



# One- and Two-Family Residential Building Code Requirements



## WHO NEEDS BUILDING CODES?

We all do — whether in our homes, offices, schools, stores, factories or places of entertainment. We rely on the safety of structures that surround us in our everyday living. The public need for protection from disaster due to fire, structural collapse and general deterioration underscores the need for modern codes and their administration.

## BUT HOW RELIABLE ARE THEY?

Host aspects of building construction — electrical wiring, heating, sanitary facilities — represent a potential hazard to building occupants and users. Building codes provide safeguards. Although no code can eliminate all risks, reducing risks to an acceptable level helps.

## WHAT IS A BUILDING CODE?

Practically, it is the government's official statement on building safety. Technically, it is a compendium of laws and ordinances setting minimum safety standards and arranged in a systematic manner (codified) for easy reference. It embraces all aspects of the building construction — fire and structural items as well as the plumbing, electrical and mechanical systems.

## WHO USES BUILDING CODES?

All people are impacted in a building construction project — architects and engineers, contractors and subcontractors, the manufacturers and distributors of building materials and, finally, the user or occupant of the building.

## WHY INSPECT A BUILDING DURING CONSTRUCTION?

It is the only way to verify independently that code compliance has been achieved. Did you know that before you moved into your home, office or factory, an average of ten inspections had been made to verify conformity to minimum standards affecting electrical safety and sanitation as well as structural and fire and the like?

## HOW ARE SAFE BUILDINGS ACHIEVED?

Safety is achieved through proper design and construction practice and a code administration program which verifies compliance. You, as a homeowner or business owner, have a substantial investment which can be seriously jeopardized through less-than-complete code enforcement or compliance.

## WHY SHOULD MINIMUM SAFETY CODES APPLY TO MY OWN HOUSE?

- For your personal safety and that of your family and the guest invited into your home.
- To ensure the economic well-being of the community by reducing potential spread of fire and disease.
- For the conservation of energy.
- To protect future home purchasers who deserve reasonable assurance that the home they buy will be safe.

(Did you know that a home is resold every five to seven years?)

## WHAT'S NEW?

The most recent assignment to building officials comes from the need to conserve energy use in buildings. Elected officials have established definite goals in the area of energy conservation which can best be administered through the routine building regulatory system. Beyond the mere addition of insulation, energy-saving steps include new standards for appliance construction, new design concepts to conserve heat from lighting fixtures and myriad of other approaches to minimize energy demands. Other innovations include such items as showerhead restrictors, setback thermostats, and low-flush toilets. Steps have also been taken to facilitate solar-heating applications and the use of other alternative energy resources. Local building departments provide a wide range of services beyond the usual plan review and building inspection process. These range from the administration of planning or zoning laws to housing maintenance inspection, nuisance abatement and a number of other related or ancillary duties. Visit your local building department and get acquainted with the people who make it work.



**County of Los Angeles  
Department of Public Works  
Building and Safety Division  
900 South Fremont Avenue, Third Floor  
Alhambra CA 91803  
(Monday - Thursday, 7 a.m. - 5 p.m., Closed Friday)**

Building Section (626) 458-3173  
Electrical Section (626) 458-3180  
Mechanical/Plumbing Section (626) 458-3182  
Drainage and Grading Section (626) 458-6390

*Donald L Wolfe, Director of Public Works  
Rajesh Patel, Superintendent of Building*

September 26, 2006

**NOTE:** *Permits and information may be obtained in the district or city office of the area in which the construction is planned. For your convenience, plan check applications for construction in the unincorporated County territory may be submitted at the Alhambra headquarters office as well as the local district office. Should questions arise regarding permit or construction requirements, please contact your local district office, either in person, by telephone, or you can e-mail your questions to: <http://ladpw.org/general/dpwrequest/>*

**DISTRICT OFFICES**

**Antelope Valley**  
335A East Avenue K6  
Lancaster CA 93535  
(661) 723-4440

**Calabasas/Malibu**  
26600 Agoura Rd., # 110  
Calabasas CA 91302  
(818) 880-4150

**Carson (M-Th 7-6)\***  
701 E. Carson Street  
Carson CA 90745  
(310) 830-7600

**East Los Angeles**  
4801 E. Third Street  
East Los Angeles CA 90022  
(323) 881-7030

**Firestone**  
7807 S. Compton Avenue  
Los Angeles CA 90001  
(323) 586-6541

**La Puente**  
16005 E. Central Avenue  
La Puente CA 91744  
(626) 961-9611

**Lomita/Lennox**  
24320 S. Narbonne Ave.  
Lomita CA 90717  
(310) 534-3760

**San Gabriel Valley**  
125 S. Baldwin Avenue  
Arcadia CA 91007  
(626) 574-0941

**Santa Clarita**  
23757 Valencia Blvd.  
Valencia CA 91355  
(661) 222-2940

**South Whittier**  
13523 Telegraph Road  
Whittier CA 90605  
(562) 946-1390

**Universal (8-10)\***  
100 Universal City Plaza MT85  
Universal City CA 91608  
(818) 762-6284

**CONTRACT CITY OFFICES**

**Artesia (8-10)\***  
18747 Clarkdale Avenue  
Artesia CA 90701  
(562) 865-6263

**Carson (M-Th 7-6)\***  
701 E. Carson Street  
Carson CA 90745  
(310) 830-7600

**Cerritos (8-5)\***  
18125 Bloomfield Avenue  
Cerritos CA 90703  
(562) 860-0311

**Commerce**  
2535 Commerce Way  
Commerce CA 90040  
(323) 887-4455

**Duarte (M-Th 7:30-6)\***  
1600 Huntington Drive  
Duarte CA 91010  
(626) 357-7931

**Industry**  
16005 E. Central Ave.  
La Puente CA 91744  
(626) 961-9611

**Irwindale (M-Th 8-12)\***  
5050 N. Irwindale Avenue  
Irwindale CA 91706  
(626) 430-2200

**La Canada Flintridge (8-10)\***  
1327 Foothill Blvd.  
La Canada Flintridge CA 91011  
(818) 790-8651

**Lakewood**  
(M-Th, Alt. F 7-5:30)\*  
5050 N. Clarke Avenue  
Lakewood CA 90712  
(562) 866-9771

**La Mirada**  
(M-F 8-10, M-T 4-5:30)\*  
13700 S. La Mirada Blvd.  
La Mirada CA 90638  
(562) 943-0131

**Lawndale (7:30-11:30)\***  
14717 S. Burin Avenue  
Lawndale CA 90260  
(310) 970-2100

**Lomita**  
24320 S. Narbonne Avenue  
Lomita CA 90717  
(310) 534-3760

**Rolling Hills**  
24320 S. Narbonne Avenue  
Lomita CA 90717  
(310) 534-3760

**Rolling Hills Estates**  
24320 S. Narbonne Avenue  
Lomita CA 90717  
(310) 534-3760

**Santa Fe Springs (8-4)\***  
11710 E. Telegraph Road  
Santa Fe Springs CA 90670  
(562) 868-0511

**Temple City (8-12)\***  
9701 Las Tunas Drive  
Temple City CA 91780  
(626) 285-0488

**Westlake Village**  
4111 N. Las Virgenes Road  
Calabasas CA 91302  
(818) 880-4150

*Normal office hours: Monday-Friday, 8:00 a.m. to 4:30 p.m., except legal holidays or as indicated above by the \*. Inspection request must be made 24 hours in advance.*



## PREFACE

The purpose of this guide is to provide an informational guide to the builder for the construction of a new one or two-family residential building, garage or other accessory buildings and structures. Many regulations of the Building Code which are commonly encountered during the planning and construction of a building are presented herein in order to reduce unnecessary plan review time and construction delays. Also provided are referrals to other governmental agencies that may have an influence on the design and approval of the proposed project. The information presented in this guide does not presume to cover all the possible Code and ordinance requirements. The prospective builder may find it necessary to confer directly with the staff of Building and Safety Division, of the Department of Public Works, for a specific project.

This guide may also be helpful to the builder of an addition or alteration to an existing dwelling or for the construction of other structures on the site.

### L. A. COUNTY BUILDING CODE

The purpose of the Building Code is to provide minimum standards to safeguard the public's safety and welfare by regulating the design, construction, quality of materials, use, occupancy, location and maintenance of all dwellings, other structures, certain equipment and grading.

Los Angeles County is using the 2002 edition of the Los Angeles County Building Code (LACBC). This Code is based upon the 2001 edition of the California Building Code (CBC), with amendments to meet local conditions.

### ALTERATIONS TO EXISTING DWELLINGS

Additions, alterations or repairs may be made to any dwelling or structure without requiring the existing dwelling or structure to comply with all the requirements of the current LACBC, provided the work for the addition, alteration or repair conforms to that required for a new building or structure. Furthermore, as a result of the proposed new work, the existing building or structure shall not be rendered more hazardous than before the work is undertaken with respect to life safety, fire safety, structural

safety, or sanitation.

#### *Exceptions:*

1. The installation or replacement of glass shall be as required for new installations.
2. Not more than 25 percent of the roof covering of the dwelling or accessory building shall be replaced in any 12-month period unless the new roof covering conforms to the requirements of the LACBC for new dwellings.

### BUILDING AND SAFETY OFFICES

The Building and Safety Division of the Department of Public Works is the agency charged by the State of California with the enforcement of the Building Code. This includes the review of building plans, the issuance of permits to construct and the inspection of construction work. Under the Director of Public Works, this Division staffs an Alhambra headquarters office at 900 South Fremont Avenue, and 11 regional District offices for the convenience of the public. Our Division also provides building and safety services for 17 Contract Cities. See the directory of offices herein for the location, telephone number and hours of operation for each office.

### LOCAL PLANNING AGENCY

The local planning agency (*Regional Planning Department for unincorporated areas of Los Angeles County*) regulates the location, height and use of dwellings and other structures and off-street parking through the Zoning Ordinance. Parcels of land that have not been established by a subdivision map may need proof that they were legally created. The Regional Planning Department investigates the history of your parcel and issues a Certificate of Compliance if the legality is affirmed. Therefore it is advisable that you understand the zoning regulations applicable to your property before preparing plans or making other arrangements for construction. Relevant zoning information affecting your project may be obtained in person from Regional Planning Department or the local Building and Safety office.

*If your lot is located in the jurisdiction of one of the Contract City offices, contact the local planning agency of that city. City planning agencies may have additional regulations affecting such items as color and type of exterior finish materials and roof coverings.*



## PERMITS REQUIRED

**Building Permit:** A building permit is required to construct, enlarge, alter, repair, move, connect, remove or demolish any dwelling or accessory building, structure, automatic fire-extinguishing system. A permit is also required to perform any grading as regulated by Appendix Chapter 33 or any landscaping as regulated by Chapter 71.

Certain minor work is exempt from the need to obtain a building permit, including but not limited to, the following:

1. One-story detached accessory buildings not exceeding 120 square feet (11 m<sup>2</sup>) in roof area used as storage sheds, playhouses and similar uses.
2. Wire fences and other fences not over 6 feet (1.8 m) in height.
3. Retaining walls of 4 feet (1.2 m) or less in height (level backfill).
4. Canopies or awnings, extending not more than 54 inches (1.4 m) from the exterior wall of the building.
5. Platforms, walks and driveways not more than 30 inches (762 mm) above grade and not over any basement or story below.
6. On-grade prefabricated swimming pools whose capacity does not exceed 5,000 gallons (18.9 kL).
7. Playground equipment.



Separate plumbing, mechanical and electrical permits may be required for the above exempted items.

**Grading Permit:** A grading permit is required to perform any grading, except for the following work:

1. An excavation that:
  - a. is less than 2 feet (610 mm) in depth or
  - b. does not create a cut slope greater than 5 feet

(1.5 m) in height and steeper than 1 unit vertical in 2 units horizontal (50% slope) and does not exceed 50 cubic yards (38.3 m<sup>3</sup>).

2. A fill not intended to support structures and which does not obstruct a drainage course, if such fill:
  - a. is placed on natural grade that has a slope not steeper than five horizontal to one vertical and is less than 1 foot (305 mm) deep, or
  - b. is less than 3 feet (914 mm) in depth at its deepest point, measured vertically upward from natural grade to the surface of the fill, and does not exceed 50 cubic yards (38 m<sup>3</sup>), or
  - c. does not exceed 20 cubic yards (15.3 m<sup>3</sup>) on any one lot.

**Mechanical Permit:** Required to install, alter, reconstruct or repair any heating, ventilating, comfort cooling, refrigeration systems or other miscellaneous heat producing appliances.

**Plumbing Permit:** Required to install, alter, reconstruct, remove or repair any plumbing, drainage work, water piping, full gas piping, backflow prevention devices and sewage systems. Also required to replace a water heater.

**Electrical Permits:** Required to install, alter or repair any electrical wiring, receptacles, appliances or service panels.

## PERMIT PROCEDURE

No homeowner or tenant shall construct or alter any dwelling or structure, install any equipment or fixture, or perform any grading that comes under the purview of the LACBC (with exceptions for minor work) without first obtaining a separate permit for each such work. Contact your local Building and Safety office for requirements regarding your proposed work.

## BUILDING PERMIT APPLICATIONS

To obtain a permit, the applicant shall first complete an application form furnished for that purpose at the



Building and Safety office closest to the location of the job site. Each application shall describe the work to be covered by the permit, state the dwelling address, the valuation of the proposed work, provide other information as may reasonably be required by the Division, and be signed by the permittee, or an authorized agent.

A legal description, obtained from either a tax bill for the property or the deed to the property, of the property may have to be stated on the application when the site is unimproved. Staff at the local Building and Safety office may assist you in completing the application, and possibly input the information in the computerized permit system. A list indicating all required approvals and clearances from other agencies to be obtained prior to issuance of the building permit will be provided to the applicant.

### MECHANICAL, PLUMBING AND ELECTRICAL PERMITS

Separate permits are required for any plumbing, electrical, or mechanical installations.

### WHO CAN OBTAIN A BUILDING PERMIT?

In general, a General Building Contractor possessing a Class 'B' license or a homeowner improving his/her principal residence, and provided that he/she meets the conditions of the owner/builder declarations on the permit application, may be issued a building permit. Plumbing, Mechanical and Electrical permits may be issued to the homeowner (as mentioned above), to a General Building Contractor, or to Contractors specializing in the respective trades. Contact the local Building and Safety office with any questions. See next sheet for owner-builder information.

### GRADING PERMIT

Plans and permit for grading may be processed and issued separately from and prior to the building permit. Any proposed work requiring a grading permit shall have grading plans prepared and signed by a registered civil engineer or an architect. A soils report and/or geotechnical report may also be required. **Building permit(s) cannot be issued**

***until rough grading (graded soil surface is within six inches of final planned grade or elevation) is complete and approved by the Building Inspector.***

### PERMIT FEES

The various applications and permits are not valid until the required fees have been collected. The plan checking fee will be collected at the time the plans and supporting documents for the dwelling or structure are submitted for review. The permit (inspection) fee will be collected at the time the building permit or specialty permits are issued. Permit fees and plan checking or review fees for dwellings and structures are proportional to the valuation of all construction work described in the application. Total value of work for which the permit is issued shall include the fair market value for labor and materials for rough construction, finish work, painting, roofing, electrical, plumbing, heating, air conditioning, fixtures and any other permanent equipment.

For Code Fee Schedules, please go to website: <http://ladpw.org/BNS/>

### EXPIRATIONS OF FEES/PERMITS

**Plan Check:** If a permit is not secured within twelve(12) months after plans have been filed for checking, a single six-month extension may be granted upon written request and payment of an extension fee equal to 25 percent of the plan check fee by the applicant.

**Construction Permit:** The issued permit shall expire by limitation if the work is not commenced within six(6) months from the date of issuance, or if the work is suspended or abandoned for a period of six(6) months at any time after start of work.

### PERMIT FEE REFUND

If the work for which a building or grading permit is issued has not begun and the applicant desires a refund of the permit fee, he/she must file for the refund within one year of the date the permit fee was paid (or within 6 months of the permit extension granted by the Building and Safety Division). The amount of the refund will be 80 percent of the fee paid.

