



THE CITY OF FIRCREST

115 RAMSDELL STREET • FIRCREST, WA 98466-6999 • (253) 564-8901 • www.cityoffircrest.net

RESIDENTIAL ADDITION APPLICATION SUBMITTAL CHECKLIST

Please use this checklist to ensure that all necessary information is provided for review of your project.

- One **complete** building permit application
- Two accurate fully dimensional site plans (Show us what and where)
- Two sets of construction drawings
- One digital copy of plans – may email to permits@cityoffircrest.net
- Two sets of erosion control plan and flow control plan ([more information and examples](#))
- Two sets of engineered drawings and calculations
- Completed energy code application – [use this link for prescriptive worksheet](#)
(see <http://www.energy.wsu.edu/BuildingEfficiency/EnergyCode.aspx> for useful information and forms.)
- A separate permit may be required for a retaining wall.

Contact the Planning/Building Department at (253) 564-8901 for additional code requirements, i.e., garage projection, garage width, garage door width, retention and protection of significant trees, etc.

**THE CITY OF FIRCREST**

115 RAMSDELL STREET • FIRCREST, WASHINGTON 98466-6999 • (253) 564-8901 • FAX (253) 566-0762

**RESIDENTIAL BUILDING
PERMIT APPLICATION**☐ Addition ☐ Remodel**PROJECT ADDRESS**

Parcel Number

PROJECT VALUATION:**APPLICANT**

Phone

Email address

Address (Street, City, State, Zip)

PROPERTY OWNER

Phone

Email address

Address (Street, City, State, Zip)

CONTRACTOR

Phone

Email address

Address (Street, City, State, Zip)

Contractor License #

Exp Date

UBI#

Has a Current Fircrest Business License ☐**PROJECT DESCRIPTION****PROJECT DETAILS***Total square footage*

of existing house:

Are you changing unfinished space (garages, basements) to livable space? Yes No

of area to be added:

Bedrooms added:

Is the property served by:

of area to be remodeled:

Bathrooms added:

___Sewer ___Septic

PLUMBING list proposed fixtures
(sinks, washer, water heater, toilets, etc.)**MECHANICAL** list proposed appliances
(exhaust fans, heat pump, furnace, gas piping, etc.)

Total fixtures:

Total appliances:

I hereby certify that the information provided is correct and that the construction on the above-described property, the occupancy, and use will be in accordance with the laws, rules, and regulations of the state of Washington and the Fircrest Municipal Code.

Print Name: _____ ☐ Owner ☐ Agent/Other (specify)

