

“Sewering the City”

Mr. Kitterman has taken the precaution to construct a sewer from his restaurant to the bay. Patrons of the establishment declare that it is one of the nicest places in town since the completion of the improvement, and say that the immunity from flies is remarkable.

--San Diego Union, Sept. 1, 1872.

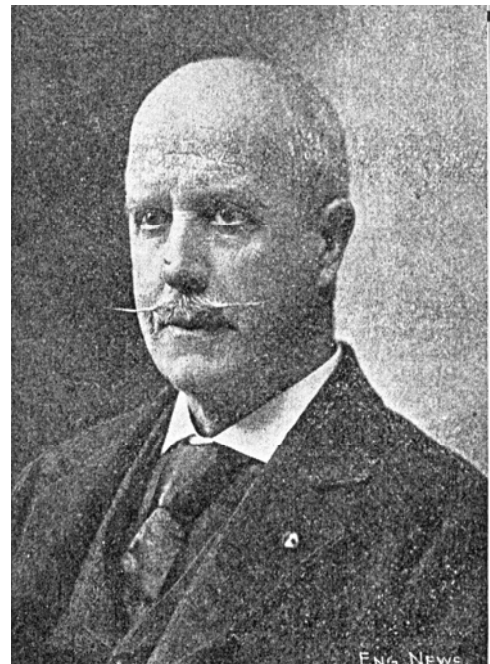
Fifth Street restaurant owner Alex Kitterman knew the value of a good sewer. Other businessmen and residents also recognized that proper disposal of wastewater had become essential in downtown San Diego. But with no government oversight, privately built sewers, privies, and cesspools multiplied in the 1870s—some emptying their odiferous loads on the beaches of San Diego Bay, others simply spilling into city streets.

San Diegans coped with the haphazard sewers until the mid-1880s, when the City Board of Trustees tried to address complaints of “vile exhalations and odors” with an ordinance mandating official approval of all private sewer plans. The new law specified the proper construction materials for pipe and declared that the sewers “must be extended at least to medium low tide water in the Bay of San Diego.”

But with a booming population—thousands of people were arriving monthly by railroad or steamship--it was clear that a municipal system was necessary. Public health demanded it. Cities in the East had suffered from frightful outbreaks of cholera and typhoid fever, attributed to pollution from raw sewage.

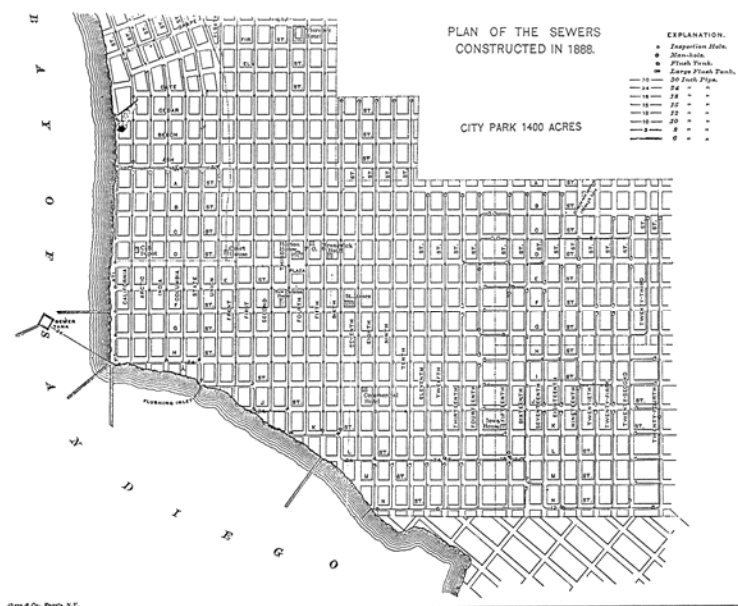
“We want the very best system of sewerage that the most competent sanitary engineering skill can give us,” the San Diego *Union* editorialized on November 28, 1885. The newspaper insisted that the city trustees “communicate immediately” with Col. George E. Waring Jr. of Rhode Island, “the most eminent sanitary engineer in the country.”

Waring had worked on the construction of New York’s Central Park in 1857. After serving the Union cause in the Civil War, he became a noted municipal engineer and was best known for his construction of a sewage system for Memphis, Tennessee. In the 1870s, devastating epidemics of cholera and yellow fever in Memphis had killed thousands of people. Once the “Waring System” was in place, the epidemics had ended.



Col. George E. Waring, Jr.

San Diego’s city trustees contacted Col. Waring and then studied his written reply in June 1886. The engineer offered to provide plans and complete specifications for a fee of \$1,000. The trustees voted unanimously to adopt Waring’s proposal.



Six months later the colonel's detailed strategy for "sewering the city" arrived in San Diego. The plan specified 40 total miles of sewer lines running down the center of the city streets with smaller, lateral pipes entering the system from all buildings. The main lines would be vitrified clay pipe, 24 inches in diameter; smaller pipes narrowed to eight inches. The sewage was forced through the pipes by large water tanks that discharged twice a day to flush the untreated sewage westward for an unceremonious, ocean burial.

The proposed dumping of sewage into San Diego Bay elicited minor controversy. The *Union* published an anonymous letter to the editor, which complained that "to empty the city sewage into the bay anywhere this side of Ballast Point would be a crime" and would inevitably "befoul the margin of the whole bay." Col. Waring scoffed at the concern, replying that the sewage was "little worse than dirty water." Besides, "fish and animalculae" would consume much of the wastewater.

