FIRE CHECK LIST for Single Family Residences, Duplexes, and Garages

The following items must be part of the plans before a permit will be issued. The approval of plans and specifications does not permit the violation of any section of the County Fire Code, County Ordinances, or State law. The following list does not necessarily include all potential errors and omissions.

NOTE: This document is intended to be used only as a guide and may differ slightly from the correction list that will be used by the DPLU Building Division.

Codes are paraphrased. Citation is the primary reference. For full text see the County and California Fire and Building Codes.

A. PLAN REQUIREMENTS

1. Due to the number and/or complexity of corrections, before Fire sign-off will be given, you may be required to make corrections on the originals and run new prints.

2. Name, label and specify use of all rooms.

3. Define all symbols and shaded areas etc. used on the plans.

4. When the code offers multiple options, identify the specific option being proposed.

B. SITE REQUIREMENTS

1. **WILDLAND INTERFACE SETBACK** In areas designated as "wildland-urban interface", structures must be located at least 30 feet from nearest property line unless the County Fire Marshal finds that terrain makes 30 foot setback impossible, or the parcel is in the interior of a group of homes with specifically designated and approved defensible space on the perimeter of the cluster. (County Fire Code appendix II-A §25) (California Code of Regulations Title 14 §1276.01)

2. **RESIDENTIAL FIRE SPRINKLERS** may be required because of any of the following:
   a. Emergency response time exceeds 10 minutes
   b. Located on canyon rim, wildland interface, hazardous brush, etc.
   c. Calculated building fireflow exceeds fire department initial response capability
   d. Poor access roads or excessive grade
   e. Inadequate reliable water supply
   f. Additions of more than 50% of the existing building
   g. Mandated by local ordinance

   FIRE SPRINKLERS (Note the following on the plot plan:) (County Fire Code § 903.4.2.2.1)

   > "Structures shall have an automatic fire sprinkler system installed per NFPA 13-D standards and the County of San Diego Standards. Fire sprinkler system plans shall be submitted to and approved by the County of San Diego and ready for hydrostatic testing prior to framing inspection."

   *[Fire sprinkler systems in **manufactured homes** must meet NFPA 13-D and State of California standards. Systems are factory-installed and certified. A hydrostatic test is required after assembly on-site.]*

3. **HYDRANTS.** If the property is in a water district and within 1500 feet of water district lines, the following may be required: Show fire hydrant location(s) on plot plan. In zones other than industrial, commercial and multi-family fire hydrants shall be installed in accordance with Table No. 903.4.2 (County Fire Code § 1003.2 and 1003.2.11)

TABLE 903.4.2-A Single Family Dwellings With or Without Automatic Fire Sprinklers
Parcels 2½ acres and larger: Every 1,000 feet, or 1,300 feet with fire sprinklers
Parcels ½ to 2½ acres: Every 500 feet, or 650 feet with fire sprinklers
Parcels less than ½ acre: Every 350 feet, or 650 feet with fire sprinklers

4. **WATER STORAGE TANKS** If the property is not within a water district, or water district lines are not within 1500 feet of the property, an approved above ground water storage tank (5000 gal. capacity for structures less than 1500 sq. ft.; 10,000 gal. capacity for 1500 sq. ft. and above*) shall be installed per County of San Diego requirements prior to the storage of combustible materials on the site. On the plot plan show tank size, location and elevation, and hydrant (FDC) location and elevation. **See form #600 for requirements**. (County Fire Code § 903.3.2.)

   [* Greater capacity required for substantially larger structures.]

5. **FUEL MODIFICATION.** (Note the following on the plot plan:)

FUEL MODIFICATION ZONE

On the existing parcel, establish and maintain an effective fuel modification zone by thinning, clearing away or modifying combustible vegetation from areas within 100 feet from buildings or structures. The fuel modification zone may be re-planted with either approved irrigated, fire-resistant planting material or approved non-irrigated, drought-tolerant, fire-resistant plant material. Re-planting of the fuel modification zone with approved plant material may be required for erosion control.

