Design and Construction Audit
FINAL Report

Prepared for:
Fort Bend Independent School District

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Introduction

The Fort Bend Independent School District (herein referred to as “FBISD,” “Fort Bend ISD,” or “the district”) contracted with Gibson Consulting Group (Gibson) to conduct a limited scope audit of the district’s construction management function. Approximately seven months into the 2023 Bond Program, the FBISD Board of Trustees (BOT) became aware that the program was nearly $130 million over budget. As a result of this overage, an audit was requested to assess the district’s program management and oversight, cost estimating processes, project cost forecasting, reporting, construction project controls, and contracting processes and procedures.

Gibson conducted this audit over a four-month period between May and September 2024. Drawing on information gathered from extant data, documents, and individual and group interviews, this report describes Gibson’s assessment of FBISD’s strengths and areas in need of improvement with respect to its construction management function and makes recommendations for FBISD to consider as it continues delivering the 2023 Bond Program and future bond programs.

Staff members and contract employees in the Design and Construction Department favorably described the department’s recent improvements in leadership and departmental culture, highlighting improvements in this important aspect over the previous year. This sentiment was shared by nearly every interviewee and is noteworthy. Additionally, Gibson learned of process changes that will be implemented going forward to mitigate the risk of using stale cost estimates. These changes include limiting the life of construction estimates to six months and obtaining a third-party estimate to verify forecasted costs. These changes have not yet been formalized but indicate a positive step and a commitment to improvement.

Gibson identified many improvement opportunities within the construction management function. The overall structure of the Design and Construction Department includes excessive spans of control, which limits oversight effectiveness. Additionally, communication in the design phase of projects is hindered by the separation of project managers and design managers. The structure of the organization was likely a contributing factor to the department’s overreliance on institutional knowledge for program management activities and bond planning, such as cost estimating steps. Documented procedures do not exist in this area, which resulted in the department being negatively impacted when the previous executive director of design and construction left the district. Additionally, at the program level, the established contingencies for a program of this size are inadequate, exposing the 2023 Bond Program to higher risks.

When analyzing project management processes, Gibson noted a lack of ongoing stakeholder engagement with campus-based positions after initial designs are completed. This can negatively impact projects, as last-minute changes are requested while projects are being completed. Further, the project and program data that is presented to stakeholders, such as the Bond Oversight Committee (BOC) and BOT, does not provide a comprehensive view of financial status. Forecasted project costs are not included in the dashboards or updates, potentially providing an outlook that is more positive than realistic. Forecasts are adjusted monthly to match current budgets instead of showing the increases or decreases that constantly occur in major construction programs.

This audit identified six recommendations to improve the Design and Construction Department at FBISD. Table 1 lists the recommendations, along with the audit team's assessment of priority.

Table 1. Summary of Audit Recommendations

No.	Priority	Recommendation
1	Moderate	Modify the Design and Construction Department's organizational structure.
2	Moderate	Document standard operating procedures (SOPs) in key design and construction areas.
3	Moderate	Modify the approach to establish contingencies on construction projects and programs.
4	Moderate	Strengthen campus stakeholder engagement during the project lifecycle.
5	High	Implement key performance measures/progress reporting to key stakeholders.
6	Low	Change the approval requirements on potential change orders (PCOs) under $10,000.

Source. Gibson Consulting Group, 2024

The remainder of this report is organized into the following sections:

- 2023 Bond Summary;
- Organization and Management;
- Bond Development; and
- Project Controls.

This report also includes an appendix containing a list of interviewees (Appendix A).

Gibson wishes to thank FBISD leadership and staff for their assistance in conducting this review.

2023 Bond Summary

The Fort Bend Independent School District 2023 Bond Program is a significant initiative with multiple primary goals:

- Enhance the quality of education by providing state-of-the-art facilities and resources;
- Ensure the safety and security of students and staff;
- Accommodate the district's growing student population; and
- Improve operational efficiency and sustainability.

By addressing these goals, the Bond Program aims to create a supportive and advanced educational environment that prepares students for future success. The improvements are expected to have a lasting, positive impact on the community, enhancing the overall educational experience within FBISD.

The Bond Program will fund major projects throughout the district, enhancing every campus in Fort Bend ISD except schools that are newly constructed. FBISD has not had a Bond Program in five years. The Facility Condition Assessment performed in 2020 and was delivered and issued in 2022 indicated around $2 billion of Priority 1 items. Priority 1 items are immediate needs in a "Must Do – Critical Replacements" category with a time frame of one to two years to complete.

Key Components of the 2023 Bond Program

The 2023 Bond Program included three propositions. Proposition A represented capital projects for design and construction, safety and security, transportation, and technology support services. Proposition B supported student and teacher technology devices. Proposition C was for a district natatorium. These three propositions were put before voters in November 2023 at a combined cost of approximately $1.26 billion. All three propositions won voter approval.

Table 2 details Proposition A, totaling $1.18 billion, 89% of which relates to design and construction, the focus of this audit.