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## OWNER-BUILDER INFORMATION

The State Health and Safety Code mandates that the “Owner-Builder Information” form be completed by the property owner *prior to the issuance of any permits after July 1, 1980.*

An application for a building permit has been submitted in your name listing you as the builder of the property improvements specified.

For your protection you should be aware that as “owner-builder” you are the responsible party of record on such a permit. Building permits are not required to be signed by property owner unless they are personally performing their own work. If your work is being performed by someone other than yourself, you may protect yourself from possible liability if that person applies for the proper permit in his or her name.

Contractors are required by law to be licensed and bonded by the State of California and to have a business license from the city or county. They are also required by law to put their license number on all permits for which they apply.

If you plan to do your own work, with the exception of various trades that you plan to subcontract, you should be aware of the following information for your benefit and protection:

- If you employ or otherwise engage any persons other than your immediate family, and the work (including materials and other costs) is \$200 or more for the entire project, and such persons are not licensed as contractors or subcontractors, then you may be an employer.
- If you are an employer, you must register with the state and federal government as an employer and you are subject to several obligations including state and federal income tax withholding, federal social security taxes, workers’ compensation insurance costs, disability insurance, and unemployment compensation contributions.
- There may be financial risks for you if you do not carry out these obligations, and these risks are especially serious with respect to workers’ compensation insurance. Please contact your homeowner’s insurance carrier for coverage.
- For more specific information about your obligations under federal law, contact the Internal Revenue Service (and, if you wish, the U.S. Small Business Administration). For more specific information about your obligations under state law, contact the Department of Benefit Payments and the Division of Industrial Accidents.

If the structure is intended for sale, property owners who are not licensed contractors are allowed to perform their work personally or through their own employees without a licensed contractor or subcontractor, only under limited conditions.

A frequent practice of unlicensed persons professing to be contractors is to secure an “owner-builder” building permit, erroneously implying that the property owner is providing his or her own labor and material personally. Building permits are not required to be signed by property owners unless they are performing their own work personally.

Information about licensed contractors may be obtained by contacting the Contractors’ State License Board in your community or at 1020 “N” Street, Sacramento, California 95814.





### SUSPENSION OR REVOCATION

When a permit has been issued in error or on the basis of incorrect information supplied by the applicant or is in violation of any applicable regulation, the Building Official may suspend or revoke said permit.

### STOP WORK ORDERS

If work for which a permit is required has been started without the required permit, the Building Inspector may issue an order to comply (Stop Work Order). The owner of the property must then obtain the required permit and correct any work done which does not comply with applicable regulations. The Code provides that the building or grading permit fee shall be doubled when work has been done without the required permit and the owner or contractor was responsible for securing the permit.

### BUILDING PLANS

With the application for a building permit, and when required by the Building Official, the applicant shall submit two sets of building plans (including site plan) and specifications. The plans shall show in sufficient clarity the nature and extent of the work proposed and that it will conform to the provisions of the LACBC and all relevant laws, ordinances, rules and regulations. The Building Official *may* require the plans, specifications and structural calculations to be prepared and signed by a licensed civil engineer or architect.

In certain areas and when authorized by the Building Official, complete plans and specifications need not be submitted for one-story dwellings or garages of conventional wood-stud construction with an area not exceeding 600 square feet (56 m<sup>2</sup>), and for small and unimportant work.

Building plans shall be submitted at the local

District office for checking, after payment of the plan checking fee. Plans for small additions and other minor projects may be able to be reviewed immediately over the counter.

Following completion of plan review (approximately one to three weeks, depending upon complexity), a plan correction sheet will be returned to the applicant along with the building plans. This sheet indicates the necessary architectural, structural and legal changes or clarifications that must be made to the plans.

After all corrections and clarifications have been made on the plans by the applicant, the corrected building plans and the correction list shall be resubmitted to the Building office for recheck. Appointments with the Plan Check Engineer are recommended for any desired discussion of the corrections or required clearances.

Once all plan corrections are made and all required agency clearances are obtained, the Plan Check Engineer will stamp the plans "Approved". After payment of the permit (inspection) fee(s), one set of approved plans will be returned to the applicant, along with the permit(s) and an Inspection Record Card.

### INFORMATION REQUIRED ON BUILDING PLANS

See next page for the "Minimum Plan Submittal Requirements: New Single-Family, New Multi-Family, & Additions to Multi-Family Residences".

Sample plot plan, sample floor plan for bedroom addition, and other requirements, including Type V Construction-Wood Frame Residential Buildings, Foundation System on Expansive Soil, Patio Cover, Carport, Plumbing details, House Sewers, Forced Air Heaters, Electrical Details, are provided at the end of this guide, beginning on Page 15.



## County of Los Angeles Minimum Plan Submittal Requirements: New Single-Family, New Multi-Family, & Additions to Multi-Family Residences



1. A minimum of two (2) sets of complete plans shall be submitted (jurisdiction may require additional sets); partially completed plans will not be accepted.
2. All plans and applications shall include an accurate description of the entire scope of work.
3. Plans must be legible, blue-line or copies (no ink), fully dimensioned and drawn to scale (minimum 1/8" scale, 1/4" recommended) on sheets which are 18" x 24" Min. (24" x 36" recommended). Superfluous general notes and details which do not apply to the proposed construction project shall not be included on the plans.
4. All plans submitted must be signed by the person responsible for their preparation. When required, plans must be wet stamped and signed by an licensed architect or engineer registered in the state of California.
5. A fully dimensioned **SITE PLAN** which contains the following information is required:
  - Project address
  - Name, address, and telephone numbers of the owner and the person responsible for the preparation of the plans.
  - All easements and restricted use areas, with dimensions.
  - Landscaping, floor area ratio, and lot coverage tabulations in both square feet and as a percent (%) of the lot.
  - North arrow.
  - All structure-to-property line setback dimensions (existing and proposed).
  - Location of all property lines.
  - Dimensions of all architectural projections (mansards, marquees, bay windows, signs, cornices, balconies, awnings, eaves, etc.).
  - Street name(s) for all adjacent streets, and street center lines.
  - Fully dimensioned parking plan, including tabulation of existing, proposed and required parking spaces (not required for privately funded single-family dwellings).
  - Grade elevations at property line corners, at driveways, and at garage floor.
  - Show all proposed and existing utility meters, public sewer connections, private sewage disposal systems, and fire hydrant locations.
  - Locations of all buildings / structures on adjacent property within 10 feet of property line. (For shoring requirements, see item 19).
  - Location and dimensions of all walks, driveways and hardscape.
  - Show the location of top or toe of any slope on property.
6. A **DRAINAGE PLAN**, when required, shall include the following information and details:
  - Site drainage patterns
  - Drainage devices, such as catch basins, area drains, and sump pumps
7. **GENERAL NOTES** shall be included on the plans to address all construction requirements. The general notes shall include information which addresses the following:
  - Applicable codes.
  - Occupancy classification, and use
  - Construction Type
  - If fire sprinklers are to be provided
  - Assessor's Parcel Number
  - Legal description of parcel
  - Lot area
  - Building area
  - Building height
  - Zone (Fire, Seismic, etc.)
  - Description of work
8. A **SITE SURVEY**, when required, shall contain the following information:
  - Name, address, telephone number, and State of California license number of surveyor.
  - Locations of property lines, structures on property, and/ or grade elevations and topography.

9. **SEPARATE PERMITS** may be required for any of the following:

- Electrical
- Mechanical
- Plumbing
- Site improvements such as Pools and Spas
- Retaining walls (other than walls which are part of the building)
- Fences
- Grading
- Demolition
- Driveway Aprons and Street use

10. Fully dimensioned **FLOOR PLANS** are required for every affected story. Every room shall identify the existing and the intended use. Door and window schedules shall be provided to identify the dimension and type of doors and windows. The floor plans shall identify all existing and new construction.

11. Fully dimensioned details indicating compliance with **DISABLED ACCESS** requirements, including (not required for privately funded single family dwellings and duplexes):

- Disabled unit(s) and disabled adaptable unit(s).
- Disabled parking spaces
- Paths of travel from disabled parking spaces to building entrance
- Building entrance and paths of travel within the building
- Disabled access to facilities within the building, including restrooms, telephones, drinking fountains, and counters.

12. Dimensioned **STRUCTURAL PLANS** shall be provided for each floor and roof level. Structural, framing, and foundation plans shall identify the size and spacing of all structural elements. Complete details shall be provided for:

- All critical connections
- All construction assemblies
- size, location and embedment depth of all anchor bolts, including bolts required for hold-down devices.
- Concrete reinforcement details, including the size, spacing, location and number of reinforcing bars
- All lateral force-resisting elements, including shear wall schedules, diaphragm construction specifications, and construction details for steel frame elements.
- For prefabricated trusses, plans must indicate type of truss and connection details at time of submittal.

13. Complete **STRUCTURAL CALCULATIONS** shall be provided to substantiate the structural plans if deviating from the conventional construction provisions of the building code. The structural calculations shall address both vertical and lateral forces, and shall be wet stamped and signed by a licensed engineer or architect registered in the state of California.

14. Fully dimensioned **EXTERIOR ELEVATION** drawings shall be provided that show existing and finished grade lines. Show wall and roof finish material, and location of all openings. The elevation drawings shall identify the building height at all critical locations.

15. Fully dimensioned **SECTION** drawings shall be provided through the building at all significant locations. At least two sections shall be provided in orthogonal directions.

16. A complete and dimensioned **LANDSCAPE AND IRRIGATION** plan, prepared by an individual licensed in the state of California to prepare and stamp such a plan, may be required for all new construction and most other projects which will revise existing parking and/or landscaping.

17. A signed **CERTIFICATE OF COMPLIANCE** shall be included to verify energy conservation compliance. Energy conservation calculations or package documentation shall be provided .

18. The type of soil and bearing value shall be indicated on the plans. Where expansive soil conditions exist, refer to local jurisdiction requirements. A **SOIL/ GEOTECHNICAL REPORT** may be required by the local jurisdiction.

19. **SHORING** plans and calculations may be required for all excavations which exceed four feet in depth or which remove lateral support from an existing building, an adjacent property or the public right of way.

20. If a new, relocated or upgraded **ELECTRIC SERVICE** is required, applicants must contact the local utility company for approval of meter location and the available short circuit current information.

21. **NPDES** requirements shall be incorporated into the construction documents. See attached documents provided by local jurisdiction for details.



## AGENCY APPROVALS

### CLEARANCES REQUIRED

Every construction project must be reviewed by the Building Official to verify compliance with the LACBC. Other County departments and agencies may also review plans and/or reports to verify compliance with laws and ordinances under their jurisdiction. Prior to obtaining a building permit, approvals (or a clearance) from the following agencies are typically required for new construction and “large” additions to existing dwellings: (When in doubt regarding specific requirements contact the local Building and Safety office.)

### PUBLIC WORKS DEPARTMENT

#### *Drainage and Grading Section, Building and Safety Division*

This section reviews the site plan for storm water drainage and flood hazard. If a site is subject to inundation, overflow or erosion, a permit may *not* be issued unless provisions are made to eliminate the hazard.

This section also reviews engineered grading plans for Code compliance and recommendations contained in any soil/geotechnical report prepared by private consultants.

#### *Geotechnical and Materials Engineering Division*

In areas of questionable geologic or soil stability, the Building Official will require the building plans to be reviewed by this Division. Geotechnical or soil reports may be requested. A building permit will not be issued unless the necessary plans showing compliance with the recommendations of the geotechnical consultant’s report(s) are approved and remedial action completed. If an uncorrectable geological hazard is found to exist, the permit may be denied.

#### *Construction Division*

An encroachment permit for curb breaks or any other work within public right-of-way must be obtained prior to commencing said work.

### REGIONAL PLANNING DEPARTMENT

Issues such as building use (zoning), height, location on a lot, number of stories, vehicular access and parking are handled by the Regional Planning Department *for the unincorporated areas of Los Angeles County.*

### CITY PLANNING DEPARTMENT

Construction within the jurisdiction of a Contract City usually requires the City Planning Department approval. Please contact the City’s planning department for any planning/zoning requirements.

### LOS ANGELES COUNTY FIRE DEPARTMENT

#### *Plan Check Unit*

The ability of the Fire Department to fight a structure fire depends in part upon the availability of an adequate water supply to control and extinguish the fire, the adequacy of access roads and the travel distance to the site. The adequacy of this water supply is first determined by the local water purveyor (see Water Purveyor below). Approval from the Plan Check Unit is required before a building permit may be issued when the water purveyor’s Water Certificate cannot deliver the required fire flow. Approval by this unit is also required for all projects in the more fire hazardous areas designated Fire Zone 4, Very High Fire Hazard Severity Zone or Buffer Fire Zone.

### HEALTH SERVICES

When the use of a private sewage disposal (septic) system is necessitated by the unavailability of public sewers, the Environmental Health Division of the Health Services Department must review and approve the proposed sewage disposal system plot plan, dwelling floor plan, any geotechnical report(s) and results of a soil percolation test.

### WATER PURVEYOR

New dwellings [or an additions over 1,000 sq. ft. (186 sq. m) located in a fire hazardous area] may require a Water Certificate from the local water



purveyor certifying that it can supply the water necessary for fire fighting purposes. Contact local Building and Safety office for the address and phone number of local water purveyor.

### LOCAL SCHOOL DISTRICT

Depending on the local school district, a payment of "Developer Fees" may be required for new dwelling units and/or some additions prior to issuance of a building permit. Contact local Building and Safety office for requirements and school district address for payment of fee.

### LOS ANGELES COUNTY PUBLIC LIBRARY FACILITIES MITIGATION FEE

For development projects in the unincorporated areas served by the County Public Library, developers will be required to pay a fee on each new residential unit prior to building permit issuance.

### LOS ANGELES COUNTY SANITATION DISTRICTS

Payment of Sewer Connection Fee is required when any site connects to the public sewerage system for the *first time* or when any existing building undergoes a change in use.

### STATE OF CALIFORNIA

#### *Coastal Commission*

All new construction and some additions and alterations which occur in the "Coastal Zone" require a permit from the Coastal Commission prior to issuance of the building permit. The Coastal Zone boundary varies between 1,000 yards (914 m) to 5 miles (8 km) inland from mean high tide. If you are not sure whether your site is in the Coastal Zone, contact your local Building and Safety office or the Coastal Commission for assistance.

#### *Cal-Trans*

Any work proposed within the State highway right-of-way requires a permit from the State Department of Transportation.

#### *Department of Conservation*

#### *Division of Oil, Gas, and Geothermal Resources*

Clearance is required if the proposed dwelling is located within 100 feet (30 m) of an active, idle or abandoned oil or gas well.

### BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES

Stormwater pollution is a major source of water pollution in California. It can cause declines in fisheries, disrupt habitats, and limit water recreation activities. Even more importantly, stormwater pollution poses a serious threat to the overall health of the ecosystem.



Common sources of pollutants from construction sites include: sediments from soil erosion; construction materials and waste (e.g., paint, solvents, concrete, drywall); and landscaping runoff containing fertilizers and pesticides; and spilled oil, fuel, and other fluids from construction vehicles and heavy equipment.

To keep pollutants away from the Los Angeles County storm drain systems, all construction sites are required to implement a practice of the minimum standards of good housekeeping, which are detailed in the California Storm Water Best Management Practices Handbook.

Your local Building and Safety Division office has information on how you can practice best management during your construction project.



## INSPECTIONS

All construction of work for which a permit is required shall be subject to intermittent inspection by the Building Official. The Building Inspector checks the work to verify that the work is being done in compliance with the approved plans, specifications and any applicable ordinances of other agencies. The inspection record card shall be maintained in a conspicuous place on the premises until final approval has been signed off by the Building Inspector. After satisfactory completion of construction work, an official Certificate of Occupancy can be issued upon request.

### INSPECTION REQUESTS

Request for inspection should be placed with the local Building and Safety office the day before inspection is desired. Inspection requests may be called in any time during regular office hours (some offices have an off-hours request answering machine). In general, Building Inspectors may be contacted directly in the local District office prior to 9:30 a.m.

### REQUIRED INSPECTIONS

The Building Official, upon request from the permit holder or his/her agent, shall make the following inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or his/her agent in writing where the construction fails to comply with the Code or approved plans:

#### **A. Foundation**

When excavations for footings are complete, footing forms and reinforcing steel are in place, all structural embedments are in place, and all materials for the foundation are delivered to the job site (except transit-mixed concrete), but before any concrete is placed.