Signature: _____ Date: _____

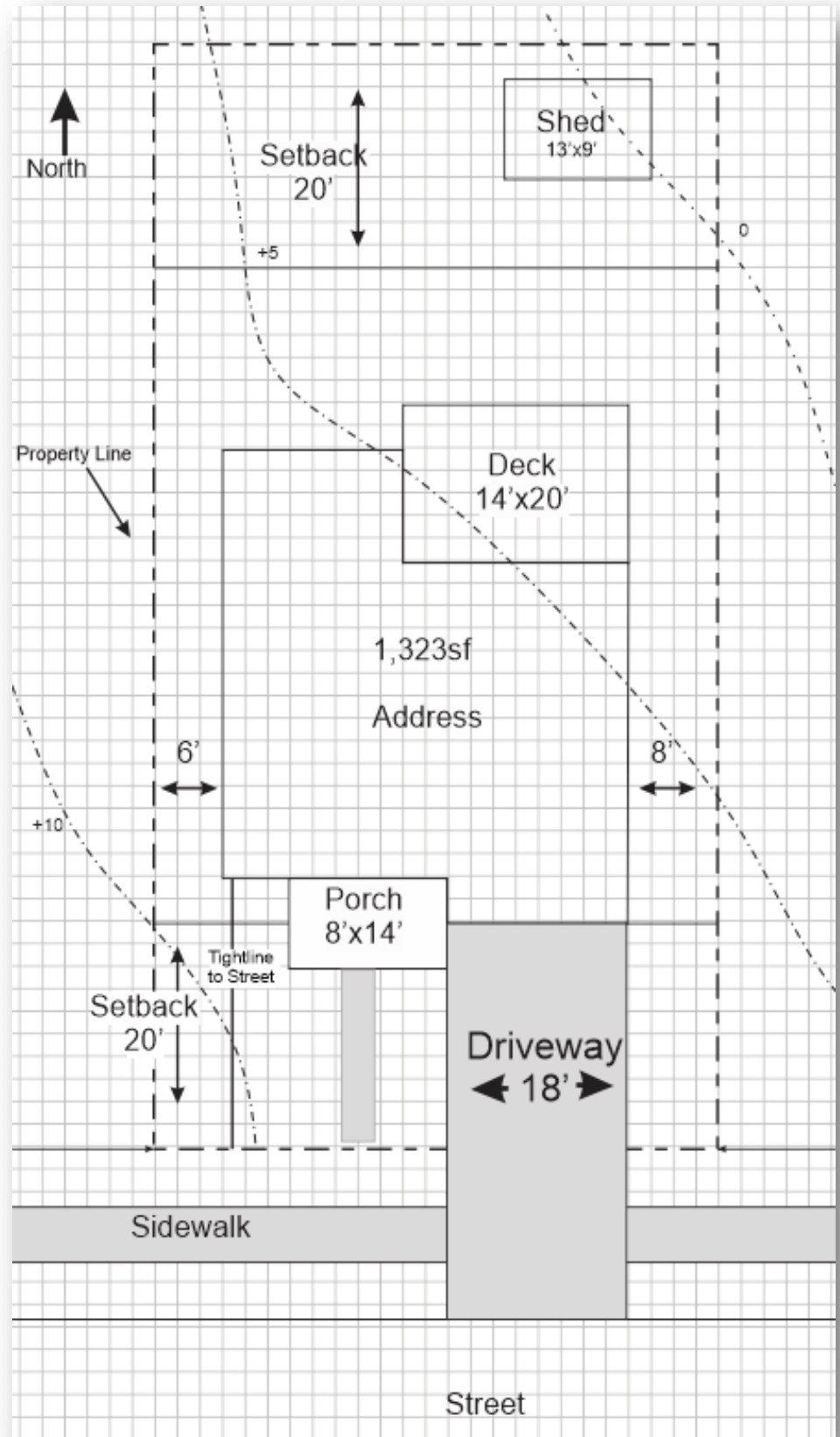
SAMPLE SITE PLAN

A site plan is a drawing that shows the boundaries and other important details to determine if the location of the proposed structure meets the code. Some smaller projects may not require all of the details.

To assist, the City can provide an aerial photo of your property in .pdf or .jpeg format upon request. Or visit the Pierce County Public GIS: <https://matterhornwab.co.pierce.wa.us/publicgis/>

Please include:

- Address and/or Parcel Number
- Building, porch, deck Footprint
- Existing Structures
- Retaining walls, fences, etc.
- Lot Dimensions
- North Arrow
- Contours
- Easements
- Setbacks





**2015 RESIDENTIAL ENERGY CODE
PRESCRIPTIVE COMPLIANCE FORM**
(Please submit 2 copies)

115 Ramsdell Street Fircrest, WA 98466 Phone: (253) 564-8902 • Website: www.cityoffircrest.net

For more information about the energy code, visit: <http://www.energy.wsu.edu/BuildingEfficiency/EnergyCode.aspx>

Project Address:

This project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. In addition, based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Authorized Representative _____ Date _____

All Climate Zones		
	R-Value ^a	U-Factor ^a
Fenestration U-Factor ^b	n/a	0.30
Skylight U-Factor	n/a	0.50
Glazed Fenestration SHGC ^{b,e}	n/a	n/a
Ceiling ^k	49 ^j	0.026
Wood Frame Wall ^{g,m,n}	21 int	0.056
Mass Wall R-Value ⁱ	21/21 ^h	0.056
Floor	30 ^g	0.029
Below Grade Wall ^{c,m}	10/15/21 int + TB	0.042
Slab ^d R-Value & Depth	10, 2 ft	n/a

*Table R402.1.1 and Table R402.1.3 Footnotes included on Page 2.

Each dwelling unit in a residential building shall comply with sufficient options from Table R406.2 so as to achieve the following minimum number of credits:

1. Small Dwelling Unit: 1.5 credits

Dwelling units less than 1500 square feet in conditioned floor area with less than 300 square feet of fenestration area. Additions to existing building that are greater than 500 square feet of heated floor area but less than 1500 square feet.

☐ **2. Medium Dwelling Unit: 3.5 credits**

All dwelling units that are not included in #1 or #3. **Exception:** Dwelling units serving R-2 occupancies shall require 2.5 credits.

☐ **3. Large Dwelling Unit: 4.5 credits**

Dwelling units exceeding 5000 square feet of conditioned floor area.

