



## **RESIDENTIAL PLAN CORRECTION LIST**

*2016 California Residential Code and West Covina Municipal Code.*

---

Address: _____	Plan Check No.: _____
Valuation: \$ _____	Construction Type: <u>VB</u> Occupancy <u>R3/U</u>
NEW Floor Area (S/F) 1 <sup>ST</sup> : _____ 2 <sup>ND</sup> _____	Garage: _____ Patio/Porch: _____
REMODEL Floor Area (S/F) _____	Miscellaneous: _____
Contact Person: _____	Telephone: _____
Owner: _____	Designer: _____
Plan Reviewer: _____	1 <sup>ST</sup> Check Date: _____
Telephone #: _____	2 <sup>ND</sup> Check Date: _____
EMAIL: _____	3 <sup>RD</sup> Check Date: _____
Hours: _____	Approved Date: _____

---

Your application for a permit, together with plans and specifications, has been examined and the issuance of a permit is withheld for the reasons set forth. The approval of plans and calculations does not permit the violation of any section of the California Building Code or any other ordinance of the City of West Covina or state laws.

**CODES:** Unless noted otherwise, all references pertain to the current edition of the California Residential Code [CRC], California Building Code [CBC], California Plumbing Code [CPC], California Mechanical Code [CMC], California Electrical Code [CEC], California Fire Code [CFC], California Green Building Standards Code [CGBSC], California Health and Safety Code [H&S], Special Design Provisions for Wind and Seismic [SDPWS], or West Covina Municipal Code [WCMC].

### **INSTRUCTIONS:**

- The plan check will **expire 180 days** from the plan submittal date.
- **CIRCLED OR LISTED** comments are correction items applicable to this plan check. Please respond to all comments.
- Incorporate all comments as marked on the checked set of plans, calculations and this correction sheet on the revised plans. Resubmit marked original plans and two corrected sets of plans, calculations and this plan review list. Incomplete or unreadable drawings or calculations will not be accepted.
- In the left-hand margin of the circled/listed corrections, please indicate the sheet number and detail or note number on the plans where the corrections are made. Be as specific as possible.
- If you have any question, please contact the plans reviewer at the phone number or email provided above.
- This list is intended for use on one-story buildings meeting the provisions of Conventional Light-Frame Construction per California Residential Code for Seismic Design Category 'E' and default Site Class 'D'. Plans and documents preparation by State licensed Engineer/Architect will be required for design deviating from such provisions.

**GENERAL/ADMINISTRATIVE:**

1. Referrals: Approval of the following departments **will** be required: Obtain requirements and obtain approvals prior to permit issuance:
  - a. Planning Department (Room 208, 626-939-8422) for: \_\_\_\_\_
  - b. Engineering Division (Room 215, 626-939-8425) for: \_\_\_\_\_
  - c. Fire Department (Room 205, 626-939-8823) for: \_\_\_\_\_
2. School District (See Counter Staff). School fees are required for all construction with floor area increase of 501 square feet or more. Pay at school district office and bring receipt to Building Division. This may be done after all other corrections have been made and plans are approved.
3. The proposed project is over 1000 s/f in addition or alteration and will be required to comply with West Covina Municipal Code Section 7-260 to recycle 50% of the construction material and debris. See counter staff and complete the Construction and Demolition Waste Diversion Plan (WDP). **Permit will not be issued until the WDP is completed and required fees/deposit submitted.**
4. Undergrounding of existing/new utility is required by West Covina Municipal Code WCMC 23-273. **NOTE ON THE PLANS:** *"All utilities shall be underground. The owner/developer/builder requiring such relocation shall be responsible for making arrangements with the service provider and/or city for such underground installation and for the payment of all related costs."* Utilities shall be underground for the following projects:
  - a. New homes.
  - b. Relocated electrical service in conjunction with an addition or alteration to a building resulting in an increase in fifty percent (50%) of the floor area or of the value of the building.

**PLANS/DOCUMENTS REQUIREMENTS:**

5. Submit the following documents for review:
  - a. Structural Calculations by licensed architect or engineer. See comments to follow.
  - b. Title 24 Energy Conservation Calculations.
  - c. Truss Calculations.
  - d. Soils Report
  - e. Property lines survey, by a State Licensed Surveyor or Engineer, will be required.
    - i. Provide survey as part of approved set of plans.
    - ii. Note on plans: *"Surveyor shall stake locations of property lines and proposed construction. Line and Grade Certification shall be submitted to the Building Inspector prior to Foundation Inspection Approvals."*
6. RESUBMITTAL review – The following are required in the submittal package. Missing plans and documents WILL DELAY processing of the plans for permitting.
  - a. All of the original checked plans and documents.
  - b. Plan check response comments from the design team addressing ALL comments. Response comments must specifically indicate where corrections have been made.
  - c. Two (2) REVISED sets of PLANS, details, notes, specifications (1-set will be returned as the approved plans of the project). If prepared by State Licensed Professional, BOTH sets shall be stamped and signed by responsible professionals (architect, engineer)
  - d. One (1) set of the following list below (Must be stamped and signed by licensed engineer/architect):
    - i. Calculations – structural, T-24 energy, etc.
    - ii. Soils report
  - e. **One (1) SEPARATE** set of the approved **FLOOR** plan(s) for the Los Angeles County Assessor office. The plan(s) must be scaled and dimensioned. Revenue and Taxation Code Section 72.
  - f. Return the 2-Planning approved site plans at recheck. Failure to do so will require the applicant to seek Planning Department re-approval for the project.
7. Provide (1) reduced copy of the plot/site plan on 8.5"x11" paper. See attached example. **LEGIBLY** show the following information:
  - a. Site address.
  - b. Existing and proposed structures
  - c. Area of addition graphically (fully dimensioned with a clear distinction between existing and new work)
  - d. Property lines of the lot and street name.
  - e. Existing square footage and proposed square footage.

8. Structural plans and calculations shall be stamped and signed by state licensed engineer or architect. The first page of the structural calculation and every sheet of the plans containing structural plans, specifications, and details shall bear the engineer/architect professional seal, signature, and expiration date. California Business and Profession Code.

