

New Single-Family Residence

This document contains a collection of handouts about building a new single-family residence in the County of Humboldt. Included are links to resources which are used by the Humboldt County Building Division to assess requirements for a proposed new single-family residence. Click the gold star to get a PDF version of the handout it is next to.

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Important GIS Layers | New Single-Family Residence ★

The [Humboldt County Geographical Information System \(GIS\)](#) is used by the building division to determine the jurisdictions, hazards, natural resources, and other geologic features associated with the proposed building site. Below are some important jurisdictional and geologic features that have a significant effect on what submittal documents you will need for a new single-family residence. To learn more about how to use the GIS, read the [Web GIS Guide](#).

Jurisdictions

Wildfire Responsibility

The Wildfire Responsibility layer shows which parcels are in the state responsibility area (SRA), local responsibility area (LRA), and the federal responsibility area (FRA). If your construction is within the SRA you will need to comply with the counties [Fire Safe Regulations](#) (also summarized in the [SRA Fire Safe Regulations Checklist](#)). Furthermore, you will have to comply with the [Wildland Urban Interface](#) building regulations. To access the Wildfire Responsibility layer, check the following [GIS](#) layer list boxes to the right

Community Services District

The community services district layer shows which parcels are served by potable water and sewer services. This layer is significant to the building division because if your parcel is not within a community service district you will be allowed to apply for an alternate-owner builder permit (AOB permit) described in the counties [Alternative-Owner Builders Ordinance](#). For more information refer to the [AOB Submittal Requirements Form](#). To access the Community Services District layer, check the following [GIS](#) layer list boxes to the right.

▼ Jurisdiction Boundaries & Land Use

▶ Planning Layers

▼ Jurisdiction Boundaries

▶ City Boundary

▶ School Districts

▶ Fire Districts

▼ Wildfire Responsibility (Cal Fire)

SRA

LRA

FRA

▼ Jurisdiction Boundaries & Land Use

▶ Planning Layers

▼ Jurisdiction Boundaries

▶ City Boundary

▶ School Districts

▶ Fire Districts

▶ Wildfire Responsibility (Cal Fire)

▼ Community Service Districts

District







FEMA Flood Zones

The FEMA Flood Zone layer shows the flood zone and floodway. A new single-family residence in the flood zone will have to comply with the [Flood Damage Prevention](#) chapter of the county ordinance, [Flood Resistant Construction](#) of the Residential Building Code, [Flood Hazard Reduction](#) of the California Plumbing Code, [Flood Hazard Areas](#) of the California Mechanical Code and will need to have a second floor certification [special inspection](#). To access the FEMA Flood Zone layer, check the following [GIS](#) layer list boxes to the right

Slope Less Than 15%

The slope less than 15% layer will tell you if you're construction site is likely to have a slope over 15%. Having a slope over 15% is considered an unusual hazard and will require more submittal documents than usual for grading and new construction. All grading on a slope over 15% will require an engineered grading plan per the [grading designation](#), a soils report per the [engineered grading application requirements](#), and final reports per [completion of work](#). A new single-family residence on a slope over 15% will require a soils report and a site-specific [sediment and erosion control plan](#) per the [erosion and sediment control plan requirements](#). To access the Slope Less Than 15% layer, check the following [GIS](#) layer list boxes to the right.

- ▼ Hazards
 - ▶ Coastal and Dam Inundation
 - ▶ Tsunami
 - ▼ Flood
 - ▶ DWR Awareness Floodplain
 - ▼ FEMA Flood Zones (6/21/2017)
 -  100 Year Flood Zone (A, AE, AO, VE)
 -  500 Year Flood Zone (Shaded X)
 -  Floodway

- ▼ Hazards
 - ▶ Coastal and Dam Inundation
 - ▶ Tsunami
 - ▶ Flood
 - ▼ Seismic Safety and Slope Stability
 - ▶ Area of Potential Liquefaction
 - ▶ Seismic Safety
 - ▶ Historic Landslides
 - ▶ Slope LiDAR - Elk/Freshwater
 - ▶ Slope USGS
 - ▼ Slope less than 15%
 -  <15%



