

# City of Corpus Christi

## Information on the Inner Harbor Desalination Project



### GENERAL INFORMATION

- The location and design of the Inner Harbor Desalination Project will carefully balance three primary project objectives:
  - Affordability
  - Environmental Sustainability
  - Water Supply and Operational Reliability
- The plant will produce 30 million gallons per day (MGD) of potable water.
- The Texas Commission on Environmental Quality (TCEQ) has granted the City a diversion permit for this location, and other key state and federal permit applications have been submitted and are under review.
- The desalination plant will be located at the corner of Nueces Bay Blvd and West Broadway St.

# City of Corpus Christi

## Information on the Inner Harbor Desalination Project

### AFFORDABILITY

- The Texas Water Development Board (TWDB) State Water Implementation Fund for Texas (SWIFT) is providing major funding. This program has provided \$757 million in low-interest loans to support the project's development and construction.
  - These low-interest loans will save ratepayers approximately \$125 million.
- The City is actively seeking additional grant funds from the U.S. Bureau of Reclamation to further support the project and potentially reduce costs.
- For the past five years, large-volume industrial customers have voluntarily contributed an extra 25 cents per 1000 gallons to fund a new water supply in addition to their regular water rates. This voluntary fee is paid consistently, regardless of drought conditions. This amount will increase to 31 cents per 1000 gallons beginning January 1st, 2025.
- Corpus Christi Water (CCW) is committed to keeping the project cost as low as possible for ratepayers. To achieve this, CCW will closely monitor the project timeline. Delays can increase costs by approximately \$3 million per month, which is based on 5% inflation applied to the \$757 million project cost.
- This new water supply will be added to the current supplies used by all ratepayers—industrial, commercial, residential, and wholesale. Thus, all ratepayers will pay for this new water supply.
- The proximity of this plant to our existing water system eliminates the need for extensive new piping, providing significant cost savings.

### ENVIRONMENTAL SUSTAINABILITY

- The City conducted an alternatives analysis from 2017 to 2019, evaluating 21 potential sites for the future seawater desalination facility. After an extensive review of numerous characteristics and criteria, the team selected the proposed Inner Harbor site as the most suitable location.
- Following the alternatives analysis, the City conducted extensive water quality testing and flow evaluations over several months under different conditions. This information was used in the permitting and required modeling in conformance with the TCEQ requirements.
- The source water will be taken from the Inner Harbor Ship Channel at a low velocity of less than 0.5 ft per second by using a wedge wire screen system.
- The Inner Harbor plant will use jet diffusion to mix discharge water with seawater in the channel, a technique proven effective in various successful plants worldwide.

## **City of Corpus Christi**

### **Information on the Inner Harbor Desalination Project**

- For example, Perth, Australia, has used jet diffusion on a plant of similar size and in a similar location on the environmentally sensitive bay, Cockburn Sound. After nearly 20 years of monitoring, no negative impacts have been observed. The success of this plant has led to plans for a larger facility in the same general vicinity.
- Similarly, the Tampa Bay Seawater Desalination Plant is in a bay system with average water depths comparable to Corpus Christi Bay and discharges into a channel further away from the Gulf of Mexico than the proposed Inner Harbor location. This channel hosts a wildlife viewing center, attracting over 500,000 visitors annually, which demonstrates the facility's coexistence with a thriving marine environment.
- The desalination process will remove a variety of heavy metals, debris and sediment that will be safely disposed of in a landfill. The natural salts that are filtered from the water during the treatment process will be returned to the channel (as discharge).
- The plant is designed to have minimal impact on its surroundings.
  - The noise associated with the facility will be contained within soundproof buildings.
  - Truck traffic will be minimal and managed by routing to designated roads (Nueces Bay Blvd).
  - Conceptual renderings have been made available to the public on our website and presented at City Council.

### **WATER SUPPLY & OPERATIONAL RESILIENCY**

- This new drought proof water supply has been considered and approved by the past three City Councils. Of other water supply alternatives available, this is the closest one to delivery, which is anticipated in 2028.
- The 30 MGD water treatment plant will significantly enhance the resilience of the City's water system. Currently, the city relies on a single water treatment facility, the O.N. Stevens Water Treatment Plant. Adding a new desalination plant will provide crucial backup and increase the capacity of our community's water supply.
- The desalination plant will produce water of the same high quality as the existing supply. CCW's water system is rated superior by TCEQ, and water treated at the new plant will meet or exceed that standard.
- Water customers can expect the water from the new plant to taste identical to the current water supply. There will be no noticeable difference in flavor or quality.

# City of Corpus Christi

## Information on the Inner Harbor Desalination Project

- The plant will use the bay as its source of water, which offers multiple advantages. Seawater is a plentiful resource, offering the City an effectively “drought-proof supply of water.” This ensures a stable water supply for the City, regardless of rainfall levels or drought conditions.
- The water from the proposed plant will be integrated into the water system through the existing Navigation Pump Station. This station already has some necessary infrastructure to support the additional water supply, making the integration process cost-effective and efficient.
- Customer classes include Municipal, Wholesale, Residential, Commercial, Irrigation, and Large Volume.

### PROCUREMENT UPDATE

- Three teams with global desalination experience selected in June 2024 to submit proposals on the design and construction of the Inner Harbor Desalination Project.
- One team will ultimately be chosen to perform design/build services in the fourth quarter of this calendar year, 2024.

