



Truckee Donner Public Utility District

GUIDANCE REGARDING THE FIRE SPRINKLER REQUIREMENT FOR NEW SINGLE-FAMILY RESIDENCES

Current California state codes require the installation of fire sprinkler systems on all new single-family residences.

The intent of this document is to outline the process for connecting single-family residences to the District's water system. Attached to this document are blank forms and sample correspondence associated with a typical single-family residence. Please note that the term "Owner" will be used throughout this document. Duties and responsibilities assigned to the Owner can be undertaken by any party designated by the Owner such as a contractor or architect.

BACKGROUND

The purpose of fire sprinkler requirement is to protect the life & safety of the occupants. It is not intended to prevent catastrophic damage to the structure. A typical system will have a flow requirement between 30 and 45 gallons per minute (gpm) for a duration of 15 minutes. There are two methods for complying with this requirement:

- 1) Have the necessary flow provided from the public water system. In this case, upgrades to existing water facilities will likely be necessary. These upgrades will be at the cost of the Owner.
- 2) Install an on-site storage tank and pump system with sufficient capacity. In this case, upgrades to existing water facilities will not be necessary.

Service pressure varies greatly throughout the District's water system. Pressure measured at any given meter box can vary from below 40 psi to over 150 psi. In addition, there are a number of different service lateral and meter box configurations that have been utilized over the years. Consequently, each single-family residence must be evaluated and considered individually.

There are locations within the District where the upgrade of existing facilities may not be feasible or will not be cost effective for the Owner. In such cases, installation of an on-site storage tank and pump system is necessary and adequate provisions must be made within the building design to accommodate the equipment. Therefore, a decision regarding which of the two methodologies will be used must be made before a Building Permit is obtained.

Please note that it is the DISTRICT's policy that unmetered fire sprinkler lines shall not be installed for single-family residential properties. There shall be a single metered point of service with the meter sized to accommodate the required fire sprinkler demand.

PROCESS FOR OBTAINING SERVICE FOR SINGLE-FAMILY RESIDENCES

The process outlined below has been developed to ensure that the Owner has sufficiently considered the impact of complying with the fire sprinkler requirement. It is likely a significant change from the past practices of some Owners.

Step 1

The *Single Family Residence Project Data Sheet* (Attachment A) must be completed. Of critical importance is the data regarding the required domestic water demand given on the last page of the application.

Step 2

Upon receiving the application, the District will conduct analyses to evaluate the ability of the existing water system to provide the required fire sprinkler demand. These analyses may involve a combination of computer models, spreadsheet analyses and field tests. There is no additional cost to the Owner for the District to perform these analyses.

Per discussions with local fire sprinkler system designers and installers, the District will provide the available flow and pressure under five separate conditions: 0 gpm, 27 gpm, 32 gpm, 40 gpm and 45 gpm. All pressures will be calculated to the end of the District-owned piping at the meter box. It is the responsibility of the owner to account for any elevation changes and for pressure losses on the privately-owned piping.

The District will respond to the Owner with a letter (a sample letter is given as Attachment B) describing the options available to the Owner for complying with the sprinkler requirement. For options involving upgrades to existing facilities, the District will generate a detail describing the work to be performed and which party (District or Owner) will perform certain components of the work. This work breakdown has been developed in an effort to minimize costs to the Owner. This letter will also identify any fees beyond the customary Connection Fee and Facility Fee.

Step 3

The Owner shall review the correspondence from the District and determine the methodology to be used. It is recommended that the Owner consult with its contractors and suppliers as appropriate to determine the most cost effective course of action.

The Owner shall then complete the *Application for Residential New Construction* (Attachment C); *Single Family Residence Fire Sprinkler Requirement Compliance* (Attachment D); and the *Residential Water Service Connection Request Agreement* (Attachment E) and submit them to the District. THESE DOCUMENTS MUST BE SUBMITTED AND THE APPROPRIATE FEES AND/OR DEPOSITS MUST BE PAID BEFORE THE DISTRICT WILL APPROVE ISSUANCE OF A BUILDING PERMIT.

Please note that the District's Water System Facility Fee is based upon the square footage area of habitable living space as indicated on the building permit application. The Owner must provide a copy of the building permit application at the time that fees are paid.

