

**RECOMMENDED MANDATORY PACKAGE**

**SECTION XXX or CHAPTER XX**

**GROUP R-3 AND GROUP R-3.1 OCCUPANCIES PROTECTED BY THE FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN**

*Note: It is intended that the effective date of this code package will be delayed until the corresponding maps are developed and readily available to the general public. Anticipated completion is January 2012.*

**XXX.1 Scope.**

The provisions of this section shall apply to new construction, changes of use and to substantial improvement and restoration of substantial damage as defined in Section 1612, of Group R-3 and R-3.1 occupancies in areas protected by the facilities of the Central Valley Flood Protection Plan where flood levels are anticipated to exceed three feet for the 200-year flood event. Except as specifically required by this section, buildings and structures shall meet applicable provisions of this code.

**Exception:** Changes of use of Group R-3 to Group R-3.1 Occupancies, including any substantial improvement done under the same permit.

**XXX.1.1 Construction documents.** If the land on which the proposed work is to be constructed is located in an area protected by the facilities of the Central Valley Flood Protection Plan, the construction documents shall include the WSEL200 and the elevation(s) of the floor(s), and, as applicable, the elevation(s) and slopes of roofs, of the building or structure.

**XXX.2 Definitions.**

The following words and terms shall, for the purposes of this section, have the meanings shown.

**AREAS PROTECTED BY THE FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN WHERE FLOOD LEVELS ARE ANTICIPATED TO EXCEED THREE FEET FOR THE 200-YEAR FLOOD EVENT.** Geographical areas identified by the state as “Areas Protected by the Facilities of the Central Valley Flood Protection Plan where Flood Levels are Anticipated to Exceed Three Feet for the 200-Year Flood Event” in accordance with the Health and Safety Code Section 50465. Published data from the California Department of Water Resources can be obtained online at the following website:  
[www.water.ca.gov/BuildingCodes](http://www.water.ca.gov/BuildingCodes).

**Note.** The facilities of the Central Valley Flood Protection Plan are identified in the following counties: Butte, Colusa, Fresno, Glenn, Lake, Madera, Merced, Plumas, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, Tehama, Yolo, and Yuba. Determination of additional facilities is ongoing.

**CENTRAL VALLEY.** Any lands in the bed or along or near the banks of the Sacramento River and the San Joaquin River, and any of their tributaries or connected therewith, or upon any land adjacent thereto, or within any of the overflow basins thereof, or upon any land susceptible to overflow therefrom. The following counties and the incorporated municipalities within these counties, in whole or in part, are in the Central Valley: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Shasta, Sierra, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tuolumne, Yolo, and Yuba. A map that delineates the Central Valley can be obtained online at the following website: [www.water.ca.gov/BuildingCodes](http://www.water.ca.gov/BuildingCodes).

**EVACUATION LOCATION.** A location no less than one (1) foot above the WSEL200 where occupants are expected to congregate pending evacuation and from which occupants may be evacuated during conditions of flooding, such as a space within the building that has an exit door or operable window; a deck, balcony, porch, rooftop platform, or rooftop area; or combinations thereof.

**FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN.** The facilities referenced herein include the facilities of State Plan of Flood Control and other flood management facilities in the Central Valley evaluated under the Central Valley Flood Protection Plan, which will be completed in 2012 and updated every 5 years thereafter. The facilities of State Plan of Flood Control include the state and federal flood control works (levees, weirs, channels, and other features) of the Sacramento River Flood Control Project described in Water Code Section 8350, and flood control projects in the Sacramento River and San Joaquin River watersheds authorized pursuant to Article 2 (commencing with Water Code section 12648) of Chapter 2 of Part 6 of Division 6 for which the Central Valley Flood Protection Board or the Department of Water Resources has provided the assurances of nonfederal cooperation to the United States, and those facilities identified in Water Code Section 8361.

**ROUTE TO THE EVACUATION LOCATION.** The path through and along which occupants move from the habitable areas of a building or structure that are below the WSEL200 to the evacuation location.

**WSEL200.** The water surface elevation (WSEL) of the 200-year flood event that is identified by the state when it identifies areas that receive protection from the facilities of the Central Valley Flood Protection Plan.

**XXX.3 Structural stability.** Buildings and structures or portions of buildings and structures containing Group R-3 and R-3.1 occupancies shall be designed, constructed, connected and anchored to resist flotation, collapse or permanent lateral movement resulting from the hydrostatic loads anticipated during conditions of flooding anticipated for the 200-year flood event.

**XXX.3.1 Determination of loads.** Hydrostatic loads, based on the depth of water determined by the WSEL200 shall be determined in accordance with Chapter 5 of ASCE 7. Reduction of hydrostatic loads may be accomplished by allowing for the automatic entry and exit of floodwaters to minimize unbalanced loads. Such means shall be designed by a registered design professional and include, but are not limited to, openings, valves, and panels designed to yield under load.

#### **XXX.4 Evacuation Locations.**

An evacuation location and a route to the evacuation location shall be provided for Group R-3 and R-3.1 occupancies.

**XXX.4.1 Route to evacuation location.** A route shall be allowed through any number of intervening rooms or spaces. Doors along the route shall be openable without the use of a key, lock, special knowledge or effort.

**Exception:** Doors in individual dwelling or sleeping units having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.

**XXX.4.1.1 Group R-3.1 Occupancies.** The route to an evacuation location shall meet the accessibility requirements of Chapter 11A or 11B as applicable.

**XXX.4.2 Minimum size requirements.** Evacuation locations shall provide a minimum gross floor area of 7 square feet per occupant, based on the occupant load of the portions of the building that are below WSEL200. The area provided shall be adequate to accommodate the occupant load of the upper levels as well as the anticipated occupant load from the area below the WSEL200.

#### **XXX.4.3 Signage.**

A sign depicting the evacuation location shall be posted on or immediately adjacent to a doorway leading from an attached garage to the dwelling on the garage-side or on the back of a closet door near the main entry doorway to the dwelling. The sign shall be mounted with its center 60 inches (1524 mm) above the finish floor. The text of the sign will read as follows: “**DO NOT** intentionally remain in a flooded region. Evacuate the

region to higher ground. If you cannot evacuate, this structure has been provided with an evacuation location. It is located on the \_\_\_\_\_.”

**XXX.4.3.1 Sign finish and contrast.** Signage characters and background shall have a non-glare finish. Characters shall contrast with the provided background.