**WEST COVINA STANDARD NOTES (PRINT ON THE PLANS)**

9. **STORM WATER POLLUTION CONTROL REQUIREMENTS:** The following represent the minimum standards of good housekeeping that must be implemented on all construction sites.
- a. Eroded sediments and other pollutants must be retained on site and may not be transported from the site via sheet flow, swales, area drains, natural drainage courses or wind.
  - b. Stockpiles of earth and other construction related materials must be protected from being transported from the site by the forces of wind or water.
  - c. Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and are not to contaminate the soil and surface waters. All approved storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be washed into the drainage system.
  - d. Non-stormwater runoff from equipment and vehicle washing and any other activity shall be contained at the project site.
  - e. Excess or waste concrete may not be washed into the public way or any other drainage system. Provisions shall be made to retain concrete wastes on site until they can be disposed of as solid waste.
  - f. Trash and construction related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.
  - g. Sediments and other materials may not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public way. Accidental depositions must be swept up immediately and may not be washed down by rain or other means.
  - h. Any slopes with disturbed soils or denuded of vegetation must be stabilized so as to inhibit erosion by wind and water.
10. **ADDITIONAL PERMITS:** Contractors/subcontractors shall submit separate application(s) and secure separate permit(s) for:
- a. Electrical work
  - b. Mechanical work
  - c. Plumbing work
  - d. Swimming pools/spas
  - e. Site walls/fences exceeding 6' in height (*submit to City Engineering for review/permit*)
  - f. Retaining walls (*submit to City Engineering for review/permit*)
  - g. Grading (*submit to City Engineering for review/permit*)
  - h. Fire Sprinklers (*submit to Fire Department for review/permit*)
  - i. Demolition
11. **REQUIRED FINAL INSPECTIONS:** The contractor is responsible for scheduling and securing final inspection approvals from the following departments prior to scheduling Building Final Inspection:
- a. Planning Department (Room 208, 626-939-8422)
  - b. Fire Department (Room 205, 626-939-8823)
  - c. Engineering Division (Room 215, 626-939-8425)
12. **BUILDING IDENTIFICATION:** Buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. CRC§ R319.1.

**ARCHITECTURAL REQUIREMENTS:**

13. See plans for additional corrections/comments. Return check set of plans with all documents and revised plans.
14. The submitted plans are incomplete and lack sufficient information and detailing. In the interest of expediting the review process, consult a building design professional (architect, engineer, designer) to prepare complete and accurate drawings. Resubmittal of incomplete plans will result in additional fees for additional review time.
15. **PROJECT INFORMATION.** On the first sheet of plans: CRC § R106.
- a. Specify the name and address of the owner/tenant. List all consultants (architect/designer, engineer(s), energy, soils, etc.), with their contact information, associated with the project. CBC§ 107.
  - b. Show applicable building data:
    - i. Classification of each occupancy group (R3/U), type of construction (VB), and applicable codes (2016 CRC/WCMC).

- ii. New/Addition floor area, existing floor area, remodeled floor area, lot area, lot coverage calculation.
  - iii. Number of stories and floor areas of each story.
  - iv. Indicate if the existing building is equipped with fire sprinklers.
16. DEFERRED SUBMITTALS: On the cover sheet of the plans, list all construction items that are deferred submittals pertaining to the project. Add the following notes to the plans: *“Deferred submittal items shall be reviewed and approved by registered design professional in responsible charge. Submit to the Building Division for review and approval prior to installation.”*
17. Fire Sprinklers will be required for the proposed project. **NOTE ON THE PLANS:** *“Fire Sprinklers are required. Design and installation shall comply with NFPA 13D Standards and CRC § R 313.3. Submit plans to Fire Department for separate permits.”*
- a. In all new one/two family homes and townhomes. CRC § R 313.1 and 313.2.
  - b. In any existing building after the completion of any addition, which will exceed five thousand (5,000) square feet of floor area. WCMC § 7-18.13.1.
  - c. In any existing building where an addition or additions exceed twenty-five (25) percent of the existing floor area as of January 1, 1990, or five thousand (5,000) square feet, whichever is less, and the existing building is over five thousand (5,000) square feet. WCMC § 7-18.13.1.
  - d. When the value of major alterations or repairs to an existing building, which has five thousand (5,000) or more square feet, exceeds twenty-five (25) percent of the value of the building in any twelve-month period. WCMC § 7-18.13.1.
  - e. In any existing one and two family dwelling where any of the following conditions exist:
    - i. Addition of one thousand (1,000) square feet or more.
    - ii. Successive additions totaling one thousand (1,000) square feet or more within a twenty-four month (2 year) period.
    - iii. Addition or creation of a habitable floor level above or below the existing level of exit discharge as defined by the Building Code.
    - iv. Alterations where fifty (50) percent or more of the roof framing is restructured or replaced.
- Fire sprinklers shall be installed in existing and proposed portions of the building including attached garages and other enclosed structures.
18. Provide a complete SITE/PLOT plan. Show property lines, lot dimensions, side yards, existing buildings, and distances between adjacent buildings, easements, public right of way, and north arrow. Locate all fences, walls, and retaining walls. Identify all elements as existing or new. CRC § R106.
19. Storage sheds shall be separated from each and other structures at least 6'. The maximum height of storage sheds shall not exceed one (1) story and ten (10) feet to any part of the shed measured from existing finished grade. WCMC §7-18.17.
20. Hatch and dimension all areas of proposed work on the site plan. CRC § R106.
21. Locate all existing utility meters (water, gas, electric) on the site plan. Indicate location as existing or relocated.
22. Provide a finished grades and drainage plan for review.
- a. Show drainage away from building foundations and adjacent properties.
  - b. Show flowline elevations at every 25' and at high/low points (existing and new).
  - c. Indicate drainage pattern on adjacent (north, south, east, west) lots and justify contributory drainage (existing and new).
  - d. Specify elevations at all building corners to verify the foundation is at least 6" above grade.
  - e. A minimum of 1 percent for landscape and AC pavement and 0.5 percent for concrete is required.
  - f. Note on plans: “Provisions for contributory drainage shall be made at all times.”
23. Clearly show and indicate all new, existing, and removed walls and construction. Provide wall schedule.
24. On the plans or window/door schedules:
- a. Indicate which windows/doors are new, existing, or existing to be replaced.
  - b. Indicate the size and opening type of the windows/doors. Comply with light, ventilation and emergency egress requirements to follow.
25. Exterior walls construction when located: CRC Table R302.1(1).
- a. Less than 3'-0" to a property lines, shall be of 1-hour fire resistive construction. No openings are allowed.
  - b. Between 3'-0" and 5'-0" to a property line shall be of 1-hour fire resistive construction. Openings per story (doors, windows, mechanical vents, scuppers) are allowed where the cumulative area of the openings is less than 25% of the

exterior wall area per story. Show the widths and heights of all windows, doors, and vents on architectural elevations. Provide calculations on the plans to show compliance.

