



# Building and Safety Division • Public Information

County of Ventura • Resource Management Agency • [http://www.ventura.org/rma/build\\_safe](http://www.ventura.org/rma/build_safe)  
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## PLAN REQUIREMENTS FOR METAL BUILDINGS

- A. The construction plans shall be drawn on a minimum (24" x 36") paper. **Print these tracings to form a set of plans.**
- B. At least one (1) complete set of PRINTED CONSTRUCTION PLANS should be provided with each application for a building permit, accompanied by a zone clearance approved by the Planning Division. The plans should not contain any pencil or pen marks other than those placed on them by the plan checker.
- C. One separate set containing the site plan, elevations and floor plans only which contain the Planning Division stamp of approval.
- D. Front sheet of set of plans shall have Sheet Index.

### **DESIGN REQUIREMENTS:**

- A. A registered Civil or Structural Engineer or Architect is required to prepare drawings for metal buildings.
- B. (2 sets) Structural calculations with Sheet Index on the front sheet to facilitate plan review. Provide loading, bending, shear and deflection diagrams of each structural member, seismic vs. wind analysis, key plan showing lateral loads at each grid line, rigid frames based on County Handout B-86.
- C. Unless waived in accordance with Handout B-49 & 50, a soils report is required (2 sets) when new foundations or structural slabs are proposed.

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EACH SET OF PLANS SHOULD CONTAIN AT LEAST THE FOLLOWING INFORMATION IN A CLEAR, SELF-EXPLANATORY, AND BUSINESS-LIKE MANNER.

1. **SITE PLAN: (Preferred scale: 1" - 10' for an average size lot, or 1" - 40' for larger lots.)**
  - (a) Assessor's parcel number \_\_\_\_-0\_\_\_\_-\_\_\_\_.
  - (b) Owner's name and project address.
  - (c) Preparer's name and address.
  - (d) The size and position of all structures on the lot and intended use of proposed and existing structures on the lot.
  - (e) The location of the existing or proposed sewer system drawn accurately to scale.
  - (f) The set back distances from front, side and rear property lines.
  - (g) The names of any streets adjacent to the property.
  - (h) Reflect the topography (existing and proposed grades) of the lot and the extent of grading to be done, i.e., a grading permit number or a statement of "no grading required" on the plan.
  - (i) Indicate drainage at minimum 2% slope away from the foundation.
  - (j) The location of any retaining walls existing or proposed on the site.
  - (k) Site accessibility for persons with disabilities from disabled parking space to all the exit doors per Title 24, Chapter 11B. *Applicable to public accommodations only.*
  - (l) Point of connection to water, sewer, electricity and gas that serves the property.
  - (m) Location and description of all easements on the property, if any.
2. **FLOOR PLAN: (Preferred scale: 1/4" = 1')**
  - (a) A completely dimensioned floor plan for each floor level.
  - (b) A clarification of the use of **all** rooms in the building.
  - (c) Door and window sizes, location, types and door hardware.
  - (d) Building accessibility for persons with disabilities to exit doors, path of travel, sanitary facilities, public phones, drinking foundations, etc. *Applicable to public accommodations only.*
  - (e) Building life safety analysis to justify floor area, occupant load, occupancy, number of exits required and type of construction.
  - (f) Clear identification of fire walls, fire barriers, fire partitions, fire rated corridors, existing and new walls by wall legend.
3. **ARCHITECTURAL CROSS SECTIONS (Preferred scale: 1/4" = 1')**
  - (a) Wall and ceiling insulation envelope corresponding to energy calculations.
  - (b) Wall and ceiling fire resistive assemblies. Callout complete assembly material requirements.
  - (c) Cross reference of blow up details.
  - (d) Interior and exterior finishes.
4. **FOUNDATION PLAN: (Preferred scale: 1/4" = 1')**
  - (a) A completely dimensioned foundation plan for the building.
  - (b) Any special construction required by the engineer of record, or by any site conditions.
  - (c) The size and location of all isolated pad footings.
  - (d) Size and spacing of anchor bolts, and location of hold-downs.
  - (e) The extent and location of all slabs and foundations.
  - (f) Size and location of all special footings, grade beams, retaining walls, slab block outs, etc., required by the engineer of record.

- (g) Compliance with all the recommendations made by the SOILS ENGINEER.
- (h) Expansive soil requirements per VENTURA COUNTY BUILDING CODE.

