



# SHOW NOTES & TRANSCRIPT

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## EPISODE SHOW NOTES

**Episode Title:** Crystal Springs Dam

**Episode # & Date:** Episode #24 – April 9, 2020

**About this Episode:** Peter uncovers the history of San Mateo's great drinking water and the impressive Crystal Springs Dam that makes it possible.

**Episode Web Page:** <https://sanmateofocus.com/crystal-springs-dam/>

## EPISODE TRANSCRIPT

*This is San Mateo Focus, I'm Peter Radsliff filling in this week for Judy Gordon.*

When choosing what to present for this episode, it wasn't lost on Judy and I how surreal life is right now and whether talking about local topics even made a difference in a San Mateo that is locked-down. But maybe because of this lack of normalcy, it's all the more important to ensure we have some semblance of routine in our lives. It's with that in mind that we offer ongoing stories of San Mateo's history, culture, food, and things to do. Onto this week's episode.

When San Mateans hear the words Hetch Hetchy, most know it's the name of a valley in Yosemite National Park about a four-hour drive away. Some might also know it's the site of the impressive 431-foot tall O'Shaughnessy Dam that forms the Hetch Hetchy reservoir, which feeds the 160-mile long journey to Upper Crystal Springs Reservoir for us San Mateans to drink. What most probably don't know is that the Lower Crystal Springs reservoir first existed because of the 141-foot tall Crystal Springs Dam that was built over San Mateo Creek in 1888, a full 35 years before O'Shaughnessy Dam opened in Hetch Hetchy!

In this episode we're going to explore the history of the Crystal Springs Dam and how vital it is to the lifestyle, economy, and safety of San Mateo. The dam was designed by German émigré Hermann Schussler then Chief Engineer of the Spring Valley Water Company who ultimately became famous for his designs that revolutionized the dam and concrete industry. Crystal Springs Dam is a gravity arch design and was one of the first concrete dams on the West Coast. Schussler's unique design used 50 to 100-ton blocks, molded in place, interlocked and dovetailed in such a way that there would not be one continuous seam or joint throughout the dam. Schussler also dictated a precise formula for the concrete mix and mandated each block cure before the neighboring block was poured, thereafter sealing all joints with cement.

Although located only 300 yards east of the San Andreas Fault, the Crystal Springs Dam survived both the 7.9 magnitude San Francisco earthquake in 1906, and the 6.9 magnitude Loma Prieta temblor in 1989 without any significant damage. Schussler's unique dam construction design served as a model for Hoover Dam that would be opened 52 years later. Schussler also designed the earthen San Andreas Lake Dam near Millbrae, and the Upper Crystal Springs earthen dam which forms the highway 92 causeway between Upper and Lower Crystal Springs Reservoirs.



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In 1890, the Crystal Springs Dam was raised, and raised again 9 feet in 1911 to its current 175-foot height, the same as a 12-story building. Because of where the dam is placed, it's difficult to appreciate this massive edifice tucked neatly beneath Skyline Boulevard, between Bunker Hill Drive and Crystal Springs Road. In fact, Skyline Blvd runs right across the top of the dam. If you park in one of the few spaces at the north end of the dam and, traffic-permitting, walk down the roadway, you can look right down the face of the dam and see the new stilling basin.

The greater Crystal Springs Reservoir system stores 23 billion gallons of mostly Sierra Nevada mountain snow melt and local rainwater for almost three million people across four Bay Area counties. The San Mateo Creek flows from the dam, meanders along Crystal Springs Road, under downtown, and emerges from the back side of St. Vincent de Paul on North B Street. It continues to meander through the North Central neighborhood next to the San Mateo Buddhist Temple and through Gateway Park, finally going under Hwy 101 at 3rd Avenue, and down to San Francisco Bay at Ryder Court Park near Seal Point.

In February 1911, an exceptionally strong storm in a heavy rain year caused the Lower Crystal Springs Reservoir to overflow the dam creating a spectacular waterfall over the dam-top spillway. Although this is the purpose of a spillway, it was later found that overflowing the top of dams, called overtopping, caused the failure of 1/3 of the 25 failed US dams between 1900 and 1928. Just imagine if a huge wall of water swept down Crystal Springs Road, through downtown and onwards towards the bay. It's almost unthinkable and one of the reasons \$35 million dollars of improvements were recently made to the dam system including doubling the width of the spillway to 200 feet, raising the parapet wall on top of the dam by 9 feet, and replacing the stilling basin to calm released water and prevent erosion at the toe of the dam. Those renovations also included a new, higher dam-top roadway, scenic vista point with parking lot, and new 'South of Dam' recreational trail.

There are many people who hate the fact that for the sake of drinking water for people 160 miles west, a valley that rivaled Yosemite Valley in beauty was destroyed. The fight against Hetch Hetchy was led by no less august a figure than John Muir who organized what is considered to be the first grassroots lobbying movement. But even with the support of many citizens and most leading US newspapers, in 1913 Congress passed the Raker Act allowing the city of San Francisco to build a dam and reservoir drowning Hetch Hetchy valley—which was within the borders of a National Park—even though other less-damaging sites existed.

Although the loss of this fight broke Muir's heart and he died the following year, the loss of Hetch Hetchy served to awaken the nation to defend their National Parks. Remembering the loss of Hetch Hetchy, in the '50s and '60s, the Sierra Club successfully stopped dams from being built in Dinosaur National Monument and in Grand Canyon National Park.

As for San Mateans, we get to drink water born of the High Sierra that traveled along the Tuolumne River. Having traveled all over the US for business, I can tell you that I have never tasted water in any



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major city that could hold a candle to what comes from our own faucets at home. I guess to keep it that way, the Crystal Springs reservoir, and watershed located across from the dam, are closed to unfettered public access. A recent effort to open up the watershed trails was tabled by the San Francisco Supervisors. Docent-led tours are available, though, from the Bay Area Ridge Trail organization. More info on that and the Crystal Springs Dam is on the web page for this episode at [sanmateofocus.com](http://sanmateofocus.com).

Okay, that's all the time we have for this episode. Have a great week. Thanks to Jack Radsliff for the original music to this podcast. If you'd like more information about our sponsor or the topics in today's episode, go to [sanmateofocus.com](http://sanmateofocus.com).

## HELPFUL LINKS:

[Webpage: Crystal Springs Dam](#)

[Webpage: Crystal Springs Reservoir](#)

[Webpage: Hermann Schussler](#)

[Book: Waterworks Handbook](#)

[Book: Floodpath](#)

[USGS Map of 1906 Earthquake Fault Trace along Crystal Springs Reservoir](#)

[Webpage: John Muir and the Sierra Club Fight for Hetch Hetchy](#)

[Website: openthewatershed.org](http://openthewatershed.org)

[Video: Open the Watershed](#)

— end of episode information > podcast show notes below —

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## PODCAST SHOW NOTES

Podcast Name: San Mateo Focus



Description: Whether you're new to San Mateo, California, or a long time resident, the San Mateo Focus Podcast is the place to learn about local history, good eats, and things to do.

Website: <http://www.sanmateofocus.com>

Email: [info@sanmateofocus.com](mailto:info@sanmateofocus.com)

Host & Founder: Judy Gordon

Producer/Co-host: Peter Radsliff

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