26. DIMENSION EAVES OVERHANGS. Projections (eaves, balconies, etc.) between 2'-0" and 5'-0" clear to the property lines shall be constructed completely of 1-Hour fire rated construction on the underside. Projections from exterior walls shall clear the property line 2'-0" minimum. No projection is allowed when exterior wall is located less than 2'-0" to the property lines. CRC Table 302.1(1) and CBC §705.2.
27. Dwelling units in two-family dwellings shall be separated from each other by wall and/or floor assemblies having not less than a 1-hr fire-resistance rating when tested in accordance with ASTM E 119 or UL 263. Provide complete details CRC§ R302.3.
28. West Covina Zoning Code requires 20'x20' interior clearances within the garage. Provide interior dimensions to show that the clearances are provided. WCMC § 26-402 (c).
29. Garage and carport floor surface shall be of approved noncombustible material. The floor surface shall slope toward a drain or the main vehicle entry to facilitate movement of liquids. CRC § R309.1 and R309.2.
30. The following are required for an attached garage:
  - a. No openings are permitted from the garage directly into a room used for sleeping purposes. CRC § R302.5.1.
  - b. Finish garage walls and ceiling under dwelling with materials approved for one-hour construction (5/8" type 'x' gypsum board, 7/8" stucco, etc.). When habitable space does NOT exist over the garage, provide ½" drywall on the garage wall to separate the dwelling and its attic from the garage. CRC Table R302.6.
  - c. Specify self-closing, tight-fitting, 1-3/8" thick solid wood door, 1-3/8" thick solid/honeycomb steel door, or 20-minute rated door for opening between garage and dwelling. CRC § R302.5.1.
  - d. Vehicular access doors shall comply with Section R609.4
  - e. **Note on plans:** *"Ducts through attached garage into dwelling shall be minimum 26-gauge sheet steel and shall have no openings into the garage."* CRC § R302.5.2.
31. All habitable rooms must be provided with natural light (8% of floor area min.) and ventilation (4% of the floor area). Show all window sizes and opening types on plans or schedule. CRC § R303.1.
32. In bathrooms, provide an exhaust fan 50 CFM minimum with humidistat control to exhaust moisture to the exterior of the building. Exhaust outlet must be minimum 3'-0" from any openings into building and 3'-0" from the property line. CRC § R303.3.
33. Show on plans: 24" clear in front of toilet and 30" minimum wide toilet compartment. (15" to CL). CPC§ 402.5.
34. Show on plans: Minimum 1,024 square inch area and 30" diameter in shower compartment. Shower door shall provide 22" clear opening. CPC §408.5, 408.6.
35. Note on plans: *"Wall coverings in showers and tubs with showerheads shall be cement plaster, tile, or equal to 6 feet (72") above drain. Enclosures must be of approved safety glazing and doors (22" min. width) must swing out of showers. Windows in enclosure walls shall be labeled safety glazing when less than 60" above the drain."* CRC § R307.2.
36. Show building heights on the elevations. Clearly define height from grade to the highest point of the existing and proposed structures. CRC§ R202
37. Habitable rooms shall have a floor area of no less than 70 S/F with the least dimension no less than 7'-0". CRC§ R304.1 and R304.2.
38. Show ceiling heights on building sections or identify on the floor plan(s). A 7'-0" minimum height is required in habitable spaces, kitchens, bathrooms, and hallways. 6'-8" minimum is allowed directly in front of the bathroom plumbing fixtures per Exception 2. CRC§ R305.1.
39. All glazing in hazardous locations, as indicated below, must be identified by a label (permanent if tempered) as safety glazing. CRC § R308.1 and R308.4.
  - a. Glazing in all doors
  - b. Glazing within a 24" arc of a door edge in the closed position with the sill less than 60" above floor.
  - c. Glazing panels over 9 square feet having the lowest edge less than 18" above the finish floor and having a top edge greater than 36" above the floor, and with 36", horizontally, of a walking surface.
  - d. Glazing in guardrails