**5. ELEVATIONS: (Preferred scale: 1/4" = 1')**

- (a) Four elevations of the exterior of the building.
- (b) Exterior wall finishes.
- (c) Type of roofing and the pitch of the roof.
- (d) A complete set of dimensions in the vertical direction to clarify the height proposed.
- (e) The elevations should show the true site conditions.
- (f) Location of all openings (windows, doors, etc.) in the perimeter walls.
- (g) Dimension of eave projection.

**6. FRAMING PLAN AND CROSS SECTIONS: (Preferred scale 1/4" = 1')**

**A. ROOF/FLOOR FRAMING PLANS**

Show rigid frames, beams, columns, purlins, eave struts, cross bracings, connection detail references. Show size and shapes of structural elements. Part numbers are not acceptable.

**B. CROSS SECTIONS**

Longitude and transverse cross-sections of the entire building showing structural members. Cross reference shear transfer and connection details on the cross sections. Draw details which are adequate and complete with all proposed weld types and sizes called out for the proposed project. Standard detail without structural information are not acceptable.

**7. CONSTRUCTION DETAILS:**

- (a) Rigid frame elevation with structural information.
- (b) Post and beam connections.
- (c) Detail sheets containing typical construction details will not be accepted when they contain details and information that do not apply to this project.

**8. ENERGY REQUIREMENTS: *(Agricultural Buildings 2500 sq.ft. or less are exempt, per Title 24, 146(a) Item 5P.)***

- (a) Applicable forms ENV-1-C thru ENV-4-C, MECH-1-C thru MECH-4-C and LTG-1-C thru LTG-9-C, OLTG-1-C thru OLTG-4-C shall be completely filled out including the required signatures and **shall be reproduced on the plans** as a page or part of a page of the plans. (They may be reduced down in size so long as they are legible.)
- (b) The square footage of conditioned space on the energy forms should agree with the square footage shown on the plans.

**9. PLUMBING: A separate plumbing isometric plan is required: *(When applicable.)***

- (a) When drainage piping is located below the next upstream manhole (hillsides).
- (b) Prior to permit issuance, plans shall be prepared by and bear the impressed seal and wet signature of a State of California Registered ARCHITECT or PLUMBING & MECHANICAL ENGINEER or bear the name, address and wet signature of the LICENSED PLUMBING CONTRACTOR who is doing the work on the project.
- (c) Show type and location of plumbing fixture, rough plumbing lines and grease interceptor details.

**10. MECHANICAL: Separate mechanical plans are required for: *(When applicable.)***

- (a) Show type, location of each heating and cooling unit.
- (b) Add equipment schedule.
- (c) Show location, ducts, diffusers, fire and smoke dampers and hood construction detail.
- (d) Prior to permit issuance Mechanical plans must be prepared by and bear the impressed seal and wet signature of a State of California Registered ARCHITECT or MECHANICAL ENGINEER or bear the name, address and wet signature of the LICENSED HEATING & AIR CONDITIONING CONTRACTOR who is doing the work on the project.

**11. ELECTRICAL: A separate electrical plan is required for: *(When applicable.)***

**A. SINGLE LINE DIAGRAM**

- (1) Show conduit and wire sizes.
- (2) Specify aluminum or copper conductors and insulation type.
- (3) Show serving voltage, amperage, and short circuit current available from utility.
- (4) Show service grounding method, ground wire size and cold water bond.
- (5) Show sizes of fuses and/or circuit breakers and ampere interrupting capacities (AIC) of equipment.
- (6) Show justification for equipment AIC rating by specifying fuse or breaker by manufacturer number or circuit length and/or short circuit calculation.
- (7) Show main service arrangement with details on work space, access and connection to utility transformer.

**B. ELECTRICAL LOAD CALCULATIONS/PANEL SCHEDULES**

- (1) Show electrical load calculations to justify the size and type of equipment and conductors to be installed.
- (2) Show panel rated ampacity, AIC rating, voltage; main lugs only or with main protection; and panel locations.
- (3) Show total load and per phase load in watts and amperes.

**C. LIGHTING PLAN**

- (1) Show outdoor lighting plan.
- (2) Show layout of lighting fixtures, wiring and switching. Identify luminaire type and wattage with supporting Title 24 energy compliance documentation.

- D. Prior to permit issuance plans shall be prepared by and bear the impressed seal and wet signature of a State of California Registered ELECTRICAL ENGINEER or ARCHITECT or bear the name, address and wet signature of the LICENSED ELECTRICAL CONTRACTOR who is doing the work on the project.