



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Preliminary Cost Benefit Analysis for the 2021 International Residential Code

I. Code Adoption and Significant legislative Rules

1. Introduction

The Washington State Building Code Council (SBCC) is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council by-laws. Since 1985, the Council has been responsible for the adoption to update to new editions of the model codes per RCW 19.27.074, including the International Residential Code (IRC). The IRC is updated every three years by the International Code Council (ICC). The code development process conducted by the model code organization is open to all interest groups within the design and construction industry and from governmental organizations.

The Council adopts the building codes in accordance with the Administrative Procedures Act (APA). The general procedures for rulemaking are laid out in part III of the Act (RCW 34.05.310 through RCW 34.05.395). Administrative rules governing the procedures for agency rulemaking have been adopted by the Office of the Code Reviser and are found at WAC 1-21-005 through WAC 1-21-180.

2. Adoption of 2021 International Residential Code

The Council is filing a proposed rule to adopt the 2021 edition of the International Residential Code (IRC), (WAC 51-51). The Preproposal Statement of Inquiry (CR 101) to initiate the development of the 2021 IRC, as adopted through WAC 51-51, was filed as WSR 22-05-043 on February 8, 2022. On February 18, 2022, the Council opened a submittal period for proposals for statewide amendments to the 2021 IRC. All stakeholders and interested parties could submit proposals to meet the legislative goals. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent is required to identify if the proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance.

The Council has adopted a definition of cost-effectiveness based on RCW 39.35 as recommended by Department of Commerce. A guide on how to evaluate cost-effectiveness is therefore defined by the Council as a code change that has a net present savings over a 50-year life cycle of a building utilizing the Life Cycle Cost Tool (LCCT) as developed by the Washington State Office of Financial Management (OFM). The methodology of the LCCT is based on the NIST Handbook 135 methodology and utilizes specific inputs as determined by the Council with guidance from the Washington State Department of Commerce. The cost effectiveness analysis uses the average useful life years from Appendix 7 of the BOMA Preventive Maintenance Guidebook for all building components that are evaluated. Each submitted code change proposal that is not editorial or explanatory, is required to include this analysis. The proponents are also allowed to use an alternate cost benefit analysis.

In considering amendments to the model code, the Council established and consulted with a technical advisory group (TAG), including representatives of appropriate state agencies, local governments, general contractors, building owners and managers, design professionals, utilities, and other interested parties. The TAG was tasked with reviewing the proposals, identifying pros and cons and whether it



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

helped achieve the broader goals of ensuring buildings and facilities constructed in the state are safe and healthy for building occupants, accessible to persons with disabilities and the elderly, and energy efficient. The TAG also discussed whether modifications were needed to ensure the provisions were correlated with other requirements, technically feasible, commercially available, and cost-effective to building owners and tenants, or if changes were necessary to mitigate any disproportionate impact on small business.

Thirteen proposals were submitted during the submittal period. After hundreds of hours of discussions, the IRC and IMC TAGs recommended approval of nine proposals as submitted or as modified. The Council approved ten proposals to be included in the CR-102. Three proposals were identified by the TAGs as having a cost (increase) for compliance on businesses. Proposal 21-GP2-091R (EV infrastructure) is driven by E2SHB 1287 and is exempt. However, a preliminary cost-benefit analysis is provided for this proposal.

The proposed rule adopts by reference the 2021 IRC with new and existing amendments. Many of the existing amendments are modified to incorporate changes to the model codes or to clarify language. There are 16 significant changes to the model code with economic impact. However, the model code changes are exempt under RCW 19.85.025(3) and RCW 34.05.310 (4)(c) and are not part of this analysis.

The Council recommended filing the proposed rule to allow input through the public hearing process.

The local enforcement authority having jurisdiction administers the codes through the building and/or fire departments. Administrative procedures for state building code compliance are established and will not be changed by the adoption of the 2021 IRC. All businesses, including small businesses, will employ the same types of professional services for the design and construction of buildings and systems to comply with the state building code. The proposed rule updates the state building code and does not require additional equipment, supplies, labor, or other services. Services needed to comply with the building code are existing within the construction industry as required by the local authority having jurisdiction.

The proposed rule makes the IRC consistent with national standards. Businesses with new products or updated test or design standards are recognized in the updated building code. The update will result in some cost outlay for some businesses for specific building projects, for a transition period. Other businesses would see an increase in revenue. The primary intent of the amendments is to improve the safety features in buildings and provide consistency and fairness across the state, for a predictable business environment. The amendments should result in enhanced safety and value in buildings.

II. Code Proposals Identified as Significant.

1. Summary of Probable Benefits vs Probable Costs.

1.1. Section R302.3.2 – Opening Protection Between Two-Family Dwellings. ([21-GP2-042](#))

Currently the code is silent regarding the use of openings between units in a two-family dwelling. Therefore, each jurisdiction must determine what openings and their requirements are allowed. This leads to a lack of consistency in how this section is enforced across the State.

This proposal recognizes that there may be a program necessity for the units to be interconnected. It addresses this condition by limiting the opening to a door located within the unit demising wall. In addition, the proposal maintains unit separation continuity with the minimum 45-minute fire-rating and



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

self-closing device. The Exception recognizes the reduced hazard when automatic sprinklers are installed by reducing the opening rating to 20-minutes.

Currently the IRC is silent on when there are openings (doors) between units of a duplex. Some designers have begun designing duplexes with a door in the common fire-rated wall assembly to access both dwelling units. This code addition provides direction and clarity to both the designer and reviewer when this situation comes up to maintain the minimum fire-rating of the common wall assembly

The proposed amendment increases the construction cost; however, it is needed to address a critical life/safety need. The additional cost will be from the 45-minute fire-rated door that is required. Typical cost is usually between \$400-\$800 for a 45-minute fire-resistive door based on several sites. It should also be noted that a 1- hour fire-resistive wall assembly that are 4'x8' panels will typically run \$50-\$75. The net cost of the door would therefore be in the \$300-700 range. An additional 15-minutes of review time will most likely be required to research the door assembly being proposed by the designer.