- e. Glazing in doors, walls (with the exposed edge of glazing less than 72" above drain inlet.), enclosures for bathtubs, showers, whirlpools, spas, and glazing in walls/fences used as pool barrier for indoor and outdoor swimming pools.
  - f. Glazing within 36" horizontally from the walking surface stairways with bottom edge less than 60" above walking surface.
40. Sleeping rooms, habitable attics, and basements in dwelling units shall have at least one operable exterior door or window for emergency escape and rescue and shall open directly into a public way or yard/court that provide access to the public way. Indicate each opening that satisfies this requirement on plan or schedule. CRC§ R310.2.1. Windows must provide:
- a. A minimum 5.7 square feet of clear openable area. 5.0 square feet is allowed for grade level floors.
  - b. A minimum clear width of 20", minimum clear height of 24".
  - c. A finished sill height not more than 44" above the floor. Note this on the plan or schedule.
  - d. A minimum 36"x36" window well with a fixed ladder if finish sill height is 44" or more below grade. Window well must extend below windowsill for drainage. For additional dimensional requirements, see CRC §R310.2.3.
41. At least one door shall be 36" wide by 80" high CRC§ R311.2.
42. At exterior doors, provide a concrete landing (36" deep x door width) with a minimum slope of ¼" per foot for drainage. The landing shall not be more than 1½" lower than the threshold of the doorway at the main exit door and may be 7¼" maximum lower than the threshold when the door does not swing over the landing. Detail landing and threshold drop at doors. CRC § R311.3.
43. Show 36" minimum clear hallways. CRC § R311.6.
44. Notes and details are required to show the following for all interior & exterior steps. CRC § R311.7.
- a. Minimum 36" wide stairway and landings. CRC§ R311.7.1, R311.7.6.
  - b. Maximum 7.75" rise; minimum 10" run. CRC§ R311.7.5
  - c. Note on plans: "The largest rise or run in a flight of stairs may not exceed the smallest by more than 3/8".
  - d. Dimension headroom over stairs to show 6'-8" minimum from nosing of tread.
  - e. Protective guard on open side of stairs over 30" above floor or adjacent grade. May serve as handrail also. Guard and handrail assembly may be 34" to 38" high only at open side of stairs.
  - f. Handrail (required for 4 or more risers) at 34" to 38" above tread nosing, 1½" clearance to wall, 1¼" to 2" in cross section, with ends returned to wall or floor or terminate at newel or safety post. Clearly define handrail requirements, including handrail shape, on the plans. Show handrail continuous for the length of the stairs. CRC§ R311.7.8.1, R311.8.3, and R312.1.3.
  - g. Provide lighting at stairs. Show light fixture and locate switches at top and bottom landing. CRC § R303.7
  - h. Enclosed usable space under stairs shall be finished with ½" drywall. CRC § R302.7.
45. Winder treads shall comply with CRC§ R311.7.5.2.1.
46. Spiral stairs shall comply with CRC§ R311.7.10.1.
47. Ramp slopes shall not exceed 1:12 (8.33%). CRC§ R311.8.1.
48. Guards (guardrails) are required at floor and roof openings, landings, balconies, and at open sides of stairs over 30" in height. Detail or note the following to show compliance: CRC § R312.
- a. Guardrails to be 42" minimum in height.
  - b. Open guardrails shall have intermediate rails or an ornamental pattern such that a 4" sphere cannot pass through.
  - c. Provide connection details of guard/handrail on open side of balconies, decks, landings, and stairs adequate to support a 50 plf distributed load or single concentrated 200 lb load at a right angle to the top rail. CBC§ 1607.7.1.
49. Windows sill shall be a minimum 24" above the interior finished floor where the opening of the sill portion of an operable window is higher than 72" above the adjacent grade or surface. CRC § R312.2.
50. Smoke Alarms: Hard-wired smoke alarms with a battery backup are required. Provide the following on the plans: CRC§ R314.
- a. **Note on plans:** "Smoke alarms shall be hardwired with battery backup and interconnected so that the activation of one alarm shall activate all other alarms in the dwelling unit. Retrofit alarms may be battery operated in rooms where construction is not proposed."
  - b. Show all locations with a symbol on the plan. Provide smoke alarm at the following locations:
    - i. In each sleeping room.
    - ii. Centrally located in rooms and corridors giving direct access to each sleeping area.

- iii. On each story of multistory dwellings including basements and habitable attics.
  - iv. In split-levels without an intervening door, smoke alarms shall be installed on the upper level provided that the upper level is less than one full story above the lower. If the lower level contains sleeping areas, then it too shall be equipped with a smoke alarm.
51. Carbon Monoxide Alarms: Hard-wired Carbon Monoxide alarms with a battery backup are required. Provide the following on the plans: CRC§ R 315.
- a. **Note on plans**: *“Carbon Monoxide Alarms shall be hardwired with battery backup and interconnected so that the activation of one alarm shall activate all other alarms in the dwelling unit. Retrofit alarms may be battery operated in rooms where alterations/repairs do not result in the removal of walls or ceiling finishes.”*
  - b. Show all locations with a symbol on the plan. Provide Carbon Monoxide alarm at the following locations:
    - i. Outside of and within immediate proximity to each sleeping room.
    - ii. On each story of multistory dwellings including basements and habitable attics.
52. Stucco Wall Coverings: Provide the following on the plans/elevations. CRC § R 703.6.
- a. 7/8" minimum thickness
  - b. 2-layers of Grade 'D' paper if applied over plywood/OSB sheathing.
  - c. A corrosion-resistant weep screed (26-gauge) is required below the stucco a minimum 4"/2" above grade/slab.
53. Provide adhered or anchored details for masonry veneer. Specify anchors, backing, footings, and support over openings. Masonry veneer shall not exceed 4" in thickness and shall not extend above the first story. CRC § R703.7 and CRC Table 703.7(2).
54. Attic and rafter space ventilation: CRC § R806.2.
- a. Provide ventilation calculations on plans: Minimum net opening of attic vents shall equal 1/150 of the attic area with 50% of the vents located 3 feet above the eave vents and the remainder to be provided by eave vents.
  - b. Specify the type, size and number of vents necessary to meet code requirements. Please note that net free area is required.
55. Provide 1" of air space between top of insulation and bottom of roof sheathing for rafter space ventilation. Detail construction of ventilation at eaves. Minimum net opening of eave vents shall equal 1/150 of the rafter space area. CRC § R806.3.
56. Attic (with over 30" headroom and larger than 30 S/F) must have access opening (20"x30" minimum). A 30" minimum clear headroom is required above opening. Larger opening may be required to remove the mechanical equipment. Show the opening located in a corridor, hallway, or other readily accessible location. CRC § R807.1.
57. Wood shakes or shingles shall be listed and labeled as at least Class B rated. Note on plans: Provide ICC number on the plans. WCMC § 7-18.12.
58. Roof Coverings: Provide the following on the plans/elevations. CRC § R902.1, R905, and WCMC § 7-18.12.
- a. Specify type of roof covering. Specify a class "B" minimum rated roof covering, manufacturer, model, installed weight per roofing square, and ICC Report Number on the plans.
  - b. Show slope(s) of roof:
    - i. ¼" per foot minimum for flat/shed roofs
    - ii. 2:12 minimum for composition roofs.
  - c. 2 -Layers of underlayment/felt for roof slopes less than 4:12.
59. Roof Decks: Specify type, manufacturer, and ICC report number (or submit other approved testing agency report) for weatherproof walking surface material to be used on all exterior decks and balconies over enclosed construction. Deck coverings must bear a Class 'B' minimum fire rating for roof coverings. Minimum slope ¼"/ft is required for drainage. CRC § R903.1 and WCMC § 7-18.12
60. Unless roofs or roof decks are sloped to drain over the edge, roof drains are required at each low point. Overflow drains of the same size are required 2" above each low point and connected to independent drain lines. Overflow scuppers of three times the size of the roof drains with a 4" minimum height may be used in lieu of overflow drains when installed on the adjacent parapet wall at 2" above the low point of the roof CRC § R903.4 and R903.4.1.
61. Prefabricated skylights shall be listed by an ICC Evaluation Report and shall be installed in accordance with their listing. Specify manufacturer, product name, and ICC or NER Number on the plans. CRC § R308.6.9.