Seismic Safety

The seismic safety layer shows relative stability of your construction site. A moderate or high instability is considered an unusual hazard and will require more submittal documents than usual for grading and new construction. Grading 50 cubic yards or more on sites with moderate or high instability will require an engineered grading plan per the [grading designation](#), a soils report per the [engineered grading application requirements](#), and final reports per [completion of work](#). You will notice the GIS lists seismic safety from 0 to 3 while the [geologic matrix](#) lists seismic safety from 1 to 4. In this case 0 matches with 1, 1 matches with 2, and so on. Per the geologic matrix a soils report will be required for a single-family residence with a moderate or high designation. Furthermore a single-family residence will require a site-specific sediment and erosion control plan with a moderate or high seismic safety designation per the [erosion and sediment control plan requirements](#). To access the Seismic Safety layer, check the following [GIS](#) layer list boxes to the right.

Area of Potential Liquefaction

The area of potential liquefaction layer shows areas where the stiffness of the soil has a potential to temporarily behave like a liquid during an earthquake. An area of potential liquefaction is considered an unusual hazard and may require more submittal documents than usual for a single-family residence. To access the Area of Potential Liquefaction layer, check the following [GIS](#) layer list boxes to the right.

- ▼ Hazards
 - ▶ Coastal and Dam Inundation
 - ▶ Tsunami
 - ▶ Flood
 - ▼ Seismic Safety and Slope Stability
 - ▶ Area of Potential Liquefaction
 - ▼ Seismic Safety
 - 3 High Instability
 - 2 Moderate Instability
 - 1 Low Instability
 - 0 Relatively Stable

- ▼ Hazards
 - ▶ Coastal and Dam Inundation
 - ▶ Tsunami
 - ▶ Flood
 - ▼ Seismic Safety and Slope Stability
 - ▼ Area of Potential Liquefaction
 -




Streamside Management Area (SMA)

The Streamside Management Area (SMA) layer shows class 1 and class 2 streams. Development of a single-family residence in the SMA will need to comply with the [Streamside Management and Wetland Areas Ordinance](#) of the county code and will require a special permit from the planning department. To dispute the biological impact of your development you can submit a biological determination from a qualified biologist. Any grading over 50 cubic yards in the SMA will need to be engineered. To access the SMA layer, check the following [GIS](#) layer list boxes to the right.

Wetlands

The Wetlands layer shows all wetlands. They are differentiated by type on the GIS, but the building department treats construction in any of these areas the same. Development of a single-family residence in a wetland will need to comply with the [Streamside Management and Wetland Areas Ordinance](#) of the county code and will require a special permit from the planning department. To dispute the biological impact of your development you can submit a biological determination from a qualified biologist. Any grading over 50 cubic yards in the SMA will need to be engineered. To access the SMA layer, check the following layer [GIS](#) list boxes to the right.

- ▼ Natural Resources
 - ▼ Streamside Management Areas
 - 

- ▼ Natural Resources
 - ▶ Streamside Management Areas
 - ▶ Williamson AG Preserves
 - ▶ SMARA Parcels
 - ▶ Prime Agricultural Soils
 - ▶ Agricultural Soils
 - ▶ NRCS 2014 Soils (Proposed)
 - ▼ Wetlands
 - ▶ NWI Wetlands
 - ▶ McKinleyville Wetlands
 - ▶ Mill Creek Wetlands



Low Impact Development Area (MS4)

The MS4 layer shows areas subject to the State Water Quality Control Board’s requirements for storm water systems. For more information on what the MS4 is and what documentation is required refer to the [MS4 Stormwater Manual](#). If your parcel is less than 1-acre then you may apply for less restrictive requirements with the [MS4 Small Construction](#) form. To access the MS4 layer, check the following [GIS](#) layer list boxes to the right.