**XXX.4.3.2 Character proportions.** Characters on signs shall have a width-to-height ratio of between 3:5 and 1:1 and a stroke proportion of between 1:5 and 1:10.

**XXX.4.3.3 Character height.** The minimum character height shall be 1/4 inch.

**XXX.4.4 Voluntary flood emergency supply storage area.** If a flood emergency supply storage area, such as a closet or box, is provided in an evacuation location, a sign that reads “Flood Emergency Supply Storage Area” complying with Sections XXX.4.3.1 through XXX.4.3.3 shall be provided on the inside of the closet or alcove to identify the storage area.

**XXX.5 Space within the building.** If the evacuation location is a space within a building, the evacuation location shall be provided with a means for occupants to be evacuated out of the building specified in Section XXX.5.1, Section XXX.5.2, or Section XXX.5.3.

**XXX.5.1 Windows, minimum size and dimensions.** A minimum of one window shall be provided that meets the minimum size, minimum dimensions, and operational constraints of Section 1026. The number of such windows shall be appropriate for the occupancy or occupancies of the portions of the building that are below WSEL200.

**Note:** It is the intent of this section that windows be of sufficient number, sizes, and dimensions to reasonably accommodate the needs and limitations of the occupants of the building. Reasonable judgment in the application of this requirement must be exercised by the building official.

**XXX.5.2 Exterior doors to decks, balconies and porches.** Exterior doors to decks, balconies and porches shall be sized in accordance with Section 1008.

**Exception:** In Group R-3.1 occupancies that are subject to the requirements of Chapters 11A or 11B, doors to decks, balconies or porches shall comply with Section 1132A.1.

**XXX.5.3 Means of escape to rooftops from spaces within a building.** The means of escape to rooftops shall be permitted to be provided by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**Exception:** In Group R-3.1 occupancies that are subject to the requirements of Chapter 11A or 11B, such accessibility requirements shall apply to the means of escape to rooftops.

**XXX.6 Decks and balconies that are evacuation locations.** Decks and balconies that have finish floors no less than one (1) foot above the WSEL200 shall be permitted to be evacuation locations. When a deck or balcony used as an evacuation location is not at the same level as a floor within the building, it shall be permitted to be accessed by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**XXX.6.1 Live load.** Decks and balconies that are evacuation locations shall be designed for the live load required for the occupancy as required in Table 1607.2.

**XXX.6.2 Evacuation route.** Evacuation routes to decks and balconies that are evacuation locations shall be permitted to be provided by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**Exception:** In Group R-3.1 occupancies that are subject to the requirements of Chapter 11A or 11B, such requirements shall apply to the evacuation routes to decks and balconies.

**XXX.7 Rooftop evacuation locations.** Rooftop evacuation locations shall be permitted to include rooftop platforms and rooftop areas provided that they are no less than one (1) foot above the WSEL200. A minimum horizontal distance of 3 feet shall be provided between the lower edge of the rooftop evacuation location access point and the evacuation location lower perimeter.

**XXX.7.1 Rooftop platforms required.** A rooftop platform shall be provided if the roof covering materials are:

1. Clay tile, concrete tile, slate shingles, wood shingles or wood shakes, and the roof slope is three units vertical in 12 units horizontal (25 percent slope) or greater.
2. Metal roof panels or metal roof shingles, and the roof slope is one unit vertical in 12 units horizontal (8.33 percent slope) or greater.

**XXX.7.2 Roof live loads.** Roof areas that are rooftop evacuation locations and roofs that support rooftop platforms that are evacuation locations shall be designed for the roof live load required for the occupancy as required in Table 1607.2.

**XXX.7.3 Evacuation routes to rooftop evacuation locations.** Evacuation routes to rooftop evacuation locations shall be permitted to be provided by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**Exception:** In Group R-3.1 occupancies that are subject to the requirements of Chapter 11A or 11B, such requirements shall apply to the evacuation routes to rooftops.

**XXX.7.4 Perimeter Protection.** For Group R-3 and R-3.1 occupancies, the perimeter of rooftop evacuation locations shall be protected by:

1. Guards per Section 1013 if a rooftop platform is provided; or
2. A railing that is 12 inches (305 mm) in height if a sloped roof is provided.

**XXX.7.5 Utility/Equipment buffer zone.** A separation of 48 inches shall be provided between a rooftop evacuation location and any mechanical equipment, photovoltaic system, utility service drop or other utility line. Electrical service lines shall not pass over evacuation locations.

**XXX.8 Attics that are evacuation locations.** Attics that have finish floors no less than one (1) foot above the WSEL200 shall be permitted to be evacuation locations.

**XXX.8.1 Headroom.** When an attic is used as an evacuation location, the minimum headroom of the required area shall be 30 inches with 50 percent of the required area having a headroom of 60 inches.

**XXX.8.2 Attic flooring.** The required area of the evacuation location shall be solidly sheathed.

**XXX.8.3 Attic live loads.** Attic areas that are used as evacuation locations shall be designed for the floor live load required for the occupancy as required in Table 1607.2.

**XXX.8.4 Evacuation routes to attic evacuation locations.** Evacuation routes to attic evacuation locations shall be permitted to be provided by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**Exception:** In Group R-3.1 occupancies that are subject to the requirements of Chapter 11A or 11B, such requirements shall apply to the evacuation routes to attics.

**XXX.8.5 Means of escape from attics.** The means of escape from attics shall comply with Section XXX.5.

## **XXX.9 Alternate means of protection.**

### **XXX.9.1 Request for approval of alternate means of protection.**

Requests for approval to use an alternative means of protection shall be made in writing to the building official by the owner or the owner's authorized representative. The request shall be accompanied by a full statement of the conditions and sufficient evidence that the proposed alternate means of protection provides reasonable protection to occupants. The building official shall require the owner to obtain a written statement from the applicable emergency management authority regarding plans and processes related to notification of anticipated conditions of flooding, warnings, evacuations, and other pertinent conditions relative to the proximity of nearby levees. The building official shall also require the owner to obtain a written statement and findings from the entity that has jurisdiction over the management, maintenance, monitoring, and control of flood protection works in the vicinity of the location of the owner's property, such statement shall comment on the viability of the proposed alternate means of protection. The building official may request written statements from the Central Valley Flood Protection Board, the California Department of Water Resources, and the California Emergency Management Agency.

