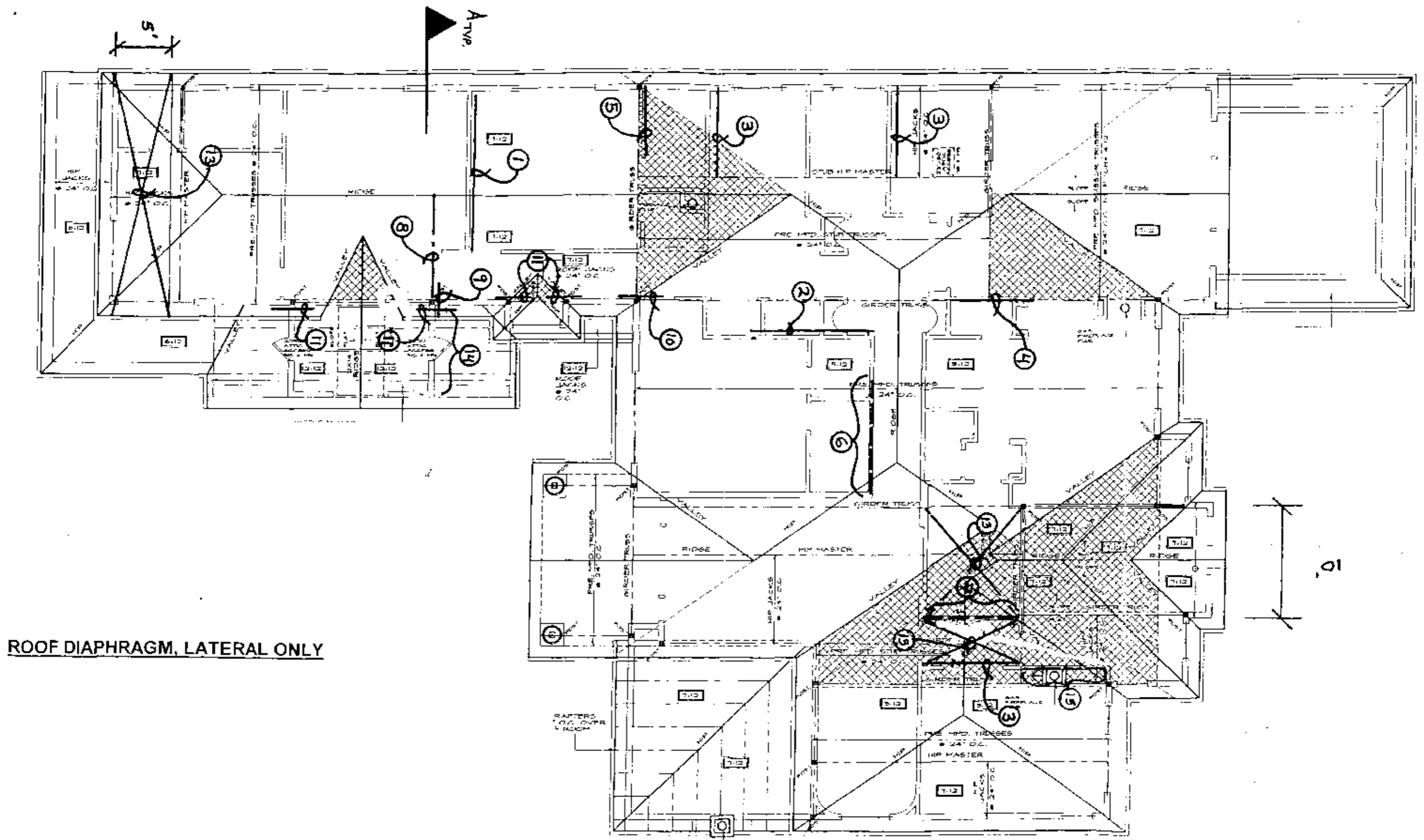
M_u = 1.61 k-ft

A_s = 0.15 in² #4 @ 16" o.c.

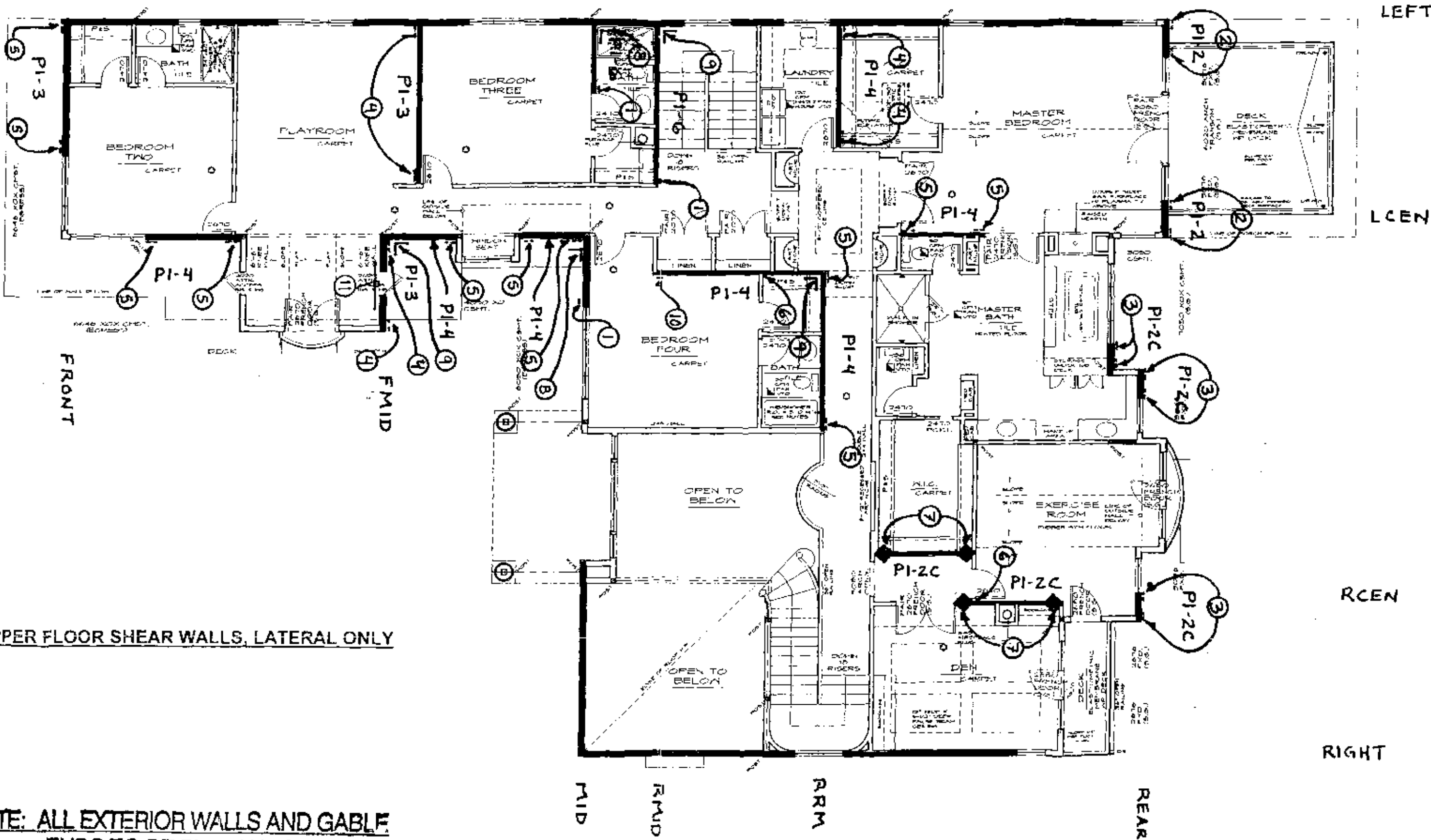
CALC FOR DETAIL FD5



FOUNDATION PLAN

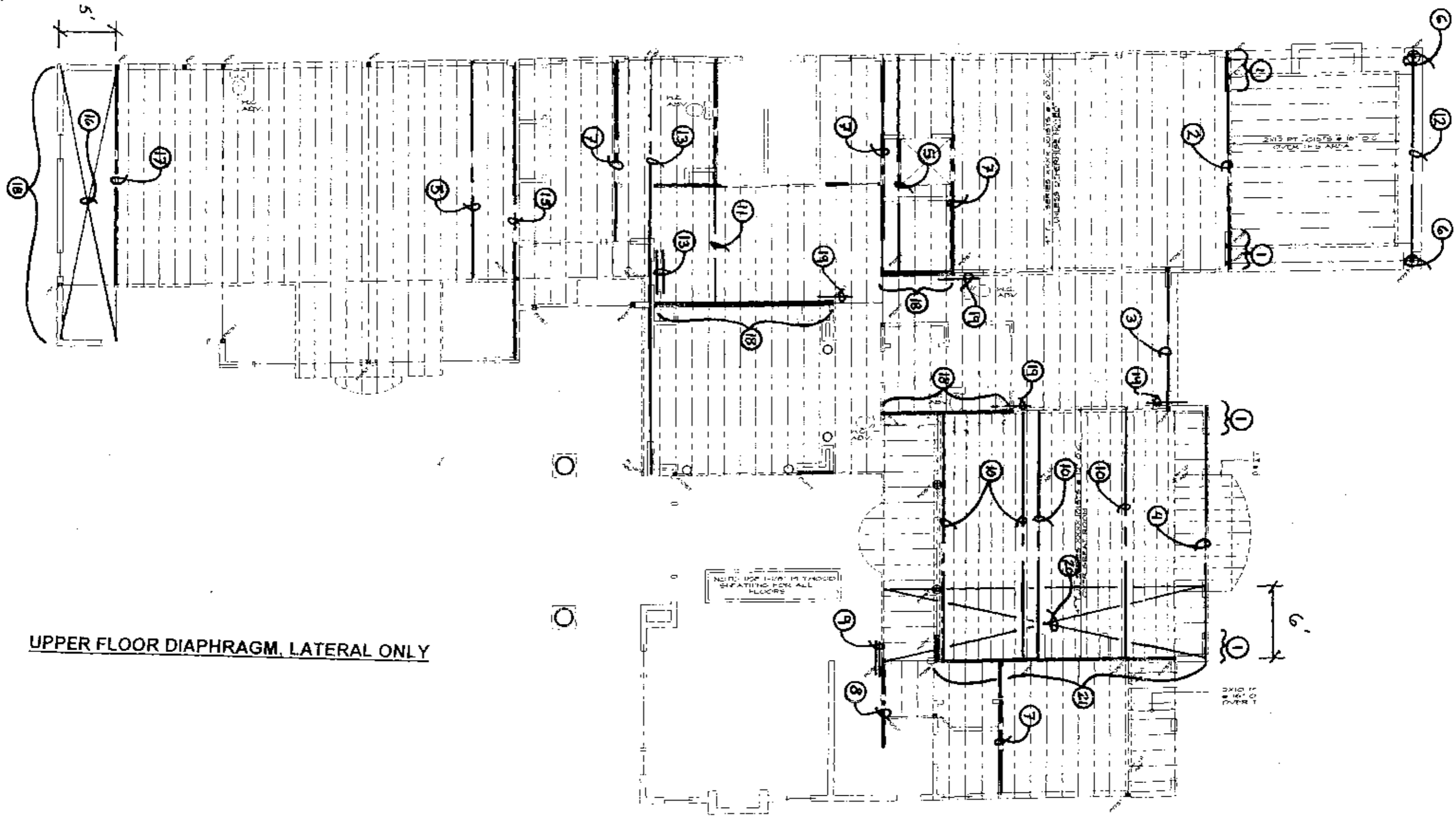


ROOF DIAPHRAGM, LATERAL ONLY



UPPER FLOOR SHEAR WALLS, LATERAL ONLY

NOTE: ALL EXTERIOR WALLS AND GABLE ENDS TO BE P1-6, U.N.O.



UPPER FLOOR DIAPHRAGM, LATERAL ONLY

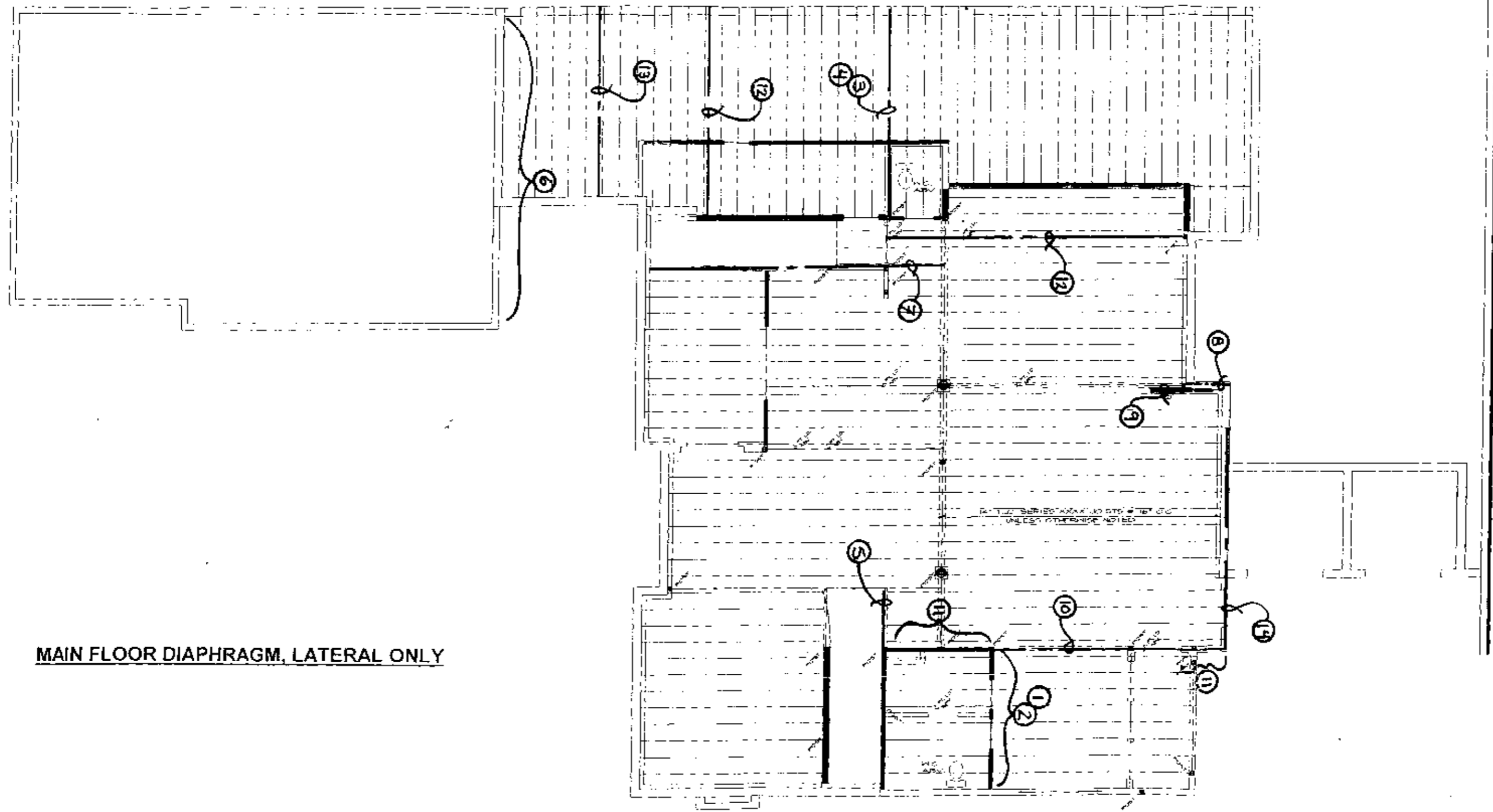
NOTE: USE 1-1/2\"/>

SECTION RELIGIOUS CENTER
UNIVERSITY OF MARYLAND SYSTEM
ANNAPOLIS, MARYLAND

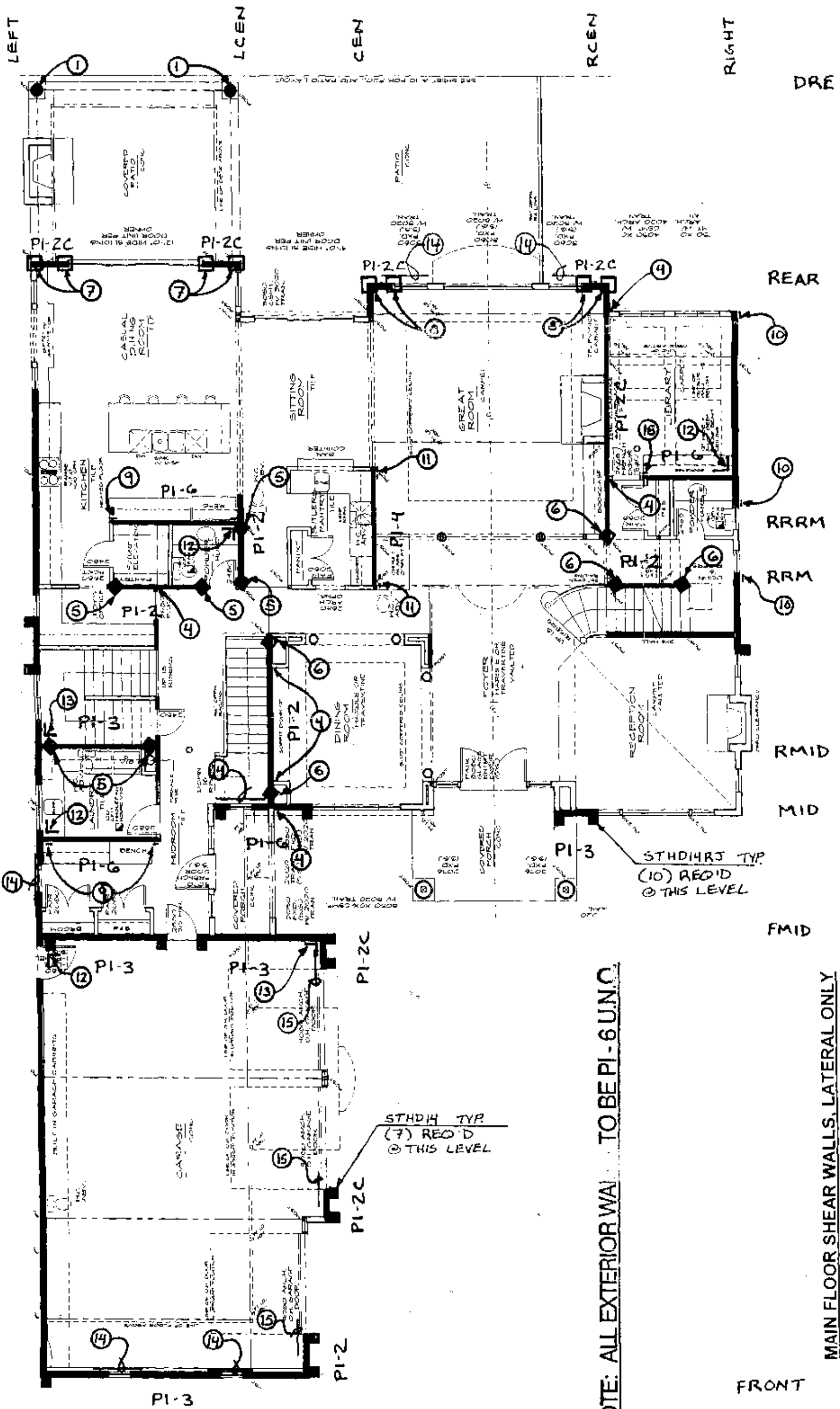
2x13 BY JOISTS @ 16\"/>

2x13 BY JOISTS @ 16\"/>

2x13 BY JOISTS @ 16\"/>



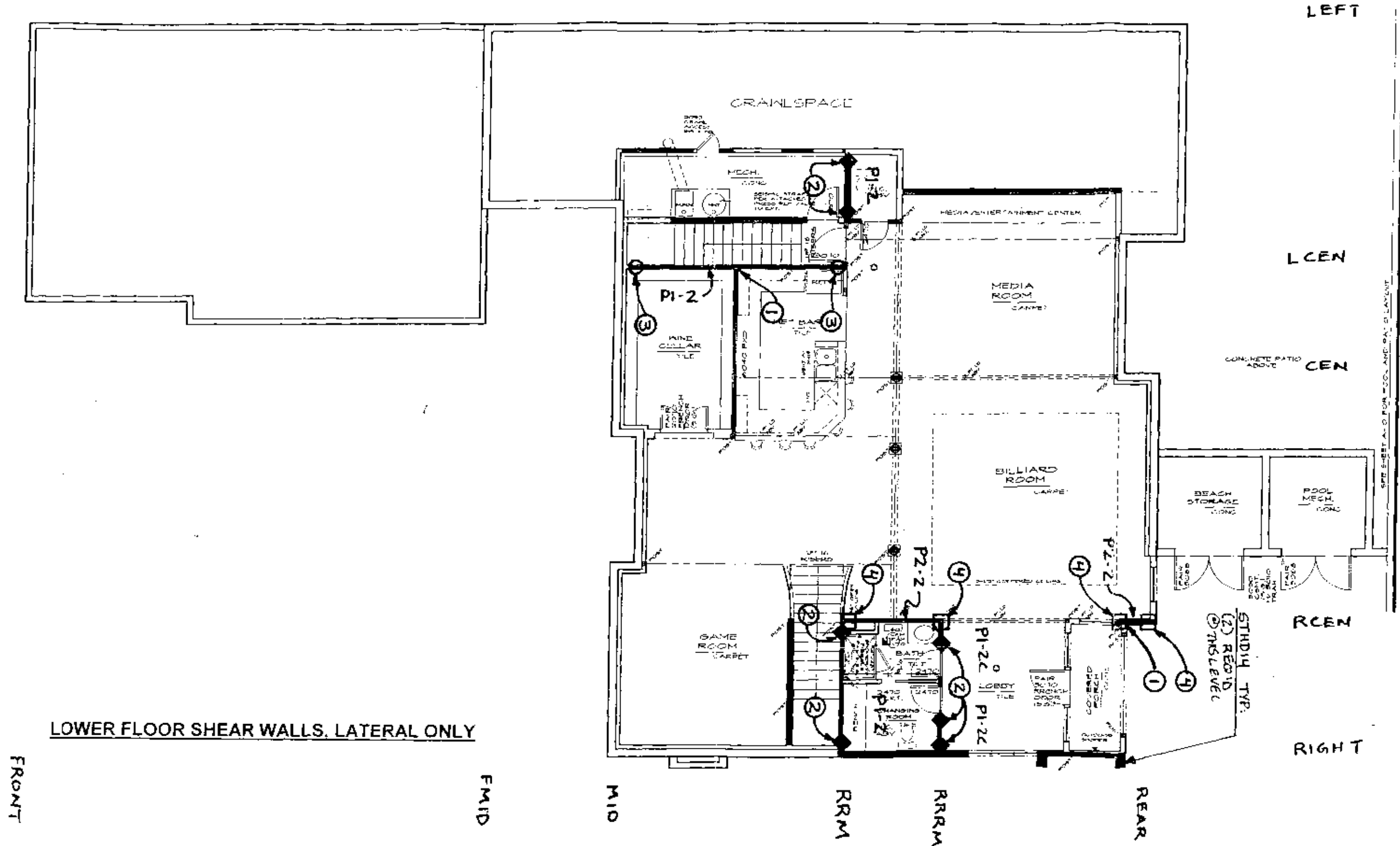
MAIN FLOOR DIAPHRAGM, LATERAL ONLY



NOTE: ALL EXTERIOR WALLS TO BE PI-6 U.N.C.

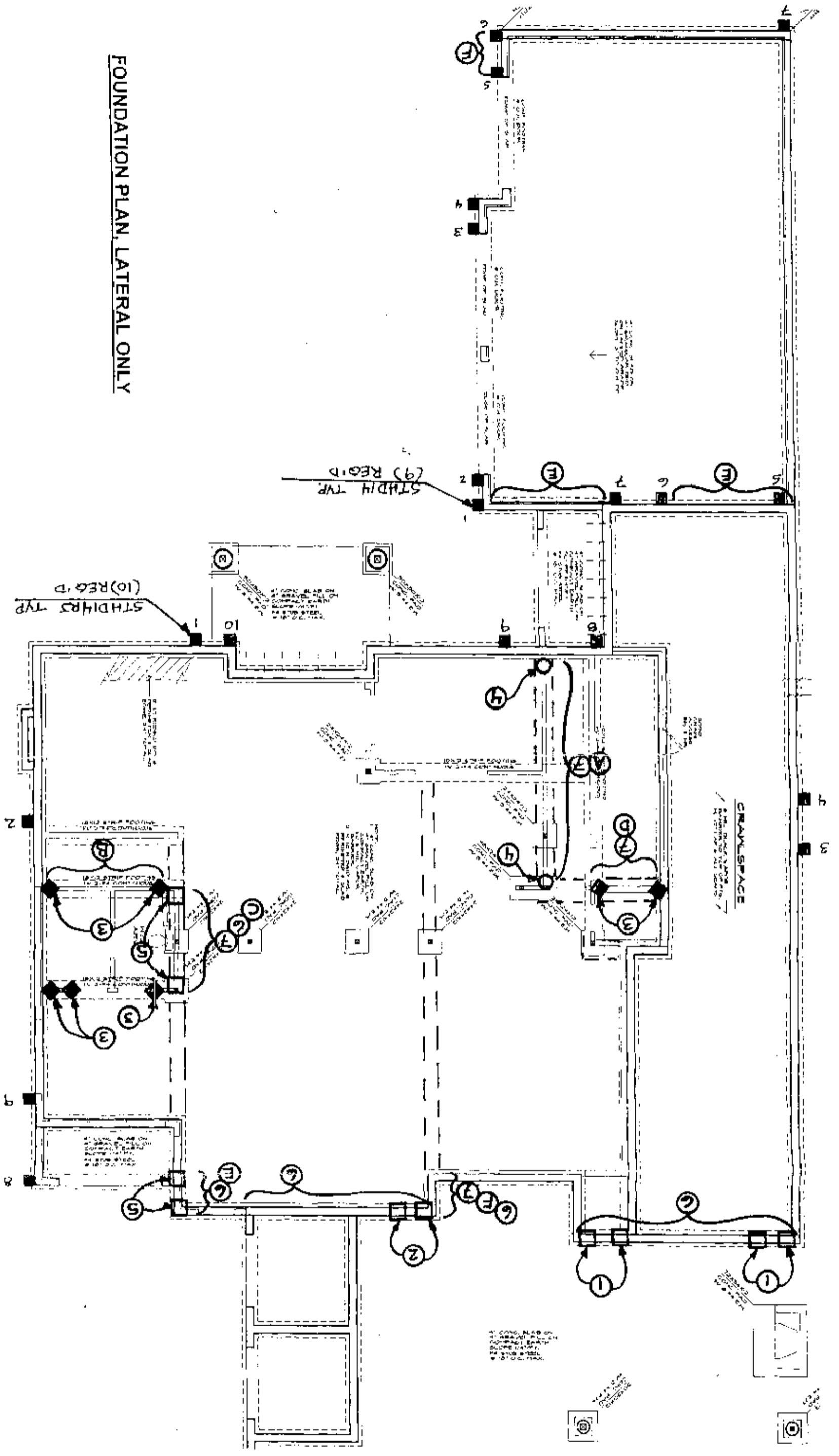
MAIN FLOOR SHEAR WALLS, LATERAL ONLY

FRONT



NOTE: ALL EXTERIOR WALLS TO BE PI-6 U.N.O.