62. AQMD no longer allows wood burning fireplaces. Provide specifications for direct vent gas only fireplace on the plan. For more information about the AQMD's Healthy Hearths initiative, please check the AQMD's web site at: <http://www.aqmd.gov/healthyhearths/faq>
63. Prefabricated metal fireplaces and chimneys shall be listed by an approved listing agency and shall be installed in accordance with their listing.
- Specify unit by manufacturer's name and model number, ICC, UL or NER number.
  - Factory-built chimneys shall terminate 3'-0" minimum above the roof opening penetration. CRC § R1003.9.
  - Factory built chimneys shall terminate in a listed factory built chimney cap. No other architectural feature is permitted without manufacturer's approval.
  - Clearly show hearth construction and size and specify all required clearances on the plans.
64. Chimney shall extend not less than 2'-0" above any part of the building within 10'-0". Provide construction details to show the required extensions. At chimney termination, indicate approved spark arrester with a net area of opening four times that of the chimney. CRC § R1003.9.
65. Provide notes and details on the plans to show compliance with State Code and City Ordinance Pool Fencing and Safety Barriers requirements. WCMC Sec. 7-18.10 and H&S Section 115920-115929. See City handout for details.

### **MECHANICAL/PLUMBING/ELECTRICAL REQUIREMENTS:**

66. Indicate on plan the location of water heater, forced air unit/heating equipment, condenser, and washer and dryer on the plans. Comply with additional items as applicable.
67. Obtain Planning department approval for the location or relocation of equipments (condenser, water heater, water softener, etc) to the exterior of the building. Relocate equipment outside of required setbacks.
68. Show how dwelling unit or addition will be heated to 68°F. If the dwelling has an existing central heating system, indicate on the plans to extend ducts to the new addition. CRC § R303.9.
69. Water heater, furnace, or other heat-producing appliances located in garage, which create a glow or spark, must be located a minimum of 18" above the garage floor and shall be protected from automobile damage. Provide elevated platform. Detail protection barrier (wheel blocks are not acceptable) or relocate from path of vehicle. CMC §307.1 and CPC §508.14.
70. Gas-fired water heaters shall comply with the following:
- Water heater must be strapped at upper one-third (1/3) and the lower one-third (1/3) for lateral support. CPC § 508.2.
  - Compartments within an unconfined area of a building shall have at least two openings located within the upper and lower 12" of the enclosure for combustion air. Each opening shall have a minimum dimension of 3" and an area of at least 100 sq. inch. CPC §507.3.
  - Compartments within a confined area or located in the basements or utility rooms shall have at least two openings located within the upper and lower 12" of the enclosure for combustion air. Each opening shall have an area of at least 1 sq. inch per 4000 Btu/hr input and must be freely communicating with the outdoors. CPC §507.4.
  - Compartment door shall large enough to provide for removal of water heater.
71. Show the following on plans for attic/basement furnace or cooling equipment: CMC § 904.
- Attic access opening of 22"x30" or larger to accommodate the removal of the largest equipment and located not over 20'-0" from equipment.
  - Unobstructed passage 24" wide with solid continuous flooring from access to equipment/control panel.
  - A level, unobstructed work platform, minimum 30"x30" in front of the equipment with 30" headroom.
  - Light over equipment with switch at access.
  - Supported on solid concrete slab 3" above adjoining grade or suspended 6" above adjoining ground level for under-floor units.
  - Obtain Planning department approval to locate/relocate condensers to the exterior of the building.
72. Clothes dryer moisture exhaust ducts shall terminate outside the building and have a back-draft damper. Exhaust duct is limited to 14'-0" with two elbows. This shall be reduced 2'-0" for every elbow in excess of two. Show minimum 4" diameter, smooth, metal duct, and show duct route on plan. CMC §504.3.2.
73. Show on plan all electrical lighting fixtures, outlets and switches. CEC Article 210.50 and 210.70.



74. Provide ground-fault circuit-interrupters (GFI) protection for 15-amp and 20-amp outlets in bathroom, on counter-top of a kitchen sink, on island of kitchen, within 6'-0" of the outer edge of a wet bar/laundry/utility sink, outdoor, in garage, and in basement. CEC Article 210.8(A).
75. In new construction, provide combination type arc-fault circuit interrupters (AFCI) protection for all new outlets (lights, smoke/CO alarms, receptacles) in all rooms except kitchens, bathrooms, garage, and basement. CEC Article 210.12.
76. Provide note on the plans: *"New receptacles shall be tampered-proof."*
77. Provide at least one electrical receptacle outlet accessible at grade level and not more than 6'-6" above grade level at front and back of building. Receptacle outlets to be GFI protected with weatherproof casings. CEC Article 210-52(2).
78. Provide one light outlet (wall switch-controlled) on the exterior side of outdoor entrances and exits. CEC Article 210-70(2)(b).

### **ENERGY REQUIREMENTS:**

79. Certificate of Compliance. Completed and signed forms (CF-IR, CF-1R-ADD, or CF-1R-ALT) and RESIDENTIAL MANDATORY MEASURES shall be printed as part of the plans. Separate, attached sheets are not acceptable. Section 1403(a) 2A, Title 20.
80. Indicate on building section and roof framing plans that roof sheathing shall be provided with radiant barrier.
81. NOTE ON THE PLANS: *"Roofing products shall be listed by the Cool Roofs Rating Council with current CRRC Product ID Number and must bear the following rating:*
  - a. *Low Sloped Roof (less than 2:12 slope): A minimum aged solar reflectance of 0.63 and thermal emittance of 0.75, or a minimum SRI of 75."*
  - b. *High Sloped Roof (2:12 or steeper slope): A minimum aged solar reflectance of 0.20 and thermal emittance of 0.75, or a minimum SRI of 16."*
82. Note on the plans: *"Permanent lighting shall comply with the RESIDENTIAL MANDATORY MEASURES forms attached."*
83. Note on the plans: *"Glazing for new doors and windows shall bear an SHGC value of 0.25 maximum and U-Factor value of 0.32 maximum."*
84. Provide minimum stud/rafter sizing to accommodate insulation. Where 1" rafter space ventilation is required per CBC §1203.2, provide 2x10, 2x6 and 2x4 for R-30, R-19, and R-13 respectively.