Approval of a request for use of an alternative means of protection made pursuant to these provisions shall be limited to the particular case covered by the request and shall not be construed as establishing any precedent for any future request except in substantially equivalent situations.

**Note.** Contact information for the California Department of Water Resources and the Department's Directory of Flood Officials, which includes levee and reclamation district boundary maps, is available on-line at the following web site: [www.water.ca.gov/BuildingCodes](http://www.water.ca.gov/BuildingCodes). The Department of Water Resources Building Code Project Engineer can be contacted at 916-574-1451. The Central Valley Flood Control Board Chief Engineer can be contacted at 916-574-0609.

### **XXX.9.2 Appeals.**

When a request for an alternate means of protection has been denied by the building official, the applicant may file a written appeal with the board of appeals. In considering such appeal, the board of appeals may provide additional information to, and request additional written statements from, the Central Valley Flood Protection Board, the California Department of Water Resources, and the California Emergency Management Agency. If such additional written statements are provided, the board of appeals shall consider those statements.

## RECOMMENDED MANDATORY PACKAGE

### SECTION XXX or CHAPTER XX

#### GROUP E OCCUPANCIES PROTECTED BY THE FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN

*Note: It is intended that the effective date of this code package will be delayed until the corresponding maps are developed and readily available to the general public. Anticipated completion is January 2012.*

##### **XXX.1 Scope.**

The provisions of this section shall apply to the construction, addition, alteration, change of use or repair, including substantial improvement or restoration of substantial damage as defined in Section 1612, of Group E occupancies in areas protected by the facilities of the Central Valley Flood Protection Plan where flood levels are anticipated to exceed three feet for the 200-year flood event. Except as specifically required by this section, buildings and structures shall meet applicable provisions of this code.

**XXX.1.1 Construction documents.** If the land on which the proposed work is to be constructed is located in an area protected by the facilities of the Central Valley Flood Protection Plan, the construction documents shall include the WSEL200 and the elevation(s) of the floor(s), and, as applicable, the elevation(s) and slopes of roofs, of the building or structure.

##### **XXX.2 Definitions.**

The following words and terms shall, for the purposes of this section, have the meanings shown.

**AREAS PROTECTED BY THE FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN WHERE FLOOD LEVELS ARE ANTICIPATED TO EXCEED THREE FEET FOR THE 200-YEAR FLOOD EVENT.** Geographical areas identified by the state as “Areas Protected by the Facilities of the Central Valley Flood Protection Plan where Flood Levels are Anticipated to Exceed Three Feet for the 200-Year Flood Event” in accordance with the Health and Safety Code Section 50465. Published data from the California Department of Water Resources can be obtained online at the following website:  
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**Note.** The facilities of the Central Valley Flood Protection Plan are identified in the following counties: Butte, Colusa, Fresno, Glenn, Lake, Madera, Merced, Plumas, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, Tehama, Yolo, and Yuba. Determination of additional facilities is ongoing.

**CENTRAL VALLEY.** Any lands in the bed or along or near the banks of the Sacramento River and the San Joaquin River, and any of their tributaries or connected therewith, or upon any land adjacent thereto, or within any of the overflow basins thereof, or upon any land susceptible to overflow therefrom. The following counties and the incorporated municipalities within these counties, in whole or in part, are in the Central Valley: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Shasta, Sierra, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tuolumne, Yolo, and Yuba. A map that delineates the Central Valley can be obtained online at the following website: [www.water.ca.gov/BuildingCodes](http://www.water.ca.gov/BuildingCodes).

**EVACUATION LOCATION.** A location no less than one (1) foot above the WSEL200 where occupants are expected to congregate pending evacuation and from which occupants may be evacuated during conditions of flooding, such as a space within the building that has an exit door or operable window; a deck, balcony, porch, rooftop platform, or rooftop area; or combinations thereof.

**FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN.** The facilities referenced herein include the facilities of State Plan of Flood Control and other flood management facilities in the Central Valley evaluated under the Central Valley Flood Protection Plan, which will be completed in 2012 and updated every 5 years thereafter. The facilities of State Plan of Flood Control include the state and federal flood control works (levees, weirs, channels, and other features) of the Sacramento River Flood Control Project described in Water Code Section 8350, and flood control projects in the Sacramento River and San Joaquin River watersheds authorized pursuant to Article 2 (commencing with Water Code section 12648) of Chapter 2 of Part 6 of Division 6 for which the Central Valley Flood Protection Board or the Department of Water Resources has provided the assurances of nonfederal cooperation to the United States, and those facilities identified in Water Code Section 8361.

**ROUTE TO THE EVACUATION LOCATION.** The path through and along which occupants move from the habitable areas of a building or structure that are below the WSEL200 to the evacuation location.

**WSEL200.** The water surface elevation (WSEL) of the 200-year flood event that is identified by the state when it identifies areas that receive protection from the facilities of the Central Valley Flood Protection Plan.

**XXX.3 Structural stability.** Buildings and structures or portions of buildings and structures containing Group E occupancies shall be designed, constructed, connected and anchored to resist flotation, collapse or permanent lateral movement resulting from the hydrostatic loads anticipated during conditions of flooding anticipated for the 200-year flood event.

**XXX.3.1 Determination of loads.** Hydrostatic loads, based on the depth of water determined by the WSEL200 shall be determined in accordance with Chapter 5 of ASCE 7. Reduction of hydrostatic loads may be accomplished by allowing for the automatic entry and exit of floodwaters to minimize unbalanced loads. Such means shall be designed by a registered design professional and include, but are not limited to, openings, valves, and panels designed to yield under load.

#### **XXX.4 Evacuation Locations.**

An evacuation location and a route to the evacuation location shall be provided for Group E occupancies.

**XXX.4.1 Route to evacuation location.** The route to an evacuation location shall meet the accessibility requirements of Chapter 11B. A route shall be allowed through any number of intervening rooms or spaces. Doors along the route shall be openable without the use of a key, lock, special knowledge or effort.

**XXX.4.2 Alarms on doors to rooftop, deck, balcony, and porch evacuation locations.** If rooftops, decks, balconies, and porches are designed as evacuation locations and access by the occupants is intended only when used as evacuation locations, doors to such roofs, decks, balconies, and porches shall have exit alarms that make audible, continuous alarm sounds when the door is opened. Exit alarms shall be connected to the primary electrical wiring of the building with battery backup.