FOUNDATION PLAN, LATERAL ONLY





Architects & Planners



**PETRIE RESIDENCE
3315 97TH AVE SE
MERCER ISLAND, WA**

BEAM
CALCULATIONS



REVISED 05/05/06

RECEIVED

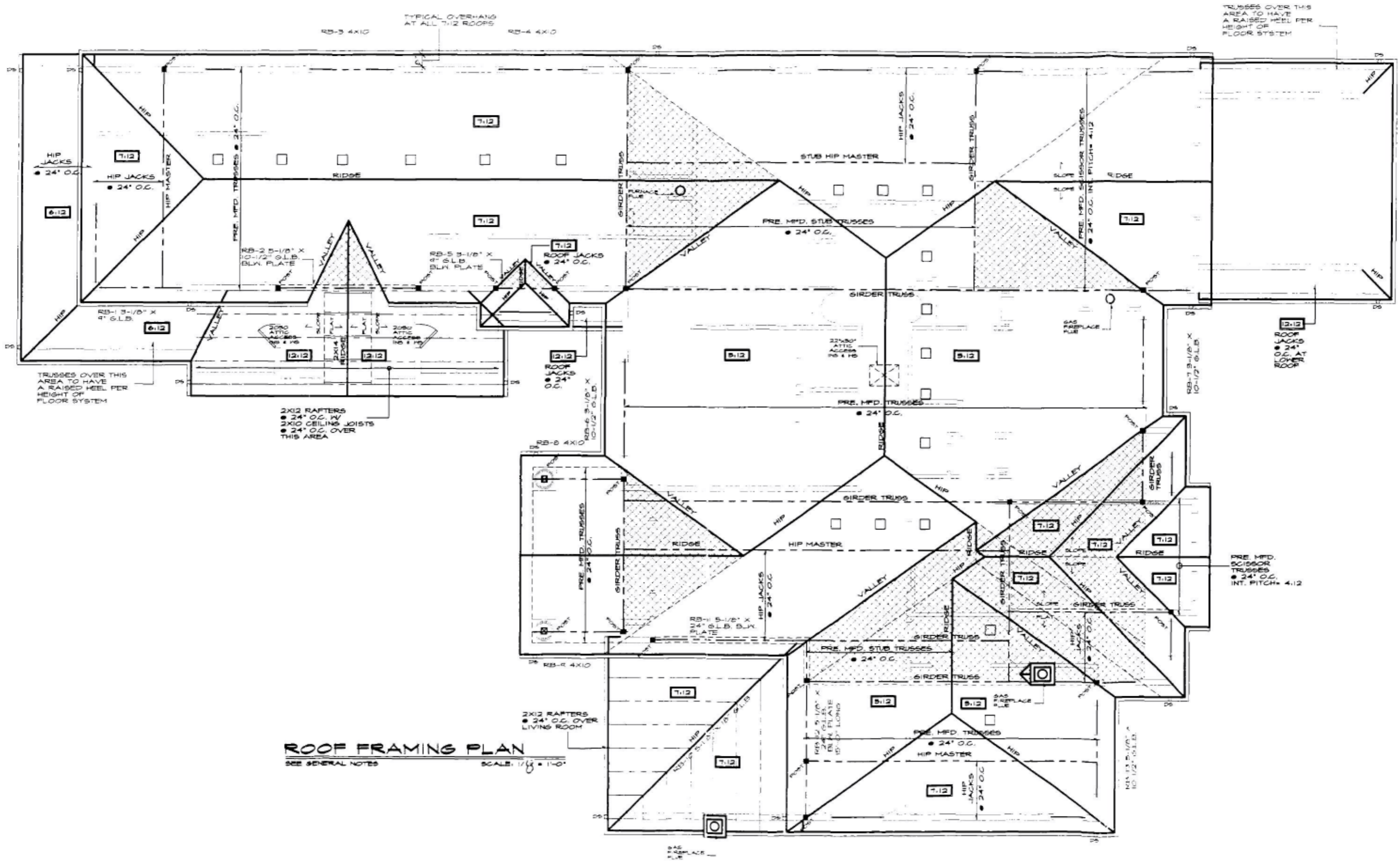
MAY 18 2006

CITY OF MERCER ISLAND
DEVELOPMENT SERVICES

2003 IBC
AUGUST 1, 2005

11644 N.E. 80th St. Kirkland, WA 98033 (425) 828-4117 Fax (425) 822-1918
8101 S.W. Nyberg Rd., Suite 214 Tualatin, OR 97062 (503) 692-8127 Fax (503) 691-0517
WWW.NASHJONESANDERSON.COM

REVISED 7/29/04

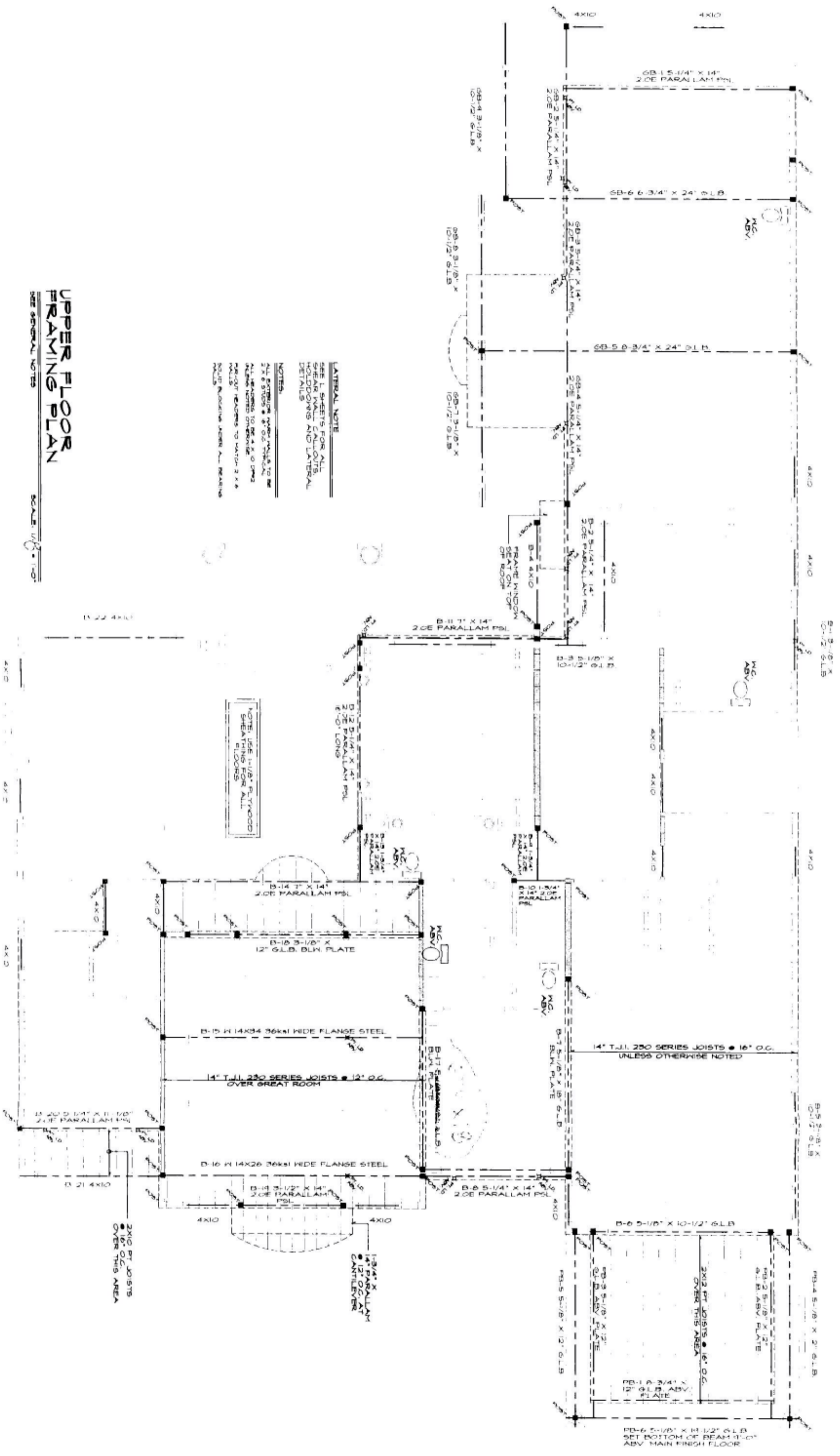


ROOF FRAMING PLAN
 SEE GENERAL NOTES
 SCALE: 1/8" = 1'-0"

UPPER FLOOR FRAMING PLAN

SEE GENERAL NOTES

SCALE: 1/8" = 1'-0"



LATERAL NOTE
SEE L SHEETS FOR ALL SHEAR WALL CALLOUTS, HOLDINGS AND LATERAL DETAILS

NOTES:
ALL EXTERIOR WOOD WALLS TO BE 2" x 8 STUDS @ 24" O.C. THICK
ALL HEADERS TO BE 4" x 8 DIMS UNLESS NOTED OTHERWISE
PART-OUT HEADERS TO MATCH 2 X 4
FOUR FLOORING JOIST ALL BEARING WALLS

NOTE: USE 1/2" x 1/8" PLYWOOD SHEATHING FOR ALL FLOORS

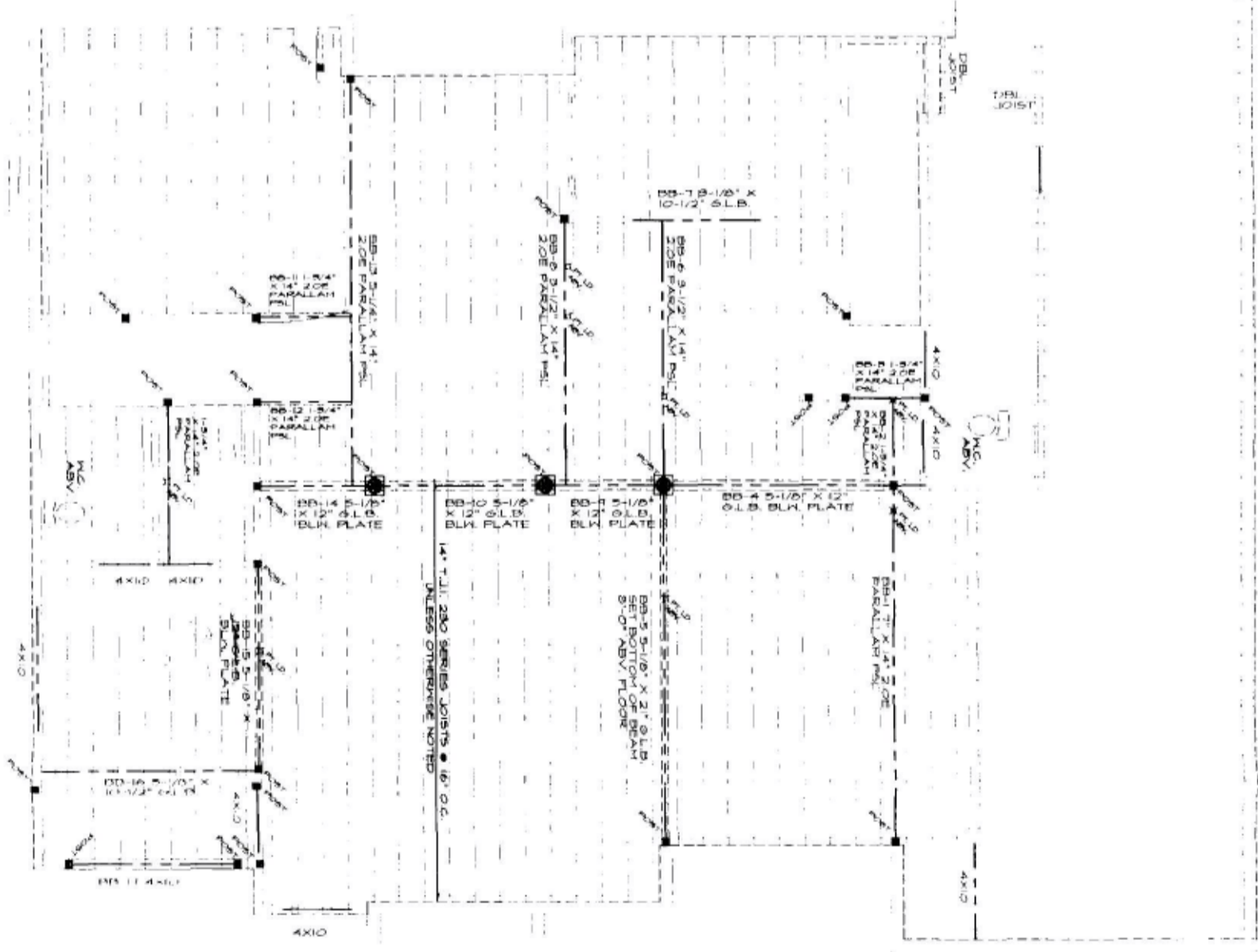
2X10 PT JOISTS @ 16" O.C. OVER THIS AREA

1-3/4" x 14" PARALLEL PSL OVER CENTER

PD-6 5-1/8" x 11 1/2" G.L.B. SET BOTTOM OF BEAM 1'-0" ABV. MAIN FINISH FLOOR

12' x 13'

NOTE: USE 1/2" PLYWOOD SHEATHING FOR ALL FLOORS



**MAIN FLOOR
FRAMING PLAN**
SEE GENERAL NOTES
SCALE: 1/8" = 1'-0"



Architects & Planners

BEAM DESIGN DATA

CLIENT: _____
PROJECT: _____
DATE: _____
NAME: _____

Roof Loads:

LL 25 #/sf
DL 35 #/sf
Total 60 #/sf
Unless Noted Otherwise

Floor Loads:

LL 40 #/sf
DL 10 #/sf
Total 50 #/sf

Deck Loads:

LL 60 #/sf
DL 10 #/sf
Total 70 #/sf

Soil: 2000 PSF Min.
Concrete: Per IBC 03
Masonry: Per IBC 03
Steel: Per IBC 03
Wood: Per IBC 03
Nailing: Per IBC 03

4" Beam: Douglas Fir #2
fv = 95
fb = 875 PSI
E = 1,600,000

6" Beam: Douglas Fir #2
fv = 85
fb = 875 PSI
E = 1,300,000

Joists & Rafter: Hem Fir #2
fv = 75
fb = 850 PSI
E = 1,300,000

Glu-Lam Beams:
fv = 165 PSI
fb = 2,400 PSI (reduced by size factor, CF*KI)
E = 1,800,000

11644 N.E. 80th St. Kirkland, WA 98033 (425) 828-4117 Fax (425) 822-1918
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PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-1

BEDROOM TWO

Date: 1/27/06

Selection

3-1/8x 9 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 0.9 in² R2= 3.3 in² DL Defl 0.02 in Suggested Camber 0.03 in

Data

Beam Span	6.5 ft	Reaction 1 LL	320 #	Reaction 2 LL	1130 #
Beam Wt per ft	6.83 #	Reaction 1 TL	610 #	Reaction 2 TL	2118 #
Bm Wt Included	44 #	Maximum V	2118 #		
Max Moment	1907 #	Max V (Reduced)	1776 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	42.19	28.13	0.05	0.02
Critical	9.53	14.02	0.33	0.22
Status	OK	OK	OK	OK
Ratio	23%	50%	14%	11%

Values

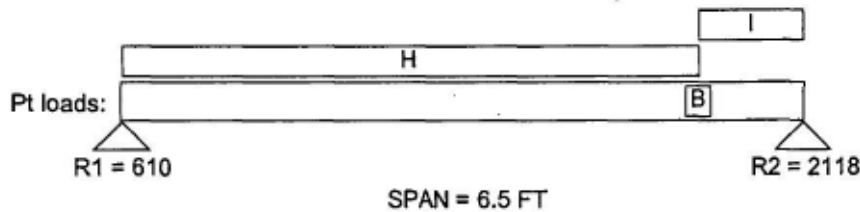
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
925	B = 1739	5.5	50	H = 90	0	5.5
			250	I = 450	5.5	6.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-2

PLAYROOM

Date: 1/27/06

Selection
Conditions

5-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 4.5 in ²	R2= 4.5 in ²	DL Defl	0.13 in	Suggested Camber	0.20 in
Beam Span	12.5 ft	Reaction 1 LL	1563 #	Reaction 2 LL	1563 #	
Beam Wt per ft	13.08 #	Reaction 1 TL	2894 #	Reaction 2 TL	2894 #	
Bm Wt Included	163 #	Maximum V	2894 #			
Max Moment	9044 #	Max V (Reduced)	2489 #			
TL Max Defl	L / 240	TL Actual Defl	L / 526			
LL Max Defl	L / 360	LL Actual Defl	L / 974			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.29	0.15
Critical	45.22	19.65	0.63	0.42
Status	OK	OK	OK	OK
Ratio	48%	37%	46%	37%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

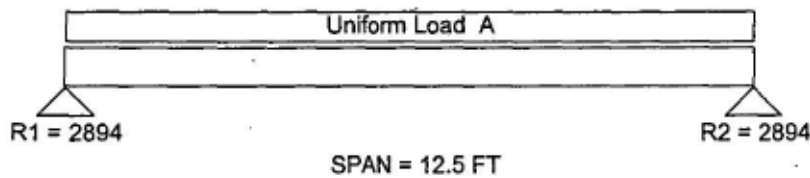
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 250

Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-3

PLAYROOM

Date: 1/27/06

Selection 4x 10 DF-L #2 Lu = 0.0 Ft

Conditions NDS '91

Min Bearing Area R1= 2.4 in² R2= 2.4 in² DL Defl 0.02 in

Data

Beam Span	6.5 ft	Reaction 1 LL	813 #	Reaction 2 LL	813 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1488 #	Reaction 2 TL	1488 #
Bm Wt Included	51 #	Maximum V	1488 #		
Max Moment	2418 #'	Max V (Reduced)	1135 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.05	0.03
Critical	27.64	17.92	0.33	0.22
Status	OK	OK	OK	OK
Ratio	55%	55%	15%	13%

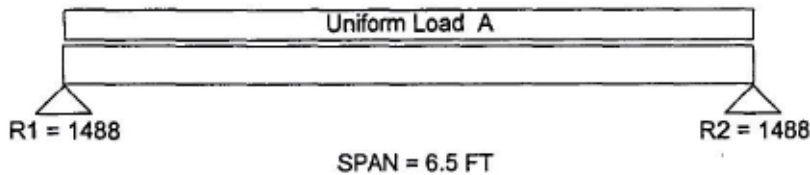
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads Uniform LL: 250 Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-4

BEDROOM THREE

Date: 1/27/06

Selection 4x 10 DF-L #2 Lu = 0.0 Ft

Conditions NDS '91

Min Bearing Area R1= 2.4 in² R2= 2.4 in² DL Defl 0.02 in

Data

Beam Span	6.5 ft	Reaction 1 LL	813 #	Reaction 2 LL	813 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1488 #	Reaction 2 TL	1488 #
Bm Wt Included	51 #	Maximum V	1488 #		
Max Moment	2418 #'	Max V (Reduced)	1135 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.05	0.03
Critical	27.64	17.92	0.33	0.22
Status	OK	OK	OK	OK
Ratio	55%	55%	15%	13%

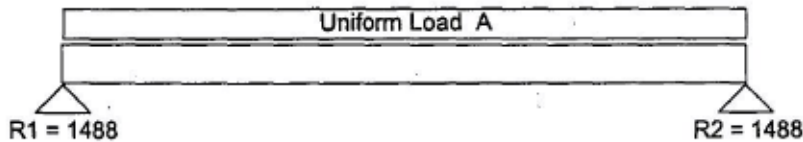
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads Uniform LL: 250 Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-5

HALL

Date: 1/27/06

Selection
Conditions

3-1/8x 9 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 1.9 in ²	R2= 1.9 in ²	DL Defl	0.01 in	Suggested Camber	0.02 in
Beam Span	5.5 ft	Reaction 1 LL	688 #	Reaction 2 LL	688 #	
Beam Wt per ft	6.83 #	Reaction 1 TL	1256 #	Reaction 2 TL	1256 #	
Bm Wt Included	38 #	Maximum V	1256 #			
Max Moment	1727 #'	Max V (Reduced)	914 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	42.19	28.13	0.03	0.02
Critical	8.64	7.21	0.28	0.18
Status	OK	OK	OK	OK
Ratio	20%	26%	10%	8%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc.L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

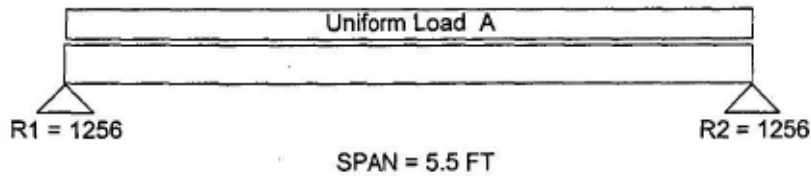
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 250

Uniform TL: 450 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-6

BEDROOM FOUR

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 6.3 in ²	R2= 6.3 in ²	DL Defl	0.08 in	Suggested Camber	0.12 in
Beam Span	8.0 ft	Reaction 1 LL	2252 #	Reaction 2 LL	2252 #	
Beam Wt per ft	7.97 #	Reaction 1 TL	4084 #	Reaction 2 TL	4084 #	
Bm Wt Included	64 #	Maximum V	4084 #			
Max Moment	8168 #	Max V (Reduced)	3191 #			
TL Max Defl	L / 240	TL Actual Defl	L / 555			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.17	0.10
Critical	40.84	25.19	0.40	0.27
Status	OK	OK	OK	OK
Ratio	71%	77%	43%	36%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

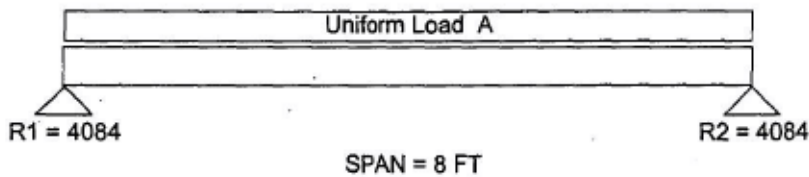
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 563

Uniform TL: 1013 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-7

MASTER BATHROOM

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 5.5 in ²	R2= 5.5 in ²	DL Defl	0.05 in	Suggested Camber	0.07 in
Beam Span	7.0 ft	Reaction 1 LL	1971 #	Reaction 2 LL	1971 #	
Beam Wt per ft	7.97 #	Reaction 1 TL	3573 #	Reaction 2 TL	3573 #	
Bm Wt Included	56 #	Maximum V	3573 #			
Max Moment	6253 #	Max V (Reduced)	2680 #			
TL Max Defl	L / 240	TL Actual Defl	L / 828			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.10	0.06
Critical	31.27	21.16	0.35	0.23
Status	OK	OK	OK	OK
Ratio	54%	64%	29%	24%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

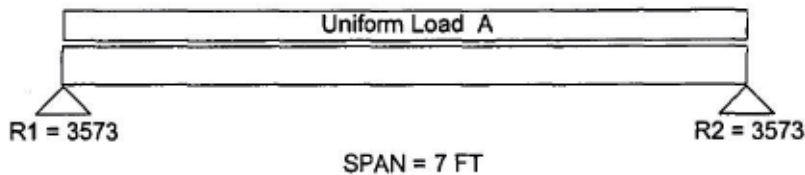
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 563

Uniform TL: 1013 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-8

ENTRY

Date: 1/27/06

Selection 4x 10 DF-L #2 Lu = 0.0 Ft

Conditions NDS '91

Min Bearing Area R1= 2.5 in² R2= 2.5 in² DL Defl 0.04 in

Data

Beam Span	8.0 ft	Reaction 1 LL	852 #	Reaction 2 LL	852 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1563 #	Reaction 2 TL	1563 #
Bm Wt Included	63 #	Maximum V	1563 #		
Max Moment	3127 #	Max V (Reduced)	1262 #		
TL Max Defl	L / 240	TL Actual Defl	L / 986		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.10	0.05
Critical	35.74	19.93	0.40	0.27
Status	OK	OK	OK	OK
Ratio	72%	62%	24%	20%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

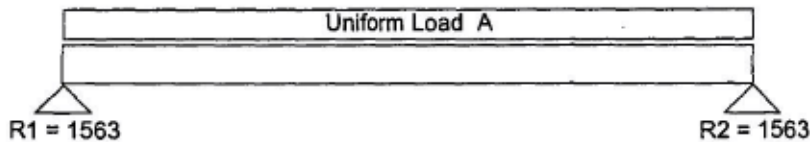
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 213

Uniform TL: 383 = A



SPAN = 8 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

ENTRY

RB-9

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 2.5 in² R2= 2.5 in² DL Defl 0.04 in

Data

Beam Span	8.0 ft	Reaction 1 LL	852 #	Reaction 2 LL	852 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1563 #	Reaction 2 TL	1563 #
Bm Wt Included	63 #	Maximum V	1563 #		
Max Moment	3127 #	Max V (Reduced)	1262 #		
TL Max Defl	L / 240	TL Actual Defl	L / 986		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.10	0.05
Critical	35.74	19.93	0.40	0.27
Status	OK	OK	OK	OK
Ratio	72%	62%	24%	20%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

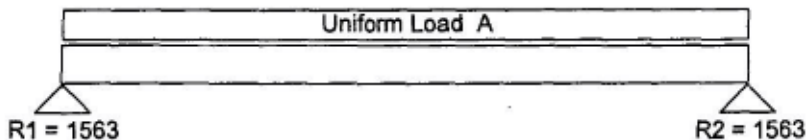
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 213

Uniform TL: 383 = A



SPAN = 8 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-10

LIVING ROOM

Date: 1/27/06

Selection 5-1/8x 18 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Conditions Increasing Load,
Min Bearing Area R1= 3.0 in² R2= 5.6 in² DL Defl 0.13 in Suggested Camber 0.20 in

Data

Beam Span	21.21 ft	Reaction 1 LL	938 #	Reaction 2 LL	1875 #
Beam Wt per ft	22.42 #	Reaction 1 TL	1925 #	Reaction 2 TL	3613 #
Bm Wt Included	475 #	Maximum V	3613 #		
Max Moment	15034 #'	Max V (Reduced)	2888 #		
TL Max Defl	L / 240	TL Actual Defl	L / 939		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	276.75	92.25	0.27	0.14
Critical	78.36	22.80	1.06	0.71
Status	OK	OK	OK	OK
Ratio	28%	25%	26%	20%

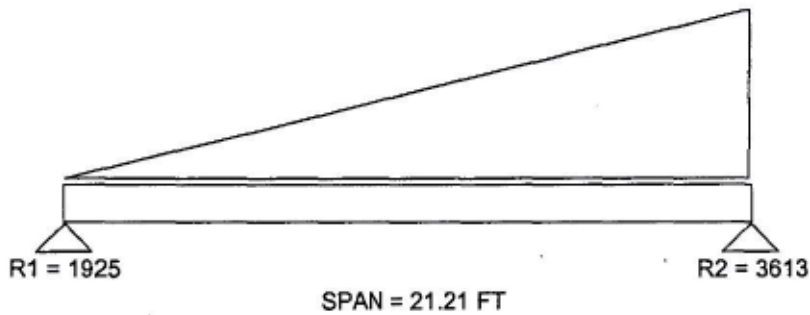
Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _l (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2302	190	1.8	650

Adjustments

Cv Volume	0.959			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads Increasing LL = 2813 Increasing TL = 5063



The increasing load is total pounds on the beam. Beam weight and any uniform load is PLF.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-11

USE 5 1/8 x 24 GLB.