### **GREEN BUILDING CONSTRUCTION REQUIREMENTS:**

85. Plumbing Fixtures: Specify the maximum allowable flow rates on the plans. Add note on the plans: *"Builder/Contractor shall submit documentation to the building inspector showing that the installed plumbing fixtures meet the maximum allowable flow rates as noted below:"*
  - a. Toilets: 1.28 gallons per flush
  - b. Kitchen Sinks: 1.8 gallons per minute
  - c. Single Shower Head: 2.0 gallons per minute
  - d. Multiple Shower Heads: Combined 2.0 gallons per minute
  - e. Faucets serving lavatories: 1.2 gallons per minute.

### **CONSTRUCTION/STRUCTURAL REQUIREMENTS:**

#### **General Requirements**

86. Review structural plans for additional corrections/comments. Address them as needed. The checked set is part of the corrections and must be returned at resubmittal for verification.
87. Provide structural notes. Indicate grade and species of framing lumber, treated sillplates, specifications of concrete ( $f'_c=2500$  psi min.), grade of reinforcing steel, mortar and grout, grade of masonry units, and structural steel specification. CRC § R106.
88. Provide structural observation pursuant to CBC§ 1704.5. Derive a program to observe the installation of the lateral forces resisting system (Shear walls, diaphragm, wall ties, and anchorage). Identify the stages that observation will be performed.

89. Submit soils report for review. Foundation design shall be consistent with the recommendations of the report.
90. Reference soils report and soils engineering company on the plans. Specify the Soils Engineering firm's contact information and report number/date on the plans.
91. Note on the plans: "Soils engineer shall inspect and approve foundation excavations prior to the placement of reinforcing steel. Submit documentations to the building inspector."
92. The proposed design deviates from the conventional construction provisions of the California Residential Code. Submit structural design by a state licensed Engineer or Architect. Structural calculations and details are required for: \_\_\_\_\_
93. Provide additional details and sections where indicated on plan check set. CRC §R106.
94. Delete notes and details that do not apply. CRC §R106.
95. Reference/key/identify all sections and details as to location on plans, elevations, sections, and detail sheets. CRC §R106.
96. Indicate on the plans that Special Deputy Inspection shall be provided for:
  - a. Epoxy anchorage.
  - b. Diaphragms/Shear walls, including nailing, bolting, anchoring, and other fastening of components of the seismic force resisting system, where the fastener spacing of the sheathing is 4" or less on center.
  - c. Concrete with compressive strength exceeding 2,500 psi.
  - d. Structural steel. The deputy inspector shall be certified and shall perform the duties as required by AISC-360, Appendix N. Documentation shall be submitted to the Building Inspector and the Engineer of Record for approval.

#### Foundation Requirements

97. Continuous Footing:
  - a. Provide continuous footing under exterior walls, interior bearing walls, and braced wall panels. CRC § R403.1.2.
  - b. Show minimum foundation size of 12" wide, 6" thick, and 12" embedment below the lowest adjacent undisturbed ground surface or engineered fill per soils report. CRC § R403.1.1, R403.1.4, and CRC Table R403.1.
  - c. Show minimum reinforcing steel: 1-#4 top and 1-#4 bottom. CRC § R403.1.3.
  - d. Raised floor buildings in Seismic Design Category D<sub>0</sub>, D<sub>1</sub>, and D<sub>2</sub> shall be supported on solid concrete stem wall. CRC § R602.12.
  - e. Provide stem wall vertical reinforcing steel (rebars): CRC Table R611.6(1) and R611.6(4)
    - i. #4 at 48" O/C for maximum 18" high soil retaining with a maximum total stem wall height of 3 feet measured from top of footing.
    - ii. #4 at 39" O/C for soil retaining height greater than 18" with a maximum total stem wall height of 3 feet measured from top of footing.
    - iii. Provide structural design from engineer/architect for all stem walls exceeding 3 feet in height.
98. Foundations on or adjacent to slopes: Provide required footing-slope setback complying with CBC§ 1808.7.
99. Show foundation anchor bolt size and spacing on foundation plan. CRC § R403.1.6. Note or show the following on plans:
  - a. Minimum of ½" diameter A.B. embedded 7" into footing and spaced not more than 6'-0" on center. 4'-0" maximum spacing for buildings over 2-stories in height.
  - b. Minimum two bolts per piece of sill plate and one located within 12" and not less than 7 bolt diameter of each end of each sill plate.
  - c. 3" x 3" x ¼" (0.229" min) plate washer shall be used on each anchor bolt. Slotting of washer is allowed to 1.75" long.
100. Detail connection of NEW anchor bolts and/or holdowns to existing footing at new shear/braced walls. Specify size, spacing, ICC number, and manufacturer of expansion, wedge, or adhesive anchors to be used on existing footing. CRC § R106.
101. Provide pad footing under posts support roof/ceiling beams. Use a maximum soil bearing pressure of 1,500 psf. Specify required pad size and depth of embedment on the plans. CRC Table 401.4.1.
102. Provide under-floor ventilation. Ventilation openings area shall equal to 1/150 of under-floor area. Openings shall be equally distributed on at least two opposite sides. Specify size and number of required vents on plans. CRC § R408.1.
103. Provide an 18"x24" (min.) crawl access to all under-floor areas. Show on foundation plan for BOTH existing and new underfloor areas. CRC§ R408.4.

