

SEAOC Seismic Design Manual (1997 UBC Version)
Errata No. 1 for Volume I

Page v, Preface.

After the second paragraph, add the following additional paragraph:

The examples in the Seismic Design Manual do not necessarily illustrate the only appropriate methods of design and analysis. Proper engineering judgment should always be exercised when applying these examples to real projects. The Seismic Design Manual is not meant to establish a minimum standard of care, but instead present reasonable approaches to solving problems typically encountered in seismic design.

Page vii, Reviewers.

Add the following names:

Robert E. Bachman
 William M. Nelson

Page 5, Notation.

Line 8, in the definition of W , change to "1620.1.1" to 1630.1.1
 Line 11, in the definition of W_p , change to "of " to or

Page 12, Example 2.

In the figure, delete the horizontal arrow for gravity loads.

Page 13, Example 2, Item a.

Line 6, change " V_e " to V_E

Page 14, Example 2, Item b.

Line 3, change " $V_e = 2,875lbs$ " to $V_{ASD} = 2,857lbs$
 Line 5, change " $9V_e$ " to $9V_{ASD}$
 Line 6, change " $9V$ " to $9V_{ASD}$

Page 15, Example 2, Item a.

Line 2, change " V_e " to V_E

Page 30, Example 8.

To the right of the expression " $60k < 0.8 (90) = 72k$ ", add Table 16-L, Item 5 as a Code Reference.

After the last line, add the following:

Because a weak story condition was found to exist, the requirements of §1629.9.1 must be checked:

$$60k > 0.65 (90) = 58.5k$$

Therefore, the restrictions of §1629.9.1 do not apply.

Page 31, Example 8.

Delete the last paragraph.

Page 32, Example 9.

Line 6, change "Columns on lines A, B, C and D at both levels " to read Columns on lines A, B, C, and D in stories 1, 2, and 3:

Line 12, change "In addition, the columns meet ... " to read In addition, assume that the columns have been designed so as to meet....

Page 35, Example 9, Item 3.

After the last line add the following:

Because a weak story condition exists, the requirements of §1629.9.1 must be checked:

$$87.5k > 0.65 (130) = 84.5k$$

Therefore, the restrictions of §1629.9.1 do not apply.

Page 38, Example 10, Item 2.

Change " 1.2_{avg} " to $1.2\delta_{\alpha\omega\gamma}$

Page 39, Example 10, Commentary.

Line 4, change " $\delta_{I,x}$ " to $\delta_{L,x}$

Line 6, change " δ_x " to $\delta_{R,x}$

Only for the second printing (marked revised 9-1-99 at bottom of the page), change all upper case "X" subscripts to lower case.

Page 50, Example 15.

Change Equation (30-3) to read: $\rho = 2 - \frac{20}{(0.190)\sqrt{8400}} = 0.851 < 1.0$

Page 56, Example 17.

Move " $h_1 = 20'$ " down to first story.

Page 78, Example 25, Item 3.

Delete Line 5 and add the following:

For the determination of torsional irregularity, the initial most severe torsional shears V' and story drifts (so as to produce the lowest value of the average of the story drifts) will result from the largest eccentricity ($e + e_{acc}$), these are

Revise expression for $V'_{T,A}$ to read:

$$V'_{T,A} = \frac{V(e + e_{acc})(x_R)(R_A)}{J} = \frac{100(20 + 4)(20)(300)}{64 \times 10^4} = 22.5 \text{ kips}$$

Delete the sentence beginning with: "Note: these initial shears... "

Revise the expression for V'_A to read:

$$V'_A = V_{D,A} - V'_{T,A} = 75.0 - 22.5 = 52.5 \text{ kips}$$

Revise the expression for V'_B to read:

$$V'_B = V_{D,B} + V'_{T,B} = 25.0 + 22.5 = 47.5 \text{ kips}$$

Revise expression for δ'_A to read:

$$\delta'_A = \frac{V'_A}{R_A} = \frac{52.5}{300} = 0.18 \text{ in.}$$

Page 79, Example 25.

Revise the expression for δ_{avg} to read:

$$\delta_{avg} = \frac{0.18 + 0.48}{2} = 0.33 \text{ in.}$$

Revise the expression for $\frac{\delta_{max}}{\delta_{avg}}$ to read:

$$\frac{\delta_{max}}{\delta_{avg}} = \frac{0.48}{0.33} = 1.45 > 1.2$$

Revise the expression for A_x to read:

$$A_x = \left(\frac{\delta_{max}}{1.2\delta_{av}} \right) = \left(\frac{0.48}{1.2(0.33)} \right)^2 = 1.47 < 3.0$$

Delete Item 4 and replace with the following:

4. Torsional shears in walls A and B.

The final torsional shears are determined using the new accidental eccentricity:

$$e_{acc} = A_x(4.0) = (1.47)(4.0) = 5.88'$$

The most severe total shears result from the use of $(e - e_{acc})$ for $V_{T,A}$ and $(e + e_{acc})$ for $V_{T,B}$:

$$V_{T,A} = \frac{100(20 - 5.88)(20)(300)}{64 \times 10^4} = \underline{\underline{13.2 \text{ kips}}}$$

$$V_{T,B} = \frac{100(20 + 5.88)(60)(100)}{64 \times 10^4} = \underline{\underline{24.3 \text{ kips}}}$$

Under Item 5, revise the expressions for V_A and V_B to read:

$$V_A = V_{D,A} - V_{T,A} = 75.0 - 13.2 = \underline{\underline{61.8 \text{ kips}}}$$

$$V_B = V_{D,B} + V_{T,B} = 25.0 + 24.3 = \underline{\underline{49.3 \text{ kips}}}$$

Page 80, Example 25, Commentary

Revise line 3 to read: shears, and the "most severe" condition for the total shear is as follows:

Page 84, Example 26, Item 2.

Change " $F_x (0.05L_x)$ " to F_x or $F_x (A_x)(0.05L_x)$

Page 90, Example 29.

The example shown has omitted consideration of the vertical seismic forces E_v that are required to be considered when using strength design. The SEAOC Seismology Committee is now studying this issue, and a revised example will be issued at a later date.

Page 106, Example 34, Item 3.

Revise the first sentence to read: Apply the F_x forces to the frame structure and, given as a result of this analysis, the moment M'_A induced at point A is

Page 138, Example 44, Commentary.

Add the following paragraph:

It should be noted that the 1997 UBC has an error and that the expression " $0.5C_a I$ " should actually be $0.3C_a I$. The 1999 Blue Book gives $0.3C_a I$.

Page 148, Example 48, Commentary.

In equation (30-15), change " F_i " to F_x

Page 149, Example 48.

Change the equation at the bottom of the page to read as follows:

$$F_{p1} = \frac{F_1}{W} w_{p1} = \frac{V}{W} w_{p1} = \frac{2.5C_a I}{R} w_{p1}$$