Step 4

After construction has begun, the Owner must notify the District in advance to schedule work to be performed by the District. This work may involve any of the following:

- Installation of a meter
- Upgrade of pipe and fittings in the meter box
- Performing a hot tap on the existing main
- Inspecting the installation of a new service lateral to be conveyed to the District

Notification to the District shall be made on the *Service Connection Request Form* (Attachment F). The District will not perform field work without submittal of this form.

Also note that the use of water prior to installation of a meter is prohibited. Such unauthorized usage shall be considered a theft of public utilities and will be referred to the appropriate law enforcement agency.

Step 5

The Town of Truckee requires a separate permit for the installation of a fire sprinkler system. Prior to issuance of this permit, the Owner shall submit one copy of the hydraulic calculations and plans for the sprinkler system to the District. The calculations and plans shall be prepared by a licensed fire sprinkler system designer.

Step 6

The District will review the calculations and plans for consistency with prior correspondence with the Owner. The District will respond directly to the Town of Truckee Building Department with a *Single Family Residence Fire Sprinkler System Design Review* form (Attachment G).

Step 7

Installation of an appropriate backflow prevention device is a required component of a fire sprinkler system. Double check and reduced pressure principle backflow prevention devices must be tested by a licensed Backflow Prevention Assembly Tester upon their initial installation. A copy of the test report must be submitted to the District before a Certificate of Occupancy (either temporary or permanent) can be obtained.

In addition, a field inspection must be performed by District personnel for all sprinkler systems, even those locations where an air gap has been installed on the fill line for a storage tank.

FURTHER INFORMATION

Questions or requests for further information regarding service for single-family residences shall be directed to Neil Kaufman at 530-582-3950.



Single Family Residence Project Data Sheet

Date Submitted: _____ Submitted By: _____

Name of Project: _____

Assessor's Parcel Number(s): _____

Site Address: _____

Owner:

Name: _____

Address: _____

Phone: _____

Fax: _____

Email (if available) _____

Project Representative (to whom correspondence will be sent):

Name: _____

Address: _____

Phone: _____

Fax: _____

Email (if available) _____

PROJECT INFORMATION

SIZE OF RESIDENCE: _____ square feet of living space

MAXIMUM DOMESTIC DEMAND: _____ gallons per minute

FIRE SPRINKLER SYSTEM TYPE
(Glycol, Gas Charged, etc.) _____

HEATING SYSTEM TYPE
(Forced Air, Hydronics, etc.) _____

Upon submittal of this document, the District shall review the availability of fire flow to the project site and respond in writing.

All projects shall be subject to the District’s requirements regarding backflow prevention and cross-connection control. The District may require additional information and/or field inspections to determine compliance with the backflow prevention requirements. The District shall have complete authority regarding the determination of adequacy of the existing water system facilities.

I agree to the terms and conditions herein stated.

Owner/Project Representative (*Printed Name*)

Owner/Project Representative (*Signature*)

Date



Truckee Donner Public Utility District

Directors
 Joseph R. Aguera
 Jeff Bender
 Bob Ellis
 Tony Laliotis
 Paul Warmerdam
 General Manager
 Michael D. Holley

December 1, 2016

Mr. John Doe
 PO Box 123
 Truckee, California 96160

Dear Mr. Doe:

The Truckee Donner Public Utility District (District) has received the ***Single Family Residence Project Data Sheet*** for the planned residence at 123 Main Street. The District has reviewed the application and evaluated the water distribution system in this area.

The District has determined that the existing system cannot provide the necessary fire sprinkler demands at the downstream side of the existing meter box. There are three options available in regards to providing water service to this property:

- A 3/4" meter could be installed in an upgraded meter box with a configuration that reduces pressure loss. Such a layout is shown on the attached figure entitled "METER BOX UPGRADE AT 123 MAIN STREET." With this meter box upgrade, the District could provide the pressures listed below at the downstream end of the meter. This option is subject to a \$600 meter box upgrade fee.

