

**TOWN OF TRUCKEE
COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING AND SAFETY DIVISION**

RESIDENTIAL BUILDING PERMIT NUMBER:	STATUS:
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Dear Permit Applicant:

PRIOR TO ISSUE OF THIS PERMIT APPLICATION, REVIEW AND WRITTEN APPROVAL BY THE FOLLOWING TOWN DIVISIONS AND LISTED ALTERNATE AGENCIES ARE REQUIRED.

Please review the table at the bottom of this page. If the status of a Town Division is checked as “Not Approved”, a list of conditions for their approval has been attached to this document. Review the conditions, provide appropriate additional documentation and/or revisions to plans to comply with those conditions and return to the Building Division front counter. The Building Division will route the returned documentation to appropriate locations for their review and approval. Once all approvals have been obtained, the permit application will be “Approved” and the applicant will be notified.

These fire sprinkler requirements are applicable to new construction or additions to existing buildings that are already provided with an automatic residential sprinkler system.

(It is the intent of the Community Development Department to obtain all Town Division approvals, or attach a list of their conditions for approval, prior to contacting the applicant in regards to the permit status. If however, the status of a Division below is marked as “Not Approved” and no comments have been attached, please contact that division at the number listed to obtain either their written approval or a list of conditions for their approval.)

TOWN DIVISION STATUS IS AS FOLLOWS:

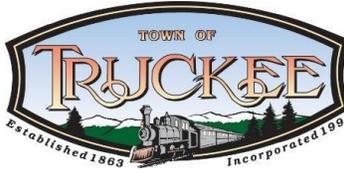
<input type="checkbox"/> Approved	Date:	<input type="checkbox"/> Not Approved, see attached	Building and Safety Division (530) 582-7821
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ALTERNATE AGENCY STATUS IS AS FOLLOWS:

Review and written approval from the following agencies is required as noted. Please contact them directly for their requirements and forward their approval to the Building and Safety Division.			
<input type="checkbox"/> Approved	<input type="checkbox"/> Not approved	<input type="checkbox"/> Not Applicable	Nevada County Environmental Health (530) 470-2787
<input type="checkbox"/> Approved	<input type="checkbox"/> Not approved	<input type="checkbox"/> Not Applicable	Truckee Donner Public Utility District (530) 587-3896 (water department)

Sincerely,

The Town of Truckee



TOWN OF TRUCKEE BUILDING DIVISION
RESIDENTIAL 13D FIRE SPRINKLER PLAN CHECK COMMENT/CORRECTION LIST
10183 Truckee Airport Road Truckee, CA 96161
(530) 582-7821 Fax (530) 582-7889

PERMIT NUMBER: _____ APN: _____ SNOWLOAD: _____
OWNER: _____
JOB ADDRESS: _____
TYPE OF CONSTRUCTION: _____ TYPE OF OCCUPANCY: _____
PROJECT **INSTALLATION OF 13D FIRE SPRINKLER**
DESCRIPTION: **Water** **Anti-freeze** **Dry** **Preaction**
(Scope of Work)
CHECKED BY: _____ RECHECKED BY: _____
DATE: _____ DATE: _____

Effective for all permits applied for on or after January 1, 2014, all work shall comply with the 2013 Edition of NFPA 13D, 2013 editions of the California Building Code (**C.B.C.**), California Residential code (**C.R.C.**), California Mechanical Code (**C.M.C.**), California Plumbing Code (**C.P.C.**), California Electrical Code (**C.E.C.**), 2008 Building Energy Efficiency Standards (Effective 01/01/10) (*2013 Energy Standards will go into effect 07/01/14*) and Title 15 of the Town Municipal Code (T.M.C.), the 2012 Editions of the Uniform Swimming pool and Hot Tub Code and Solar Energy Code; the 1997 Editions of the Uniform Housing Code and Uniform Code for the Abatement of Dangerous Buildings.

The approval of plans and specifications does not permit the violation of any section of the above codes, Town Ordinances or State Law.

These corrections and comments shall become part of the plans and shall be on the job site along with the approved plans, engineering, and energy calculations for all inspections. All items noted in this list shall be on the plans and are the responsibility of the architect, engineer, and contractor to see that they are complied with during the construction process.

I do hereby certify that this structure will not be occupied without a Certificate of Occupancy and that I have read these documents and will comply with them and all codes, Town Ordinances and State Laws adopted by the Town of Truckee.