EXCEPTIONS:

1. Single specimens of trees, ornamental shrubbery or similar plants used as ground covers, provided that they do not form a means of rapidly transmitting fire from the native growth to any structure.
2. Grass and other vegetation located more than 50 feet from buildings or structures and less than 18 inches in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.

This does NOT authorize clearing beyond property line.

Complete fuel modification prior to bringing combustible construction material on-site.

Fuel modification is also required along fire access roadways and driveways at distances prescribed in the County Fire Code, based on improved width. (County Fire Code Appendix II-A §16.1, 17.2)

5. **PREMISES IDENTIFICATION.** (STREET NAME sign – FIRE LANE sign) Approved signs or other approved notices shall be provided and maintained for fire apparatus access roads to identify such roads and prohibit the obstruction thereof or both. All new public roads, all private roads within major subdivisions, and all private road easements serving four or more parcels shall be named. Road name signs shall comply with County of San Diego Department of Public Works Design Standard **#DS-13.** The Chief may require the posting of a fire access roadway where parking has obstructed or could obstruct the required width. (County Fire Code § 901.4.2.)

6. **EASEMENT ADDRESS SIGNS.** Show the phrase *"easement address sign"* on the plot plan where the easement intersects the named road. All easements which are not named differently from the roadway from which they originate, shall have an address sign installed and maintained, listing all street numbers occurring on that easement, located where the easement intersects the named roadway. Minimum size numbers on that sign shall be four inches in height with a minimum stroke of 3/8", contrasting with the background. (County Fire Code § 901.4.4.2.)

7. **STREET NUMBERS.** On the plot plan show the phrase "street numbers" at the structure and at the driveway entrance. Approved numbers and/or addresses shall be placed on all new and existing buildings and at appropriate additional locations as to be plainly visible and legible from the street or roadway fronting the property from either direction of approach. The street numbers shall contrast with their background, shall meet the following minimum standards as to size: 4" high with a 3/8" stroke for residential buildings, and shall be posted at the roadway. (County Fire Code § 901.4.4.1)

8. **FIRE APPARATUS ACCESS.** An all-weather fire access roadway is required. Show all portions of the fire access including roads, easements, and driveways. Plans for fire apparatus access roads or for their modification shall be submitted to the fire marshal for review and approval prior to construction or modification. Road must be capable of supporting the imposed weight of fire apparatus (min. 50,000 lbs.) (County Fire Code § 901.2.1.)

9. **DEAD ENDS.** Show and label an *"emergency vehicle turnaround"* on the plot plan within 150 feet of the terminal end. Fire apparatus access roads, including private driveways, more than 150 feet in length shall be provided with an approved means for turning the fire apparatus around. (See *"Emergency Vehicle Turnaround"* handout) (County Fire Code § 902.2.2.4.)

10. **DIMENSIONS.** Show improved width and vertical clearance on plot plan. Fire apparatus access roads shall have an unobstructed improved width of not less than 24 feet. *Exception: single-family residential driveways serving no more than two single-family dwellings shall have a minimum of 16 feet of unobstructed improved width.* All fire apparatus access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches. (County Fire Code § 902.2.2.1.)

11. **TURNING RADIUS.** Modify plans to meet or exceed minimum requirement. The turning radius of a fire apparatus access road shall be minimum 28 - 30 feet, or as approved by the Chief. (County Fire Code § 902.2.2.3.)

12. **BRIDGES.** When a bridge is required to be used as part of a fire apparatus access road, it shall be constructed and maintained in accordance with standard AASHTO HS15-44. (County Fire Code § 902.2.2.5.)

13. **GRADE.** Show the fire access road grade (%) on the plot plan. The grade of a fire apparatus access roadway shall not exceed 20.0%. (County Fire Code § 902.2.2.6.)

