



City of League City, TX

300 West Walker
League City TX 77573

Text File

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Title

Consider and take action on a resolution authorizing a professional services agreement with Kimley-Horn and Associates, Inc. (K-H) for design work related to the Magnolia Creek and Cedar Gully Channel Improvement Project (DR 1906) in an amount not to exceed \$924,200 (Director of Engineering)

.. Background

Approval of this resolution will authorize the City Manager to enter into an agreement with K-H to design drainage improvements along Magnolia Creek and Cedar Gully for an amount not to exceed \$924,200.

In 2014, a drainage study for League City was conducted by LAN Engineering. The study recommended an erosion control project for portions of Magnolia Creek and Cedar Gully. The study recommended 2 primary mitigation actions:

- Modify the outlets of 3 detention ponds so that the stormwater inflows are stored in the ponds and discharged at a rate to reduce impact to flows in the channel during 1% exceedance events.
- Modify the Summer Place Culvert crossing in Mag Creek to match the dimensions of the channel section upstream of the crossing.

A secondary action was to address the existing erosion issues which could mean removal of dead and diseased trees and trees within the channel/channel banks or near the top of bank (if there is risk of falling), correct the channel's cross-section to a more uniform earthen pattern, and riprap around existing discharge points in an effort to reduce further erosion within Magnolia Creek and Cedar Gully.

The Magnolia Creek and Cedar Gully watersheds provide drainage for over 2,000 homes and several dozen commercial developments within League City. In the aftermath of the Hurricane Harvey flooding, Staff saw deterioration along these channels and began working on scoping an erosion control project. Staff submitted grant applications to Texas Hazard Mitigation Grant Program, but the project did not meet the minimum Benefit-Cost Ratio to be considered for funding. This project was included as part of a list of drainage projects outlined on the City's recently passed May 2019 General Obligation Bond Referendum.

A public meeting was held for this project on June 13, 2019 to provide residents with more information on the project as a whole along with why it was needed and estimated timing for design, permitting, and construction phases.

For this phase, K-H will provide engineering services for erosion control related drainage improvements along both Magnolia Creek and Cedar Gully. It is anticipated, because portions of Magnolia Creek and Cedar Gully are federally regulated waterways, that this project will require an U.S. Corp of Engineers (USACE) Individual Permit which is a more extensive process and based on USACE review procedures up to 24 months to obtain. While K-H and staff will work to have this project structured so that it falls

under a Nationwide Permit (NWP3 - Maintenance Activities or NWP41 - Reshaping Existing Drainage Ditches), staff feels that because of the length of disturbed areas within the channels, this is less likely and that an Individual Permit will ultimately be required.

This PSA for engineering services will provide

- a boundary and topographic survey of the project limits for Magnolia Creek and Cedar Gully and related detention ponds and drainage structures that directly connect to these channels. The proposed cost for this activity is \$154,300.
- a Geotechnical Engineering Report for the project area will be prepared. The preparation of this report will include field investigations and laboratory testing. The field work will consist of 13 soil borings near the project's existing detention ponds and 35 soil borings along Magnolia Creek and Cedar Gully. The laboratory testing will be completed using the 38 soil samples. These tests will determine the soil's strength characteristics and to evaluate both the short- and long-term deformation and swell properties. The engineering report will address site conditions at the boring locations, detention basin and drainage channel recommendations, analyses of the stability of channel slopes, earthwork recommendations and any construction considerations that may need to be looked at when coupled with other study recommendations. The proposed cost for this activity is \$74,000.
- a Hydrologic and Hydraulic Analysis (H&H) of Magnolia Creek and Cedar Gully. The H&H study will look at the proposed improvements from the 2014 Study and then modify those improvements using Atlas 14 parameters with the intent of conveying the calculated 100-yr peak flow in the channel ROWs and maintaining non-erosive velocities in the 2-, 10-, and 100-yr events. The study will also define any additional ROW needs and an Opinion of Probable Construction Costs for outlined improvements. The proposed cost for this activity is \$124,700.
- permitting assistance to obtain an Aquatic Resources Delineation, Stream Condition Assessment Permit - Level 1, USACE Nationwide or Individual Permit, and TCEQ permit. This work includes internal meetings and meeting with permitting agencies along with the preparation of the actual permits needed for the project. The proposed cost for this activity is \$186,000.
- the design based on the results of the Geotechnical Report, the H&H Study and the environmental investigations (permitting requirements). This PSA is preliminary in nature and as a result, this phase requires plan submittals at the 30% only with an Opinion of Probable Construction Costs. The proposed cost for this activity is \$75,600.
- Public meeting assistance will be provided under the PSA. It is anticipated that two (2) public meeting will be held. The first meeting will be to make the draft model results available to the public and discuss those findings. The second meeting will be tied to the USACE permit. As part of the anticipated USACE Individual Permit process, a public meeting is required to discuss the project and permit with the general public. K-H will provide brief handouts, mounted exhibits, and powerpoint presentations at each scheduled meeting. The costs for these meetings are not to exceed \$43,100
- additional steps needed for an USACE Individual Permit which includes Archeological/Cultural Resources review and Endangered Species Study. The estimated allowance for these potential additional items is \$100,600.
- a Stream Condition Assessment Permit - Level 2 is anticipated for this project due to the amount of disturbance within the natural stream banks. The estimated allowance for this additional permit is \$76,200.
- Wetland Mitigation Coordination is anticipated to be needed for this project. The estimated allowance for this potential additional coordination is \$26,700.
- Staff has been working to coordinate drainage projects related to the General Bond Project List. As a result of those efforts, K-H has another project PSA, Clear Creek Tributaries Select

