

## CHANGE ORDER NO. 2 SUMMARY

**Nueces River Raw Water Pump Station Improvements**  
**City Project No. E11068**

**CHANGE ORDER NO. 2 SUMMARY TABLE**

<b>COST PROPOSAL</b>	<b>TITLE</b>	<b>AMOUNT</b>	<b>REQUESTED DAYS</b>	<b>REASON FOR CHANGE</b>
#3	New Ethernet Equipment	\$6,375	0	Owner Request
#4	Additional Power Circuits for Instruments	\$24,207	13	Design oversight
#5	Dewater ONS WTP Splitter Box	\$19,941	1	Unforeseen
#6	AEP Main Power Supply Connection	\$222,685	15	Unforeseen
#7	Pump No. 10 Check Valve Modifications Credit	(\$17,026)	0	Owner Request
#8	Refurbish Existing Pump No. 3	\$20,206	1	Unforeseen
#9	Pump Building No. 1 Bar Screen Refurbishment	\$350,008	25	Unforeseen
#10	Existing Check Valves Replacement – Pump Building No. 1	\$99,889	0	Unforeseen
#11	Replace Concrete Slab – West End Pump Building No. 1	\$45,377	21	Unforeseen
	<b>PROPOSAL TOTAL</b>	<b>\$771,662</b>	<b>76</b>	

**COST PROPOSAL DESCRIPTIONS****COST PROPOSAL No. 3:**

New Ethernet Equipment

Amount: \$6,375

Additional Calendar Days Requested: 0

New Ethernet modules will be added for the two PLC rack configurations and existing MVI56E-MCM modules on both PLCs will be replaced with new 1756-EN2T Ethernet modules installed.

Adding and replacing the Ethernet modules will improve the communication network between the Nueces River Pump Station and O.N. Stevens Water Treatment Plant (ONSWTP).

COST PROPOSAL No. 4:

Additional Power Circuits for Instruments

Amount: \$24,207

Additional Calendar Days Requested: 13

The construction documents did not indicate power supply to ten water level and flow instruments at the pump buildings. New conduit and wire will be added from the power panels to provide 120-volt power supply to the instruments.

COST PROPOSAL No. 5:

Dewatering ONS WTP Splitter Box

Amount: \$19,941

Additional Calendar Days Requested: 1

This project called for replacement of three 54" dia. butterfly valves at the Nueces River Pump Station on the 54" transmissions mains to the ONS WTP. Due to equipment issues at the ONS WTP Splitter Box the Utility Dept. was not able to isolate the transmission mains to facilitate the valve replacement. Contractor was requested to provide all necessary pumps and associated labor to continuously dewater the splitter box such that a low water level was maintained. This allowed the contractor to insert the temporary isolation air plugs that were required per contract to complete the valve replacement.

COST PROPOSAL No. 6:

AEP Main Power Supply Connection

Amount: \$222,685

Additional Calendar Days Requested: 15

This project provides for a complete replacement of the existing 4160-volt power supply and electrical gear for both Pump Building No. 1 and Pump Building No. 2. Contract drawings show the new electrical power supply buried duct bank to go up to the boundary of the existing AEP substation. After the start of construction, it was determined that the existing buried duct bank contained asbestos pipe conduit and that it would be unusable. All work inside AEP substation boundary must be performed by an AEP certified contractor. This proposal includes all required upgrades to AEP's system by MasTec, AEP certified contractor. The scope includes replacement of the duct bank inside their substation fence, new conductors and to provide new fuse holders. This additional work will allow the completion of the new main 4160-volt power supply to the Nueces River Pump Station from AEP substation.

COST PROPOSAL No. 7:

Pump No. 10 Check Valve Modifications Credit

Amount: (\$17,026) Credit

Additional Calendar Days Requested: 0

Scope of work included replacing the existing 30" check valve on Pump No. 10 discharge piping in Pump Building No. 2. The existing check valve is relatively new and as it was removed was found to be in good condition. In lieu of replacing the valve as originally planned it was decided to replace the existing lever and weight with air cushion equipment to match what is being provided on the new check valves. This change in scope provides a credit to the project.

COST PROPOSAL No. 8:

Refurbish Existing Pump No. 3

Amount: \$20,206

Additional Calendar Days Requested: 1

Existing Pumps No. 3 and No. 4 at Pump Building No. 1 are currently out of service and are called to be reinstalled in Pump Building No. 1 after work is completed. When the pumps were removed, the Utilities Department had the pumps inspected by Smith Pump Co. The pumps were disassembled, inspected and ultrasonic thickness testing was performed. The test results for Pump No. 3 indicated a loss of 20% to 25% of the metal thickness and the report recommended that the components be refurbished to restore the metal thickness. This proposal includes the refurbishment of the pump, loading, and unloading the pump, transporting the pump to the shop, replacement of the top shaft and packing gland hardware. After inspection it was determined that no refurbishment was required for Pump No. 4. The refurbishment of Pump No. 3 will extend the useful life of the pump

COST PROPOSAL No. 9:

Pump Building No. 1 Bar Screen Refurbishment

Amount: \$350,008

Additional Calendar Days Requested: 25

This project was original started in 2013 and included refurbishment of the two mechanical bar screens at Pump Building No. 2. The two mechanical bar screens at Pump Building No. 1 are newer and appeared to be in good condition and functioning properly, so no work on the Pump Building No. 1 bar screens was included in the project. Soon after the construction contract was awarded the West mechanical bar screen at Pump Building No. 1 drive carriage jammed and locked up at water level. Utility Department attempted to repair the drive unit but were unsuccessful. The screen manufacturer inspected the Pump Building No. 1 bar screens and recommended repairs and upgrades to return the equipment to service. The scope of work includes the refurbishment of the West bar screen and the replacement of bearings, shafts, and bushings on the East bar screen. These screens are critical to the operation because they filter out debris which prevents it from reaching the raw water pumps that deliver water to the ONS WTP.

COST PROPOSAL No. 10:

Existing Check Valves Replacement – Pump Building No. 1

Amount: \$99,889

Additional Calendar Days Requested: 0

When the existing 24" and 30" check valves were removed it was observed that the interior of the check valves had suffered significant corrosion to the interior body and components. A manufacturer valve representative inspected the 24" valve and indicated it could possibly be refurbished but this would require sending it to the factory for inspection for a fee, but there was no guarantee that the valve could be adequately refurbished until they took it apart completely. The manufacturer valve representative also inspected 30" check valve and indicated that the corrosion was too severe to refurbish the valve. The scope includes the replacement of the existing check valves and addition of a new 42" x 30" pipe reducer.

COST PROPOSAL No. 11:

Replace Concrete Slab – West End Pump Building No. 1

Amount: \$45,377

Additional Calendar Days Requested: 21

Project required Contractor to isolate Pump Building No. 1, dewater the structure and provide new interior concrete walls and channels in the wet well. During the design phase, the structural investigation of existing walls, based on current design standards, indicated that the soil around the perimeter had to be temporarily removed down to an elevation of 0.00' to relieve the stresses on the wall when the structure interior was dewatered. The top and exposed portion of the concrete foundation appear to be in very good condition but, after the exterior soil on the west side of the building was removed it was observed that the bottom of the existing cantilever concrete slab was in very poor condition. The existing concrete interior beams have large voids in the concrete and the lower mat of steel reinforcement is exposed in many locations. It is recommended to remove the existing 20' x 24' concrete foundation and walls on the west end and replace with a new concrete foundation and walls to extend the life of Pump Building No. 1.