

Fire Hydrant Operation & Maintenance Overview

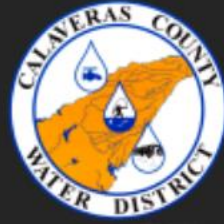
Engineering Committee

July 2, 2024



120 Toma Court
San Andreas, CA. 95249
ccwd.org

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CCWD Overview



30,000

Residents Served



13,200+

Water Connections



5,000+

Wastewater
Connections



6

Water Treatment
Facilities



13

Wastewater
Treatment Facilities



2

Hydropower
Projects



92.5 - MILES OF MAINLINE
5 - TANK SITES
3 - PRESSURE TANKS

HIGH PSI	- 225	- MUELLER - 7 columns
LOW	- 7	- KENNEDY - 5-9
AVERAGE	- 95	- CLOW - ?
		- LOYA (SUCK) - 4

A whiteboard in a meeting room. On the left is a map of the county with colored regions. On the right is another map showing a different layout. In the center, there are handwritten notes in red and black ink. A man in a blue shirt is standing and pointing at the whiteboard with a marker.

Fire Hydrant O&M

Training for Fire Department Staff is key

Annual Budget for Hydrant Inspection: \$56,625

Lack of fire hydrant operation training can wreak havoc on the system

- Can stir up settled iron and manganese
- Can create an un-manageable amount of water quality complaints
- Can drop homeowners' pressure critically low
 - Water system violations
 - Opportunity for back siphonage
 - Bacteriologic violations





Fire Hydrant Inspections

- **CCWD Pays the Fire Depts \$25 to inspect District Hydrants**

This is a great way for fire fighters to become familiar with the water system.

Calaveras Consolidated



Fire Department
Fire Hydrants

Hydrants are inspected for –

- **Operating Condition**
- **Ease of access**
- **Roadway reflectors**
- **Burrs on cap threads**
- **Stems are lubed**
- **Static pressure is logged**
- **Discolored water flushed (slight)**
- **Paint condition**

CCWD Hydrants										
Calaveras Consolidated Fire										
Hydrant #	12	13	14	15	16	17	18	19	20	21
Location	11111 Milton	10741 Milton	10341 Milton	10241 Milton	9971 Milton	9898 Milton	11558 Milton	11087 Main St.	11763 Main St.	9103 Main St.
Body Type	ADV	ADV	ADV	ADV	ADV	ADV	Kennedy	Aniston	Aniston	Aniston
Diff of Cap		3	3	3	3	3	3	2	2	2
Outlet Size	2x2 1/2" 4"	2x2 1/2" 4"	2x2 1/2" 4"	2x2 1/2" 4"	2x2 1/2" 4"	2x2 1/2" 4"	2x2 1/2" 4"	2x2 1/2"	2x2 1/2"	2x2 1/2"
Cap	X	X	X	X	X	X	X	X	X	X
Thread	X	X	X	X	X	X	X	X	X	X
Washer	X	X	X	X	X	X	X	X	X	X
Threads	X	X	X	X	X	X	X	X	X	X
Greased	X	X	X	X	X	X	X	X	X	X
Hydrant Turns Off	X	X	X	X	X	X	X	X	X	X
Blue Dot	X	X	X	X	X	X	X	X	X	X
Area Clear	X	X	X	X	X	X	X	X	X	X
Pressure		100	105	105	105	105	100	100		100
Paint	x	x	x	x	x	x	x	x	x	x
GPS			38.05.41N 120.53.41W	38.05.51N 120.53.57W	38.05.49N 120.54.13W	38.05.47N 120.59.29W	38.05.48N 120.52.26W	38.05.45N 120.52.18W	38.05.41N 120.52.12W	35.05.38N 120.52.09W
Remarks						1- 2 1/2 Stuck				



Annual Fire Hydrant Inspections are provided to the District

Difficult to operate and broken hydrants are identified



CCWD Staff then work to correct the issue





Annual Fire Hydrant Inspections are provided to the District

The lack of guard valves on Fire hydrants is a huge District issue

CCWD Staff then work to correct the issue





District Staff continually work to improve the hydrants in our systems

Distribution Crews are always working to optimize our Systems

That work includes guard valve installation and hydrant repair





District Staff continually work to improve the hydrants in our systems

Distribution Crews are always working to optimize our Systems

The integrity of our systems is important to all of us at CCWD



Effective operation helps to reduce water quality issues



Naturally occurring iron and manganese in the source water is difficult to filter



High-velocity flushing during fire hydrant inspections diminishes our customers confidence in our water systems



Effective operation helps to reduce water quality issues



District Staff routinely flush our systems to minimize water quality issues for all conditions

That way, the system is best prepared to provide clean, wholesome water at all times. Even during high velocity periods like fires





Insurance Services Office

A fire department's ISO rating is a determination by the Insurance Services Office by how well your department is able to serve the community. You're assigned a score between 1 and 10, with lower numbers indicating a better score. High ISO scores can increase home insurance rates in the community.

