

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0111011

Insp Area: 1

Thos Bros: 297G6

Site Address: 1633 37TH ST SAC

Parcel No: 008-0451-019

Sub-Type: ASFR

Housing (Y/N): N

CONTRACTOR

MILLS BUILDERS INC
3959 H STREET
SACRAMENTO CA 95819

OWNER

TAUTZ
1633 37TH ST
SAC CA 95816

ARCHITECT

Nature of Work: 1ST 134-SF; & 2ND STORY 1019-SF ADD'N; AND KITCHEN REMODEL.

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name Lender's Address

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class License Number 782869 Date 10-19-01 Contractor Signature

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

I am exempt under Sec. B & PC for this reason:

Date Owner Signature

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvements to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 10-19-01 Applicant/Agent Signature

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier STATE COMPENSATION INS FUND Policy Number 713-0006158-00 Exp Date 10/01/2001

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 10-19-01 Applicant Signature

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

**Certificate of Compliance  
School District Development Fees**

*(Print or Type) If Printing, press hard for four copies*

**Part I To be completed by the APPLICANT (MUST BE FILLED OUT COMPLETELY)**

OWNER'S NAME Jonas Miller  
 OWNER'S ADDRESS 3959 H Street  
 PROJECT ADDRESS 1633 37th St  
 PARCEL NUMBER 008-0451-019 LOT NO. \_\_\_\_\_  
 SUBDIVISION NAME \_\_\_\_\_  
 NUMBER OF UNITS \_\_\_\_\_

*Upon payment of the fees listed below, a 90-day approval period commences upon which the applicant paying the fees may protest such fees. Any failure to file such protest within the 90-day period shall result in forfeiture of any rights to challenge such fees, through litigation or otherwise.*

APPLICANT'S SIGNATURE [Signature]  
 TITLE OF APPLICANT Applicant  
 DATE 10/18/01 PHONE NUMBER 714-246-1225

**Part II To be completed by BUILDING DEPARTMENT**

PLAN IDENTIFICATION NUMBER 0111011  
 BUILDING TYPE  
 RESIDENTIAL (X) APARTMENT/CONDOMINIUM ( ) COMMERCIAL/INDUSTRIAL ( )  
 SQUARE FEET OF CHARGEABLE BUILDING AREA 1153 SQ. FT  
 SIGNATURE [Signature]  
 TITLE Build. Fee DATE 10-18-01

**Part III To be completed by SCHOOL DISTRICT**

SCHOOL DISTRICT 20015  
 DISTRICT CERTIFICATION NO. \_\_\_\_\_  

EXEMPT	COMMENTS
RESIDENTIAL/APT/CONDO	SQ FT X \$ <u>1720</u> = \$ <u>100.00</u>
COMMERCIAL/INDUSTRIAL	SQ FT X \$ _____ = \$ _____
OTHER FEE TYPE	SQ FT X \$ _____ = \$ _____
<b>TOTAL FEES COLLECTED</b>	<b>= \$ <u>1983.16</u></b>

This Certification covers only the amount of square footage indicated above. Any additions or corrections to the square footage for this project will require an amendment to the Certificate of Compliance.

As the authorized school district official, I hereby certify that the requirements of Government Code Section 65995 and any other authorized requirements have been complied with by the above signed applicant.

**AUTHORIZED SCHOOL DISTRICT OFFICIAL**

SIGNATURE [Signature]  
 TITLE Superintendent DATE 10/19/01

Original: School District      1st copy: School District      2nd copy: Building Department      3rd copy: Applicant

# REQUEST FOR PLANNING STAFF REVIEW

..... to be filled out by Building staff .....

CUSTOMER NAME:	<u>TIM TAUTZ</u>
PROJECT ADDRESS:	<u>1633 37th Street</u>
PROJECT DESCRIPTION:	<u>2nd story Addition, Downstairs remodel</u>

DOES THE PROJECT INCLUDE ANY OF THE FOLLOWING TYPES OF WORK ?