FOYER

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 4.2 in ²	R2= 8.9 in ²	DL Defl	0.12 in	Suggested Camber	0.18 in
Beam Span	13.0 ft	Reaction 1 LL	1444 #	Reaction 2 LL	3031 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	2715 #	Reaction 2 TL	5772 #	
Bm Wt Included	194 #	Maximum V	5772 #			
Max Moment	9834 #	Max V (Reduced)	5397 #			
TL Max Defl	L / 240	TL Actual Defl	L / 606			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.26	0.14
Critical	49.17	42.61	0.65	0.43
Status	OK	OK	OK	OK
Ratio	40%	69%	40%	31%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

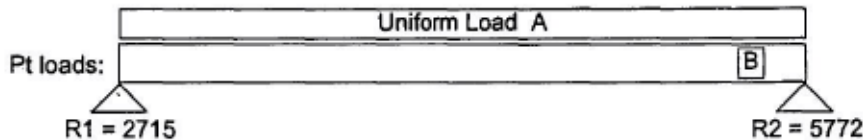
<u>Adjustments</u>	Cv Volume	1.000			
	Cd Duration	1.00	1.00		
	Cr Repetitive	1.00			
	Ch Shear Stress	1.00			
	Cm Wet Use	1.00	1.00	1.00	1.00
	CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 200

Uniform TL: 360 = A

Point LL	Point TL	Distance
1875	B = 3613	12.0



SPAN = 13 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-12

STAIRS

Date: 1/27/06

Selection

5-1/8x 24 GLB 24F-V8 DF/DF

Lu = 0.0 Ft

Lu @ OH = 0.0 Ft

Conditions

Overhang, Uplift @ R1,

Min Bearing Area R1= -0.5 in² R2= 30.2 in²

Data

Beam Span	11.5 ft	Reaction 1 LL	-173 #	Reaction 2 LL	10429 #
Beam Wt per ft	29.89 #	Reaction 1 TL	-300 #	Reaction 2 TL	19630 #
Bm Wt Included	463 #	Maximum V	12259 #	Overhang Length	4.0 ft
Max Moment	44115 #	Max V (Reduced)	11029 #	Total Beam Length	15.5 ft
TL Max Defl	L / 240	TL Actual Defl	L / < -1000	OH TL Actual Defl	L / 833
LL Max Defl	L / 360	LL Actual Defl	L / < -1000	OH LL Actual Defl	L / >1000

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl	OH TL Defl	OH LL Defl
Actual	492.00	123.00	-0.04	-0.02	0.12	0.06
Critical	222.48	87.07	0.58	0.38	0.40	0.27
Status	OK	OK	OK	OK	OK	OK
Ratio	45%	71%	7%	5%	29%	23%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2379	190	1.8	650

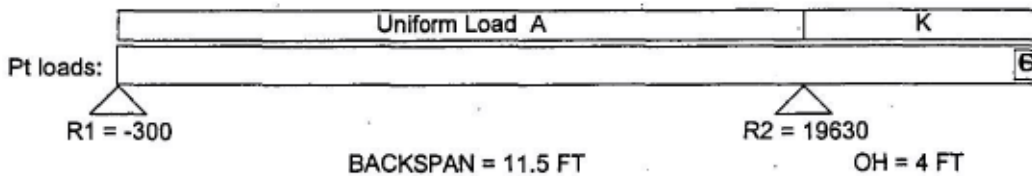
Adjustments

Cv Volume	0.991			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0
CI Stability @ OH	1.0000	Rb = 0.00	Le @ OH = 0.00 Ft	

Loads

Uniform LL: 325 Uniform TL: 585 = A (Uniform Ld on Backspan)

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
3031	F = 5772 (OH)	4.0	325	K = 585 (OH)	0	4.0
2188	G = 4027 (OH)	4.0				



Uniform and partial uniform loads are lbs per lineal ft. Overhanging load distances are from R2.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
RB-13

DEN

Date: 1/27/06

Selection
Conditions

5-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 3.4 in ²	R2= 3.9 in ²	DL Defl	0.03 in	Suggested Camber	0.05 in
Beam Span	7.5 ft	Reaction 1 LL	1171 #	Reaction 2 LL	1367 #	
Beam Wt per ft	13.08 #	Reaction 1 TL	2239 #	Reaction 2 TL	2550 #	
Bm Wt Included	98 #	Maximum V	2550 #			
Max Moment	5439 #	Max V (Reduced)	2149 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.07	0.04
Critical	27.19	16.96	0.38	0.25
Status	OK	OK	OK	OK
Ratio	29%	32%	18%	14%

Values

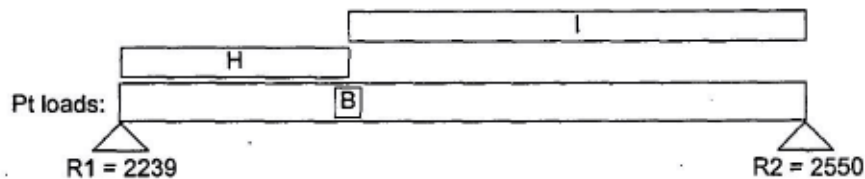
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
788	B = 1541	2.5	50	H = 90	0	2.5
			325	I = 585	2.5	7.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-1

LAUNDRY

Date: 1/27/06

Selection
Conditions

3-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 6.9 in ²	R2= 4.8 in ²	DL Defl	0.01 in	Suggested Camber	0.02 in
Beam Span	4.0 ft	Reaction 1 LL	2496 #	Reaction 2 LL	1766 #	
Beam Wt per ft	7.97 #	Reaction 1 TL	4468 #	Reaction 2 TL	3094 #	
Bm Wt Included	32 #	Maximum V	4468 #			
Max Moment	5648 #	Max V (Reduced)	3647 #			
TL Max Defl	L / 240	TL Actual Defl	L / >1000			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.03	0.02
Critical	28.24	28.80	0.20	0.13
Status	OK	OK	OK	OK
Ratio	49%	88%	15%	12%

Values

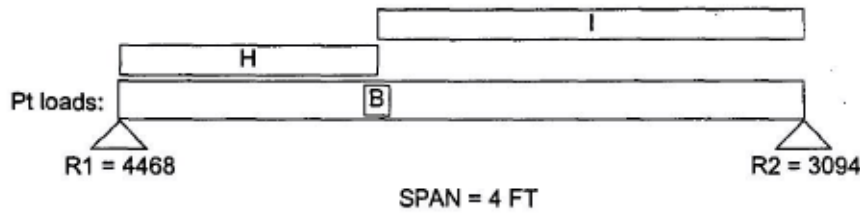
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _l (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
2357	B = 4485	1.5	570	H = 930	0	1.5
			420	I = 660	1.5	4.0



SPAN = 4 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

COVERED PORCH

B-2

Date: 1/27/06

Selection

5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 9.3 in² R2= 17.6 in² DL Defl 0.10 in

Date

Beam Span	11.0 ft	Reaction 1 LL	3252 #	Reaction 2 LL	6142 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6026 #	Reaction 2 TL	11464 #
Bm Wt Included	253 #	Maximum V	11464 #		
Max Moment	19346 #	Max V (Reduced)	5010 #		
TL Max Defl	L / 240	TL Actual Defl	L / 583		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.23	0.12
Critical	81.44	39.55	0.55	0.37
Status	OK	OK	OK	OK
Ratio	47%	54%	41%	33%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

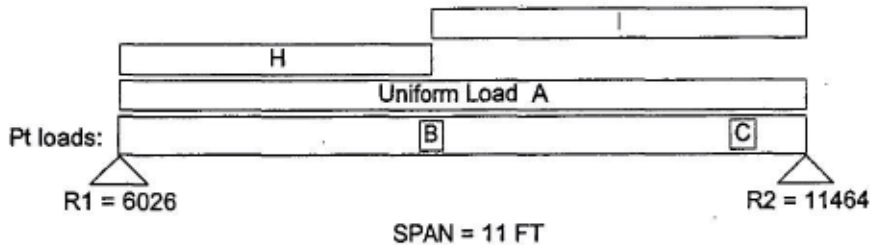
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 63 Uniform TL: 118 = A

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
688	B = 1256	5.0	410	H = 730	0	5.0
3743	C = 6953	10.0	370	I = 680	5.0	11.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-3

HALL

Date: 1/27/06

Selection
Conditions

5-1/8x 10-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area R1= 9.3 in² R2= 9.3 in² DL Defl <0.01 in. Suggested Camber <0.01 in.

Beam Span	2.0 ft	Reaction 1 LL	3071 #	Reaction 2 LL	3071 #
Beam Wt per ft	13.08 #	Reaction 1 TL	6025 #	Reaction 2 TL	6025 #
Bm Wt Included	26 #	Maximum V	6025 #		
Max Moment	5879 #	Max V (Reduced)	5769 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.00	<0.01
Critical	29.39	45.54	0.10	0.07
Status	OK	OK	OK	OK
Ratio	31%	85%	5%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

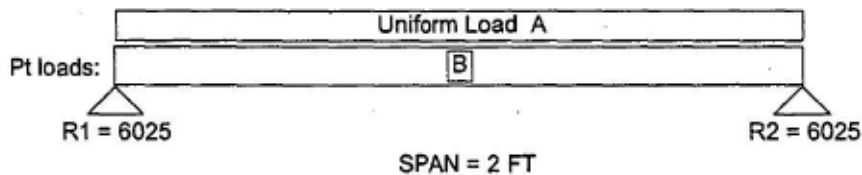
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform TL: 280 = A

Point LL	Point TL	Distance
6142	B = 11464	1.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

PORCH

B-4

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 0.9 in² R2= 0.9 in² DL Defl 0.02 in

Data

Beam Span	8.5 ft	Reaction 1 LL	268 #	Reaction 2 LL	268 #
Beam Wt per ft	7.87 #	Reaction 1 TL	535 #	Reaction 2 TL	535 #
Bm Wt Included	67 #	Maximum V	535 #		
Max Moment	1137 #'	Max V (Reduced)	438 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.04	0.02
Critical	12.99	6.91	0.43	0.28
Status	OK	OK	OK	OK
Ratio	26%	21%	9%	7%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

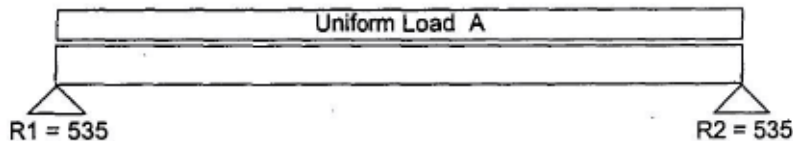
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 63

Uniform TL: 118 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

CASUAL DINING

B-5

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 4.7 in² R2= 4.7 in² DL Defl 0.02 in Suggested Camber 0.03 in

Data

Beam Span	6.0 ft	Reaction 1 LL	1890 #	Reaction 2 LL	1890 #
Beam Wt per ft	7.97 #	Reaction 1 TL	3039 #	Reaction 2 TL	3039 #
Bm Wt Included	48 #	Maximum V	3039 #		
Max Moment	4558 #'	Max V (Reduced)	2153 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.05	0.03
Critical	22.79	16.99	0.30	0.20
Status	OK	OK	OK	OK
Ratio	40%	52%	18%	17%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

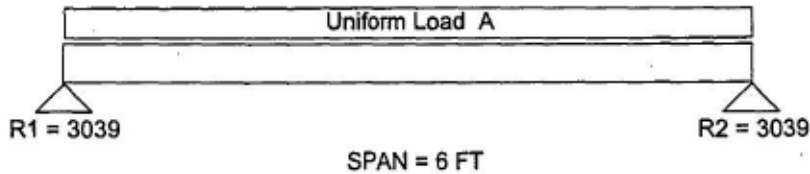
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 630

Uniform TL: 1005 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

CASUAL DINING

B-6

Date: 1/27/06

Selection

5-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 5.0 in² R2= 5.0 in² DL Defl 0.06 in Suggested Camber 0.10 in

Data

Beam Span	12.0 ft	Reaction 1 LL	2520 #	Reaction 2 LL	2520 #
Beam Wt per ft	13.08 #	Reaction 1 TL	3258 #	Reaction 2 TL	3258 #
Bm Wt Included	157 #	Maximum V	3258 #		
Max Moment	9775 #	Max V (Reduced)	2783 #		
TL Max Defl	L / 240	TL Actual Defl	L / 507		
LL Max Defl	L / 360	LL Actual Defl	L / 655		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.28	0.22
Critical	48.88	21.97	0.60	0.40
Status	OK	OK	OK	OK
Ratio	52%	41%	47%	55%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

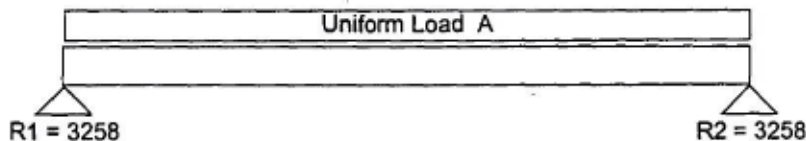
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 420

Uniform TL: 530 = A



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

CASUAL DINING

B-7

Date: 1/27/06

Selection

5-1/8x 18 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 9.5 in² R2= 9.5 in² DL Defl 0.06 in Suggested Camber 0.08 in

Data

Beam Span	16.0 ft	Reaction 1 LL	4800 #	Reaction 2 LL	4800 #
Beam Wt per ft	22.42 #	Reaction 1 TL	6179 #	Reaction 2 TL	6179 #
Bm Wt Included	359 #	Maximum V	6179 #		
Max Moment	24717 #	Max V (Reduced)	5021 #		
TL Max Defl	L / 240	TL Actual Defl	L / 757		
LL Max Defl	L / 360	LL Actual Defl	L / 975		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	276.75	92.25	0.25	0.20
Critical	125.25	39.64	0.80	0.53
Status	OK	OK	OK	OK
Ratio	45%	43%	32%	37%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2368	190	1.8	650

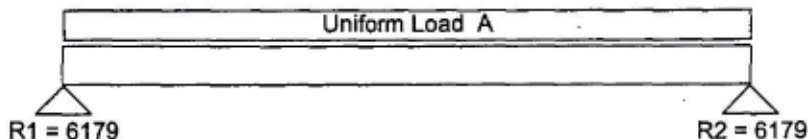
Adjustments

Cv Volume	0.987			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 600

Uniform TL: 750 = A



SPAN = 16 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

SITTING ROOM

B-8

Date: 1/27/06

Selection

5-1/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 10.2 in² R2= 10.2 in² DL Defl 0.10 in

Data

Beam Span	11.5 ft	Reaction 1 LL	3263 #	Reaction 2 LL	3267 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6618 #	Reaction 2 TL	6640 #
Bm Wt Included	264 #	Maximum V	6640 #		
Max Moment	12978 #'	Max V (Reduced)	5242 #		
TL Max Defl	L / 240	TL Actual Defl	L / 689		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in³)	Shear (in²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.20	0.10
Critical	54.63	41.39	0.58	0.38
Status	OK	OK	OK	OK
Ratio	32%	56%	35%	26%

Values

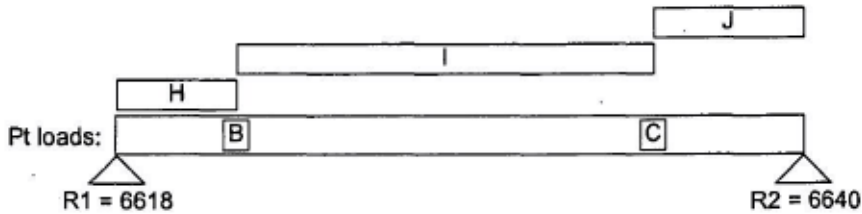
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1971	B = 3573	2.0	575	H = 1175	0	2.0
1971	C = 3573	9.0		I = 80	2.0	9.0
			575	J = 1175	9.0	11.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

HALL

B-9

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.1 in² R2= 2.1 in² DL Defl <0.01 in.

Data

Beam Span	4.5 ft	Reaction 1 LL	1080 #	Reaction 2 LL	1080 #
Beam Wt per ft	7.66 #	Reaction 1 TL	1367 #	Reaction 2 TL	1367 #
Bm Wt Included	34 #	Maximum V	1367 #		
Max Moment	1538 #	Max V (Reduced)	658 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	6.47	5.20	0.23	0.15
Status	OK	OK	OK	OK
Ratio	11%	21%	3%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

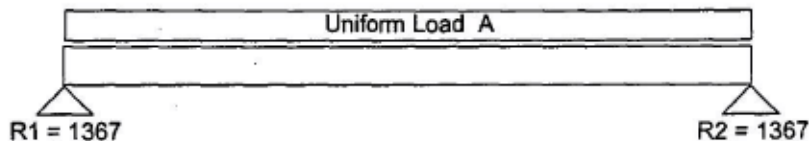
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 480

Uniform TL: 600 = A



SPAN = 4.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

HALL

B-10

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.4 in² R2= 1.2 in² DL Defl <0.01 in.

Data

Beam Span	4.5 ft	Reaction 1 LL	735 #	Reaction 2 LL	615 #
Beam Wt per ft	7.66 #	Reaction 1 TL	934 #	Reaction 2 TL	782 #
Bm Wt Included	34 #	Maximum V	934 #		
Max Moment	1712 #	Max V (Reduced)	844 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	7.21	6.66	0.23	0.15
Status	OK	OK	OK	OK
Ratio	13%	27%	4%	5%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

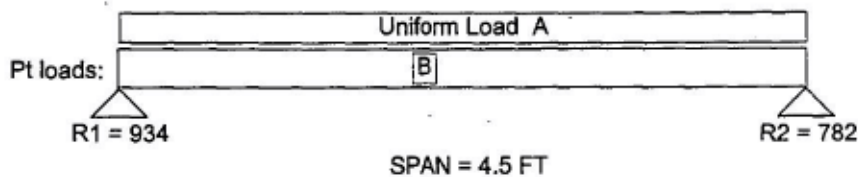
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 60 Uniform TL: 70 = A

Point LL	Point TL	Distance
1080	B = 1367	2.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

DINING ROOM

B-11

Date: 1/27/06

Selection

7x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 12.6 in² R2= 12.6 in² DL Defl 0.20 in

Data

Beam Span	14.5 ft	Reaction 1 LL	4082 #	Reaction 2 LL	4082 #
Beam Wt per ft	30.63 #	Reaction 1 TL	8182 #	Reaction 2 TL	8175 #
Bm Wt Included	444 #	Maximum V	8182 #		
Max Moment	23842 #	Max V (Reduced)	6871 #		
TL Max Defl	L / 240	TL Actual Defl	L / 438		
LL Max Defl	L / 360	LL Actual Defl	L / 877		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	228.67	98.00	0.40	0.20
Critical	100.36	54.24	0.73	0.48
Status	OK	OK	OK	OK
Ratio	44%	55%	55%	41%

Values

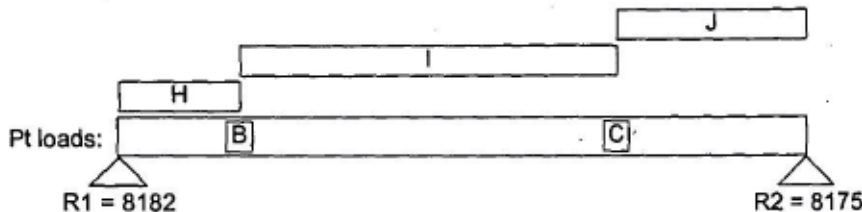
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
2252	B = 4084	2.5	563	H = 1093	0	2.5
2252	C = 4084	10.5		I = 80	2.5	10.5
			563	J = 1093	10.5	14.5



SPAN = 14.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-12

DINING ROOM

Date: 1/27/06

Selection 5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft Lu @ OH = 0.0 Ft

Conditions Overhang,
Min Bearing Area R1= 3.1 in² R2= 26.9 in² DL Defl 0.00 in

Date

Beam Span	13.0 ft	Reaction 1 LL	1668 #	Reaction 2 LL	9554 #
Beam Wt per ft	22.97 #	Reaction 1 TL	2035 #	Reaction 2 TL	17494 #
Bm Wt Included	310 #	Maximum V	14355 #	Overhang Length	0.5 ft
Max Moment	7175 #'	Max V (Reduced)	2674 #	Total Beam Length	13.5 ft
TL Max Defl	L / 240	TL Actual Defl	L / >1000	OH TL Actual Defl	L / < -1000
LL Max Defl	L / 360	LL Actual Defl	L / >1000	OH LL Actual Defl	L / < -1000

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl	OH TL Defl	OH LL Defl
Actual	171.50	73.50	0.06	0.06	0.00	0.00
Critical	30.20	21.11	0.65	0.43	0.05	0.03
Status	OK	OK	OK	OK	OK	OK
Ratio	18%	29%	9%	13%	3%	13%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

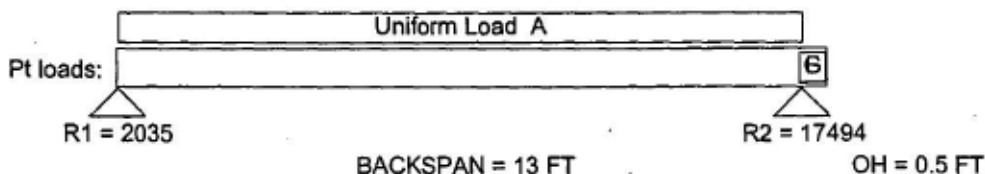
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0
CI Stability @ OH	1.0000	Rb = 0.00	Le @ OH = 0.00 Ft	

Loads

Point LL	Point TL	Distance
4082	F = 8182 (OH)	0.5
3240	G = 6162 (OH)	0.5

Uniform LL: 300 Uniform TL: 375 = A (Uniform Ld on Backspan)



Uniform and partial uniform loads are lbs per lineal ft. Overhanging load distances are from R2.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-13

DINING ROOM

Date: 1/27/06

Selection
Conditions

1-3/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Min Bearing Area R1= 1.1 in² R2= 1.1 in² DL Defl <0.01 in.

Data

Beam Span	4.0 ft	Reaction 1 LL	560 #	Reaction 2 LL	560 #
Beam Wt per ft	7.66 #	Reaction 1 TL	715 #	Reaction 2 TL	715 #
Bm Wt Included	31 #	Maximum V	715 #		
Max Moment	715 #	Max V (Reduced)	298 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.00	<0.01
Critical	3.01	2.35	0.20	0.13
Status	OK	OK	OK	OK
Ratio	5%	10%	1%	2%

Values

	Fb (psi)	Fv (psi)	E (psi x mill)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

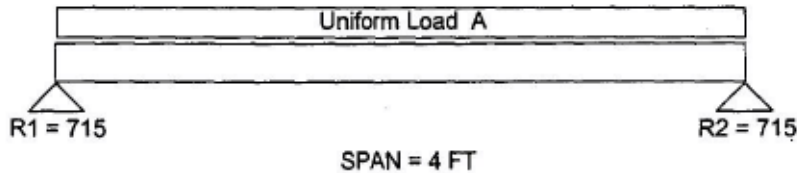
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 280

Uniform TL: 350 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

HALL

B-14

Date: 1/27/06

Selection

7x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 3.8 in² R2= 3.2 in² DL Defl 0.11 in

Data

Beam Span	21.0 ft	Reaction 1 LL	1687 #	Reaction 2 LL	1393 #
Beam Wt per ft	30.63 #	Reaction 1 TL	2440 #	Reaction 2 TL	2066 #
Bm Wt Included	643 #	Maximum V	2440 #		
Max Moment	11835 #	Max V (Reduced)	2229 #		
TL Max Defl	L / 240	TL Actual Defl	L / 723		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	228.67	98.00	0.35	0.24
Critical	49.82	17.60	1.05	0.70
Status	OK	OK	OK	OK
Ratio	22%	18%	33%	34%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

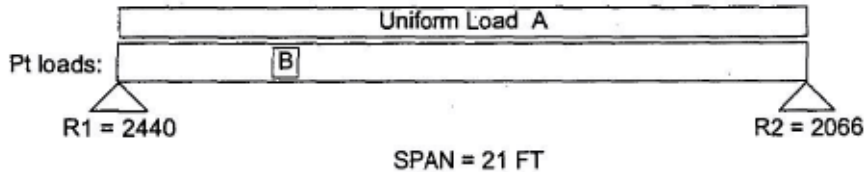
CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 120

Uniform TL: 150 = A

Point LL	Point TL	Distance
560	B = 713	5.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GREAT ROOM

B-15

Date: 1/27/06

Selection

W 14x 34 36 ksi Wide Flange Steel

Lateral Support at: Lc = 7.1 ft max.

Conditions

Actual Size is 6-3/4 x 14 in.,

Min Bearing Length R1= 1.0 in. R2= 1.0 in. DL Defl 0.18 in Suggested Camber 0.27 in

Data

Beam Span	22.0 ft	Reaction 1 LL	4522 #	Reaction 2 LL	1640 #
Beam Wt per ft	34.0 #	Reaction 1 TL	8625 #	Reaction 2 TL	3189 #
Bm Wt Included	748 #	Maximum V	8625 #		
Max Moment	42569 #'	Max V (Reduced)	N/A		
TL Max Defl	L / 240	TL Actual Defl	L / 687		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	48.60	3.98	0.38	0.20
Critical	21.50	0.60	1.10	0.73
Status	OK	OK	OK	OK
Ratio	44%	15%	35%	27%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)
Base Value Fy	36000	36000	29.0
Base Adjusted	23760	14400	29.0

Adjustments

YP Factor, Lc 0.66 0.40

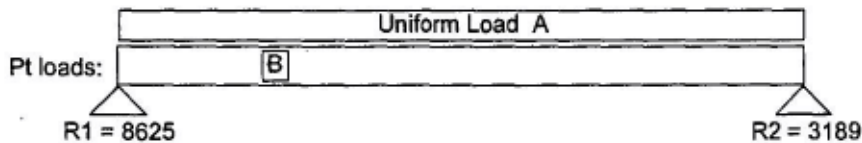
At Point Loads: Provide these minimum bearing lengths in inches or provide web stiffeners.
B = 1.0 C = 1.0

Loads

Uniform LL: 40

Uniform TL: 50 = A

Point LL	Point TL	Distance
4382	B = 8305	5.0
900	C = 1661	5.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg.# 6464-622

CUSTOM

GREAT ROOM

B-16

Date: 1/27/06

Selection

W 14x 26 36 ksi Wide Flange Steel

Lateral Support at: Lc = 5.3 ft max.