1.2. Sections R202, M1503.3, M1503.5, M1505.4.1, M1505.4.1.4, M1505.4.3.2, M1505.4.4.1, M1505.4.4.2, M1505.4.4.3, M1505.4.4.3.1, Chapter 15 - Increased Range Hood Ventilation. (21-GP2-062R)

The proposed amendment adds differentiated ventilation requirements of hood ranges based on fuel type to reduce personal exposure and health impacts from ranges. These requirements are based on research done by Lawrence Berkeley National Laboratory where they found that dwellings are currently not adequately ventilating their stoves, which can increase the risk of asthma for children living in these dwellings.

The proposed amendment is needed to address a critical life/safety need. It may increase construction cost; however, operational cost difference should be negligible between a compliant range hood and a non-compliant range hood¹. Operational cost difference should be negligible between a compliant range hood and a non-compliant range hood¹.

Construction Cost:

Minimum Airflow Requirement	Dwelling Unit Square Footage	Microwave-Range Hood Incremental Cost*	Microwave-Range Hood Incremental Cost/sq ft*	Under Cabinet Incremental Cost*	Under Cabinet Incremental Cost/sq ft*
250 cfm	1,000 ft ²	\$206	\$0.21/sq ft	\$415	\$0.42/sq ft

*Incremental compared to 180 cfm requirement, which 92% of products already meet²

If makeup air is triggered, it will add rough \$1,000 extra, or \$1-\$2 per sq ft, based on dwelling unit size.³ Where complying with the code requires installation of extra ductwork, the estimated cost is ~\$8/lf of 6" duct and ~\$77 for a termination. Assuming 10 ft of extra ductwork, this comes out to be \$157 extra, or \$0.1-\$0.2 per sq ft, based on dwelling unit size.⁴

(Detailed analysis starts on page 18)



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

1.3. Section R309.6 – Dedicated Circuit for Electric Vehicle Charging. ([21-GP2-091R](#))

Washington is a zero-emission vehicle state (ZEV). This means that 100% of car sales by 2030 will be electric vehicles. It is necessary to equip new homes with the infrastructure to charge these vehicles.

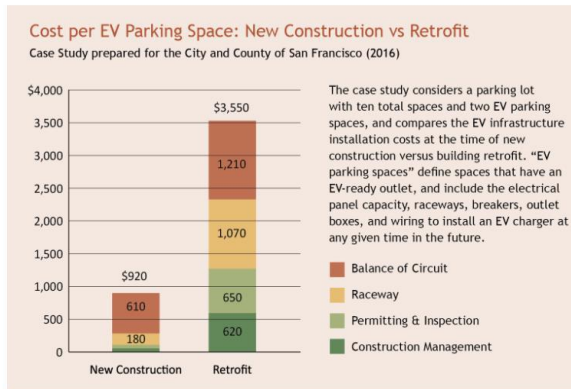
The proposal, in summary, will help to reduce greenhouse gas emissions and is in alignment with the Zero Emission Vehicle State requirements. It is needed for consistency with state or federal regulations, and it is driven by E2SHB 1287. Washington is a zero-emission vehicle state (ZEV). This means that 100% of car sales by 2030 will be electric vehicles. It is necessary to equip new homes with the infrastructure to charge these vehicles.

To require the apparatus between the panel and the charging outlet will be much less costly at the time of construction vs. having to alter the building later. The cost of a 40-ampere 208/240-volt dedicated branch circuit can be as low as \$50. The cost of installation can vary greatly depending on a multitude of reasons:

<https://www.swenergy.org/transportation/electric-vehicles/building-codes>

<https://electrek.co/2020/01/15/international-code-council-calls-for-all-new-homes-to-be-ready-for-240-volt-ev-charging/>

Retrofit:



Source: Plug-In Electric Vehicle Infrastructure Cost-Effectiveness Report for San Francisco

<http://evchargingpros.com/wp-content/uploads/2017/04/City-of-SF-PEV-Infrastructure-Cost-Effectiveness-Report-2016.pdf>



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

2. List of Code Proposals.

Date: 4/07/2022

Log # [21-GP2-008R](#)

Proponent and description: Michael Lubliner; 2021 IRC Sections M1505.1 and M1505.4 - Local exhaust and whole-house mechanical ventilation.

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

[RCW 19.27.020 - Purposes—Objectives—Standards.](#)

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

- *The proposed amendment is an option for those seeking higher ventilation rates to further improve IAQ in accordance with ASHRAE Standard 62.2. Higher ventilation rates can dilute and thereby reduce indoor air pollutants beyond the current IRC-WA rate options. Reduced IAQ pollutants saves on health care costs to the dwelling occupants and society. Higher dilution of moisture generated by occupants and other sources reduces risk for condensation and help reduce mold, building structural decay and maintenance/repair expenses.*
- *The use of ASHRAE 62.2 as an alternative will help avoid confusion and duplication of efforts, when builders seek to comply with requirements for high performance voluntary programs such as USEPA Energy Star, EPA Indoor Air Plus, Passive House and IRS-45L for new home builder tax credits. IRS 45L and WA utility incentives may help reduce the first cost of the home and improve purchase affordability.*
- *This proposal seeks to clarify that ASHRAE 62.2-2019 can be used for single family and townhouse dwellings, provided that a balanced ventilation systems as is currently required in IMC-WA amended is employed. This proposal seeks to require the use of a balanced system, when using the ASHRAE 62.2-2019 option is taken.*

