CITY OF [NAME OF CITY]

Department of [NAME OF DEPARTMENT]
[NAME OF DIVISION OR BUREAU]

Supplemental Structural Correction Sheet for National Design Specification for Wood Construction

(ANSI/AF&PA SDPWS-2008 NDS)

INFORMATION

PLAN CHECK NO.:	EXPIRATION DATE:	STATUS:
PROJECT ADDRESS:		
WORK DESCRIPTION:		
APPLICANT'S NAME:	TEL. NO.:	
ADDRESS:	EMAIL:	

INSTRUCTIONS

Your application for a permit, together with plans and specifications, has been examined and you are advised that the issuance of a permit is withheld for the reasons hereinafter set forth. The approval of plans and specifications does not permit the violation of any sections of the Building Code or other local ordinances or state laws.

In an effort to streamline the plan review process, please follow the steps outlined below to ensure that there is no delay in processing your application and reviewing your responses to these plan check comments.

- Comments with circled item numbers apply to this plan check.
- Revised plans and calculations shall incorporate or address all comments marked on the original checked set of plans, calculations, and this plan review checklist. Provide a written response to each comment and show where and how it has been addressed. Identify the sheet number and detail or reference note on the revised plans where the corrections are made. Time spent searching for the corrected items on the revised plans or calculations will delay the review and approval process. Once all comments on the plans, calculations, and this checklist have been addressed, contact the plan check staff to **schedule an appointment** to review the changes made.

  PLAN REVIEWER: _____ TEL. NO.: _____

  ADDRESS: _____

  EMAIL: _____ WEBSITE: _____

  Should you have any questions or need clarification pertaining to the comments made on your project, you may contact the plan check staff by telephone from to M T W TH F.
- Bring the original checked set of plans and calculations along with this checklist to the meeting. Do not schedule an appointment meeting with the plan check staff until all comments have been addressed.
- Incomplete, indefinite or faded drawings or calculations will not be accepted.

NOTE

Numbers within the parenthesis ( ) refer to the section of the applicable code. 2008 Edition of the National Design Specification for Wood Construction (ANSI/AF&PA SDPWS-2008 NDS). Table (T). Los Angeles Regional Uniform Code Program (LARUCP).

I. DESIGN METHODS

1. Engineered design of wood structures to resist wind and seismic forces shall be by one of the following methods (2.1.1):
   i. Allowable Stress Design (ASD)
   ii. Load And Resistance Factor Design (LRFD)
   iii. Prescriptive provisions permitted by the authority having jurisdiction.

II. FRAMING

1. Wall framing shall be designed to resist induced wind and seismic forces. (3.1.1.)
2. Wall sheathing resisting and transferring out-of-plane wind loads shall be designed in accordance with Table 3.2.1. The nominal load capacities given in the table shall be divided by reduction factor 1.6 for ASD and multiplied by resistance factor 0.85 for LRFD. (3.2.1)
3. Roof and floor sheathing shall be capable of resisting and transferring gravity loads to the supporting framing.
4. Roof sheathing resisting and transferring out-of-plane wind loads shall be designed in accordance with Table 3.2.2. The nominal load capacities given in the table shall be divided by reduction factor 1.6 for ASD and multiplied by resistance factor 0.85 for LRFD. (3.2.2)
5. Floor and roof sheathing resisting wind loads shall be continuous over 2- spans minimum. (Table 3.2.2)

