

### REASON FOR REVIEW

Construction projects are a significant part of City of Tulsa operations. The fiscal year 2023 budget includes \$381 million (39% of total budget) to be spent on Public Works and Transportation. In addition, construction projects have a high level of complexity and associated risk.

### HOW WE CONDUCTED THIS REVIEW

The City Auditor’s Office hired JA Cost Engineers and Advisors (JACEA) to conduct a review of Engineering Services’ primary strategies in managing the construction program. The overall objective of this review was to enhance the construction program by finding opportunities for improved project performance relevant to projects’ unique requirements. The review included:

- Project control strategy
- Vendor and contractor evaluation process
- Bid package language and requirements
- Project tracking for progress, schedule and costs
- Billing procedures
- Quality assurance strategy
- Contractor insurance and surety Requirements

### SIGNIFICANT RESULTS

In general, JACEA found Engineering Services to be well organized and coordinated. The professional staff had a wide range of relevant experience, including design, construction, and facilities. There were several tracking systems, procedures and tools in place to help promote sound project execution. In addition, there were various checks, balances and other safeguards to reduce the risk of error or improper behavior. The staff composition, methods and sophistication were comparable to other public sector organizations of similar size.

### SUMMARY OF KEY OBSERVATIONS

	Topic	Observations
1	Project Execution	For the most part, all projects are executed and managed using metrics related to roadways. See observations 1 and 2.
2	Project Tracking	Project budgets were not updated upon completion of project design and are shared with bidders. The change order process increases risk. See observations 3, 4 and 5.
3	Low Performing Contractors	There is currently no system in place to track low performing contractors or black listed subcontractors. See observation 6.
4	Reporting	The primary means to track projects is an Excel report. See observation 7.
5	Insurance	Legal Department staff was not well versed at insurances and sureties specific to construction. See observation 8.

## **OBSERVATIONS**

### **Observation 1: Project Execution Method**

The unit price method is well suited for horizontal construction projects that can easily be grouped into major linear units such as miles (roadway) or linear feet (piping, utilities, etc.) Unit price contracts are the industry standard for horizontal construction. In isolated cases, projects have been executed using a Construction Manager at Risk (CMR) style contract with a Guaranteed Maximum Price (GMP).

### **Recommendations:**

It is recommended that the City develop a more robust method for vertical construction projects.

### **Response:**

Observation is accurate. Recommendation is agreed and implemented.

Horizontal and vertical construction project delivery methods are evaluated based on project scope, budget, delivery timelines, components (contractor disciplines) and complexity. The methods include utilization of unit price, time & material, lump sum, and guaranteed maximum price through CMAR. The use of Design-Build is limited by Title 61 Competitive Bidding Act for political subdivisions in the state and current provisions of the City of Tulsa Charter and Ordinances.

The number of opportunities to utilize GMP for vertical construction projects increased since Vision 2025 and Vision Tulsa.

**Observation 2: Project Execution Method**

Projects done for Public Private Partnerships (P3) have risks. P3 projects are attractive to public entities as they transfer risk to the private sector. If the private entity fails to fulfill their contractual obligations, the public entity is forced to take over delivery of the project. This transfers risk to the public sector entity with an increased cost. There are other risks that should be considered.

**Recommendations:**

Augment staff capabilities for managing P3 projects or outsource. The staff's efforts could include the review and validation of budgets, schedules, contracts, change orders, pay applications, insurances, close out, and auditing. This is to ensure proper diligence and fiduciary responsibility is exercised.

**Response:**

Observation is accurate. Recommendation is agreed.

Project management training and professional development hours will be emphasized in FY23. Courses through American Council of Engineering Companies (ACEC), Project Management Professional (PMP), or similar entities among others will be pursued.

Regarding, staff's efforts on P3 projects, they have capital project agreements that are standardized framework approved by the Legal Department.

The City's existing P3 agreements guide staff's efforts as noted in the recommendation. Topics addressed include, but are not limited to: budgets, schedules, subcontracts, change orders, pay applications for reimbursement or disbursement, insurances, bonds, provisions for auditing, performance, breach, claw-back provisions, and project close out. Examples of these type of agreements with fiduciary assurances are utilized in Vision 2025, Vision Tulsa, Economic Development, Retail Incentive Programs, and most currently ARPA grant projects or programs.