Conditions

Actual Size is 5 x 13-7/8 in.,

Min Bearing Length R1= 0.9 in. R2= 0.9 in. DL Defl 0.14 in Suggested Camber 0.21 in

Data

Beam Span	22.0 ft	Reaction 1 LL	2468 #	Reaction 2 LL	1037 #
Beam Wt per ft	26.0 #	Reaction 1 TL	4744 #	Reaction 2 TL	1985 #
Bm Wt Included	572 #	Maximum V	4744 #		
Max Moment	23185 #	Max V (Reduced)	N/A		
TL Max Defl	L / 240	TL Actual Defl	L / 893		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	35.30	3.55	0.30	0.15
Critical	11.71	0.33	1.10	0.73
Status	OK	OK	OK	OK
Ratio	33%	9%	27%	21%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)
Base Value Fy	36000	36000	29.0
Base Adjusted	23760	14400	29.0

Adjustments

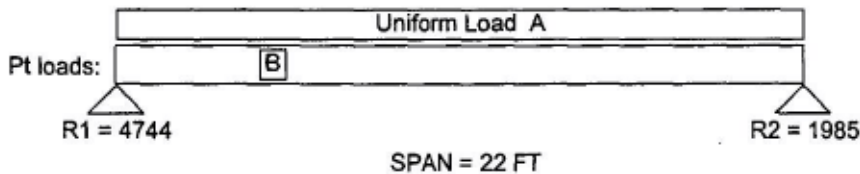
YP Factor, Lc	0.66	0.40	
At Point Loads: Provide these minimum bearing lengths in inches or provide web stiffeners. B = 0.9 C = 0.9			

Loads

Uniform LL: 40

Uniform TL: 50 = A

Point LL	Point TL	Distance
1725	B = 3396	5.0
900	C = 1661	5.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-17

SITTING ROOM

Date: 5/16/06

Selection
Conditions

6-3/4x 18 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 20.6 in ² R2= 11.8 in ²	DL Defl	0.07 in	Suggested Camber	0.10 in
Beam Span	13.0 ft	Reaction 1 LL	8128 #	Reaction 2 LL	5094 #
Beam Wt per ft	29.52 #	Reaction 1 TL	13394 #	Reaction 2 TL	7645 #
Bm Wt Included	384 #	Maximum V	13394 #		
Max Moment	29856 #	Max V (Reduced)	11925 #		
TL Max Defl	L / 240	TL Actual Defl	L / 873		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	364.50	121.50	0.18	0.11
Critical	152.32	94.14	0.65	0.43
Status	OK	OK	OK	OK
Ratio	42%	77%	27%	26%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2352	190	1.8	650

Adjustments

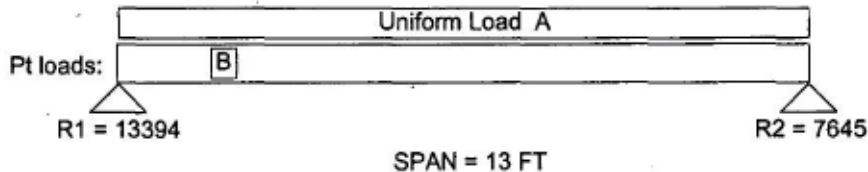
Cv Volume	0.980			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 680

Uniform TL: 950 = A

Point LL	Point TL	Distance
4382	B = 8305	2.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
B-18

GREAT ROOM

Date: 1/27/06

Selection
Conditions

3-1/8x 12 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 1.1 in ²	R2= 1.1 in ²	DL Defl <0.01 in.	Suggested Camber	0.01 in
Beam Span	9.0 ft	Reaction 1 LL	540 #	Reaction 2 LL	540 #
Beam Wt per ft	9.11 #	Reaction 1 TL	716 #	Reaction 2 TL	716 #
Bm Wt Included	82 #	Maximum V	716 #		
Max Moment	1611 #	Max V (Reduced)	557 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes
Actual
Critical
Status
Ratio

Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
75.00	37.50	0.03	0.02
8.06	4.40	0.45	0.30
OK	OK	OK	OK
11%	12%	6%	7%

Values

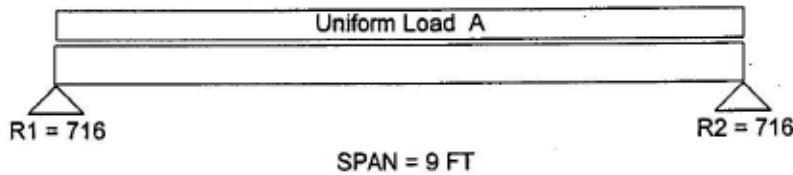
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 120 Uniform TL: 150 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GREAT ROOM

B-19

Date: 1/27/06

Selection

3-1/2x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 3.0 in² R2= 3.0 in² DL Defl 0.02 in

Data

Beam Span	10.0 ft	Reaction 1 LL	1200 #	Reaction 2 LL	1200 #
Beam Wt per ft	15.31 #	Reaction 1 TL	1977 #	Reaction 2 TL	1977 #
Bm Wt Included	153 #	Maximum V	1977 #		
Max Moment	4941 #	Max V (Reduced)	1515 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	114.33	49.00	0.06	0.04
Critical	20.80	11.96	0.50	0.33
Status	OK	OK	OK	OK
Ratio	18%	24%	12%	11%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

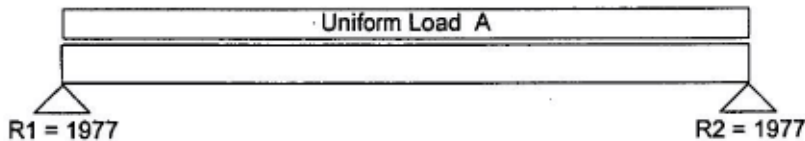
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 240

Uniform TL: 380 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

LIBRARY

B-20

Date: 1/27/06

Selection

5-1/4x 11-7/8 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 7.3 in² R2= 7.6 in² DL Defl 0.12 in

Data

Beam Span	12.0 ft	Reaction 1 LL	2661 #	Reaction 2 LL	2779 #
Beam Wt per ft	19.48 #	Reaction 1 TL	4746 #	Reaction 2 TL	4949 #
Bm Wt Included	234 #	Maximum V	4949 #		
Max Moment	10175 #	Max V (Reduced)	4133 #		
TL Max Defl	L / 240	TL Actual Defl	L / 529		
LL Max Defl	L / 360	LL Actual Defl	L / 928		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.39	62.34	0.27	0.16
Critical	42.05	32.63	0.60	0.40
Status	OK	OK	OK	OK
Ratio	34%	52%	45%	39%

Values

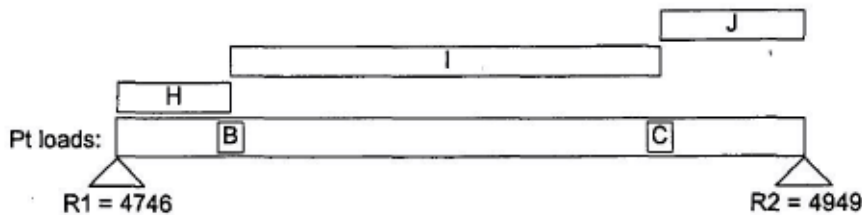
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2903	190	1.8	650

Adjustments

CF Size Factor	1.001			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1171	B = 2239	2.0	445	H = 805	0	2.0
1367	C = 2550	9.5	120	I = 140	2.0	9.5
			445	J = 805	9.5	12.0



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

LIBRARY

B-21

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 1.4 in² R2= 1.4 in² DL Defl 0.04 in

Data

Beam Span	12.0 ft	Reaction 1 LL	720 #	Reaction 2 LL	720 #
Beam Wt per ft	7.87 #	Reaction 1 TL	887 #	Reaction 2 TL	887 #
Bm Wt Included	94 #	Maximum V	887 #		
Max Moment	2662 #	Max V (Reduced)	773 #		
TL Max Defl	L / 240	TL Actual Defl	L / 772		
LL Max Defl	L / 360	LL Actual Defl	L / 951		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.19	0.15
Critical	30.42	12.21	0.60	0.40
Status	OK	OK	OK	OK
Ratio	61%	38%	31%	38%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

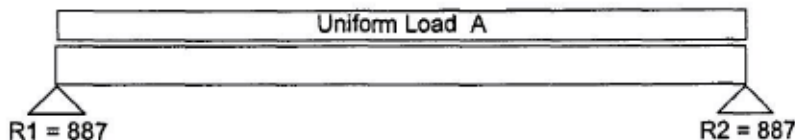
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 120

Uniform TL: 140 = A



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

LIVING ROOM

B-22

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 1.3 in² R2= 1.3 in² DL Defl 0.01 in

Data

Beam Span	6.0 ft	Reaction 1 LL	450 #	Reaction 2 LL	450 #
Beam Wt per ft	7.87 #	Reaction 1 TL	834 #	Reaction 2 TL	834 #
Bm Wt Included	47 #	Maximum V	834 #		
Max Moment	1250 #	Max V (Reduced)	619 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.02	0.01
Critical	14.29	9.78	0.30	0.20
Status	OK	OK	OK	OK
Ratio	29%	30%	7%	6%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

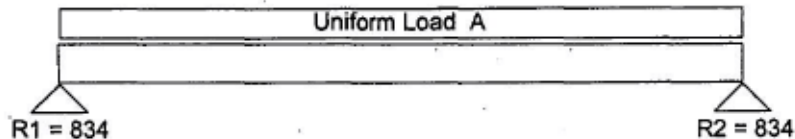
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 150

Uniform TL: 270 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-1

Date: 1/27/06

Selection

5-1/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 6.5 in² R2= 6.5 in² DL Defl 0.27 in

Data

Beam Span	18.0 ft	Reaction 1 LL	2007 #	Reaction 2 LL	2007 #
Beam Wt per ft	22.97 #	Reaction 1 TL	4194 #	Reaction 2 TL	4194 #
Bm Wt Included	413 #	Maximum V	4194 #		
Max Moment	18872 #	Max V (Reduced)	3650 #		
TL Max Defl	L / 240	TL Actual Defl	L / 425		
LL Max Defl	L / 360	LL Actual Defl	L / 888		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.51	0.24
Critical	79.44	28.82	0.90	0.60
Status	OK	OK	OK	OK
Ratio	46%	39%	57%	41%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

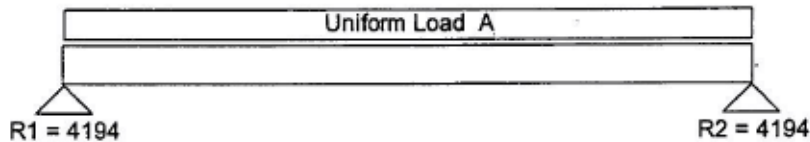
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 223

Uniform TL: 443 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-2

GARAGE

Date: 1/27/06

Selection
Conditions

5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area R1= 9.4 in² R2= 13.1 in² DL Defl 0.23 in

Beam Span	14.0 ft	Reaction 1 LL	3141 #	Reaction 2 LL	5057 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6122 #	Reaction 2 TL	8508 #
Bm Wt Included	322 #	Maximum V	8508 #		
Max Moment	28348 #'	Max V (Reduced)	7177 #		
TL Max Defl	L / 240	TL Actual Defl	L / 325		
LL Max Defl	L / 360	LL Actual Defl	L / 593		

Attributes

	Section (in³)	Shear (in²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.52	0.28
Critical	119.33	56.66	0.70	0.47
Status	OK	OK	OK	OK
Ratio	70%	77%	74%	61%

Values

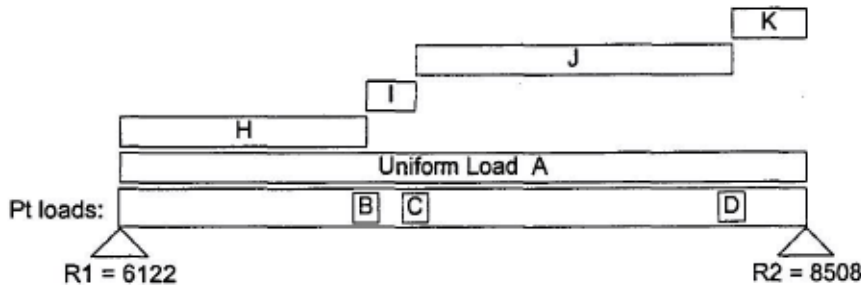
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Uniform LL: 63		Uniform TL: 113 = A	
			Par Unif LL	Par Unif TL	Start	End
2007	B = 4194	5.0		H = 80	0	5.0
320	C = 610	6.0	350	I = 710	5.0	6.0
1130	D = 2218	12.5	380	J = 475	6.0	12.5
			693	K = 1005	12.5	14.0



SPAN = 14 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-3

Date: 1/27/06

Selection

5-1/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 12.0 in² R2= 10.3 in² DL Defl 0.11 in

Data

Beam Span	12.0 ft	Reaction 1 LL	5058 #	Reaction 2 LL	4539 #
Beam Wt per ft	22.97 #	Reaction 1 TL	7790 #	Reaction 2 TL	6725 #
Bm Wt Included	276 #	Maximum V	7790 #		
Max Moment	26114 #	Max V (Reduced)	6453 #		
TL Max Defl	L / 240	TL Actual Defl	L / 462		
LL Max Defl	L / 360	LL Actual Defl	L / 722		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.31	0.20
Critical	109.93	50.95	0.60	0.40
Status	OK	OK	OK	OK
Ratio	64%	69%	52%	50%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

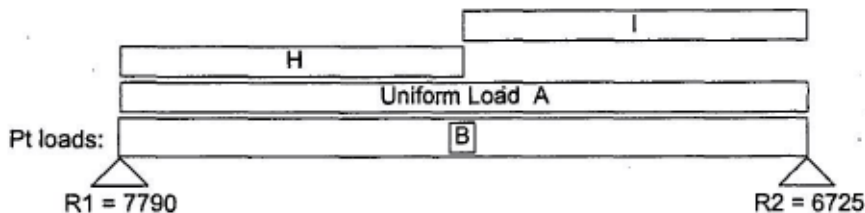
CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 63

Uniform TL: 118 = A

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1563	B = 2894	6.0	693	H = 1005	0	6.0
			520	I = 650	6.0	12.0



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-4

GARAGE

Date: 1/27/06

Selection
Conditions

5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area R1= 10.3 in² R2= 12.0 in² DL Defl 0.11 in

Beam Span	12.0 ft	Reaction 1 LL	4539 #	Reaction 2 LL	5058 #
Beam Wt per ft	22.97 #	Reaction 1 TL	6725 #	Reaction 2 TL	7790 #
Bm Wt Included	276 #	Maximum V	7790 #		
Max Moment	26114 #'	Max V (Reduced)	6453 #		
TL Max Defl	L / 240	TL Actual Defl	L / 462		
LL Max Defl	L / 360	LL Actual Defl	L / 722		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.31	0.20
Critical	109.93	50.95	0.60	0.40
Status	OK	OK	OK	OK
Ratio	64%	69%	52%	50%

Values

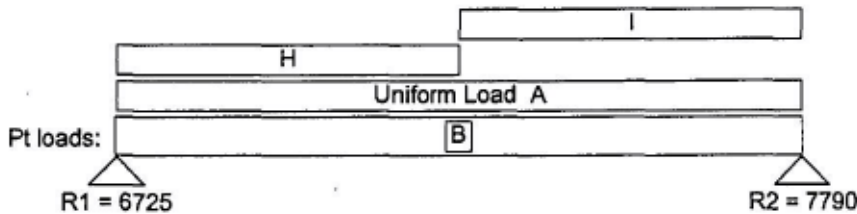
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

		Uniform LL: 63	Uniform TL: 118 = A			
Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1563	B = 2894	6.0	520	H = 650	0	6.0
			693	I = 1005	6.0	12.0



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
GB-5

GARAGE

Date: 5/16/06

Selection
Conditions

8-3/4x 24 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 19.5 in ²	R2= 9.3 in ²	DL Defl	0.59 in	Suggested Camber	0.89 in
Beam Span	26.0 ft	Reaction 1 LL	780 #	Reaction 2 LL	780 #	
Beam Wt per ft	51.03 #	Reaction 1 TL	12659 #	Reaction 2 TL	6068 #	
Bm Wt Included	1327 #	Maximum V	12659 #			
Max Moment	92147 #	Max V (Reduced)	12417 #			
TL Max Defl	L / 240	TL Actual Defl	L / 499			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	840.00	210.00	0.63	0.03
Critical	532.18	98.03	1.30	0.87
Status	OK	OK	OK	OK
Ratio	63%	47%	48%	4%

Values

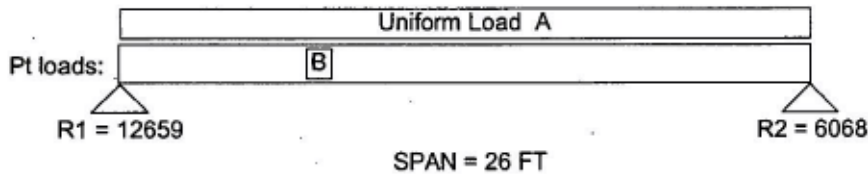
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2078	190	1.8	650

Adjustments

Cv Volume	0.866			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Uniform LL: 60	Uniform TL: 70 = A
Point TL	Distance	
B = 7790	7.5	
C = 7790	7.5	



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-6

Date: 1/27/06

Selection

6-3/4x 24 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 25.1 in² R2= 7.5 in² DL Defl 0.21 in Suggested Camber 0.31 in

Data

Beam Span	24.0 ft	Reaction 1 LL	9915 #	Reaction 2 LL	2965 #
Beam Wt per ft	39.37 #	Reaction 1 TL	16338 #	Reaction 2 TL	4885 #
Bm Wt Included	945 #	Maximum V	16338 #		
Max Moment	73913 #	Max V (Reduced)	14959 #		
TL Max Defl	L / 240	TL Actual Defl	L / 522		
LL Max Defl	L / 360	LL Actual Defl	L / 838		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	648.00	162.00	0.55	0.34
Critical	412.63	118.10	1.20	0.80
Status	OK	OK	OK	OK
Ratio	64%	73%	46%	43%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2150	190	1.8	650

Adjustments

Cv Volume	0.896			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
5057	B = 8508	5.0	325	H = 650	0	5.0
5058	C = 7190	5.0	60	I = 70	5.0	24.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-7

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.6 in² R2= 1.7 in² DL Defl 0.02 in Suggested Camber 0.04 in

Data

Beam Span	9.0 ft	Reaction 1 LL	750 #	Reaction 2 LL	602 #
Beam Wt per ft	7.97 #	Reaction 1 TL	1060 #	Reaction 2 TL	1089 #
Bm Wt Included	72 #	Maximum V	1089 #		
Max Moment	2411 #	Max V (Reduced)	874 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.06	0.04
Critical	12.06	6.90	0.45	0.30
Status	OK	OK	OK	OK
Ratio	21%	21%	14%	14%

Values

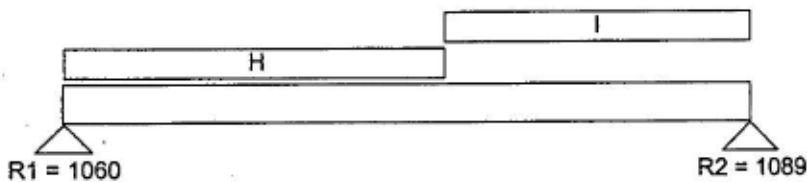
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Par Unif LL	Par Unif TL	Start	End
	180	H = 225	0	5.0
	113	I = 238	5.0	9.0



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-8

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.6 in² R2= 1.7 in² DL Defl 0.02 in Suggested Camber 0.04 in

Data

Beam Span	9.0 ft	Reaction 1 LL	750 #	Reaction 2 LL	602 #
Beam Wt per ft	7.97 #	Reaction 1 TL	1060 #	Reaction 2 TL	1089 #
Bm Wt Included	72 #	Maximum V	1089 #		
Max Moment	2411 #	Max V (Reduced)	874 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.06	0.04
Critical	12.06	6.90	0.45	0.30
Status	OK	OK	OK	OK
Ratio	21%	21%	14%	14%

Values

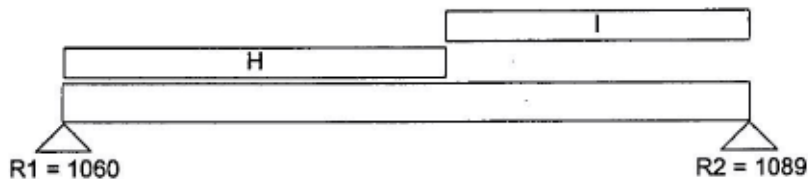
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Par Unif LL	Par Unif TL	Start	End
	180	H = 225	0	5.0
	113	I = 238	5.0	9.0



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

GARAGE

GB-9

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.3 in² R2= 1.3 in² DL Defl 0.02 in Suggested Camber 0.04 in

Data

Beam Span	9.0 ft	Reaction 1 LL	450 #	Reaction 2 LL	450 #
Beam Wt per ft	7.97 #	Reaction 1 TL	846 #	Reaction 2 TL	846 #
Bm Wt Included	72 #	Maximum V	846 #		
Max Moment	1903 #	Max V (Reduced)	681 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.05	0.03
Critical	9.52	5.38	0.45	0.30
Status	OK	OK	OK	OK
Ratio	17%	16%	11%	9%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

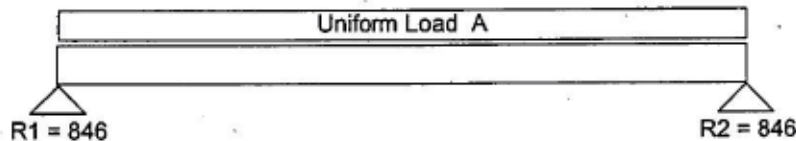
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 100

Uniform TL: 180 = A



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

REAR PORCH

PB-1

Date: 1/27/06

Selection

8-3/4x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 8.0 in² R2= 8.0 in² DL Defl 0.10 in Suggested Camber 0.14 in

Data

Beam Span	14.5 ft	Reaction 1 LL	3625 #	Reaction 2 LL	3625 #
Beam Wt per ft	25.52 #	Reaction 1 TL	5224 #	Reaction 2 TL	5224 #
Bm Wt Included	370 #	Maximum V	5224 #		
Max Moment	18936 #'	Max V (Reduced)	4503 #		
TL Max Defl	L / 240	TL Actual Defl	L / 552		
LL Max Defl	L / 360	LL Actual Defl	L / 795		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	210.00	105.00	0.32	0.22
Critical	96.25	35.55	0.73	0.48
Status	OK	OK	OK	OK
Ratio	46%	34%	44%	45%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2361	190	1.8	650

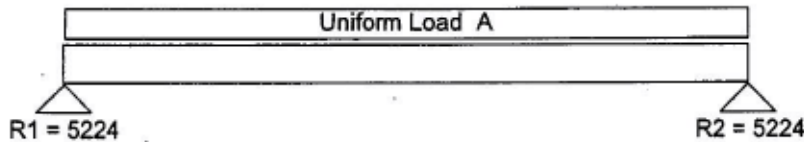
Adjustments

Cv Volume	0.984			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 500

Uniform TL: 695 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-2

REAR PORCH

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Data

Min Bearing Area	R1= 2.0 in ²	R2= 8.5 in ²	DL Defl	0.12 in	Suggested Camber	0.19 in
Beam Span	15.5 ft	Reaction 1 LL	738 #	Reaction 2 LL	3662 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	1319 #	Reaction 2 TL	5532 #	
Bm Wt Included	232 #	Maximum V	5532 #			
Max Moment	8489 #	Max V (Reduced)	5427 #			
TL Max Defl	L / 240	TL Actual Defl	L / 559			
LL Max Defl	L / 360	LL Actual Defl	L / 892			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.33	0.21
Critical	42.45	42.84	0.78	0.52
Status	OK	OK	OK	OK
Ratio	35%	70%	43%	40%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

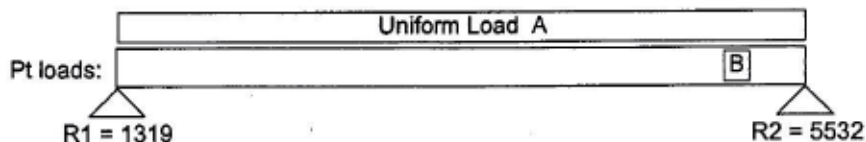
Cv Volume	1.000				
Cd Duration	1.00	1.00			
Cr Repetitive	1.00				
Ch Shear Stress		1.00			
Cm Wet Use	1.00	1.00	1.00	1.00	
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0	

Loads

Uniform LL: 50

Uniform TL: 90 = A

Point LL	Point TL	Distance
3625	B = 5224	14.0



SPAN = 15.5 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-3

REAR PORCH

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 2.0 in ²	R2= 8.5 in ²	DL Defl	0.12 in	Suggested Camber	0.19 in
Beam Span	15.5 ft	Reaction 1 LL	738 #	Reaction 2 LL	3662 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	1319 #	Reaction 2 TL	5532 #	
Bm Wt Included	232 #	Maximum V	5532 #			
Max Moment	8489 #	Max V (Reduced)	5427 #			
TL Max Defl	L / 240	TL Actual Defl	L / 559			
LL Max Defl	L / 360	LL Actual Defl	L / 892			

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.33	0.21
Critical	42.45	42.84	0.78	0.52
Status	OK	OK	OK	OK
Ratio	35%	70%	43%	40%

Values

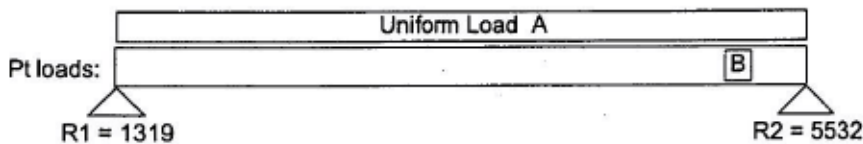
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc.L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Uniform LL: 50	Uniform TL: 90 = A
Point LL	Point TL	Distance
3625	B = 5224	14.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

REAR PORCH

PB-4

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 1.3 in² R2= 1.3 in² DL Defl 0.06 in Suggested Camber 0.09 in

Data

Beam Span	16.0 ft	Reaction 1 LL	400 #	Reaction 2 LL	400 #
Beam Wt per ft	14.94 #	Reaction 1 TL	840 #	Reaction 2 TL	840 #
Bm Wt Included	239 #	Maximum V	840 #		
Max Moment	3358 #	Max V (Reduced)	735 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.12	0.06
Critical	16.79	5.80	0.80	0.53
Status	OK	OK	OK	OK
Ratio	14%	9%	15%	10%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

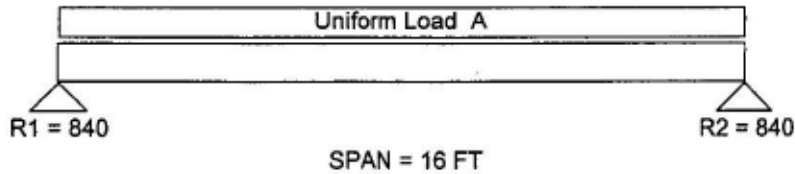
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-5