#### **B. Concrete Slab or Under-floor**

When all in-slab or under-floor electrical conduit, piping, mechanical ductwork and other ancillary equipment items are in place, but before any concrete is poured or floor sheathing is installed, including the subfloor.

#### **C. Frame**

1. When all the floor, wall and roof framing, joist and fire blocking, floor and roof sheathing, and plywood shear wall bracing are in place and nailed, but before covering with finish materials, and when all pipes, chimneys, vents and ductwork are in place.
2. When all rough electrical wiring, plumbing piping, and heating ductwork are installed.

#### **D. Thermal Insulation**

When all thermal insulation is installed in required walls, floors and attic/ceiling spaces, but before any of the work is concealed.

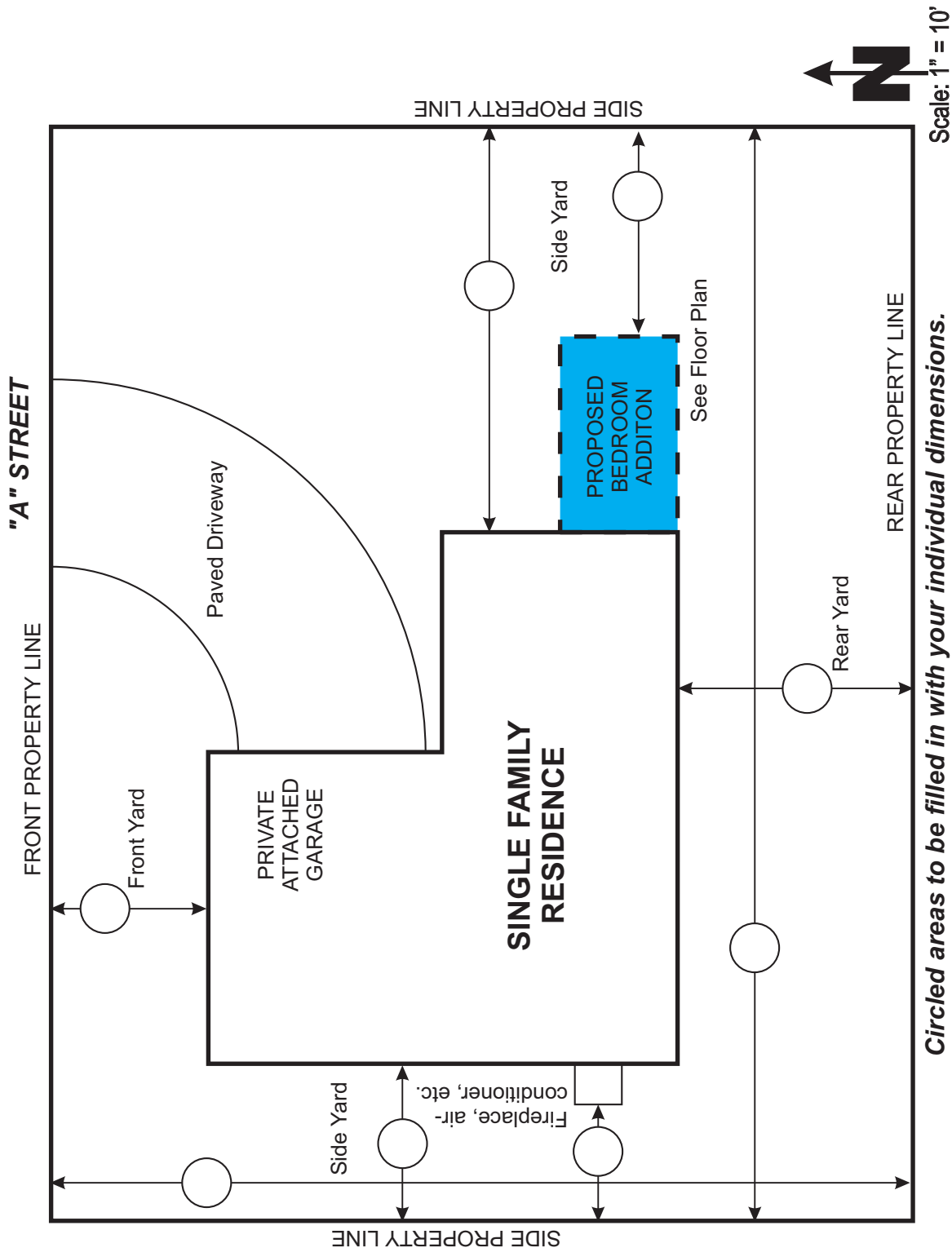
#### **E. Stucco Lath and/or Gypsum Board**

When all lathing and gypsum board, whether interior or exterior, is in place, but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

#### **F. Final Inspection**

1. When all electrical and plumbing fixtures and heating/cooling equipment are in place and are operational.
2. When the finish grading is completed.
3. When the construction work is completed, the dwelling secure and ready for occupancy.

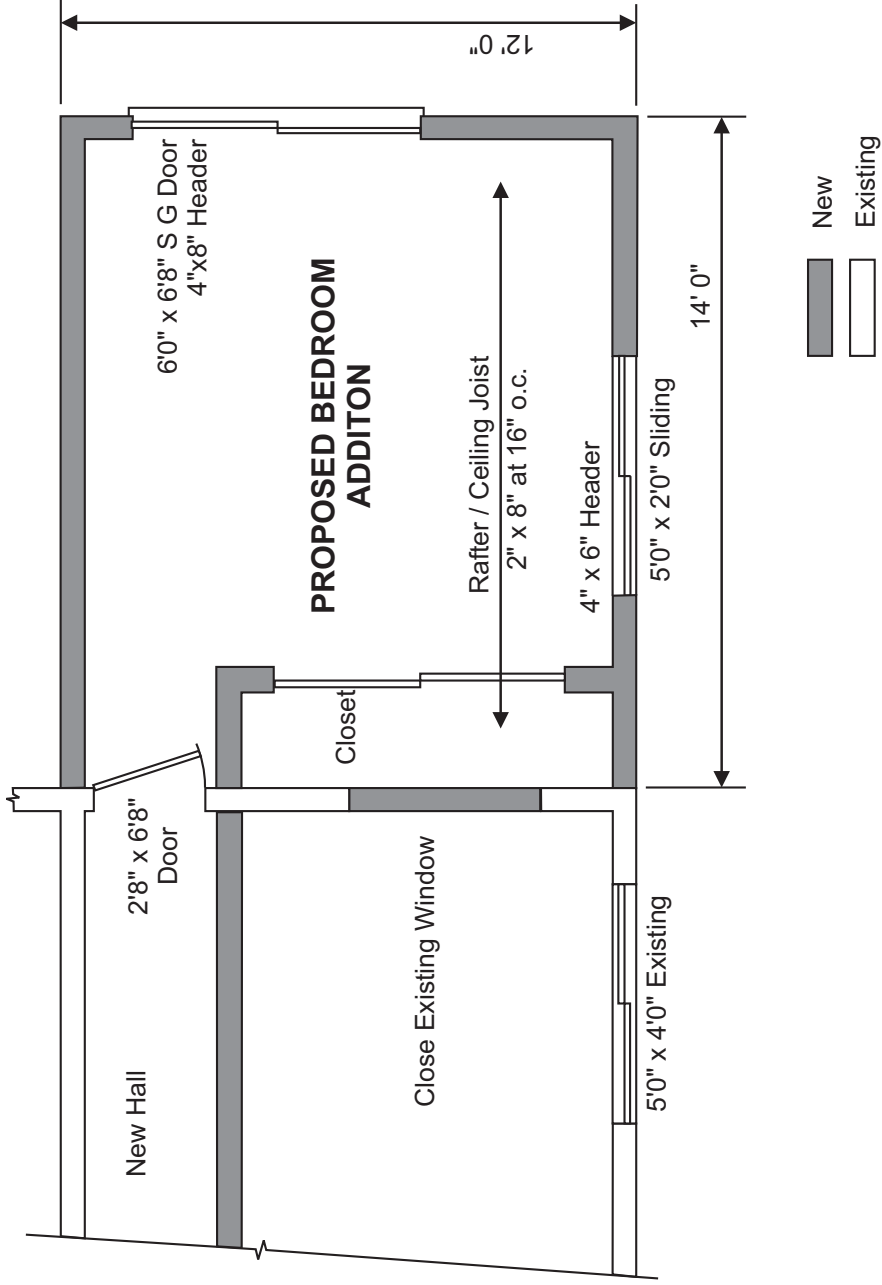
In addition to the inspections above, the Building Official may require other inspections as deemed necessary. Investigations and reports by an approved soil testing firm, consultant geotechnologist/geologist, or "deputy inspector" may also be required.



*Circled areas to be filled in with your individual dimensions.*

**SAMPLE PLOT PLAN**

(See Minimum Plan Submittal Requirements handout for additional information)



**SAMPLE FLOOR PLAN FOR BEDROOM ADDITION**

Scale: 1/4" = 1'



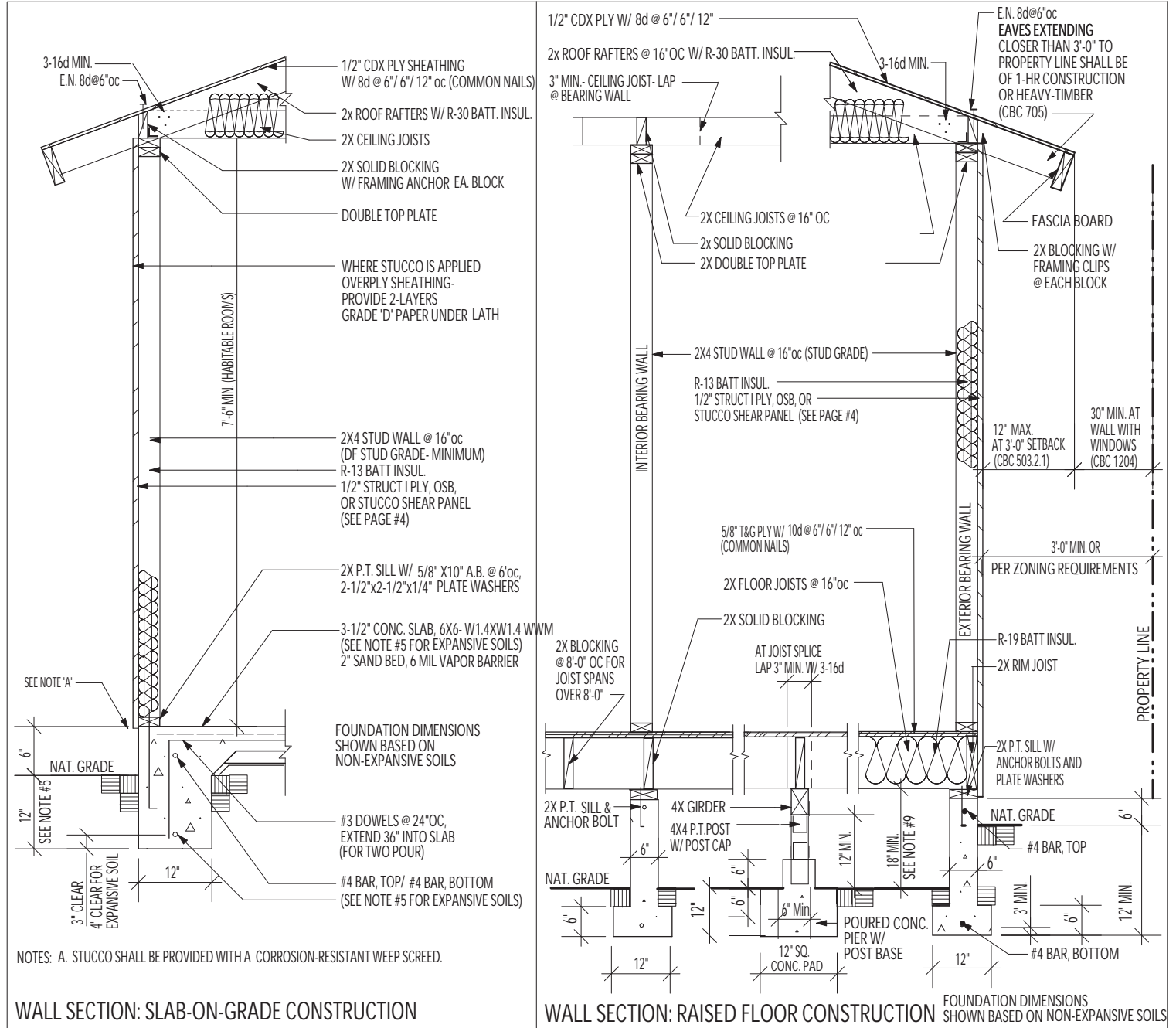


# LOS ANGELES REGIONAL UNIFORM CODE PROGRAM

TYPE V CONSTRUCTION - WOOD FRAME RESIDENTIAL BUILDINGS  
(CBC CHAPTER 23, DIV IV, SEC. 2320) ONE-STORY CONSTRUCTION



TYPE V CONSTRUCTION IS A CLASSIFICATION OF BUILDINGS BY CONSTRUCTION MATERIALS AND METHODS. IT IS THE LEAST RESTRICTIVE PERMITTED BY THE UNIFORM BUILDING CODE AND INCLUDES LIGHT, WOOD-FRAME CONSTRUCTION. THIS SHEET IS FOR INFORMATION AND REFERENCE ONLY AND IS NOT A SUBSTITUTE FOR ACCURATE DRAWINGS PREPARED FOR EACH PROPOSED CONSTRUCTION PROJECT.



- Notes:
1. Anchor bolts: 5/8"x10" embedded 7" and spaced 6'-0" oc with 2-1/2"x2-1/2"x1/4" plate washers, with minimum 2 anchor bolts per piece, located not more than 12" or less than 7 bolt diameters from each end of the piece.
  2. All foundation plates or sills and sleepers on a concrete or masonry slab, which is in direct contact with earth, and sills that rest on concrete or masonry foundations, shall be pressure treated wood.
  3. Minimum Concrete Strength: 2500 psi.
  4. Bearing walls and braced wall panels require continuous footings.
  5. FOR EXPANSIVE SOIL: Refer to local jurisdiction requirements.
  6. Where interior walls are shear wall panels, wall framing and sheathing shall extend to the roof sheathing.
  7. Under floor areas shall be ventilated by approved mechanical means or by openings into the under-floor area walls. Such openings shall have a net area of not less than 1 square foot for each 150 square feet of under-floor area. Openings shall be located as close as possible to corners and provide cross ventilation. The openings shall be approximately equally distributed along the length of at least two sides. Corrosion resistant mesh w/ Minimum 1/4" openings.
  8. Enclosed attics and enclosed rafter spaces shall have cross ventilation for each separate space. The net free ventilating area shall not be less than 1/150 of the area of the space ventilated. The openings may be 1/300 of the area provided 50% of the opening area is provided with ventilators in the upper portion at least 3' above the eave or cornice with the balance of the ventilators provided by eave or cornice vents. Provide baffles to prevent attic insulation from blocking eave vents. (CBC 1505.3)
  9. For stem walls greater than 24" high: Refer to local jurisdiction requirements.
  10. For Fire Zone 4 and Very High Fire Hazard Zone: Refer to local jurisdiction requirements.