III. LATERAL FORCE-RESISTING SYSTEM (General)

1. Provide on the plans a continuous load path, or paths, with adequate strength and stiffness to transfer all forces from the point of application to the final point of resistance. (4.1.1)
2. Deformation of connections within and between structural elements comprising the lateral force-resisting system shall be compatible with the deformations of the other lateral force-resisting elements and connections and with the overall system. (4.1.3)
3. Shear wall and diaphragm boundary elements shall be provided to transfer the design tension and compression forces. Diaphragm and shear wall sheathing shall not be used to splice boundary elements.
4. Wood-frame shear walls, wood-frame diaphragms, trusses, and other wood members and systems shall not be used to resist seismic forces contributed by masonry or concrete walls in structures over one story in height. (4.1.5)
5. Wood members and systems shall be designed to resist seismic forces from concrete, masonry components, including but not limited to chimneys, fireplaces, concrete or masonry veneers (4.1.6)
6. In seismic design categories D, E, and F, the capacity of toe-nailed connections shall not be used when calculating lateral load resistance to transfer seismic lateral forces greater than 150 plf for ASD and 205 plf for LRFD from diaphragms to shear walls, collectors, or from shear walls to other elements. (4.1.7)

IV. LATERAL FORCE-RESISTING SYSTEM (Wood-Frame Diaphragms)

1. Wood-frame diaphragm deflections in the plane of the diaphragm shall not exceed the maximum permissible deflection limit of the attached load distributing or resisting elements. (4.2.1)
2. Framing members, blocking, and connections shall extend into the diaphragm a sufficient distance to develop the force transferred into the diaphragm. (4.2.1)
3. Diaphragm deflection shall be calculated in accordance with Section 4.2.2.

4. Diaphragm nominal unit shear capacities for seismic design shall be in accordance with Column A of Tables 4.2A, 4.2B, 4.2C, and 4.2D; and for wind design shall be in accordance with Column B of Tables 4.2A, 4.2B, 4.2C, and 4.2D. (4.2.3)
5. The diaphragm nominal unit shear capacities referenced above shall be modified by dividing the tabulated nominal unit shear capacities by the reduction factor of 2.0 for ASD and by multiplying by a resistance factor of 0.80 for LRFD. No further increases are permitted. (4.2.3)
6. Maximum Diaphragm aspect ratios shall be limited to those specified in Table 4.2.4. (4.2.4.)
7. Diaphragms shall be defined as rigid or flexible for the purpose of distributing shear loads and designing for torsional moments. (4.2.5)
8. Diaphragm shear forces of flexible diaphragms shall be distributed to the vertical resisting elements based on tributary areas. (4.2.5)
9. Diaphragm shear forces of rigid diaphragms shall be distributed to the vertical-resisting elements based on the relative lateral stiffnesses of the vertical-resisting elements of the story below. (4.2.5)
10. Rigid wood-frame diaphragms shall be considered as torsionally irregular when the maximum story drift, including accidental torsion, at one end of the structure is more than 1.2 times the average of the story drifts at the two ends of the structure. Torsionally irregular diaphragms shall comply with Sections 4.2.5.1, 4.2.7.1, 4.2.7.2, and 4.2.7.3. (4.2.5.1)
11. Open front structures utilizing wood-frame rigid diaphragms to distribute shear forces through torsion shall be permitted when designed in accordance with section 4.2.5.1.1.
12. Cantilevered rigid wood-frame diaphragms shall be permitted past the outermost supporting shear wall (or other vertical resisting element) when designed in accordance with section 4.2.5.2.
13. Wood structural panel sheathing used for diaphragms that are part of the lateral force-resisting system shall be applied directly to the framing members and blocking (4.2.7.1)
14. Diaphragm panels shall not be less than 4’ x 8’ except at boundaries and changes in framing where minimum panel dimensions shall be 24” unless all edges of the undersized panels are supported by and fastened to framing members or blocking (4.2.7.1.1)
15. The width of the nailed face of framing members and blocking shall be 2” nominal or greater at adjoining panel edges except that a 3” nominal or greater width at adjoining panel edges and staggered nailing at all panel edges are required when nail spacing is 21/2” on center or less or 10d common nails having penetration to framing members and blocking of more than 11/2” are specified at 3” on center or less at adjoining panel edges. (4.2.7.1.1)
16. All blocked and unblocked diaphragm assemblies shall comply with Sections 4.2.7.1.1 and 4.2.7.1.3.
17. All high load blocked diaphragms assemblies shall comply with Section 4.2.7.1.2
18. Wood structural panels shall conform to the requirements for their type in DOC PS1 or PS2. (4.2.7)
19. All diaphragms diagonally sheathed with single-layer and double-layer of lumber shall comply with Sections 4.2.7.2 and 4.2.7.3.
20. Single diagonally sheathed lumber diaphragms shall be constructed of minimum 1” thick nominal sheathing board or 2” thick nominal lumber laid at an angle of approximately 45 degrees to the supports (4.2.7.2)
21. Single diagonally sheathed lumber diaphragms consisting of 2” nominal lumber shall be supported by framing not less than 3” nominal in width or 4” nominal in depth (4.2.7.2)
22. Double diagonally sheathed lumber diaphragms shall be constructed of two layers of diagonal sheathing boards laid perpendicular to each other on the same face of supporting members (4.2.7.3)
23. Horizontally sheathed lumber diaphragms shall be constructed of minimum 1” thick nominal sheathing boards or minimum 2” thick nominal lumber laid perpendicular to the supports (4.2.7.4)