**Observation 3: Project Budgets and Estimates**

Project budgets are typically established prior to project design being completed. Engineering Services staff explained there is currently no process to evaluate the initial project budget to determine if the budget is still appropriate after the project is fully designed or the detailed estimates are established. The budget is only reviewed if it is exceeded by the contractor bids. Therefore, if the bids are less than the budget then the project will proceed without any revision to the budget.

**Recommendations:**

Explore a more accurate system of budget management. This would include revising the budget allocation at the time of award to more accurately reflect what the expected project cost should be.

**Response:**

Observation does not acknowledge the terms of City's funding programs. The Recommendations are in keeping with actual practice.

City funding packages are voted by the public for 5- to 7-year terms. Projects are appropriated funds over the 5- to 7-year terms. Staff is charged to implement program with oversight by the Sales Tax Oversight Committee (STOC). Enterprise funded projects (water, sewer, and stormwater) are evaluated on an annual basis and oversight is provided by Authorities, Boards, and Commissions. For cities, counties, towns, school districts, etc. once funding packages are approved by voters the budgets are set.

As various projects receive annual appropriations for design, cost estimates are generated at multiple points through the design process. Projects are designed to meet the scope and be within budget.

For funding packages (Sales Tax or General Obligation Bonds) project costs estimates are made based upon:

- Architectural-Engineering studies;
- Conceptual to preliminary design plans cost estimates;
- Historical actual costs of similar pay items or work; and/or
- Estimates of probable construction costs at time of the vote with contingencies and inflation factors applied.

**Observation 4: Project Estimate Visibility**

Engineering indicated they share project budgets with the bidding contractors prior to issuing RFPs. This was explained as both standard procedure and as a way for contractors to plan on what to bid. Further review did not show a trend of contractors being consistently above or below the budget value.

**Recommendation:**

Consider adopting a different approach that does not reveal as much to the contractors.

**Response:**

Observation is accurate. Recommendation declined. The information bidding contractors have access to is no different from information readily available to any other citizen. The project budgets are detailed as part of the City budget, funding package details, and/or included in the Tulsa Revised Ordinances which are all public information.

As project designs are developed and cost estimates become more accurate, the more refined cost estimates are not confidential and cannot be withheld. Oklahoma Statutes Title 61; Public Competitive Bidding Act of 1974; Section 116 – Disclosure of Terms of Bids; B. *The estimate of the actual cost of the project made by the public agency, construction manager or consultant for the agency shall not be considered confidential and shall be available to the public in accordance with the Oklahoma Open Records Act.*

**Observation 5: Change Order Approval Process**

Engineering Services project procedures provides instructions for executing change orders. The standard steps require authorization on the part of ES. There does not appear to be checks and balances that prevent ES or any other COT staff from abusing the change order system.

It important to note that there was no evidence in the documents reviewed that any abuses exist. This does not diminish the risk in the future.

**Recommendation:**

The following are a series of recommendations to be considered to reduce the potential risk that exists from not establishing approval levels with respect to change orders:

- a. Develop a series of approval levels based on type and size of the project
- b. Create forms for changes to non-unit price contracts
- c. Develop an internal change request screening process to discourage changes that do not support City goals

**Response:**

Observation did not incorporate the existing change order approval process.

Recommendations in principle are agreed and are consistent with procedures which are in place.

- a. Approval levels for change orders from front line staff to City Council or Authority, Board, or Commission to Mayor are in place. However, approval levels do not change based on size of project as recommended. Approval levels include Construction Inspector, Construction Inspector Supervisor, Construction Manager, Field Engineering Manager, designer of record, Design Engineering Manager, Director, City Legal, Finance, Authority-Board-Commission or City Council, and Mayor.
- b. Forms for changes to unit price contracts are established. Forms for contracts that are based on lump sum prices require an additional process of the contractor defining the schedule of values (of units) and confirmed by engineer and/or architect. The scheduled of values are evaluated to be reasonable and justifiable based on bid, pricing guides and/or recent projects. The existing standardized forms are used to document these values
- c. The approval process for change orders includes the review of scope, budget and schedule by project owner (City Department), Field Engineering, designers of record (3<sup>rd</sup> party), Design Engineering, Director/City Engineer, City Council or Authority Board and Commission, and Mayor.