Clearing and Desnagging Project, that has some overlap with this project. It is anticipated that these projects would run concurrently through the design process. If for some reason this other project is delayed, some additional surveying north of FM 518 along Magnolia Creek and Cedar Gully to Clear Creek, the survey can still take place with this project and be removed from the scope of the other project. Staff feels that, if one of the projects is delayed, by overlapping this surveying cost, it will save the City money over the course of the 2 projects. The estimated allowance for this additional surveying work is \$56,400.

- the creation of metes & bounds descriptions and exhibits of parcels assuming land acquisition is determined to be needed for this project. For the purpose of this contract, Staff does not feel that any additional land will be needed, but there is a chance that some land could be needed near road crossings. With that in mind, it is assumed that additional ROW could be need on up to 2 parcels of land. The estimated allowance for this activity is \$3,300 per parcel or \$6,600.

The total anticipated engineering cost for this project is not expected to exceed \$924,200. The flow of this project will be very similar to the Bay Ridge Flood Reduction Project, Phase IV PSA presented at the 6/25/19 Council meeting, and because of Staff is recommending issuing this PSA based on this abbreviated scope only at this time. Once permitting has been obtained, Staff can work with K-H on a second PSA that would cover the final design, bidding, and construction services needed to complete the project.

The scope as outlined above for this project could take up to 3 years to complete with permitting being the primary factor driving the schedule. While some phases of this project can overlap, it is not uncommon for

- a Level 1 Stream Assessment to take 4 to 6 months to obtain,
- a Level 2 Stream Assessment is up to a 1-year process.
- Individual Permits can take up to 24 months to obtain. If the project can fall under either NWP3 or NWP41, then the time needed to acquire the permit would be reduced to 6 to 9-month timeframe.

Staff believes that the USACE Individual Permit and a Level 2 Stream Assessment will be required for this project, but because the project is fairly straight forward, we anticipate the permitting process for these items to not take the full time to obtain. Under this assumption, the PSA has a 24-month timeframe, but a time extension could be needed due to the actual time associated with the processing of permits.

The estimated cost for this project when working on grants and our Bond Program was \$7,500,000.

Staff recommends executing the attached PSA with K-H for the preliminary services in the amount of \$924,200 at this time.

Attachments:

1. Data Sheet
2. Proposed Resolution
3. Exhibit A - Agreement with Kimley-Horn for Magnolia Creek and Cedar Gully Channel Improvement Project
4. Aerial Map

CONTRACT ORIGINATION: Professional Services Agreement with Kimley-Horn and Associates, Inc. and the City of League City reviewed and approved by the City Attorney's office.

FUNDING

{X} Funds in the amount of \$924,200 are available from Miscellaneous Capital Projects Fund 5015 with expenses charged to DR1906-PLANDESIG-DESIGN-TS CASH. The design cost will be funded by the GO Bond sale and Misc Capital Projects Fund 5015 will be reimbursed once bond proceeds are received. A reimbursement resolution will be presented for Council approval on the 9/24/19 agenda.

{X} Based on available cash flow, a Budget Amendment may be required to transfer from General Fund - Fund Balance to Misc Capital Projects Fund 5015. If needed, the transfer will be included on a future budget amendment for Council approval.

STRATEGIC PLANNING

{X} Addresses Strategic Planning Critical Success Factor #1 - Develop & Maintain our Infrastructure