V. LATERAL FORCE-RESISTING SYSTEM (Wood-Frame Shear Walls)

1. Shear Wall deflections shall not exceed the maximum permissible deflection limit of the attached load distributing or resisting elements. (4.3.1)

2.

3. Framing members, blocking, and connections shall extend into the shear wall a sufficient distance to develop the force transferred into the shear wall. (4.3.1)
4. Shear wall deflection shall be calculated in accordance with Sections 4.3.2 and 4.3.3.3.1.
5. Deflection of perforated shear wall shall be in accordance with Section 4.3.2.1
6. Deflection of unblocked wood structural panel shear wall shall be in accordance with Section 4.3.2.2
7. Shear wall nominal unit shear capacities for seismic design shall be in accordance with Column A of Tables 4.3A, 4.3B, 4.3C, and 4.3D; and for wind design shall be in accordance with Column B of Tables 4.3A, 4.3B, 4.3C, and 4.3D. (4.3.3)
8. The shear wall nominal unit shear capacities referenced above shall be modified by dividing the tabulated nominal unit shear capacities by the reduction factor of 2.0 for ASD and by multiplying by a resistance factor of 0.80 for LRFD. No further increases are permitted. (4.3.3)
9. Shear wall nominal unit shear capacities of unblocked structural panel shear walls shall be calculated in a accordance with Section 4.3.3.2 and Table 4.3.3.2
10. The combined nominal unit shear capacity for shear walls sheathed with the same construction and materials on opposite sides of the same wall shall be taken as twice the nominal unit shear capacity for an equivalent shear wall sheathed on one side. (4.3.3.3)
11. Combined nominal unit shear capacity for shear walls sheathed with dissimilar materials on the opposite sides shall be either two times the smaller nominal unit shear capacity or the larger nominal unit shear capacity, whichever is greater. (4.3.3.3.2)
12. The nominal shear capacity for shear walls in a line utilizing shear walls sheathed with the same material and construction shall be combined as long as induced shear load is distributed so as to provide the same deflection in each shear wall. Summing nominal unit shear capacities of dissimilar materials applied to the same wall line is not allowed (4.3.3.3.4)
13. The nominal shear capacity of a perforated shear wall shall be taken as the tabulated nominal unit shear capacity multiplied by the sum of the shear wall segment lengths, and the appropriate shear capacity adjustment factor, C_o, from Table 4.3.3.5 or calculated using the equations 4.3-5 and 4.3-6. (4.3.3.5)
14. Shear wall aspect ratios shall be in accordance with Table 4.3.4. (4.3.4)
15. Shear wall aspect ratio shall not exceed 2:1 unless the nominal unit shear capacity is multiplied by 2bs/h for design to resist seismic forces. (4.3.4)
16. Collectors for shear transfer shall be provided through the full length of the shear wall (4.3.5)
17. All framing members used for shear wall construction shall be 2" nominal or greater (4.3.6.1)
18. Shear wall boundary elements such as end posts shall be provided to transmit the design compression and tension forces (4.3.6.1)
19. Adhesive attachment of shear wall sheathing shall not be used alone or in combination with mechanical fasteners (4.3.6.3.1).
20. Where the dead load stabilizing moment is not sufficient to prevent uplift due to overturning moments on the shear wall , an anchoring device shall be provided at the end of each shear wall (4.3.6.4.2)
21. Foundation anchor bolts shall have a steel plate washer under each nut not less than 0.229" x 3" x 3" in size. When the nominal unit shear capacity exceeds 400 plf, the plate washer shall extend to within 1/2" of the edge of the bottom plate on the side(s) with sheathing (4.3.6.4.3)
22. Wood structural panels shall not be less than 4' x 8', except at boundaries and changes in framing. All edges of all panels shall be supported by and fastened to framing members or blocking (4.3.7.1.1)
23. Nails shall be located at least 3/8" from shear wall panel edges (4.3.7.1.2)
24. The width of the nailed face of framing members and blocking shall be 2" nominal or greater except that a 3" nominal or greater width at adjoining panel edges and staggered nailing at all panel edges are required when (4.3.7.1.4):
    a. Spacing of 2" on center or less at adjoining panel edges is specified, or
    b. 10d common nails having penetration into framing members and blocking of more than 1-1/2" are specified at 3" on center or less at adjoining panel edges, or
    c. Required nominal unit shear capacity on either side of the shear wall exceeds 700 plf in Seismic Design Category D, E, or F.