Signature (Owner, Contractor, Agent)

Date

BUILDING DIVISION STATUS: **ISSUE**
 CORRECTIONS REQUIRED
 RESUBMIT
 RECHECK AT COUNTER

Please respond in writing to each comment on the following pages by marking the attached comment list or creating a response letter. Indicate which detail or specification on plans, and/or calculation(s) shows the requested information. Your complete and clear responses will expedite the re-check and hopefully approval of this project. **ANY DOCUMENTATION/RESPONSE REQUIRED BY ENGINEER SHALL BE PROVIDED WITH ENGINEER’S WET STAMP AND SIGNATURE.** Thank you for your assistance.

If re-submittal includes new plans – please provide original marked plans when resubmitting. Thank you for your assistance.

BUILDER'S COMMENT	CORRECTION / CLARIFICATION REQUIRED AND / OR ADDITIONAL COMMENTS
	<p>These documents have been spot checked for code and structural compliance. Plans may be lacking sufficient information, details, and engineering, for complete review and construction of the structure. If there are errors or a lack of information or details for construction and code compliance, <u>additional engineering, details, documentation, and fees may be required by Building Inspectors during construction or at the time of inspection(s).</u></p>

(Per TDPUD, 3/4" water meter provides approx. 30 gpm; demand of 50 gpm requires upgrade to 1" meter)

Address any of the following items which have been marked with an “X”. Lighting items which have been marked with an “X” within the “electrical” section shall be incorporated into the electrical plans. In addition, any comments marked with an “X” which have been “bolded” within these general sections shall be added to plans as well. If remaining items are not added to plans, it is assumed that these items have been read, are understood and will be addressed correctly during the construction process. Some items may be duplicates of comments above, and have been marked for further information/clarification.

GENERAL ENGINEERING AND DOCUMENTATION REQUIRED ON PLANS 1.00 (Plans, specifications, engineering calculations, diagrams, soil investigation reports, special inspection and structural observation programs and other data shall constitute the submittal documents and shall be submitted with each application for a permit. Plans shall show in detail that scope of work will conform to the provisions of all pertinent codes, laws, ordinances, rules and regulations. CBC Appendix Chapter 1, Section 106.1.1.

An automatic residential fire sprinkler system shall be installed in one- and two- family dwellings (and manufactured homes if owner designed or locally mandated). 2013 CRC R313.2. Where installed, residential fire sprinkler systems, or portions thereof, shall be in accordance with NFPA 13D or section R313.3 of 2013 CRC, which shall be considered equivalent to NFPA 13D. Section R313.3 shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze.

X	R1.01	The 2013 NFPA requires research and elimination of other freeze protection options prior to choosing antifreeze system. This determination must be submitted with every submittal utilizing antifreeze solutions. Include the required supporting documentation to justify anti-freeze as the only option for this project. Additional information can be found regarding this requirement can be found on the Town website: http://www.townoftruckee.com/index.aspx?page=1111
	R1.02	A multi-purpose fire sprinkler system shall supply domestic water to both fire sprinklers and plumbing fixtures and shall have appropriate signage. The system shut off cannot be separate. NFPA 13-D 6.3; 7.1.2. A stand-alone sprinkler system shall be separate and independent from the water distribution system. CRC R313.3.1. Where a dry system is installed, a pressure gauge shall be installed to indicate system air pressure. NFPA 13-D 7.3.1 A drain shall be installed for each trapped portion of a dry system that is subject to freezing temperatures. NFPA 13-D 7.2.3.
	R1.03	Where more than one dwelling unit is served by the same water supply pipe, each dwelling unit shall have an individual control valve and the owner of each dwelling unit shall have access to the valve that controls the sprinkler system in their unit. NFPA 6.2.3. Common supply pipes shall meet NFPA 6.5.2.
	R1.04	Every automatic sprinkler system shall have at least one automatic water supply. (NFPA 6.1.1) Define water supply <u>source</u> for sprinkler system (<i>connection to utility district, or elevated tank, or pressure tank or stored water source with automatically operated pump or well with a pump of sufficient capacity and pressure to meet sprinkler system demand</i>). NFPA 13-D 6.2.
	R1.05	Where stored water is used, as the sole source of supply, the minimum quantity shall equal the water demand rate times 10 minutes; Or equal the two sprinkler water demand rate times 7 minutes if dwelling is one story in height and less than 2000 square feet. NFPA 13-D 6.1.
	R1.06	If the fire sprinkler water source is via connection to utility district supply, define the length, material type and size of pipe between the riser and the utility

