



Text File

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Title

Consider and take action on a resolution authorizing a professional services agreement with Halff Associates Inc. (Halff) for design work related to the Bay Colony Area Detention Modification Project (DR 1909) in an amount not to exceed \$656,558 (Director of Engineering)

..Background:

Approval of this resolution will authorize the City Manager to enter into an agreement with Halff to design detention pond modifications and related drainage improvements for existing detention areas within the greater Bay Colony Area and along Magnolia Bayou and Borden's Gully for an amount not to exceed \$656,558.

In the aftermath of the Hurricane Harvey flooding, a Hydrologic & Hydraulic (H&H) Study of areas within the Magnolia Bayou and Borden's Gully Watersheds was conducted. On November 29, 2018, City Staff and our consultant held a public meeting to go over the preliminary findings of the study and to discuss potential improvements to help reduce flooding within this area. One of the areas of concern discussed during the public meeting was the detention capacity in the greater Bay Colony area subdivisions.

Based on the study, City Staff created a potential drainage improvement project. This project was included as part of a list of potential drainage projects outlined on the City's recently passed May 2019 General Obligation Bond Referendum.

For this Professional Services Agreement, Halff will provide engineering services for drainage improvements, specifically detention pond modification of 18 existing detention ponds and potential improvements to both Borden's Gully and Magnolia Bayou. The project will add approximately 70 acre-feet of additional detention to these areas.

The PSA covers the following items:

- Topographic survey of ROW, detention basins, and channels within the project limits. The proposed cost for this activity is \$109,500.
- Review of previous drainage analysis with a comparison of survey data against As-Built data, and analysis of Magnolia Bayou and Borden's Gully capacity within the project limits. The proposed cost for this activity is \$42,710.
- Drainage Report with recommendation related to capacities and/or improvement to Magnolia Bayou and Borden's Gully (the channel review was not part of the 2018 Analysis's scope of work. Report will also confirm or revise the 2018 analysis's recommendation by using the in-place field surveyed data. The proposed cost for this activity is \$8,750.
- Plan submittals at the 30%, 60%, and 90% completion with an Opinion of Probable Construction Costs. This activity also includes up to 3 public presentations related to the project. It is anticipated that a public meeting will be held around the time the 30% plans have been reviewed,

the 90% plans have been reviewed, and prior to the start of construction. The proposed cost for this activity is \$229,260.

- Bidding and Construction Phase Services. Activities in these phases cover Evaluation of received Bids, pre-construction meeting, material submittal reviews, handling Requests for Information, recommendations on Change Orders, project site inspections, final walk-through, and record drawings. The proposed cost for this activity is not to exceed \$50,170.

The PSA will also allow for some additional services to be performed on an as needed basis:

- Geotechnical Report. The field work will consist of up to 18 soil borings near the project's existing detention ponds. This will allow Halff to make recommendations related to the detention pond's slope stability for earthwork and any construction considerations that may need to be looked at when coupled with other study recommendations. The proposed cost for this activity is \$39,328.
- Channel improvements along Magnolia Bayou and Borden's Gully were not part of the original scope of work for this project. Through the executed PSA, Halff will review these channels to determine if any additional detention/conveyance could be gained by modifying the channels. These drainage channels combine are approximately 15,000 linear feet long in the greater Bay Colony area subdivisions. Halff can provide additional engineering services for modifications of these drainage ways at a proposed cost of \$20 per linear foot of drainage channel. This assumes a minimum of 1,000 linear feet of channel is being modified. The estimated allowance for this activity is \$20,000.
- While not anticipated, there is a possibility of TCEQ and/or USACE permits being required for this project. If Channel Improvements along either Magnolia Bayou or Borden's Gully are needed, the potential for these types of permits will increase.
 - Permit Assistance for a Phase 1 Environmental Site Assessment - For the purpose of this contract, it is assumed that a Phase 1 ESA could be need on 1 parcel. The proposed allowance for this activity is \$2,100 per parcel.
 - USACE Nationwide Permit - For the purpose of this contract, it is assumed that 1 NWP could cover the entire project. The proposed estimated allowance for this activity is \$17,060.
- If Channel Improvements along either Magnolia Bayou or Borden's Gully are needed, there is a strong possibility that additional geotechnical work would be needed. Assuming an additional 10 soil boring sites would be needed, the proposed allowance for this activity would be \$1,154 per site for a total allowance of \$11,540.
- With the City's Bond Program CIP projects and the normal CIP projects, there is a concern that multiple projects may go to construction at the same time which could overload our Inspectors. With that in mind, Halff was asked to provide a price to provide full time inspection services for this project. With a construction estimate timeline of 9 months, the proposed allowance for this activity is \$123,000.

Staff recommends executing the attached PSA with Halff for the engineering services in an amount not to exceed \$656,558, but only providing a Notice to Proceed for the base project (\$440,390) and the additional service for the Geotechnical Report (\$39,328) at this time. Once the Drainage Report is finished, Staff can then make the decision on whether to proceed with any of the other additional services or remove them from the PSA.

The Construction Cost for the modification of the 18 existing detention ponds is estimated at \$2,229,365.00. The project is estimated to take approximately 26 months to complete (Design, Permitting, and Construction). If Channel Improvements are found to be needed with this project, then the

construction cost and project timeline will also increase.

Attachments:

1. Data Sheet
2. Proposed Resolution
3. Exhibit A - Agreement with Halff Industries
4. Aerial Map

CONTRACT ORIGINATION:

FUNDING

{X} Funds in the amount of \$656,558 are available from Miscellaneous Capital Projects Fund 5015 with expenses charged to DR1909-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.

{X} A future budget amendment is required to add the project to the FY2019 capital budget. Based on available cash flow, a Budge 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.

{ } NOT APPLICABLE

STRATEGIC PLANNING

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

{ } NOT APPLICABLE