Local supply development is a cornerstone of the San Diego County Water Authority’s plan to enhance water reliability by diversifying the region’s water supplies. Desalinated seawater is a drought-proof local resource that meets about 10 percent of the region’s water demands with the construction of the nation’s largest seawater desalination plant in Carlsbad. In late 2015, the Claude “Bud” Lewis Carlsbad Desalination Plant started commercial operations, producing up to 54 million gallons a day of high-quality drinking water in an environmentally responsible manner.

For more than a decade, the Water Authority has been evaluating the costs and feasibility of other desalinated seawater projects, including one at U.S. Marine Corps Base Camp Pendleton. A facility on base could provide a unique and strategic opportunity to help meet the growing water supply needs of our region and support vital national defense operations.

Why Camp Pendleton?

The Water Authority’s long-term Regional Water Facilities Master Plan, updated by the Board of Directors in March 2014, includes a desalination project at Camp Pendleton as one option for meeting potential increases in water demand after 2030. Such a plant would also hedge against ongoing uncertainties about both the availability of imported water supplies and the development of additional local supplies.

Camp Pendleton is among a handful of places on the Southern California coast that could support a large-scale, regional seawater desalination plant. A 2009 feasibility study by the Water Authority found that Camp Pendleton’s location at the north end of the San Diego region is ideal for efficiently integrating a new water supply into the Water Authority’s system for distribution throughout the county.

Coordinating closely with Camp Pendleton officials, the Water Authority identified two potential desalination plant sites in the southwest corner of the base near the mouth of the Santa Margarita River (see image). Both sites could support an initial phase project producing 50 million gallons per day (56,000 acre-feet a year), and both sites have the capacity for increasing production up to 150 million gallons per day (168,000 acre-feet per year).
In the desalination process, salt is removed from seawater using reverse osmosis, which forces seawater through tightly wrapped membranes under very high pressure. The membrane allows water molecules to pass through, but it rejects larger salt molecules and other impurities.

A new system of pipelines, pumps and storage tanks would be needed to transport desalinated water about 19 miles to the Water Authority’s aqueduct system.

**Initial Studies**

In April 2010, representatives from the Water Authority and Camp Pendleton signed a Memorandum of Understanding allowing access to the base for planning and technical studies. These studies, completed in 2013, included detailed facility siting and pipeline alignment studies, as well as onshore and offshore field investigations near the proposed project sites to determine the viability, costs and impacts to marine life of seawater intake and discharge systems.

**What’s next?**

The Water Authority’s Board of Directors in September 2015 approved a new agreement with Camp Pendleton to study seawater intake options for a potential seawater desalination project on base. The Board also authorized a $4.05 million contract for building, operating and reporting on a pilot-scale seawater intake testing program that’s expected to take about four years.

The Board actions are consistent with the Water Authority’s Regional Water Facilities Optimization and Master Plan Update completed in 2014. While that plan identified local potable reuse projects as the next likely source of supply, it recommended an “adaptive management” approach to a potential Camp Pendleton desalination project. That means major decisions regarding the project will take into account progress with the implementation of other local water supplies currently under development, progress on upgrades to the Sacramento-San Joaquin Bay-Delta, and changes in imported water supply reliability.

**Water Supply Diversification in 2020**