Table 2. Proposition A – General

Project Name/Description	Amount
Design & Construction	
Briargate Elementary rebuild	$47,263,993
Mission Bend Elementary rebuild	$47,263,994
Clements High School rebuild	$222,854,405
Ferndell Henry renovations and additions	$18,000,000
Middle School 16	$82,000,000
Elementary School 55	$46,084,317

Project Name/Description	Amount
Facilities deficiencies and life cycle needs, educational adequacy deficiencies	$591,345,291
Design & Construction Total	**$1,054,812,000**
Safety & Security	
Campus intercom systems, replacement of doors and hardware, fire and intrusion alarms, and sprinkler system upgrades	$24,500,000
Security cameras	$3,050,000
Police vehicles	$1,020,000
Floor mounted door locks	$200,000
Standardized weapons and response kits	$200,000
Emergency notifications system	$175,000
Safety and security contingency	$1,000,000
Safety & Security Total	**$30,145,000**
Transportation	
35 buses	$9,725,000
New southeast area transportation center with eight mechanical work bays, compressed natural gas (CNG) fueling station, training rooms, and bus fleet parking	$19,240,000
Transportation Total	**$28,965,000**
Technology Systems	
Infrastructure	$1,512,000
Network	$62,625,000
Systems	$2,771,000
Technology Systems Total	**$66,908,000**
Proposition A Total	**$1,180,830,000**

Source. Fort Bend ISD website

Table 3 below details the projects involved in Proposition B, which consists of student and teacher devices. The total of Proposition B is $52,470,000.

Table 3. Proposition B – Student and Teacher Devices

Project Name/Description	Amount
Classroom toolset	$48,113,000
Staff computer refresh	$4,357,000
Proposition B Total	**$52,470,000**

Source. Fort Bend ISD website

Table 4 below details the project involved in Proposition C, which is the sole project of a natatorium, totaling $22,900,000.

Table 4. Proposition C – Natatorium

Project Name/Description	Amount
Natatorium	$22,900,000
Proposition C Total	**$22,900,000**

Source. Fort Bend ISD website

Subsequent to voter approval, the FBISD BOT learned that the cost of the Bond Program would be significantly higher due to price escalation, which raised questions about whether this information was known (or should have been known) and communicated prior to the bond election. The price escalation put the district at risk of not being able to complete the committed projects at the cost projections in the bond propositions. A subsequent investigation was conducted by the FBISD BOT, which concluded that the price escalation information was known to the administration prior to the election, but not communicated to the board.

The objective of this audit was to evaluate the district's systems and processes that broke down during the 2023 bond planning process and make recommendations to improve them. The board requested a specific focus on the district's construction program management and oversight, cost estimating processes, project cost forecasting, reporting, construction project controls, and contracting processes and procedures.

Timeline of Events

Overview

During the period of 2020 through 2023, there were many challenges within both FBISD and the design and construction industry that culminated in an unfortunate outcome.

Three overlapping events adversely affected the district's ability to design and price the projects of the 2023 Bond Program within the established budget:

1. The COVID-19 pandemic had a serious impact on the construction industry, resulting in increased costs of steel, drywall, and electrical switch gear, as well as issues related to availability of labor. Supply chains were broken, with critical electrical components sometimes having year-long or more lead times for critical electrical controls equipment. Costs reflected the uncertainty in the industry and spiked. The impact on costs began in 2020 and continues today.
2. The district went into a period of high staff turnover and began to lose key people. With the loss of key staff, the historical knowledge base eroded.
3. On a separate path from the day-to-day functions of the Design and Construction Department, PBK was hired to provide bond preparation services to address major facility needs. Construction industry inflation, as discussed earlier, resulted in delays in decision making. When the projects were revisited in 2023 after 18 months of inactivity, PBK was not re-consulted on cost projections.

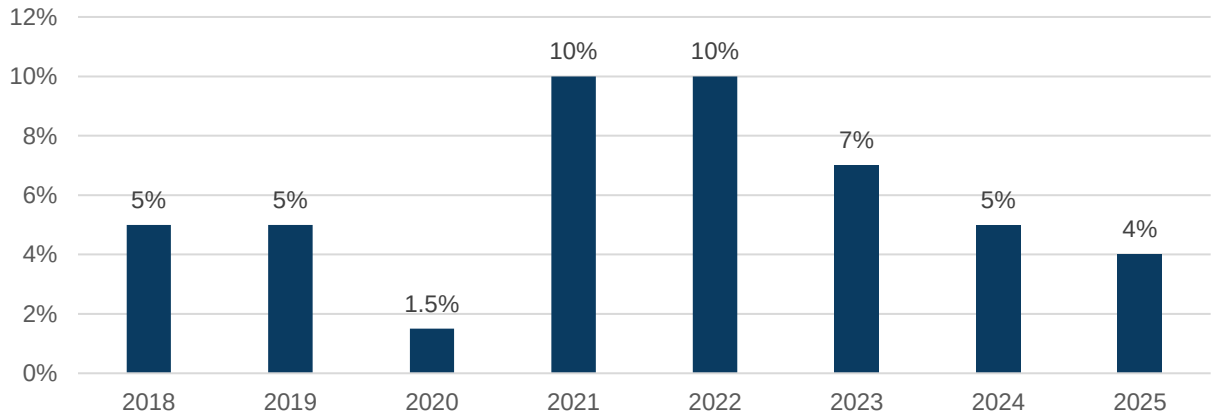
Jacobs Engineering (Jacobs), who had provided support during previous bonds, was not consulted either.

These overlapping events within construction cost inflation, district personnel turnover, and bond planning and management milestones are discussed in the sections below and displayed graphically through timelines, included as Figures 1 through 6.

Construction Events

Figure 1 shows the construction market price increases from the pre-pandemic period through the post-pandemic period, due not only to inflation rates but also worldwide supply chain issues caused by the workforce shutdowns and logistical challenges in transportation and delivery of construction materials. In both 2020 and 2021, construction prices continued to spike when compared to previous years, and now in 2024, some costs (but not all) have stabilized to pre-pandemic levels.

