

Houtchens Residence
6024 SE 22nd St
2209-088

CODE ALTERNATIVE MITIGATION

Deficiencies Noted:

1. Fire flow is less than required (500 vs. 1125gpm w/sprinkler)
2. No Turn Around
3. Access width is less than 20' (14.67')

To mitigate the deficiencies noted above we propose the following code alternatives, which we believe is equal to or better than the adopted code. The following items will be incorporated into the plan set.

1. Monitored Household Fire Alarm
2. 13R Fire Sprinkler System
3. Install 1-hr rated gypsum in all areas

Thank you,
Matt Mawer



Mercer Island Fire Marshal Office
3030 78th Avenue SE
Mercer Island, WA 98040
(206) 275-7966

Permit No: []

FIRE PLAN REVIEW

Address: _____

1. PROJECT TYPE

- NSF ADU/DADU
Alteration or Addition

Valuation Ratio (based on Fire Area Worksheet

Proposed Work / Assessed Value = %

- Exempt structure - detached garage or similar non living space structure
Less than 10% (fire review not required)
10 - 49% (monitored Household Fire Alarm System per NFPA 72 Chapter 29, if fire deficiency)
50% or greater (substantial alteration)

2. FIRE AREA

- Fire Area = square feet (sf) (from Fire Area Worksheet)
≥ 10000 SF Requires a NFPA 13R or 13 sprinkler system (use 13R sprinkler system as base)

3. FIRE FLOW

Hydrant ID# PSI

Flow Required GPM @ 20 psi (from IFC table B105.1)

With Sprinkler Reduction GPM @ 20 psi (50% reduction)

Available GPM @ 20 psi (Max of 500gpm for a 2-port hydrant)

- Does not meet fire flow even with sprinkler reduction (use 13R sprinkler system as base)
Does not meet fire flow due to no sprinkler reduction credit.

4. HYDRANTS

Number Required: Spacing

- Number Available: Spacing

- Distance from all building points to hydrant (300' Max, 600' W/ Sprinklers)

5. FIRE ACCESS ROADS

- Distance from all points to access road (150'). _____
- Length provided: _____ ft. (Over 150' from access road must provide turn-around)
- Width Required: < 500' = 20' ≥ 500' = 26'
- Width provided: ≥ 16' 12' - 16'
 ≤ 12' Code Alternate Required
- Radius provided (minimum 28' inside/45' outside): _____ ft.
- Turnaround provided: None Sub Standard Standard N/A
- Grade Provided: < 10' < 15' < 20' Current _____ %
 > 20' Code Alternate Required

6. FIRE REQUIREMENT

- No Fire Requirement
- Monitored Household Fire Alarm
- 13D Fire Sprinkler System
- 13R Fire Sprinkler System
- Code Alternate Proposal

Reviewer Comments



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FIRE CODE ALTERNATE REQUEST

This document is intended to provide guidance on the approval process for a code alternate request.

The unique and challenging geography, water system, and design desires often make it difficult to meet the Fire Code requirements for a project on Mercer Island. The fire code allows applicants to propose alternate fire protection or design methods to be used to overcome these deficiencies.

2018 IFC - [A] 104.9 Alternative materials and methods.

The provisions of this code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the fire code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not approved, the fire code official shall respond in writing, stating the reasons why the alternative was not approved.

Draft Submittal and Review Process:

Before you propose an alternative to mitigate a fire service deficiency, you will be provided with a "Fire Plan Review" sheet with the specific deficiencies for your project. You will need to address each fire deficiency noted. Checked items marked on this review sheet are areas where the required code is not met. You will draft your request letter, stating the scope of work for the project, citing the deficiencies that were identified from the review sheet, proposing your specific items that you propose as alternative(s) to meeting the code, and finally a summary statement which states "We believe the proposed is equal to or better than the code requirement." Your proposal or "code alternate" will be reviewed to determine if your proposal meets this final summary statement.

Below is a list of items that will be considered as alternative fire protections.

- *An "NFPA 13D - Standard" sprinkler system
- *Upgraded Fire Sprinkler System Coverage
- *An upgrade to an "NFPA 13R – Plus" sprinkler system
- *Installation of a "Household Fire Alarm System" per NFPA 72 Chapter 29
- *Provide fire retardant coating treatment in the attic and crawl space
- *Install 1-hr rated gypsum in all areas.
- *Provide solid core or fire rated doors
- *Any other items that you would like to propose

All fire code alternate proposals are required to be submitted for review to our Mercer Island Development Services Group. Either in person or submitted to our FTP site. Please contact the Mercer Island Fire Marshal's office for additional information.