			district's meter as considered and required in design calculations.
		R1.07	Verify flow allowed by the water meter meets or exceeds the system demand and the total demand flow does not exceed the maximum flow allowed by the piping system components. (Review and written approval by TDPUD required).
		R1.08	If water source is not provided by the local utility district, define available domestic water supply pressure as part of plans and provide supporting documentation (flow test, well test, etc.).
		R1.09	Where a pump and tank is the <u>source of supply</u> but is not a portion of the domestic water system, meet the conditions of NFPA 13-D 6.2.2. (1. The test connection shall return water to the tank; 2. A method for refilling the tank shall be piped to the tank; 3. A method of determining the water level in the tank shall be provided without having to open the tank). Note conditions/demonstrate compliance as part of plans.
		R1.10	Where a pump is the <u>source of pressure</u> for the water supply for a fire sprinkler system but is not a portion of the domestic water system, it shall meet the conditions of 6.2.1. (1. A test connection shall be provided downstream of the pump that creates a flow of water equal to the smallest sprinkler on the system;2). Pump motors using ac power shall be connected to a 240 V normal circuit; 3). Any disconnecting means for the pump shall be approved' 4). The pump shall not be permitted to sit directly on the floor.). Note conditions/demonstrate compliance as part of plans.
		R1.11	Where a pressure tank is used for the water supply, a pressure gauge shall be installed to indicate tank pressure. NFPA13-D 7.3.2. Provide manufacturer's data sheet for the pump used to supply the system.
		R1.12	Where a water flow alarm is provided, test connections shall be installed at locations that allow flow testing of water supplies, connections and alarm mechanisms. The test connections where provided, shall contain an orifice equal to or smaller than the smallest sprinkler installed in the system. Where a pressure-reducing or pressure regulating valve is installed on a stand alone system, a pressure gauge and a test connection with an orifice at least as large as the smallest orifice sprinkler on the system shall be installed downstream of the device. NFPA 7.2.4 – 7.2.6.
		R1.13	Fire sprinkler drawings shall be drawn to scale and include: address; size and material of domestic line, including length from riser to supply connection; water meter size; current static water pressure; Installing contractor information; model, manufacturer, temperature, orifice size, and spacing requirements of sprinklers; hanger spacing requirement per the pipe manufacturer; Detail piping support to prevent lateral movement, including upon sprinkler operation. General notes for plans/sprinkler design shall indicate the standard to which the system is designed; the system design basis; the water supply location/method; the material/type and diameter of all piping; Indicate the maximum spacing distance between sprinkler heads and minimum (4") distance from sprinkler to walls. Provide 2 sets of fire sprinkler drawings.

	R1.14	Fire sprinkler drawings shall be drawn to scale and include: interior walls; heat zones, soffits; cross sectional views; Clearly define location and interior pitch of all sloped ceilings and protruding beams which may affect the installation location of sprinkler heads; location(s) of fuel fired appliances (w/i closets, garage, attic, crawl space, etc).
	R1.15	Provide (2) copies of hydraulic calculations. The location of the most demanding single sprinkler and pair of sprinklers in same compartment, including their pressure and flow requirements shall be considered. (It may be necessary to consider more than 1 condition to determine the most demanding based upon piping configurations, fittings, etc.). 8.1.2. The calculations shall terminate at the connection to the Town Main or water storage tank)
	R1.16	Show proposed <u>riser location</u> on drawings. Define location of domestic water supply (source of water – Utility District connection or well, etc, not where supply comes into structure) and its distance from sprinkler riser. Verify appropriate length considered in hydraulic calculations.
	R1.17	Provide <u>riser detail</u> . Define all fixed loss devices required/proposed in system and their order/location in system. (8.4.4). Verify any/all considered in hydraulic calculations. (Water meter, backflow preventer, water flow switch, domestic shutoff valve, etc.) Verify size of all sections of piping agree between hydraulic calculations and riser detail/piping plan ((anti-freeze system requires reduced pressure backflow preventer and expansion chamber). Provide a pressure gauge on the system riser.
	R1.18	A single control valve arranged to shut off both the domestic system and the sprinkler system shall be installed. NFPA 7.1.1. Each sprinkler system shall have a minimum 1/2" drain on the system side of the control valve. A valve shall be installed in the drain piping. Test connections shall contain an orifice equal to or smaller than the smallest sprinkler installed in the system. NFPA 13-D 7.2.
	R1.19	Installation of all residential sprinklers must be in strict compliance with the manufacturer's installation requirements. (See 8.1.3.1.2 and 8.1.4 for exceptions). Include technical data, installation instructions and details for sprinkler heads, piping, and other devices that are part of the proposed sprinkler system. Provide most current versions of all data sheets and installation instructions for all proposed sprinkler heads and fixed loss devices. (Verify legends plans and manufacturer's data all agree).
	R1.20	Per (Viking; Reliable) manufacturer's specifications and installation requirements, the maximum vertical distance a sprinkler can be located from the peak of a ceiling is 3 feet. Amend plan accordingly.
	R1.21	Construction features or conditions are outside the scope of the sprinkler listings. Therefore, demonstrate compliance with NFPD 13D sections 10.2.1.
	R1.22	Proposed sprinkler installation on ceiling slopes exceeding 8:12 pitch do not meet any of the conditions within NFPA13D or listing data of sprinkler heads. Therefore, please provide hydraulic calculations that consider minimum 3 heads in the design resulting in higher discharge flows to be considered in the system.