☐ **4. Additions less than 500 square feet: .5 credits**

Whole House Ventilation (Prescriptive)

Please check the appropriate box to describe which of the four prescriptive Whole House Ventilation Systems you will be using AND fill in the required whole house ventilation rate in CFM's. (See "2015 Residential Whole House Ventilation Rate" Handout.)

WHOLE HOUSE VENTILATION METHOD	Whole House Ventilation Rate
<input type="checkbox"/> Intermittent Whole House Ventilation Using Exhaust Fans & Fresh Air Inlets. (IRC M1507.3.4)	
<input type="checkbox"/> Intermittent Whole House Ventilation Integrated with a Forced Air System. (IRC M1507.3.5)	
<input type="checkbox"/> Intermittent Whole House Ventilation using a Supply Fan. (IRC M1507.3.6)	
<input type="checkbox"/> Intermittent Whole House Ventilation Using a Heat Recovery Ventilation System (IRC M1507.3.7)	

Table R402.1.1 Footnotes

For SI: 1 foot = 304.8 mm, ci = continuous insulation, int = intermediate framing.

^a R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the compressed R-value of the insulation from Appendix Table A101.4 shall not be less than the R-value specified in the table.

^b The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

^c "10/15/21.+TB" means R-10 continuous insulation on the exterior of the wall, or R-15 on the continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21.+TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall. "TB" means thermal break between floor slab and basement wall.

^d R-10 continuous insulation is required under heated slab on grade floors. See R402.2.9.1.

^e There are no SHGC requirements in the Marine Zone.

^f Reserved.

^g Reserved.

^h Reserved.

ⁱ The second R-value applies when more than half the insulation is on the interior of the mass wall.

^j Reserved.

^k For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38.

^l Reserved.

^m Int. (intermediate framing) denotes standard framing 16 inches on center with headers insulated with a minimum of R-10 insulation.

Table R402.1.3 Footnote

^a Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source or as specified in Section R402.1.3.

2015 Residential Energy Compliance Form

2015 WSCE – Table R406.2 – Mark the options that you will be using for this project

OPTION	DESCRIPTION	CREDIT(S)
1a	EFFICIENT BUILDING ENVELOPE 1a: Vertical fenestration U = 0.28 Floor R-38 Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab. <u>OR</u> Compliance based on Section R402.1.4: Reduce the Total UA by 5%.	0.5
1b	EFFICIENT BUILDING ENVELOPE 1b: Vertical fenestration U = 0.25 Wall R-21 plus R-4 Floor R-38 Basement wall R-21 int plus R-5 ci Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab. <u>OR</u> Compliance based on Section R402.1.4: Reduce the Total UA by 15%.	1.0
1c	EFFICIENT BUILDING ENVELOPE 1c: Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.22 Ceiling and single-rafter or joist-vaulted R-49 advanced Wood frame wall R-21 int plus R-12 ci Floor R-38 Basement wall R-21 int plus R-12 ci Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab <u>OR</u> Compliance based on Section R402.1.4: Reduce the Total UA by 30%.	2.0
1d	EFFICIENT BUILDING ENVELOPE 1d: Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.24. Projects using this option may not use Option 1a, 1b or 1c.	0.5
2a	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a: Compliance based on R402.4.1.2: Reduce the tested air leakage to 3.0 air changes per hour maximum <u>AND</u> All whole house ventilation requirements as determined by Section M1507.3 of the <i>International Residential Code</i> shall be met with a high efficiency fan (maximum 0.35 watts/cfm), not interlocked with the furnace fan. Ventilation systems using a furnace including an ECM motor are allowed, provided that they are controlled to operate at low speed in ventilation only mode. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the qualifying ventilation system.	0.5
2b	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2b: Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0 air changes per hour maximum <u>AND</u> All whole house ventilation requirements as determined by Section M1507.3 of the <i>International Residential Code</i> shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.70. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the heat recovery ventilation system.	1.0
2c	AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2c: Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 1.5 air changes per hour maximum. <u>AND</u> All whole house ventilation requirements as determined by Section M1507.3 of the <i>International Residential Code</i> shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.85. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the heat recovery ventilation system.	1.5
3a	HIGH EFFICIENCY HVAC EQUIPMENT 3a: Gas, propane or oil-fired furnace with minimum AFUE of 94%, or Gas, propane or oil-fired boiler with minimum AFUE of 92%. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.	1.0
3b	HIGH EFFICIENCY HVAC EQUIPMENT 3b: Air-source heat pump with minimum HSPF of 9.0. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.	1.0
3c	HIGH EFFICIENCY HVAC EQUIPMENT 3c: Closed-loop ground source heat pump; with a minimum COP of 3.3 <u>OR</u> Open loop water source heat pump with a maximum pumping hydraulic head of 150 feet and minimum COP of 3.6. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.	1.5
3d	HIGH EFFICIENCY HVAC EQUIPMENT 3d: Ductless Split System Heat Pumps, Zonal Control: In homes where the primary space heating system is zonal electric heating, a ductless heat pump system shall be installed and provide heating to the largest zone of the housing unit. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.	1.0