New Buildings OR Exterior Work to Existing Buildings	<input checked="" type="radio"/> YES	<input type="radio"/> NO
Site Work (changes to Parking, outdoor Equipment, etc)	<input checked="" type="radio"/> YES	<input type="radio"/> NO
Change in Use OR Expansion of Existing Use	<input checked="" type="radio"/> YES	<input type="radio"/> NO

If customer answers "YES" to any of the above questions, application requires Planning review. Planning staff to fill out reverse side of this form.

If customer answers "NO" to ALL of the above questions, do not send application to Planning.

Confirmed by Building staff: \_\_\_\_\_ DATE: 8/27/01 BY: AR

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If, in reviewing the project plans for Building Permit application, there are any issues identified by Building staff that appear to require Planning staff review, please indicate those issues below and send the customer to Planning.

BUILDING STAFF COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

DATE: \_\_\_\_\_ BY: \_\_\_\_\_

**PLANNING AND ZONING REVIEW**

..... to be filled out by Planning staff .....

ADDRESS: 1633 - 37<sup>TH</sup> ST

APN: 008 ~~91110~~-0451-019 ZONING: R-1

DESIGN REVIEW AREA: No

PREVIOUS FILES RELATED TO SITE: NONE

EXISTING LAND USE: SFR

PROPOSED USE: 2ND STORY ADDITION, KITCHEN  
REMODEL, EXPANSION OF 150 SQ.FT. AT NORTH  
SIDE GROUND FLOOR.

COMMENTS: NEW FOOTPRINT (WITH DETACHED) STRUCTURAL  
FOOTPRINTS) DOES NOT EXCEED MAX. 40% LOT COVERAGE  
NORTH SIDE INTERIOR SIDE SETBACK SHALL NOT  
BE LESS THAN 5-FT. OVERALL HEIGHT DOES  
NOT EXCEED 35-FT.

DATE: 8/27/01 BY: DH

DOES IT APPEAR THAT THE PROJECT WILL REQUIRE A PLANNING APPLICATION?

YES  NO (If yes, circle applications needed below)

.....Staff.....ZA.....Planning Commission.....Design Review.....Preservation Review.....

CONCLUSION: NO PLANNING ENTITLEMENT IS  
REQUIRED.