REAR PORCH

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF	Lu = 0.0 Ft
-----------------------------------	--------------------

Min Bearing Area R1= 1.3 in² R2= 1.3 in² DL Defl 0.06 in Suggested Camber 0.09 in

Date

Beam Span	16.0 ft	Reaction 1 LL	400 #	Reaction 2 LL	400 #
Beam Wt per ft	14.94 #	Reaction 1 TL	840 #	Reaction 2 TL	840 #
Bm Wt Included	239 #	Maximum V	840 #		
Max Moment	3358 #	Max V (Reduced)	735 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.12	0.06
Critical	16.79	5.80	0.80	0.53
Status	OK	OK	OK	OK
Ratio	14%	9%	15%	10%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc.L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

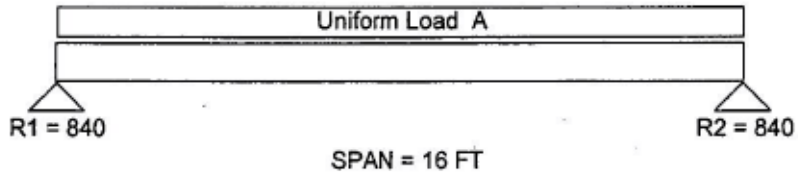
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress	1.00			
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
PB-6

REAR PORCH

Date: 1/27/06

Selection
Conditions

5-1/8x 19-1/2 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 9.9 in ²	R2= 9.9 in ²	DL Defl	0.10 in	Suggested Camber	0.15 in
Beam Span	19.0 ft	Reaction 1 LL	4137 #	Reaction 2 LL	4137 #	
Beam Wt per ft	24.28 #	Reaction 1 TL	6418 #	Reaction 2 TL	6418 #	
Bm Wt Included	461 #	Maximum V	6418 #			
Max Moment	15821 #	Max V (Reduced)	6232 #			
TL Max Defl	L / 240	TL Actual Defl	L / 826			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	324.80	99.94	0.28	0.17
Critical	82.21	49.20	0.95	0.63
Status	OK	OK	OK	OK
Ratio	25%	49%	29%	28%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2309	190	1.8	650

Adjustments

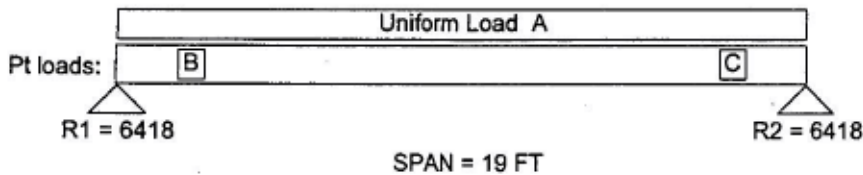
Cv Volume	0.962			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 50

Uniform TL: 90 = A

Point LL	Point TL	Distance
3662	B = 5332	2.0
3662	C = 5332	17.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-1

Date: 1/27/06

Selection

7x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 12.4 in² R2= 3.2 in² DL Defl 0.13 in

Data

Beam Span	19.0 ft	Reaction 1 LL	6104 #	Reaction 2 LL	1456 #
Beam Wt per ft	30.63 #	Reaction 1 TL	8038 #	Reaction 2 TL	2093 #
Bm Wt Included	582 #	Maximum V	8038 #		
Max Moment	21222 #	Max V (Reduced)	7128 #		
TL Max Defl	L / 240	TL Actual Defl	L / 456		
LL Max Defl	L / 360	LL Actual Defl	L / 615		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	228.67	98.00	0.50	0.37
Critical	89.33	56.27	0.95	0.63
Status	OK	OK	OK	OK
Ratio	39%	57%	53%	59%

Values

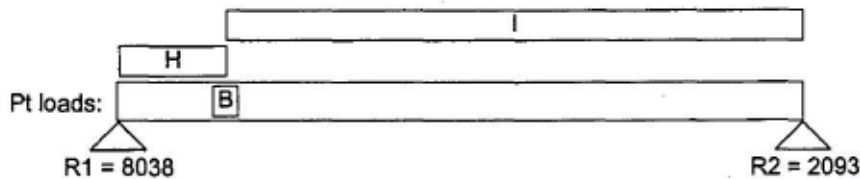
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
4800	B = 6179	3.0	600	H = 750	0	3.0
			60	I = 70	3.0	19.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-2

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.3 in² R2= 2.3 in² DL Defl <0.01 in.

Data

Beam Span	4.0 ft	Reaction 1 LL	1200 #	Reaction 2 LL	1200 #
Beam Wt per ft	7.66 #	Reaction 1 TL	1515 #	Reaction 2 TL	1515 #
Bm Wt Included	31 #	Maximum V	1515 #		
Max Moment	1515 #	Max V (Reduced)	631 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	6.38	4.98	0.20	0.13
Status	OK	OK	OK	OK
Ratio	11%	20%	3%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

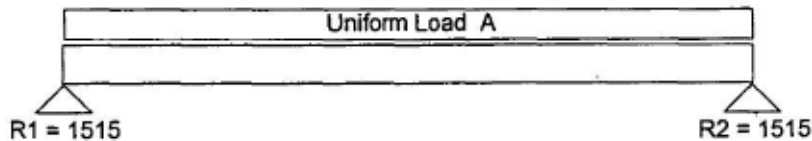
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 600

Uniform TL: 750 = A



SPAN = 4 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-3

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 3.1 in² R2= 3.1 in² DL Defl <0.01 in.

Data

Beam Span	4.0 ft	Reaction 1 LL	1368 #	Reaction 2 LL	1368 #
Beam Wt per ft	7.66 #	Reaction 1 TL	2040 #	Reaction 2 TL	2040 #
Bm Wt Included	31 #	Maximum V	2040 #		
Max Moment	3264 #	Max V (Reduced)	1564 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	13.74	12.35	0.20	0.13
Status	OK	OK	OK	OK
Ratio	24%	50%	7%	7%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

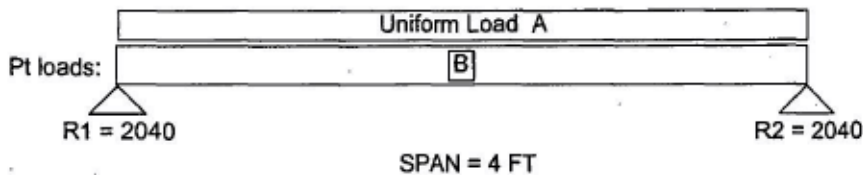
CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 200

Uniform TL: 400 = A

Point LL	Point TL	Distance
1200	B = 1515	2.0
735	C = 934	2.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-4

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 7.8 in² R2= 7.8 in² DL Defl 0.06 in Suggested Camber 0.09 in

Data

Beam Span	12.0 ft	Reaction 1 LL	3960 #	Reaction 2 LL	3960 #
Beam Wt per ft	14.94 #	Reaction 1 TL	5040 #	Reaction 2 TL	5040 #
Bm Wt Included	179 #	Maximum V	5040 #		
Max Moment	15119 #	Max V (Reduced)	4200 #		
TL Max Defl	L / 240	TL Actual Defl	L / 489		
LL Max Defl	L / 360	LL Actual Defl	L / 622		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.29	0.23
Critical	75.60	33.16	0.60	0.40
Status	OK	OK	OK	OK
Ratio	61%	54%	49%	58%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

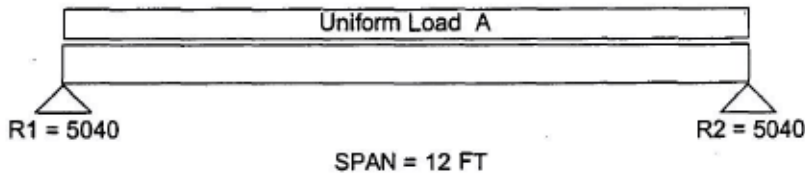
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 660

Uniform TL: 825 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-5

BASEMENT

Date: 1/27/06

Selection **5-1/8x 21 GLB 24F-V4 DF/DF** **Lu = 0.0 Ft**

Conditions

Min Bearing Area R1= 16.9 in² R2= 7.1 in² DL Defl 0.15 in Suggested Camber 0.22 in

Data

Beam Span	19.0 ft	Reaction 1 LL	7751 #	Reaction 2 LL	3137 #
Beam Wt per ft	26.15 #	Reaction 1 TL	10976 #	Reaction 2 TL	4616 #
Bm Wt Included	497 #	Maximum V	10976 #		
Max Moment	51951 #	Max V (Reduced)	9618 #		
TL Max Defl	L / 240	TL Actual Defl	L / 487		
LL Max Defl	L / 360	LL Actual Defl	L / 710		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	376.69	107.63	0.47	0.32
Critical	271.97	75.93	0.95	0.63
Status	OK	OK	OK	OK
Ratio	72%	71%	49%	51%

Values

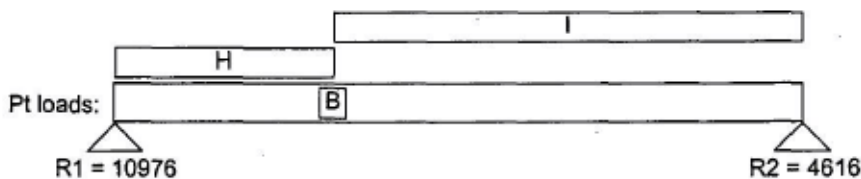
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2292	190	1.8	650

Adjustments

Cv Volume	0.955			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
6508	B = 9685	6.0	600	H = 750	0	6.0
			60	I = 70	6.0	19.0



SPAN = 19 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-6

Date: 1/27/06

Selection

3-1/2x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 2.3 in² R2= 4.3 in² DL Defl 0.08 in

Data

Beam Span	14.0 ft	Reaction 1 LL	1009 #	Reaction 2 LL	1931 #
Beam Wt per ft	15.31 #	Reaction 1 TL	1509 #	Reaction 2 TL	2813 #
Bm Wt Included	214 #	Maximum V	2813 #		
Max Moment	10122 #	Max V (Reduced)	2445 #		
TL Max Defl	L / 240	TL Actual Defl	L / 681		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	114.33	49.00	0.25	0.16
Critical	42.61	19.30	0.70	0.47
Status	OK	OK	OK	OK
Ratio	37%	39%	35%	35%

Values

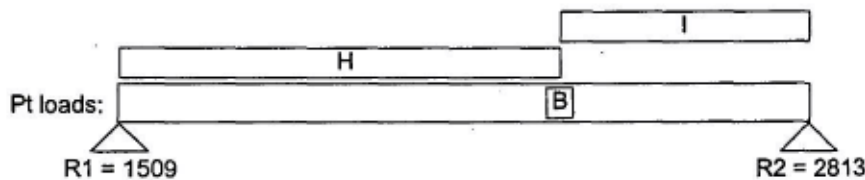
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1200	B = .1977	9.0	60	H = 70	0	9.0
			240	I = 300	9.0	14.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-7

Date: 1/27/06

Selection

3-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 4.5 in² R2= 3.4 in² DL Defl 0.01 in Suggested Camber 0.02 in

Data

Beam Span	6.0 ft	Reaction 1 LL	2197 #	Reaction 2 LL	1692 #
Beam Wt per ft	7.97 #	Reaction 1 TL	2956 #	Reaction 2 TL	2201 #
Bm Wt Included	48 #	Maximum V	2956 #		
Max Moment	3986 #	Max V (Reduced)	2424 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.42	32.81	0.05	0.04
Critical	19.93	19.13	0.30	0.20
Status	OK	OK	OK	OK
Ratio	35%	58%	18%	20%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

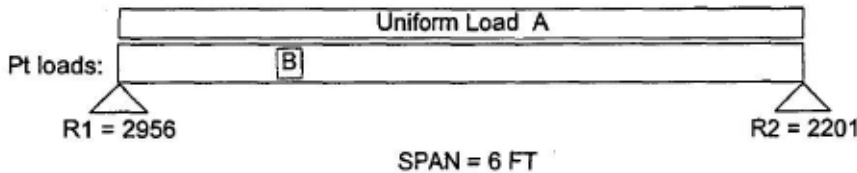
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 480

Uniform TL: 600 = A

Point LL	Point TL	Distance
1009	B = 1509	1.5



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-8

Date: 1/27/06

Selection

3-1/2x 14 2.0E Tj Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 6.6 in² R2= 2.0 in² DL Defl 0.05 in

Data

Beam Span	14.0 ft	Reaction 1 LL	3313 #	Reaction 2 LL	995 #
Beam Wt per ft	15.31 #	Reaction 1 TL	4258 #	Reaction 2 TL	1326 #
Bm Wt Included	214 #	Maximum V	4258 #		
Max Moment	9066 #	Max V (Reduced)	3680 #		
TL Max Defl	L / 240	TL Actual Defl	L / 713		
LL Max Defl	L / 360	LL Actual Defl	L / 922		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	114.33	49.00	0.24	0.18
Critical	38.16	29.05	0.70	0.47
Status	OK	OK	OK	OK
Ratio	33%	59%	34%	39%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance	Par Unif LL	Par Unif TL	Start	End
1668	B = 2035	2.0	370	H = 480	0	4.0
560	C = 715	4.0	60	I = 70	4.0	14.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-9

Date: 1/27/06

Selection

5-1/8x 12 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 7.0 in² R2= 6.2 in² DL Defl <0.01 in. Suggested Camber 0.01 in

Data

Beam Span	6.5 ft	Reaction 1 LL	3549 #	Reaction 2 LL	3166 #
Beam Wt per ft	14.94 #	Reaction 1 TL	4542 #	Reaction 2 TL	4032 #
Bm Wt included	97 #	Maximum V	4542 #		
Max Moment	7290 #	Max V (Reduced)	3427 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.04	0.03
Critical	36.45	27.05	0.33	0.22
Status	OK	OK	OK	OK
Ratio	30%	44%	14%	16%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

Adjustments

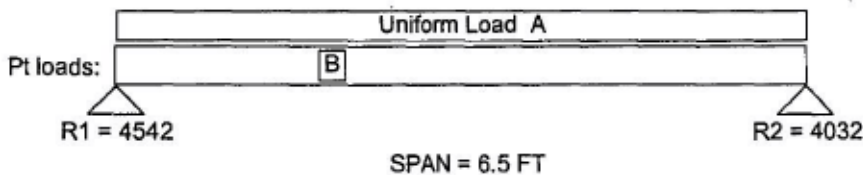
Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 880

Uniform TL: 1100 = A

Point LL	Point TL	Distance
995	B = 1326	2.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-10

BASEMENT

Date: 1/27/06

Selection
Conditions

5-1/8x 12 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Data

Min Bearing Area	R1= 7.7 in ²	R2= 7.7 in ²	DL Defl	0.03 in	Suggested Camber	0.04 in
Beam Span	9.0 ft	Reaction 1 LL	3960 #	Reaction 2 LL	3960 #	
Beam Wt per ft	14.94 #	Reaction 1 TL	5017 #	Reaction 2 TL	5017 #	
Bm Wt Included	135 #	Maximum V	5017 #			
Max Moment	11289 #	Max V (Reduced)	3902 #			
TL Max Defl	L / 240	TL Actual Defl	L / 873			
LL Max Defl	L / 360	LL Actual Defl	L / >1000			

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.12	0.10
Critical	56.44	30.81	0.45	0.30
Status	OK	OK	OK	OK
Ratio	46%	50%	27%	33%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

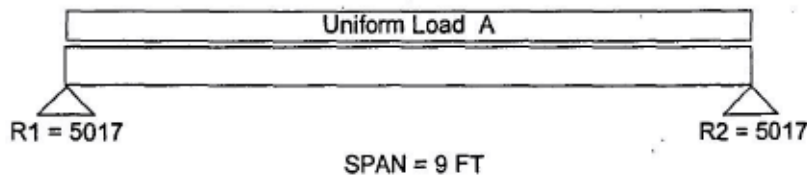
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 880

Uniform TL: 1100 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-11

BASEMENT

Date: 1/27/06

Selection
Conditions

1-3/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area R1= 1.6 in² R2= 1.6 in² DL Defl <0.01 in.

Beam Span	5.0 ft	Reaction 1 LL	800 #	Reaction 2 LL	800 #
Beam Wt per ft	7.66 #	Reaction 1 TL	1019 #	Reaction 2 TL	1019 #
Bm Wt Included	38 #	Maximum V	1019 #		
Max Moment	1274 #	Max V (Reduced)	544 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.01	<0.01
Critical	5.36	4.29	0.25	0.17
Status	OK	OK	OK	OK
Ratio	9%	18%	3%	4%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _L (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

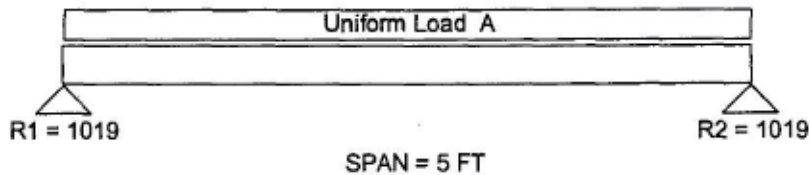
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 320

Uniform TL: 400 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-12

Date: 1/27/06

Selection

1-3/4x 14 2.0E TJ Parallam® W.S. PSL

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 0.8 in² R2= 0.8 in² DL Defl <0.01 in.

Data

Beam Span	5.0 ft	Reaction 1 LL	400 #	Reaction 2 LL	400 #
Beam Wt per ft	7.66 #	Reaction 1 TL	519 #	Reaction 2 TL	519 #
Bm Wt Included	38 #	Maximum V	519 #		
Max Moment	649 #	Max V (Reduced)	277 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	57.17	24.50	0.00	<0.01
Critical	2.73	2.19	0.25	0.17
Status	OK	OK	OK	OK
Ratio	5%	9%	2%	2%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

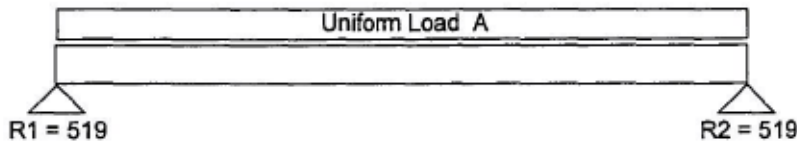
Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 160

Uniform TL: 200 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-13

BASEMENT

Date: 1/27/06

Selection
Conditions

5-1/4x 14 2.0E TJ Parallam® W.S. PSL Lu = 0.0 Ft

Data

Min Bearing Area	R1= 2.3 in ²	R2= 3.0 in ²	DL Defl	0.12 in	
Beam Span	21.0 ft	Reaction 1 LL	1049 #	Reaction 2 LL	1411 #
Beam Wt per ft	22.97 #	Reaction 1 TL	1512 #	Reaction 2 TL	1979 #
Bm Wt Included	482 #	Maximum V	1979 #		
Max Moment	11460 #'	Max V (Reduced)	1870 #		
TL Max Defl	L / 240	TL Actual Defl	L / 570		
LL Max Defl	L / 360	LL Actual Defl	L / 788		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	171.50	73.50	0.44	0.32
Critical	48.24	14.76	1.05	0.70
Status	OK	OK	OK	OK
Ratio	28%	20%	42%	46%

Values

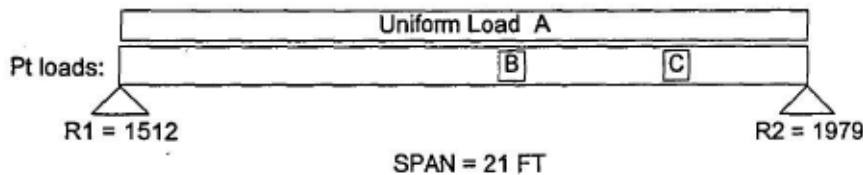
	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2900	190	1.8	650
Base Adjusted	2851	190	1.8	650

Adjustments

CF Size Factor	0.983			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

	Uniform LL: 60	Uniform TL: 70 = A
Point LL	Point TL	Distance
800	B = 1019	12.0
400	C = 519	17.0



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-14

BASEMENT

Date: 1/27/06

Selection 5-1/8x 12 GLB 24F-V4 DF/DF Lu = 0.0 Ft

Conditions Min Bearing Area R1= 3.4 in² R2= 5.2 in² DL Defl <0.01 in. Suggested Camber <0.01 in.

Data

Beam Span	5.0 ft	Reaction 1 LL	1682 #	Reaction 2 LL	2529 #
Beam Wt per ft	14.94 #	Reaction 1 TL	2183 #	Reaction 2 TL	3371 #
Bm Wt Included	75 #	Maximum V	3371 #		
Max Moment	3336 #	Max V (Reduced)	2656 #		
TL Max Defl	L / 240	TL Actual Defl	L / >1000		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	123.00	61.50	0.01	<0.01
Critical	16.68	20.97	0.25	0.17
Status	OK	OK	OK	OK
Ratio	14%	34%	5%	6%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

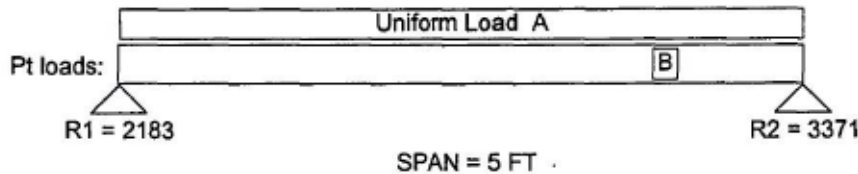
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Point LL	Point TL	Distance
1411	B = 1979	4.0

Uniform LL: 560 Uniform TL: 700 = A



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM
BB-15

BASEMENT

Date: 5/16/06

Selection **5-1/8x 13-1/2 GLB 24F-V4 DF/DF** **Lu = 0.0 Ft**

Conditions

Min Bearing Area R1= 9.2 in² R2= 10.7 in² DL Defl 0.08 in Suggested Camber 0.13 in

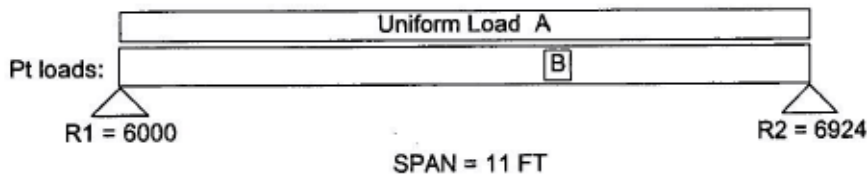
<u>Data</u>	Beam Span	11.0 ft	Reaction 1 LL	4336 #	Reaction 2 LL	4784 #
	Beam Wt per ft	16.81 #	Reaction 1 TL	6000 #	Reaction 2 TL	6924 #
	Bm Wt Included	185 #	Maximum V	6924 #		
	Max Moment	20782 #	Max V (Reduced)	5949 #		
	TL Max Defl	L / 240	TL Actual Defl	L / 528		
	LL Max Defl	L / 360	LL Actual Defl	L / 794		

<u>Attributes</u>	Section (in ³)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	155.67	69.19	0.25	0.17
Critical	103.91	46.97	0.55	0.37
Status	OK	OK	OK	OK
Ratio	67%	68%	45%	45%

<u>Values</u>	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

<u>Adjustments</u>	Cv Volume	1.000	Cd Duration	1.00	1.00	Cr Repetitive	1.00	Ch Shear Stress	1.00	Cm Wet Use	1.00	1.00	1.00	1.00
	CI Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0									

<u>Loads</u>	Point LL	Point TL	Distance	Uniform LL: 680	Uniform TL: 850 = A
	1640	B = 3389	7.0		



Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-16

Date: 1/27/06

Selection

5-1/8x 10-1/2 GLB 24F-V4 DF/DF

Lu = 0.0 Ft

Conditions

Min Bearing Area R1= 4.6 in² R2= 4.6 in² DL Defl 0.09 in Suggested Camber 0.14 in

Data

Beam Span	12.0 ft	Reaction 1 LL	1920 #	Reaction 2 LL	1920 #
Beam Wt per ft	13.08 #	Reaction 1 TL	2958 #	Reaction 2 TL	2958 #
Bm Wt Included	157 #	Maximum V	2958 #		
Max Moment	8875 #	Max V (Reduced)	2527 #		
TL Max Defl	L / 240	TL Actual Defl	L / 558		
LL Max Defl	L / 360	LL Actual Defl	L / 860		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	94.17	53.81	0.26	0.17
Critical	44.38	19.95	0.60	0.40
Status	OK	OK	OK	OK
Ratio	47%	37%	43%	42%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _⊥ (psi)
Base Values	2400	190	1.8	650
Base Adjusted	2400	190	1.8	650

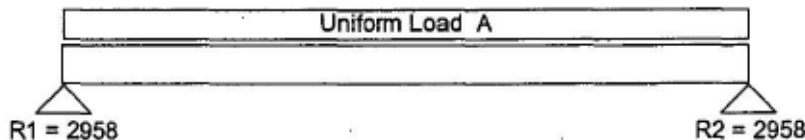
Adjustments

Cv Volume	1.000			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 320

Uniform TL: 480 = A



SPAN = 12 FT

Uniform and partial uniform loads are lbs per lineal ft.

PETRIE RESIDENCE

BeamChek v2.4 licensed to: Nash, Jones, Anderson Architects Reg # 6464-622

CUSTOM

BASEMENT

BB-17

Date: 1/27/06

Selection

4x 10 DF-L #2

Lu = 0.0 Ft

Conditions

NDS '91

Min Bearing Area R1= 2.2 in² R2= 2.2 in² DL Defl 0.03 in

Data

Beam Span	9.0 ft	Reaction 1 LL	1080 #	Reaction 2 LL	1080 #
Beam Wt per ft	7.87 #	Reaction 1 TL	1385 #	Reaction 2 TL	1385 #
Bm Wt Included	71 #	Maximum V	1385 #		
Max Moment	3117 #	Max V (Reduced)	1148 #		
TL Max Defl	L / 240	TL Actual Defl	L / 879		
LL Max Defl	L / 360	LL Actual Defl	L / >1000		

Attributes

	Section (in ²)	Shear (in ²)	TL Defl (in)	LL Defl
Actual	49.91	32.38	0.12	0.10
Critical	35.62	18.13	0.45	0.30
Status	OK	OK	OK	OK
Ratio	71%	56%	27%	32%

Values

	Fb (psi)	Fv (psi)	E (psi x mil)	Fc _I (psi)
Base Values	875	95	1.6	625
Base Adjusted	1050	95	1.6	625

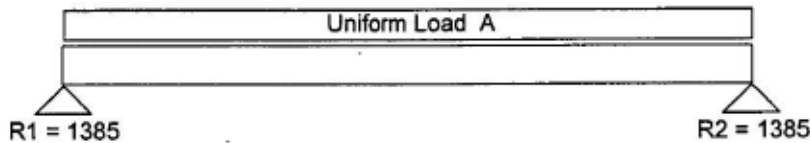
Adjustments

CF Size Factor	1.200			
Cd Duration	1.00	1.00		
Cr Repetitive	1.00			
Ch Shear Stress		1.00		
Cm Wet Use	1.00	1.00	1.00	1.00
Cl Stability	1.0000	Rb = 0.00	Le = 0.00 Ft	Kbe = 0.0

Loads

Uniform LL: 240

Uniform TL: 300 = A



SPAN = 9 FT

Uniform and partial uniform loads are lbs per lineal ft.