14. **SURFACE.** Show the fire access road surface material type on the plot plan. Fire apparatus access roadways shall be designed and maintained to support the imposed loads of fire apparatus (not less than 50,000 lbs.) and shall provide all-weather driving capabilities. For driveways serving individual single family dwellings the minimum surfacing materials required varies with the slope of the fire apparatus access road as follows:
(County Fire Code § 902.2.2.2.2.2)

MINIMUM SURFACE REQUIREMENTS

0-10% Slope	4" Decomposed Granite	(paving required in some jurisdictions)
11-14% Slope	2" Asphaltic Concrete	
15-20% Slope	3" Asphaltic Concrete or 3 ½ " Portland Concrete -with deep broom finish perpendicular to travel	

Paving and sub-base shall be installed to the standards specified in Section *"I-M"* of the *"County of San Diego Off-Street Parking Design Manual"*

15. **ROADWAY DESIGN FEATURES**. Roadway design features (speed bumps, speed humps, speed control dips, etc.), which may interfere with emergency responses, shall not be installed on fire access roadways, unless they meet design criteria approved by the Chief. (County Fire Code § 902.2.2.7)

16. **GATES.** Submit detailed plans for gate or other obstruction. All gates or other structures or devices that could obstruct fire access roadways or otherwise hinder emergency operations are prohibited unless they meet standards, and receive specific plan approval from the Fire Marshal. (County Fire Code § 902.2.4.3)

17. **KEY BOXES.** Provide emergency access key box at approved location. Approved key boxes are required when access to or within a structure or an area is unduly difficult because of secured openings, or where immediate access is necessary for life-saving or firefighting purposes. (County Fire Code § 902.4.1.)

C. WILDLAND URBAN INTERFACE – BUILDING CONSTRUCTION FIRE-RESISTIVE CONSTRUCTION IN HAZARDOUS FIRE AREAS

[Wildland Interface areas are designated by local or state fire authorities, and involve most County areas.

BASIC *(requirements apply for ANY construction in Wildland Interface areas)*

1. ***WALLS:*** Exterior wall surfaces must be non-combustible. Show on elevation sheet. (e.g. stucco, masonry, cement fiber board, etc.) (County Fire Code Appendix II-A § 26.2.3)

2. ***EAVES:*** Combustible eaves, soffits and fascias shall be constructed as required in guidance documents (Form **DPLU #198**). Show on elevation sheet and revise eave details accordingly. (County Fire Code Appendix II-A § 26.2.5)

3. ***UNENCLOSED UNDERFLOOR*** shall be enclosed to the ground with non-combustible construction or approved alternative. Provide note on elevation sheet. (County Fire Code Appendix II-A § 26.2.7)

4. ***VENTS***: Vents are generally prohibited in overhang areas. Vent openings shall be louvered metal and covered by ¼-inch noncombustible, corrosion-resistant metal mesh or equivalent. Provide note on elevation sheet. (County Fire Code Appendix II-A § 26.2.4.1, § 26.2.4.2)

5. ***GLAZING:*** (windows) restricted to tempered glass or multi-layered glass panels, or glass block having a fire-protection rating of not less than 20 minutes, or other assemblies approved by fire authority. Glazing frames made of vinyl shall have welded corners, metal reinforced in the interlock area. Provide note on elevation sheet and window schedule. Also, provide manufacturers' info documenting compliance. (County Fire Code Appendix II-A § 26.2.1, § 26.2.2, § 26.3.7)

ENHANCED *(requirements apply in addition to BASIC when any portion of a structure is closer than 100 feet to the nearest property line. ENHANCED may also apply even if the structure is more than 100 feet from property line when hazardous fuel (vegetation) or steep slopes exist.)*

6. ***SKYLIGHTS:*** shall be tempered glass or a class "A" rated assembly. (County Fire Code Appendix II-A § 26.3.7)

7. ***GUTTERS & DOWNSPOUTS:*** shall be constructed of non-combustible material, and designed to reduce accumulation of leaf letter and debris. Provide note on elevation sheet. (County Fire Code Appendix II-A § 26.3.3)

