

Tier 2 Appendix 3A Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3A.1, 4 th para.	Revised numbers of analysis cases according to Section 3A.6. Reference to RAI 3.7-30.
2.	S3A.3.1, 1 st para., 1 st sent.	Editorial change.
3.	S3A.4.1, 3 rd para.	Described definition of the location of input ground motion for layered sites. Reference to RAI 3.7-30.
4.	S3A.5, 1 st para.	Added an explanation of the DAC3N analysis and SASSI analysis. Reference to RAI 3.7-30.
5.	S3A.5.1, 4 th para.	Added an explanation of the analysis time step for each input motion for the DAC3N analysis. Reference to RAI 3.7-5.
6.	S3A.5.2 (new), all	Added an explanation of the SASSI analysis method. Reference to RAI 3.7-30.
7.	S3A.6, all	Added an explanation of the analysis cases revised per RAI responses. Reference to RAI 3.7-30.
8.	T3A.6-1	Revised the analysis cases incorporating RAI responses. Reference to RAI 3.7-5 and RAI 3.7-30.
9.	S3A.7.1, 5 th para., 1 st sent.	Editorial change.
10.	S3A.7.1, 6 th para.,	Deleted “determined in Step (4) above”.
11.	S3A.7.1, new 10 th para.	Added an explanation of the evaluation of the out-of-plane vibration frequencies. Reference to RAI 3.7-26 S1.
12.	S3A.7.2, 3 rd para.	Added a sentence referring to the figure of the overall CB seismic model. Reference to RAI 3.7-24.
13.	S3A.7.3 (new), all	Added an explanation of the SASSI analysis model. Reference to RAI 3.7-30.
14.	T3A.7-1 through 3A.7-7	Replaced the eigenvalue analysis results with the results of the revised RBFB model. Reference to RAI 3.7-36.
15.	T3A.7-8 through 3A.7-14	Replaced the eigenvalue analysis results with the results of the revised CB model. Reference to RAI 3.7-36.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
16.	F3A.7-4	Revised the RBFB model incorporating the RAI response for the wall out-of-plane vibration. Reference to RAI 3.7-26 S1.
17.	F3A.7-5 and 3A.7-6 (new)	Revised the CB model incorporating the RAI response for the degrees of freedom of seismic model. Reference to RAI 3.7-24.
18.	F3A.7-7 through 3A.7-9 (new)	Added figures for the RBFB SASSI model. Reference to RAI 3.7-30.
19.	F3A.7-10 through 3A.7-12 (new)	Added figures for the CB SASSI model. Reference to RAI 3.7-30.
20.	S3A.8, 3 rd para.	Revised sentences according to the addition of subsections 3A.8.1 through 3A.8.11.
21.	S3A.8, 4 th & 5 th para.	Revised and moved to new Subsection 3A.8.1.
22.	S3A.8.2 (new), all	Added explanations of effect of single envelope ground motion incorporating the RAI response. Reference to RAI 3.7-5.
23.	S3A.8.3 (new), all	Added explanations of effect of updated design of RSW and VW. Reference to RAI 3.7-36 S1.
24.	S3A.8.4 (new), all	Added explanations of effect of in-fill concrete stiffness of VW and DF incorporating the RAI response. Reference to RAI 3.8-41.
25.	S3A.8.5 (new), all	Added explanations of effect of LOCA flooding incorporating the RAI response. Reference to RAI 3.8-8.
26.	S3A.8.6 (new), all	Added explanations of effect of layered sites incorporating the RAI response. Reference to RAI 3.7-30.
27.	S3A.8.7 (new), all	Added explanations of effect of embedment incorporating the RAI response. Reference to RAI 3.7-35.
28.	S3A.8.8 (new), all	Added explanations of effect of lateral soil pressure incorporating the RAI response. Reference to RAI 3.7-33 S1.
29.	S3A.8.9 (new), all	Added explanations of effect of concrete cracking incorporating the RAI response. Reference to RAI 3.7-50 S1.