In this informative guide, we'll tell you everything you need to know about your fire department's ISO score, including the criteria you're scored on, how to make sense of your score, what the ramifications of a high score are, and if you can do anything to better your ISO rating.



- An ISO Score is also called a Public Protection Classification (PPC)
- An ISO assessment occurs every 4 to 5 years



Insurance Services Office (ISO) and Fire Protection

**Public Protection Classification
(PPC®)
Summary Report**

Ebbetts Pass FD

California (N)

Prepared by

**Insurance Services Office, Inc.
1000 Bishops Gate Blvd., Ste. 300
P.O. Box 5404
Mt. Laurel, New Jersey 08054-5404
1-800-444-4554**

**Report Created December 2022
Effective April 1, 2023**

PPC is a registered trademark of Insurance Services Office, Inc.

ISO rankings have a direct impact on Insurance Rates

The Water System Accounts for 40% of the ISO Score

- System supply accounts for 30 credits
- Fire hydrants account for 3 credits
- Inspection and flow testing account for 7 credits

CCWD works closely with the Departments to ensure optimal scores

Other factors that contribute to the ISO Score

- 50% of the score is the quality of the Fire Department.
- 10% is the quality of the Emergency Communications Systems
- A bonus for 5.5% comes from community outreach – including fire prevention and safety courses

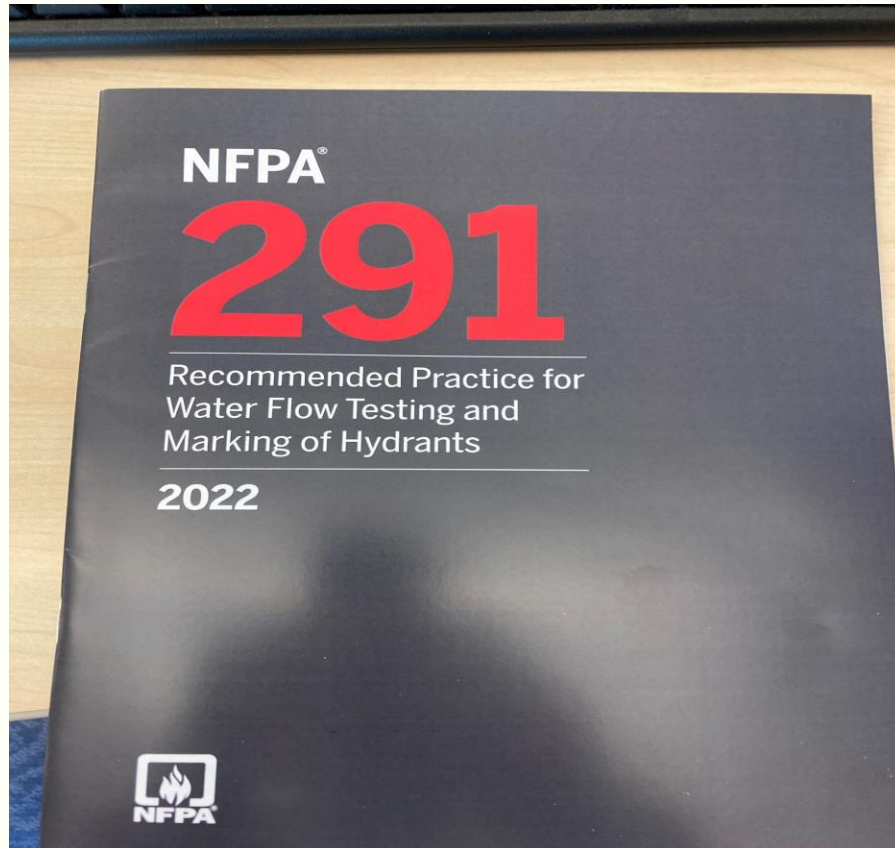
District Assistance Helps improve ISO



Ratings

- Both Capital Projects and Operational efforts help to improve ISO Scores

Field Crews often assist in fire flow testing for Departments to improve ISO scores