**XXX.4.3 Minimum size requirements.** Evacuation locations shall provide a minimum gross floor area of 7 square feet per occupant, based on the occupant load of the portions of the building that are below WSEL200, plus an additional 35 square feet for every 50 occupants shall be provided. The area provided shall be adequate to accommodate the occupant load of the upper levels as well as the anticipated occupant load from the area below the WSEL200.

**XXX.4.4 Signage in Group E occupancies.** In each classroom, auditorium, and gymnasium and in the lobby of the main office, signage complying with Section 1117B.5.1, Item 2 shall be installed indicating the location of evacuation locations and the route(s) leading thereto. A sign shall also be provided at the elevation of the WSEL200 in the hall or corridor leading to classrooms which states “This is the anticipated water surface elevation for the 200 year flood event (1/200 annual chance).”

If the sign cannot be placed at the anticipated elevation and have center of sign 60 inches (1524 mm) above the finish floor, then a sign stating “The anticipated water surface for a 200 year flood event (1/200 annual chance) is \_\_\_ feet above this floor level.”

**XXX.4.5 Flood evacuation drills.** Flood evacuation drills in Group E occupancies shall be conducted once per year and in accordance with Section 405 of the California Fire Code. The drills shall direct all occupants to the evacuation location(s).

**XXX.4.5.1 Employee training and response procedures.** Employees in Group E occupancies shall be trained in flood emergency procedures. Such training shall be a part of new employee orientation materials.

**XXX.4.6 Voluntary flood emergency supply storage area.** If a flood emergency supply storage area, such as a closet or box, is provided in an evacuation location, a sign that reads “Flood Emergency Supply Storage Area” complying with Section 1117B.5 shall be provided on the inside of the closet or alcove to identify the storage area.

**XXX.4.7 Elevator equipment.** Elevator service equipment serving evacuation locations shall be elevated no less than one (1) foot above the WSEL200. A float switch or other device shall be provided to prevent the elevator car from descending into floodwaters and, when floodwaters are sensed, to automatically direct the elevator car to ascend to the floor from which the evacuation location is accessed. The float switch or similar device may be located beneath the WSEL200.

**XXX.5 Space within the building.** If the evacuation location is a space within a building, the evacuation location shall be provided with a means for occupants to be evacuated out of the building specified in Section XXX.5.1, Section XXX.5.2, or Section XXX.5.3. The means for occupants to be evacuated out of the building shall address the mobility of the occupants.

**XXX.5.1 Windows, minimum size and dimensions.** One or more windows shall be provided that meet the minimum size, minimum dimensions, and operational constraints of Section 1026. The number of such windows shall be appropriate for the occupancy or occupancies of the portions of the building that are below WSEL200.

**Note:** It is the intent of this section that windows be of sufficient number, sizes, and dimensions to reasonably accommodate the needs and limitations of the occupants of the building. Reasonable judgment in the application of this requirement must be exercised by the building official.

**XXX.5.2 Exterior doors to decks, balconies and porches.** Exterior doors to decks, balconies and porches shall be sized in accordance with Section 1008 and Chapter 11B.

**XXX.5.3 Means of escape to rooftops from spaces within a building.** The means of escape to rooftops from spaces within a building shall comply with Chapter 11B.

**XXX.5.4 Emergency lighting.** Emergency lighting shall be provided in all evacuation locations within buildings.

**XXX.6 Decks and balconies that are evacuation locations.** Decks and balconies that are no less than one (1) foot above the WSEL200 shall be permitted to be evacuation locations. When a deck or balcony used as an evacuation location is not at the same level as a floor within the building, it shall be accessible per Chapter 11B.

**XXX.6.1 Live load.** Decks and balconies that are evacuation locations shall be designed for the live load required for the occupancy as required in Table 1607.2.

**XXX.6.2 Evacuation route.** Evacuation routes to decks and balconies that are evacuation locations shall be accessible per Chapter 11B.

**XXX.7 Rooftop evacuation locations.** Rooftop evacuation locations shall be permitted to include rooftop platforms and rooftop areas provided that they are no less than one (1) foot above the WSEL200.

**XXX.7.1 Rooftop platforms required.** A rooftop platform shall be provided if the portion of the roof to be used as the evacuation location has a roof slope greater than  $\frac{1}{4}$  unit vertical in 12 units horizontal (2 percent slope).

**XXX.7.2 Roof live loads.** Roof areas that are rooftop evacuation locations and roofs that support rooftop platforms that are evacuation locations shall be designed for the roof live load required for the occupancy as required in Table 1607.2.

**XXX.7.3 Evacuation routes to rooftop evacuation locations.** Evacuation routes to rooftop evacuation locations shall be accessible per Chapter 11B.

**XXX.7.4 Guards.** Guards shall be provided for rooftop evacuation locations per Section 1013.

**XXX.7.5 Utility/Equipment buffer zone.** A separation of 48 inches shall be provided between a rooftop evacuation location and any mechanical equipment, photovoltaic system, utility service drop or other utility line. Electrical service lines shall not pass over evacuation locations.

## **XXX.8 Alternate means of protection.**

### **XXX.8.1 Request for approval of alternate means of protection.**

Requests for approval to use an alternative means of protection shall be made in writing to the building official by the owner or the owner's authorized representative. The request shall be accompanied by a full statement of the conditions and sufficient evidence that the proposed alternate means of protection provides reasonable protection to occupants. The building official shall require the owner to obtain a written statement from the applicable emergency management authority regarding plans and processes related to notification of anticipated conditions of flooding, warnings, evacuations, and other pertinent conditions relative to the proximity of nearby levees. The building official shall also require the owner to obtain a written statement and findings from the entity that has jurisdiction over the management, maintenance, monitoring, and control of flood protection works in the vicinity of the location of the owner's property, such statement shall comment on the viability of the proposed alternate means of protection. The building official may request written statements from the Central Valley Flood Protection Board, the California Department of Water Resources, and the California Emergency Management Agency.

Approval of a request for use of an alternative means of protection made pursuant to these provisions shall be limited to the particular case covered by the request and shall not be construed as establishing any precedent for any future request except in substantially equivalent situations.

**Note:** Contact information for the California Department of Water Resources and the Department's Directory of Flood Officials, which includes levee and reclamation district boundary maps, is available on-line at the following web site:  
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### **XXX.8.2 Appeals.**

When a request for an alternate means of protection has been denied by the building official, the applicant may file a written appeal with the board of appeals. In considering such appeal, the board of appeals may provide additional information to, and request additional written statements from, the Central Valley Flood Protection Board, the California Department of Water Resources, and the California Emergency Management Agency. If such additional written statements are provided, the board of appeals shall consider those statements.