- ▼ Natural Resources
 - ▶ Streamside Management Areas
 - ▶ Williamson AG Preserves
 - ▶ SMARA Parcels
 - ▶ Prime Agricultural Soils
 - ▶ Agricultural Soils
 - ▶ NRCS 2014 Soils (Proposed)
 - ▶ Wetlands
 - ▶ Coastal Wetland Areas
- ▼ Low Impact Development Areas (MS4)



Submittal Documents | New Single-Family Residence ★

Submittal documents are construction drawings, engineered calculations, forms, installation manuals, and any other documents which will describe the construction of your proposed single-family residence.

Below is a list of all the submittal documents you could be required to provide. The submittal documents required for building permit issuance depend on the geologic/jurisdictional features of your building site and the scale and complexity of your single-family residence.

- *Construction Plans*
 - Cover Sheet – The cover sheet should provide general building project information such as assessor parcel number (APN), address, directions to site, signature/stamp of design professional, use of structure, referenced building codes, occupancy, occupant load, type of construction, stories, height, floor area, etc. The owners name, APN, address, and north directional arrow shall also be included on all pages of the construction plans.
 - Plot/Site Plan – The plot plan shows the entire parcel including all proposed structures, existing structures, setbacks from property lines, SRA areas, vegetation management area and more. Refer to the [plot plan checklist](#) to see what information a plot plan has.
 - Sediment and Erosion Control Plan - The purpose of an erosion and sediment control plan is to prevent sedimentation or damage to onsite and offsite property. At a minimum these general guidelines must be followed.
 - Floor Plan - The floor plan is a birds-eye view showing the dimensions and use of each room in a structure including windows, doors, and egress windows and doors.
 - Elevations Plans – Elevation plans show the height of the proposed structure, details on the exterior walls, required building code notes, and cross section details.
 - Foundation Plan – The foundation plan shows footing details, hold downs, shear wall schedule, required building code notes, and more.
 - Floor Framing Plan – The floor framing plan shows size, type, and spacing of joists, girders, required building code notes, and mechanical fasteners.
 - Roof Framing Plan – Roof framing drawings show critical connections in the roof framing and detail framing members, fastener type/size, required building code notes, and mechanical fastener type and size.
 - Electrical Plans – Electrical plans detail required building code notes and electrical switches, outlets, and fixtures with their configuration overlaid on a floor plan.
 - Sprinkler Plans – Sprinkler plans describe size and type of sprinkler supply pipe, spacing of sprinkler heads, hydraulic calculations, required building code notes, water supply calculations by the community service district, and shutoff locations.



- Mechanical Plans – Mechanical plans or heating, ventilation, and air-conditioning (HVAC) plans detail what appliances will be used and includes notes about relevant building code requirements.
- Plumbing Plans – The plumbing plans will provide a layout of plumbing, show all, materials and appliances used and will include notes on related building code.
- General Notes – The general notes page will detail California Green Building Standard requirements and will further detail electrical, mechanical, plumbing, sprinkler, and energy code requirements.
- *Engineering*
 - Energy Calculations - Energy calculations ensure your home will be well insulated and energy efficient. They require such things as quality insulation, windows, appliances, photovoltaic systems, title 24 energy report, and special inspections. required building code notes from the California Green Building Standards and California Energy code should be included. This document must be created by a qualified energy consultant.
- *Forms*
 - Building Application - A building application is used to gather personal information about the applicant and a project description. This must be filled out by the owner or agent.

- *Construction Plans*
 - Photovoltaic Plans – Required if your energy calculations require them. Refer to Section 150.1(C)(14) of the California Energy Code for exceptions.
 - Grading Plan – Required if your building site is on an existing or proposed graded flat where over 50 cubic yards of dirt was moved or will be moved. If unusual hazards (high slope, fill seismic instability, liquefaction potential) or natural resources (streamside management area, wetlands) exist at your building site then an engineered grading plan may be required.
- *Engineering*
 - Structural Calculations – Required if the building official determines that the structure being built is outside the prescriptive building code requirements.
 - Truss Calculations – If you are using engineered trusses.
 - Soils Report – If unusual hazards exist at your building site (over 15% slope, seismic instability, liquefaction potential) or if an engineered grading plan is required.
 - Flood Elevation Certificate – If the building site is in the flood zone.