DATE: 8/27/01 BY: D-HUNG

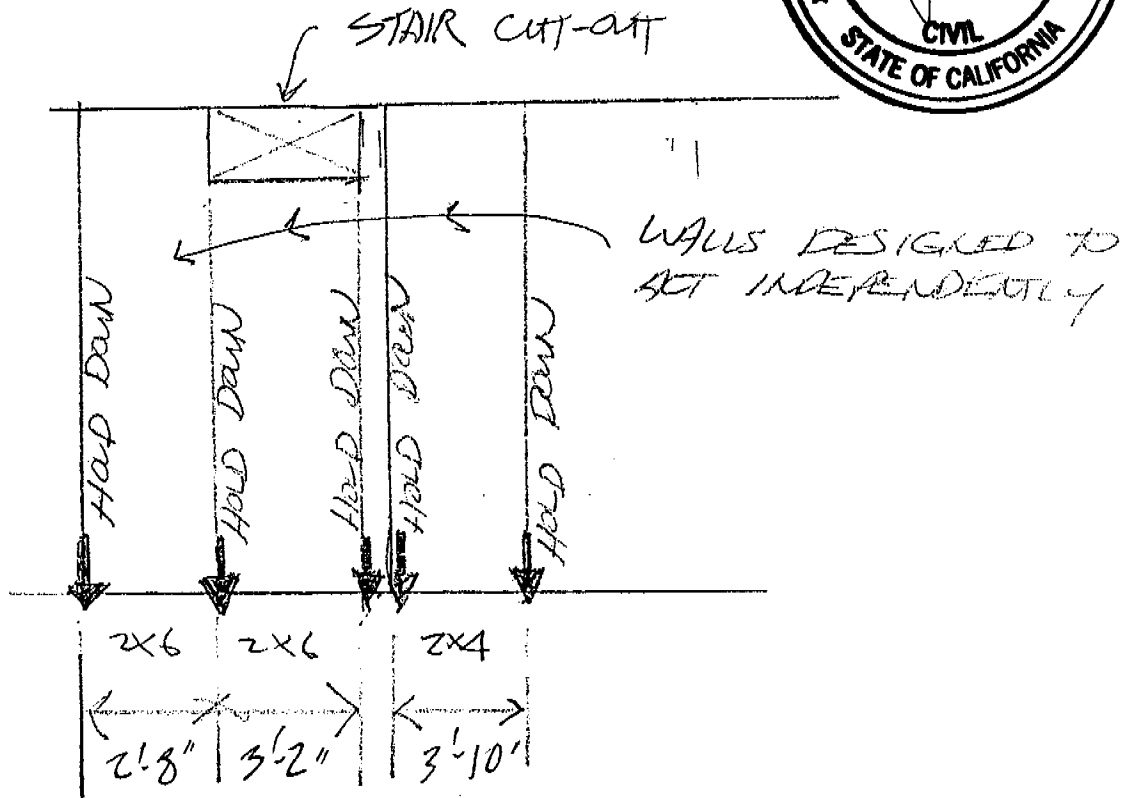
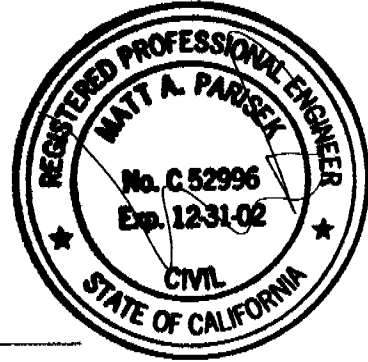
M. Parisek

Toutz Res

4/12/02

Rev. 4/12/02

REVISION - SHEAR WALL UNDER STAIRS  
(LINE 7, 11.5' SHEAR WALL)



SHEAR WALL LAYOUT (ELEVATION VIEW)

SUBSTITUTE FOR 11.5' SHEAR WALL SHOWN ON PLAN. SEE REVISION CALCS.

HOLD DOWN - PHD2 SDS'S w/ 5/8" THD. ROD  
EPOXY BORN IN 3/4" x 8" DEEP HOLE.

SHEAR WALL (343 PLF) 1/2" CDX OR OSB  
w/ 8d COMMON @ 4" EDGES,  
8" FIELD.

**LATERAL FORCES**

Wind Force

Projected Area Method ('97 UBC Sec. 1621.3)

$P = C_e C_q q_s I_w$	Values of $C_e$	$C_e C_q q_s I_w^{*1}$	
Wind: 75 mph	$C_e$ (max 15') = 0.62	15' = 11.69	psf
Exposure: B	" (max 20') = 0.67	15'-20' = 12.63	psf
$C_q = 1.3$	" (max 25') = 0.72	20'-25' = 13.57	psf
$q_s$ (psf) = 14.5	" (max 30') = 0.76	25'-30' = 14.33	psf
$I_w = 1.0$	" (max 40') = 0.84	30'-40' = 15.83	psf

Seismic Force

$V = \frac{2.5 C_a I}{R}$  (UBC 30-5)  
 Zone: 3  
 $Z = 0.3$

Soil Type: SE For allowable stress design:  
 $C_a = 0.36$   $F = \frac{E}{1.4}$  (UBC 12-16)  
 $R = 5.5$   
 $I = 1.0$  Rev. 4/12/02 MP

Notes for lateral force calcs. (superscript refs. appearing on this and following sheets)

1. Values used in spreadsheet to calculate wind pressure.
2. "w" is width of diaphragm facing direction of force, "d" is depth.
3. Heights are measured above ground. Height at top of roof is averaged.
4. Tributary width resisted by shear wall line.
5. Seismic forces are unreduced for r. See following sheets for calculation of r.