Figure 1. Construction Price Escalation, 2018 through 2025



Source. International Construction Market Survey 2023, Turner and Townsend

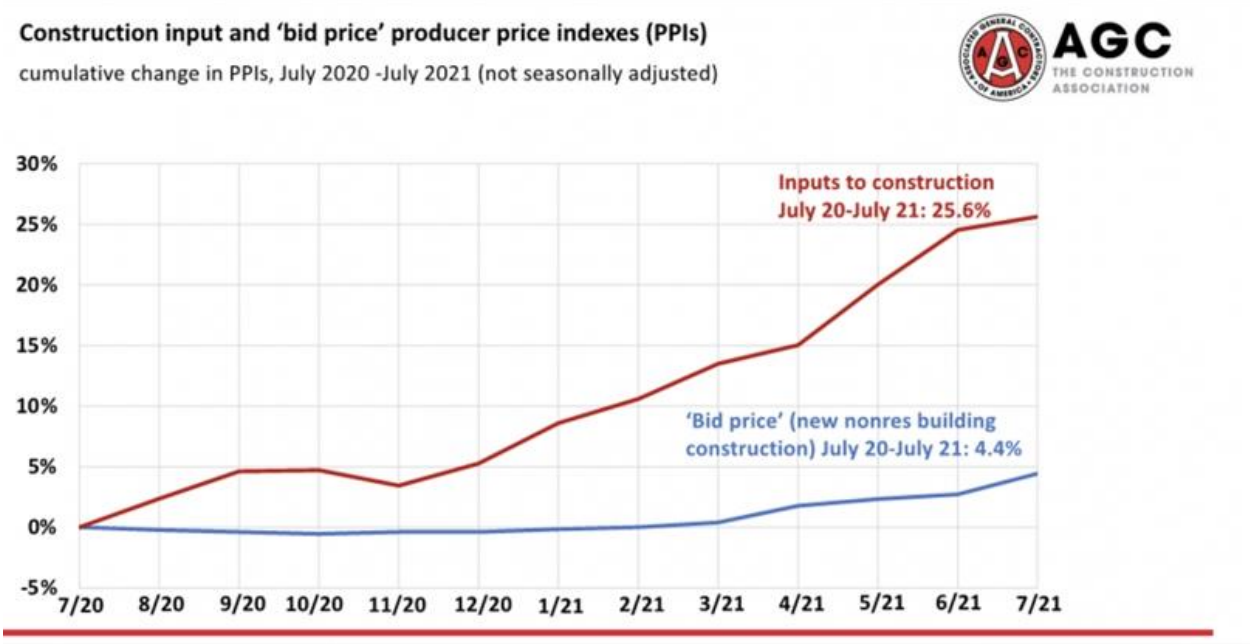
Construction activity in 2020 was at a historical low due to the COVID-19 pandemic and the lack of labor resources, as much of the world was on lockdown. Most projects that had not yet started construction activities were put on hold. When construction resumed, supply chain shortages caused construction material prices to spike, as seen in Figure 2. The Construction Material Pricing Index more than tripled between 2020 and 2022.

Figure 2. Construction Activity and Material Prices, 2017 through 2022

Source. Office for National Statistics (ONS), IHS Markit, Markit Economics

As shown in Figure 3 below, between July of 2020 and July of 2021, inputs to construction (e.g., labor, fuel, materials, equipment, etc.) more than doubled, showing a producer price index (PPI) of 25.6%. During this same time, bid prices only rose 4.4%. The gap between the input prices and bid prices indicates that projects were being consistently underbid, which would eventually result in large project overages.

Figure 3. Construction Input and "Bid Price" Producer Price Indexes, July 2020 through July 2021



Source. Associated General Contractors (AGC), The Construction Association

Specific to Texas K-12 construction, costs increased year-over-year between 2020 and 2022, as shown in Table 5 below. The increases in K-12 construction were more pronounced than the general construction price escalation included in Figure 1. As a note, sufficient data was not collected for high school construction, as such cost increase information was not published.

Table 5. Annual Cost Increase, K-12 Texas Construction

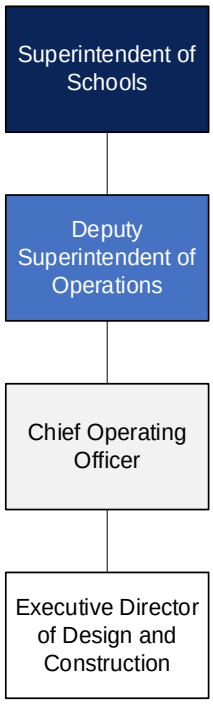
	2020	2021	2022
Elementary School	1.0%	8.7%	16%
Middle/Junior High School	-5.0%	9%	51%
High School	N/A	N/A	N/A

Source. Durotech Inc., Texas market-wide cost survey

Personnel Changes and Bond Events

The Design and Construction Department is three organizational levels below the superintendent. A high-level organizational chart is included in Figure 4. The superintendent of schools oversees the deputy superintendent of operations. The deputy superintendent, in turn, oversees the chief operations officer (COO). The chief operations officer oversees the executive director of design and construction. These positions make up the executive leadership at FBISD, who are tasked with overseeing the Design and Construction Department as well as the 2023 Bond Program.