- *Forms*

- [Authorization of Agent](#) – If you want to authorize a 3rd party to act on your behalf.
- [Erosion and Sediment Control Plan for Small Projects](#) – If you want to apply for less restrictive erosion and sediment control requirements.
- [SRA Small Parcel Exemptions](#) – If you want to apply for reduced setbacks in an SRA area.
- [Owner Builder Notice to Property Owner Form](#) – If you want to apply as an owner-builder.
- [MS4 Small Construction](#) – If you are in the MS4 area and your parcel is less than 1 acre.



Inspection Schedule | New Single-Family Residence ★

New single-family residential construction is inspected in 6 stages; foundation, floor, rough-out, insulation, drywall and final. You could manage to only have 6 inspections during the life of your project, but it is very common to have more. This document provides a description of each inspection including related building code, directions on when to call for your next inspection, and descriptions of special inspections that may be required. The inspection card, all county approved documents, and any relevant installation manuals must be provided on-site for each inspection. Refer to [Important GIS Layers](#) to determine if flood and fire hazard requirements apply.

1 Foundation

- *Setbacks* – We will verify that the setbacks described on your county approved site map match your development. You must be outside the setback distance from property lines, easements, streamside management areas, and rights of way. Your forms are required to be set prior to the setback inspection. If you cannot provide definitive proof you are outside setback areas you will be required to obtain a property survey from a qualified surveyor. The [Humboldt County Zoning Code](#) will be used as a minimum requirement.
- *Footings* – We will verify that your footings match what is required on the soils report and building plans. This includes proper depth, width, quality of soil, and sediment and erosion control. A [Footing Special Inspection](#) by the engineer on record may be required. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), and the [Humboldt Code \(HC\)](#).

Important Chapters

- [Foundations \(CRC\)](#)
- [Erosion and Sediment Control \(HC\)](#)

Important Sections

- [Footings \(CRC\)](#)
- [Foundation Drainage \(CRC\)](#)
- [Erosion Control \(HC\)](#)

- *Forms* – We will verify that forms will produce a concrete foundation assembly described on the foundation plans and soils report. This includes verifying anchor bolts and hold downs are in place or at least that the forms are marked for setting the hardware while the concrete is still wet. A UFER ground should be inspected at this stage if used. The building code relevant to this inspection are the [California Residential Code \(CRC\)](#), and the [California Electric Code \(CEC\)](#).

Important Chapters

- [Foundations \(CRC\)](#)
- [Wall Construction \(CRC\)](#)
- [Grounding and Bonding \(CEC\)](#)

Important Sections

- [Form Materials/Ties \(CRC\)](#)
- [Concrete-Encased Electrode 250.52\(A\)\(3\) \(CEC\)](#)



1 Foundation

- *Underfloor Plumbing (Slab Only)* – We will verify that your drain-waste-venting system is assembled as per plans, wrapped where exposed to concrete, and can hold water pressure up to a 10ft head for at least 15-minutes. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Plumbing Code \(CPC\)](#), and the [Humboldt Code \(HC\)](#).

Important Chapters

- [General Regulations \(CPC\)](#)
- [Sanitary Drainage \(CPC\)](#)
- [Vents \(CPC\)](#)
- [Stormwater Drainage \(CPC\)](#)

Important Sections

- [Water Test \(CPC\)](#)
- [General Protection \(CPC\)](#)

- *Temporary Electric (Optional)* – It is optional to install a pole mounted service panel to provide power during the initial inspection. A listed panel enclosure, a grounding electrode system, and a 20-amp GFCI protected outlet is required at minimum. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Electric Code \(CEC\)](#), and the [Humboldt Code \(HC\)](#).

Important Chapters

- [General \(CEC\)](#)
- [Wiring and Protection \(CEC\)](#)
- [Wiring Methods and Materials \(CEC\)](#)

Important Sections

- [Grounding and Bonding \(CEC\)](#)
- [Overcurrent Protection \(CEC\)](#)
- [Services \(CEC\)](#)

Once all inspections have been approved you will be ready to pour concrete and start framing your floor.