Flow Rate	Available Pressure at Downstream End of Meter
0 gpm	64 psi
27 gpm	50 psi
32 gpm	46 psi
40 gpm	37 psi
45 gpm	30 psi

- A 1" meter could be installed in an upgraded meter box with a configuration that reduces pressure loss. Such a layout is shown on the attached figure entitled "METER BOX UPGRADE AT 123 MAIN STREET." With this meter box upgrade, the District could provide the pressures listed below at the downstream end of the meter. This option is subject to a \$600 meter box upgrade fee.

Flow Rate	Available Pressure at Downstream End of Meter
0 gpm	64 psi
27 gpm	56 psi
32 gpm	54 psi
40 gpm	49 psi
45 gpm	45 psi

- An on-site system that includes sufficient storage capacity to meet the fire sprinkler needs could be installed. In this case, upgrades to the existing facilities will not be required and a 5/8" x 3/4" meter would be installed. There is no additional charge associated with this option.

Please note that installation of backflow prevention equipment is required under either option. The attached figure entitled "PIPING SCHEMATIC FOR 123 MAIN STREET WITH FIRE SPRINKLER SYSTEM CONTAINING ANTI-FREEZE" shows a typical system layout.

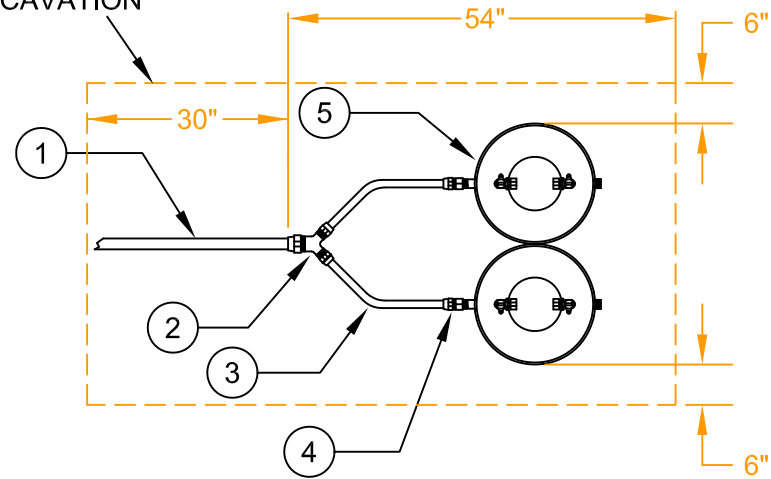
It is suggested you review these potential solutions and determine which approach will be the most cost effective. It is also strongly recommended that 2" diameter pipe be utilized for the customer-owned portion of the service lateral from the meter box to the structure if you opt to proceed with either the 3/4" or 1" meter options.

If you have questions or require further information please contact me at 530-582-3950.