Figure 4. Excerpt of Organizational Chart, Leadership Level, FBISD



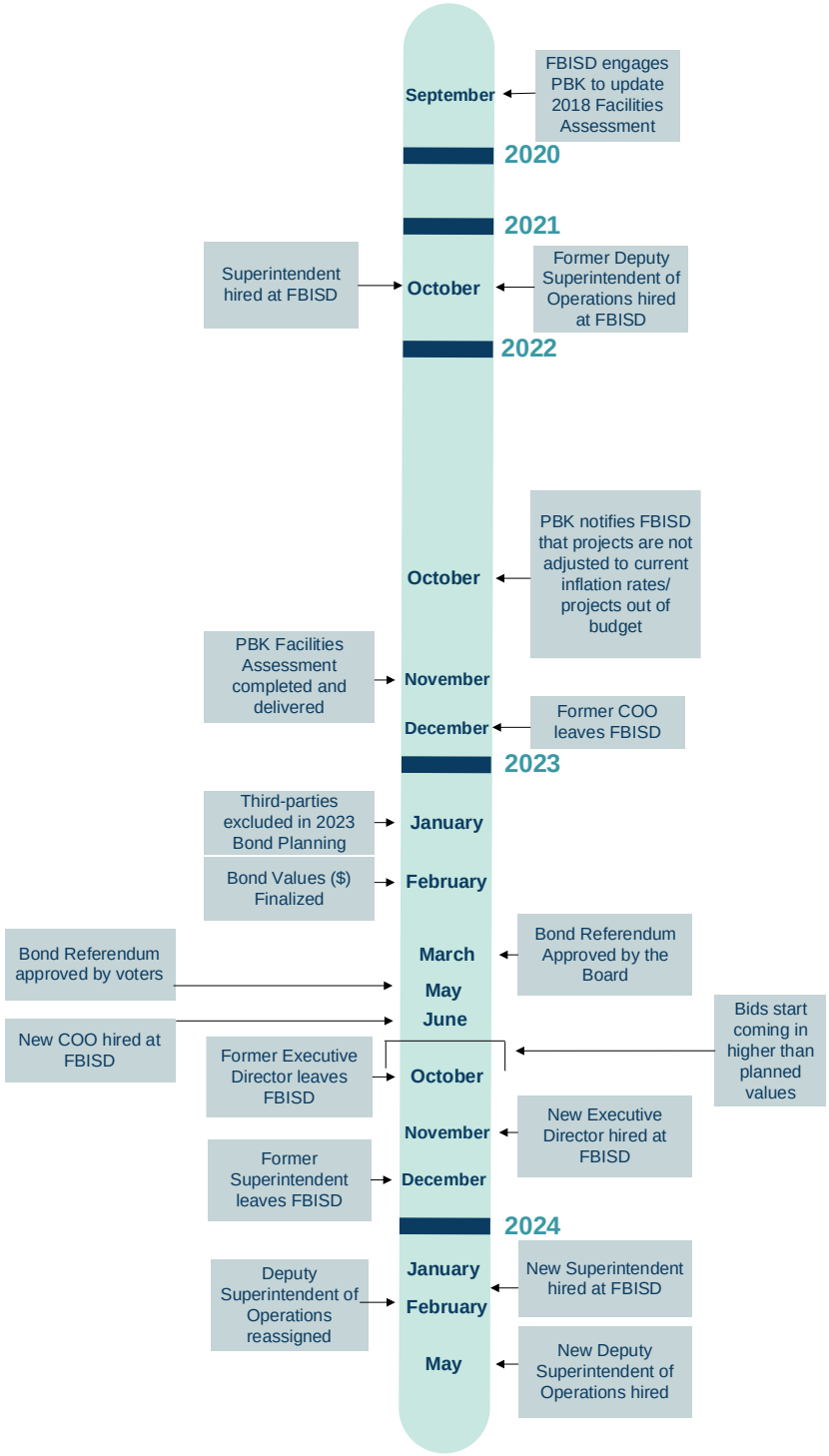
Source. Gibson's analysis, confirmed via interviews

Since 2022, FBISD has experienced significant personnel and consultant role changes. Figure 5 outlines the timeline of these transitions, which are discussed further immediately below.

In September 2020, FBISD engaged PBK to update the 2018 Facilities Assessment. While PBK was performing their assessment, staffing changes within FBISD began to occur. A deputy superintendent was hired, and oversight of the construction function fell within their responsibilities through their supervision of the chief operating officer. The Facilities Assessment draft was updated and delivered by PBK to FBISD in November of 2022, with the final report being published in May of 2023. In October 2022, PBK notified the district that the costs of planned projects were not adjusted to reflect market (post-COVID) price escalation.

FBISD began using Jacobs as a program manager in March of 2015 for the 2014 Bond Program. In the 2018 Bond Program, PBK was contracted to provide bond planning services. In January of 2023, neither Jacobs or PBK were included in bond planning responsibilities for the 2023 Bond Program. Jacobs does provide staff augmentation services, including project managers, project controls staff, estimators and scheduling staff, and administrative support. In June 2023, the current COO was hired, leaving their previous executive director of facilities position within FBISD. Subsequently, in February 2023, the values for the 2023 bond were finalized, and the BOT approved the referendum in March 2023. Requests for proposals and bid packages were then developed and solicitated. In October 2023, the previous executive director of design and construction left the district, and bids for projects were first received. These bids were significantly higher than the project values included in the 2023 bond referendum. The current executive director of design and construction was hired in November 2023, one month before the previous superintendent of schools left the district. Additional leadership changes occurred in the early months of 2024.

