



## Residential Plan Requirements

*These are general requirements for residential plans. For more specific information please contact the Building Permit Specialists at 791-5550.*

### **Floor Plan:**

- Names of all rooms and spaces with complete dimensions
- Size and location of doors, windows
- For additions and/or alterations to existing buildings (including mobile homes and manufactured buildings) show existing buildings and adjacent areas indicating all pertinent items such as window and door sizes and existing structural framing.

### **Foundation Plan and Details:**

- Size and depth of all footings
- Dimensions of stem walls and concrete slabs
- Reinforcing steel – size and spacing
- Soil bearing value. Submit engineering soil reports for foundation on fill or if calculations are for soils with greater than 1,500psf bearing capacity.

### **Structural Plans and Details:**

- Wall bracing method and locations
- Lintel, header and beam sizes and materials
- Roof and/or floor framing materials, sizes, spacing and spans
- Cross section drawings and details that include:
  - Support of all structural elements
  - Connections of walls, joists, rafters, beams, posts, ledgers, etc.
  - Interior and exterior wall, ceiling and roof covering

### **Exterior Elevations:**

- Heights of finished floor, windows/doors, exterior walls, rooflines, chimneys, etc.
- Details of special construction features such as stairs, fireplaces, retaining wall, showers and sunken tubs, include the complete information on all materials

### **Electrical Plans:**

- Service riser diagram and panel schedule with description of circuits and feeder sizes
- Electrical load calculations
- Solar photovoltaic preparation
- Location of panel boards, equipment disconnects, receptacles, lights, switches and smoke detectors with appropriate circuit reference numbers
- Outdoor lighting compliance and calculations

**Mechanical Plans:**

- Manual J/D/S calculations
- Location, access and working space for all equipment
- Combustion air openings and flue sizes for gas-fired equipment
- Distribution and return air layout shown in plan view with CFM capacity, grill and diffuser sizes, insulation value of mechanical ducts and duct materials
- Size, location and piping material of condensate drain lines
- Location, size and capacity of exhaust fans and automatic clothes dryer venting

**Plumbing Plan Requirements:**

- Location, size and material of all water supply, drainage waste and vent (DWV) and gas supply piping. Isometric drawings are required for multistory buildings.
- Appliance input demands for gas-fired appliances
- Water supply fixture unit schedule and water demand calculations with lowest available pressure (with appropriate pressure loss information), water meter size and total developed length of piping system
- Size, location and material of temperature and pressure relief line for water heater
- Location of all waste clean-outs and water shut off valves
- Solar water heating preparation
- Gray water segregation for bathing and clothes washing fixtures

**Energy Conservation:**

- Specify the “R” value of the insulation, as well as the “U” factor and the solar heat gain coefficient of the windows and doors. Tucson is in climate zone 2B. The simplified prescribed energy values for glazing and skylights is  $U=0.40$ ,  $SHGC=0.25$ , ceiling  $R=38$  and walls  $R=13$ . Mass wall requirement is  $R=4$  when 50% of insulation is exterior and  $R=6$  when applied interior, N1102.1.
- Specify high-efficacy lamps for at least 75% of all lighting fixtures, N1104.1.