2 Floor

- *Foundation Framing* - We will verify that the floor framing matches what is described on your foundation plans. This includes everything before floor sheathing such as girders, joists, and required hardware. If you are developing new construction in the flood zone, we will require a [Second Flood Certification](#). Code books relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Building Code \(CBC\)](#), and the [Humboldt Code \(HC\)](#).

Important Chapters

- [Building Planning \(CRC\)](#)
- [Floors \(CRC\)](#)
- [Foundations \(CRC\)](#)

Important Sections

- [Fire Protection of Floors \(CRC\)](#)
- [Allowable Joist Spans \(CRC\)](#)
- [Drilling and Notching \(CRC\)](#)



- *Underfloor Plumbing* – We will verify that your drain-waste-venting system is assembled as per plans and can hold water pressure up to a 10ft head for at least 15-minutes. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Plumbing Code \(CPC\)](#), and the [Humboldt Code \(HC\)](#).

Important Chapters

- [General Regulations \(CPC\)](#)
- [Sanitary Drainage \(CPC\)](#)
- [Vents \(CPC\)](#)
- [Stormwater Drainage \(CPC\)](#)

Important Sections

- [Water Test \(CPC\)](#)
- [General Protection \(CPC\)](#)

Once approved you will be ready to install floor sheathing, walls, the roof, rough-plumbing, rough-electrical, and rough-mechanical.

- *Rough-Framing* - We will verify that the framing matches approved framing plans, structural calculations, and truss calculations. The building official may require a [structural certification](#) at this inspection. Code books relevant to this inspection are the [California Residential Code \(CRC\)](#).

Important Chapters

- [Building Planning \(CRC\)](#)
- [Wall Construction \(CRC\)](#)
- [Roof-Ceiling Construction \(CRC\)](#)

Important Sections

- [Fire Resistant Construction \(CRC\)](#)
- [Wood Wall Framing \(CRC\)](#)
- [Wood Roof Framing \(CRC\)](#)
- [Means of Egress \(CRC\)](#)
- [Guards and Window Fall Protection \(CRC\)](#)

- *Shear Nail* – We will verify that the nailing pattern of your exterior and interior shear wall matches what is shown on your shear wall schedule and structural calculations. We will also verify roof sheathing material, type of fasteners, and nail pattern. Code books relevant to this inspection are the [California Residential Code \(CRC\)](#).

Important Chapters

- [Wall Construction \(CRC\)](#)
- [Roof-Ceiling Construction \(CRC\)](#)
- [Floors \(CRC\)](#)

Important Sections

- [Wall Bracing \(CRC\)](#)
- [Wood Structural Panels \(CRC\)](#)
- [Roof Sheathing \(CRC\)](#)
- [Floor Sheathing \(CRC\)](#)



- *Holddowns* – We will verify type and location of holddowns installed match what is shown on the shear wall schedule and structural calculations. The code book relevant to this inspection is the [California Residential Code \(CRC\)](#).

Important Chapters

- [Wall Construction \(CRC\)](#)
- [Foundations \(CRC\)](#)

Important Sections

- [Wall Anchorage \(CRC\)](#)
- [Foundation Anchorage \(CRC\)](#)

- *Windows* – We will verify that windows are properly sized, insulated, and tempered per construction plans. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), and the [Energy Code \(CEnC\)](#).

Important Chapters

- [Building Planning \(CRC\)](#)
- [Low-Rise Residential \(CEnC\)](#)

Important Sections

- [Window Fall Protection \(CRC\)](#)
- [Exterior Windows \(CRC\)](#)
- [Emergency Escape and Rescue Openings \(CRC\)](#)

- *Rough Electric* – We will verify that the rough electrical matches your electrical plans. Overcurrent protection devices must be the only device connected, all electrical boxes must be mounted, the grounds must all be tied together, feeder/branch circuits must be landed in each panel enclosure, protective plates must be provided, and the grounding electrode system must be properly installed. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Electric Code \(CEC\)](#), the [California Green Building Standards \(CGB\)](#), the [Energy Code \(CEnC\)](#) and the [Humboldt Code \(HC\)](#).