TO: BRAIN McWATTERS
CITY OF MERCER ISLAND
9611 S.E. 36TH STREET
MERCER ISLAND, WA 98040

MAY 15, 2006



RESPONSE TO STRUCTURAL REVIEW: PROJECT # 0602-121, THE PETRIE RESIDENCE

* S6. Please see attached revised calculations. - IDENTICAL TO OTHERS, HOW IS SIGNATURE ADDRESSING? *CHECK ON*

* S7. Please see sheet "L8", "FRONT" & "LCEN", of the engineers calculations for the horizontal diaphragm calculations. Also, please see notes 16, 17, & 18 on sheet L3 of the architectural drawings for the connection requirements of the offset walls at the garage. *PROVIDE DETAIL & DETAIL WAY TRANSFER LOADS*

* S8. The P1-2c shear walls located at the dining room have a width of 3.5', & a height of 10'. Thus the height to width ratio = $10 / 3.5 = 2.86 < 3.5$, therefore OK. The P1-2c shear walls located at the great room have a width of 2.5' & an effective height of 8', please see note 14. "main floor shear walls", on architectural sheet L2. Thus the height to width ratio = $8 / 2.5 = 3.2 < 3.5$, therefore OK. Also, where applicable, the reduction in shear wall capacity due to the height to width ratio per Table 2305.3.3 of the I.B.C. has been applied. - *AS INDICATED WHERE?*

UNCLAD WALLS INCORRECT - PS WALLS ARE 12' HIGH WITH 105 N/LK

* S10. Lateral design is correct. The walls shown on the upper floor are used to show amount of lateral load attributed to main floor walls, due to the hip roof extending to the upper floor level. Additional load is added at the main floor to account for the additional lateral load created by the sail areas of the walls.

* S11. Please see revised architectural plans.

NO SW AT MAIN AT THIS LEVEL FROM

✓ S12. Please see revised engineering sheet. *? CONNECTION OF TOP OF WALL TO PS OR SW? DETAIL ROOM*

SITING THROUGH TOP ROCK TO WHAT? THROUGH AND NO DETAIL WAY TO DETAIL AT THIS LOCATION

1/2 S13. Please see structural tubes @ deck on architectural sheet L2 & detail J on sheet L5 for lateral resistance of the deck. Also, please note seismic force of deck = $0.1483 \times 15 \text{ psf} \times 16' \times 19' = 670 \text{ \#}$. Seismic force at house = $670 / 2 = 335 \text{ \#} / 19' = 18 \text{ plf}$, deck ledger w/ screws in withdrawal OK. *1604.2 PER DETAIL OF INSTRUCTIONS AT PC - DETAIL CORNERS*

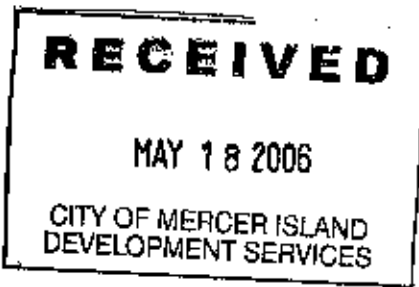
✓ S14. Please see attached framing schematic.

* S16. Detail "S" is actual Detail "R" on sheet L1 of the architectural plans. Please see attached revised engineering sheet.

LG?

ARE PLAN NOTES REVERSED ON L1?
Sincerely,

Mark Weller, P.E.



TYPICAL CANTILEVERED RETAINING WALL

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
0.3	Cf			Coefficient of friction against sliding
10.17	a		ft	Height of earth above "base"
50	w4		#	Weight on top of wall
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
4.00	toe		ft	Length of toe
0.83	heel		ft	Length of heel
<hr/>				
	H	11.00	ft	Overall height of equivalent fluid
	Lf	6.50	ft	Total footing width
	fs	1,239	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,310	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	1.83	ft	
	X	1.41	ft	Location of resultant force
	2Lf/3	3.66	ft	
	F	2,118	#	Total horizontal force
	Fk	1,288	#	Required key force (key req'd if > 0)
	FS	1.501		Net factor against overturning
	Mot	7,764	# - ft	Overturning moment
	Mr	11,655	# - ft	Resisting moment
	Mu	10,431	# - ft	Ultimate moment for concrete design
	W	2,765	#	Total weight on footing
	w1	1013	#	Soil weight on heel (120 pcf)
	w2	1018	#	Weight of wall
	w3	684	#	Weight of footing
	x1	5.08	ft	
	x2	4.33	ft	
	x3	2.75	ft	
	x4	4.33	ft	

$f_c = 2500$ psi
 $f_y = 40$ ksi (# 4)
 $f_y = 60$ ksi (# 5)
 $M_u = 10.44$ k-ft
 $d = 6$ in
 $A_s = 0.47$ in² # 5 @ 8" o.c.

$$R_s = C_f \times W_{\text{total}} = (0.3)(2765 \#) = 829.5 \#$$

$$SF = \frac{830 \#}{2118 \#} =$$

Find "H" for # 4 @ 16" o.c.

$f_c = 2500$ psi
 $f_y = 40$ ksi (# 4)
 $M_u = 1.99$ k-ft
 $d = 6$ in
 $H = 5' - 9"$

CALCULATION FOR FD1

TYPICAL CANTILEVERED RETAINING WALL w/ 50 psf vehicle surcharge

INPUT	NAME	OUTPUT	UNITS	COMMENT
35	EFP		# / ft ³	Equivalent fluid pressure
0.3	Cf			Coefficient of friction against sliding (includes Factor of Safety = 1.5)
4.33	a		ft	Height of earth above "base"
0.67	w		ft	Wall thickness
0.83	t		ft	Footing thickness
1.00	toe		ft	Length of toe
0.83	heel		ft	Length of heel
	H	5.16	ft	Overall height of equivalent fluid
	Lf	2.50	ft	Total footing width
	fs	1,295	# / ft ²	Soil bearing if X is in mid 1/3
	fs2	1,452	# / ft ²	Soil bearing if X is not in mid 1/3
	Lf/3	0.83	ft	
	X	0.56	ft	Location of resultant force
	2Lf/3	1.66	ft	
	F	682	#	Total horizontal force
	Fk	317	#	Net horizontal force
	FS	1.535		Net factor against overturning
	Mot	1,270	# - ft	Overturning moment
	Mr	1,950	# - ft	Resisting moment
	Mu	1,602	# - ft	Ultimate moment for concrete design
	W	1,217	#	Total weight on footing
	w1	473	#	Soil weight on heel (120 pcf)
	w2	433	#	Weight of wall
	w3	311	#	Weight of footing
	x1	2.08	ft	
	x2	1.33	ft	
	x3	1.25	ft	

f_c = 2500 psi

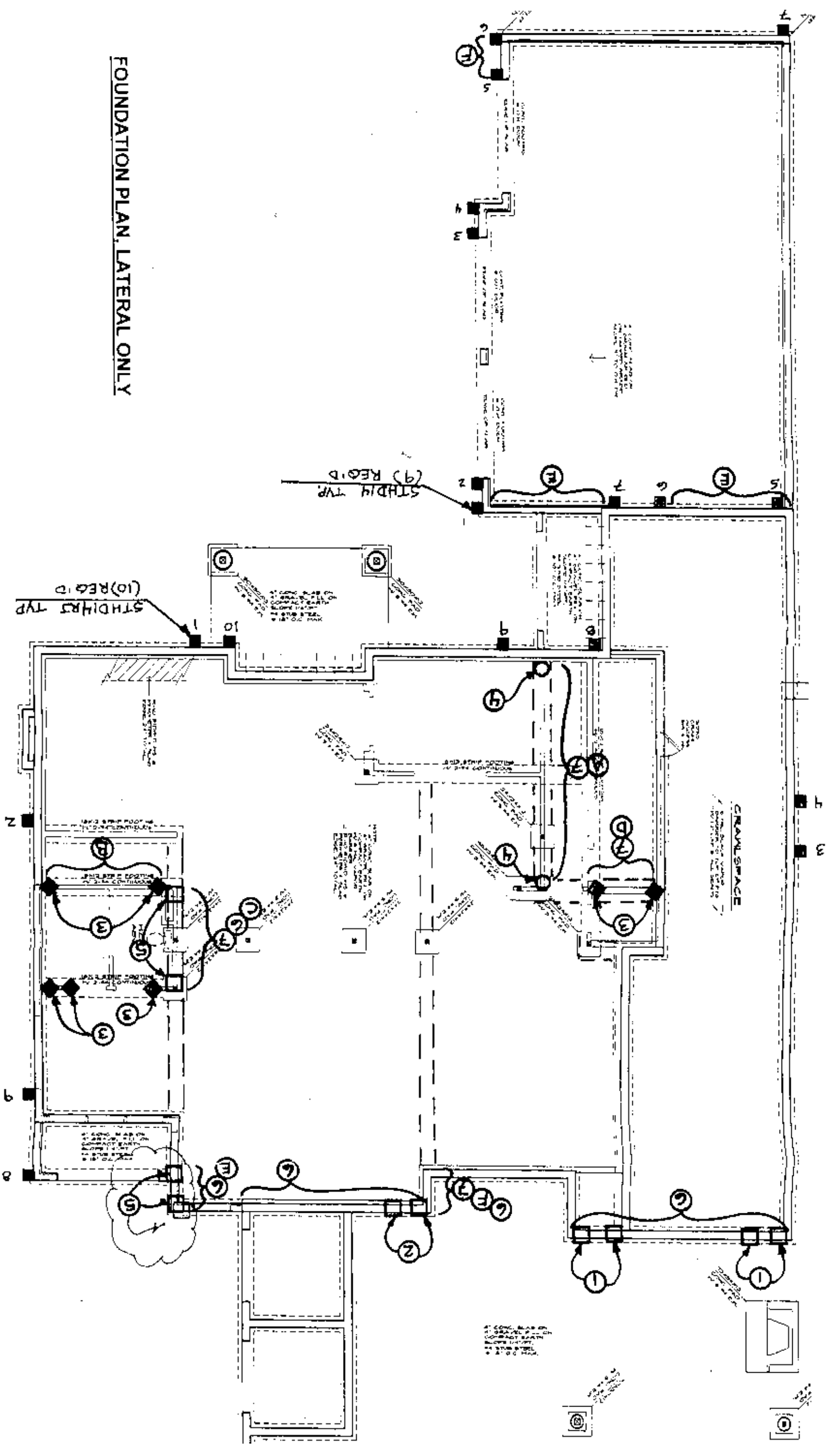
f_y = 40 ksi

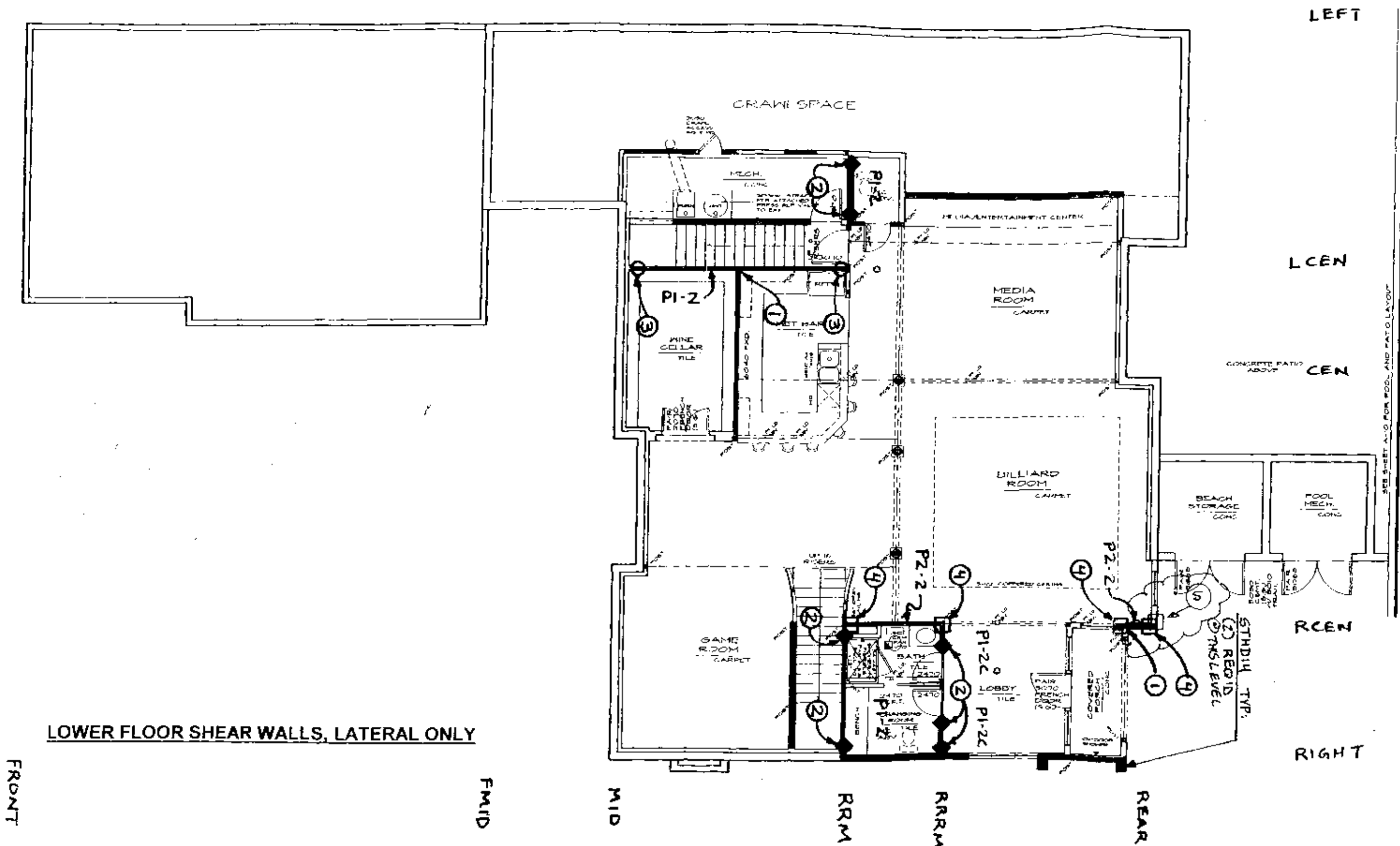
M_u = 1.61 k-ft

d = 6 in

A_s = 0.15 in²

4 @ 16" o.c.





LOWER FLOOR SHEAR WALLS, LATERAL ONLY

FRONT

FMID

MID

RRM

RRM

REAR

LEFT

LCEN

CEN

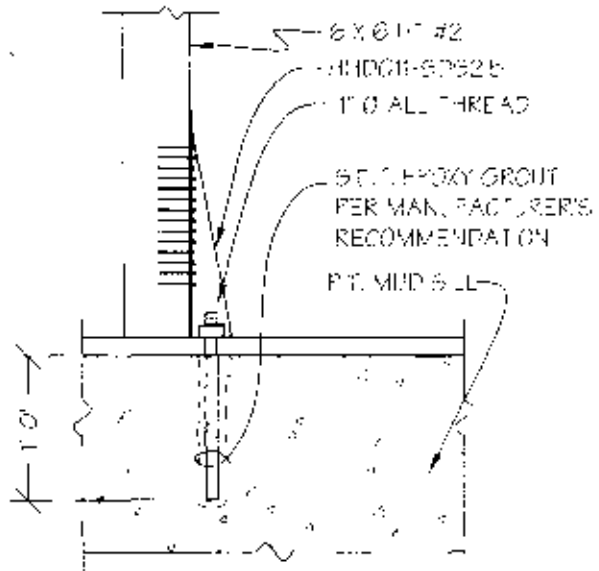
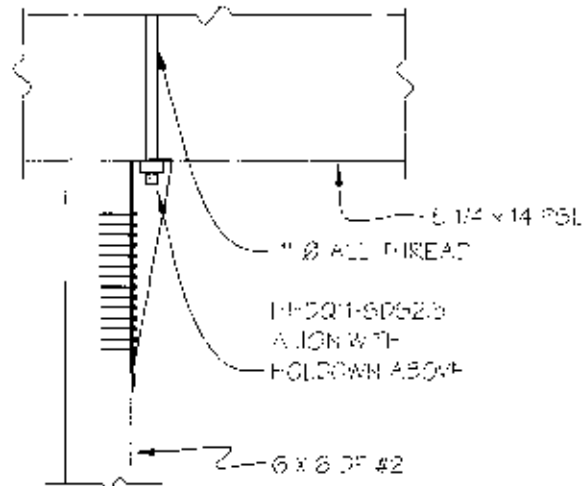
RCEN

RIGHT

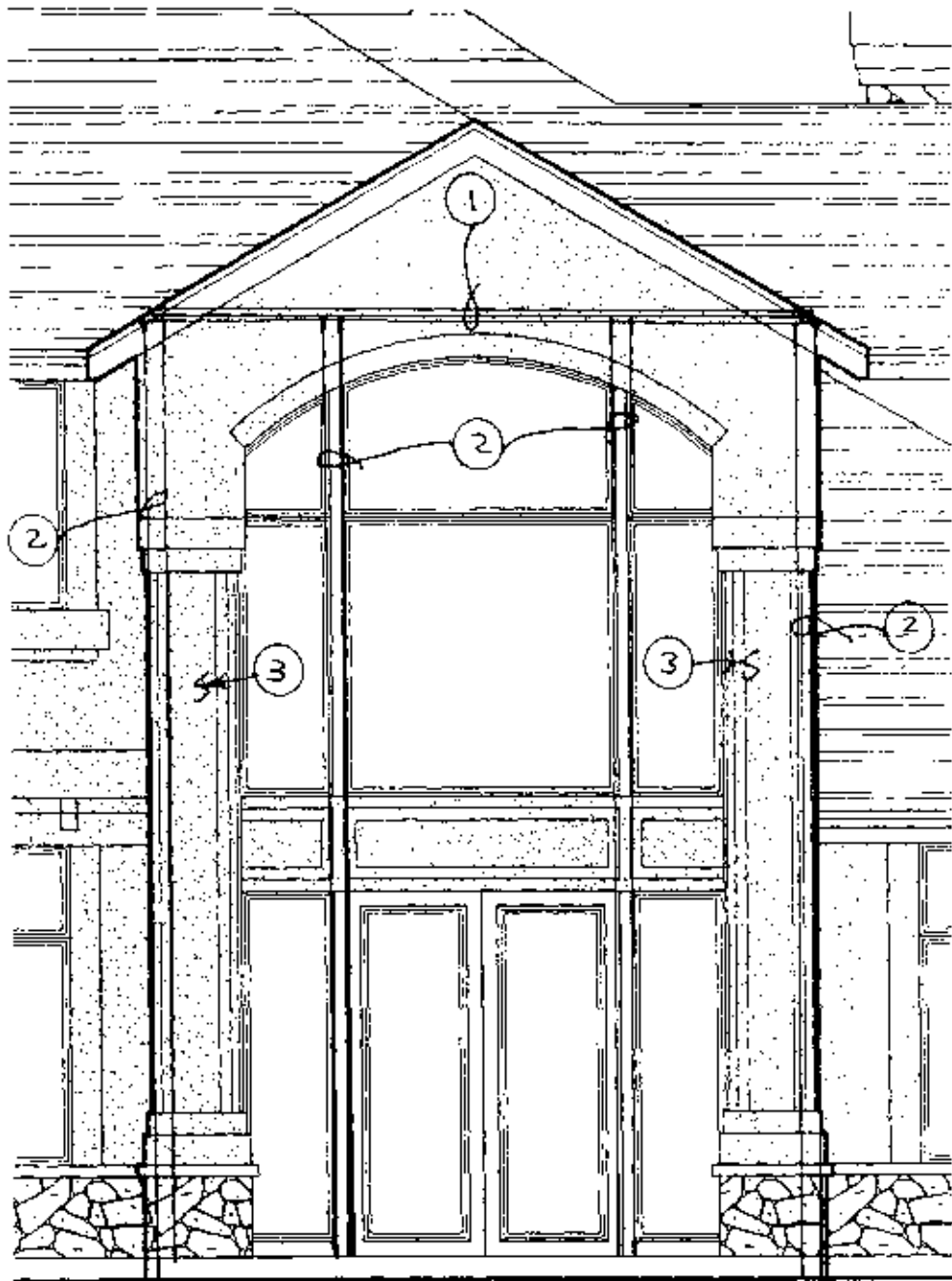
NOTE: ALL EXTERIOR WALLS TO BE PI - 6 U.N.O.

LOWER FLOOR SHEAR WALLS, LATERAL NOTES

- ① HOLD BACK STUD TO ALLOW FOR CONTINUOUS SHEAR WALL SHEATHING AND NAILING
- ② HTT22 SILL, CONDITION, SEE DETAIL P
- ③ HDQ8, SILL CONDITION, SEE DETAIL Q
- ④ HHQ11-SDS2.5 W/ 6 x 6 HF, SILL CONDITION STUD, SEE DETAIL R
- ⑤ HHQ11-SDS2.5, W/ 6 x 6 HF, SILL CONDITION STUD SEE DETAIL Rsim

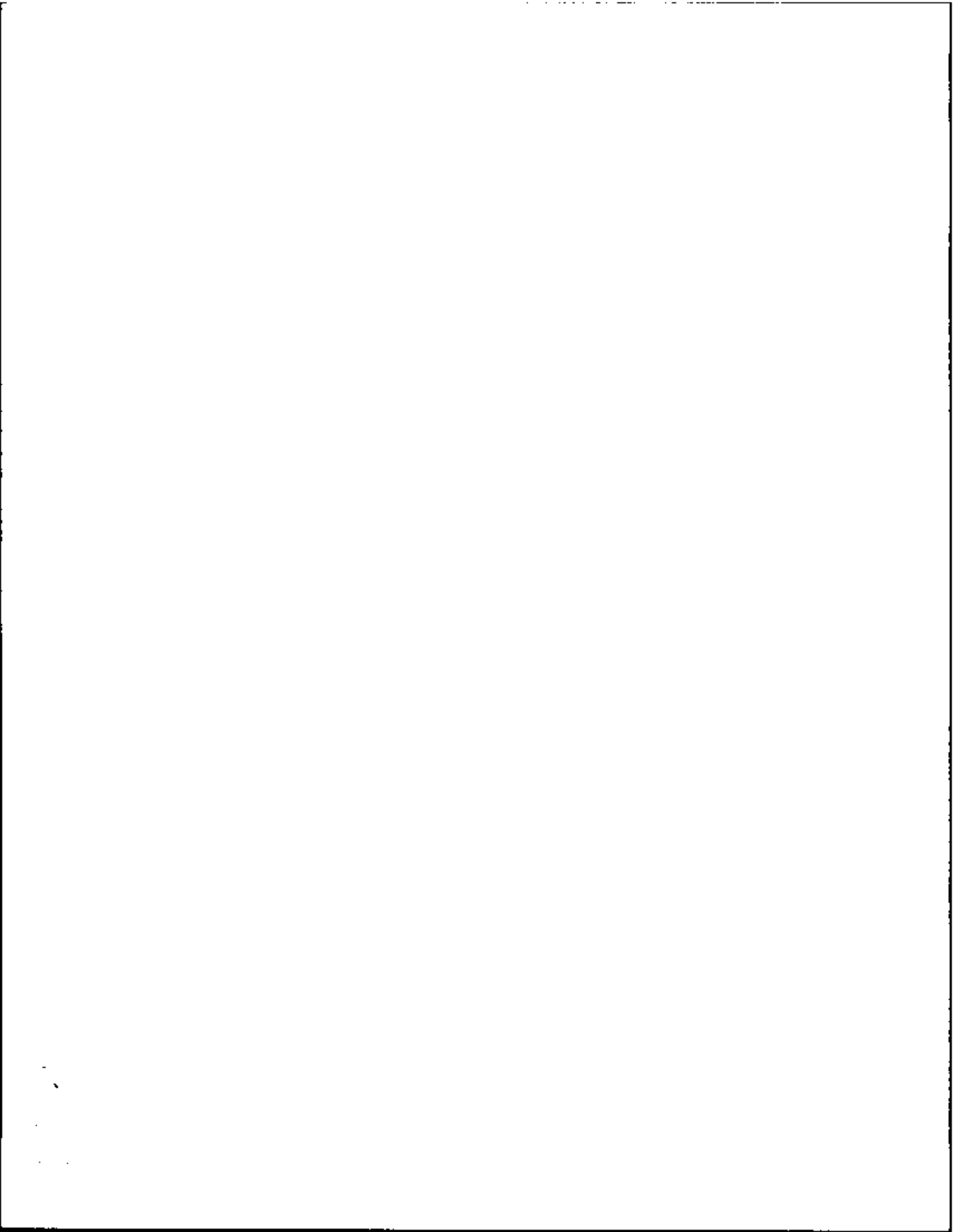


DETAIL DETAIL Rsim



ENTRY FRAMING

- ① DOUBLE TOP PLATE
- ② 5 1/4 x 5 1/4 PSL FUL HEIGHT, W/ (1) A35 EACH SIDE, TOP & BOTTOM
- ③ 3 1/2 x 5 1/4 LSL STUD @ 16' O C., FUL HEIGHT



PC 4-11-06
TOBY PARKER

PLAN REVIEW CHECKLIST

permit number 0602-121



BECKES HOMES
(2010) 230-0371
T. PARKER & BECKES HOMES - LAM

Structural Review

- o verify any geologic hazards: erosion, seismic, steep slope, potential slide (E-MAIL CONSULTANTS)
- ✓ review geotechnical report / letter (or assumed site conditions):
 - ✓ statement of minimal risk, if required
 - ✓ verify allowable soil bearing pressure 3000
 - ✓ verify passive ground resistance 300 PCF
 - ✓ verify coefficient of soil friction 0.30
 - o verify soil weight
 - o verify active pressure / equiv. fluid pressure *ACTIVE - SEE REP FROM 300*
 - o foundation guidelines *SEE REP IF MARSH WATERS*
 - o retaining wall guidelines
 - o erosion mitigation guidelines
 - o rockery design guidelines - *PCB GEOTECH REVIEW + (4) MARK*
 - o wet season variance *N/A*

- o review structural calculations:
 - o wind load exposure factor - confirm distance from shoreline
 - o wind topographic effects - verify of K_{zt} factor applies
 - o proper seismic design values S_2 and S_1 for Mercer Island
 - o verify building weight calculation
 - o roof dead loads - verify roof material weight is correct
 - * o retaining wall calculations if applicable - *PROVIDE SLOPE CALC'S (IMMEDIATE 2 CS)*
 - o steel / moment frame calculations if applicable
 - o footing calculations if applicable, esp. for cantilevered posts or walls
 - o methodology: simplified vs. standard analysis
 - o number of stories: daylight basement vs. lower story

- o review structural details & schedules:
 - o shear walls - *JOHN N'S WATERS P1-2 C'S*
 - o holdowns and scraps
 - o footings - *CHECK POST SIZES*
 - * o retaining walls
 - o verify surcharges, if any
 - o overturning moment
 - o resisting moment w/ 1.5 safety factor
 - * o resistance to slide w/ 1.5 safety factor
 - o verify stem wall reinforcement
 - o verify footing and horizontal reinforcement

- o roof framing
- o wall framing
- o foundation
- o steel / moment frames
- o garage portal design - *CHECK AGAINST PRELIMINARY*
- o gravity and lateral load tracing
- * o shear transfer details - *SEE BELOW*
- * o *CAN POOL BE 'JOY UTILITY' IF THERE ARE ISSUES THAT IMPACT THIS TOWER? I.E. P-100 MUST SUPPORT WATERS LATE FROM PRELIMINARY (SEE APP) (AL PER DC - MAKE AN AHEAD -*
- o *SHEAR THROUGH DETAILS 2 STEEP WATERS?*
- o *DUNGEON ROUGH BARRY - VOLUME HOW MUCH FOR DIST. RT.*
- o *CHECK CRACKING/EXTENS. ROOM AT BARRY STAIR*
- o *NO WATERS AT SE CORNER OF ENTRY, JUST HIP AND - REVOLVING & MOUSE SIDE WALL DESIGN*

REB. STAIR. DIS. V.

