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SANTA CRUZ COUNTY FIRE DEPARTMENT
PAJARO VALLEY FIRE PROTECTION DISTRICT

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Fire Flow & Water Supply

Determination Guide - New Structures, Additions, and Accessory Buildings

This guide explains how required fire flow and water supply are determined in Santa Cruz County Fire Department and Pajaro Valley Fire Protection District territory. It applies to new buildings, residential additions over 500 square feet, and residential accessory structures.

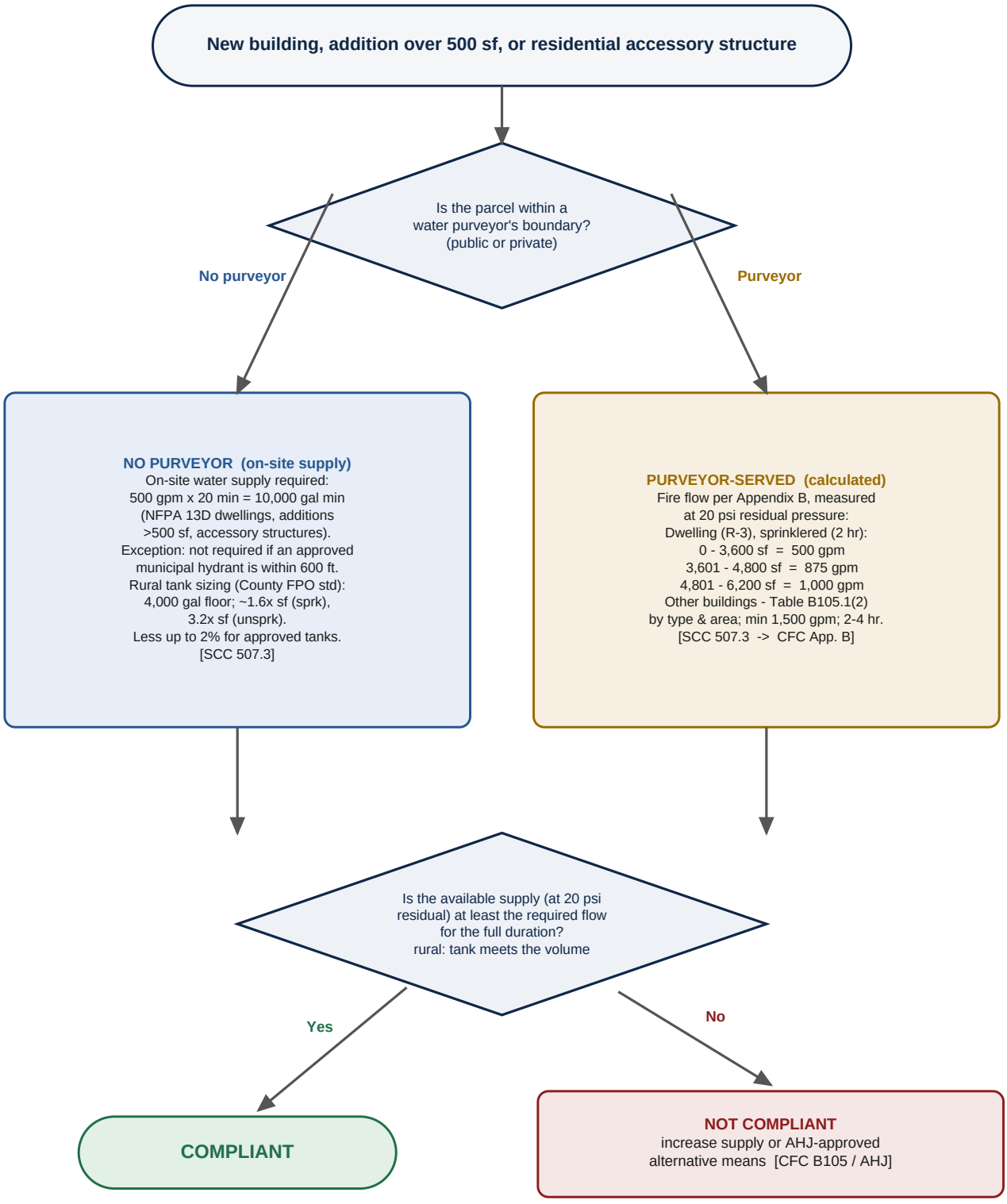
Key principle. The path is set by **water-purveyor status, not by SRA or LRA.** A parcel can be in the State Responsibility Area and still sit inside a water district's boundary. If the parcel is served by a public or private water purveyor, the required fire flow is the calculated Appendix B value. Only parcels *outside* any purveyor's boundary fall under the 500 gpm / 20-minute (10,000-gallon) on-site minimum. SRA and LRA designations drive defensible space and structure hardening, which are separate from this determination.