**Roof Diaphragm Forces**

Date: 8/23/01

Dphm No.	Force Dir.	Dimensions <sup>2</sup>		Wind Force			Seismic Force			Dist. Forces to Wall Lines			
		w (ft)	d (ft)	Height <sup>3</sup> (ft)		F <sub>w</sub> (lbs)	D.L. (psf)	2.5 C <sub>s</sub> / 1.4 R	F <sub>e,q.</sub> (lbs)	Wall Line	Trib <sup>4</sup> (ft)	Wind (lbs)	E.Q. <sup>5</sup> (lbs)
				Bot.	Top								
1	n-s	31.5	40.0	17.0	25.0	3,331	25	0.117	3,682	1	16.5	1,745	1,929
										2	15.0	1,586	1,753
										-	-	-	-
1	e-w	40.0	31.5	17.0	28.5	6,236	25	0.117	3,682	3	7.5	1,169	690
										4	20.0	3,118	1,841
										5	12.5	1,949	1,151

Story Shear due to Seismic Forces

3,682

**2nd Floor Diaphragm Forces**

Date:

Dphm No.	Force Dir.	Dimensions <sup>2</sup>		Wind Force			Seismic Force			Dist. Forces to Wall Lines			
		w (ft)	d (ft)	Height <sup>3</sup> (ft)		F <sub>w</sub> (lbs)	D.L. (psf)	2.5 C <sub>s</sub> / 1.4 R	F <sub>e,q.</sub> (lbs)	Wall Line	Trib <sup>4</sup> (ft)	Wind (lbs)	E.Q. <sup>5</sup> (lbs)
				Bot.	Top								
2	n-s	43.5	40.0	5.0	17.0	6,184	25	0.117	5,084	7	15.5	2,203	1,812
										8	13.0	1,848	1,519
										9	6.0	853	701
2	e-w	40.0	43.5	5.0	17.0	5,686	25	0.117	5,084	10	9.0	1,279	1,144
										11	20.0	2,843	2,542
										12	11.0	1,564	1,398

Story Shear due to Seismic Forces

8,766

## **SHEAR WALL FORCES**

### Formulas for redundancy calculations

$$E = \rho E_h \quad (\text{UBC 30-1})$$

$$\rho = 2 - \frac{20}{r_{\max} \sqrt{A_B}} \quad (\text{UBC 30-3})$$

$$\text{and } 1.0 < \rho < 1.5 \quad \text{UBC Sec. 1630.1.1}$$

$$r_i = \left[ \frac{\text{wall shear} \times \frac{10}{l_w}}{\text{story shear}} \right] \quad (\text{UBC Sec. 1630.1.1- shear walls})$$

$$r_i = \left[ \frac{\text{max. sum of shear in any 2 adjoining columns}}{\text{story shear}} \right] \quad (\text{UBC Sec. 1630.1.1- moment frames})$$

### Area of ground floor

$$A_B = 2,200 \quad \text{sq. ft. (includes overhang \& projections)}$$

### Notes for shear wall calcs. (superscript refs. appearing on following sheets)

1. "Source" is either a diaphragm or another wall line
2. "ρ" is the max. calculated, based on the max. "r" value for the story being calculated



Continued from previous sheet

Sheet:  
Date: 8/23/01

**Shear Walls for Roof Diaphragm N-S Forces Story Shear = 3,682**

Wall Line No.	Lateral Force (lbs)			Wall Length (ft)	Preliminary		Redundancy Calc. <sup>2</sup>			Controlling Force	
	Source <sup>1</sup>	Wind (lbs)	E.Q. (lbs)		Wind (plf)	E.Q. (plf)	r <sub>i</sub>	ρ	Adj EQ (plf)	Type (W/EQ)	Force (plf)
1	D1	1,745	1,929	7.2							
		-	-	2.5							
		-	-	-							
	Σ	1,745	1,929	9.7	180	199	0.540	1.21	241	EQ	241
2	D1	1,586	1,753	9.5							
		-	-	12.6							
		-	-	-							
	Σ	1,586	1,753	22.1	72	79	0.215	1.21	96	EQ	96

