


**CITY OF CORPUS CHRISTI  
OFFICE OF THE CITY MANAGER**

**TO:** Peter Zanoni, City Manager

**FROM:** Drew Molly P.E., Chief Operating Officer 

**COPY:** Mayor and City Council

**SUBJECT:** **Water Supply Project Update – Short Term and Long Term**

**DATE:** January 5, 2025

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**Drought Conditions:**

As the drought continues to persist, our region is currently in a seasonal period (December through February) that historically produces the least amount of rain. While evaporative loss tends to be less significant during this time period, we are unfortunately experiencing higher than normal temperatures, which tends to increase evaporation. These uncontrollable weather conditions reiterate the importance of expediting the Inner Harbor Seawater Desalination project, as well as implementing several more immediate projects (described below) that will reduce our dependency on the drought-prone Nueces River supply.

Corpus Christi Water (CCW) continues to monitor the drought conditions daily and is utilizing the following technical experts to augment the team:

- National Weather Service (NWS) – the City continues to meet weekly with the NWS team to get updates and reports on short-term and long-term weather forecasts. Excerpts from these reports are often provided to you via text messages.
- Carollo – the CCW team has utilized experts from Carollo for several months to provide modeling support of our western reservoirs to help predict future water levels, in addition to modeling how various flow conditions on the Mary Rhodes Pipeline will impact our overall water supply. For example, if the MRP were to be offline as a result of a pipe failure, the modeling would help project changes in the remaining capacity of our water supplies from the Western Reservoirs (Choke Canyon and Lake Corpus Christi).

The resources utilized above, in addition to other outside consultants, and contractors specified below will be instrumental to deliver the following water supply projects.

**Water Supply Project Overview:**

While shorter term projects are described below, it is important to emphasize that CCW continues to implement the 30 million gallons per day (MGD) Inner Harbor Seawater Desalination Project, which is anticipated to be completed in mid-2028. The State has financed the entire project cost

with low interest loans through the State Water Implementation Fund for Texas (SWIFT) program saving the ratepayer approximately \$130 million over the life of the loan. The City has sold approximately \$235 million of SWIFT bonds to date. Kiewit is actively working on the design phase of the project, and Brett Van Hazel is managing the activities of Kiewit and Freese and Nichols through our recently created program management office.

With regards to the additional water supply projects listed below, all of them have been ongoing for several months and will continue with expediency.

**1. Mary Rhodes Pipeline (MRP) – Increased Capacity to Schedule 4 (72 – 75 MGD)**

The upgrade projects for the Mary Rhodes Pipeline continue at an accelerated rate to allow for the operation of the pipeline at Schedule 4 or a flow of approximately 72 to 75 MGD. The pipeline is currently operating at Schedule 3 which is approximately 55 MGD. The original schedule of August 2025 has been rapidly accelerated to April 2025 and now potentially increasing this to March 2025 or earlier. Below is a summary of the work-activities and Contractors responsible for delivering the associated deliverables.

- Rangeline Inc. – Rangeline is a specialty pipeline contractor that performs technically complex repairs and modifications to pipelines across Texas. Based on the analyses completed through our recent condition assessment of the MRP, and modeling data at projected Schedule 4 flowrates, seven additional Combination Air Vacuum Valves are required to mitigate potential damage to the pipeline from transients or water hammer.

This past week, landowners have been contacted to inform them of the work being conducted along the pipeline easement. Additionally, Rangeline is working to expedite procurement of the necessary equipment to perform the work in early February with an anticipated completion date in late February.

The labor and materials associated with this work is being performed under an emergency procurement signed by the City Manager on November 22 at a cost of \$2.4 million. The budget includes the procurement of spare 64-inch and 72-inch pipe in the event an emergency repair is needed. The funding for this work was originally planned out of the CIP program in FY 25 but was expedited through this emergency procurement process.

- H&S Contractors – H&S Contractors is a local Corpus Christi company who was recently awarded by City Council a \$12.1 million contract to provide construction services to improve the Bloomington and Woodsboro Pump Stations that deliver water to the MRP. While the entire project will not be completed until December 2025, the most critical aspects of the project related to delivering schedule 4 pumping rate, have been expedited. The critical aspects include the installation of electrical equipment necessary to provide power to the additional pumps, which will be needed to sustain the higher flows.

H&S Contractors are expediting the procurement of necessary equipment for both Bloomington and Woodsboro pump stations, which includes variable frequency



drives (VFDs), control valves, HVAC improvements, metering equipment, and other upgrades.

CCW and City Engineering is meeting with the leadership team of H&S Tuesday, January 7 to review the schedule of activities and ensure that the project remains on an accelerated schedule for a March or earlier timeframe.