Important Chapters

- [General \(CEC\)](#)
- [Wiring and Protection \(CEC\)](#)
- [Wiring Methods and Materials \(CEC\)](#)
- [Residential Mandatory Measures \(CGB\)](#)
- [Low-Rise Residential \(CEnC\)](#)

Important Sections

- [Requirements for Electrical Installations \(CEC\)](#)
- [Grounding and Bonding \(CEC\)](#)
- [Overcurrent Protection \(CEC\)](#)
- [Services \(CEC\)](#)
- [EV Charging \(CGB\)](#)



- *Initial Gas Line Test* – We will verify that the gas line will be able to hold 10 PSI or half the working pressure of the gauge used for 15 minutes. For example, if a 30lbs gauge is used than the gas lines must be pressured to 15lbs for 15 minutes. A second line test will be done after drywall. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Mechanical Code \(CMC\)](#) and the [California Plumbing Code \(CPC\)](#).

Important Chapters

- [Fuel Gas Piping \(CPC\)](#)

Important Sections

- [Fuel Line Test \(CPC\)](#)

- *Rough-Plumbing (Top-Out)* – We will verify that adequate venting is provided, proper installation of the drain-waste-venting system (DWV), protective plates are provided, and that the DWV and potable water system can hold water pressure for at least 15-minutes. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), and the [California Plumbing Code \(CPC\)](#).

Important Chapters

- [General Regulations \(CPC\)](#)
- [Water Supply and Distribution \(CPC\)](#)
- [Sanitary Drainage \(CPC\)](#)
- [Vents \(CPC\)](#)
- [Traps and Interceptors \(CPC\)](#)
- [Fuel Gas Piping \(CPC\)](#)
- [Firestop Protection \(CPC\)](#)

Important Sections

- [Drain Test \(CPC\)](#)
- [Potable Water Test \(CPC\)](#)
- [Vents Required \(CPC\)](#)
- [Drainage Piping \(CPC\)](#)
- [Hot and Cold Required \(CPC\)](#)
- [Traps Required \(CPC\)](#)
- [Combustible Piping Installations \(CPC\)](#)
- [Electrical Bonding and Grounding \(CPC\)](#)

- *Rough-Sprinkler* – We will verify that the sprinkler system matches what is described on your sprinkler plans. This includes spacing, sizing, materials, pumps, and other devices. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Plumbing Code \(CPC\)](#) and [NFPA 13D](#).

Important Chapters

- [Building Planning \(CRC\)](#)
- [Water Supply and Distribution \(CPC\)](#)

Important Sections

- [Automatic Fire Sprinkler Systems \(CRC\)](#)
- [Residential Fire Sprinkler Systems \(CPC\)](#)



3 Rough-Out

- *Rough-Mechanical* – We will verify all ducting, flues, and mechanical appliances are installed per buildings plans and manufactures specifications. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), and the [California Mechanical Code \(CMC\)](#) and the [California Green Building Standards \(CGB\)](#).

Important Chapters

- [General Regulations \(CMC\)](#)
- [Ventilation Air \(CMC\)](#)
- [Exhaust Systems \(CMC\)](#)
- [Duct Systems \(CMC\)](#)
- [Chimneys and Vents \(CMC\)](#)

Important Sections

- [Bathroom Exhaust Fans \(CGB\)](#)
- [Heating/Cooling Air System \(CMC\)](#)
- [Central Heating Furnaces \(CMC\)](#)
- [Clothes Dryers \(CMC\)](#)
- [Attic Drainage Pan \(CMC\)](#)

Once approved you will be ready to install insulation.

4 Insulation

- *Insulation* – We will verify that the insulation used meets the R-value required by your energy calculations. A [HERS Special Inspection](#) may be required. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#) and the [Energy Code \(CEnc\)](#).