**Shear Walls for Roof Diaphragm E-W Forces Story Shear = 3,682**

Wall Line No.	Lateral Force (lbs)			Wall Length (ft)	Preliminary		Redundancy Calc. <sup>2</sup>			Controlling Force	
	Source <sup>1</sup>	Wind (lbs)	E.Q. (lbs)		Wind (plf)	E.Q. (plf)	r <sub>i</sub>	ρ	Adj EQ (plf)	Type (W/EQ)	Force (plf)
3	D1	1,169	690	13.0							
		-	-	6.2							
		-	-	-							
	Σ	1,169	690	19.2	61	36	0.098	1.00	36	W	61
4	D1	3,118	1,841	14.6							
		-	-	-							
		-	-	-							
	Σ	3,118	1,841	14.6	214	126	0.342	1.00	126	W	214
5	D2	1,949	1,151	10.5							
		-	-	-							
		-	-	-							
	Σ	1,949	1,151	10.5	186	110	0.298	1.00	110	W	186

Continued on next sheet

**Shear Walls for 2nd Floor Diaph. N-S Forces Story Shear = 8,766**

Wall Line No.	Lateral Force (lbs)		Wall Length (ft)	Preliminary		Redundancy Calc. <sup>2</sup>			Controlling Force		
	Source <sup>1</sup>	Wind (lbs)		E.Q. (lbs)	Wind (plf)	E.Q. (plf)	r <sub>i</sub>	ρ	Adj EQ (plf)	Type (W/EQ)	Force (plf)
7	D2	2,203	1,812	2.7	} Pow. A/12 / 02 MP	343	0.371	1.00	325	W	343
	L1	1,745	1,929	3.1							
	-	-	-	2.9							
	-	-	-	2.8							
	Σ	3,948	3,741	11.5							
8	D2	1,848	1,519	10.7	}	184	0.200	1.00	175	W	184
	L2	1,586	1,753	8.0							
	-	-	-	-							
	Σ	3,434	3,272	18.7							
9	D2	853	701	4.5	}	190	0.178	1.00	156	W	190
	-	-	-	-							
	-	-	-	-							
	Σ	853	701	4.5							

**Shear Walls for 2nd Floor Diaph. E-W Forces Story Shear = 8,766**

Wall Line No.	Lateral Force (lbs)		Wall Length (ft)	Preliminary		Redundancy Calc. <sup>2</sup>			Controlling Force		
	Source <sup>1</sup>	Wind (lbs)		E.Q. (lbs)	Wind (plf)	E.Q. (plf)	r <sub>i</sub>	ρ	Adj EQ (plf)	Type (W/EQ)	Force (plf)
10	D2	1,279	1,144	5.4	}	190	0.162	1.10	156	W	190
	L3	1,169	690	7.5							
	-	-	-	-							
	Σ	2,448	1,834	12.9							
11	D2	2,843	2,542	10.6	}	562	0.472	1.10	453	W	562
	L4	3,118	1,841	-							
	-	-	-	-							
	Σ	5,961	4,383	10.6							
12	D2	1,564	1,398	7.4	}	293	0.267	1.10	256	W	293
	L5	1,949	1,406	4.6							
	-	-	-	-							
	Σ	3,513	2,804	12.0							

**Uplift- Walls Resisting Roof Diaph.****N-S Forces**

Wall Line No.	Wall Length (ft)	Wall Height (ft)	Shear Force (plf)	Additional Uplift			Resisting Force			Net Uplift (lbs)
				Uplift <sup>1</sup> (lbs)	Source <sup>2</sup> -	Uplift (lbs)	D.L. (plf)	Factor 0.67	Force (lbs)	
1	7.2	6.0	241	1,444			248	0.67	(598)	846
	2.5	6.0	241	1,444			248	0.67	(208)	1,237
	-	-	-	-				-	-	-
2	9.5	6.0	96	576			248	0.67	(789)	(213)
	12.6	6.0	96	576			248	0.67	(1,047)	(471)
	-	-	-	-				-	-	-

