



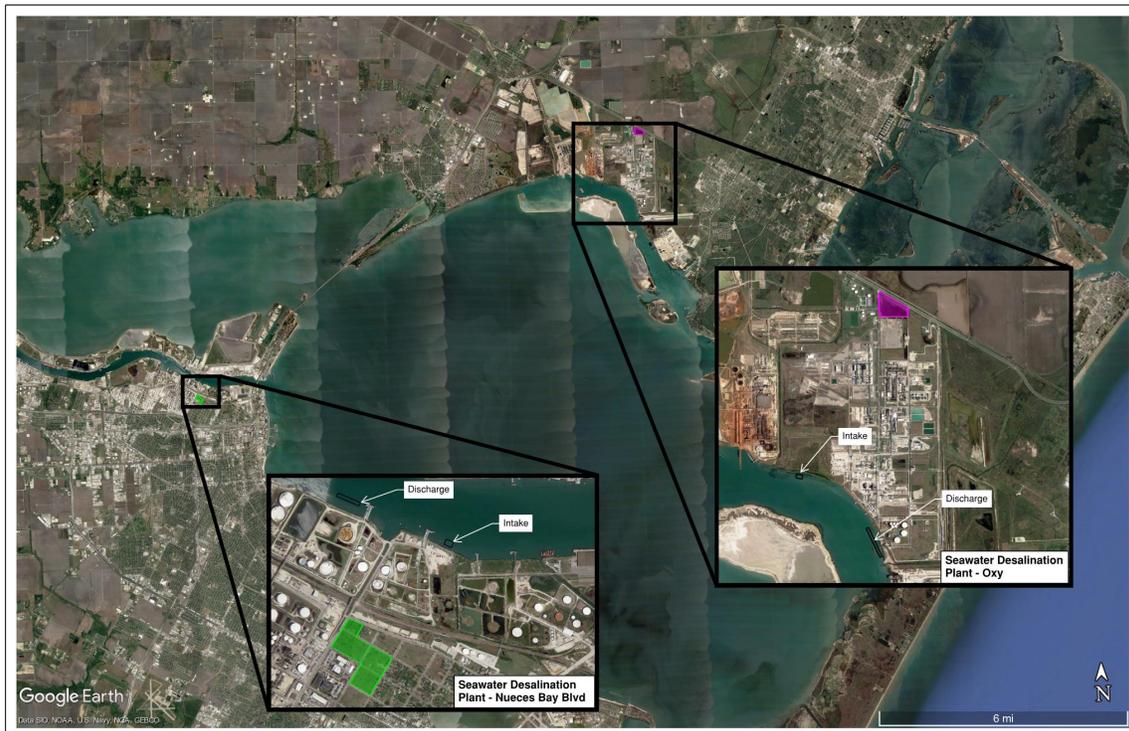
CORPUS CHRISTI SEAWATER DESALINATION PROJECT

CITY OF CORPUS CHRISTI WATER SYSTEM

UPDATE: JANUARY 2020

The City of Corpus Christi is the regional water supplier serving directly or indirectly approximately 500,000 customers in Nueces, San Patricio, Aransas, Kleberg and Jim Wells Counties, including all of the major industrial water customers in Nueces and San Patricio Counties.

Applications will be submitted this month to the Texas Commission on Environmental Quality for discharge and water rights permits associated with two desalination plants to supplement the regional water supply. One site is located on the Inner Harbor in Corpus Christi and the other is in the vicinity of La Quinta Channel in San Patricio County.



The siting evaluation and permitting phase was funded by a SWIFT low interest loan. An application will also be submitted to Texas Water Development Board for additional SWIFT funds for design and construction of the desalination plant on the Inner Harbor.

Moving forward with permitting and the SWIFT application is the next step in a dynamic and collaborative effort. Following the 2011-2013 drought, a group was formed to investigate potential sources for an uninterrupted water supply as a new water source for this area. The City of Corpus Christi, the Corpus Christi Regional Economic Development Corporation (CCREDC), and the Port Industries of Corpus Christi (PICC), an organization of the major industries in Nueces and San Patricio Counties, provided the funding for the initial phase of investigation. Also included in the group were the San Patricio Municipal Water District (SPMWD) and the Port of Corpus Christi, through its PICC membership. The water, financial and project delivery expertise of these major companies was coupled with that of the City and the selected consultant, Freese and Nichols, Inc. After looking at various new water supply options, the group focused their analysis on seawater desalination.

The strong consensus of the group was that seawater desalination was feasible as a new uninterrupted water supply for the area when added as a supplemental source using a well vetted financial and project approach plan. It could also meet the

directive of the City Council to produce water without rate shock to the City's many water customers. The focus was to meet existing needs but with an eye to future demand.

One of the key features was production of potable, or drinking water, to allow for the utilization of existing potable water distribution systems thus, avoiding the substantial cost to build a new pipeline system.

A methodical approach to siting and permitting was developed. The siting/permitting phase, utilizing the SWIFT loan to assist with the funding, began in summer of 2018. This phase will be followed by the ultimate procurement of a third-party contractor to design, construct and potentially operate one or two seawater desalination plants.

More than 19 sites were evaluated using a detailed process with two sites ultimately selected. Two of the primary drivers in the site selection were environmental considerations and operating costs. Field data collection has been used to supplement existing ecological data in the permit design and modeling.

The envisioned plants will use reverse osmosis technology with diffusers at the outfall. Intake of source water and outfall of concentrate will be from the two channels on which the plants are located. Dewatered residual solids will be disposed at the City's regional landfill. The plants would be designed to allow for future expansion with environmental and operational factors considered in terms of the ultimate size.

	Proposed Daily Average Discharge Flow (MGD)	Proposed Daily Max Discharge Flow (MGD)
Inner Harbor Desalination Plant		
Initial Production Capacity – 10 MGD	17	21
Expanded Production Capacity – 20 MGD	34	41
Ultimate Production Capacity – 30 MGD	51	62
La Quinta Channel Desalination Plant		
Initial Production Capacity – 20 MGD	34	41
Expanded Production Capacity – 30 MGD	51	62
Ultimate Production Capacity – 40 MGD	69	82

Our effort to methodically plan for a new, uninterrupted water source for the region has included a re-evaluation of the regional water supply, assessment of other potential sources, and development of a "trigger" point method to determine when and how much desalinated water supply will be needed.

Major industrial customers have continued to play an integral role, and in 2018, they made an important financial commitment to this effort. On a voluntary basis, they pay an additional 25 cents/1000 gallons which is "lock boxed" in the City's Long Term Water Supply fund to pay for additional water supply. This rate adjustment is in addition to the already 5 cents/1000 gallons paid by them and all customers of the city's system for new water supplies. This fund will be available to pay back the existing SWIFT loan as well as the new SWIFT loan for construction if the City's application is approved. New major industrial customers will also contribute to this fund.

Outreach efforts to date have included meetings with public officials in communities in or near Corpus Christi Bay, ongoing coordination with water customers, work with various agencies, university scientists, as well as meetings and presentations to environmental organizations. Testimony has been provided to the Texas House Committee on Natural Resources. Regular televised updates have been given to City Council and covered in local media stories. Appropriate outreach is planned to continue.