

DIRECTOR'S INTERPRETATION: 2021 UPC AND APPENDIX C

REQUEST SUMMARY

Does the City of Sammamish have the Authority to Adopt and Enforce the 2021 Uniform Plumbing Code (UPC) and its associated appendices?

INTERPRETATION

The 2021 International Residential Code, as amended by the State of Washington, is the code used to construct one and two-family dwellings and townhomes. This code references additional codes and standards, including the 2021 International Building Code for structural requirements and the 2021 Uniform Plumbing Code for plumbing requirements. Local jurisdictions are allowed to further amend adopted codes, and the City of Sammamish is one of many jurisdictions in Washington State that has chosen to adopt Appendix C of the Uniform Plumbing Code. The City of Sammamish has the Authority to adopt and enforce the Building Codes per [RCW 19.27](#).

David Pyle 10/02/2024

[David Pyle 10/02/2024 \(Oct 2, 2024 09:27 PDT\)](#)

CONTEXT, FACTS, AND FINDINGS

The Uniform Plumbing Code is used to determine plumbing requirements for commercial and residential projects. It should be noted that plumbing plans are reviewed by building departments for commercial projects, but they are generally not reviewed for residential projects. Compliance with plumbing code requirements is typically addressed via field inspection. That said, all residential plumbing installations must still comply with adopted codes and appendices.

Meter sizing and supply pipe size is determined by UPC Section 610. The methodology for determining the size of meters and building supply pipe is outlined in Section 610.8. This section refers to Table 610.4, and uses a combination of developed length of pipe in the house, fixture count and water pressure to determine sizing requirements. Fixture count is determined by UPC Table 610.3 and Appendix A, and by UPC Appendix C if adopted. The use of Appendix C allows for the grouping of fixtures and generally results in a reduction in the overall fixture count compared to UPC Table 610.3. It is important to note that Appendix C does not directly address meter or supply pipe sizing, but indirectly due to the reduction in

Related Code References

Definitions -

[SMC 16.20.025](#)

Duties and Powers of
Building Official -

[SMC 16.20.125](#)

Interpretations -

[SMC 21.01.070](#)

Resources

[RCW 19.27](#)

Questions?

[Submit Project Guidance](#)

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2021 UPC AND APPENDIX C

the number of fixtures. It should also be noted that the UPC does not allow less than a $\frac{3}{4}$ " water meter with a $\frac{3}{4}$ " cold water supply.

Water meters are typically sized and provided by local water districts, but the requirements for sizing still come from the UPC. The Building Department typically completes a fixture count worksheet, and this fixture count is converted to gallons per minute (flow rate) which is then used to size the meter. In addition to fixtures, the requirement for fire sprinklers also impacts meter and supply pipe sizing in many cases. Fire sprinklers installed in single family homes and townhomes are to be designed per the IBC or IRC, not the UPC.

After thorough review, meetings with the interested parties, reviewing information provided from a professional third-party Consultant, the review of State regulations as well as the Codes of surrounding jurisdictions, the City of Sammamish concludes:

The use of UPC Appendix C is permitted by applicants constructing buildings in the City of Sammamish since the City has specifically adopted this appendix. The adoption of this appendix does not necessarily mean that a smaller meter size is possible for dwelling units. Given the increased size of homes (possibly resulting in a longer developed pipe length), the increased number of bathrooms, and the addition of specialty fixtures compared to homes in the past, it is possible that a larger meter will be required in many cases, especially when fire sprinklers are required.

The City of Sammamish will update its fixture count form to accommodate applicants for the use of the adopted UPC Appendix C, allowing the grouping of fixtures.

The City of Sammamish will also create a form which will be signed by the applicant at the Building Inspection Final verifying that the final fixture count is in compliance with the original fixture count at permit issuance.