ALLOWABLE SPANS FOR DF #2 ROOF RAFTERS (DF-LARCH) Light Dead Load (up to 15 psf) Max. Roofing Load: 6 psf (Asphalt Shingles) Live Load: 20 psf			ALLOWABLE SPANS FOR DF #2 CEILING JOISTS (DF-LARCH) Dead Load: 10 psf/ Live Load: 10 psf			
RAFTER SIZE	SPACING	ALLOWABLE SPAN	JOIST SIZE	SPACING	ALLOWABLE SPAN	
			2x4	24" 16" 12"	9'-10" 11'-3" 12'-5"	
2x6	24" 16" 12"	8'-8" 10'-8" 12'-4"	2x6	24" 16" 12"	15'-6" 17'-8" 19'-6"	
2x8	24" 16" 12"	11'-0" 13'-5" 15'-6"	2x8	24" 16" 12"	20'-5" 23'-4" 25'-8"	
2x10	24" 16" 12"	14'-0" 17'-2" 19'-10"	2x10	12"	26'-0"	
2x12	24" 16" 12"	17'-0" 20'-10" 24'-1"				

ALLOWABLE SPANS FOR DF #2 FLOOR JOISTS (DF-LARCH) Light Dead Load (up to 10 psf) Max. Flooring Load: 1.5 psf (Carpet or Vinyl) Live Load: 40 psf			ALLOWABLE SPANS FOR DF #1 FLOOR GIRDERS (DF-LARCH) Max. Floor Dead Load: 15 psf Max. Tributary Width: 8'-0"			ALLOWABLE SPANS FOR DF #1 HEADERS (DF-LARCH) Maximum span of tributary load: 20'-0"	
JOIST SIZE	SPACING	ALLOWABLE SPAN	SPAN		GIRDER SIZE	SPAN	BEAM SIZE
			PARTITIONS	NO PARTITIONS		Up to 4'-0"	4x4
2x6	24" <sup>**</sup> 16" 12"	8'-6" 9'-9" 10'-9"	5'-3"	5'-8"	4x6	4'-1" to 6'-0"	4x6
2x8	24" <sup>**</sup> 16" 12"	11'-3" 12'-10" 14'-2"	6'-10"	7'-4"	4x8	6'-1" to 8'-0"	4x8
2x10	24" <sup>**</sup> 16" 12"	14'-4" 16'-5" 17'-4"				8'-1" to 10'-0"	4x10
2x12	24" <sup>**</sup> 16" 12"	17'-5" 19'-11" 21'-11"				10'-0" to 12'-0"	4x12 <sup>*</sup>

\* 4x12 DF No.1 may be used over a 16'-0" garage door in one-story garages without ceilings or open patio or carport structures.

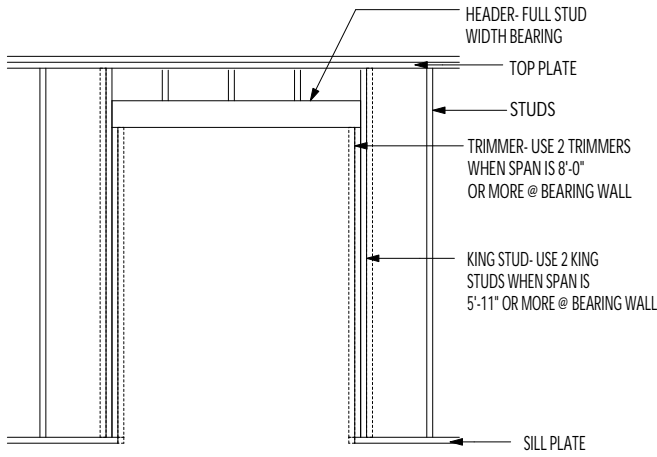
**ALLOWABLE SPANS FOR PLYWOOD OR OSB FLOOR AND ROOF SHEATHING CONTINUOUS OVER TWO OR MORE SPANS-PERPENDICULAR TO SUPPORTS**

NOTE: APPLIES TO PANELS 24" OR WIDER (UBC SEC. 2312)

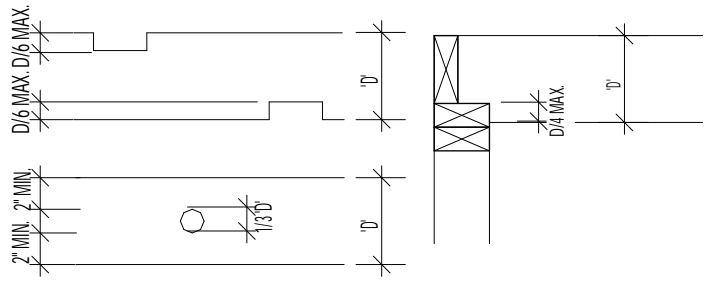
SHEATHING GRADES		ROOF				FLOOR
SPAN RATING	SPAN THICKNESS	MAX. SPAN (IN)		LOADS (PSF)		MAX. SPAN (IN)
Roof/Floor Span		EDGE SUPPORT (2X BLOCKING)	NO EDGE SUPPORT FOR 1/2", MAX. SPAN +24"	TOTAL LOAD	LIVE LOAD	Panel edges with tongue and groove joints or with blocking
24/0	7/16, 1/2	24	20	40	30	
24/16	7/16, 1/2	24	24	50	40	16
32/16	15/32, 1/2, 5/8	32	28	40	30	16
40/20	19/32, 5/8, 3/4, 7/8	40	32	40	30	20
48/24	23/32, 3/4, 7/8	48	36	45	35	24

**NAILING SCHEDULE (CBC TABLE 23-II-B-1)**

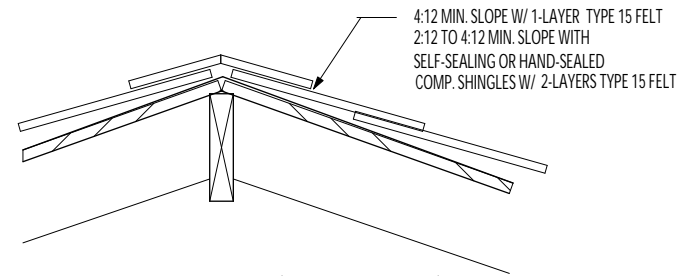
JOIST TO SILL OR GIRDER, TOE NAIL	3-8d
BRIDGING TO JOIST, TOENAIL EACH END	2-8d
SOLE PLATE TO JOIST OR BLOCKING, TYPICAL FACE NAIL	16d @ 16" oc
SOLE PLATE TO JOIST OR BLOCKING, AT BRACED WALL PANELS	3-16d per 16"
TOP PLATE TO STUD, END NAIL	2-16d
STUD TO SOLE PLATE	4-8d, TOENAIL, OR 2-16d, END NAIL
DOUBLE STUDS, FACE NAIL	16d @ 24" oc
DOUBLE TOP PLATES, TYPICAL FACE NAIL	16d @ 16" oc
DOUBLE TOP PLATES, LAP SPLICE	8-16d
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOENAIL	3-8d
RIM JOIST TO TOP PLATE, TOENAIL	8d @ 6" oc
TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL	2-16d
CEILING JOISTS TO PLATE, TOENAIL	3-8d
CONTINUOUS HEADER TO STUD, TOENAIL	4-8d
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	3-16d
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3-16d
RAFTER TO PLATE, FACE NAIL	3-8d
BUILT-UP CORNER STUDS	16d @ 24" oc
2" PLANKS	2-16d @ EACH BEARING



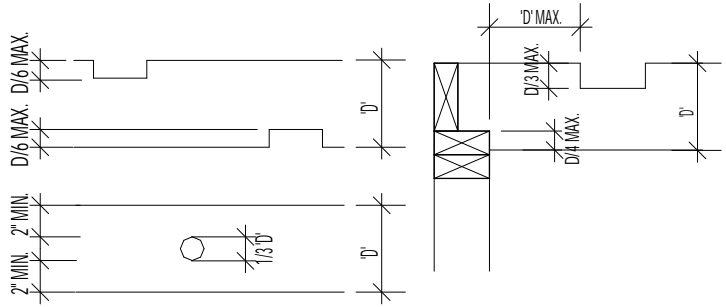
HEADER/ LINTEL (CBC 2320.11.6)



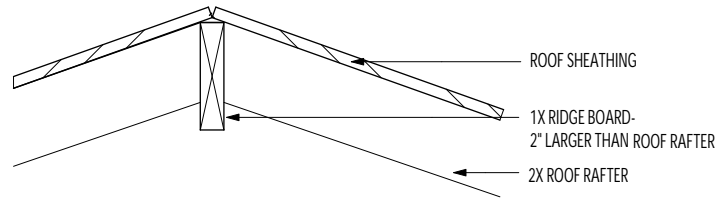
NOTCHING & BORING FLOOR JOISTS  
(NOTCHING NOT PERMITTED IN MIDDLE 1/3 OF JOIST SPAN)



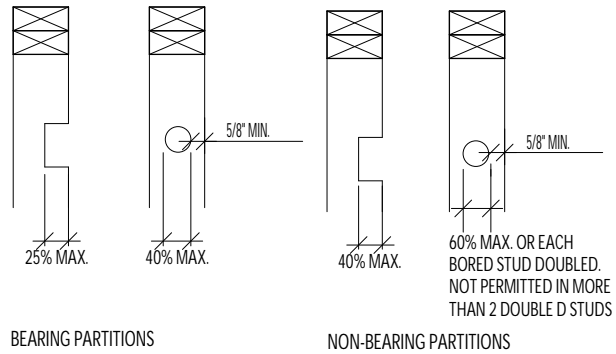
ROOF SLOPE- COMP SHINGLES (CBC TABLE 15-B-1)



NOTCHING & BORING RAFTERS & CEILING JOISTS  
(NOTCHING NOT PERMITTED IN MIDDLE 1/3 OF RAFTER OR JOIST SPAN)



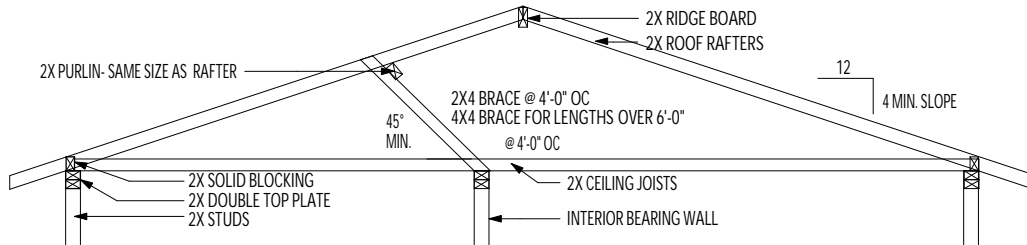
RIDGE (CBC 2320.12.3)



BEARING PARTITIONS

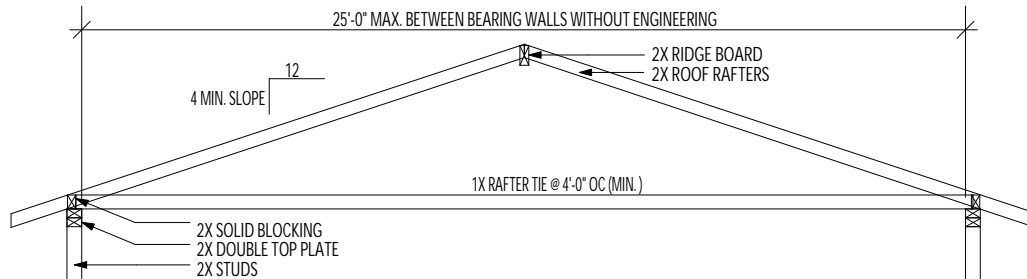
NON-BEARING PARTITIONS

NOTCHING & BORING:  
WALL STUDS (CBC 2320.11.9/ 2320.11.10),  
RAFTERS/CEILING JOISTS (CBC 2320.12.4)  
FLOOR JOISTS (CBC 2320.8.3)

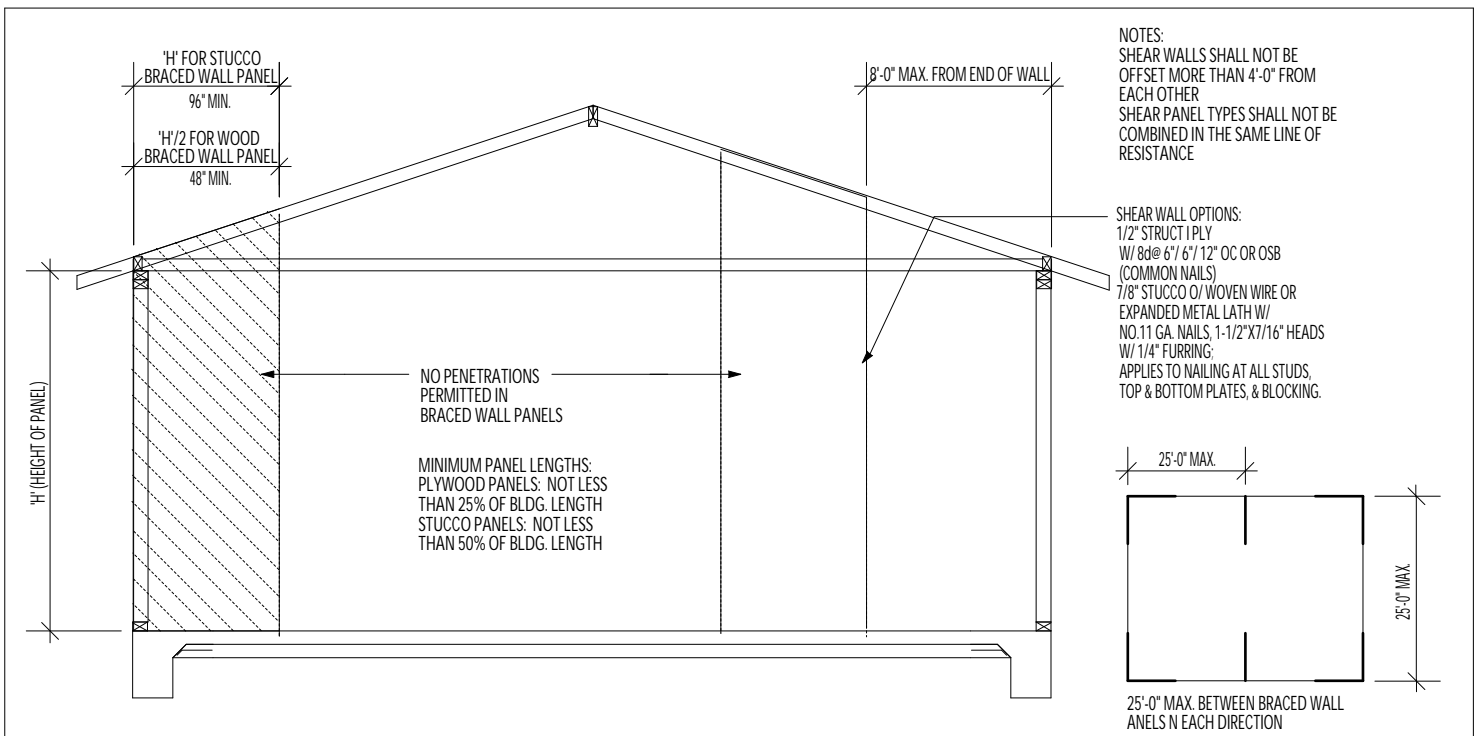


PURLINS (CBC 2320.12.7)