Figure 5. Personnel Changes and Bond Timeline



Source. Developed by Gibson Consulting Group, 2024

The construction industry figures and FBISD timeline of events (Figure 5) should be viewed as important context for the remainder of this report. Unprecedented labor shortages and material cost increases, coupled with modifications to bond planning approaches and loss of key personnel within the district,

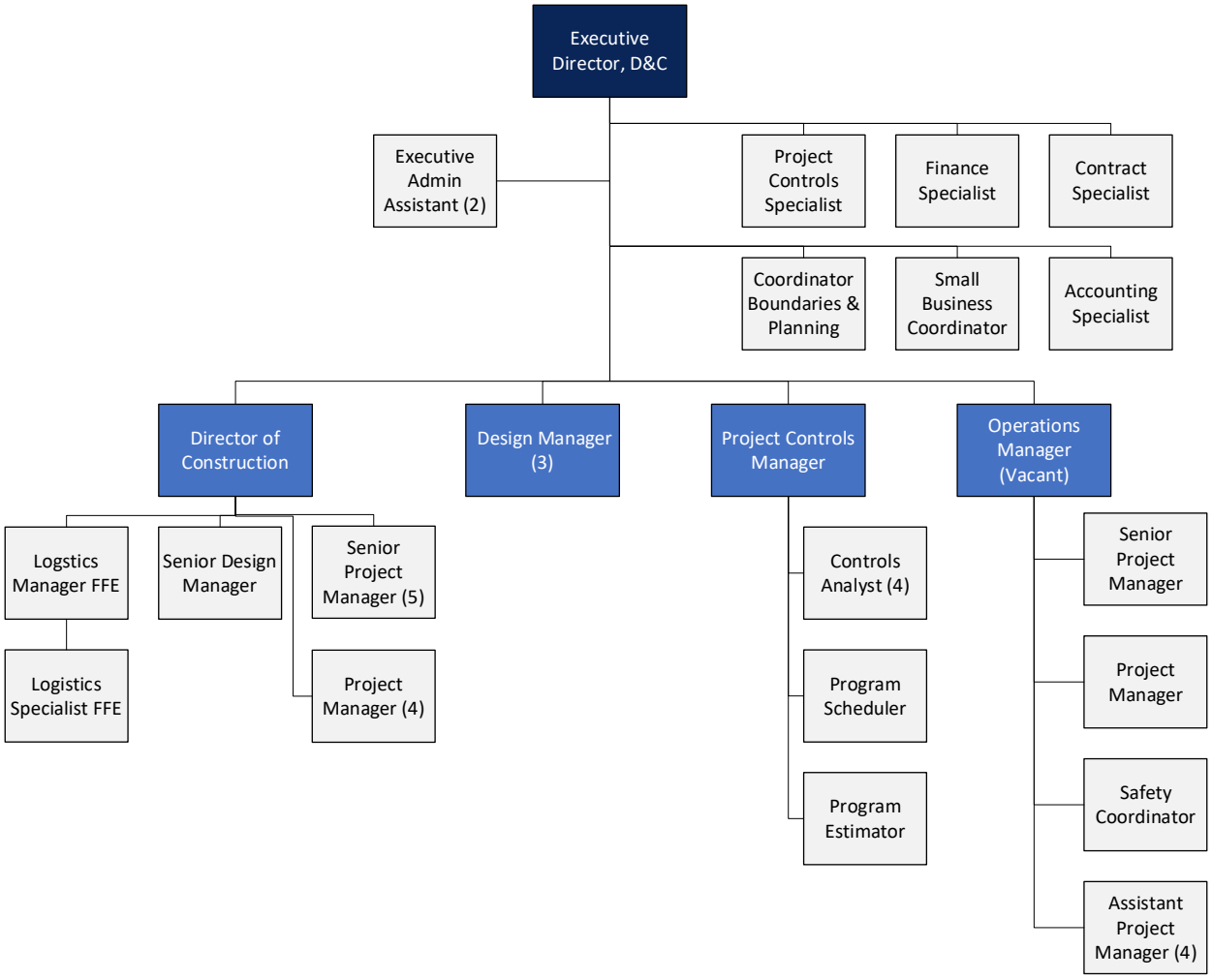
created a difficult environment for controlling project and program costs. These difficulties were not only experienced by FBISD, but the entire design and construction industry, as indicated in the discussion of construction industry data.

Organization and Management

Finding 1: The current organizational structure lacks effective oversight and clarity.

The Design and Construction Department is led by an executive director and is supported by a director of construction, three design managers, an operations manager, and a project controls manager. Figure 6 presents the organizational chart as of June 2024.

Figure 6. Design and Construction Organizational Chart



Note. As the Operations Manager position has been vacant, the Senior Project Manager temporarily reports to the Executive Director, the Project Manager temporarily reports to the Director of Construction, the Safety Coordinator temporarily reports to the Executive Director of Design and Construction, and the Assistant Project Managers temporarily report to a Design Manager.

Source. Gibson Consulting Group, developed from FBISD Design and Construction Department organizational chart materials, 2024

To confirm the reporting relationships, the audit team compared the supervisory relationships included in the job descriptions and discussed in interviews to those included in the provided organizational chart. The

results of this analysis are presented in Table 6, showing the discrepancies within supervisory relationships in the job descriptions, interviews, and organizational chart. Discrepancies such as these can create confusion and limit accountability for staff.

