

## **MEMORANDUM**

**TO:** Claire Powell, City Manager

**FROM:** David Salmon, P.E., City Engineer

**VIA:** Jim Proce, ICMA-CM, Assistant City Manager

**DATE:** January 6, 2025

**SUBJECT: Approval of a Professional Services Agreement with Birkhoff, Hendricks and Carter L.L.P. in the Amount of \$81,217.50 for Design Services Related to the East Main Street at Railroad Sanitary Sewer Replacement and Authorization for the City Manager, or Her Designee, to Execute the Agreement.**

### **BACKGROUND**

The proposed project will replace a 12-inch sanitary sewer underneath the DART rail line on East Main Street with a 15-inch sewer to address a capacity pinch point in the sewer system that serves Old Town Lewisville. The subject sanitary sewer replacement and upsizing was originally designed and funded in early 2015 and bid along with two other utility projects in a combined package. The project was bid later that same year.

Early in the design process, soil bores were conducted at the project site to determine and analyze soil conditions. The soil bores indicated sandy soil and no evidence of ground water within the expected depth of the proposed sewer improvements. The two years prior to 2015 were exceptionally dry conditions. In late spring 2015, there were several consecutive large rain events that caused Lewisville Lake to fill and flow over the spillway. When the contractor began work on the sewer replacement, the ground water at the site was very shallow resulting in saturated and unstable sandy soil.

There are several private and public utility lines adjacent to the DART rail right of way at this location including fiber lines. There is very tight spacing between the various utilities. Because of the rail crossing, the sewer needs to be installed by boring. Given the soil conditions encountered in 2015, staff along with the contractor felt there was too much risk involved in installing the sewer due to the potential of the proposed bore going off course and cutting the fiber lines. The proposed sewer replacement was taken out of the contract and that element of the project was abandoned.

### **ANALYSIS**

When the project was abandoned in 2015, the sewer upsizing was identified as a future need in the sewer masterplan, however, was not critical at that time. With the recent multi-family development

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in Old Town, the need for the upsized sewer underneath the DART rail has become more critical as indicated by the recent Old Town Infrastructure Study and East Side Sewer Masterplan update. Staff has selected Birkhoff, Hendricks and Carter, L.L.P. to prepare an updated design for the subject sewer replacement. The previous plans are old enough that it would be unwise to use them for construction given the potential of changed topography and the uncertainty of ground conditions over the past ten years. In addition, the City has updated construction specifications and construction details since the original plans were designed. The same potential risks exist now as in 2015, however the rainfall has been close to normal, so soil conditions should be drier. Over the past four years, annual rainfall amounts have averaged 34.17 inches, slightly above the average of 33 inches for North Central Texas. New geotechnical bores will be taken during the design process. Regardless of whether ground water is present, the design and bid documents will need to include accommodations for dewatering. Dewatering was not part of the 2015 bid because at that time, the soil bores did not indicate ground water. There are no other reasonable alternatives for re-routing and constructing the subject sewer crossing.

Birkhoff, Hendricks and Carter, L.L.P. has completed many utility designs and utility studies successfully for the City of Lewisville over the past 30 years. City staff has negotiated a Professional Services Agreement with Birkhoff, Hendricks and Carter, L.L.P. in the amount of \$77,300 plus a 5% contingency for a total cost of \$81,217.50 to include field survey, subsurface utility engineering, geotechnical analysis, construction plans preparation, DART permitting & coordination, utility coordination, bid support and construction support services. The negotiated fee is within the accepted range for this type and size of project. Design funding is available in Project U2501.

#### **CITY STAFF'S RECOMMENDATION**

That the City Council approve the agreement and authorize the City Manager, or her designee, to execute the agreement as set forth in the caption above.