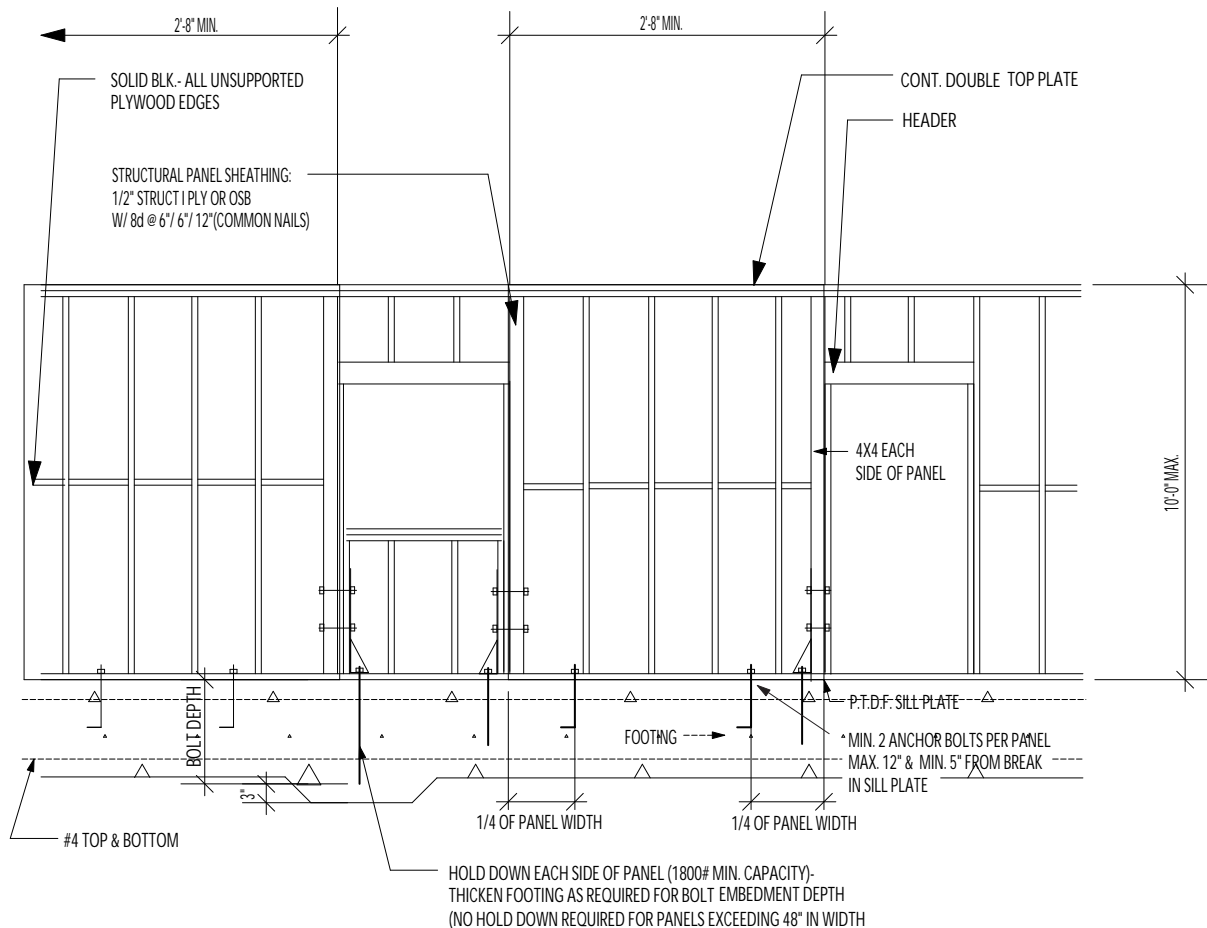
(FOR ROOF PITCH NOT LESS THAN 4 VERTICAL TO 12 HORIZONTAL)



RAFTER TIES (CBC 2320.12.6)



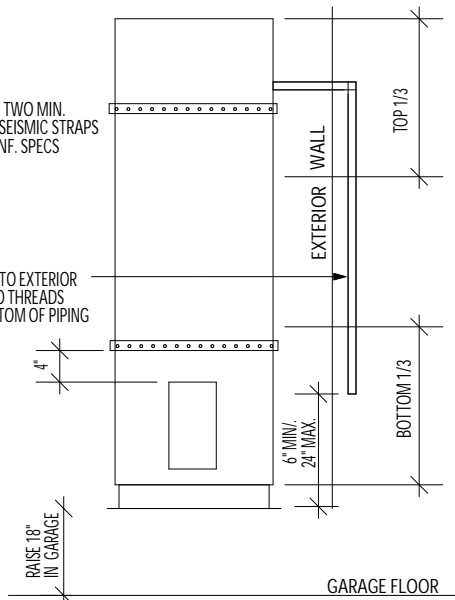
STANDARD BRACED WALL PANELS (CBC 2320.11.3)



ALTERNATE BRACED WALL PANEL (CBC 2320.11.4 AS AMENDED BY LARUCP)-  
 1-STORY, 'U' OCCUPANCY ONLY (PRIVATE GARAGES, SHEDS, & AGRICULTURAL BUILDINGS)

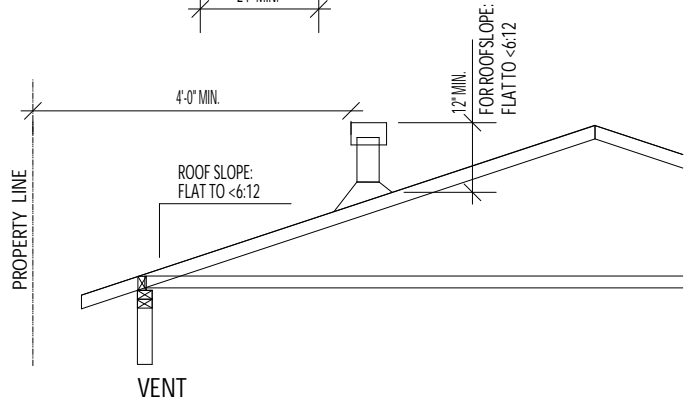
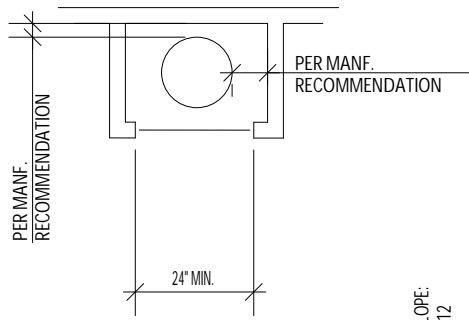
SEISMIC STRAPS: TWO MIN. DSA APPROVED SEISMIC STRAPS APPLIED PER MANF. SPECS

T&P VALVE PIPED TO EXTERIOR 3/4" MIN. PIPE. NO THREADS ALLOWED IN BOTTOM OF PIPING

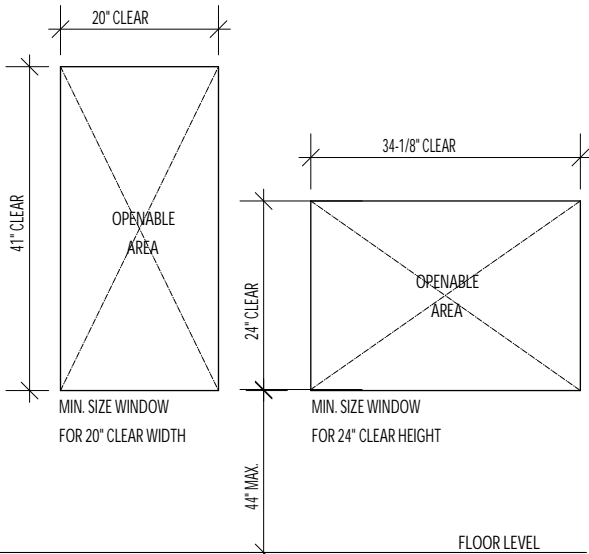


**WATER HEATERS**

NOTE:  
NO GAS-FIRED WATER HEATER ALLOWED IN BEDROOMS, BATHROOMS, CLOTHES CLOSETS, OR ANY SPACE OPENING INTO A BEDROOM OR BATHROOM.



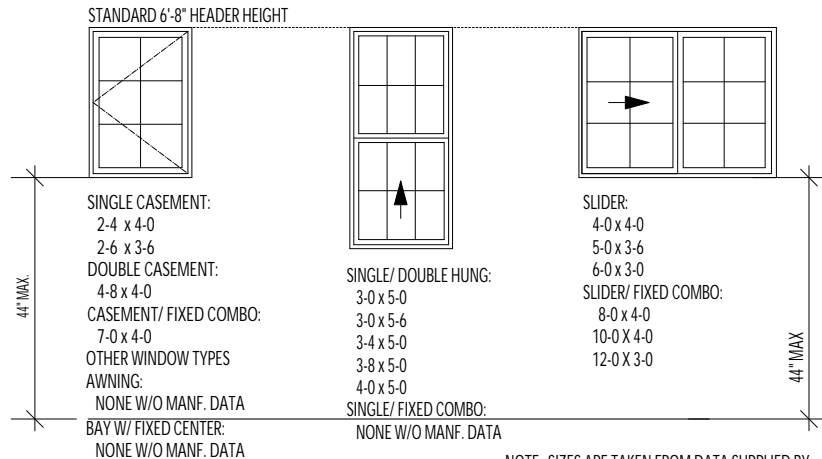
**VENT**



1. 20" MIN. CLEAR WIDTH
2. 24" MIN. CLEAR HEIGHT
3. 5.7 SF MIN. OPENABLE AREA

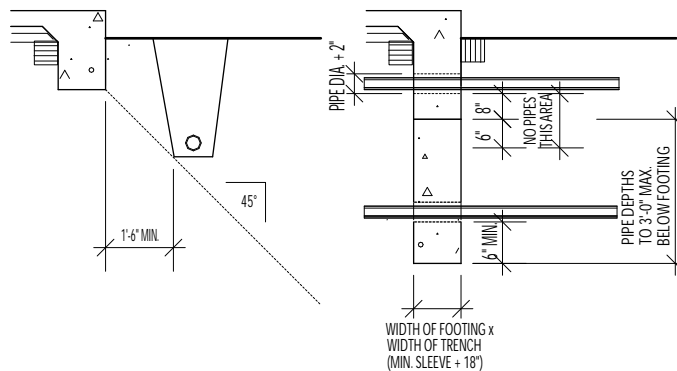
**EMERGENCY ESCAPE/ EXIT WINDOW (CBC 310.4)**

THE FOLLOWING WINDOW SIZES WILL BE THE MINIMUM ALLOWED FOR EGRESS UNLESS MANF. DATA IS SUPPLIED

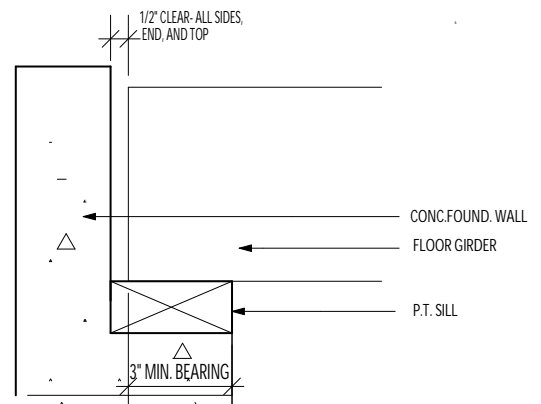


NOTE: SIZES ARE TAKEN FROM DATA SUPPLIED BY WINDOW MANUFACTURERS, HOWEVER THESE ARE GENERAL DIMENSIONS. IT IS THE OWNERS RESPONSIBILITY TO VERIFY THAT THE ACTUAL WINDOWS INSTALLED MEET THE MINIMUM EGRESS REQUIREMENTS.

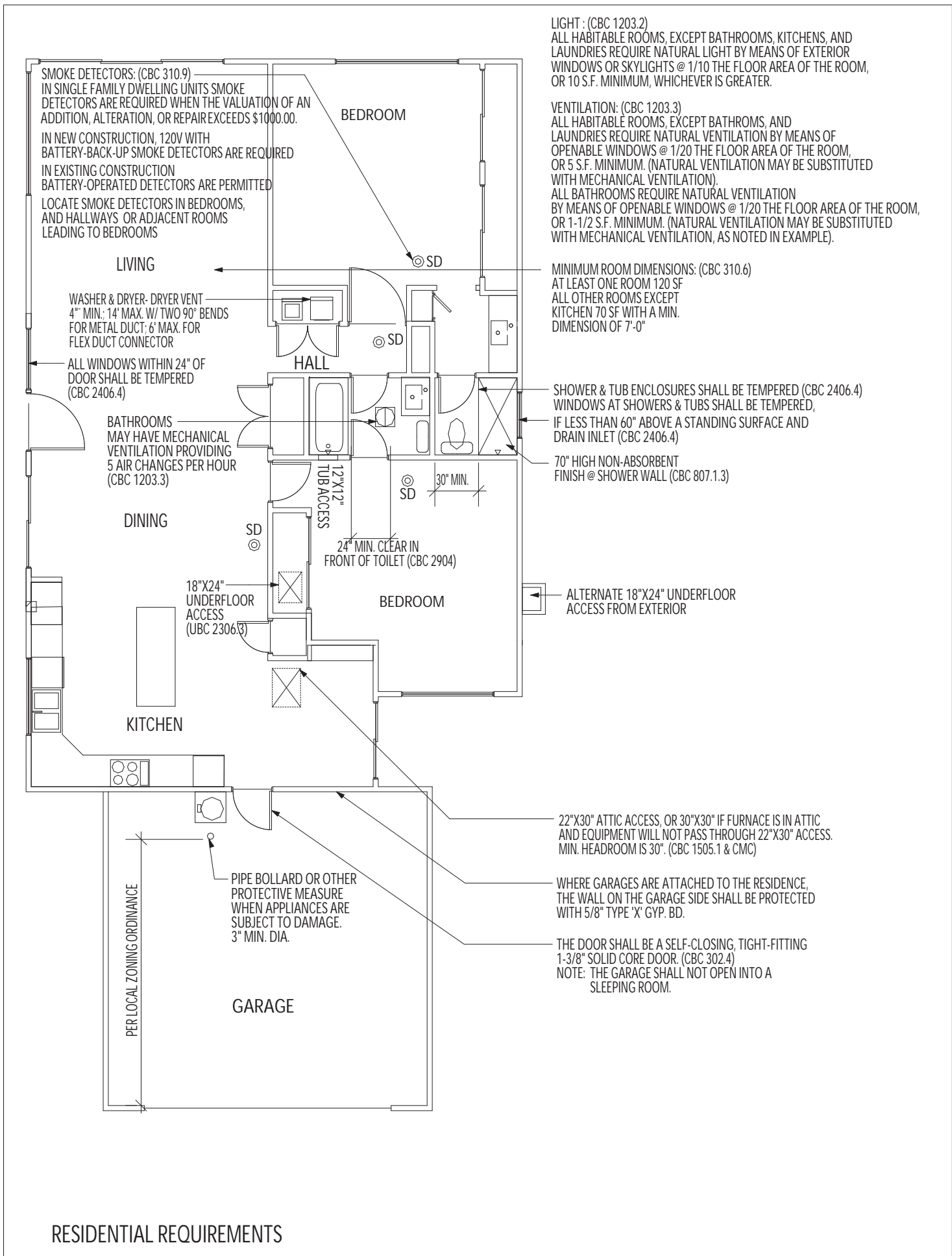
**EMERGENCY ESCAPE/ EXIT WINDOW (CBC 310.4)**



**TRENCHES AT FOOTINGS**



**GIRDER (CBC 2320.7/ 2306.6)**



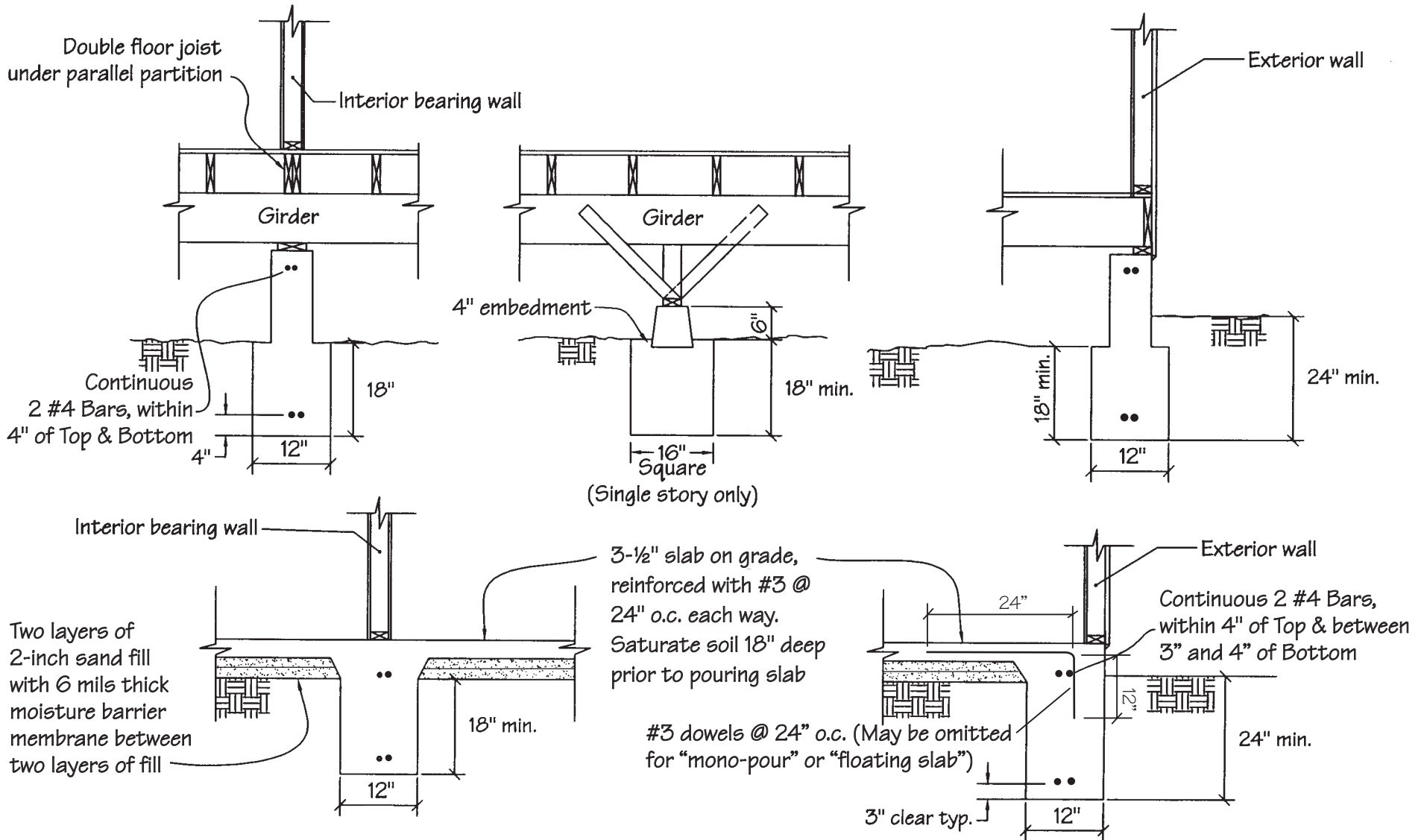
**LIGHT:** (CBC 1203.2)  
 ALL HABITABLE ROOMS, EXCEPT BATHROOMS, KITCHENS, AND LAUNDRIES REQUIRE NATURAL LIGHT BY MEANS OF EXTERIOR WINDOWS OR SKYLIGHTS @ 1/10 THE FLOOR AREA OF THE ROOM, OR 10 S.F. MINIMUM, WHICHEVER IS GREATER.