**Uplift- Walls Resisting Roof Diaph.****E-W Forces**

Wall Line No.	Wall Length (ft)	Wall Height (ft)	Shear Force (plf)	Additional Uplift			Resisting Force			Net Uplift (lbs)
				Uplift <sup>1</sup> (lbs)	Source <sup>2</sup> -	Uplift (lbs)	D.L. (plf)	Factor 0.67	Force (lbs)	
3	13.0	6.0	61	365			110	0.67	(479)	(114)
	6.2	6.0	61	365			110	0.67	(228)	137
	-	-	-	-				-	-	-
4	14.6	6.0	214	1,281			80	0.67	(391)	890
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
5	10.5	6.0	186	1,114			110	0.67	(387)	727
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-

Continued on next sheet

Continued from previous sheet

Sheet:  
Date: 8/23/01

**Uplift- Walls Resisting 2nd Floor Diaph. N-S Forces**

Wall Line No.	Wall Length (ft)	Wall Height (ft)	Shear Force (plf)	Additional Uplift			Resisting Force			Net Uplift (lbs)
				Uplift <sup>1</sup> (lbs)	Source <sup>2</sup> -	Uplift (lbs)	D.L. (plf)	Factor 0.67	Force (lbs)	
7	2.7	6.0	343	2,060			80	0.67	(72)	1,987
	3.1	6.0	343	2,060	L1	1,979	170	0.67	(177)	3,862
	2.9	6.0	343	2,060				0.67	-	2,060
	2.8	6.0	343	2,060				0.67	-	2,060
8	10.7	6.0	184	1,102			140	0.67	(502)	600
	8.0	6.0	184	1,102			140	0.67	(375)	727
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
9	4.5	6.0	190	1,137			60	0.67	(90)	1,047
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-

Sheet:  
Date: 8/23/01

**Uplift- Walls Resisting 2nd Floor Diaph. E-W Forces**

Wall Line No.	Wall Length (ft)	Wall Height (ft)	Shear Force (plf)	Additional Uplift			Resisting Force			Net Uplift (lbs)
				Uplift <sup>1</sup> (lbs)	Source <sup>2</sup> -	Uplift (lbs)	D.L. (plf)	Factor 0.67	Force (lbs)	
10	5.4	6.0	190	1,139			110	0.67	(199)	940
	7.5	6.0	190	1,139			110	0.67	(276)	862
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
11	10.6	6.0	562	3,374			80	0.67	(284)	3,090
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
12	7.4	6.0	293	1,757			110	0.67	(273)	1,484
	4.6	6.0	293	1,757			110	0.67	(170)	1,587
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-

## SHEAR WALL FORCES

### Formulas for redundancy calculations

$$E = \rho E_h \quad (\text{UBC 30-1})$$

$$\rho = 2 - \frac{20}{r_{\max} \sqrt{A_B}} \quad (\text{UBC 30-3})$$

$$\text{and } 1.0 < \rho < 1.5 \quad \text{UBC Sec. 1630.1.1}$$

$$r_i = \left[ \frac{\text{wall shear} \times \frac{10}{\ell_w}}{\text{story shear}} \right] \quad (\text{UBC Sec. 1630.1.1- shear walls})$$

$$r_i = \left[ \frac{\text{max. sum of shear in any 2 adjoining columns}}{\text{story shear}} \right] \quad (\text{UBC Sec. 1630.1.1- moment frames})$$

### Area of ground floor

$$A_B = 2,200 \quad \text{sq. ft. (includes overhang \& projections)}$$

### Notes for shear wall calcs. (superscript refs. appearing on following sheets)

1. "Source" is either a diaphragm or another wall line
2. "p" is the max. calculated, based on the max. "r" value for the story being calculated