*The proposed amendment is needed to address a critical life/safety need, and to corrects errors and omissions. This is an option for achieving acceptable IAQ using mechanical ventilation standard 62.2-2019. The use of current approaches for mechanical ventilation are still allowed. There is **no cost** associated with this proposal.*

Code Enforcement. *There is no additional cost for code enforcement.*

Note: *The AHJs should be already verifying ventilation systems requirements at the plan review and field verification/commissioning phases of inspection. Training ventilation system sizing and commissioning is available from WSU Energy Program Web WSEC-R Web page:*

<https://www.energy.wsu.edu/EventsTrainings.aspx>

<https://www.energy.wsu.edu/BuildingEfficiency/EnergyCode.aspx#Permit>

The Code Compliance Calculator can be used to size the ventilation system:

[Code Compliance Calculator](#) and [readme](#)

• **Video training:**

- [Introduction to the C3 Calculator](#) (9 min)
- [Using the C3 Calculator: Small Addition with User-defined Baseline](#) (16 min)
- [Entering Custom Values in the Databases & Creating a "Glazing Schedule"](#) (7 min)
- [Using C3 to print PDF forms](#) (9 min)
- [Using the C3 Calculator to Calculate Ventilation Rates](#) (10 min)
- [Filling out the Compliance Certificate for Ventilation Systems](#) (10 min)



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

See **WSU Energy Program Training Videos (10 minutes each) and available at:**

Calculating Ventilation Rates: <https://www.youtube.com/watch?v=IGu0HS0V5UU>

Filling Out the Compliance Certificate for Ventilation Systems:
<https://www.youtube.com/watch?v=C2W6mP9Mts4>

See Code Compliance Calculator (C3) form at:
https://www.energy.wsu.edu/Documents/Certificate%202018%20WSEC_rev%207-21-21.pdf

Compliance Certificate

The certificate should be completed by the builder or other approved party and posted in the space where the furnace is located, a utility room, or another approved location in the building.

 [2018 WSEC Compliance Certificate](#)

 [2018 Compliance Certificate - Instructions](#)

WSU-Low-rise multifamily ventilation training Dr. Iain Walker: [2020-10-15 SeaBEC Meeting - YouTube](#)

WSU-Low-rise multifamily ventilation training Mike Lubliner:
https://energy.wsu.edu/videos/wsec_2018-residential_updates_20200716/

Small Business Impact. *There is no impact on small businesses.*

Housing Affordability. *There is no economic impacts on housing affordability.*

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IRC do not impose more stringent performance requirements on private entities than on public entities.

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

- This does not differ from any federal regulations or statute applicable to the same activity.
- (1)(i) A state statute explicitly allows the agency to differ from federal standards; or
- (1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and
- (1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/07/2022

Log # [21-GP2-041R](#)

Proponent and description: *Quyem Thai; 2021 IRC Section R310.1 - Emergency escape and rescue opening required.*

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

[RCW 19.27.020 - Purposes—Objectives—Standards.](#)

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

This proposal will help clarify what is allowed in the unobstructed path that leads from the yard or court to the public way. Currently, an “unobstructed path” is not defined, requiring each jurisdiction to interpret what objects will unduly hinder occupants from self-evacuation along this path. This leads to a lack in consistency in how this section is enforced.

This proposal recognizes that privacy fences are commonly used to enclose yards and addresses the use of gates to provide egress from these enclosed yards. It is important to note that gate hardware is commonly used to maintain security by restricting access into the yard while maintaining free egress for self-evacuating occupants. Securing the gate with a padlock or other locking device would require an occupant to have knowledge of the key location and have access to it during the emergency. At a minimum, this would create a delay in occupant self-evacuation and is unacceptable.

This proposal also recognizes that window wells are another common object that may be located within the pathway, particularly in narrow side yards. Open window wells located in the path can create significant elevation changes that pose a hazard for self-evacuating occupants. Requiring a cover over the opening eliminates this hazard and maintains the required unobstructed path.

Arguments have been made that a locked gate should not be considered an obstruction but what is the purpose of a locked gate but to be an obstruction against intruders. Based on the argument that gates are intended to obstruct unauthorized individuals from accessing the property, it is therefore prudent to consider that a locked gate is an obstruction for both ingress and egress. The second exception has been known to cause confusion where window wells are constructed. By allowing grate covering, the code allows for an egress walking surface over the opening. It is also recognized that such grates must be closed to prevent the emergency escape of the occupants.

*The proposed amendment is needed to address a critical life/safety need, and to clarify the intent or application of the code. It clarifies what is unobstructed and not obstructed and does not create any construction requirements to a project. There is **no cost** associated with this proposal.*

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IRC do not impose more stringent performance requirements on private entities than on public entities.

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

- This does not differ from any federal regulations or statute applicable to the same activity.
- (1)(i) A state statute explicitly allows the agency to differ from federal standards; or
- (1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and
- (1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/07/2022

Log # [21-GP2-042](#)

Proponent and description: *Quyên Thai; 2021 IRC Section R302.3.2 – Opening Protection Between Two-Family Dwellings*

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

RCW 19.27.020 - Purposes—Objectives—Standards.

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

Currently the code is silent regarding the use of openings between units in a two-family dwelling. Therefore, each jurisdiction must determine what openings and their requirements are allowed. This leads to a lack of consistency in how this section is enforced across the State.

This proposal recognizes that there may be a program necessity for the units to be interconnected. It addresses this condition by limiting the opening to a door located within the unit demising wall. In addition, the proposal maintains unit separation continuity with the minimum 45-minute fire-rating and self-closing device. The Exception recognizes the reduced hazard when automatic sprinklers are installed by reducing the opening rating to 20-minutes.