**VENTILATION:** (CBC 1203.3)  
 ALL HABITABLE ROOMS, EXCEPT BATHROOMS, AND LAUNDRIES REQUIRE NATURAL VENTILATION BY MEANS OF OPENABLE WINDOWS @ 1/20 THE FLOOR AREA OF THE ROOM, OR 5 S.F. MINIMUM. (NATURAL VENTILATION MAY BE SUBSTITUTED WITH MECHANICAL VENTILATION).  
 ALL BATHROOMS REQUIRE NATURAL VENTILATION BY MEANS OF OPENABLE WINDOWS @ 1/20 THE FLOOR AREA OF THE ROOM, OR 1-1/2 S.F. MINIMUM. (NATURAL VENTILATION MAY BE SUBSTITUTED WITH MECHANICAL VENTILATION, AS NOTED IN EXAMPLE).

**MINIMUM ROOM DIMENSIONS:** (CBC 310.6)  
 AT LEAST ONE ROOM 120 SF  
 ALL OTHER ROOMS EXCEPT KITCHEN 70 SF WITH A MIN. DIMENSION OF 7'-0"

# FOUNDATION SYSTEM ON EXPANSIVE SOIL

(Without a Geotechnical Report, per Sections 1803, 1804.4, 1806 and Table 18-1-C)

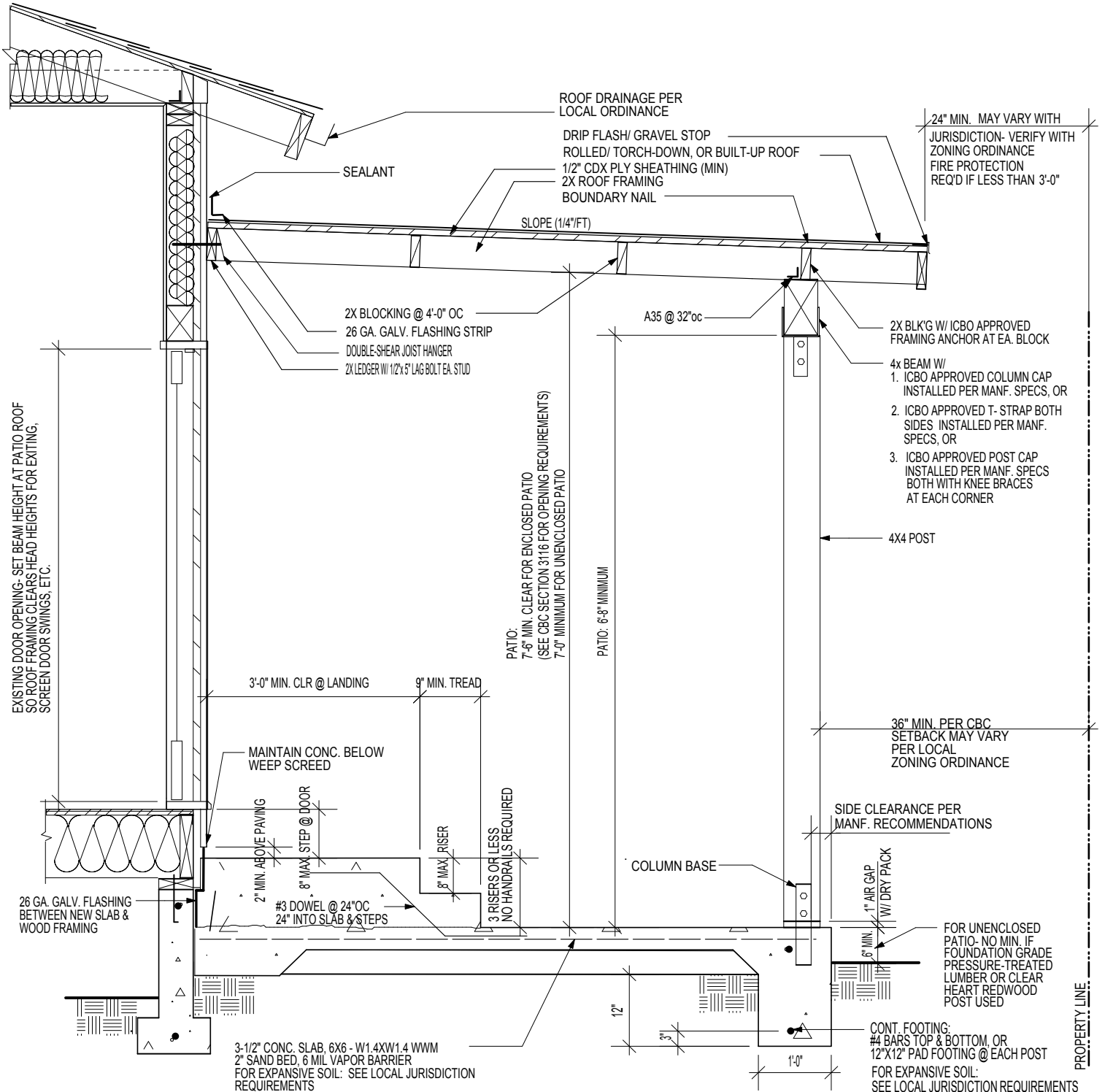


- Perimeter walls, interior bearing walls and posts supporting roofs shall be supported on continuous foundations.
- Dimensions not shown are the same as for non-expansive soil conditions

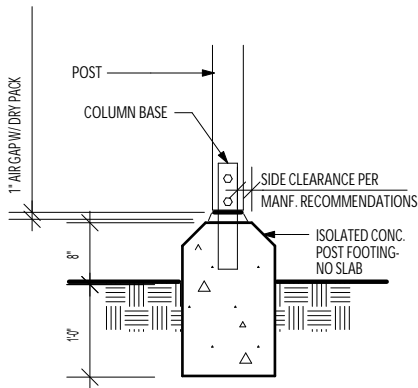


# LOS ANGELES REGIONAL UNIFORM CODE PROGRAM PATIO COVER

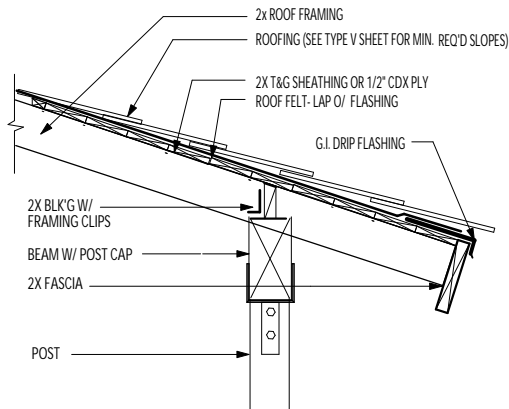
TYPE V CONSTRUCTION- WOOD FRAME RESIDENTIAL BUILDINGS  
(CBC CHAPTER 23, DIV IV, SEC. 2320) ONE-STORY CONSTRUCTION



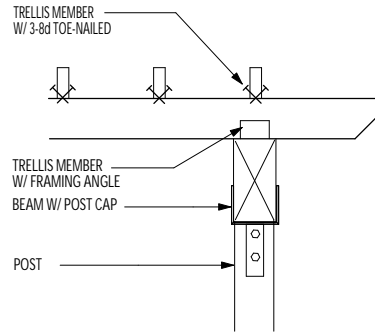




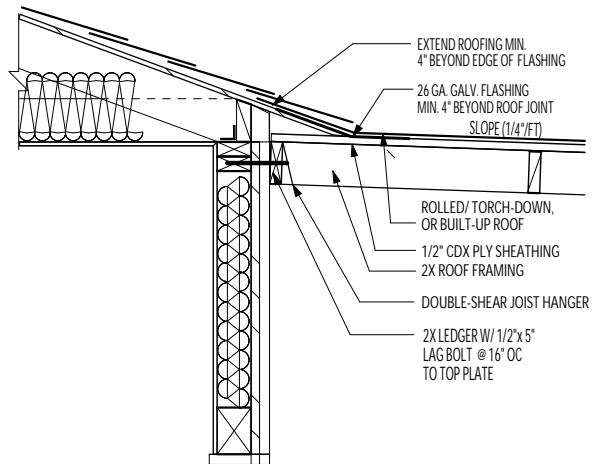
**ALT. FOOTING DETAIL**



**ALTERNATE EAVE DETAIL**



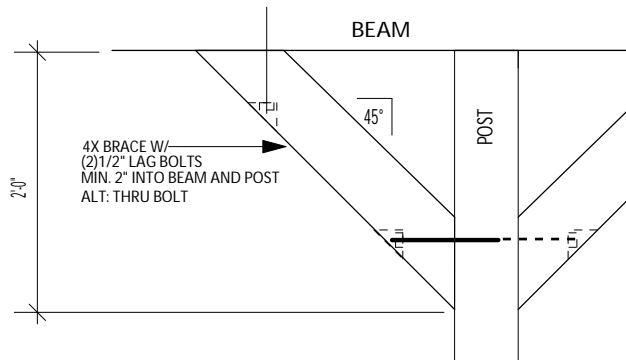
**TRELLIS DETAIL**



**ALTERNATE CONNECTION DETAIL**

ALLOWABLE SPANS FOR DF #1 HEADERS Maximum span of tributary load: 20'-0"	
SPAN	BEAM SIZE
Up to 4'-0"	4x4
4'-1" to 6'-0"	4x6
6'-1" to 8'-0"	4x8
8'-1" to 10'-0"	4x10
10'-0" to 12'-0"	4x12"

\* 4x12 DF No.1 may be used over a 16'-0" garage door in one-story open patio or carport structures.



**KNEE BRACE DETAIL**

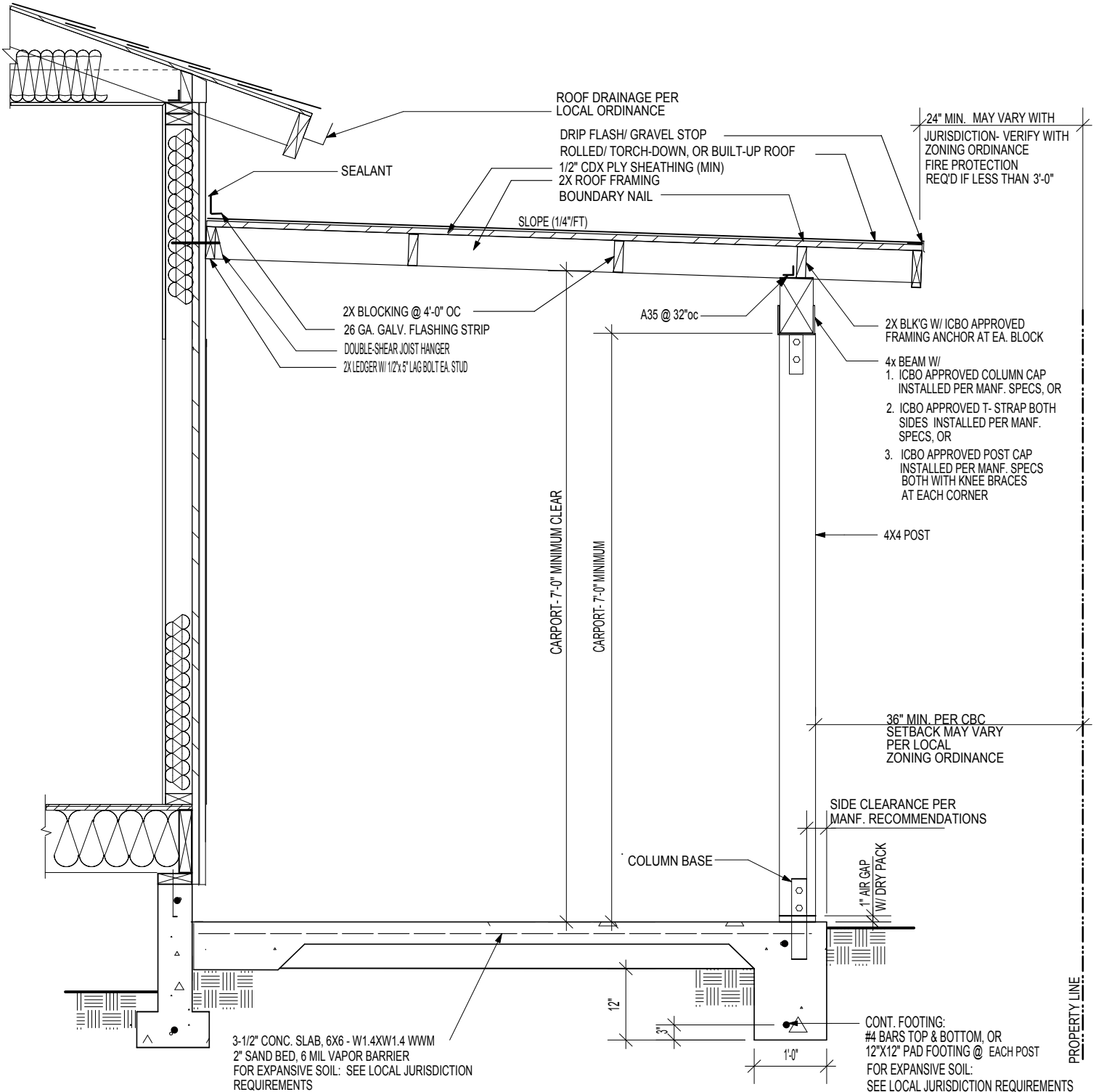
ALLOWABLE SPANS FOR DF #2 ROOF RAFTERS Light Dead Load (up to 15 psf)/ Max. Roofing Load: 6 psf (Asphalt Shingles) Live Load: 20 psf			ALLOWABLE SPANS FOR DF #2 CEILING JOISTS Dead Load: 10 psf/ Live Load: 10 psf			
RAFTER SIZE	SPACING	ALLOWABLE SPAN	JOIST SIZE	SPACING	ALLOWABLE SPAN	
2x6	24"	8'-8"	2x4	24"	9'-10"	
	16"	10'-8"		16"	11'-3"	
	12"	12'-4"		12"	12'-5"	
2x8	24"	11'-0"	2x6	24"	15'-6"	
	16"	13'-5"		16"	17'-8"	
	12"	15'-6"		12"	19'-6"	
2x10	24"	14'-0"	2x8	24"	20'-5"	
	16"	17'-2"		16"	23'-4"	
	12"	19'-10"		12"	25'-8"	
2x12	24"	17'-0"	2x10	12"	26'-0"	
	16"	20'-10"				
	12"	24'-1"				

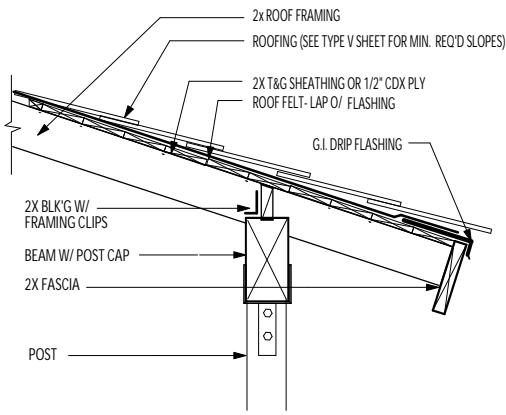
TYPE V CONSTRUCTION IS A CLASSIFICATION OF BUILDINGS BY CONSTRUCTION MATERIALS AND METHODS. IT IS THE LEAST RESTRICTIVE PERMITTED BY THE UNIFORM BUILDING CODE AND INCLUDES LIGHT, WOOD-FRAME CONSTRUCTION. THIS SHEET IS FOR INFORMATION AND REFERENCE ONLY AND IS NOT A SUBSTITUTE FOR ACCURATE DRAWINGS PREPARED FOR EACH PROPOSED CONSTRUCTION PROJECT.