2015 WSCE – Table R406.2 - Continued

OPTION	DESCRIPTION	CREDIT(S)
4	<p>HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM: All heating and cooling system components installed inside the conditioned space. This includes all equipment and distribution system components such as forced air ducts, hydronic piping, hydronic floor heating loop, convectors and radiators. All combustion equipment shall be direct vent or sealed combustion.</p> <p>For forced air ducts: A maximum of 10 linear feet of return ducts and 5 linear feet of supply ducts may be located outside the conditioned space. All metallic ducts located outside the conditioned space must have both transverse and longitudinal joints sealed with mastic. If flex ducts are used, they cannot contain splices. Flex duct connections must be made with nylon straps and installed using a plastic strapping tensioning tool. Ducts located outside the conditioned space must be insulated to a minimum of R-8. Locating system components in conditioned crawl spaces is not permitted under this option. Electric resistance heat and ductless heat pumps are not permitted under this option. Direct combustion heating equipment with AFUE less than 80% is not permitted under this option.</p> <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and shall show the location of the heating and cooling equipment and all the ductwork.</p>	1.0
5a	<p>EFFICIENT WATER HEATING 5a: All showerhead and kitchen sink faucets installed in the house shall be rated at 1.75 GPM or less. All other lavatory faucets shall be rated at 1.0 GPM or less.</p> <p>Plumbing Fixtures Flow Ratings. Low flow plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following requirements:</p> <ol style="list-style-type: none"> 1. Residential bathroom lavatory sink faucets: Maximum flow rate - 3.8 L/min (1.0 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1. 2. Residential kitchen faucets: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1. 3. Residential showerheads: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1. <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum flow rates for all showerheads, kitchen sink faucets, and other lavatory faucets.</p>	0.5
5b	<p>EFFICIENT WATER HEATING 5b: Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.74 OR Water heater heated by ground source heat pump meeting the requirements of Option 3c. OR For R-2 occupancy, a central heat pump water heater with an EF greater than 2.0 that would supply DHW to all the units through a ceiling minimum pipe insulation.</p> <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and the minimum equipment efficiency.</p>	1.0
5c	<p>EFFICIENT WATER HEATING 5c: Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.91 OR Solar water heating supplementing a minimum standard water heater. Solar water heating will provide a rated minimum savings of 85 therms or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar Water Heating Systems OR Electric heat pump water heater with a minimum EF of 2.0 and meeting the standards of NEEA's Northern Climate Specifications for Heat Pump Water Heaters</p> <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and the minimum equipment efficiency and, for solar water heating systems, the calculation of the minimum energy savings.</p>	1.5
5d	<p>EFFICIENT WATER HEATING 5d: A drain water heat recovery unit(s) shall be installed, which captures waste water heat from all the showers, and has a minimum efficiency of 40% if installed for equal flow or a minimum efficiency of 52% if installed for unequal flow. Such units shall be rated in accordance CSA B55.1 and be so labeled.</p> <p>To qualify to claim this credit, the building permit drawings shall include a plumbing diagram that specified the drain water heat recovery units and the plumbing layout needed to install it and labels or other documentation shall be provided that demonstrates that the unit complies with the standard.</p>	0.5
6	<p>RENEWABLE ELECTRIC ENERGY: For each 1200 kWh of electrical generation per each housing unit provided annually by on-site wind or solar equipment a 0.5 credit shall be allowed, up to 3 credits. Generation shall be calculated as follows: For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy Laboratory calculator PVWATTS. Documentation noting solar access shall be included on the plans. For wind generation projects designs shall document annual power generation based on the following factors: The wind turbine power curve; average annual wind speed at the site; frequency distribution of the wind speed at the site and height of the tower.</p> <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the photovoltaic or wind turbine equipment type, provide documentation of solar and wind access, and include a calculation of the minimum annual energy power production.</p>	0.5