Currently the IRC is silent on when there are openings (doors) between units of a duplex. Some designers have begun designing duplexes with a door in the common fire-rated wall assembly to access both dwelling units. This code addition provides direction and clarity to both the designer and reviewer when this situation comes up to maintain the minimum fire-rating of the common wall assembly

The proposed amendment increases the construction cost; however, it is needed to address a critical life/safety need. The additional cost will be from the 45-minute fire-rated door that is required. Typical cost is usually between \$400-\$800 for a 45-minute fire-resistive door based on several sites. It should also be noted that a 1-hour fire-resistive wall assembly that are 4'x8' panels will typically run \$50-\$75. The net cost of the door would therefore be in the \$300-700 range. An additional 15-minutes of review time will most likely be required to research the door assembly being proposed by the designer. There is no impact on housing affordability or small business.

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IBC do not impose more stringent performance requirements on private entities than on public entities.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

- This does not differ from any federal regulations or statute applicable to the same activity.
- (1)(i) A state statute explicitly allows the agency to differ from federal standards; or
- (1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and
- (1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/07/2022

Log # [21-GP2-043R](#)

Proponent and description: *Quyen Thai; 2021 IRC Section R302.3.5 – Shared accessory rooms or areas.*

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

[RCW 19.27.020 - Purposes—Objectives—Standards.](#)

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

Designers are incorporating shared accessory spaces such as a laundry facility, HVAC mechanical rooms, etc. within twofamily dwellings. Currently, the code is silent on how to deal with such connected accessory spaces in two-family dwelling units. This proposal helps clarify the hazards from accessory spaces is no greater than a common garage and should therefore be treated similarly with garages.

The amendment is needed to address a critical life/safety need and brings no additional cost to construction. An additional 15-minutes of review time will most likely be required to research the door assembly being proposed by the designer. There is no impact on housing affordability or small business.

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IBC do not impose more stringent performance requirements on private entities than on public entities.

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

This does not differ from any federal regulations or statute applicable to the same activity.

(1)(i) A state statute explicitly allows the agency to differ from federal standards; or

(1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and

(1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/07/2022

Log # [21-GP2-044R](#)

Proponent and description: *Quyen Thai; 2021 IRC Section R302.3 – Two-Family Dwellings*

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

[RCW 19.27.020 - Purposes—Objectives—Standards.](#)

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

The exception further clarifies when two-family dwelling shall be determined and required to have a separation wall and when it may be exempt from the separation requirements of R302.3. The intent has always been for only existing single-family dwelling units to be allowed to add a second dwelling unit for mother-in-law units and not have it counted towards the unit count. This exception further clarifies this exception.

The amendment is needed to address a critical life/safety need and brings no additional cost to construction. It may reduce the cost without the need to build a fire separation assembly. There is no impact on housing affordability or small business, and no additional time needed for code enforcement.

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IBC do not impose more stringent performance requirements on private entities than on public entities.

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

This does not differ from any federal regulations or statute applicable to the same activity.

(1)(i) A state statute explicitly allows the agency to differ from federal standards; or

(1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and

(1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/8/2022

Log # [21-GP2-053R](#)

Proponent and description: WABO – Sue Coffman; 2021 IRC Sections R102.7, R102.7.1, R310.5, NEW Chapter 44 - Existing Buildings and Structures

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

[RCW 19.27.020 - Purposes—Objectives—Standards.](#)

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

This proposed code change takes Appendix Chapter J of the 2021 IRC and moves it into the body of the IRC code as a new Chapter 44. The Appendix Chapter was used as a base for development of the new body of the code chapter, with the new chapter further expanded to include requirements for additions and relocations.

This new body of the code chapter incorporates the following new provisions for existing IRC buildings to give flexibility for existing building:

- 1. The provisions for replacement of emergency escape and rescue openings are relocated from Section R310.5 to Chapter 44. The current provisions provide a break on full compliance for replacement windows for emergency escape and rescue openings. This proposal provides flexibility for the vertical height of the window opening control devices and fall protection devices in existing openings. This proposal also clarifies that window opening control devices and fall protection are not required when window replacement is of the glazing only.*
- 2. Section AJ109.7 permits a ceiling height of not less than 6 feet 8 inches and is relocated to the new Chapter 44. This proposal further extends the relief on ceiling height in existing buildings to include existing attics. Bathrooms, toilet rooms and laundry rooms are allowed to have a ceiling height not less than 6 feet 4 inches, similar to a break these occupiable spaces receive in new construction. The first exception maintains the sloped ceiling height provisions per R305.1 for new construction but lowers the minimum ceiling height requirement for 50% of the room from 7 feet to 6 feet 8 inches. The second exception maintains the allowance for beams, girders, and other obstructions that is permitted in new construction.*
- 3. Section AJ109.8 provides breaks on full compliance for stair width, headroom, and landings for alterations to existing stairs and is relocated to the new Chapter 44. This proposal also gives a break for stair treads and risers that is consistent with a more general break for existing stairs in IEBC Section 506.3.*

This new code chapter includes code provision that enhance the flexibility for existing construction. Specifically, ceiling heights, windows and stairways are difficult and expensive to modify in existing homes. Code standards for existing buildings are urgently needed in the Residential code because it is unclear how the International Existing Building Code applies to IRC buildings. In addition, more reasonable standards are needed for residential buildings that were built decades ago with noncompliant windows, ceiling heights and stairs. Considering that many of the spaces in these existing IRC buildings are actually being used as habitable spaces, adopting a code standard that incorporates these flexibilities to allow permitted use of the spaces in a safe manner.

The proposed amendment clarifies the intent or application of the code. The main purpose of this proposal is to consolidate all requirements applied to existing residential buildings into a single chapter of the International Residential Code. There may be some cost savings for home and building owners since more reasonable requirements will now be applied for items like non-compliant windows, ceiling heights and stairs. However, it is impossible to justify the savings. There is no impact on housing affordability or small business, and no additional time needed for code enforcement. The proposed amendment may make it easier to maintain existing affordable housing stock.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IBC do not impose more stringent performance requirements on private entities than on public entities.