To pay for their new sewers the Board of Trustees proposed—and voters approved—a \$400,000 bond measure. Work began on July 26, 1887. Progress was erratic at first. Supplies of materials arrived slowly and there was difficulty in getting laborers. All work stopped in early August when the ditch diggers went on strike, protesting a contractor's cut in wages from \$2.25 a day to \$2. The work resumed with a change in contractor.

The eight-foot deep trenches were dug mostly done by hand, aided by the liberal use of dynamite. "The heavy reports heard last night were caused by blasting that was being done on the Fourth-street sewer," the *Union* reported. "Owing to the large amount of travel on that street in the daytime, it is safe to blast only at night."

Night construction could be hazardous for people walking after dark. The workers hung lanterns over trench sites but the lights were often poorly placed. "Much complaint is being made by citizens regarding the placing of signal lights," a newspaper warned. "Several narrow escapes of citizens falling into the sewer are reported."

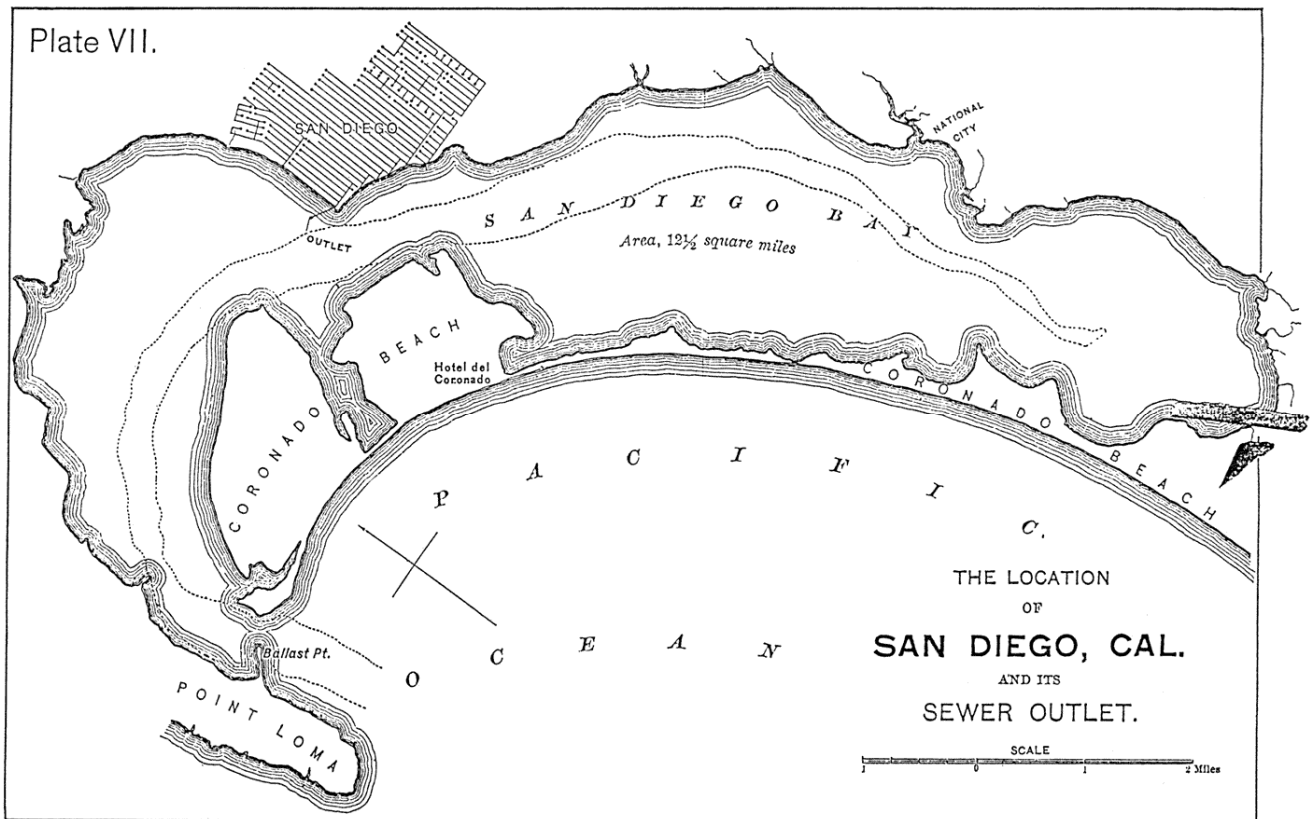
Digging the sewer trenches meant tearing up a recently built streetcar line on 4th Street. It also postponed plans to grade the city's dirt streets and pave them with asphalt. "Nothing can be done," mourned the *Union*, "until the sewers, both main and lateral, have been completed."

Fitfully, the construction proceeded. The sewer lines migrated downhill at a slight grade to the bayside at the foot of H Street (Market). From here a 30-inch iron pipe carried the sewage 1,100 feet across the bay to the "grand feature" of the system: an immense sewer vat 200 ft. square.

Built of creosoted lumber—until the city could afford concrete--the 1,500,000 gallon vat collected sewage until just after high tide, when an automatic gate mechanism opened and "the

great pool of sewage floated out with the receding tide.” Col. Waring believed the tidal surge would carry the sewage “beyond Ballast Point and mainly beyond Point Loma, with no probability of its return.”

On July 4, 1888, the city proclaimed the project completed. The *Union* heralded the system as the “most complete sewer plant that exists anywhere in the world in a city of less than 250,000 people.” Twenty years later, William Smythe’s *History of San Diego* would boast that the “Waring System,” still efficiently served San Diego, “a model of engineering skill and of public spirit.”



Originally published as “First city sewer an engineering marvel: waste sent into the bay through 40 miles of pipe,” by Richard Crawford, in the San Diego *Union-Tribune*, September 17, 2009. P. CZ.1