Continued from previous sheet

Sheet:  
Date: 8/23/01

**Shear Walls for Roof Diaphragm N-S Forces Story Shear = 3,682**

Wall Line No.	Lateral Force (lbs)			Wall Length (ft)	Preliminary		Redundancy Calc. <sup>2</sup>			Controlling Force	
	Source <sup>1</sup>	Wind (lbs)	E.Q. (lbs)		Wind (plf)	E.Q. (plf)	r <sub>i</sub>	ρ	Adj EQ (plf)	Type (W/EQ)	Force (plf)
1	D1	1,745	1,929	7.2							
		-	-	2.5							
		-	-	-							
	Σ	1,745	1,929	9.7	180	199	0.540	1.21	241	EQ	241
2	D1	1,586	1,753	9.5							
		-	-	12.6							
		-	-	-							
	Σ	1,586	1,753	22.1	72	79	0.215	1.21	96	EQ	96

**Shear Walls for Roof Diaphragm E-W Forces Story Shear = 3,682**

Wall Line No.	Lateral Force (lbs)			Wall Length (ft)	Preliminary		Redundancy Calc. <sup>2</sup>			Controlling Force	
	Source <sup>1</sup>	Wind (lbs)	E.Q. (lbs)		Wind (plf)	E.Q. (plf)	r <sub>i</sub>	ρ	Adj EQ (plf)	Type (W/EQ)	Force (plf)
3	D1	1,169	690	13.0							
		-	-	6.2							
		-	-	-							
	Σ	1,169	690	19.2	61	36	0.098	1.00	36	W	61
4	D1	3,118	1,841	14.6							
		-	-	-							
		-	-	-							
	Σ	3,118	1,841	14.6	214	126	0.342	1.00	126	W	214
5	D2	1,949	1,151	10.5							
		-	-	-							
		-	-	-							
	Σ	1,949	1,151	10.5	186	110	0.298	1.00	110	W	186

Continued on next sheet

**Shear Walls for 2nd Floor Diaph. N-S Forces Story Shear = 8,766**

Wall Line No.	Lateral Force (lbs)			Wall Length (ft)	Preliminary		Redundancy Calc. <sup>2</sup>			Controlling Force	
	Source <sup>1</sup>	Wind (lbs)	E.Q. (lbs)		Wind (plf)	E.Q. (plf)	r <sub>i</sub>	ρ	Adj EQ (plf)	Type (W/EQ)	Force (plf)
7	D2	2,203	1,812	2.7							
	L1	1,745	1,929	3.1							
		-	-	2.9							
		-	-	2.8							
	Σ	3,948	3,741	11.5	343	325	0.371	1.00	325	W	343
8	D2	1,848	1,519	10.7							
	L2	1,586	1,753	8.0							
		-	-	-							
		-	-	-							
	Σ	3,434	3,272	18.7	184	175	0.200	1.00	175	W	184
9	D2	853	701	4.5							
		-	-	-							
		-	-	-							
		-	-	-							
	Σ	853	701	4.5	190	156	0.178	1.00	156	W	190

**Shear Walls for 2nd Floor Diaph. E-W Forces Story Shear = 8,766**

Wall Line No.	Lateral Force (lbs)			Wall Length (ft)	Preliminary		Redundancy Calc. <sup>2</sup>			Controlling Force	
	Source <sup>1</sup>	Wind (lbs)	E.Q. (lbs)		Wind (plf)	E.Q. (plf)	r <sub>i</sub>	ρ	Adj EQ (plf)	Type (W/EQ)	Force (plf)
10	D2	1,279	1,144	5.4							
	L3	1,169	690	7.5							
		-	-	-							
		-	-	-							
	Σ	2,448	1,834	12.9	190	142	0.162	1.10	156	W	190
11	D2	2,843	2,542	10.6							
	L4	3,118	1,841	-							
		-	-	-							
		-	-	-							
	Σ	5,961	4,383	10.6	562	413	0.472	1.10	453	W	562
12	D2	1,564	1,398	7.4							
	L5	1,949	1,406	4.6							
		-	-	-							
		-	-	-							
	Σ	3,513	2,804	12.0	293	234	0.267	1.10	256	W	293