Important Chapters

- [Low-Rise Residential \(CEnc\)](#)

Important Sections

- [Single Family Insulation \(CEnc\)](#)

Once approved you will be ready to install drywall.

5 Drywall

- *Drywall* – We will verify that the correct size of drywall is used according to required fire assemblies and that they are fastened to framing members as per plans. The [California Residential Code](#) will be used as a minimum requirement.

Important Chapters

- [Building Covering \(CRC\)](#)
- [Wall Covering \(CRC\)](#)

Important Sections

- [General \(CRC\)](#)
- [Flame Spread Index \(CRC\)](#)
- [Dwelling/Garage Separation \(CRC\)](#)
- [Screw Fastening \(CRC\)](#)



- *Gas Service* – We will conduct another line test and will require a gas appliance is in place to be easily connected. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Mechanical Code \(CMC\)](#) and the [California Plumbing Code \(CPC\)](#).

Important Chapters

- [Fuel Gas Piping \(CMC\)](#)

Important Sections

- [Fuel Line Test \(CMC\)](#)

Once approved you will be ready complete the construction through to final.

- *Mechanical Final* – We will verify the functionality of all mechanical systems and ensure the absence of mechanical hazards. Your energy calculations may require a [HERS Special Inspection](#) at this time. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Mechanical Code \(CMC\)](#), the [California Energy Code \(CEnc\)](#), and the [California Green Building Standards \(CGB\)](#).

Important Chapters

- [General Regulations \(CMC\)](#)
- [Installation of Specific Appliances \(CMC\)](#)
- [Environmental Quality \(CGB\)](#)
- [Low-Rise Residential \(CEnc\)](#)

Important Sections

- [Installation \(CGB\)](#)
- [Location \(CMC\)](#)
- [Exhaust System Termination \(CMC\)](#)
- [Grills and Screens \(CMC\)](#)
- [Ventilation and Heating \(CRC\)](#)

- *Plumbing Final* – We will verify functionality and efficiency of all plumbing fixtures and ensure the absence of plumbing hazards. The building codes relevant to this inspection are the [California Green Building Standards \(CGB\)](#), and the [California Plumbing Code \(CPC\)](#).

Important Chapters

- [Plumbing Fixtures and Fixture Fittings \(CPC\)](#)
- [Water Heaters \(CPC\)](#)
- [Residential Mandatory Measures \(CGB\)](#)

Important Sections

- [Installation \(CPC\)](#)
- [Water Efficiency and Conservation \(CGB\)](#)
- [Bathtub and Shower Spaces \(CRC\)](#)



- *Electrical Final* – We will verify functionality of the electrical system, AFCI/GFCI protection, and absence of electrical hazards. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Electric Code \(CEC\)](#), the [California Green Building Standards \(CGB\)](#), the [California Energy Code \(CEnC\)](#), and the [Humboldt Code \(HC\)](#).

Important Chapters

- [General \(CEC\)](#)
- [Wiring and Protection \(CEC\)](#)
- [Residential Mandatory Measures \(CGB\)](#)
- [Low-Rise Residential \(CEnC\)](#)

Important Sections

- [Branch Circuits \(CEC\)](#)
- [Branch Circuits, Feeder, and Service \(CEC\)](#)
- [Grounding and Bonding \(CEC\)](#)
- [Overcurrent Protection \(CEC\)](#)

- *Building Final* – We will verify the safety of all structural and path of travel elements and ensure the absence of hazards. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#) and the [Humboldt Code \(HC\)](#).

Important Chapters

- [Building Planning \(CRC\)](#)
- [Environmental Quality \(CGB\)](#)

Important Sections

- [Means of Egress \(CRC\)](#)
- [Site Address \(CRC\)](#)
- [Pollutant Control \(CGB\)](#)

- *Exterior* – We will verify the exterior covering is watertight and free from hazards. This includes ensuring water will be shed away from the foundation and the correct installation of plumbing and flue terminations. The building codes relevant to this inspection are the [California Green Building Standards \(CGB\)](#), and the [California Residential Code \(CRC\)](#).

