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The Arroyo Colorado Watershed Partnership

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Lower Laguna Madre-Ramsey Park Wetland Construction Narrative

Final design and construction of the Ramsey Park wetland did not begin in earnest until the current City of Harlingen Park Director, Javier Mendez, was hired in June 2014. Once on board, Javier was able to work with the city manager and city commission to sign the subcontract form and begin actual planning and design of the wetland project.

TWRI coordinated a project meeting with TAMUK and the City of Harlingen on June 25, 2014 from 10:00am-11:30am. Jaime Flores was there representing TWRI, Dr. Jones and three TAMUK students representing TAMUK, Javier Mendez, new Parks and Rec. Director and Jeff Lyssy, Park and Rec. Superintendent representing the City of Harlingen. TWRI presented Javier and Jeff with the SOW for the project and reviewed it with them. TAMUK presented revised conceptual designs of the wetlands and budget for implementation/construction. Javier and Jeff were to review the designs and conduct a site visit in order to visualize the scope of work that is being proposed.

Jaime Flores, TWRI, met Javier Mendez and Jeff Lyssy to discuss terms and conditions of the contract on August 22, 2014. After the discussion, Javier proceeded to deliver two signed copies of the subcontract. The subcontracts were delivered to TWRI in College Station.

TAMUK continued to work on the final designs for Ramsey Park throughout October. TAMUK then conducted percolation tests throughout the wetland areas between October 25-31, 2014, in an effort to determine if any additional clay is needed to be able to hold water. The percolation tests indicated that the soil in the wetland areas tested are all very loose and porous and will require a clay, bentonite or other impermeable layer to be installed in the wetlands to be able to hold water.

A project meeting was held on February 10, 2015 at the COH Parks and Recreation Office. In attendance were; Dr. Jones and 2 graduate students, TAMUK, Jaime Flores, TWRI, Javier Mendez, Parks Director, Jeff Lyssy, Parks Superintendent, Javier Zamora, City Engineer and Dan Serna, Assistant City Manager. The purpose of the meeting was to discuss the design of the wetlands and a planter box/detention basin to divert stormwater from the parking lot into the wetland system. COH personnel accepted one of the three designs presented by TAMUK and asked that the design be modified to meet parking requirements of the Park. The City Engineer and Assistant City Manager commented that to properly construct the parking lot with the Planter box, they would have to remove all of the existing asphalt and subgrade and bring in all new material. This would add to the overall cost of the parking lot. Based on the money coming

from CIAP, the COH will go before the city commission to ask the city to budget for the expense of the parking lot that will result in basically a 1 to 1 match for the CIAP funds. Mr. Serna asked that TAMUK modify the designs to fit the parking area and finalize drawings and cost estimates, Mr. Serna and the City Engineer would get cost estimates for the parking lot and combine the total cost into a project budget that will be presented to the city commission for approval.

Based on the design for the wetland, planter box/detention basin and new parking lot, the budget for the project far exceeded the $140,000 budget allotted for the COH as part of this award.

The COH has entered into an Interlocal agreement with Cameron County to assist with the construction of the parking lot June 2016.

The COH hired Ferris and Flinn Engineering to conduct a survey of the project area in July 2015 to provide current elevations and a final survey map prior to construction activities. The surveyors had some difficulty acquiring all of the data necessary due to the thick tree canopy interfering with their GPS units and the amount of trees preventing them from obtaining proper triangulation of their equipment.

After the initial survey conducted in July, the surveyors went back to the park between September 16-18, 2015 to take gather the rest of the information necessary to complete the survey. They had to use a jon boat and machetes to access several areas of the wetland system to obtain accurate elevation shots. The surveyors processed the data and presented the information to the COH Engineering Dept. on October 14, 2015.

The COH requested additional information for the design and had Ferris and Flinn Engineering go back to the park to conduct a more detailed survey of the project area between November 2-13, 2015. The COH Engineers needed additional information on the Bio-retention Basin in the parking lot. The COH wanted to ensure that the basin could be drained into the wetlands in the event of a storm and that the wetland system would be able to accept the overflow. The surveyors processed the data and presented the information to the COH Engineering Dept.

The COH started preparing the site for construction on December 1, 2015. The COH Public Works Dept. initiated construction of the Bio-Retention Basin on December 15, 2015. They began by excavating the area where the basin will be constructed according to the design for the basin.

City of Harlingen Engineering Dept. checking specifications and verify elevations of the trench.