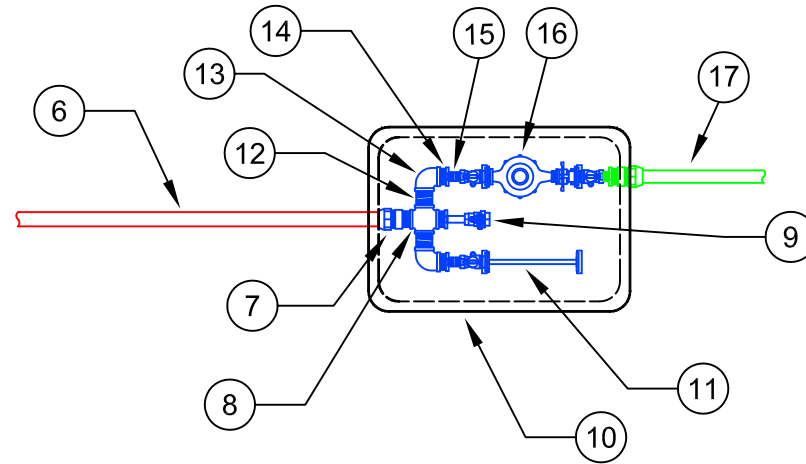
Sincerely,

Neil Kaufman, P.E.
Water System Engineer

MINIMUM DIMENSIONS OF EXCAVATION



EXISTING METER BOX CONFIGURATION



UPGRADED METER BOX CONFIGURATION

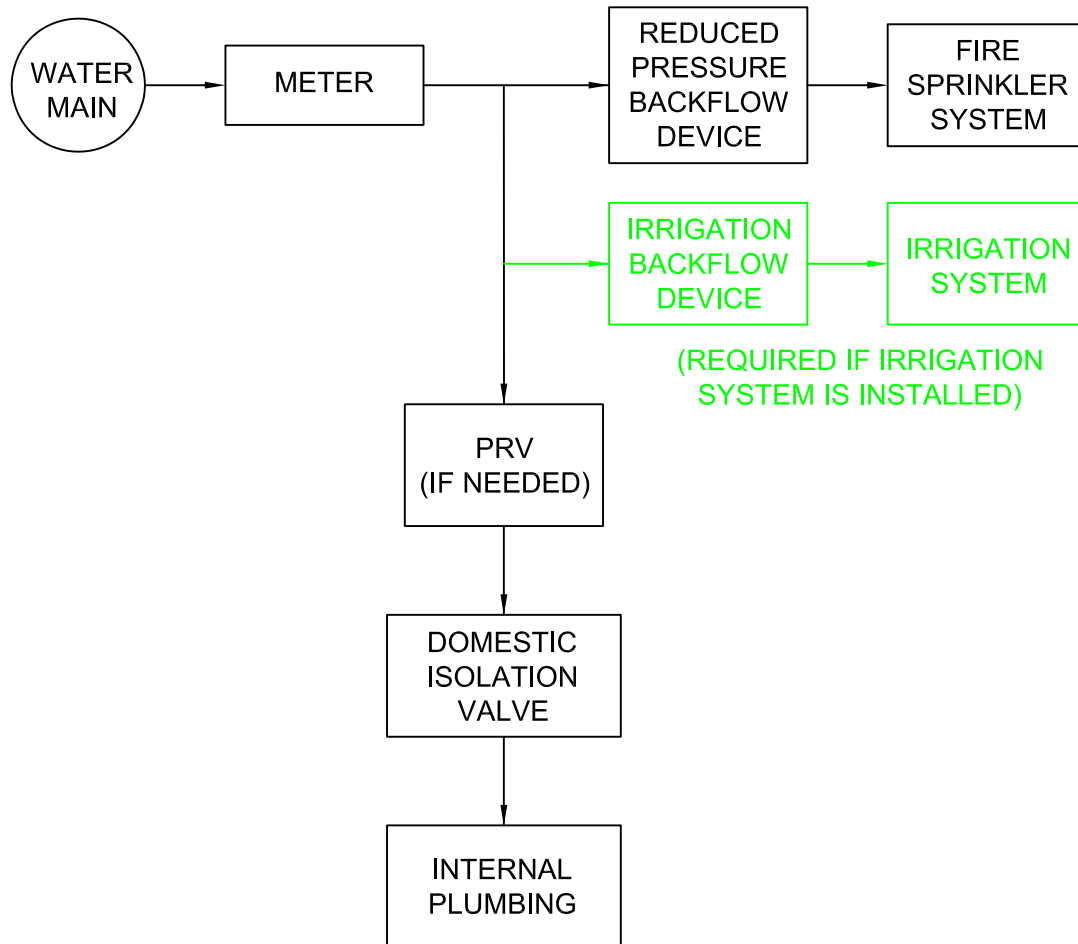
PARTS LIST

1. PUD-OWNED 1-1/2" PE SERVICE LATERAL FROM MAIN
2. 1-1/2" COMP x 1" COMP x 1" COMP WYE
3. PUD-OWNED 1" PE SERVICE LATERAL (TYP. OF TWO)
4. 1" COMP x FIP ADAPTER (TYP. OF TWO)
5. MUELLER METER TUBE (TYP. OF TWO)
6. PUD-OWNED 1-1/2" PE PIPING TO REMAIN IN SERVICE (SHOWN IN RED)
7. 1-1/2" COMP x MIP ADAPTER
8. 1-1/2" CROSS
9. 1-1/2" x 3/4" BUSHING, 3/4" NIPPLE & 3/4" CURB BALL VALVE
10. NEW B40 BOX SET (USE B2436 BOX SET IF SUBJECT TO TRAFFIC LOADING)
11. 1" METER YOKE ASSEMBLY (TYP. OF TWO)
12. 1-1/2" NIPPLE (TYP. OF TWO)
13. 1-1/2" ELBOW (TYP. OF TWO)
14. 1-1/2" x 1" BUSHING (TYP. OF TWO)
15. 1" NIPPLE (TYP. OF TWO)
16. NEW METER
17. NEW CUSTOMER-OWNED PIPING (2" DIAMETER RECOMMENDED)