**Observation 6: Contractor Award and Performance Tracking**

Contractor performance history and capability are not tracked to the extent that performance can be considered when selecting a bid.

**Recommendation:**

1. Establish a system to track issues for each contractor.
2. Track federal and state debarments, litigations and claims for contractors.

**Response:**

Observation is partially accurate. Recommendations are agreed.

Tracking systems are part of contractors being prequalified with the City. Contractors must provide information regarding failure to complete contracts or agreements, refusal to enter an awarded contract, and/or failure to qualify are part of the initial prequalification application. These same questions will be added to the annual renewal application for prequalification with the City. The revised renewal application will be presented to the Contractor Prequalification Committee in their July 2023 meeting.

Federal and some state grant funding agreements require debarment determinations. The agreements and contracts that are processed through Grants Administration require that the recipients provide proof of good standing (part of agreement) or staff researches the System for Award Management (SAM) for status.

Contractors submitting bids for capital improvement projects of value greater than \$250,000 must be prequalified with the City of Tulsa (City of Tulsa Revised Ordinances Title 11, Chapter 11. – PREQUALIFICATION OF CONTRACTORS. Contractor's performance is evaluated in accordance with the stated ordinance. A system is in place that tracks a Contractor's initial suitability.

Prequalified contractors are evaluated upon application for prequalification based on the following:

1. Financial responsibility;
2. The character, quality and availability of the contractor's equipment, machinery, and experienced personnel;
3. The performance record of the applicant in the performance of other contracts for public or private improvements;
4. The nature and extent of other contract commitments involving the use of the applicant's machinery, equipment, and personnel;
5. Reputation for reliability and integrity;
6. The recommendation of the construction manager for the public improvement when the City is the general contractor and has contracted with a construction manager for the public improvement;
7. Any other fact which would materially affect the ability of the applicant to properly, adequately, expeditiously, and satisfactorily perform such work as might be awarded to such contractor;

8. Document:

- a. Failure to complete a contract?
- b. Refusal to enter a contract awarded to you?
- c. Any officer or partner, current firm or past or under their name, that failed to complete a project?
- d. Failure to qualify as a bidder?

Litigation and claim activities alone are not a determination of a contractor's ability to perform a construction contract. Contractors in active litigation with the City or with a known entity by the staff are discussed with City Legal regarding impacts on prequalification status.



**Observation 7: Data Records**

Many records are in paper format.

**Recommendations:**

Establish a system to capture more data electronically in an organized and accessible manner.

**Response:**

Observation is correct. Recommendation are agreed and implemented.

Field Engineering has migrated paper data records to digital folders on a Microsoft SharePoint Server. This provides internal and remote access to all project files including, but not limited to Contracts, Construction Drawings, Project Meeting Minutes, Schedules, Field Daily Reports, Construction Photos, Request for Information (RFI), Shop Drawings, etc.

In addition, Engineering Services has advertised a Project Management Software program through the Purchasing Department that is currently under evaluation. This has allowed us to research the offerings of several project management software vendors, costs of service, and the pros and cons of the software.

A decision to acquire proprietary software or utilize products that exist in the Microsoft applications will be made in FY23.

**Observation 8: Insurance Requirements**

Legal staff indicated they did not have staff who had experience with construction insurances. They rely on industry standards (statutes) or City of Tulsa peers as a guide for the required contractor and consultant coverages.

**Recommendations:**

City of Tulsa to increase expertise and knowledge of relevant construction insurance and sureties. This may be done by either engaging in external experts or by identifying and training internal staff.

**Response:**

Observation is correct. Recommendation is agreed and implemented.

Additional continuous education opportunities will be conducted in FY23. The Legal Department has and does utilize external counsel, as needed, to deal with claims or litigation involving sureties.