## RECOMMENDED VOLUNTARY PACKAGE

### SECTION XXX

#### GROUP R-1, R-2 R-4 AND I OCCUPANCIES PROTECTED BY THE FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN

*Note: It is intended that the effective date of this code package will be delayed until the corresponding maps are developed and readily available to the general public. Anticipated completion is January 2012.*

##### **XXX.1 Scope.**

The provisions of this section shall apply to the construction, addition, alteration, change in use or repair, including substantial improvement and restoration of substantial damage as defined in Section 1612, of Group R-1, R-2, R-4 and I occupancies in areas protected by the facilities of the Central Valley Flood Protection Plan where flood levels are anticipated to exceed three feet for the 200-year flood event. Except as specifically required by this section, buildings and structures shall meet applicable provisions of this code.

**XXX.1.1 Construction documents.** If the land on which the proposed work is to be constructed is located in an area protected by the facilities of the Central Valley Flood Protection Plan, the construction documents shall include the WSEL200 and the elevation(s) of the floor(s), and, as applicable, the elevation(s) and slopes of roofs, of the building or structure.

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**CENTRAL VALLEY.** Any lands in the bed or along or near the banks of the Sacramento River and the San Joaquin River, and any of their tributaries or connected therewith, or upon any land adjacent thereto, or within any of the overflow basins thereof, or upon any land susceptible to overflow therefrom. The following counties and the incorporated municipalities within these counties, in whole or in part, are in the Central Valley: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Shasta, Sierra, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tuolumne, Yolo, and Yuba. A map that delineates the Central Valley can be obtained online at the following website: [www.water.ca.gov/BuildingCodes](http://www.water.ca.gov/BuildingCodes).

**EVACUATION LOCATION.** A location no less than one (1) foot above the WSEL200 where occupants are expected to congregate pending evacuation and from which occupants may be evacuated during conditions of flooding, such as a space within the building that has an exit door or operable window; a deck, balcony, porch, rooftop platform, or rooftop area; or combinations thereof.

**FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN.** The facilities referenced herein include the facilities of State Plan of Flood Control and other flood management facilities in the Central Valley evaluated under the Central Valley Flood Protection Plan, which will be completed in 2012 and updated every 5 years thereafter. The facilities of State Plan of Flood Control include the state and federal flood control works (levees, weirs, channels, and other features) of the Sacramento River Flood Control Project described in Water Code Section 8350, and flood control projects in the Sacramento River and San Joaquin River watersheds authorized pursuant to Article 2 (commencing with Water Code section 12648) of Chapter 2 of Part 6 of Division 6 for which the Central Valley Flood Protection Board or the Department of Water Resources has provided the assurances of nonfederal cooperation to the United States, and those facilities identified in Water Code Section 8361.

**ROUTE TO THE EVACUATION LOCATION.** The path through and along which occupants move from the habitable areas of a building or structure that are below the WSEL200 to the evacuation location.

**WSEL200.** The water surface elevation (WSEL) of the 200-year flood event that is identified by the state when it identifies areas that receive protection from the facilities of the Central Valley Flood Protection Plan.

**XXX.3 Structural stability.** Buildings and structures or portions of buildings and structures containing Group R-1, R-2, R-4 and I occupancies shall be designed, constructed, connected and anchored to resist flotation, collapse or permanent lateral movement resulting from the hydrostatic loads anticipated during conditions of flooding anticipated for the 200-year flood event.

**XXX.3.1 Determination of loads.** Hydrostatic loads, based on the depth of water determined by the WSEL200 shall be determined in accordance with Chapter 5 of ASCE 7. Reduction of hydrostatic loads may be accomplished by allowing for the automatic entry and exit of floodwaters to minimize unbalanced loads. Such means shall be designed by a registered design professional and include, but are not limited to, openings, valves, and panels designed to yield under load.

#### **XXX.4 Evacuation Locations.**

An evacuation location and a route to the evacuation location shall be provided.

**XXX.4.1 Route to evacuation location.** The route to an evacuation location shall meet the accessibility requirements in Chapters 11A and 11B applicable to the occupancy. A route shall be allowed through any number of intervening rooms or spaces. Doors along the route shall be openable without the use of a key, lock, special knowledge or effort.

**Exception:** Doors in individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.

**XXX.4.2 Alarms on doors to rooftop, deck, balcony, and porch evacuation locations.** If rooftops, decks, balconies, and porches are designed as evacuation locations and access by the occupants is intended only when used as evacuation locations, doors to such roofs, decks, balconies, and porches shall have exit alarms that make audible, continuous alarm sounds when the door is opened. Exit alarms shall be connected to the primary electrical wiring of the building with battery backup.

**XXX.4.3 Minimum size requirements.** Evacuation locations shall provide a minimum gross floor area of 7 square feet per occupant, based on the occupant load of the portions of the building that are below WSEL200. For every 50 occupants an additional 35 square feet shall be provided. The area provided shall be adequate to accommodate the occupant load of the upper levels as well as the anticipated occupant load from the area below the WSEL200.

**XXX.4.4 Signage.** In Group I and Group R-4 occupancies, signage complying with Section 1117B.5.1 shall be installed in the main entries/lobbies and adjacent to stairs and

elevator doors on all floors at or below the WSEL200 indicating the location of the evacuation location and the route(s) leading thereto.

A diagram depicting the evacuation location and the route leading thereto shall be posted on or immediately adjacent to every required egress door from each Group R-1 hotel or motel sleeping room and Group R-2 dormitory sleeping unit. This diagram shall be posted within every common area of apartment complexes.

A sign depicting “FEL” for “Flood Evacuation Location” and diagram illustrating a building extending above floodwaters shall be placed on the exterior of each building in a conspicuous location for emergency personnel notification above the WSEL200.

**XXX.4.5 Voluntary flood emergency supply storage area.** If a flood emergency supply storage area, such as a closet or box, is provided in an evacuation location, a sign that reads “Flood Emergency Supply Storage Area” complying with Section 1117B.5 shall be provided on the inside of the closet or alcove to identify the storage area.