Continued on next sheet

**Uplift- Walls Resisting Roof Diaph. N-S Forces**

Wall Line No.	Wall Length (ft)	Wall Height (ft)	Shear Force (plf)	Additional Uplift			Resisting Force			Net Uplift (lbs)
				Uplift <sup>1</sup> (lbs)	Source <sup>2</sup> -	Uplift (lbs)	D.L. (plf)	Factor 0.67	Force (lbs)	
1	7.2	10.0	241	2,407			248	0.67	(598)	1,809
	2.5	10.0	241	2,407			248	0.67	(208)	2,200
	-	10.0	-	-				-	-	-
	-	-	-	-				-	-	-
2	9.5	10.0	96	960			248	0.67	(789)	171
	12.6	10.0	96	960			248	0.67	(1,047)	(87)
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-

**Uplift- Walls Resisting Roof Diaph. E-W Forces**

Wall Line No.	Wall Length (ft)	Wall Height (ft)	Shear Force (plf)	Additional Uplift			Resisting Force			Net Uplift (lbs)
				Uplift <sup>1</sup> (lbs)	Source <sup>2</sup> -	Uplift (lbs)	D.L. (plf)	Factor 0.67	Force (lbs)	
3	13.0	10.0	61	609			110	0.67	(479)	130
	6.2	10.0	61	609			110	0.67	(228)	380
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
4	14.6	10.0	214	2,136			80	0.67	(391)	1,744
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
5	10.5	10.0	186	1,856			110	0.67	(387)	1,469
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-
	-	-	-	-				-	-	-



**Uplift- Walls Resisting 2nd Floor Diaph. N-S Forces**

Wall Line No.	Wall Length (ft)	Wall Height (ft)	Shear Force (plf)	Additional Uplift			Resisting Force			Net Uplift (lbs)
				Uplift <sup>1</sup> (lbs)	Source <sup>2</sup> -	Uplift (lbs)	D.L. (plf)	Factor 0.67	Force (lbs)	
7	2.7	10.0	343	3,433			80	0.67	(72)	3,361
	3.1	10.0	343	3,433			170	0.67	(177)	3,256
	2.9	10.0	343	3,433			80	0.67	(78)	3,355
	2.8	10.0	343	3,433	L1	1,979	80	0.67	(75)	5,337
8	10.7	10.0	184	1,836			140	0.67	(502)	1,335
	8.0	10.0	184	1,836			140	0.67	(375)	1,461
	-	-	-	-			-	-	-	-
	-	-	-	-			-	-	-	-
9	4.5	10.0	190	1,896			60	0.67	(90)	1,805
	-	-	-	-			-	-	-	-
	-	-	-	-			-	-	-	-
	-	-	-	-			-	-	-	-

**Uplift- Walls Resisting 2nd Floor Diaph. E-W Forces**

Wall Line No.	Wall Length (ft)	Wall Height (ft)	Shear Force (plf)	Additional Uplift			Resisting Force			Net Uplift (lbs)
				Uplift <sup>1</sup> (lbs)	Source <sup>2</sup> -	Uplift (lbs)	D.L. (plf)	Factor 0.67	Force (lbs)	
10	5.4	10.0	190	1,898			110	0.67	(199)	1,699
	7.5	10.0	190	1,898			110	0.67	(276)	1,621
	-	-	-	-			-	-	-	-
	-	-	-	-			-	-	-	-
11	10.6	10.0	562	5,624			80	0.67	(284)	5,340
	-	-	-	-			-	-	-	-
	-	-	-	-			-	-	-	-
	-	-	-	-			-	-	-	-
12	7.4	10.0	293	2,928			110	0.67	(273)	2,655
	4.6	10.0	293	2,928			110	0.67	(170)	2,758
	-	-	-	-			-	-	-	-
	-	-	-	-			-	-	-	-