

Memorandum

Toda Project

2262 78<sup>th</sup> Ave SE

Mercer Island, WA 98040

Permit 2505-202



The purpose of this memorandum is to provide clarity on fulfilling code requirements for fire protection systems, and the associated city requirements for water service to the home.

The current intake screening review indicated that a upsize of the existing water meter and associated service line would be required to supply a 13R fire sprinkler system. After discussion with Eastside Fire Marshall, Mark Jung, he will instead allow a full-coverage 13D system utilizing low flow sprinkler heads and a fire booster pump, negating the requirements for the larger meter & service line. Email correspondence with Marshall Jung has been included below and the plan set updated accordingly.

Resizing the water service line is problematic due to the location of the existing meter at 350' from the subject property. The work required to achieve this upsize would be both cost-prohibitive to the subject property owners and disruptive to adjacent property owners, as the access road from 78<sup>th</sup> would be significantly impacted as this work was executed. Should the current water meter & service line sizing still prove inadequate with the approved fire code alternative, we suggest utilizing a ½" supply valve for the proposed soaking tub tub as a permit condition.

Thank you for your consideration.

Sincerely,

Melissa Dow

Vice President

Weaver Construction, LLC



Melissa Dow &lt;melissa@weaverconstructionco.com&gt;

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**Mercer Island permit application 2505-202**

3 messages

**Melissa Dow** <melissa@weaverconstructionco.com>

Wed, Jun 4, 2025 at 7:18 AM

To: Mark Jung &lt;mjung@esf-r.org&gt;, Cameron Weaver &lt;cam@weaverconstructionco.com&gt;, Larry Kloetsch &lt;larry@weaverconstructionco.com&gt;

Good morning, Mark.

Upon review of the intake screening for this permit application, you indicated that a NFPA 13R sprinkler system is required, along with a fire code alternative. The sprinkler requirement triggered a water meter and service line upsized requirement. The site conditions for this project make that task an incredibly costly and daunting one, with the existing water meter being located at the end of the access road (see attached).

Would you accept the incorporation of a pump tank that supplies the system in lieu of supplying the system with municipal water? Will that satisfy the "fire code alternative" requirement?

Thanks,

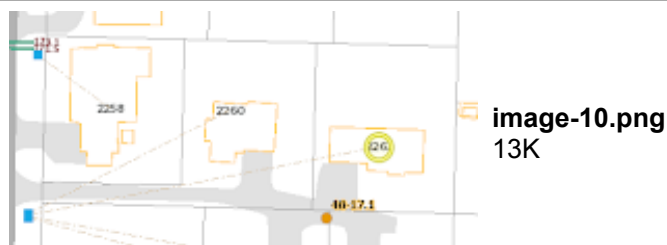
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Melissa Dow

(she/her)

Chief Administrative Officer &amp; Senior Project Manager

C: 253.670.5173

[weaverconstructionco.com](http://weaverconstructionco.com)

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**Mark Jung** <mjung@esf-r.org>

Wed, Jun 4, 2025 at 1:58 PM

To: Melissa Dow &lt;melissa@weaverconstructionco.com&gt;, Cameron Weaver &lt;cam@weaverconstructionco.com&gt;, Larry Kloetsch &lt;larry@weaverconstructionco.com&gt;

Hi Melissa,

Yes, a tank and pump supply is acceptable under the NFPA 13R standard. However, the system requirements are considerably more complex under 13R compared to NFPA 13D. While permissible, this setup is rarely used in single-family applications, likely due to an unfavorable cost-benefit.

One key difference is that NFPA 13D pumps are not required to be UL-listed, which makes them significantly less expensive than those used in 13R systems.

If a tank/pump arrangement is pursued under 13R, the following components would be required:

- A UL-listed pump capable of delivering more than 60 gpm
- Approximately 600 gallons of tank storage, connected to a potable source with backflow protection
- Emergency power via a generator with an automatic transfer switch
- A fire alarm system per NFPA 72, capable of supervising the fire pump, generator, and tank status
- Annual confidence testing of the fire pump, fire alarm system, and sprinkler system

I have another idea that may be a better fit. Please give me a call to discuss.

Best regards,

Mark

*Excellence in Service*



**Mark Jung, CFM** (he/him) | **Assistant Fire Marshal**

EASTSIDE FIRE & RESCUE

175 Newport Way NW, Issaquah WA 98027

mjung@esf-r.org

(C) 206.833.6929

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**Mark Jung** <mjung@esf-r.org>

Wed, Jun 4, 2025 at 4:27 PM

To: Melissa Dow <melissa@weaverconstructionco.com>, Cameron Weaver <cam@weaverconstructionco.com>, Larry Kloetsch <larry@weaverconstructionco.com>

Hi Melissa,

Thank you for confirming that there is a 1” meter and supply presently serving the site. With that information, I suggest a code alternate proposal that includes:

1. Full-coverage 13D – this will cover all of the same areas as the MI 13R standard but requires lower flow rate that can generally be supported with a 1” supply. Here is a link to the [MI 13R standard](#). As we discussed, I recommend getting the fire sprinkler design going asap to resolve the question of a pump for the full-coverage 13D system.

2. Monitored fire alarm in accordance with NFPA 72 (Chapter 29)
3. Solid core doors throughout the residence – this only applies to bedrooms, mechanical rooms, bathrooms and laundry rooms. Closets within rooms do not need to be solid core.
4. Type-x gypsum wall board (GWB) installed on all interior walls and ceilings

I have attached the plan review worksheet for the project. I recommend submitting [Code ALT request](#) as soon as you get your first round of comments back from the city.

Let me know if you have any questions; I'm happy to help.

-Mark

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