**XXX.4.6 Elevator equipment.** Elevator service equipment serving evacuation locations shall be elevated no less than one (1) foot above the WSEL200. A float switch or other device shall be provided to prevent the elevator car from descending into floodwaters and, when floodwaters are sensed, to automatically direct the elevator car to ascend to the floor from which the evacuation location is accessed. The float switch or similar device may be located beneath the WSEL200.

**XXX.5 Space within the building.** If the evacuation location is a space within a building, the evacuation location shall be provided with a means for occupants to be evacuated out of the building specified in Section XXX.5.1, Section XXX.5.2, or Section XXX.5.3. The means for occupants to be evacuated out of the building shall address the mobility of the occupants.

**XXX.5.1 Windows, minimum size and dimensions.** One or more windows shall be provided that meet the minimum size, minimum dimensions, and operational constraints of Section 1026. The number of such windows shall be appropriate for the occupancy or occupancies of the portions of the building that are below WSEL200.

**Note:** It is the intent of this section that windows be of sufficient number, sizes, and dimensions to reasonably accommodate the needs and limitations of the occupants of the building. Reasonable judgment in the application of this requirement must be exercised by the building official.

**XXX.5.2 Exterior doors to decks, balconies and porches.** Exterior doors to decks, balconies and porches shall be sized in accordance with Section 1008 and comply with accessibility criteria in Chapters 11A or 11B as applicable.

**XXX.5.3 Means of escape to rooftops from spaces within a building.** In Group I, and Group R-1, R-2 and R-4 occupancies that are subject to the requirements of Chapter 11A or Chapter 11B, such requirements shall apply to the means of escape to rooftops. In all other occupancies, the means of escape to rooftops shall be provided by a stairway, ramp, alternating tread device, or fixed ladder, or other means approved by the building official.

**XXX.5.4 Emergency lighting.** In Group I occupancies, emergency lighting shall be provided in all evacuation locations within buildings.

**XXX.6 Decks and balconies that are evacuation locations.** Decks and balconies that are no less than one (1) foot above the WSEL200 shall be permitted to be evacuation locations. When a deck or balcony used as an evacuation location is not at the same level as a floor within the building, it shall be accessible by a stairway, ramp, alternating tread device, fixed ladder, or other means approved by the building official.

**XXX.6.1 Live load.** Decks and balconies that are evacuation locations shall be designed for the live load required for the occupancy as required in Table 1607.2.

**XXX.6.2 Evacuation route.** In Group I and Group R-1, R-2 and R-4 occupancies that are subject to the requirements of Chapter 11A or Chapter 11B, such requirements shall apply to the evacuation routes to decks and balconies that are evacuation locations. Where accessibility is not required, access to such evacuation locations shall be permitted to be provided by a stairway, ramp, alternating tread device, or fixed ladder, or other means approved by the building official.

**XXX.7 Rooftop evacuation locations.** Rooftop evacuation locations shall be permitted to include rooftop platforms and rooftop areas provided that they are no less than one (1) foot above the WSEL200.

**XXX.7.1 Rooftop platforms required.** A rooftop platform shall be provided if the portion of the roof to be used as the evacuation location has a roof slope greater than  $\frac{1}{4}$  unit vertical in 12 units horizontal (2 percent slope).

**XXX.7.2 Roof live loads.** Roof areas that are rooftop evacuation locations and roofs that support rooftop platforms that are evacuation locations shall be designed for a roof live load same as the occupancy served per Table 1607.2.

**XXX.7.3 Evacuation routes to rooftop evacuation locations.** In Group I and Group R occupancies that are subject to the requirements of Chapter 11A or Chapter 11B, such requirements shall apply to the evacuation routes to rooftop evacuation locations. In all other occupancies, access to rooftop evacuation locations shall be provided by a stairway, ramp, alternating tread device, or fixed ladder, or other means approved by the building official.

**XXX.7.4 Guards.** Guards shall be provided for rooftop evacuation locations per Section 1013.

**XXX.7.5 Utility/Equipment buffer zone.** A separation of 48 inches shall be provided between a rooftop evacuation location and any mechanical equipment, photovoltaic system, utility service drop or other utility line. Electrical service lines shall not pass over evacuation locations.

### **XXX.8 Alternate means of protection.**

#### **XXX.8.1 Request for approval of alternate means of protection.**

Requests for approval to use an alternative means of protection shall be made in writing to the building official by the owner or the owner's authorized representative. The request shall be accompanied by a full statement of the conditions and sufficient evidence that the proposed alternate means of protection provides reasonable protection to occupants. The building official shall require the owner to obtain a written statement from the applicable emergency management authority regarding plans and processes related to notification of anticipated conditions of flooding, warnings, evacuations, and other pertinent conditions relative to the proximity of nearby levees. The building official shall also require the owner to obtain a written statement and findings from the entity that has jurisdiction over the management, maintenance, monitoring, and control of flood protection works in the vicinity of the location of the owner's property, such statement shall comment on the viability of the proposed alternate means of protection. The building official may request written statements from the Central Valley Flood Protection Board, the California Department of Water Resources, and the California Emergency Management Agency.

**Note:** Contact information for the California Department of Water Resources and the Department's Directory of Flood Officials, which includes levee and reclamation district boundary maps, is available on-line at the following web site: [www.water.ca.gov/BuildingCodes](http://www.water.ca.gov/BuildingCodes). The Department of Water Resources Building Code Project Engineer can be contacted at 916-574-1451. The Central Valley Flood Control Board Chief Engineer can be contacted at 916-574-0609.

Approval of a request for use of an alternative means of protection made pursuant to these provisions shall be limited to the particular case covered by the request and shall not be construed as establishing any precedent for any future request except in substantially equivalent situations.

### **XXX.8.2 Appeals.**

When a request for an alternate means of protection has been denied by the building official, the applicant may file a written appeal with the board of appeals. In considering such appeal, the board of appeals may provide additional information to, and request additional written statements from, the Central Valley Flood Protection Board, the California Department of Water Resources, and the California Emergency Management Agency. If such additional written statements are provided, the board of appeals shall consider those statements.