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30.	S3A.8.10 (new), all	Added explanations of effect of wall out-of-plane vibration incorporating the RAI response. Reference to RAI 3.7-26 S1.
31.	S3A.8.11 (new), all	Added explanations of effect of structure-structure interaction incorporating the RAI response. Reference to RAI 3.7-39 S1.
32.	T3A.8.1-1 and 3A.8.1-2 (new)	Revised maximum forces with the revised seismic model incorporating the RAI response. Reference to RAI 3.7-36 S1.
33.	T3A.8.2-1 and 3A.8.2-2 (new)	Added maximum forces due to the single envelope input motion incorporating the RAI response. Reference to RAI 3.7-5.
34.	T3A.8.3-1 and 3A.8.3-2 (new)	Added maximum forces considering the effect of the updated design of RSW and VW.
35.	T3A.8.4-1 and 3A.8.4-2 (new)	Added maximum forces considering the effect of the in-fill concrete stiffness of VW and DF incorporating the RAI response. Reference to RAI 3.8-41.
36.	T3A.8.5-1 and 3A.8.5-2 (new)	Added maximum forces considering the effect of the LOCA flooding incorporating the RAI response. Reference to RAI 3.8-8.
37.	T3A.8.7-1 (new)	Added comparison of the basemat reaction forces considering the effect of the embedment incorporating the RAI response. Reference to RAI 3.7-35.
38.	T3A.8.8-1 and 3A.8.8-2 (new)	Added the lateral soil pressure obtained from the SASSI analyses incorporating the RAI response. Reference to RAI 3.7-33 S1.
39.	T3A.8.10-1 and 3A.8.10-2 (new)	Added the maximum horizontal accelerations of RBFB out-of-plane oscillators incorporating the RAI response. Reference to RAI 3.7-26 S1.
40.	F3A.8.1-1a through 3A.8.1-3g (new)	Revised FRS using analysis results of the revised seismic model incorporating the RAI response. Reference to RAI 3.7-36 and RAI 3.7-24.
41.	F3A.8.2-1a through 3A.8.2-3g (new)	Added FRS for the single envelope input motion incorporating the RAI response. Reference to RAI 3.7-5.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
42.	F3A.8.3-1a through 3A.8.3-3f (new)	Added FRS considering the effect of the updated design of RSW and VW.
43.	F3A.8.4-1a through 3A.8.4-3f (new)	Added FRS considering the effect of in-fill concrete stiffness of VW and DF incorporating the RAI response. Reference to RAI 3.8-41.
44.	F3A.8.5-1a through 3A.8.5-3f (new)	Added FRS considering the effect of LOCA flooding incorporating the RAI response. Reference to RAI 3.8-8.
45.	F3A.8.6-1a through 3A.8.6-3g (new)	Added FRS considering the effect of layered sites incorporating the RAI response. Reference to RAI 3.7-30.
46.	F3A.8.8-1 through 3A.8.8-4 (new)	Added the lateral soil pressure obtained from the SASSI analyses incorporating the RAI response. Reference to RAI 3.7-33.
47.	F3A.8.9-1a through 3A.8.9-2g (new)	Added FRS considering the effect of concrete cracking incorporating the RAI response. Reference to RAI 3.7-50.
48.	F3A.8.11-1 through 3A.8.11-3 (new)	Added FRS considering the effect of structure – structure interaction.
49.	S3A.9.1, 1 st para.	Revised sentences to explain the added analysis cases to obtain the enveloping maximum forces.
50.	S3A.9.1, 2 nd para.	Revised sentences to explain the added analysis cases to obtain the enveloping maximum accelerations.
51.	S3A.9.2, 3 rd bullet	Deleted the reduction factors due to wave incoherence according to ASCE 4-98 incorporating the RAI response. Reference to RAI 3.7-58.
52.	T3A.9-1a through 3A.9-1f (new)	Revised enveloping seismic loads incorporating the added analysis cases. Reference to RAI 3.7-5.
53.	T3A.9-2a through 3A.9-2e (new)	Added enveloping seismic loads for LOCA flooding case. Reference to RAI 3.8-8.
54.	T3A.9-3a through 3A.9-3g (new)	Revised enveloping maximum accelerations incorporating the added analysis cases. Reference to RAI 3.7-5 and 3.7-26 S1.
55.	T3A.9-4a through 3A.9-4e (new)	Added enveloping maximum accelerations for LOCA flooding case. Reference to RAI 3.8-8.
56.	F3A.9-1a through 3A.9-3g	Revised enveloping FRS incorporating the added analysis cases. Reference to RAI 3.7-5.