104. Floor slabs shall be a minimum: 3.5" thick over 4" coarse aggregate base or moisture barrier membrane and reinforced with No. 3 bars at 24" o/c each way or two layers 6x6-10/10 WWFM or one layer 6x6-6/6 WWFM positioned at center of slab thickness. CRC § R506.1
105. Revise plans and details to show moisture barrier (Visqueen) to be placed in between 2-layers of 2" sand to facilitate proper concrete pour and mitigate possible puncture of barrier. CRC § R506.2.3.
106. Section CRC § R506.2.3 requires vapor barrier between interior space and grade. Please clarify how this will be done at the proposed habitable space conversion.
107. Provide details to show how floor girders will frame into supporting foundation. Girders framed into pockets in the foundation must be provided with a ½" air space on top, sides and ends or girder must be treated lumber.
108. Minimum clearance of untreated wood members above earth is 12" for girders and 18" for joists. Show and dimension. CRC § R317.1, item 1.
109. Wood framing members shall be placed 8" from exposed grade or shall be pressure treated or naturally durable. CRC § R317.1, item 2.
110. Show/detail on plan that exterior posts located on a slab shall be at least 1" above the floor/slab. CRC § R317.1.4, exception 1.

### Framing Requirements

111. Provide accurate details and sections to show how braced walls/shear walls are connected to roof, through ceiling and floor and to foundation. All blocking, nailing, and fasteners at intermediate elements shall be detailed to have a minimum capacity of the shear wall below.
112. Note on plans: "Shear walls shall run continuously from foundation to roof/floor framing."
113. Provide solid blocking of floor joists at each end and at supports. Note or show on the framing plans. CRC § R502.7
114. Show size(s) of all headers over openings. CRC § R602.7.
115. A ridge board 2" minimum greater than joists in nominal depth is required. Design as a load-bearing member if roof slope is less than 3" in 12". CRC § R802.3.
116. Rafters and ceiling joists will be nailed together with a minimum of:
  - a. 5-16d nails for rafter spans up to 12'.
  - b. 8-16d for rafter spans up to 20'.
117. Provide rafter ties at 48" maximum O/C, design and support ridge/hips/valleys as beams, or provide other design for roof support when ceiling joists are not parallel to roof rafters.
118. Provide roof purlins to reduce the span of rafters within the allowable limits. Purlins to be a minimum same size as rafters, the maximum span for 2"x4"/2"x6" is 4'/6", with braced struts not over 8' in unbraced length and not flatter than 45 degrees from horizontal to a bearing wall or partition. CRC § R802.5.1.
119. Positive connections shall be used for all post-beam connections to ensure against uplift and lateral displacements. Show and detail.
120. For roof and floor diaphragms specify structural panel thickness, grade, span rating or panel index, nailing schedule, and panel layout. CRC Table R503.2.1.1(1).
121. Floor structural panels shall be tongue and groove or have blocked panel edges. CRC Table R503.2.1.1(1), footnote 'k'.
122. Conventional wall bracing panels/shear walls shall conform to CRC § R602.10.2 Show the following on the plans:
  - a. Provide brace wall lines at no more than 25'-0" on center
  - b. Provide brace walls spacing at no more than 25'-0" on center with a maximum 21'-0" interior edge to edge.
  - c. Relocate brace wall panels to start at no more than 8'-0" from building corners.
  - d. Provide minimum lengths per the attached **City of West Covina California Residential Code Wall Bracing Guidelines**.

123. Note on the plans: "For braced wall panels/shear walls, each sheet of plywood/OSB sheathing shall not be less than 24" in least dimension. All edges of all panels shall be supported by and fastened to framing members or blocking."
124. Provide shear walls or brace panels schedule on the plans. Specify panel nailing size and spacing (edge and field nailing), framing anchors (A35, LTP), sole/sill plate nailing, and anchor bolts size and spacing.
125. Specify the required lengths of individual shear wall panels on the plans.
126. Provide 3x framing members (sill plate, sole plate, studs) at shear walls panels receiving edge nailing for the following: (SDPWS 4.3.7.1, note 5)
  - a. Shear walls with required nominal unit shear exceeding 350 plf.
  - b. Shear walls with edge nailing of 2" or less.
  - c. Shear walls utilizing 10d nailing with edge nailing of 3" or less.
127. The current design of segmented shear walls exceeds the aspect (height-to-width) ratio of 2:1 as specified in SDPWS Table 4.3.4. Revise design to show compliance with SDPWS Section 4.3.4.2 by showing the proper application of the Aspect Ratio Factor or provide design complying with SDPWS Section 4.3.4.3 for Perforated Shear Walls.
128. Indicate on the plans that shear walls having aspect (height-to-width) greater than 1.5:1 shall be blocked. SDPWS, Table 4.3.4. Footnote 1.
129. The redundancy factor, "ρ", shall be 1.3, except where the conditions of ASCE-7 Section 12.3.4.2 are met.
130. The doubling of allowable shear values applies to plywood capacity only. Other components must be spaced and sized properly to utilized full capacity of the shear values specified. Submit design of LTP4 and anchor bolts to show capacities specified on the shear walls schedule or specify the maximum capacity based on the least capacity of the components of the system (LTP4, anchor bolts or plywood nailing).