**RECOMMENDED CRC MANDATORY PACKAGE**

*Note: It is intended that the effective date of this code package will be delayed until the corresponding maps are developed and readily available to the general public. Anticipated completion is January 2012.*

**Table R301.2(1) Revise as follows:**

**Replace the Flood Hazards cell in table as follows:**

<b>FLOOD HAZARDS</b>	
<b>NFIP<sup>g</sup></b>	<b>CVFPP<sup>j</sup></b>

**Add a new footnote as follows:**

j. Jurisdictions with Areas Protected by the Facilities of the Central Valley where Flood Levels are Anticipated to Exceed Three Feet for the 200-Year Flood Event, as defined in Section R324.2, shall fill in this part of the table with “Yes” or “No”.

**Add a new section R324 as follows:**

**SECTION R324**

**AREAS PROTECTED BY THE FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN**

**R324.1 General.**

The provisions of this section shall apply to new construction, changes of use or repair and to substantial improvement and restoration of substantial damage of buildings in areas protected by the facilities of the Central Valley Flood Protection Plan, as established in Table 301.2(1), where flood levels are anticipated to exceed three feet for the 200-year flood event. Except as specifically required by this section, buildings and structures shall meet applicable provisions of this code.

**R324.1.1 Construction documents.** Construction documents shall include the WSEL200 and the elevation(s) of the floor(s), and, as applicable, the elevation(s) and slopes of roofs, of the building or structure.

**R324.2 Definitions.**

The following words and terms shall, for the purposes of this section, have the meanings shown.

**AREAS PROTECTED BY THE FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN WHERE FLOOD LEVELS ARE ANTICIPATED TO EXCEED THREE FEET FOR THE 200-YEAR FLOOD EVENT.** Geographical areas identified by the state as “Areas Protected by the Facilities of the Central Valley Flood Protection Plan where Flood Levels are Anticipated to Exceed Three Feet for the 200-Year Flood Event” in accordance with the Health and Safety Code Section 50465. Published data from the California Department of Water Resources can be obtained online at the following website: [www.water.ca.gov/BuildingCodes](http://www.water.ca.gov/BuildingCodes).

**Note.** The facilities of the Central Valley Flood Protection Plan are identified in the following counties: Butte, Colusa, Fresno, Glenn, Lake, Madera, Merced, Plumas, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, Tehama, Yolo, and Yuba. Determination of additional facilities is ongoing.

**CENTRAL VALLEY.** Any lands in the bed or along or near the banks of the Sacramento River and the San Joaquin River, and any of their tributaries or connected therewith, or upon any land adjacent thereto, or within any of the overflow basins thereof, or upon any land susceptible to overflow therefrom. The following counties and the incorporated municipalities within these counties, in whole or in part, are in the Central Valley: Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Shasta, Sierra, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tuolumne, Yolo, and Yuba. A map that delineates the Central Valley can be obtained online at the following website: [www.water.ca.gov/BuildingCodes](http://www.water.ca.gov/BuildingCodes).

**EVACUATION LOCATION.** A location no less than one (1) foot above the WSEL200 where occupants are expected to congregate pending evacuation and from which occupants may be evacuated during conditions of flooding, such as a space within the building that has an exit door or operable window; a deck, balcony, porch, rooftop platform, or rooftop area; or combinations thereof.

**FACILITIES OF THE CENTRAL VALLEY FLOOD PROTECTION PLAN.** The facilities referenced herein include the facilities of State Plan of Flood Control and other flood management facilities in the Central Valley evaluated under the Central Valley Flood Protection Plan, which will be completed in 2012 and updated every 5 years thereafter. The facilities of State Plan of Flood Control include the state and federal flood control works (levees, weirs,

channels, and other features) of the Sacramento River Flood Control Project described in Water Code Section 8350, and flood control projects in the Sacramento River and San Joaquin River watersheds authorized pursuant to Article 2 (commencing with Water Code section 12648) of Chapter 2 of Part 6 of Division 6 for which the Central Valley Flood Protection Board or the Department of Water Resources has provided the assurances of nonfederal cooperation to the United States, and those facilities identified in Water Code Section 8361.

**ROUTE TO THE EVACUATION LOCATION.** The path through and along which occupants move from the habitable areas of a building or structure that are below the WSEL200 to the evacuation location.

**SUBSTANTIAL DAMAGE.** Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**SUBSTANTIAL IMPROVEMENT.** Any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. If the structure has sustained damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that area the minimum necessary to assure safe living conditions.
2. Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

**WSEL200.** The water surface elevation (WSEL) of the 200-year flood event that is identified by the state when it identifies areas that receive protection from the facilities of the Central Valley Flood Protection Plan.

**R324.3 Structural stability.** Buildings and structures or portions of buildings and structures shall be designed, constructed, connected and anchored to resist flotation, collapse or permanent lateral movement resulting from the hydrostatic loads anticipated during conditions of flooding anticipated for the 200-year flood event.

**R324.3.1 Determination of loads.** Hydrostatic loads, based on the depth of water determined by the WSEL200 shall be determined in accordance with Chapter 5 of ASCE 7. Reduction of hydrostatic loads may be accomplished by allowing for the automatic entry and exit of floodwaters to minimize unbalanced loads. Such means shall be designed by a registered design professional and include, but are not limited to, openings, valves, and panels designed to yield under load.

## **R324.4 Evacuation Locations.**

An evacuation location and a route to the evacuation location shall be provided.

**R324.4.1 Route to evacuation location.** A route shall be allowed through any number of intervening rooms or spaces. Doors along the route shall be openable without the use of a key, lock, special knowledge or effort.

**R324.4.2 Minimum size requirements.** Evacuation locations shall provide a minimum gross floor area of 7 square feet per occupant, based on the occupant load of the portions of the building that are below WSEL200. The area provided shall be adequate to accommodate the occupant load of the upper levels as well as the anticipated occupant load from the area below the WSEL200.

**R324.4.3 Signage.** A sign depicting the evacuation location shall be posted on or immediately adjacent to a doorway leading from an attached garage to the dwelling on the garage-side or on the back of a closet door near the main entry doorway to the dwelling. The text of the sign will read as follows: “**DO NOT** intentionally remain in a flooded region. Evacuate the region to higher ground. If you cannot evacuate, this structure has been provided with an evacuation location. It is located on the \_\_\_\_\_.”

**XXX.4.3.1 Sign finish and contrast.** Signage characters and background shall have a non-glare finish. Characters shall contrast with the provided background.

**XXX.4.3.2 Character proportions.** Characters on signs shall have a width-to-height ratio of between 3:5 and 1:1 and a stroke proportion of between 1:5 and 1:10.