Tier 2 Appendix 3B Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3B.2, 7 th para.	Editorial change.
2.	S3B.2, 7 th para., Item B (1)	Editorial change.
3.	S3B.3, Item 3B-1	Replaced “To be issued” with “May 2006”.

Tier 2 Appendix 3C Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3C.2.1	Rewritten for clarity.
2.	S3C.2.3, 1 st sent.	Rewritten for clarity.
3.	S3C.3.1	Rewritten for clarity.
4.	SC.3.3	Editorial change.
5.	SC.4.1, 1 st para., 1 st and 2 nd sent.	Rewritten for clarity.
6.	S3C.4.3	Editorial change.
7.	S3C.5.3	Editorial change.
8.	S3C.6.1, 2 nd para.	Editorial change.
9.	S3C.6.3	Editorial change.
10.	S3C.7.1.1, 1 st para., 1 st sent.	Rewritten for clarity.
11.	S3C.7.1.1, 3 rd & 4 th para.	Rewritten for clarity.
12.	S3C.7.1.3	Editorial change.
13.	S3C.7.2.1, 3 rd sent.	Replaced “thin layer element” with “finite-element” per RAI 3.7-55 S1.
14.	S3C.7.2.2, 1 st para.	Revised paragraph per RAI 3.7-55 S1 to read: “SASSI version 2000 was obtained from the University of California, Berkeley and implemented by Shimizu Corporation of Tokyo, Japan on the PC computer on Linux OS. Program validation documentation is available at UC Berkeley.”
15.	S3C.7.2.3	Revised sentence per RAI 3.7-55 S1 to read: “SASSI is used to obtain seismic design loads and in-structure floor response spectra for the Seismic Category I buildings accounting for the effects of SSI.”

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
16.	S3C.7.3.2, 1 st para.	Revised paragraph per RAI 3.7-55 S1 to read: “SHAKE was developed at the University of California, Berkeley and implemented by Shimizu Corporation of Tokyo, Japan on the Hewlett Packard computer workstation. Program validation documentation is available at UC Berkeley.”