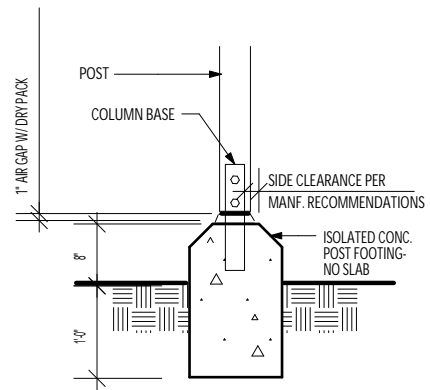
# LOS ANGELES REGIONAL UNIFORM CODE PROGRAM CARPORT

TYPE V CONSTRUCTION- WOOD FRAME RESIDENTIAL BUILDINGS  
(CBC CHAPTER 23, DIV IV, SEC. 2320) ONE-STORY CONSTRUCTION

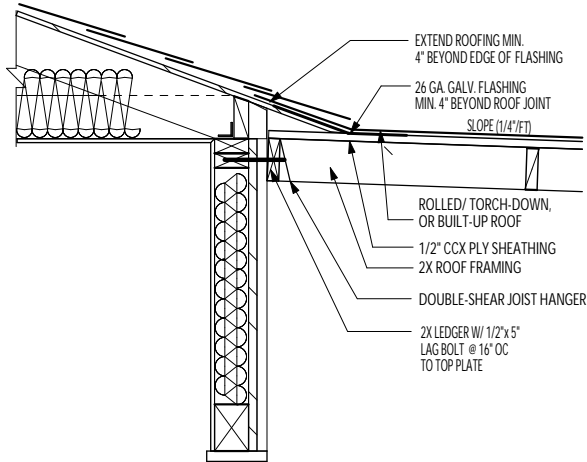




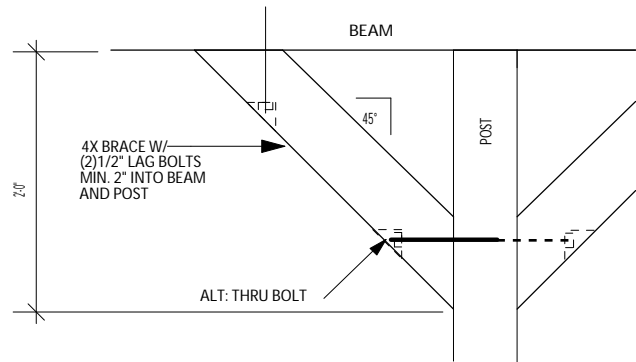
ALTERNATE EAVE DETAIL



ALT. FOOTING DETAIL



ALTERNATE CONNECTION DETAIL



KNEE BRACE DETAIL

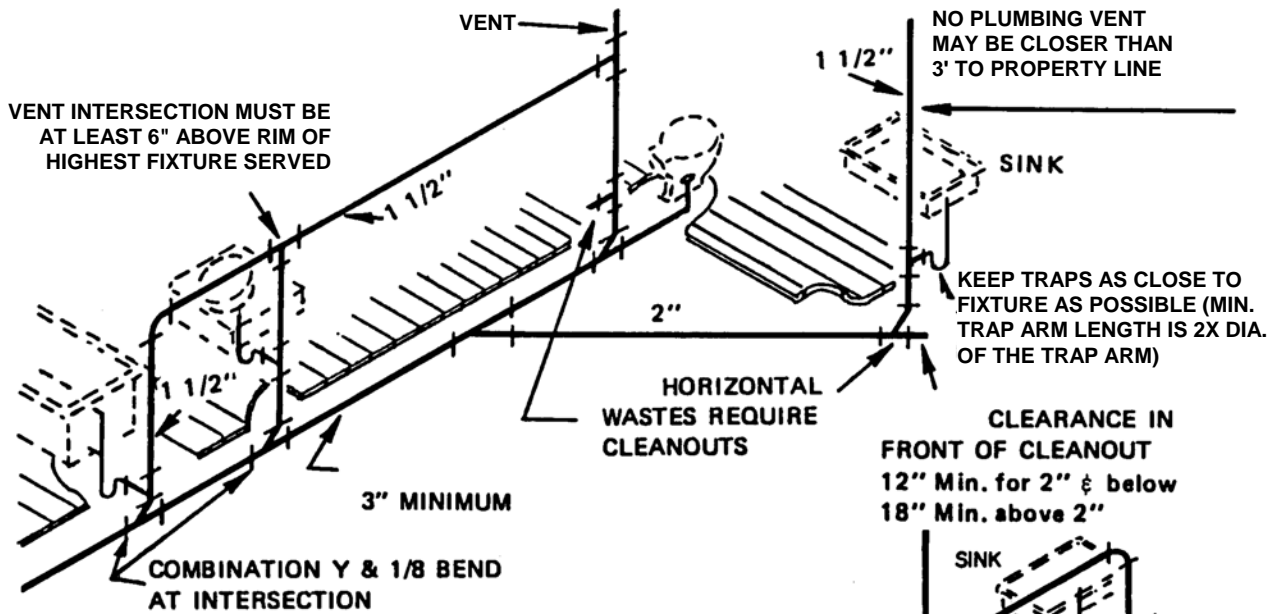
ALLOWABLE SPANS FOR DF#1 HEADERS	
Maximum span of tributary load: 20'-0"	
SPAN	BEAM SIZE
Up to 4'-0"	4x4
4'-1" to 6'-0"	4x6
6'-1" to 8'-0"	4x8
8'-1" to 10'-0"	4x10
10'-0" to 12'-0"	4x12*

\* 4x12 DF No.1 may be used over a 16'-0" garage door in one-story open patio or carport structures.

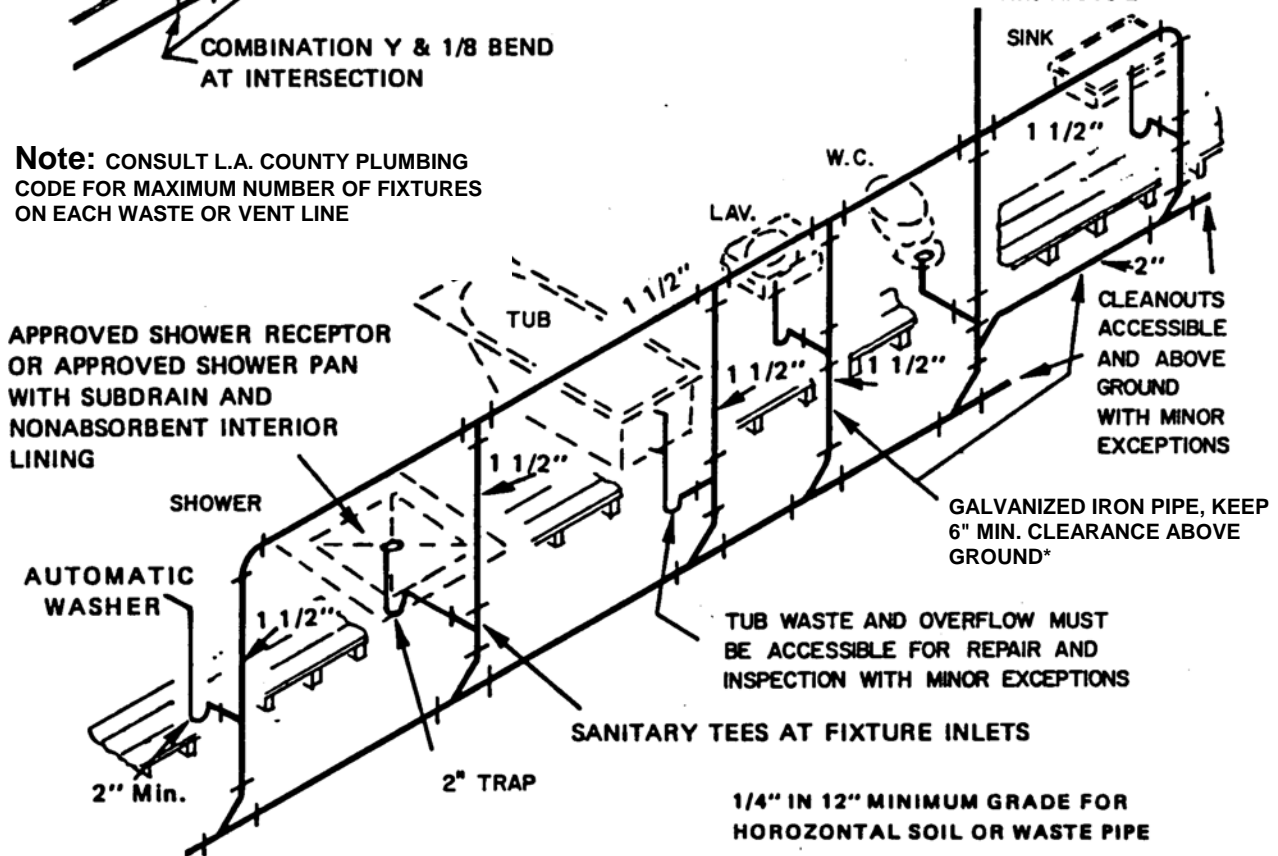
ALLOWABLE SPANS FOR DF #2 ROOF RAFTERS				ALLOWABLE SPANS FOR DF #2 CEILING JOISTS			
Light Dead Load (up to 15 psf)/ Max. Roofing Load: 6 psf (Asphalt Shingles)				Dead Load: 10 psf/ Live Load: 10 psf			
Live Load: 20 psf							
RAFTER SIZE	SPACING	ALLOWABLE SPAN		JOIST SIZE	SPACING	ALLOWABLE SPAN	
2x6	24"	8'-8"		2x4	24"	9'-10"	
	16"	10'-8"			16"	11'-3"	
	12"	12'-4"			12"	12'-5"	
2x8	24"	11'-0"		2x6	24"	15'-6"	
	16"	13'-5"			16"	17'-8"	
	12"	15'-6"			12"	19'-6"	
2x10	24"	14'-0"		2x8	24"	20'-5"	
	16"	17'-2"			16"	23'-4"	
	12"	19'-10"			12"	25'-8"	
2x12	24"	17'-0"		2x10	12"	26'-0"	
	16"	20'-10"					
	12"	24'-1"					

TYPE V CONSTRUCTION IS A CLASSIFICATION OF BUILDINGS BY CONSTRUCTION MATERIALS AND METHODS. IT IS THE LEAST RESTRICTIVE PERMITTED BY THE UNIFORM BUILDING CODE AND INCLUDES LIGHT, WOOD-FRAME CONSTRUCTION. THIS SHEET IS FOR INFORMATION AND REFERENCE ONLY AND IS NOT A SUBSTITUTE FOR ACCURATE DRAWINGS PREPARED FOR EACH PROPOSED CONSTRUCTION PROJECT.

# PLUMBING DETAILS



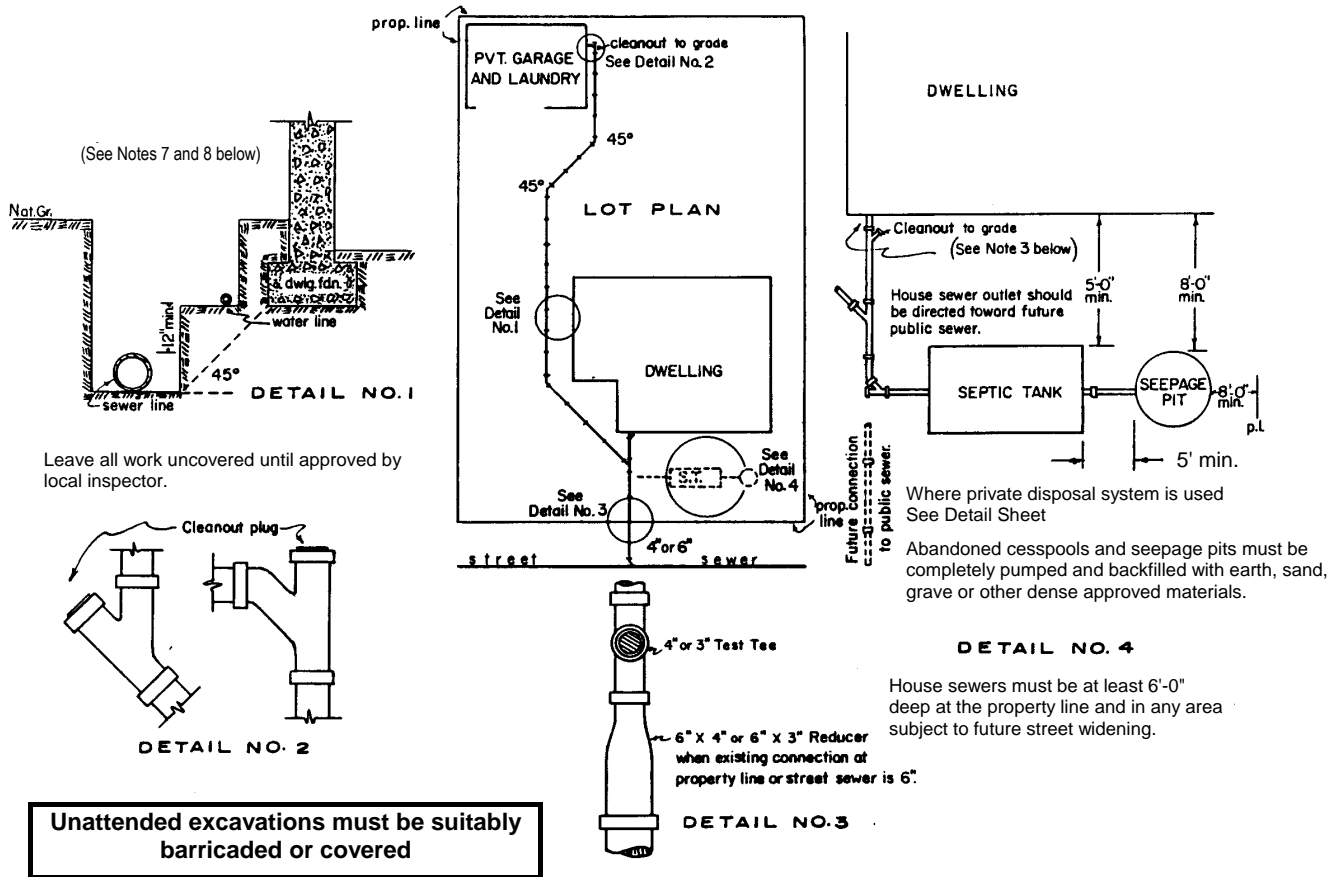
**Note:** CONSULT L.A. COUNTY PLUMBING CODE FOR MAXIMUM NUMBER OF FIXTURES ON EACH WASTE OR VENT LINE



FOR ADDITIONAL INFORMATION CONSULT WITH LOCAL INSPECTOR

\* ABS AND PVC DWV MAY BE USED FOR RESIDENTIAL CONSTRUCTION NOT MORE THAN TWO STORIES IN HEIGHT.