**XXX.4.3.3 Character height.** The minimum character height shall be 1/4 inch.

**R324.4.4 Voluntary flood emergency supply storage area.** If a flood emergency supply storage area, such as a closet or box, is provided in an evacuation location, a sign that reads “Flood Emergency Supply Storage Area” complying with Sections R324.4.3.1 through R324.4.3.3 shall be provided on the inside of the closet or alcove to identify the storage area.

**R324.5 Space within the building.** If the evacuation location is a space within a building, the evacuation location shall be provided with a means for occupants to be evacuated out of the building specified in Section R324.5.1, Section R324.5.2, or Section R324.5.3. The means for occupants to be evacuated out of the building shall address the mobility of the occupants.

**R324.5.1 Windows, minimum size and dimensions.** A minimum of one window shall be provided that meet the minimum size, minimum dimensions, and operational

constraints of Section R310. The number of such windows shall be appropriate for the occupancy or occupancies of the portions of the building that are below WSEL200.

**Note:** It is the intent of this section that windows be of sufficient number, sizes, and dimensions to reasonably accommodate the needs and limitations of the occupants of the building. Reasonable judgment in the application of this requirement must be exercised by the building official.

**R324.5.2 Exterior doors to decks, balconies and porches.** Exterior doors to decks, balconies and porches shall be sized in accordance with Section R311

**R324.5.3 Means of escape to rooftops from spaces within a building.** The means of escape to rooftops shall be permitted to be provided by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**R324.6 Decks and balconies that are evacuation locations.** Decks and balconies that are no less than one (1) foot above the WSEL200 shall be permitted to be evacuation locations. When a deck or balcony used as an evacuation location is not at the same level as a floor within the building, it shall be permitted to be accessed by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**R324.6.1 Live load.** Decks and balconies that are evacuation locations shall be designed for the live load required in Table R301.5.

**R324.6.2 Evacuation route.** Evacuation routes to decks and balconies that are evacuation locations shall be permitted to be provided by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**R324.7 Rooftop evacuation locations.** Rooftop evacuation locations shall be permitted to include rooftop platforms and rooftop areas provided that they are no less than one (1) foot above the WSEL200. A minimum horizontal distance of 3 feet shall be provided between the lower edge of the rooftop evacuation location access point and the evacuation location lower perimeter

**R324.7.1 Rooftop platforms required.** A rooftop platform shall be provided if the roof covering materials are:

1. Clay tile, concrete tile, slate shingles, wood shingles or wood shakes, and the roof slope is three units vertical in 12 units horizontal (25 percent slope) or greater.
2. Metal roof panels or metal roof shingles, and the roof slope is one unit vertical in 12 units horizontal (8.33 percent slope) or greater.

**R324.7.2 Roof live loads.** Roof areas that are rooftop evacuation locations and roofs that support rooftop platforms that are evacuation locations shall be designed for the roof live load required for the occupancy as required in CBC Table 1607.2.

**R324.7.3 Evacuation routes to rooftop evacuation locations.** Evacuation routes to rooftop evacuation locations shall be permitted to be provided by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**R324.7.4 Perimeter Protection.** The perimeter of rooftop evacuation locations shall be protected by:

1. Guards per Section R312 if a rooftop platform is provided; or
2. A railing that is 12 inches (305 mm) in height if a sloped roof is provided.

**R324.7.5 Utility/Equipment buffer zone.** A separation of 48 inches shall be provided between an evacuation location and any mechanical equipment, photovoltaic system, utility service drop or other utility line. Electrical service lines shall not pass over evacuation locations.

**R324.8 Attics that are evacuation locations.** Attics that are no less than one (1) foot above the WSEL200 shall be permitted to be evacuation locations.

**R324.8.1 Headroom.** When an attic is used as an evacuation location, the minimum headroom of the required area shall be 30 inches with 50 percent of the required area having a headroom of 60 inches.

**R324.8.2 Attic flooring.** The required area of the evacuation location shall be solidly sheathed.

**R324.8.3 Attic live loads.** Attic areas that are used as evacuation locations shall be designed for the attic with limited live load requirement in Table R301.5.

**R324.8.4 Evacuation routes to attic evacuation locations.** In Group R-3.1 occupancies that are subject to the requirements of Chapter 11A or 11B, such requirements shall apply to the evacuation routes to attics. In Group R-3 occupancies, evacuation routes to attic evacuation locations shall be permitted to be provided by a stairway, ramp, alternating tread device, fixed ladder or other means approved by the building official.

**R324.8.5 Means of escape from attics.** The means of escape from attics shall comply with Section R324.5.

## **R324.9 Alternate means of protection.**

### **R324.9.1 Request for approval of alternate means of protection.**

Requests for approval to use an alternative means of protection shall be made in writing to the building official by the owner or the owner's authorized representative. The request shall be accompanied by a full statement of the conditions and sufficient evidence that the proposed alternate means of protection provides reasonable protection to occupants. The building official shall require the owner to obtain a written statement from the applicable emergency management authority regarding plans and processes related to notification of anticipated conditions of flooding, warnings, evacuations, and other pertinent conditions relative to the proximity of nearby levees. The building official shall also require the owner to obtain a written statement and findings from the entity that has jurisdiction over the management, maintenance, monitoring, and control of flood protection works in the vicinity of the location of the owner's property, such statement shall comment on the viability of the proposed alternate means of protection. The building official may request written statements from the Central Valley Flood Protection Board, the California Department of Water Resources, and the California Emergency Management Agency.

Approval of a request for use of an alternative means of protection made pursuant to these provisions shall be limited to the particular case covered by the request and shall not be construed as establishing any precedent for any future request except in substantially equivalent situations.

**Note.** Contact information for the California Department of Water Resources and the Department's Directory of Flood Officials, which includes levee and reclamation district boundary maps, is available on-line at the following web site: [www.water.ca.gov/BuildingCodes](http://www.water.ca.gov/BuildingCodes). The Department of Water Resources Building Code Project Engineer can be contacted at 916-574-1451. The Central Valley Flood Control Board Chief Engineer can be contacted at 916-574-0609.

### **R324.9.2 Appeals.**

When a request for an alternate means of protection has been denied by the building official, the applicant may file a written appeal with the board of appeals. In considering such appeal, the board of appeals may provide additional information to, and request additional written statements from, the Central Valley Flood Protection Board, the California Department of Water Resources, and the California Emergency Management Agency. If such additional written statements are provided, the board of appeals shall consider those statements.