Table 6. Comparison of Reporting Relationships

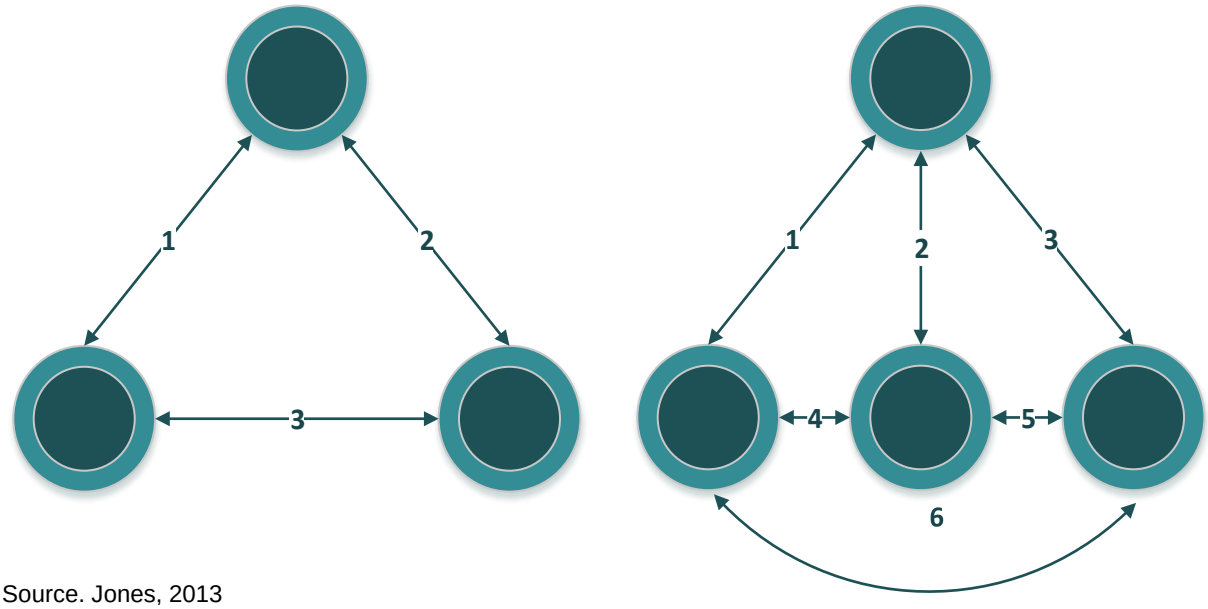
Position Title	Supervisor per Job Description	Supervisor per Interviews	Supervisor per Organizational Chart
Logistics Specialist FFE	Logistics Manager FFE	Logistics Manager FFE	Director of Construction
Senior Project Manager	Executive Director, Design and Construction	Director of Construction/ Operations Manager	Director of Construction/ Operations Manager
Project Manager	Director of Construction	Director of Construction/ Operations Manager	Director of Construction/ Operations Manager

Source. Gibson Consulting Group based on job descriptions, interviews, and organizational chart, 2024

The current organizational structure in the Design and Construction Department has inefficient spans of control for various supervisory positions. Span of control refers to the number of direct reports to a supervisory position. Several factors can affect organizational span of control, including the degree of complexity or homogeneity of the reporting functions, the size (in terms of personnel and/or spending) of the reporting functions, and physical location of staff.

Each staff member that is added to a manager's span of control results in an exponential increase in the number of relationships that must be managed. For example, if a manager has direct oversight over two positions, that manager is managing three day-to-day relationships. However, when one additional staff member is added as a direct report, the manager is now managing six day-to-day relationships. Figure 7 demonstrates this concept.

Figure 7. The Increasing Complexity of a Manager's Job as Span of Control Increases



Source. Jones, 2013

The Stieglitz Method[1] offers six factors that affect span of control. These factors are described briefly below. The first four relate more to the subordinate positions and functions; the last two relate to the supervisory position and related time demands. Variables are scored or weighted using different scales based on their relative importance to the overall scoring.

- **Similarity of Functions (Factor A)** – this refers to the degree to which subordinate positions are similar or different. As the differences increase, the span of control decreases. This factor suggests that a supervisor over bus drivers can and should have a higher span of control than a chief officer over several different operational areas.
- **Spatial Spread of Subordinates (Factor B)** – this factor refers to the geographic dispersion of the subordinates and their related units that report to a supervisor. While technology has helped reduce the impact of spatial dispersion, the geographic separation of functions makes them more difficult to supervise. Accordingly, the higher the geographic dispersion, the lower the span of control.
- **Complexity of Functions (Factor C)** – this variable relates to the nature of duties being performed by subordinate positions and the degree of difficulty in performing them in a manner that meets or exceeds expectations. Generally, the greater the complexity, the lower the span of control.
- **Staff Qualifications (Factor D)** – this factor refers to the quality of skills in the subordinate position and the requisite need to closely or loosely supervise. The higher the quality of skills in the subordinate position, the higher the span of control, since less time is needed to oversee these positions.
- **Coordination (Factor E)** – this variable relates to the supervisory position itself, and the extent to which the supervisor must work to foster coordination among the units in achieving common goals. The more time the supervisor needs to foster coordination, the lower the span of control.
- **Planning (Factor F)** – this factor refers to the time requirements of the supervisor in working with subordinate units to establish plans and budgets for the subordinate units. Consideration is given to the seasonal nature of planning, as well as the ability to lean on subordinate positions to conduct most of the planning and budgeting efforts on their own. Accordingly, as the time requirements for the supervisor increase, the span of control decreases.

Under this method, each of the above factors are assigned load points based on a subjective ranking using the above definitions. Values are used to quantify the supervisory capacity for each factor and, when combined, are used to provide a desired range of the number of direct reports a management position should have. Table 7 presents the scoring framework under the Stieglitz Method.

Table 7. Degree of Load on a Manager Matrix

Factor	Degree of Load				
Similarity of Functions (A)	Identical	Strikingly Similar	Similar	Fundamentally Different	Completely Different
	1	2	2	4	5

[1] Organization – A Guide to Problems and Practice, John Child, 1984.