NOTES:


- 1) METER BOX INSTALLATIONS WITHIN PAVED AREAS OR SUBJECT TO VEHICULAR LOADING REQUIRE TRAFFIC RATED BOXES. SET TRAFFIC RATED BOXES 1/2" BELOW FINISH GRADE
- 2) THE FOLLOWING WORK SHALL BE PERFORMED BY THE OWNER/DEVELOPER OF 123 MAIN STREET:
 - A) ALL EXCAVATION AND BACKFILL. THE EXCAVATION SHALL BE TO THE DIMENSIONS NOTED ON THIS DRAWING
 - B) ALL PAVEMENT RESTORATION (IF ANY)
 - C) PURCHASE AND INSTALLATION OF THE PRECAST CONCRETE METER BOX SET
 - D) CONNECTION OF THE CUSTOMER-OWNED SERVICE LATERAL TO THE DISTRICT-OWNED VALVE IMMEDIATELY DOWNSTREAM OF THE METER
- 3) THE FOLLOWING WORK SHALL BE PERFORMED BY THE DISTRICT:
 - A) ACQUISITION AND INSTALLATION OF THE NECESSARY PIPE AND FITTINGS TO BE OWNED BY THE DISTRICT (SHOWN IN BLUE)
 - B) PURCHASE AND INSTALLATION OF THE LID AND INSULATING BLANKET FOR THE OWNER/DEVELOPER PROVIDED PRECAST CONCRETE METER BOX
- 4) THE USE OF WATER PRIOR TO INSTALLATION OF A METER IS PROHIBITED. SUCH UNAUTHORIZED USAGE SHALL BE CONSIDERED A THEFT OF PUBLIC UTILITIES AND WILL BE REFERRED TO THE APPROPRIATE LAW ENFORCEMENT AGENCY.

ISSUE DATE: 12-1-2016



NOTES:

- 1) THE PRESSURE REDUCING VALVE (PRV) SHALL BE INSTALLED IF REQUIRED BY THE PLUMBING CODE
- 2) SEQUENCE OF THE PRV AND DOMESTIC ISOLATION VALVE MAY REVERSED AT DEVELOPER'S OPTION
- 3) THE IRRIGATION SYSTEM MAY TAP OFF BEFORE OR AFTER THE PRV AT THE DEVELOPER'S OPTION

TECHNICAL SPECIFICATIONS		PIPING SCHEMATIC FOR 123 MAIN STREET WITH FIRE SPRINKLER SYSTEM CONTAINING ANTI-FREEZE	DRAWING # 123FS	REVISED 5-24-2012
			SCALE NO SCALE	
		 TRUCKEE DONNER Public Utility District	DRAWN NK	APPROVED NK



Single Family Residence Fire Sprinkler Requirement Compliance

Project: _____

Address: _____

Current California code requires that fire sprinklers be installed on all new single family residences. The purpose of this form is to document the methodology by which this requirement will be met. This form shall be submitted to the District when Connection and Facility Fees are paid for the project.

Check One Box Below:

<input type="checkbox"/>	The fire sprinkler requirement will be met by installing an on-site storage tank and pump. Upgrade of the existing facilities is not requested.
<input type="checkbox"/>	The fire sprinkler requirement will be met by taking flow from the District's water distribution system through the meter. The existing facilities are sufficient and upgrade of these facilities is not requested. If the existing facilities were previously upgraded at District expense, a fee shall be collected by the District toward the cost of this upgrade at the time when Connection and Facility Fees are paid.
<input type="checkbox"/>	The fire sprinkler requirement will be met by taking flow from the District's water distribution system through the meter. Upgrade of the existing facilities is requested. A fee shall be collected by the District toward the cost of this upgrade at the time when Connection and Facility Fees are paid.
<input type="checkbox"/>	There is not an existing service lateral and/or meter box intended to serve the property. Installation of a new service lateral and/or meter box per the response letter dated _____ is requested.