LTP4 = 595 MF (133)

\$1.331 = 447 MF
(161)

+ KHANS

- PROPOSE DESTROY '51

- VERIFY CONSTRUCTION OF P1-2C AT NE CORNER
OF BUILDING FROM - HOW IS EAD OF PSL ATTACHED
TO RIGID?

- POSITION 2 RB 11 & RB-12 & GROUND TIES (RB-10)

- VERIFY STRUCTURE + FINISHES BUILDING TIES FOR ^{DO NOT} WIND
WALL & CEILING - RISKING?

- STRAPS AT ANCHOR POINT TO KEEP IT FROM
SLIDING FROM MAIN TIE

PLAN REVIEW CHECKLIST

permit number 0602-121

Nonstructural Review

- dwelling /garage separation
- egress windows & openings
- stair design: width, treads & risers
- handrails / guardrails
- smoke alarms
- safety glazing - PROVIDE IN GARAGE WALLS ROOMS
- wall section w/ building components - CLIMBING INSULATION PER 1502.0
- roof ventilation / drainage
- floor / crawlspace clearance / ventilation
- energy code compliance
- exhaust fans
- whole house ventilation option and location of w.h.v. fan, if applicable
- masonry chimney height - 2:10' roof clearance
- chimney construction and bracing, if applicable TWO CHIMNEYS, VERIFY BRACING AND NICK'D
- traditional fireplace design and details, if applicable
- attic access (unobstructed below)
- crawlspace access
- gwb - spaces under stairs
- minimum lighting / ventilation requirements
- elevator design and wall construction, if applicable
- verify gas fireplaces are direct vent, especially in wet locations
- POOL USE VARIOUS SOFTWARE PERMITS - THIS PERMITS ARE APPROVED ^{FOR} THIS ~~PERMITS~~ _{PROJECT}
- CLIMBING INSULATION 2 GARAGE / ROOMS - IN PERMITS PER 1502.0 SECTION 15-76
-
-
-
-
-
-

each violation shall be corrected by the owner prior to full responsibility for the cost of rectifying same.

NOTES:

ALL EXTERIOR WINDOW WALLS TO BE 2 X 6 STUDS @ 16" O.C. MINIMUM. ALL OTHER NOTES ON SHEET 10 APPLY. MATCH-OUT HEADERS TO MATCH 2 X 6 SOLID BLOCKING UNDER ALL BEARING WALLS. TRUSS/ROOF JUNCTIONS SHALL HAVE FIRE BLOCKING BETWEEN WALL STUDS AND FLOOR JOISTS. MATCH-OUT TO THE EXTERIOR WITHIN 1" OF DRAINAGE FLOOR IS LIMITED TO 25 GAL/MIN. EXHAUST FANS LARGER THAN 30CFM MAY BE CONNECTED TO 4" SMOOTH WALL VENT PIPE THROUGH ROOF. THE MINIMUM SIZE OF FLEXIBLE DUCT OR BATTERY BACK-UP. CONNECTION AIR REQUIRED FOR ALL FUEL BURNING APPLIANCES.

LEGEND:

BEARING WALL
BEARING ABOVE
FLOOR LINE ABOVE
POINT LOAD ABOVE
MULTIPLE 2X STUDS
POINT LOAD
REMOVE PERMITTER BY BATTERY BACK-UP.

GARAGE NOTES:

1. 2X6 TYPE X GYPS AT CEILING ONLY MIN. AT WALLS ABOVE 1/2" GYPS.
2. INSULATE ALL WARM WALLS AND CEILING.

HEATING NOTES:

INSTALL PER: ASPHALT FOR-99 1/2" PLATEFORM 3/4" FLYWOOD 1/2" ON SLAB) SEE HEATING NOTES

OPTIONAL NOTES:

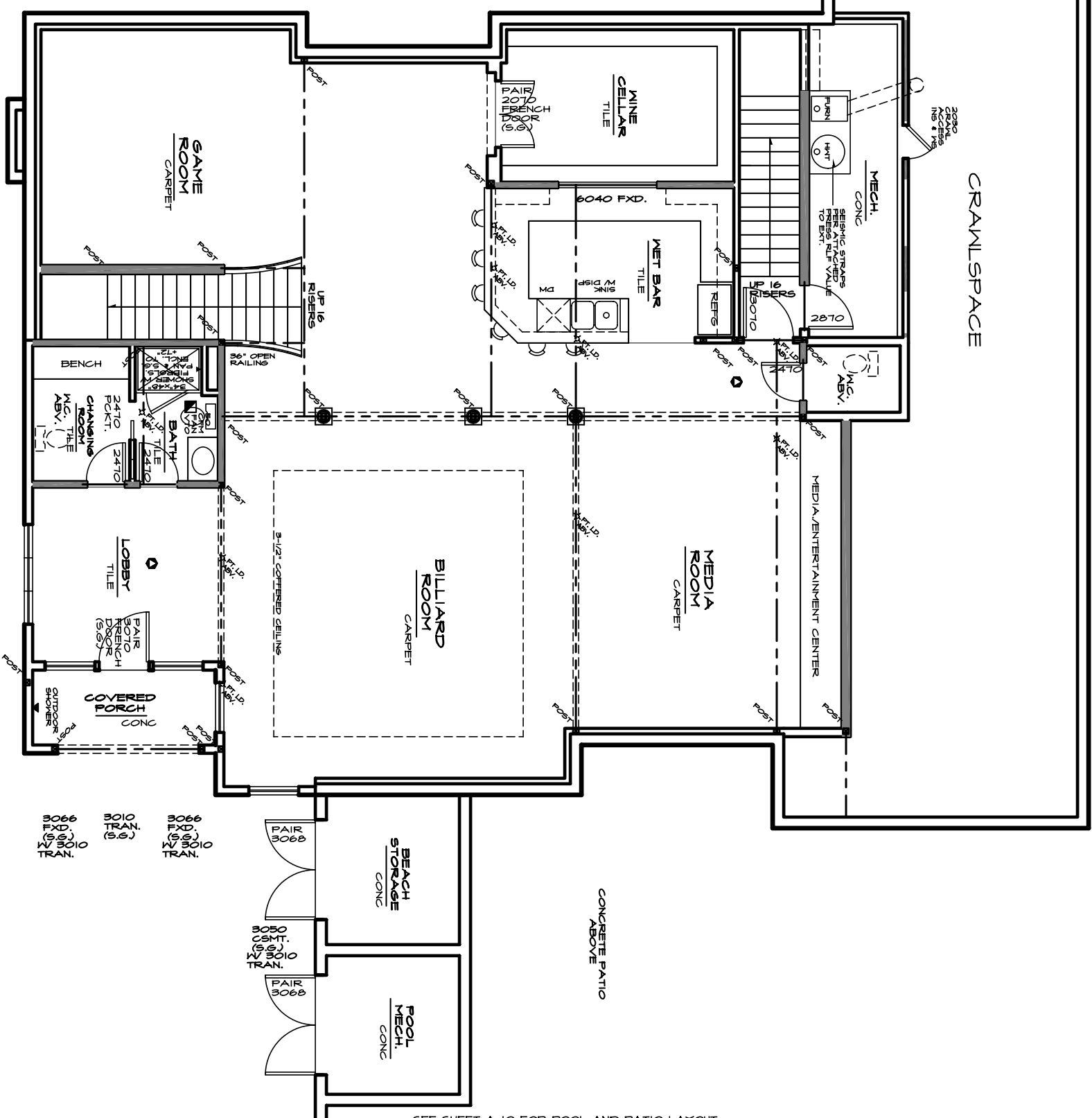
RAISE ALL PILLOTS, BURNERS ABOVE SLAB 1/8" MINIMUM

FIREPLACE NOTE:

CONCRETE FIREPLACE W/ DIRECT VENT FACTORY BUILT FIREPLACE SHALL BE INSTALLED PER MANUFACTURER'S APPROVAL LABEL ATTACHED. 2X6 TYPE X GYPS TO ROOF SHEATHING. FIREPLACES & STOVES MUST BE DOE APPROVED & BE TESTED FOR USE DURING A FIRST STAGE BURN BAN.

SEE SHEET L1 FOR SHEAR WALL

LOCATIONS SHEAR WALL



SEE SHEET A-10 FOR POOL AND PATIO LAYOUT

SHEET OF **A4** OF **A11**

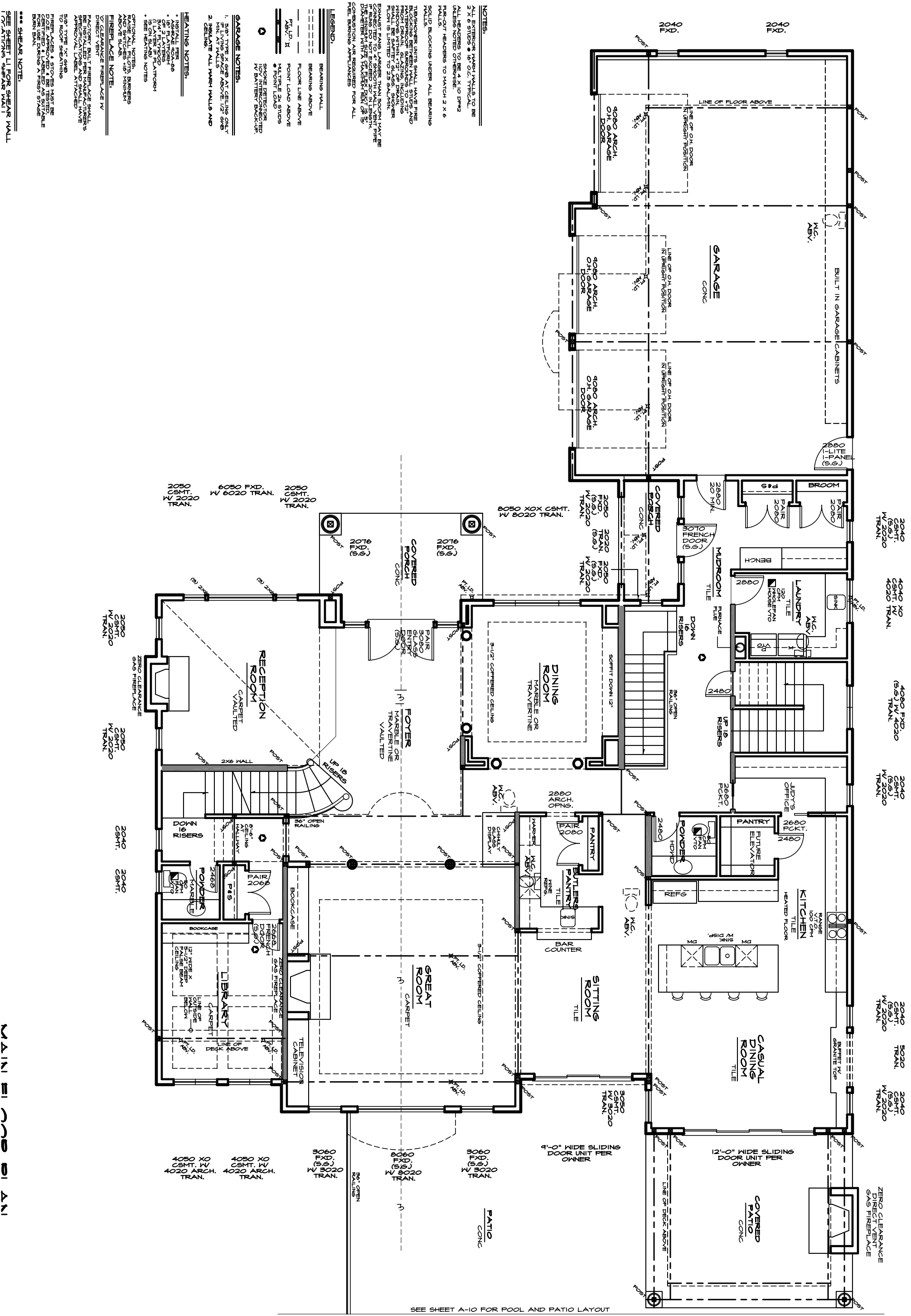
drawn by: MWJ checked by: MWJ
date: 12-15-05
permits: 00-00-00

Project: **PETRIE RESIDENCE**
3315 97TH AVE SE
MERCER ISLAND, WA



11644 NE 80th Street
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(425) 828-4117
Fax (425) 822-1918
8101 SW Nyberg Road #214
Tualatin, OR 97062
(503) 642-8117
Fax (503) 641-0517

each variation shall be reviewed by the owner prior to full responsibility for the cost of rectifying same.



NOTES:
 1. ALL EXTERIOR WINDOW WALLS TO BE 2" X 6 STUDS @ 16" O.C. MINIMUM.
 2. SEE NOTES ON REMODELING PERMITS.
 3. MATCH-OUT HEADERS TO MATCH 2 X 6 SOLID BLOCKING UNDER ALL BEARING WALLS.
 4. TRUSSESS/JOISTS SHALL HAVE FIRE BLOCKING BETWEEN WALL STUDS AND PARTITION WALLS TO MATCH TRUSS/JOIST SPACING TO THE MINIMUM. MINIMUM 1/2" OF DRAINAGE FROM IS LIMITED TO 25 GAL/MIN.
 5. EXHAUST FANS LARGER THAN 30CMH MAY BE CONNECTED TO 4" SMOOTH WALL VENT PIPE. THE MINIMUM SIZE OF FLEXIBLE DUCT OR TRANSITION AIR REQUIRED FOR ALL EXHAUST FANS IS 1/2".
LEGEND:
 BEARING WALL
 BEARING ABOVE
 FLOOR LINE ABOVE
 POINT LOAD ABOVE
 MULTIPLE 2X STUDS
 POINT LOAD
 ROOM DETECTOR W/ BATTERY BACK-UP
GARAGE NOTES:
 1. 2" X 6 TYPE X GIBS AT CEILING ONLY MIN. AT WALLS ABOVE 1/2" GIBS
 2. INSULATE ALL WARM WALLS AND CEILING.
HEATING NOTES:
 * INSTALL PER ASHRAE 90A-99
 * USE PLANTER
 * 3/4" FIBERGLASS BATT INSULATION (5 ON SLAB)
 * SEE HEATING NOTES
OPTIONAL NOTES:
 * RANGE ALL BUILT-IN BURNERS ABOVE SLAB *18" MINIMUM
FIREPLACE NOTE:
 * 2" X 6 TYPE X GIBS TO ROOF SHEATHING
 * 2" X 6 TYPE X GIBS TO ROOF SHEATHING
 * DO NOT APPROVED, BE TESTED FOR USE DURING A FIRST STAGE BURN BAN.
SEE SHEET L1 FOR SHEAR WALL LOCATIONS SHEAR WALL

SEE SHEET A-10 FOR POOL AND PATIO LAYOUT

DATE: 12-15-05
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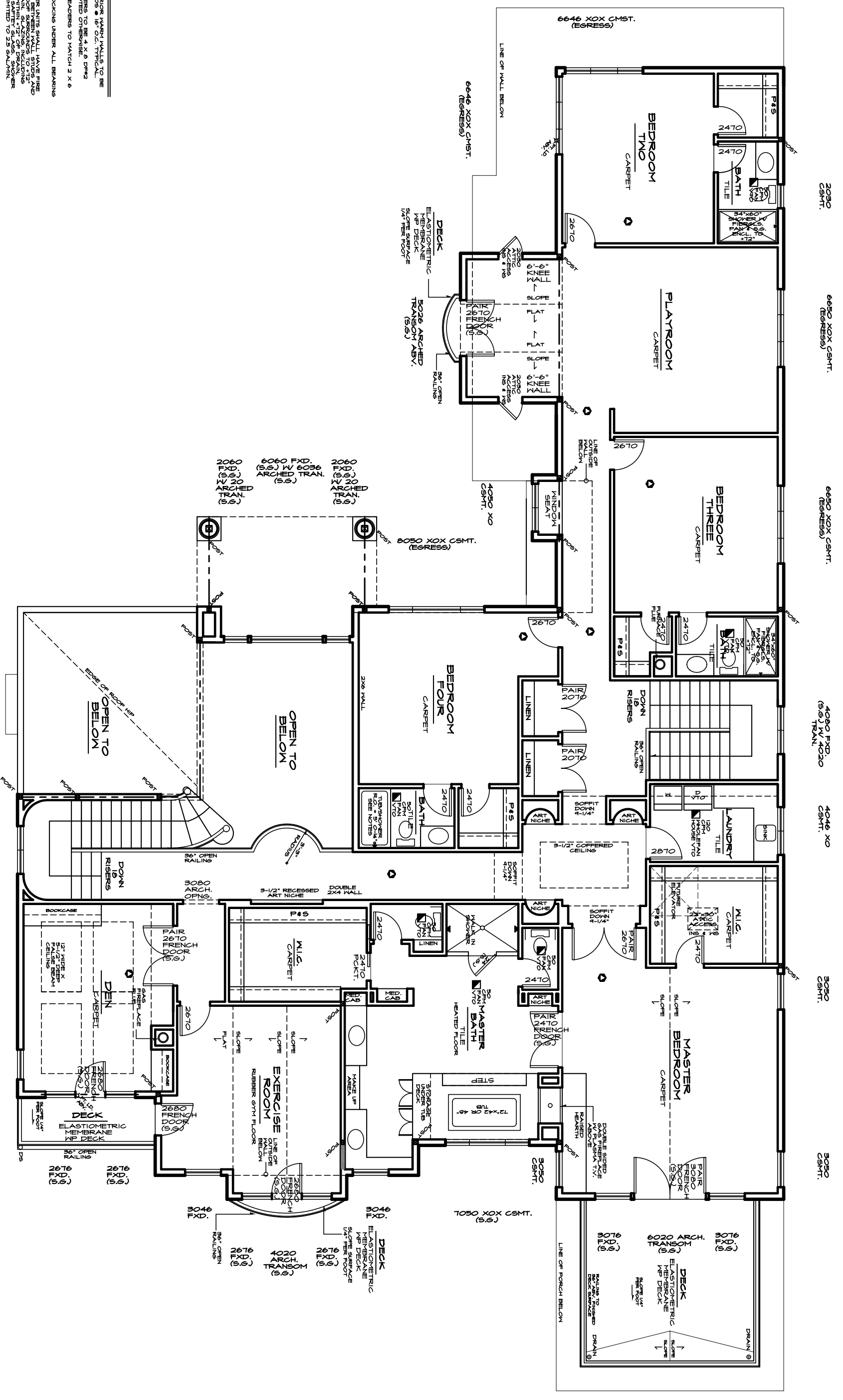
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drawn by: MWJ
 checked by:

SHEET **A6** OF **A11**

MAIN ELEVATION

each variation shall be reviewed by the owner prior to full responsibility for the cost to rectify same.



NOTES:
 ALL EXTERIOR MASONRY WALLS TO BE 2 X 6 STUDS @ 16" O.C. TYPICAL.
 ALL HEADERS TO BE 4 X 6 DFM2 UNLESS NOTED OTHERWISE.
 FUR-OUT HEADERS TO MATCH 2 X 6 WALLS.
 SOLID BLOCKING UNDER ALL BEARING WALLS.
 THE SHOWER UNITS SHALL HAVE FINE WATERPROOF SURFACES TO 1/2" ABOVE FINISH FLOOR. ALL OTHER WATERPROOF SURFACES SHALL BE LIMITED TO 25% SLOPE.
 FINISHED FLOOR SHALL NOT EXCEED 20" IN LENGTH. DIMENSIONS WITH A FRACTION SHALL BE CONSIDERED AS PER THE DRAWING.
 CONSTRUCTION AIR REQUIRED FOR ALL FUEL BURNING APPLIANCES.

LEGEND:
 BEARING WALL
 BEARING ABOVE
 FLOOR LINE ABOVE
 POINT LOAD ABOVE
 MULTIPLE 2X STUDS
 POINT LOAD
 SMOKE DETECTOR
 TV BATTERY BACKUP

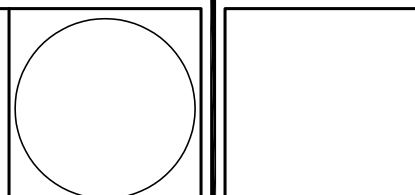
OF
A8
 SHEET

drawn by: WJL
 checked by:
 SHEET

date: 12-15-05
 permit:
 revisions:
 00-00-00

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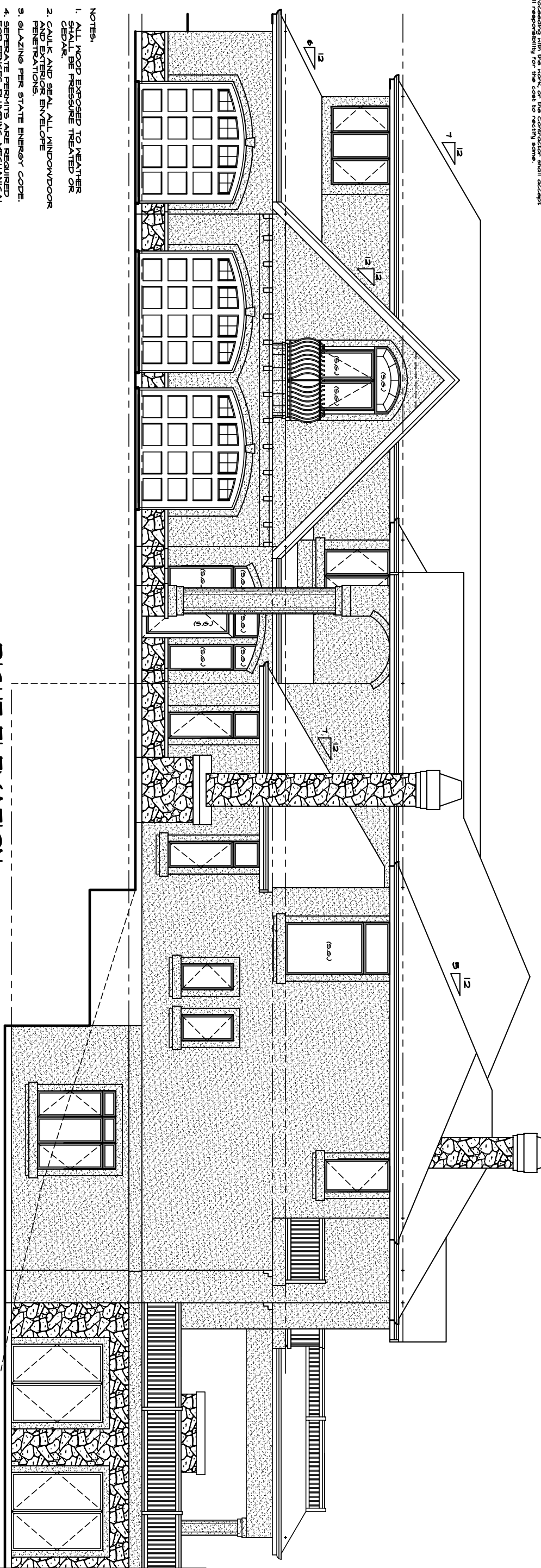


each elevation shall be reviewed by the Owner prior to construction and the Owner shall retain full responsibility for the cost to rectify same.