8. ***EXTERIOR DOORS***: shall be approved ignition-resistant construction, solid-core wood not less than 1 ¾" thick, or have fire protection rating of not less than 20 minutes. Note on door schedule. (County Fire Code Appendix II-A § 26.3.4)

9. ***PROJECTIONS:*** (decks, carports, balconies, patio covers, etc.) shall be of one of the following:
   - ✓ non-combustible construction (such as concrete or metal)
   - ✓ fire-retardant treated wood (pressure-treated with fire retardant, listed for exterior use, installed per listing)
   - ✓ heavy timber construction (minimum dimensions 3x decking, 6x6 columns, 4x10 or 6x8 beams, 4x8 joists)
   - ✓ one-hour fire-resistive construction. The County will also accept decks with a non-combustible surface such as ceramic tiles, or a deck surface listed by an approved evaluation service as "one-hour" or as a Class "A" roof covering. All other exposed surfaces must be enclosed with ignition resistant materials such as stucco or cement-fiber material. There is no fire-resistive requirement for handrails and ballisters.

   Note: *Untreated wood, plastic, and composite wood decking material is not permitted in "enhanced" areas.* (County Fire Code Appendix II-A § 26.3.6)

10. ***FENCES AND OTHER ATTACHMENTS:*** the first five feet of fences and other items attached to a structure shall be constructed on non-combustible material or meet the same fire-resistive standards as the exterior walls of the structure. Provide note on plot plan and/or elevation sheet. (County Fire Code Appendix II-A § 26.3.5)

D. MECHANICAL AND ELECTRICAL REQUIREMENTS

1. **LOCATION OF LPG TANK, ABOVE GROUND STORAGE** Show LPG tank size and location on plot plan. Minimum separation between containers and buildings, public ways, or lines of adjoining property that can be built upon is: 10 feet for containers 125 gallons to 500 gallons, 501 to 2,000 gallons is 25 feet. (County Fire Code Article 82, Table 8204-A – Location of Containers)

2. **SPARK ARRESTERS** Add phrase *"approved spark arrester"* on chimney on elevation sheet. All structures having any chimney, flue, or stovepipe attached to any fireplace, stove, barbecue, or other solid or liquid fuel burning equipment and devices, shall have such chimney, flue, or stovepipe equipped with an approved spark arrester. Spark arresters shall be constructed of non-combustible materials, 12 gauge minimum welded or woven wire mesh with maximum 1/2'" openings, or cast iron plate with 3/16 " maximum opening, or other material found satisfactory by the FAHJ. (County Fire Code, Appendix II-A, SECTION 7)

E. ROOFING REQUIREMENTS

1. Roofing shall have a minimum Class 'A' fire rating. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be fire stopped to preclude entry of flames or embers. Show phrase "minimum Class "A" roof covering" on elevation sheet and provide a note specifying how fire-stopping will be done. (County Building Code § 51.1503.1)

F. SMOKE DETECTORS

1. **SMOKE DETECTORS** are required in each existing sleeping room, in the hallway/area serving each sleeping area, and on each level. Detectors shall be permanently wired with battery back-up, and audible in all sleeping areas. Show smoke detector locations on the floor plan or electrical plan. (California Building Code § 310.9.1.3, .4; County Fire Code 1007)

Resolution Conference for Plan Check Corrections

This process provides customers an opportunity to have their concern regarding plan check corrections considered by County management. With the exception of customer service complaints, the applicant must make a good-faith effort to resolve his/her issues with project staff BEFORE applying for this process. Failure to do so will result in denial of the resolution conference request.

A Resolution Conference Request Form is available online at http://www.sdcounty.ca.gov/dplu/bldgforms/index.html. You may also obtain a form from your plan checker or by calling the Building Division at (858) 694-3711.

A summary of fire and building code changes is available in DPLU document #664, available on the County website: http://www.sdcounty.ca.gov/dplu/docs/DPLU%20664.pdf