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

This does not differ from any federal regulations or statute applicable to the same activity.

(1)(i) A state statute explicitly allows the agency to differ from federal standards; or

(1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and

(1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/8/2022

Log # [21-GP2-062R](#)

Proponent and description: Mark Vossler; 2021 IRC Sections R202, M1503.3, M1503.5, M1505.4.1, M1505.4.1.4, M1505.4.3.2, M1505.4.4.1, M1505.4.4.2, M1505.4.4.3, M1505.4.4.3.1, Chapter 15 - Increased Range Hood Ventilation

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

RCW 19.27.020 - Purposes—Objectives—Standards.

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law,



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

The proposed amendment adds differentiated ventilation requirements of hood ranges based on fuel type to reduce personal exposure and health impacts from ranges. These requirements are based on research done by Lawrence Berkeley National Laboratory where they found that dwellings are currently not adequately ventilating their stoves, which can increase the risk of asthma for children living in these dwellings.

The proposed amendment is needed to address a critical life/safety need. It may increase construction cost; however, operational cost difference should be negligible between a compliant range hood and a non-compliant range hood¹. Operational cost difference should be negligible between a compliant range hood and a non-compliant range hood¹.

Construction Cost:

Minimum Airflow Requirement	Dwelling Unit Square Footage	Microwave-Range Hood Incremental Cost*	Microwave-Range Hood Incremental Cost/sq ft*	Under Cabinet Incremental Cost*	Under Cabinet Incremental Cost/sq ft*
250 cfm	1,000 ft ²	\$206	\$0.21/sq ft	\$415	\$0.42/sq ft

**Incremental compared to 180 cfm requirement, which 92% of products already meet²*

If makeup air is triggered, it will add rough \$1,000 extra, or \$1-\$2 per sq ft, based on dwelling unit size.³ Where complying with the code requires installation of extra ductwork, the estimated cost is ~\$8/lf of 6" duct and ~\$77 for a termination. Assuming 10 ft of extra ductwork, this comes out to be \$157 extra, or \$0.1-\$0.2 per sq ft, based on dwelling unit size.⁴

https://title24stakeholders.com/wp-content/uploads/2020/10/MF-IAQ_Final-CASE-Report_Statewide-CASE-Team_Final.pdf,

page 115-117

<https://efiling.energy.ca.gov/getdocument.aspx?tn=236201>, page 9 - 15

<https://drive.google.com/file/d/1HFKNTzrnw6kJXThmr86sjspijEpsZ08J/view?usp=sharing>

<https://drive.google.com/file/d/1uNrpoIF1Te1As0vOqzq7YjWZwkt3T-T2/view?usp=sharing>



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
 (360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Product availability:

Table 2. Count of Microwave Range Hoods Meeting Proposed Requirements

Rated CFM	Proportion of Compliant Products		Number of Brands with Compliant Products	
	Horizontal (n=66)	Vertical (n=66)	Horizontal (n=20)	Vertical (n=20)
>=110	100%	100%	20	20
>=130	100%	100%	20	20
>=160	100%	100%	20	20
>=180	92%	92%	20	20
>=250	48%	79%	16	19
>=280	17%	30%	6	7

Table 3. Count of Undercabinet Range Hoods Meeting Proposed Requirements

Rated CFM	Proportion of Compliant Products		Number of Brands with Compliant Products	
	Horizontal (n=30)	Vertical (n=43)	Horizontal (n=8)	Vertical (n=9)
>=110	100%	100%	8	9
>=130	100%	100%	8	9
>=160	100%	100%	8	9
>=180	100%	98%	8	9
>=250	77%	91%	8	9
>=280	63%	72%	5	9

Table 4. Count of Chimney Range Hoods Meeting Proposed Requirements

Rated CFM	Proportion of Compliant Products		Number of Brands with Compliant Products	
	Horizontal (n=3)	Vertical (n=64)	Horizontal (n=1)	Vertical (n=11)
>=110	100%	100%	1	11
>=130	100%	100%	1	11
>=160	100%	100%	1	11
>=180	100%	100%	1	11
>=250	100%	100%	1	11
>=280	100%	94%	1	11

Code Enforcement: The proposed amendment has negligible impact on code enforcement time or inspections.

Small Business Impact. The proposed amendment has no impact on small businesses because it is targeted to Group R occupancies.

Housing Affordability. The proposed amendment has a small impact on housing affordability.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Other. Exposure to poorly ventilated gas stove pollutants, such as nitrogen dioxide (NO₂), can increase the risk of asthma in household occupants, particularly children.⁵ The Environmental Protection Agency (EPA) states that homes with a gas stove have 50-400% higher average NO₂ levels than homes with an electric stove.⁶ The EPA found that even short-term exposure to NO₂ is linked to asthma and other chronic respiratory illnesses.⁷ In addition to respiratory effects NO₂ exposure has been linked to diabetes, cardiovascular disease, and birth outcomes.⁸ This risk of exposure to NO₂ can be lowered when high-performing externally vented range hoods are installed and used to decrease concentrations of NO₂, and other pollutants released from gas combustion.⁹ These findings could translate to a significant health and economic benefit from the regulation of gas stove combustion.

Per person costs of asthma in one California study were estimated to be \$3,288 annually.¹⁰ This estimate included costs of medications as well as office and emergency room visits. Assuming similar health costs for Washington, we could see a significant economic and medical benefit for the 9% of residents affected by asthma and other respiratory illnesses if exposure to gas stove pollution is reduced.¹¹

Kathleen Belanger et al, "Household levels of nitrogen dioxide and pediatric asthma severity", *Epidemiology* 24(2), March 2013, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3686297/>.