Important Chapters

- [Building Planning \(CRC\)](#)
- [Exterior Covering \(CRC\)](#)
- [Roof Assemblies \(CRC\)](#)

Important Sections

- [Exterior Covering](#)
- [Finish Material \(CBG\)](#)



- *Sprinkler System* – We will verify that all escutcheon plates are installed on sprinkler heads, ensure the absence of hazards, and recheck spacing requirements. *Rough-Sprinkler* – We will verify that the sprinkler system matches what is described on your sprinkler plans. This includes spacing, sizing, materials, pumps, and other devices. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Plumbing Code \(CPC\)](#) and the [NFPA 13D](#).

Important Chapters

- [Building Planning \(CRC\)](#)
- [Water Supply and Distribution \(CPC\)](#)

Important Sections

- [Automatic Fire Sprinkler Systems \(CRC\)](#)
- [Final Inspection \(CRC\)](#)
- [Instructions and Signs \(CRC\)](#)
- [Residential Fire Sprinkler Systems \(CPC\)](#)

Once you have passed all inspections you may contact the building department to receive your certificate of occupancy.

Special Inspections

Depending on your engineering and site hazards your project may require special inspections.

- *Property Survey* – If the property lines are difficult to discern and potentially close to the proposed development the building official may require you to provide survey markers from a qualified surveyor.
- *Footings* – Your soils report may require an engineer to inspect footings.
- *Second Flood Certification* – If you are developing new construction in the flood zone a qualified engineer must provide a letter certifying the [floor level](#) is 1ft above base flood elevation, there is adequate flood vents correctly placed, and the construction is in compliance with the approved flood elevation certificate.
- *Structural Certification* – If you installed a structural assembly that does not match your building plans you will be required to have an engineer inspect and certify as-built conditions.
- *HERS* – Your energy calculations may require field verification of your cooling system, heating system, HVAC distribution system, and/or your domestic hot water system by a certified HERS Rater.



What is a single-family dwelling unit (SFD)?

A Single-Family Dwelling Unit is a permanent dwelling unit providing complete, independent living facilities for a single family including permanent provisions for living, sleeping, eating, cooking, and sanitation. A family is defined in the Building Code as an individual or two or more persons who are related by blood or marriage; or otherwise live together in a dwelling unit. This form does not cover New AOB residences.

What needs to be arc-fault circuit-interrupter (AFCI) protected?

All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreations rooms, closets, hallways, laundry areas, or similar rooms or areas shall be AFCI protected per 210.12 of the California Electric Code.

What needs to be ground-fault circuit interrupter (GFCI) protected?

All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying readily accessible outlets in bathrooms, garages, outdoors, crawl spaces, unfinished basements, kitchens, within 6ft of sinks, boathouses, within 6ft of bathtubs/showers, and laundry areas per 210.8 of the California Electric Code.

Can I install a fire sprinkler system?

You, as the owner, may install the fire sprinkler system if it is designed by a fire protection engineer. A C16 license holder may design and install the fire sprinkler system and can install a fire sprinkler system designed by a fire protection engineer, but they may not install a sprinkler system designed by another C16 license holder and may not design a fire sprinkler system they do not install. A fire protection engineer may design the system, but may not install the system unless they also hold a C16 license.

Do I need to supply any documents for the forced-air unit, water heater, fireplace I am going to install?

Yes, you should provide the installation manual at inspection for the unit you are going to install.

Do I need to install an electric vehicle charging station?

Yes. Per [4.106.4 Electric Vehicle \(EV\) Charging for New Construction](#) you need to install the conduit, but you do not need to install the conductors.

Who do I contact if I have more questions?

You can send an email to buildinginspections@co.humboldt.ca.us and we will try to get back to you ASAP.



Resources

- [California Building Codes \(UpCode\)](#)
- [County Code](#)
- [GIS](#)
- [GIS Guide](#)
- [Brochures and Handouts](#)
- [Forms](#)
- [Resource Library](#)
- [FAQ's](#)