# City of West Covina California Residential Code Wall Bracing Guidelines

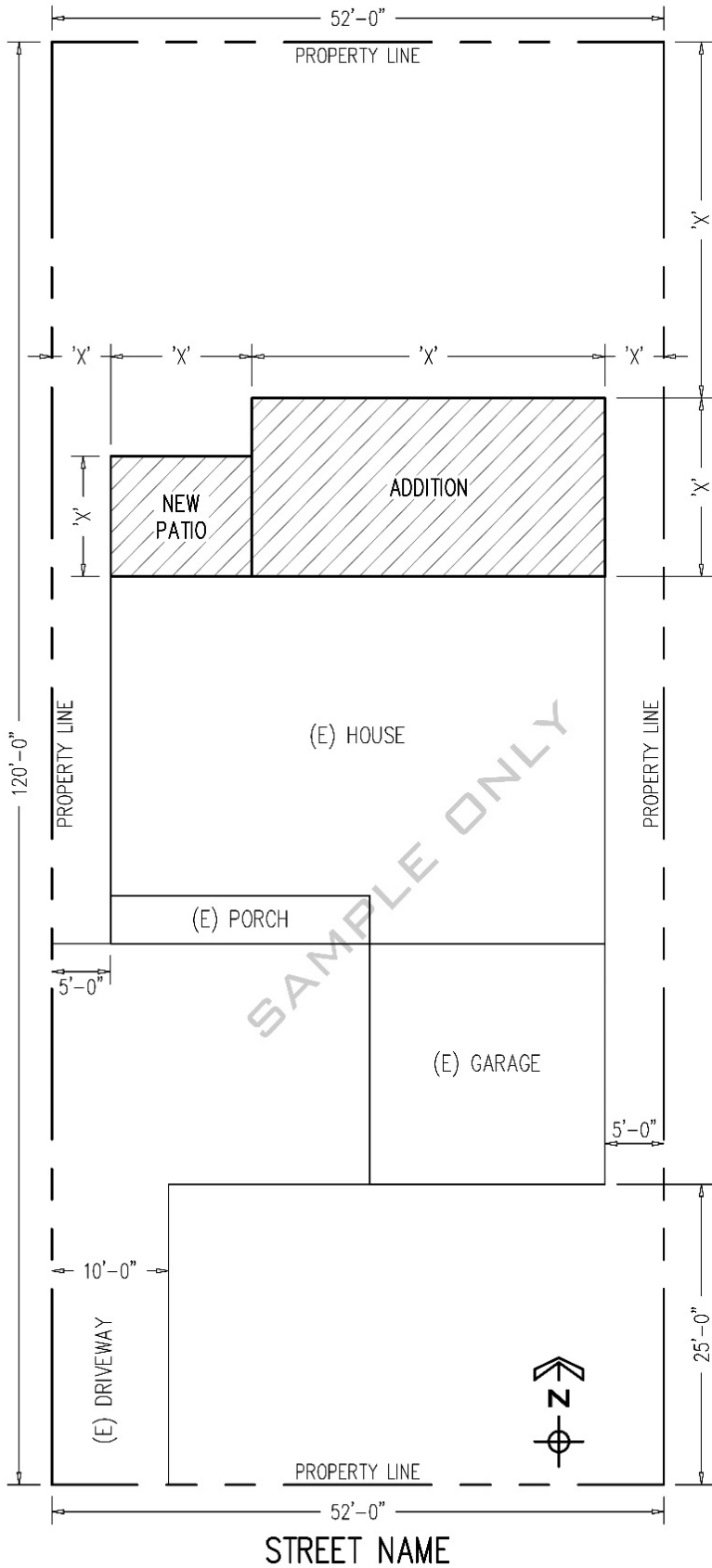
CRC § R602.10 and CRC Table R602.10.1.2(2)

Based on Soil Class D and Seismic Design Category D<sub>2</sub>

		<b>WSP</b> Plywood/ OSB	<b>PCP</b> Stucco	<b>HPS</b> Hardboard Panel Siding	<b>GB</b> Gypsum	<b>PBS</b> Particle Board Sheathing
	Min. Thickness	3/8"	7/8"	7/16"	1/2"	3/8"
<b>1-STORY BUILDINGS</b>	Braced Wall Line Spacing (feet) ≤ 25'	Minimum Required Brace Wall Length (feet) <sup>a,b,c,d,e,f</sup>				
	10	4.0	4.0	4.0	8.0	4.0
	11	4.0	4.4	4.4	8.0	4.4
	12	4.0	4.8	4.8	8.0	4.8
	13	4.0	5.2	5.2	8.0	5.2
	14	4.0	5.6	5.6	8.0	5.6
	15	4.0	6.0	6.0	8.0	6.0
	16	4.6	6.4	6.4	8.0	6.4
	17	4.7	6.8	6.8	8.0	6.8
	18	4.8	7.2	7.2	8.0	7.2
	19	4.9	7.6	7.6	8.0	7.6
	20	5.0	8.0	8.0	8.0	8.0
	21	5.1	8.4	8.4	8.4	8.4
	22	5.2	8.8	8.8	8.8	8.8
	23	5.3	9.2	9.2	9.2	9.2
	24	5.4	9.6	9.6	9.6	9.6
25	5.5	10.0	10.0	10.0	10.0	
<b>ABW</b> Alternate Braced Wall. CRC Table R602.10.3.2. <sup>g</sup>						
Height of Brace Wall Panel				8 ft	9 ft	10 ft
Minimum Panel Length <sup>h</sup>				32"	32"	34"
<b>HOLDOWN CAPACITY</b> (lb): Walls of 1-STORY buildings				1800	1800	1800

## KEYNOTES

- a. Engineered Design shall comply with the provisions of the California Building Code.
- b. Minimum Panel Length is **48"**. For type **GB**, minimum Panel Length is **96"** on one side. **48"** on both sides. R602.10.3
- c. Multiply by **1.2** for Plate Height > 10' ≤ 12'
- d. For type **GB**, multiply by **0.85** for Wall Weight < 8psf (type GB)
- e. Multiply by **1.1** for Roof/Ceiling Dead Load (inclusive roof/ceiling framing, roofing, drywall, sheathing, insulation, roof mounted HVAC systems) < 15 ≤ 25psf.
- f. Multiply by **1.2** for First Story Walls with Roof/Ceiling/Floor Dead Load (inclusive roof/ceiling/floor framing, roofing, drywall, sheathing, insulation, roof mounted HVAC systems) < 15 ≤ 25psf.
- g. Minimum Thickness shall be in accordance to the material used for WSP, PCP, HPS, GB, or PBS.
- h. The reduced length maybe used in-lieu of the required each 4 feet of the braced wall panel length where continuous footing and holdown devices are provided at the braced wall line. R602.10.3.2.



### SAMPLE SITE PLAN

**NOTE**

The information shown here do not reflect actual site conditions. This illustration is used as an example of the information required on a site plan.

**INSTRUCTIONS**

1. Show property lines and lot dimensions.
2. Show all existing and proposed structures (home, pool, sheds, patio covers) on the site.
3. Show existing front, sides, and rear yards setbacks.
4. Show all dimensions labeled 'X'.
5. Provide project specific data as indicated below.

<p><b>PROJECT DATA (FOR EXAMPLE ONLY)</b>                  Address: 1234 Street Name,                  West Covina, CA 9179_</p> <p><u>Existing:</u>                  Dwelling: 1100 Sq. Ft.                  Garage: 400 Sq. Ft.                  Porch: 68 Sq. Ft.</p> <p><u>New:</u>                  Addition: 465 Sq. Ft.                  Covered Patio: 150 Sq. Ft.</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



**Building Division**