Integrated Science Assessment For Oxides Of Nitrogen – Health Criteria (Final Report, July 2008), US Environmental Protection Agency, Washington, DC, EPA/600/R-08/071, 2008, p. 2–38, <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=194645>.

Integrated Science Assessment (ISA) For Oxides of Nitrogen – Health Criteria (Final Report, 2016). US Environmental Protection Agency, Washington, DC, EPA/600/R-15/068, 2016, p.1-31, <https://cfpub.epa.gov/ncea/isa/recordisplay>.

Ibid, p. 1-32, 1-33, 1-34, 1-35

Brett Singer et al., *Effective Kitchen Ventilation for Healthy Zero Net Energy Homes with Natural Gas*, 2021, Lawrence Berkeley National Laboratory, prepared for the California Energy Commission, <https://eta.lbl.gov/publications/effective-kitchen-ventilation-healthy>

American Thoracic Society. 2018. "Asthma costs the US economy more than \$80 billion per year." *ScienceDaily*. January 12. Accessed November 22, 2020. <https://www.sciencedaily.com/releases/2018/01/180112091212.htm> and <https://efiling.energy.ca.gov/getdocument.aspx?tn=236201>, page 15

Most Recent Asthma State or Territory Data. March 24. Accessed November 22, 2020. https://www.cdc.gov/asthma/most_recent_data_states.htm



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IBC do not impose more stringent performance requirements on private entities than on public entities.

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

This does not differ from any federal regulations or statute applicable to the same activity.

(1)(i) A state statute explicitly allows the agency to differ from federal standards; or

(1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and

(1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/8/2022

Log # [21-GP2-091R](#)

Proponent and description: Kathleen Petrie; 2021 IRC Section R309.6 – Dedicated Circuit for Electric Vehicle Charging

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

[RCW 19.27.020 - Purposes—Objectives—Standards.](#)

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

The proposal, in summary, will help to reduce greenhouse gas emissions and is in alignment with the Zero Emission Vehicle State requirements. It is needed for consistency with state or federal regulations, and it is driven by E2SHB 1287.

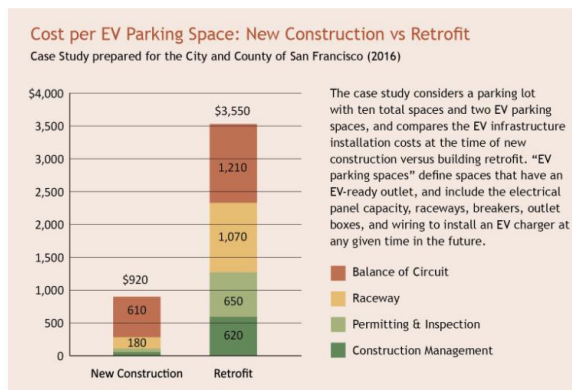
Washington is a zero-emission vehicle state (ZEV). This means that 100% of car sales by 2030 will be electric vehicles. It is necessary to equip new homes with the infrastructure to charge these vehicles.

To require the apparatus between the panel and the charging outlet will be much less costly at the time of construction vs. having to alter the building later. The cost of a 40-ampere 208/240-volt dedicated branch circuit can be as low as \$50. The cost of installation can vary greatly depending on a multitude of reasons:

<https://www.swenergy.org/transportation/electric-vehicles/building-codes>

<https://electrek.co/2020/01/15/international-code-council-calls-for-all-new-homes-to-be-ready-for-240-volt-ev-charging/>

Retrofit:



Source: Plug-In Electric Vehicle Infrastructure Cost-Effectiveness Report for San Francisco

<http://evchargingpros.com/wp-content/uploads/2017/04/City-of-SF-PEV-Infrastructure-Cost-Effectiveness-Report-2016.pdf>

Housing Affordability. *This proposal makes it more cost effective if the infrastructure is already installed in a new building. It may impact the cost of new construction minimally.*

Code Enforcement. *There is no major impact on code enforcement; time is nominal to review and inspect.*

Small Business Impact. *There is no economic impacts to small businesses.*



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IBC do not impose more stringent performance requirements on private entities than on public entities.

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

This does not differ from any federal regulations or statute applicable to the same activity.

(1)(i) A state statute explicitly allows the agency to differ from federal standards; or

(1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and

(1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/8/2022

Log # [21-GP2-092R](#)

Proponent and description: Kinley Deller; 2021 IRC (New) Appendix W – Construction and Demolition Material Management

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

[RCW 19.27.020 - Purposes—Objectives—Standards.](#)

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

The intent of this new optional Appendix W is to reduce the amount of construction and demolition waste that goes to a landfill after leaving a construction site. For jurisdictions where material management is a priority, this language helps to increase the amount of material that is salvaged for reuse – or recycled. Two forms are a part of this code change proposal (the Salvage Assessment and Waste Diversion Report) which would need to be submitted to the local building department.

Prior to beginning a project, completing the salvage assessment allows the owner to thoughtfully identify possible materials, systems and appliances that might be salvageable from this building as it is dismantled. Salvaged elements can be reused on-site, another project, or sold to retailers for resale. Once identified, the owner can choose to salvage these elements, which may come as a cost benefit to them.

Salvaging materials can extend the lives of our landfills, saving a jurisdiction future expansion cost. Keeping materials in use longer has environmental benefits such as carbon sequestration and reduced carbon emissions from material not needing to be processed. An additional benefit is that material, such as wood from the 1930's, is of much greater quality than wood being retailed today.