City of Harlingen Public Works Dept. pouring cement for the floor of the bio-retention basin

After the excavation was completed, the COH began setting up the rebar and forms necessary to begin pouring concrete for the floor of the bio-retention basin


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Once the concrete floor of the basin was poured and had time to set up, cure and dry properly, the COH began constructing the side walls of the basin.

COH pouring the concrete for the side walls of the bio-retention basin

Installing the discharge pipe through the wall of the bio-retention basin that will drain the basin into the wetland system.

Removing the forms from the wall the concrete has cured.

Construction of Bio-retention complete.

COH crew backfilling trench for discharge pipe.

COH filling bio-retention basin with sand layer.

COH crew placing landscaping fabric over sand layer.

Bio-retention basin awaiting top soil and plant material

Cameron Co. crew removing existing sub-grade and caliche from the original parking lot.

Cameron Co. crews installing new caliche in the parking lot in 1’ lifts.

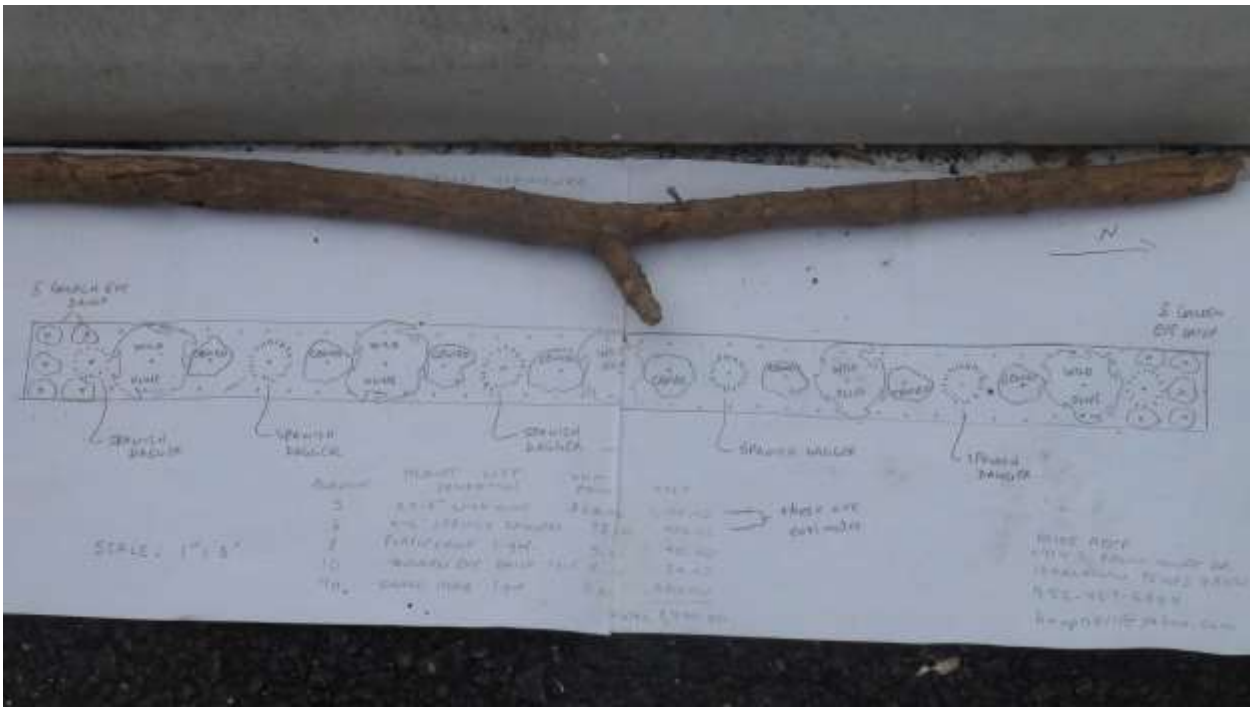
Preparing the slope in the parking lot to ensure that the storm-water drains into the bio-retention basin.

Parking lot complete.

Parking lot complete. Cameron County agreed to provide all of the caliche, asphalt, equipment and personnel needed to remove the old parking lot and install the new parking lot.

Plan view and cross-section view of the Bio-retention basin.

Jaime discussing the Bio-retention basin and how it works.



Landscape/planting design for the Bio-retention basin.

Getting started.

First Spanish Dagger planted.

Javier Mendez and Jeff Lyssy form COH Parks Dept. lending a helping hand.

Javier Mendez helping volunteers dig/plant.

Project Manager, Jaime Flores, assisting Mike Heep to plant a Spanish Dagger.

Planting of the Bio-retention Basin complete.