INSURANCE SERVICES OFFICE, INC. HYDRANT FLOW DATA SUMMARY

Community Ebbetts Pass Fd
 County California (N)(Calaveras) State California (N) (04) Witnessed by: Insurance Services Office Survey Date: July 12, 2022

TEST NO.	TYPE DIST.*	TEST LOCATION	SERVICE	FLOW - GPM $Q=(2.983(C)(d^{.54})^{2.45})$			PRESSURE PSI		FLOW - AT 20 PSI		REMARKS***	MODEL TYPE	FLOW TEST DATE	
				INDIVIDUAL HYDRANTS	TOTAL	STATIC	RESID.	NEEDED**	AVAIL.					
1		Cypress Point	Blue Lake Springs Mutual WC, Main	2020	0	0	2020	132	120	3500	6700	(C)-(3182 gpm)	FTPC	07/15/2022
2		Blagen and Hwy 4	Calaveras County Water District, Sawmill	1500	0	0	1500	100	65	2500	2300	(B)-(1375 gpm)	FTPC	07/15/2022
3		Manuel and Sequoia	Calaveras County Water District, Sawmill	1430	0	0	1430	90	60	1250	2300		FTPC	07/15/2022
4		2050 Hwy 4	Calaveras County Water District, Sawmill	1430	0	0	1430	125	60	2250	1900	(B)-(1375 gpm)	FTPC	07/15/2022
5		2445 Silver	Calaveras County Water District, Meadowmont	1500	0	0	1500	90	30	1500	1600		FTPC	07/15/2022
6		1290 Pine	Calaveras County Water District, Meadowmont 13	1560	0	0	1560	75	40	1500	2000	(B)-(548 gpm)	FTPC	07/15/2022
7		1743 Pine Cone	Calaveras County Water District, Pinebrook	2070	0	0	2070	120	95	1500	4400	(B)-(1393 gpm)	FTPC	07/15/2022
8		Moran and Hwy 4	Calaveras County Water District, Avery	1500	0	0	1500	120	100	2250	3600		FTPC	07/15/2022
9		Meadowview and Hwy 4	Calaveras County Water District, Sawmill	1150	0	0	1150	85	40	2000	1400	(B)-(1375 gpm)	FTPC	07/15/2022
10		4960 Commercial	Calaveras County Water District, Avery	2340	0	0	2340	170	90	3000	3300		FTPC	07/15/2022
11		5121 Darby Russell	Calaveras County Water District, Forest Meadows	1750	0	0	1750	110	45	1000	2100		FTPC	07/15/2022
12		1097 Dogwood	Calaveras County Water District, Forest Meadows	1750	0	0	1750	60	40	1250	2500		FTPC	07/15/2022
13		3790 Apache	Calaveras County Water District, Big trees 60k	1500	0	0	1500	40	25	1500	1800	(B)-(912 gpm)	FTPC	07/15/2022
14		Sioux and Chinook	Calaveras County Water District, Big Trees 1/3	2020	0	0	2020	55	18	1500	2000		FTPC	07/15/2022
15		Hwy 4 and Sugarpine	Calaveras County Water District, Forest Meadows	1690	0	0	1690	65	30	1500	1900		FTPC	07/15/2022
16		5441 Meko	Calaveras County Water District, Forest Meadows	1810	0	0	1810	60	30	1750	2100		FTPC	07/15/2022

THE ABOVE LISTED NEEDED FIRE FLOWS ARE FOR PROPERTY INSURANCE PREMIUM CALCULATIONS ONLY AND ARE NOT INTENDED TO PREDICT THE MAXIMUM AMOUNT OF WATER REQUIRED FOR A LARGE SCALE FIRE CONDITION.

THE AVAILABLE FLOWS ONLY INDICATE THE CONDITIONS THAT EXISTED AT THE TIME AND AT THE LOCATION WHERE TESTS WERE WITNESSED.

*Comm = Commercial; Res = Residential.

**Needed is the rate of flow for a specific duration for a full credit condition. Needed Fire Flows greater than 3,600 gpm are not considered in determining the classification of the city when using the Fire Suppression Rating Schedule.

*** (A)-Limited by available hydrants to gpm shown. Available facilities limit flow to gpm shown plus consumption for the needed duration of (B)-2 hours, (C)-3 hours or (D)-4 hours.

**Thank
you**



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