Materials, appliances, and systems commonly salvaged in areas where reuse markets exist include:

- Wood
- Brick
- Stoves, refrigerators
- Cabinets
- Carpet, flooring
- Doors; windows meeting current code
- Lighting Fixtures; plumbing fixtures meeting current code
- Metal Roofing
- Wall Covering, insulation, wall sheathing, siding

Completing the waste diversion report at the end of a project shows what materials went to the landfill, which were recycled, and which were salvaged. If the jurisdiction has material diversion targets, this form helps the jurisdiction track the percentages of materials being diverted and can help to identify what markets or processing facility types need to be better supported. Materials commonly recycled in areas where receiving facilities exist include:

- Asphalt paving
- Brick
- Concrete
- Cardboard
- Wood
- Metal
- New drywall scrap



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

This section is appropriate as an appendix because not all communities in Washington State have salvage retail businesses or readily accessible recycling processing facilities. However, several jurisdictions in our state have carbon emission goals, where increasing the amount of material available for reuse will help toward achieving their goals. For example, the City of Shoreline and City of Seattle have enforced a similar requirement and forms since 2014. The approval of Appendix W, with the forms already developed, could become available for other interested jurisdictions to adopt without having to create their own from scratch.

This identical appendix and forms have been approved by the State Building Code Council as an amendment to the 2021 IBC, so approval of this appendix and forms will sync up requirements for both the 2021 IRC and IBC.

The proposed amendment is needed for consistency with state or federal regulations. Impacts to the owner would be the minimal time it takes to complete the 2 forms. Cost to the jurisdiction is contingent on the process they develop around this Appendix. For example, one jurisdiction could just collect the forms, whereby another could choose to review the form – it depends on how each plan to use the information provided. This is an optional appendix, a jurisdiction adopting the appendix will have researched the impacts and have determined them to be acceptable to all. There is no statewide construction cost associated with this proposal.

Code Enforcement: *This is an optional appendix, so only if it is adopted it may potentially impact staff. For those who adopt it, the process they develop will determine how much impact it will have to review and inspection staff. It will likely have no impact to inspection staff, and potentially a small impact to review staff.*

Small Business Impact. *There is no economic impact to small businesses.*

Housing Affordability. *There is no economic impact on housing affordability.*

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IBC do not impose more stringent performance requirements on private entities than on public entities.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

- This does not differ from any federal regulations or statute applicable to the same activity.
- (1)(i) A state statute explicitly allows the agency to differ from federal standards; or
- (1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and
- (1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/8/2022

Log # [21-GP2-093R](#)

Proponent and description: Kathleen Petrie; 2021 IRC Section (New) Appendix X – Building Deconstruction

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

[RCW 19.27.020 - Purposes—Objectives—Standards.](#)

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

The intent of this new optional Appendix X is to reduce the amount of material that is destroyed when demolishing a building. Systematically removing materials, components, and systems of an existing building through the process of deconstruction, increases the amount of construction and demolition material that can be salvaged for reuse and recycled instead of going to a landfill.

Increasing the amount of material that is salvaged or recycled can increase the lives of our landfills, saving a jurisdiction future expansion cost. By salvaging, we keep materials in use longer, which results in environmental benefits such as carbon sequestration and reduced carbon emissions from material not needing to be processed. In the case of salvaging wood, an additional benefit is that material from the 1930s will be of much greater quality than wood that is retailed today.

Deconstruction of a typical 2,000 square-foot wood frame home can yield 6,000 board feet of reusable lumber; the same home if demolished produces about 127 tons of debris, according to the [Oregon Dept. of Environmental Quality's report on deconstruction versus demolition](#). Approximately 7.6 metric tons of CO₂E is saved for every house deconstructed rather than demolished. Jurisdictions that prioritize material management and/or have climate impact reduction goals may opt to adopt this appendix.

This code partners with Section R602.1.1.1 which encourages reuse of salvaged lumber. This section removes the requirement to grade reused materials, and instead assume a particular species and grade for certain dimensional lumber. Increasing the amount of buildings deconstructed helps to provide an increased amount of quality salvaged lumber which can be used in building construction.

As of July 6, 2016, the City of Portland, Oregon adopted an ordinance requiring single family buildings to be deconstructed if they were permitted to be demolished and built prior to 1916. In November of 2019, the threshold year was moved from 1916 to 1940. Jurisdictions interested in this appendix will conduct their due diligence to ensure Portland's similar success.

This code is appropriate as an appendix because not all communities in Washington State have salvage retail businesses or recycling processing facilities. However, several jurisdictions in our state have carbon emission goals, where increasing the amount of material available for reuse will help toward achieving those goals. We ask for the approval of Appendix X so this text is available for interested jurisdictions to adopt.

*The proposed amendment is needed for consistency with state or federal regulations. The appendix is optional and may have an economic impact only in jurisdictions where this requirement is adopted, and for the buildings meeting the age requirement. Jurisdictions choosing to adopt this appendix will conduct a local analysis to ensure there is an adequate number of skilled deconstruction contractors available to handle the potential number of buildings to be deconstructed each year, and retailers to sell the materials extracted. The jurisdiction will work with industry partners to understand potential cost impacts to the contractor/owner based on the local industry skills, if any. There is **no statewide construction cost** associated with this proposal. There is no impact on code enforcement, small business or housing affordability.*



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IBC do not impose more stringent performance requirements on private entities than on public entities.

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

This does not differ from any federal regulations or statute applicable to the same activity.

(1)(i) A state statute explicitly allows the agency to differ from federal standards; or

(1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and

(1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

Date: 4/8/2022

Log # [21-GP2-099R](#)

Proponent and description: WABO – Jon Siu; 2021 IRC Section R326 (New) - Lofts

Compliance with RCW 34.05.328 Significant legislative rules, other selected rules

(1)(a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements

[RCW 19.27.020](#) - Purposes—Objectives—Standards.