Tier 2 Appendix 3D Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3D.2.1	Deleted entire section as a result of an ECP update.
2.	S3D.2.2	Revised entire section as a result of an ECP update.
3.	S3D.3	Editorial change.
4.	New S3D.3.1	Added details on “ANSYS” as a result of an ECP update.
5.	New S3D.3.2	Added details on “Dynamic Stress Analysis of Axisymmetric Structures Under Arbitrary Loading ASHSD2” as a result of an ECP update.
6.	New S3D.3.3	Added details on “EVAST” as a result of an ECP update.
7.	New S3D.3.4	Added details on “TACF” as a result of an ECP update.
8.	New S3D.3.5	Added details on “ABAQUS” as a result of an ECP update.
9.	New S3D.3.6	Added details on “FEMFL” as a result of an ECP update.
10.	New S3D.3.7	Added details on “SEISM03” as a result of an ECP update.
11.	S3D.4.1	Added subsection title “Description” before 1 st paragraph. Added subsection title “Validation” after 2 nd paragraph.
12.	S3D.4.1, last para.	Deleted last sentence per RAI 3.12-14 S2.
13.	New S3D.4.1.3	Added subsection title “Extent of Application” plus description.
14.	S3D.4.2, 1 st para.	Revised paragraph per an ECP update.
15.	S3D.4.2	Added subsection title “Description” before the 1 st paragraph.
16.	New S3D.4.2.2 & S3D.4.2.3	Added additional details per an ECP update.
17.	S3D.4.3	Deleted entire section as a result of an ECP update.
18.	S3D.4.4.1, 3 rd sent.	Inserted “GE developed FORTRAN” before “computer program...”
19.	S3D.4.4.1	Added subsection title “Description” before the 1 st paragraph.
20.	New S3D.4.4.1.2 & S3D.4.4.1.3	Added additional details per an ECP update.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
21.	S3D.4.4.2, 1 st para.	Revised paragraph per an ECP update.
22.	S3D.4.4.2	Added subsection title “Description” before the 1 st paragraph.
23.	New S3D.4.4.2.2 & S3D.4.4.2.3	Added additional details as a result of an ECP update.
24.	S3D.4.4.3 & S3D.4.4.4	Deleted entire section as a result of an ECP update.
25.	S3D.4.5	Deleted entire section as a result of an ECP update.
26.	S3D.4.6.1, 1 st para., 1 st sent.	Inserted “secondary” after “...used to generate”.
27.	S3D.4.6.1	Added subsection titles “Description” before 1 st paragraph and “Extent of Application” after 1 st paragraph.
28.	New S3D.4.6.1.2	Added additional details per an ECP update.
29.	S3D.4.6.2	Added subsection title “Description” before 1 st paragraph.
30.	New S3D.4.6.2.2 & S3D.4.6.2.3	Added additional details per an ECP update.
31.	S3D.4.6.3 & S3D.4.6.4	Deleted entire sections as a result of an ECP update.
32.	S3D.4.7, 1 st para., 1 st sent.	Inserted “a FORTRAN program” after “PDA is”.
33.	S3D.4.7	Added subsection title “Description” before 1 st paragraph.
34.	New S3D.4.7.2 & S3D.4.7.3	Added additional details per an ECP update.
35.	S3D.4.8, 1 st para., 1 st sent.	Replaced “The LION program is” with “LION is a FORTRAN program”.
36.	S3D.4.8, 1 st para., 2 nd sent	Replaced “ vT_1 , vT_2 ” with “ ΔT_1 , ΔT_2 ”.
37.	S3D.4.8	Added subsection title “Description” before 1 st paragraph.
38.	New S3D.4.8.2 & S3D.4.8.3	Added additional details per an ECP update.
39.	S3D.4.9, 1 st para.	Replaced entire paragraph with “See Subsection 3D.3.1.1” per an ECP update.
40.	S3D.4.9, 2 nd para., 2 nd sent.	Replaced “structural” with “finite element”.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
41.	S3D.4.9	Added subsection title “Description” before 1 st paragraph and “Extent of Application” before 2 nd paragraph.
42.	New S3D.4.9.2	Added additional details per an ECP update.
43.	S3D.4.10, 1 st para., 1 st sent.	Inserted “is a GE FORTRAN program that” after “EZPYP”.
44.	S3D.4.10	Added subsection title “Description” before 1 st paragraph.
45.	New S3D.4.10.2 & S3D.4.10.3	Added additional details per an ECP update.
46.	3D.4.11	Deleted entire section as a result of an ECP update.
47.	S3D.5.1, 1 st para.	Deleted 1 st sentence and inserted “program” before “is a general structural” in the 2 nd sentence.
48.	S3D.5.1	Added subsection title “Description” before 1 st paragraph.
49.	New 3D.5.1.2 & 3D.5.1.3	Added additional details per an ECP update.
50.	S3D.5.2	Deleted entire section as a result of an ECP update.
51.	S3D.6	Deleted entire section as a result of an ECP update.

Tier 2 Appendix 3E Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3E	Deleted entire Appendix 3E per RAI 3.6-22.

Tier 2 Appendix 3F Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3F.1, 1 st sent.	Rewritten for clarity.
2.	S3F.2.2, Item 1, new 2 nd para.	Added additional details in response to RAI 3.8-41 S3.
3.	S3F.2.3, Item (1), last para., last sent.	Replaced “steady” with “steady-state”.
4.	S3F.2.3, Item (2), 1 st para., last sent.	Editorial change.
5.	S3F.2.3, Item (2), last para.	Editorial change.
6.	S3F.3, 1 st para., 1 st sent.	Replaced “3F-22” with “3F-25” per RAI 3.8-41 S3.
7.	S3F.3, new last para.	Added additional details in response to RAI 3.8-41 S3.
8.	T3F-1	Replaced table with the new AP analysis results: envelope of two new models (No concrete stiffness and 50% stiffness) and added horizontal results in response to RAI 3.8-41 S3.
9.	T3F-2	Replaced table with new SRVD, LOCA analyses results: envelope of two new models (No concrete stiffness and 50% stiffness) in response to RAI 3.8-41 S3.
10.	T3F-3	Replaced table with new AP analyses results: envelope of new models (No concrete stiffness and 50% stiffness) in response to RAI 3.8-41 S3.
11.	T3F-4	Replaced table with new SRVD, LOCA analyses results: envelope of two new models (No concrete stiffness and 50% stiffness) in response to RAI 3.8-41 S3.
12.	Figures 3F-4 to 3F-25	Replaced figures with new response spectra for new analyses: AP, SRVD and LOCA loads and added the vertical AP spectra in response to RAI 3.8-41 S3.