# HOUSE SEWERS



Unattended excavations must be suitably barricaded or covered

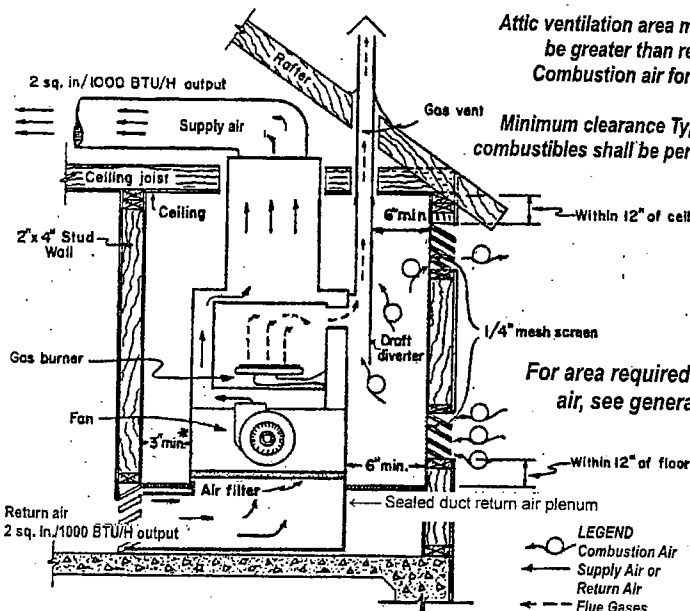
A permit must be obtained before commencing any house sewer disposal system construction. The legal description of the property to be connected will be necessary when applying for permission to connect to a public sewer. Consult your local building & safety office concerning approved materials and for any additional help or information.

## NOTES

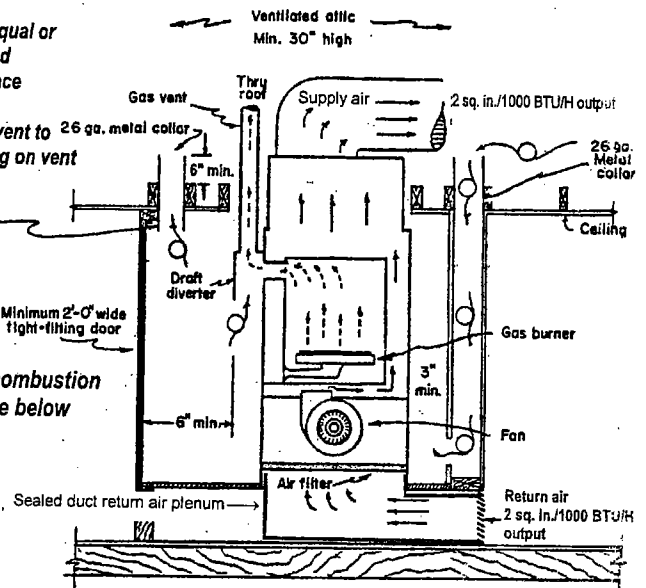
House sewers shall:

1. Be located only on the lot which they serve.
2. Be 3" minimum diameter and 12" below ground if nonmetallic.
3. Not be joined by means of cement mortar joints.
4. Be supported on a firm bed throughout their entire length.
5. Have a 3" per foot slope toward the street sewer or septic tank.
6. Be provided with a cleanout at their upper terminal, at each aggregate change in direction exceeding 135° and at intervals of not to exceed 100'-0" in straight runs.
7. Not be located in the same ditch with domestic water piping unless the water piping rest on a solid shelf to the side and 12" above the sewer or the sewer pipe is of drainage material.
8. Not be located in an excavation which is deeper than the bottom of a parallel foundation unless the bottom edge of the excavation is at least one foot away from the foundation for each foot of excess depth.

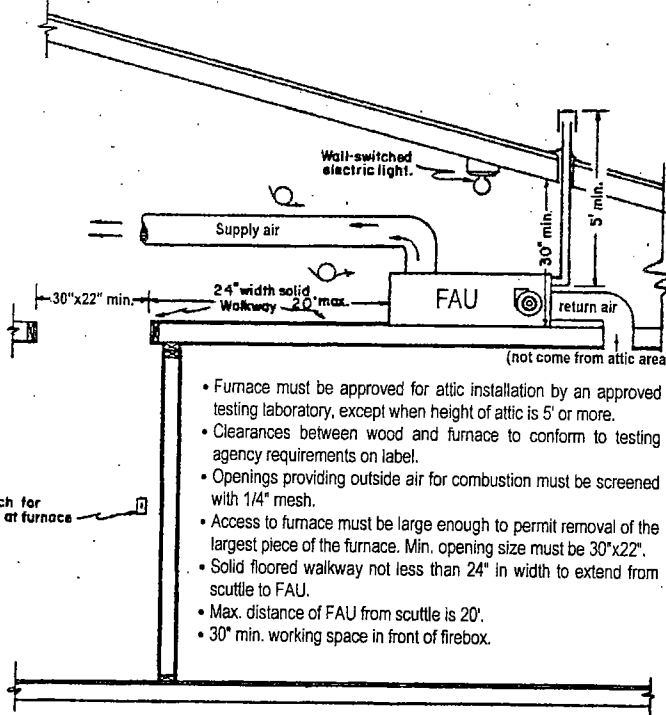
# Forced Air Heaters



CONCRETE SLAB INSTALLATION



WOOD FLOOR INSTALLATION



ATTIC INSTALLATION

**Note: The above also applies to combination heating and cooling units.**

## GENERAL NOTES

- Equipment shall bear a permanent and legible nameplate on which shall appear a seal of approval of the listing agency.
- Appliances designed to be vented shall be connected to a venting system as specified in the L.A. Co. Mechanical Code.
- A room or space containing a fuel-burning appliance shall be provided with combustion air as specified in the L.A. Co. Mechanical Code.
- Combustion air ducts shall have a minimum dimension of 3 inches.
- When combustion air is supplied from the attic space, the attic space shall be ventilated by fresh air openings equal to at least the required supply.
- No forced air or gravity central heating furnace shall be located in any room used or designed to be used for sleeping purposes, bathroom, clothes closet, or in any confined space with access only through the above locations.

Exception – Access is allowed to attic furnace through closets, including closets in bedrooms and bathrooms.

- Minimum 3" clearance required to sides, back and top of furnace.\*
- Minimum 3" floor to ceiling clearance required from front of combustion air opening to front or firebox side of furnace.
- Minimum 6" in front of the firebox.
- Return air may be taken from outside the building, from rooms used for living quarters inside the building or from both sources.
- Return air shall not be taken from the following locations:
  1. Closer than 10'-0" from any appliance firebox or draft diverter which is located in the same enclosed space as the air supply inlet.
  2. A closet, bathroom, toilet room or kitchen.
  3. Where it will pick up objectionable odors, fumes of flammable vapors.
  4. Where it is located in the same enclosed space as the combustion air inlet.

\* Compartment shall be at least 12" wider than furnace.



# Electrical Details

## Single Family Dwelling

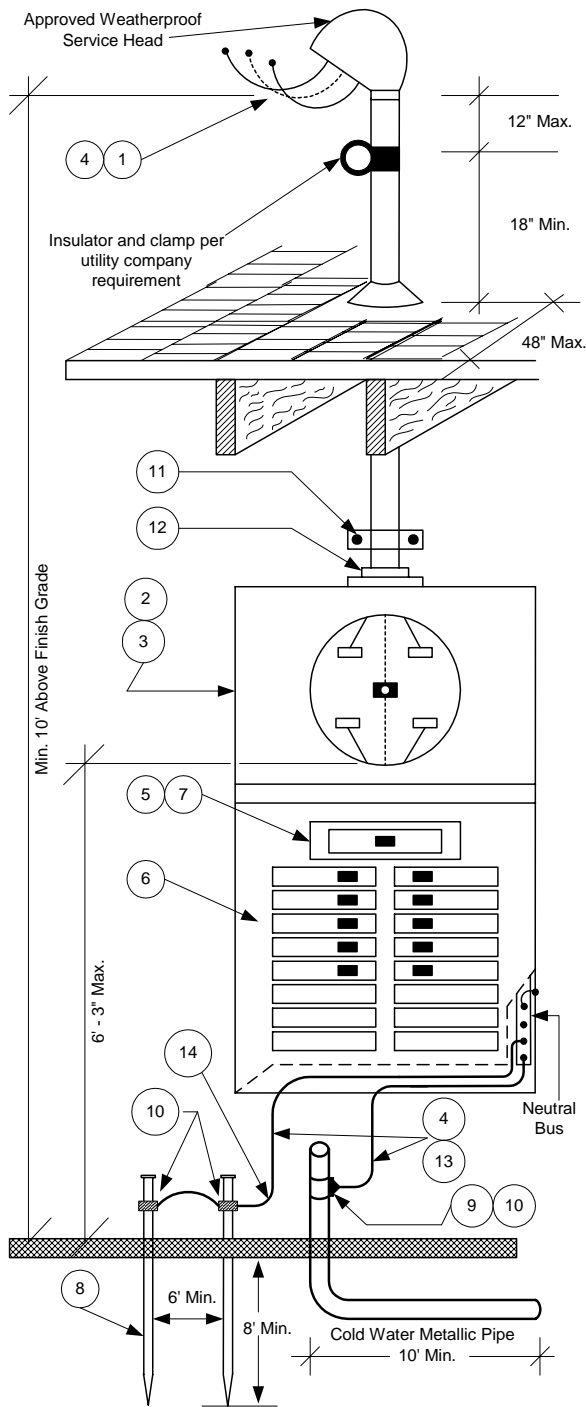
1. Service entrance conductors shall be listed or marked for wet location and sunlight resistant. Minimum of 18" of free conductor is required for attachment to service drops.
2. For service equipment/meter location and height, consult with the local utility company.
3. For underground service requirements and conduit size, consult with local utility company. (Conduit shall be listed to satisfy the requirements of the Electrical Code).
4. Minimum size of service entrance conductors and grounding electrode conductors.

Service or feeder rating	Service or feeder conductor THW/THWN-Copper	Grounding electrode and bonding conductor-Copper
100A	#4	#8
200A	#2/0	#4
400A	400 MCM	#1/0

5. For single-family dwelling, the service disconnecting means shall have a rating not less than 100 amperes, 120/240 volts single phase, three-wire.
6. Minimum required branch circuits:
  - a) 15A or 20A circuit(s) for general lighting and receptacles. The number of branch circuits is determined by desired use and the total square footage of the dwelling. Branch circuit feeding the receptacle in the bedroom shall be protected with an Arc Fault circuit breaker.
  - b) Two or more small appliance branch circuits for the kitchen counter top and dining room.
  - c) A dedicated 20-ampere branch circuit for the bathroom receptacles.
  - d) Additional branch circuits may be required for dishwasher and garbage disposer.
  - e) A dedicated 20-ampere branch circuit for laundry.
7. Main disconnecting means may be omitted if there are no more than six disconnecting means (circuit breakers/fuses) per service.
8. A metal underground water pipe shall be supplemented by an additional electrode as listed below:
  - a) Steel reinforcing bars (#4 or larger) for structural foundation, or
  - b) Two ground rods not less than 8 feet in length (each), minimum 6 feet apart. Rods shall be installed such that at least 8 feet of length is in contact with the soil. For single ground rod installation, it will be the responsibility of the homeowner/contractor to provide a test for verification of 25 ohms or less resistance to ground.
9. Grounding connection to the interior metal water pipe shall be made within the first five feet of the main water pipe entrance to the building.
10. Listed and accessible grounding clamp. If buried in the earth, the clamp shall be approved for direct burial.
11. Service raceway to be secured within 36" of box and not to exceed 10'-0" intervals on service conduit.
12. Threaded boss or hub.
13. Grounding electrode conductor shall be protected from physical damage, if necessary by conduit, armored cable or other means.
14. Where the supplemental electrode is a rod, pipe, or plate electrode, the portion of the bonding jumper that is the sole connection to the supplemental grounding electrode shall not be required to be larger than 6 AWG copper wire or 4 AWG aluminum wire.

**GENERAL NOTES:**

- A. All 125-volt, single-phase, 15 and 20 ampere receptacles installed in the following locations shall have GFCI protection for personnel: *bathrooms, garages, outdoors, crawl spaces, unfinished basements, kitchens (countertops), and wet bar sinks.*
- B. Nonmetallic sheathed cable (NM, NMC) with grounding conductor is permitted for installation in single-family dwellings where it is not subject to physical damage (concealed in walls, attic space, etc.)
- C. All electrical equipment shall be listed.
- D. A hard-wired smoke alarm with a battery back up shall be installed in each sleeping room and at a point centrally located in the corridor or area giving access to each separate sleeping area.
- E. Switch lighting outlets required for all habitable rooms, hallways, stairways, garages, attics, basements, and entrances and exits on exterior of building.
- F. All outlets installed in dwelling unit bedrooms shall be protected by an ARC-Fault circuit interrupter listed to provide protection to the entire branch circuit.





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## **BUILDING CODES**

On November 1, 2002, the following  
2002 County of Los Angeles building codes became effective:

**Building Code (Title 26)**

**Electrical Code (Title 27)**

**Plumbing Code (Title 28)**

**Mechanical Code (Title 29)**

Enforcement of the provisions of each code begins on November 1, 2002 for projects with an application date on or after November 1, 2002. Each code incorporates local County of Los Angeles amendments and the respective State and model codes. The 2002 County of Los Angeles Building Code and the 2002 County of Los Angeles Electrical Code are available from:

**International Code Council (ICC)**  
**5360 Workman Mill Road, Whittier CA 90601-2298**  
**1-800-423-6587**  
**[www.icbo.org](http://www.icbo.org)**

The 2002 County of Los Angeles Plumbing Code and the 2002 County of Los Angeles Mechanical Code are available from:

**International Association of Plumbing and Mechanical Officials**  
**5001 East Philadelphia Street, Ontario CA 91761**  
**1-800-85-IAPMO or 1-800-854-2766**  
**[www.iapmo.org](http://www.iapmo.org)**



## REFERENCES

### CONTRACTORS

The Contractors State License Board (CSLB) licenses and regulates contractors in more than forty license classifications that constitute the construction industry. A booklet "What You Should Know Before You Hire a Contractor," is available from the Contractors State License Board. This instructional publication will assist the consumer in dealing with building contractors and the California Contractors State License Board. Local offices in Southern California can assist consumers. For a copy of the booklet, please contact the Board:

Contractors State License Board  
P.O. Box 26000  
Sacramento CA 95826  
Telephone: 1-800-321-CSLB (2752)  
<http://www.cslb.ca.gov/>

### ARCHITECTS

Individuals and businesses who wish to design buildings or other structures, or plan building sites, frequently hire architects to plan, design, and observe the construction of these projects. In California, over 18,000 architects are licensed by the Department of Consumer Affairs' Board of Architectural Examiners. Consumers throughout

the state extensively use the services of these professionals. To help ensure that you receive quality architectural service, the Board of Architectural Examiners examines, licenses, and regulates architects. "Consumer's Guide to Hiring an Architect" may be obtained from:

California Board of Architectural Examiners  
P. O. Box 944258  
400 R Street, Suite 4000  
Sacramento CA 95814-6238  
Telephone: (916) 445-3394

### ENGINEERS & LAND SURVEYORS

The California State Board of Registration for Professional Engineers and Land Surveyors registers engineers (Civil, Electrical, Mechanical, Structural, and Geotechnical/Soil/Soils Engineers) and licenses land surveyors. Anyone practicing in these professions must be registered or licensed by the Board. The Board publishes a "Consumer Guide to Professional Engineering and Professional Land Surveying." For a copy, please contact:

The California State Board of Registration for Professional Engineers and Land Surveyors,  
2535 Capitol Oaks Drive, Suite 300,  
Sacramento, CA 95833-2926  
Telephone: (916) 263-2222



**Benefits of Building Permits:**

- *Protection of investment – home or business*
  - *Property insurance coverage*
  - *Prevent sales problem*
  - *Reducing potential hazards*
- *Meet minimum standards of safety – less likely to cause injury*

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