Meter Size: _____

Signed

Date

Print Name



RESIDENTIAL WATER SERVICE CONNECTION REQUEST AGREEMENT

1. I agree that the service connection excavation will be done per the site specific drawings provided by the District. If the service connection excavation is not constructed per the drawings when District crews arrive, there will be an additional mobilization charge (District's cost for staff and equipment). The mobilization charge must be paid before work can be rescheduled.
2. I agree that the meter will be installed by the District and that any connection that is made without a meter and not done by a District crew will be considered a theft of public utilities and will be referred to the appropriate law enforcement agency. In addition, such unauthorized connections will be subject to an inspection, and/or a corrective action charge (District's cost for staff and equipment). The Inspection, and/or corrective action charge must be paid before the authorized connection and transfer can take place.
3. I agree that additional charges will be incurred if excavation or snow removal is performed by District personnel (District's cost for staff and equipment).
4. I agree that I must notify the District in writing on the attached SERVICE CONNECTION REQUEST FORM, by fax, mail or personal delivery, five (5) working days before the service connection excavation is ready. If notice is given and the service connection excavation will not be ready when scheduled, I will notify the District in writing at least 24 hours before the scheduled day. I understand that if I do not cancel before District staff responds to install the service connection, I will be charged a mobilization charge. The mobilization charge must be paid before rescheduling the service connection work.
5. I understand that water charges will begin from the date that the water meter is installed, regardless of use.

Signed

Date

Print Name



WATER SYSTEM SERVICE CONNECTION REQUEST FORM

This form needs to be faxed to **530-587-1189** or dropped off at 11570 Donner Pass Road at the new construction counter a minimum of **5 working days prior to open trench being ready** .

Today's Date

This date must be 5 working days minimum prior to excavation being ready.

The Service Connection Location	Date that excavation will be ready
---------------------------------	------------------------------------

Work Requested (Check one or both):

Installation of Water Meter

Meter Box Upgrade

Other: _____

If service connection excavation will not be ready on the date listed above, the requesting party shall notify the District in writing at least one day before the ready date. If the District is not notified 24 hours in advance, then mobilization charges for District staff time will be assessed to the project cost.

SIGNED

Reschedule

PRINT NAME

CONTACT PHONE NUMBER

COMPANY NAME

Do Not Write Below This Line - For TDPUD use only

Installed By _____

Date Received	Received By
---------------	-------------

Work Order #

Date Work Performed _____

Service Order #

If Work Not Performed, State Reason

SIGNED

DATE

SERVICE CHARGE PAID YES NO



Single Family Residence Fire Sprinkler System Design Review

Project: John Doe Residence

Address: 123 Main Street

APN: 19-000-00

<input type="checkbox"/>	<p>The District has received fire sprinkler system calculations for the proposed residence. These calculations have been reviewed and the proposed system is in general compliance with the requirements of the District. The District has not performed a detailed review of the proposed system for code compliance. The District has no objection to the issuance of a permit for the proposed system. The existing facilities are adequate to supply the necessary project water demand.</p>
<input type="checkbox"/>	<p>The District has received fire sprinkler system calculations for the proposed residence. These calculations have been reviewed and the proposed system is in general compliance with the requirements of the District. The District has not performed a detailed review of the proposed system for code compliance. The District has no objection to the issuance of a permit for the proposed system. Improvements to the water system at the builder/owner's cost will be required before water service is provided.</p>
<input type="checkbox"/>	<p>The District has received fire sprinkler system calculations for the proposed residence. These calculations have been reviewed and revisions to the proposed system are necessary. The District objects to the issuance of a permit for the proposed system at this time.</p>
<input type="checkbox"/>	<p>The District has not received fire sprinkler system calculations for the proposed residence. The District objects to the issuance of a permit for the proposed system at this time.</p>

Authorized Signature

Date