How to use this guide

Work the flowchart on the next page from the top: first establish purveyor status, then follow the applicable branch to the required flow and duration, and finish at the supply-adequacy check. The page that follows defines each term, lists the figures and citations in full, and explains where SRA / LRA actually apply.

Determination Flowchart

Governing code: Santa Cruz County Fire Code Ch. 7.92, Section 507.3, and California Fire Code Appendix B (2025 cycle).



Supplemental Explanation

1. The controlling question: purveyor status

Section 507.3 ties the on-site water-supply minimum to parcels "not within the boundaries of a public or private water purveyor." That phrase - not the SRA / LRA designation - decides which path applies. A parcel in the SRA that can connect to a water district is treated as purveyor-served and uses the calculated Appendix B fire flow; only a parcel outside any purveyor's boundary uses the 10,000-gallon on-site minimum **[SCC §507.3]**.

2. No-purveyor (on-site) path

Parcels outside a water purveyor's boundary must provide an on-site supply:

- Minimum 500 gpm for 20 minutes = **10,000 gallons**, for new NFPA 13D-sprinklered dwellings, residential additions over 500 sq ft, and residential accessory structures (garages, barns, storage) **[SCC §507.3]**.
- **600-ft exception:** on-site storage and a private hydrant are not required where an approved municipal hydrant is within 600 ft of the structure **[FPO / Attachment G-1]**.
- **Rural tank sizing:** where a tank-sizing calculation is used, the office's residential plan-review standard applies roughly 1.6 × sq ft (sprinklered) or 3.2 × sq ft (unsprinklered), with a 4,000-gallon floor; the governing volume is the more stringent of this and the 10,000-gallon minimum. NFPA 1142 is the referenced rural water-supply standard, but its method is volume- and hazard-based rather than a per-square-foot multiplier **[County R-3 plan-review checklist; NFPA 1142]**.
- **Tank reduction:** up to a 2% reduction is allowed for flow supplied by approved stationary tanks **[SCC §507.3]**.

3. Purveyor-served (calculated) path

For purveyor-served parcels, fire flow is the calculated Appendix B value, available at **20 psi residual pressure**. The table shows both cases for one- and two-family dwellings. Non-sprinklered dwellings follow the model Appendix B figures (Table B105.1(1)); sprinklered (NFPA 13D) dwellings take the 50% flow reduction, which the County's R-3 plan-review standard applies at a 2-hour duration:

Fire-flow calc area	Non-sprinklered (1 hr)	Sprinklered, NFPA 13D (2 hr)	Equivalent volume
0 - 3,600 sq ft	1,000 gpm	500 gpm	60,000 gal
3,601 - 4,800 sq ft	1,750 gpm	875 gpm	105,000 gal
4,801 - 6,200 sq ft	2,000 gpm	1,000 gpm	120,000 gal
Over 6,200 sq ft	per B105.1(2)	per Table B105.1	per table

Equivalent volume = flow × duration; it is a storage requirement only where on-site supply is provided, not for main-served parcels. Non-sprinklered flow is twice the sprinklered (model 50% reduction); new California dwellings must be sprinklered (NFPA 13D), so that column applies to existing, exempt, or accessory structures **[CFC App. B, Table B105.1(1)]**.

Buildings other than one- and two-family dwellings use Table B105.1(2) by construction type and area, with a sprinkler reduction of up to 75% (minimum 1,500 gpm) and a 2 to 4-hour duration **[CFC App. B, Tables B105.1 / B105.1(2)]**.

4. Hydrant siting

Where a hydrant is required, it must be at least 50 ft and not more than 150 ft from the protected structure, and 6 to 8 ft from the edge of the road, driveway, or turnout; hydrants are marked per NFPA 291 and FPO-017 **[FPO / Attachment G-1; SCC §507.5.7]**.

5. Where SRA / LRA actually apply (separate from fire flow)

SRA / LRA does not select the fire-flow path, but it governs two related programs: **defensible space** - PRC §4291 in the SRA, Gov. Code §51182 in LRA Very High FHSZ; and **structure hardening** (CWUIC Ch. 5) - SRA Moderate/High/Very High, LRA High/Very High. These apply based on the parcel's zone regardless of the water-supply determination **[PRC §4291; Gov. Code §51182; CWUIC Ch. 5]**.

6. AHJ discretion

The fire code official may increase required fire flow where conditions indicate unusual conflagration exposure, may reduce it for isolated rural buildings, and may accept an approved alternative means where the available supply falls short of a table value **[CFC §B104-B105; SCC §104]**.

For reference and planning only - not an official determination. Confirm all figures against the adopted Santa Cruz County Fire Code and CFC Appendix B.