Factor	Degree of Load				
Spatial Spread of Subordinates (B)	All Together	All in One Building	On the Premises	Spread in the City	Spread in the Country
	1	1	2	4	5
Complexity of Functions (C)	Simple, Recurring	Routine	Complicated	Very Complicated	Very Complicated and Diverse
	2	4	6	8	10
Staff Qualifications (D)	Minimum of Hints and Control	Limited Supervision	Periodic Supervision and Control	Frequent Systematic Control	Frequent Systematic and Strict Control
	2	6	9	12	15
Coordination (E)	Minimum Contacts	Limited Contacts	More Contacts	Permanent Contacts in Case of Serious Problems	Broad Unrepeatable Contacts
	2	4	6	8	10
Planning (F)	Minimum	Limited Range	Bigger Range	Considerable Range	Wide Range
	2	4	6	8	10

Source. Organization – A Guide to Problems and Practice, John Child, 1984

Table 8 shows the scale aligning the number of load points to the range of the number of direct reports a manager should have.

Table 8. Alignment of Load to Number of Direct Reports

Load in Points	40-42	37-39	34-36	31-33	28-30	25-27	22-24
Number of Direct Reports	4-5	4-6	4-7	5-8	6-9	7-10	8-11

Source. Organization – A Guide to Problems and Practice, John Child, 1984

It is important to note that the above ranges – and span of control in general – excludes clerical or administrative support staff reporting directly to the leadership position.

Table 9 below includes a span of control analysis completed by Gibson using the Stieglitz Method. As seen in the last column, “Actual Oversee,” the executive director of design and construction and the director of construction are overseeing many more employees than the Stieglitz Method recommends.

Table 9. Span of Control Analysis Results of Current Organizational Chart

Position Title	Factor A	Factor B	Factor C	Factor D	Factor E	Factor F	Total	Should Oversee	Actual Oversee
Executive Director, Design and Construction	4	1	8	9	6	6	34	4 to 7	12
Director of Construction	2	1	4	9	6	6	28	6 to 9	13

Source. Gibson Consulting Group, 2024

Based on the provided organizational chart in Figure 6, the executive director has 14 direct reports and the director of construction has 13 direct reports. Regardless of the differences between interviews, job descriptions, and the provided chart, span of control issues remain. There are multiple negative impacts of a narrow span of control:

- Communication bottlenecks, as information must pass through multiple levels, potentially leading to delays, misinterpretations, or loss of important details;
- Slower decision-making, as more layers cause decisions to take longer to reach the appropriate level for actions;
- Inefficient use of managerial talent, as managers overseeing fewer people may not be utilizing their full potential or skill set; and
- Overall inefficiency due to the managers spending more time on administrative tasks and less on strategic planning or decision-making.

Gibson notes that the operations manager position has been vacant since January 2024. This vacancy has impacted clarity of roles and oversight effectiveness.

In addition to the number of direct reports the executive director and director have, the alignment of the department could create communication gaps within the department. The audit team notes a primary reporting structure where supervisory relationships do not align to departmental needs. Design managers (DMs) currently report to the executive director, which includes an unnecessary divide between senior project managers (SPMs) and project managers (PMs). The reporting relationships of the design managers creates a risk that SPMs and PMs learn about design issues too late in the process. To mitigate this risk, the department implemented a procedure where DMs and PMs are expected to attend every design meeting, which occur at least bi-weekly, with the architect. Gibson reviewed meeting minutes for the following bid packages:

- Briargate ES Rebuild
- Mission Bend ES Rebuild
- Clements HS Rebuild
- Marshall HS Renovations
- Hightower HS Renovations

All projects included evidence of both the Design Manager and Project Manager attending each design meeting.

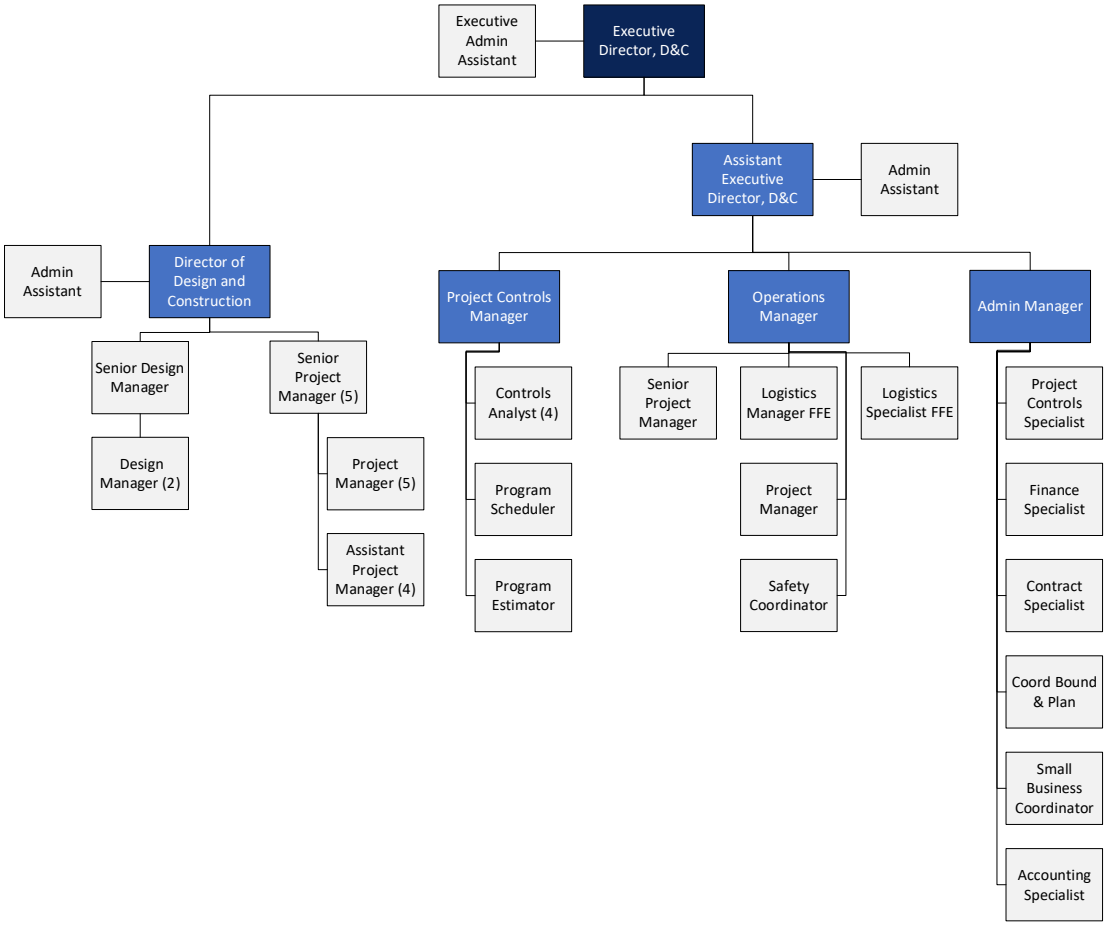
The steps taken by administration to implement requirements for DMs and PMs to attend weekly meetings is positive. However, Gibson notes that the risk of communication issues between DMs, SPMs, and PMs should be further mitigated.