25. Maximum stud spacing for shear wall framing shall be 24" on center (4.3.7.1.5)
26. Wood structural panels shall conform to the requirements for its type in DOC PS 1 or PS 2 (4.3.7.1.6)
27. Single diagonally sheathed lumber shear walls shall be constructed of minimum 1" thick nominal sheathing boards laid at an angle of approximately 45 degrees to the supports (4.3.7.6)
28. Double diagonally sheathed lumber shear walls shall be constructed of two layers of 1" thick nominal diagonal sheathing boards laid perpendicular to each other on the same face of the supporting members (4.3.7.7)

VI. COMBINED SHEAR AND UPLIFT WIND FORCE-RESISTING SYSTEM

1. Wood structural panel nominal uplift capacities shall be in accordance with Table 4.4.1.
2. The nominal uplift capacities referenced above shall be modified by dividing the tabulated nominal uplift capacities by the reduction factor of 2.0 for ASD and by multiplying by a resistance factor of 0.65 for LRFD. No further increases are permitted. (4.4.1)
3. Nails in any single row shall not be spaced closer than 3" on center (4.4.1.1)
4. Panels shall have a minimum thickness of 7/16" and shall be installed with the strength axis parallel to the studs (4.4.1.2)
5. All horizontal joints shall occur over common framing members or common blocking (4.4.1.3)
6. The top edge of the wood structural panel shall be attached to the upper top plate. Roof or upper level roof connectors shall be on the same side of the wall as the sheathing to prevent top plate twisting due to eccentric loading (4.4.1.5)
7. The bottom edge of the wood structural panel shall extend to and be attached to the bottom plate or sill plate. (4.4.1.6)
8. Anchorage of bottom plates or sill plates to the foundation shall be designed to resist the combined uplift and shear forces developed in the wall. Anchors shall be spaced at 16" on center or less. (4.4.1.6)
9. Foundation anchor bolts shall have a steel plate washer under each nut not less than 0.229" x 3" x 3" in size. The edge of the plate washer shall extend to within 1/2" of the edge of the bottom plate on the sheathed side (4.4.1.6.)
10. Where horizontal joints in the sheathing occur over blocking between studs, splices at joints shall be designed to transfer the uplift forces across the joint (4.4.1.7)

Comment

No.	ADDITIONAL WRITTEN COMMENTS	Code Sec. No.