The purpose of this chapter is to promote the health, safety and welfare of the occupants or users of buildings and structures and the general public by the provision of building codes throughout the state. Accordingly, this chapter is designed to effectuate the following purposes, objectives, and standards:

- (1) To require minimum performance standards and requirements for construction and construction materials, consistent with accepted standards of engineering, fire and life safety.
- (2) To require standards and requirements in terms of performance and nationally accepted standards.
- (3) To permit the use of modern technical methods, devices and improvements.
- (4) To eliminate restrictive, obsolete, conflicting, duplicating and unnecessary regulations and requirements which could unnecessarily increase construction costs or retard the use of new materials and methods of installation or provide unwarranted preferential treatment to types or classes of materials or products or methods of construction.
- (5) To provide for standards and specifications for making buildings and facilities accessible to and usable by physically disabled persons.
- (6) To consolidate within each authorized enforcement jurisdiction, the administration and enforcement of building codes.

(1)(b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule:

The Council is required to adopt and maintain the state building code, as provided in chapters 19.27, 19.27A, and 70.92 RCW, and the state legislature. The primary objective of the Council is to encourage consistency in the building code throughout the state of Washington and to maintain the building code consistent with the state's interest as provided in RCW 19.27.020. The statewide code adoption process is defined in WAC 51-04 and the Council bylaws. All proposals are submitted in writing on the appropriate form with the indicated supporting documentation. Each proponent must identify where a proposed amendment has an economic impact and estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

(1)(d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented:

This proposal introduces “lofts” into the Residential Code, aligning the 2021 WSRC with the loft amendments that have been approved by the SBCC for inclusion in the 2021 WA State Building Code (WSBC).

Sleeping lofts were introduced into the 2018 WA State Residential Code (WSRC), and this proposal expands on that concept. It is also similar to a proposal submitted by WABO’s Technical Code Development Committee (TCD) to the 2022 Group B code development cycle for inclusion in the 2024 IRC. Similar provisions will be in an appendix in the 2024 IBC.

Some key concepts embedded in the proposal:

- *This proposal moves the loft provisions to Section R326, similar to TCD’s Group B proposal. This is because lofts are more closely related to mezzanines, as opposed to habitable attics (Section R326 in the 2018 code) and should therefore be located in the same vicinity as mezzanines.*
- *Unlike the 2018 WSRC provisions, lofts are not restricted to sleeping areas—the use of the space is unrestricted (see definition).*
- *Lofts must have a permanent means of egress. An area that looks like a loft but is not provided with a permanently affixed stair, ladder, alternating tread device, or ship’s ladder does not need to comply with this section (see R326.1, Exception 3).*
- *Lofts are intended to be small and are allowed to have lower ceiling heights than normal habitable spaces (see R326.2). Lofts meeting dimensional requirements of habitable space must meet all the habitable space requirements.*
- *Generally, lofts must meet the provisions of the base code, except as modified by this proposal (see R326.1).*

Other details and explanations:

- *Similar to mezzanines, lofts do not count as a story (R326.1), and the aggregate area of mezzanines and lofts must meet the requirements of mezzanines (R326.4). However, if there is only one loft in the room, it is allowed to be larger than would ordinarily be allowed, if the dwelling/sleeping unit is sprinklered (R326.4 exception). The exception is similar to an exception in the IBC, where mezzanines and equipment platforms are allowed to be larger.*
- *Several changes are proposed for the exception to R311.4 (a Washington State amendment):*
 - *“Stairs” is changed to “stairways” to align the language with the parallel amendment in the WSBC, and because “stairways” is the more correct term, based on a comparison of the definitions of the two terms.*
 - *Alternating tread devices and ship’s ladders are added to the stairs allowed to serve the 200 square foot area.*
 - *“...and not containing the primary bathroom or kitchen...” is changed to “where devices do not provide exclusive access to a kitchen or bathroom” to correspond with new exceptions to alternating tread devices and ship’s ladders in the 2021 IRC (see R311.7.11 and R311.7.12). Note this proposal deletes those new exceptions because the Washington State amendment is broader than the new exceptions and the changes to the exception to R311.4 cover alternating tread devices and ship’s ladders.*



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

1500 Jefferson Street SE • P.O. Box 41449 • Olympia, Washington 98501
(360) 407-9277 • fax (360) 586-9088 • e-mail sbcc@des.wa.gov • www.sbcc.wa.gov

- Guards are required at the open sides of lofts (R312.1.1), but where lofts have low ceilings, the guard height is allowed to be half the height of the opening (R312.1.2, Exception 3).
- In order to provide early warning to multiple uses including sleeping, a smoke alarm is required in the vicinity of lofts in the same way smoke alarms are required outside bedrooms (see R314.3).

There should be minimal impact on enforcement—no extra inspections or reporting requirements over what is currently needed for sleeping lofts, unless the option in R326.3 is chosen to increased mezzanine + loft area (requires sprinklers which then triggers other inspections).

The proposed amendment is needed for consistency with state or federal regulations. There is no cost associated with its adoption, providing lofts is a design option, not a requirement. This proposal expands on the sleeping loft concept already in the WSRC providing more design flexibility, which in some cases can increase housing options.

There is no impact on code enforcement, small business, or housing affordability.

(1)(e) Determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection:

There are no alternatives to this procedure. If the rule is not adopted, this will be a violation of the State Law, which will affect the promotion of fire and life safety in buildings consistent with accepted standards.

(1)(f) Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law:

The primary objective of the Council is to encourage consistency in the building code throughout the state, and to maintain the building code consistent with the state's interest. The rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

(1)(g) Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law:

The adoption and amendment of the 2021 IBC do not impose more stringent performance requirements on private entities than on public entities.

(1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by the following:

This does not differ from any federal regulations or statute applicable to the same activity.

(1)(i) A state statute explicitly allows the agency to differ from federal standards; or

(1)(ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated under (a) of this subsection; and

(1)(iii) Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.