- NOTES:
1. ALL WOOD EXPOSED TO WEATHER SHALL BE PRESSURE TREATED OR CEDAR.
 2. CAULK AND SEAL ALL WINDOW/DOOR AND EXTERIOR ENVELOPE PENETRATIONS.
 3. GLAZING PER STATE ENERGY CODE.
 4. SEPERATE PERMITS ARE REQUIRED FOR FENCES, PLUMBING, MECHANICAL, AND ELECTRICAL.
 5. SOG OF ROOF VENTING SHALL OCCUR IN BAYES AS BIRD BLOCKING.
 6. REFER TO ALL ELEVATIONS FOR TYPICAL NOTES.
 7. S/G. = SAFETY GLASS

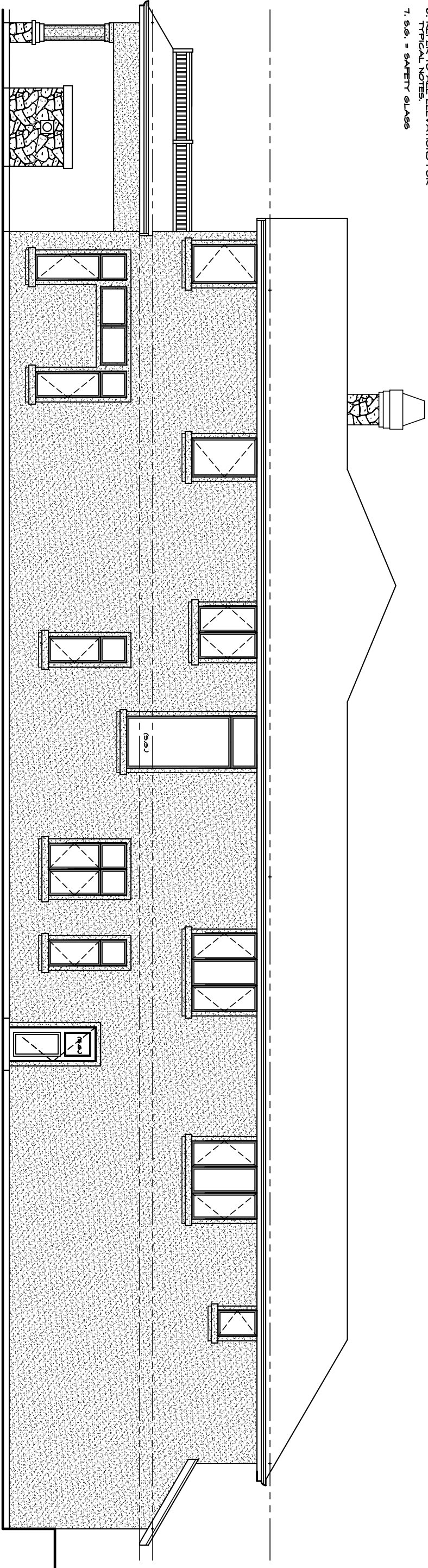
RIGHT ELEVATION
SCALE: 1/4" = 1'-0"

SEE GENERAL NOTES



LEFT ELEVATION
SCALE: 1/4" = 1'-0"

SEE GENERAL NOTES



Project:

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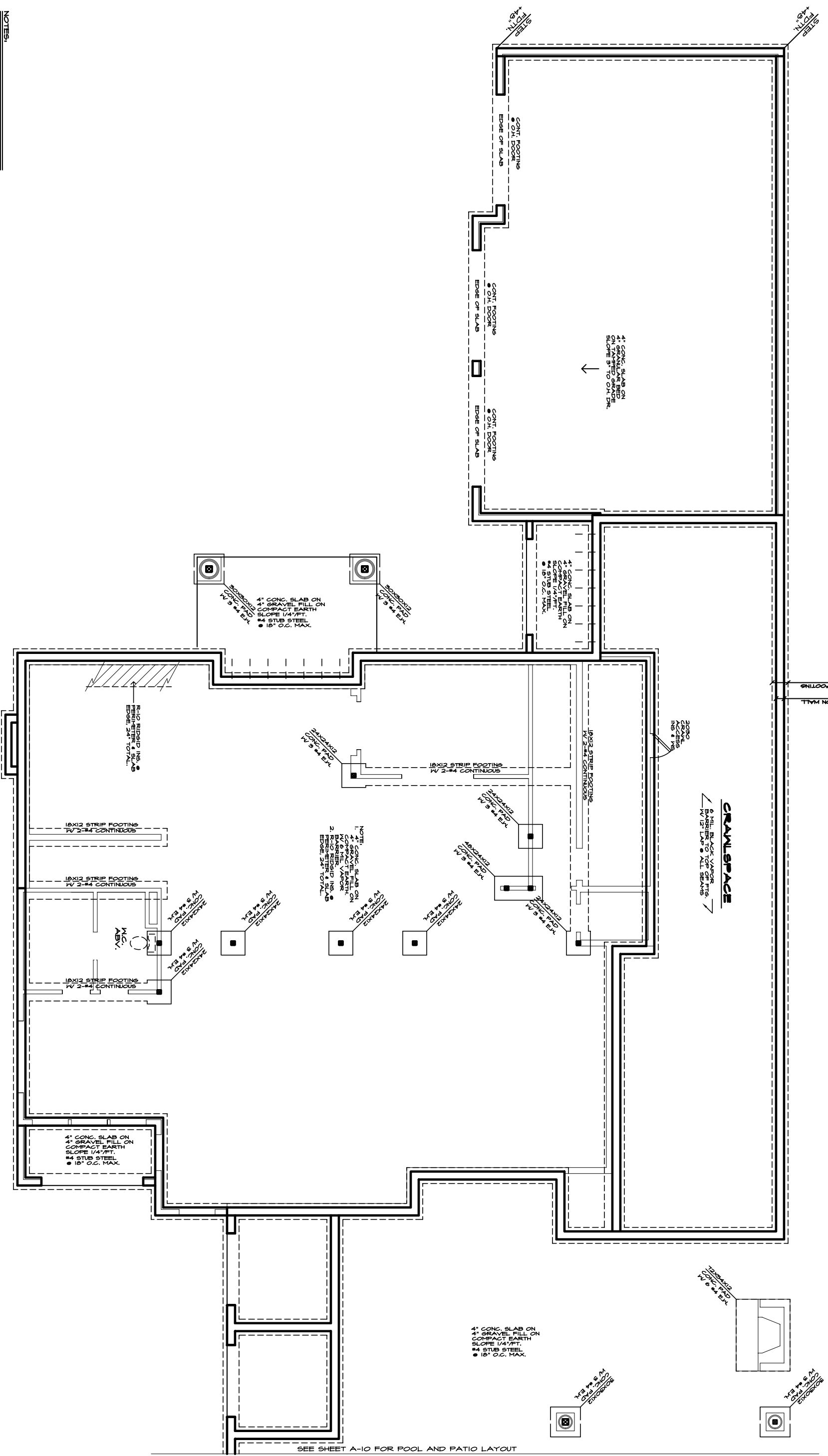
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97062
(503) 692-8127

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permits:
revisions:
00-00-00

drawn by: MWJ
checked by:

SHEET
OF
A2
A11

each variation shall be reviewed by the owner prior to full responsibility for the cost to rectify same.



NOTES:
 ALL JOIST IN CONTACT WITH CONCRETE SHALL BE PROTECTED WITH AN APPROVED ALL FASTENERS INSTALLED IN PRESENCE OF MOISTURE SHALL BE HOT DIPPED IN GALVANIZED
 PROVIDE GRAUL DRAIN ● LOW POINT
 SOLID BLOCKING UNDER ALL BEARING WALLS, SLOPE ALL CONC. STAIRS AND/OR PATIOS 1/4" PER FOOT AWAY FROM DOORWAYS.
 BEARING WALL ABOVE

FOUNDATION VENT CALCULATION
 1250 SQUARE FEET = 9.30
 150 = .57

15 VENTS REQUIRED
 *** SHEAR NOTE ***
 SHEET 11 FOR SHEAR WALL

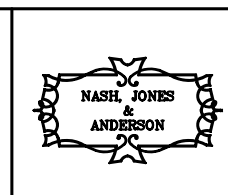
FOUNDATION PLAN

OF
A3
 SHEET
 A11

drawn by: WJ
 checked by: WJ

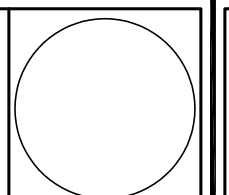
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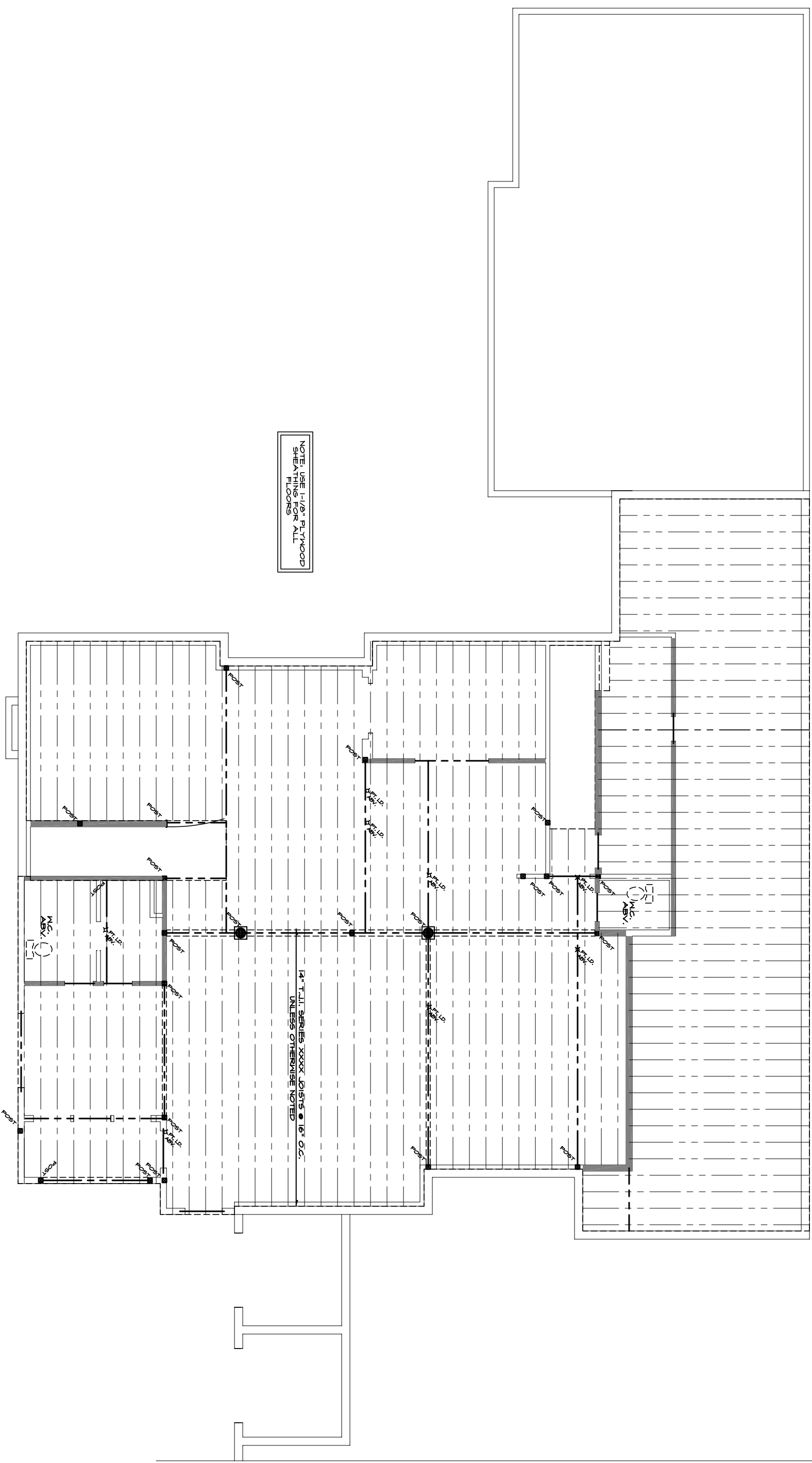
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 Fax (503) 641-0517



SEE SHEET A-10 FOR POOL AND PATIO LAYOUT

each variation shall be reviewed by the owner prior to construction. The contractor shall be held responsible for the cost to rectify same.



NOTE: USE 1-1/8\"/>

14\"/>

MAIN FLOOR PLAN

AS
OF
A11
SHEET

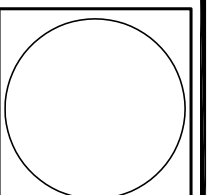
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checked by:

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permit:
revisions:
00-00-00

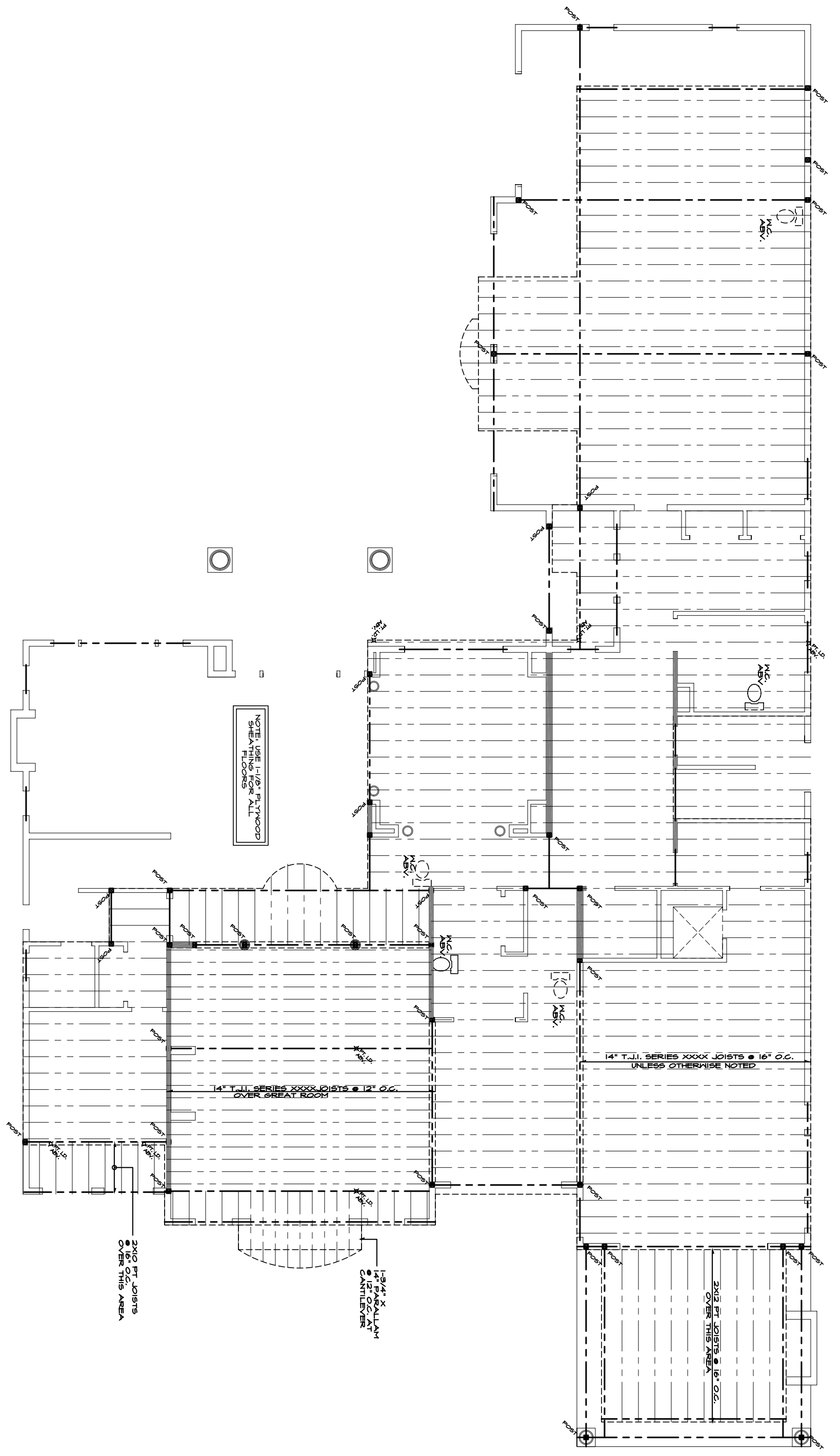
project:
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Tualatin, OR 97062
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Fax (503) 641-0517



each variation shall be reviewed by the owner prior to full responsibility for the cost to rectify same.



UPPER FLOOR
FRAMING PLAN

OF
A7
A11
SHEET

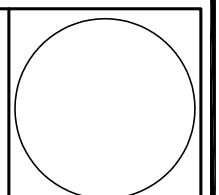
drawn by: MWJ
checked by:

date: 12-15-05
permit:
revisions:
00-00-00

project:
PETRIE RESIDENCE
3315 97TH AVE SE
MERCER ISLAND, WA



11644 NE 80th Street
Kirkland, WA 98033
(425) 828-4117
Fax (425) 822-1918
8101 SW Nyberg Road #214
Tualatin, OR 97062
(503) 642-8121
Fax (503) 641-0517



PROJECT:
LOUDEN RESIDENCE
3315 97TH AVE SE
MERCER ISLAND, WA

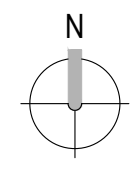
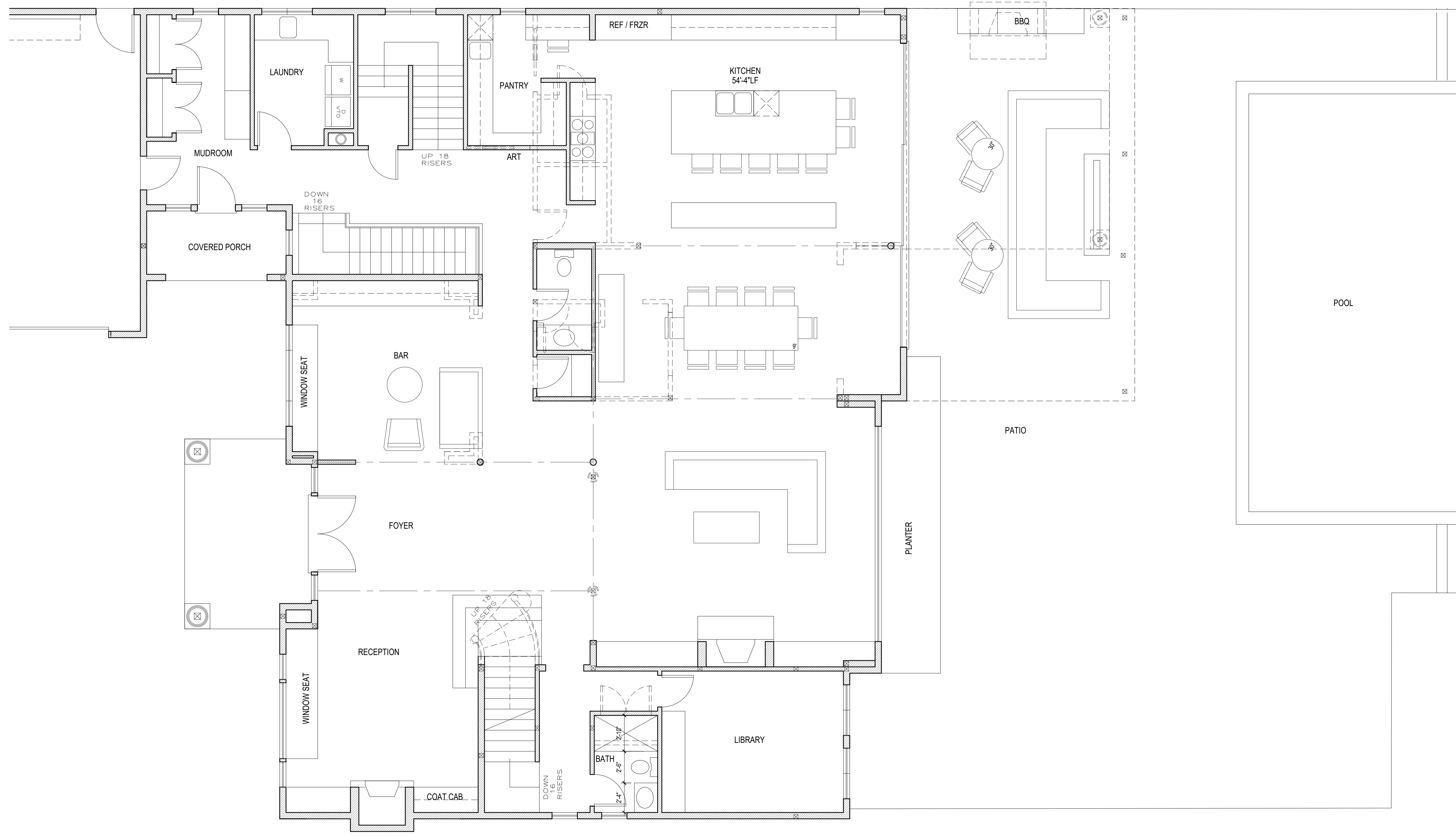
ISSUE:
SD OPTIONS

PRELIMINARY-
NOT FOR
CONSTRUCTION

DATE:
OCTOBER 18, 2019

SHEET TITLE:
FLOOR PLAN

SHEET:



1 OPTION 1
1/8" = 1'-0"

OPT-1

PROJECT:
LOUDEN RESIDENCE
3315 97TH AVE SE
MERCER ISLAND, WA

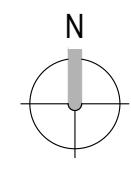
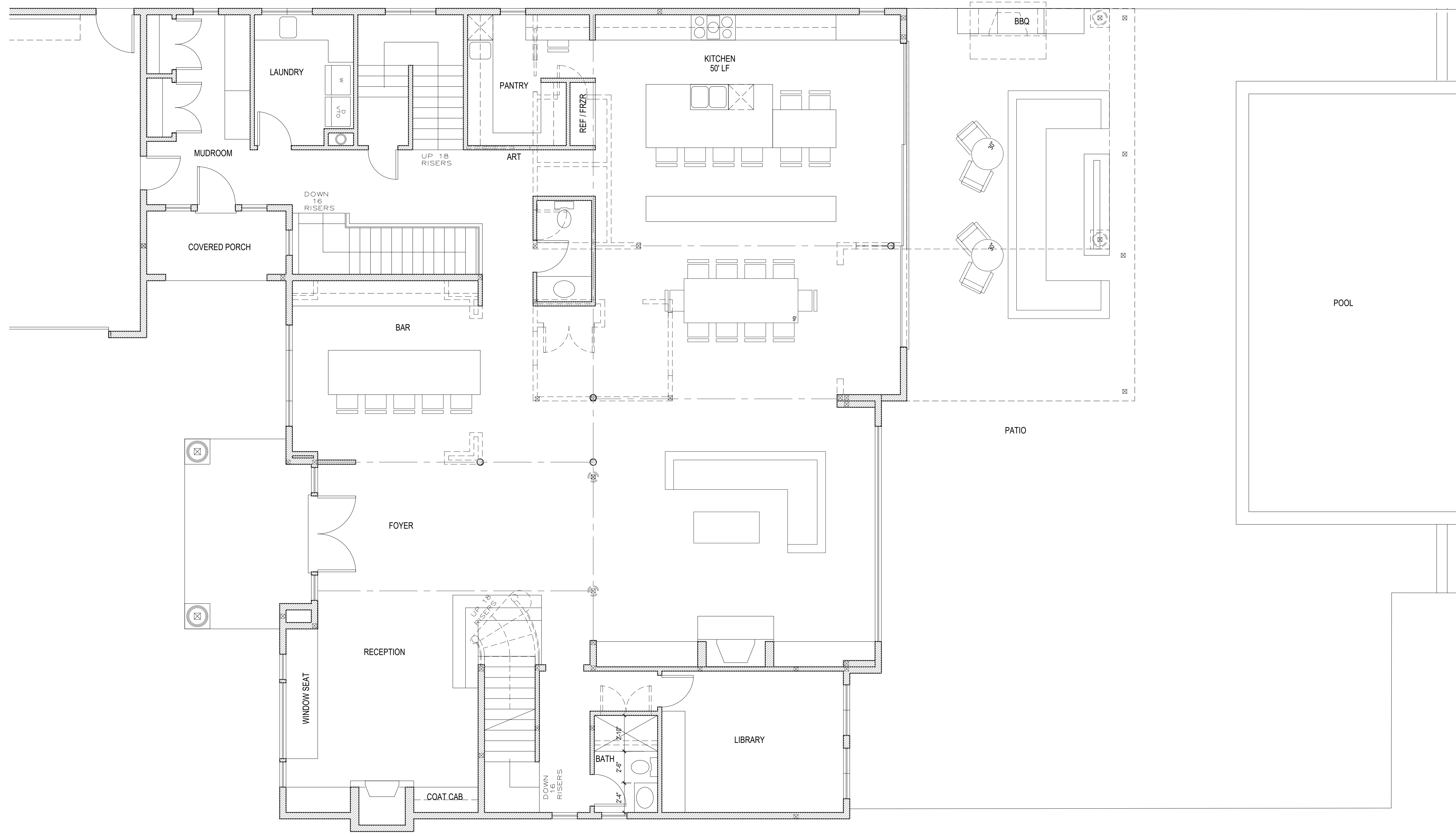
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SD OPTIONS

PRELIMINARY-
NOT FOR
CONSTRUCTION

DATE:
OCTOBER 18, 2019

SHEET TITLE:
FLOOR PLAN

SHEET:



1 OPTION 2
1/8" = 1'-0"

OPT-2

PROJECT:
LOUDEN RESIDENCE
3315 97TH AVE SE
MERCER ISLAND, WA

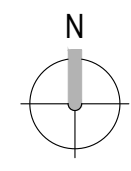
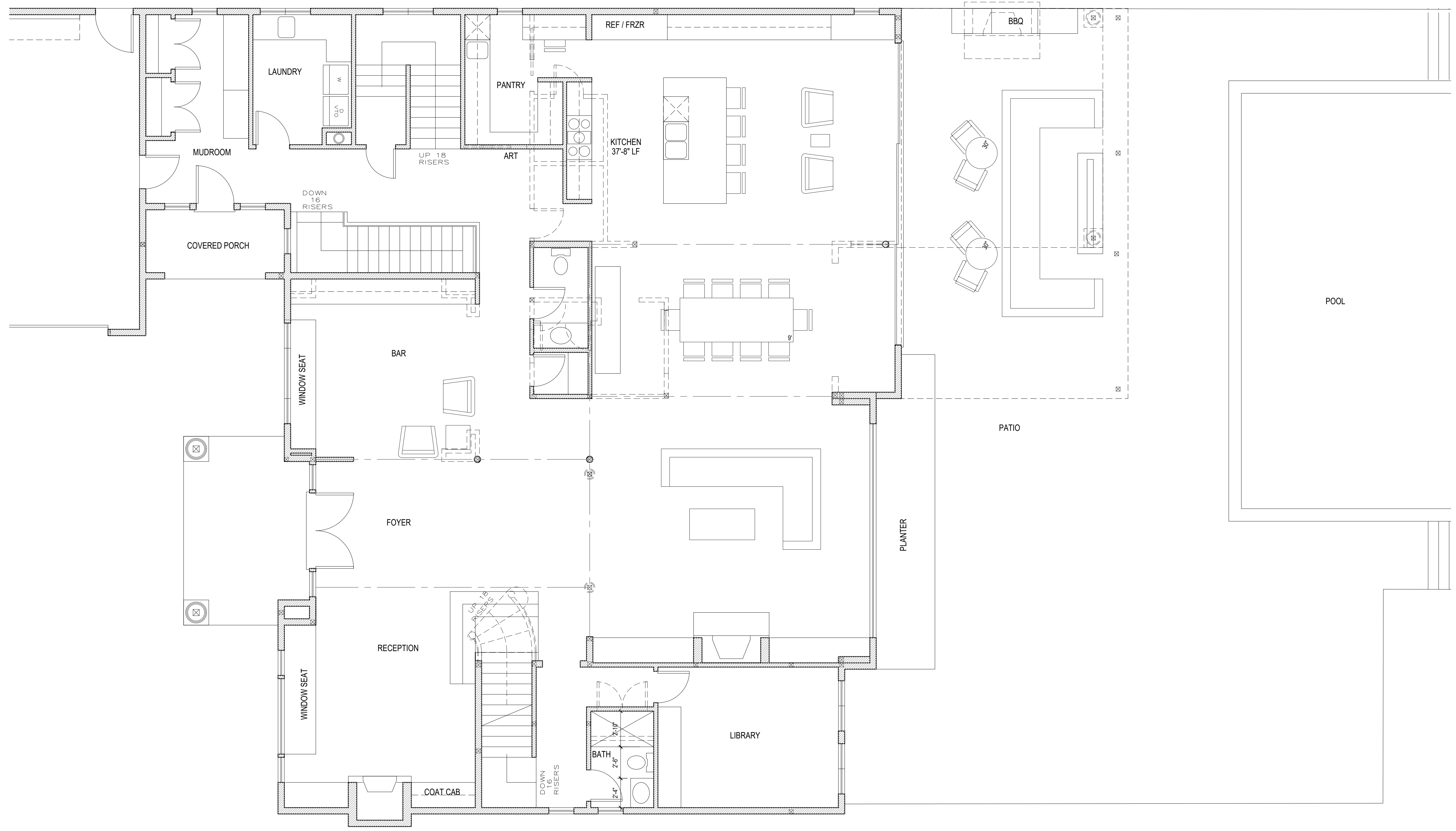
ISSUE:
SD OPTIONS

PRELIMINARY-
NOT FOR
CONSTRUCTION

DATE:
OCTOBER 18, 2019

SHEET TITLE:
FLOOR PLAN

SHEET:



1 OPTION 3
1/8" = 1'-0"

OPT-3