	R1.23	<p>If the sprinklers are in a room with a <u>sloped</u> ceiling then the <u>maximum</u> dimension between sprinkler heads shall be measured <u>along the length of the slope</u>. NFPA 8.1.1.1.</p> <p>The sprinklers shall maintain the <i>minimum</i> listed spacing, but no less than 8ft. <i>measured in the plan view</i> from one sprinkler to another. When sprinklers are installed closer than 8 feet apart a baffle (beam or other type of obstruction must separate the heads. Provide listing data for all proposed sprinkler heads. NFPA 8.1.1.2</p>
	R1.24	<p>Analyze obstructions near sprinkler heads. Determine compliance with manufacturer's specs and/or Tables as provided in NFPA Section 8.2 or amend plan as may be required.</p> <p>Verify cumulative shadow areas in the protection area of a sprinkler do not exceed 15 square feet. NFPA 8.2.5.7.</p>
	R1.25	<p>Sprinkler heads shall be located in all living areas, including bathrooms >55 square feet; clothes closets, linen closets, pantries > 24 square feet with the least dimension greater than 3' with walls and ceilings surfaced with non-combustible or limited-combustible materials; mudrooms where it is the only means of egress, attics, floor and ceiling/concealed spaces with fuel fire mechanical equipment. NFPA 13-D 8.3. Define the use of all rooms or areas where sprinkler protection has been omitted.</p>
	R1.26	<p>Sprinklers under glass or plastic <u>skylights</u> exposed to direct rays of the sun shall be of intermediate temperature classification.</p> <p>Sprinklers in an <u>unventilated concealed space under an uninsulated roof or in an unventilated attic</u> shall be of intermediate temperature classification.</p> <p>Sprinklers installed near specific heat sources (as listed in Table 7.5.6.3) shall be of the temperature rating indicated (ordinary or intermediate) unless sprinklers are listed for positioning closer to the heat source.</p> <p>Sprinklers installed in saunas and steam rooms where the maximum ambient ceiling temperatures are between 151 degrees and 225 degrees F shall be high temperature-rated spray sprinklers (NFPA 7.5.6.3)</p>
	R1.27	<p>In all closets, including those housing mechanical equipment that are not larger than 400 cubic feet, a single sprinkler at the highest ceiling space shall be sufficient without regard to obstructions or minimum distances to wall. (8.2.5.1).</p>
	R1.28	<p>Sprinkler heads shall be provided in attached garage(s). CRC R313.3.1.1</p>
	R1.29	<p>A placard shall be placed on the antifreeze system main valve that indicates the manufacturer type and brand of anti-freeze solution, the concentration of antifreeze solution used and the volume of the antifreeze solution used in the system. NFPA 9.2.5</p>
	R1.30	<p>The installer shall provide to the owner/occupant instructions on inspecting, testing, and maintaining the system. NFPA 13-D, 4.1.1.</p>
X	R1.31	<p>Since a safety factor of <10% has been achieved within this sprinkler design, if several added fittings and pipe length revisions, or non-considered ceiling slopes occur or are discovered during construction, as-built plans and revised calculation, along with additional review fee may be required.</p>