- AEP - Electrical upgrades, which includes new transformers at both the Bloomington and Woodsboro pumping stations, are required to operate at Schedule 4. In the past week, AEP has installed a new transformer at the Woodsboro pump station and will do the same at the Bloomington pump station this upcoming week. AEP will continue the installation of equipment at both Bloomington and Woodsboro over the next couple of weeks. To heighten the situational awareness and criticality of this project, the City is meeting with the Judith Talavera, the Chief Operating Officer of AEP, Texas on January 7, 2025.
- Lavaca Navidad River Authority (LNRA) – The LNRA is a significant partner of CCW. Not only do they provide us with 31,440 acre-feet of uninterrupted water from Lake Texana, but they also operate and maintain on behalf of CCW the Bay City Pump Station for the Colorado River and Lake Texana pump station. Because the current Schedule 3 has never been sustained this long, and Schedule 4 is a completely new protocol, the CCW and LNRA teams have been meeting to review standard operating procedures, and discuss the protocols for Schedule 4. An in-person meeting between CCW, and LNRA is planned for January 10, 2025. By operating the pipeline at Schedule 3, an additional 1.75 billion gallons of water has been delivered through the MRP in 2024.

## **2. Groundwater Wells along the Nueces River**

The City developed a supplemental water program in the drought of the 1950s, which included the installation of groundwater wells located between Lake Corpus Christi and O.N. Stevens Water Treatment Plant for the purpose of pumping groundwater into the Nueces River. During the 1980s drought, the City leased land to develop and install more groundwater wells to augment the water supply to the Nueces River for a total capacity of approximately 15 MGD. The City is also seeking additional sites for the purpose of drilling new wells beyond the existing seven wells. Hanson is assisting the City with this effort.

After the execution of the emergency authorization memo that was signed by the City Manager on December 31, 2024, the city contracted Weisinger Inc. to begin the investigative work on seven existing wells located along the Nueces River. Weisinger, Inc. is a well and pump contractor based in the Houston area but will be providing crews and support from their Pleasanton, Texas field-office. The scope of work will include conducting downhole video surveys, setting test pumping equipment, and conducting well performance tests to determine the current condition of the wells and gauge their viability. CCW will also conduct water quality samples as part of this process to ensure that the groundwater does not degrade the water quality of the Nueces River. CCW has been working with Legal and Engineering to contact landowners and obtain right of entry permits to conduct this investigative work.

Weisinger Inc. will mobilize a video survey crew on Monday, January 6, 2025, and subsequently deploy a pump crew the same week to develop a better understanding of the viability of these seven wells. The goal will be to identify as many viable wells as possible and design the permanent pumping equipment. It is likely that the wells will need rehabilitation before the installation of the permanent pumping assembly. Additionally, some wells may be found to be in poor condition such that no further work would be recommended, and alternatives may need to be considered such as drilling a completely new well. If the wells are proven to be viable, then the pumping test data will be utilized to design permanent pumping assemblies.

CCW has also made contact with both the Brush Country and San Patricio Groundwater Control District to discuss the project.

### **3. CC Polymers**

CC Polymers owns a large plastic manufacturing facility at 7001 Joe Fulton International Trade Corridor, Corpus Christi, where they have a TCEQ intake and discharge permit to operate a seawater desalination plant. Their Texas Pollutant Discharge Elimination System (TPDES) Permit was attained in 2021, and recently renewed by TCEQ in 2024.

The CC Polymers team approached the City in October 2024 with an opportunity to complete the desalination plant and produce 9.4 MGD in approximately eight months. The finished water would require additional treatment to meet potable drinking water standards in order for it to be co-mingled with our existing drinking water system. Alternatively, the water could forego municipal treatment required by TCEQ and instead be provided as industrial water directly to one or more of our industrial partners, thereby taking them off the municipal supply from ON Stevens WTP and allowing that water to be used by other customers.

Recognizing that this facility has been considered as a potential water supply option several times in the past decade, the City retained the expertise of CDM Smith to begin analyzing the viability of this water supply and how it can be best integrated into the City's drinking water system either as a municipal water or industrial water.

CCW recently met with CDM Smith and industry representatives over the holiday to outline the options and life cycle costs associated with several alternatives. Additional meetings are scheduled for the week of January 6 with CC Polymers and the CCW team.

### **4. Reclaimed Wastewater (Re-use):**

The city currently provides reclaimed water to local golf courses, cemeteries, and other civic locations through purple pipe conveyance. CCW is working to expand the availability of this water source for other applications through a water "drive-up loading station" at the Oso Wastewater Treatment Plant (WWTP).

Oso WWTP has had a drive-up loading station to fill containers with Type II water for **commercial** use for several years. The water has not been significantly utilized by the commercial business



community to date; however, with Stage 3 water restrictions in effect, the City anticipates more demand for this water. The Parks Department is now fully utilizing this water for the irrigation of over 700 trees throughout the city and other landscaped areas. Additionally, the Department is securing more mobile water vehicles to expand the efforts associated with using reclaimed water.

While Type II is an excellent resource for commercial activities, TCEQ regulations do not permit its use for residential use. Recognizing the growing residential demand for water under Stage 3 conditions, CCW is utilizing in-house staff to design and construct the necessary infrastructure at Oso WWTP to be able to make available for free up to 20,000 gallons per day of Type I reclaimed water that can be used by our residential community for irrigating **residential** properties, and other activities like pressure washing and cleaning equipment and vehicles. Staff is pouring concrete for tank foundations this week and will be installing the necessary tanks, piping and pumps over the next two to three weeks following the concrete pour. The final completion date is expected to be within the next four to six weeks.

This concludes my report.