Further, the excessive supervisory responsibilities placed upon the Executive Director position limits the time that can be given to other important aspects of the role, such as monitoring program risks, reporting status and progress, and educating the BOT and public about the 2023 Bond program.

Recommendation 1: Modify the Design and Construction Department's organizational structure.

Gibson recommends modifying the organizational structure as outlined in Figure 8 below. An Assistant Executive Director would alleviate span of control concerns for the Executive Director position, allowing for a higher focus on reporting, monitoring, and communication for the 2023 Bond program. This role could either be posted or acquired through staff augmentation. The audit team recommends targeting an individual with many years of capital projects and bond program management experience. A team approach should be used for SPMs, meaning they would oversee PMs and assistant PMs. Also, an administrative manager should be added to oversee the staff currently performing administrative functions in the department (e.g., small business programs, accounting and finance, contract specialist, etc.). Improving the alignment of the department with project needs should be accomplished by assigning design managers to support SPMs or PMs. In order to make the organizational chart more presentable, Gibson consolidated the positions and used current staffing levels, with the exception of adding the administrative manager.

Figure 8. Proposed Organizational Chart, FBISD Design and Construction



Source. Gibson Consulting Group, 2024

The proposed changes would correct span of control issues and increase communication among design managers, SPMs, and PMs.

To facilitate this change, administration should first modify job descriptions to reflect new supervisory responsibilities. Additional training will be necessary for individuals who now have direct reports. Existing process documentation should also be updated to reflect new communication protocols based on the organizational structure.

Gibson notes that these were the observations as of June 2024. However, after further discussion with FBISD management, organizational changes have begun as of October 2024, that in part resolve some of these issues.

Management Response: *Management partially agrees with this recommendation. We concur the span of control should be widened. However, Gibson's recommended revisions to the department's organizational structure does not fully align with the complexity, supervision, and needs of the multiple bid packages assigned to various individuals, and it does not take full advantage of our personnel's strengths, experience, and mentoring capabilities. Management has developed and begun implementation of an alternative*

departmental organizational structure. Our alternative organizational structure differs from the Gibson recommendations in the following ways:

- *The Assistant Executive Director position has been omitted in our alternative organizational structure. We intend for the Director of Construction to support the Executive Director and provide leadership to other senior department members, similar to the role recommended for the Assistant Executive Director in the audit report.*
- *The Operations Manager position has been replaced with 2 new positions, Senior Construction Managers, in our alternative organizational chart. Both Senior Construction Managers (1 from FBISD and 1 from Jacobs) will report directly to the Director of Construction. The Project Managers—Bond and the Safety Coordinator will report directly to the FBISD individual. The individual from Jacobs will oversee and mentor the Assistant Project Managers.*
- *Like the Gibson recommended departmental structure, the Senior Project Managers—Bond will report directly to the Director of Construction in our alternative organizational structure.*
- *In our alternative organizational structure, the Senior Design Manager shown in the Gibson organizational chart will report directly to the Executive Director. However, in lieu of the Gibson recommended reporting structure for this position, the Design Managers, the Logistics Manager, the Coordinator for Boundaries and Planning, as well as the Senior Project Manager—Non-Bond will all report to the Senior Design Manager.*
- *A few other differences in our alternative departmental structure include having the Logistics Specialist report to the Logistics Manager, and the Project Manager—Non-Bond report directly to the Senior Project Manager—Non-Bond. Also, the Project Controls Manager and the Administrative Manager will report directly to the Executive Director in our alternative organizational structure.*

We incorporated the other organizational elements and improvements recommended in the audit report into our alternative organizational structure. The goal is to fully implement this our alternative organizational structure by the end of the 1st Quarter 2025.

Finding 2: Program management activities, especially within cost estimation for bond planning, overly relied on institutional knowledge.

The investigative report[2] provided to the FBISD BOT outlined that the selected architect/engineering (A/E) firm worked primarily with the previous executive director of the department on the bond issue. As referenced in the timeline included in Figure 5, cost estimating for bond planning, bond selling, and issuing project solicitations occurred during a transitional and volatile period in the construction industry and within a difficult period for the district. The district did not effectively use the best resources available to them. When the previous executive director left the district, there were no documented internal processes for bond planning cost estimating and projection. Additionally, the previous program management support provided by Jacobs was relegated to a staff augmentation approach, which exacerbated the knowledge gap that occurred with the departure of the previous executive director.

[2] https://www.fortbendisd.com/site/handlers/filedownload.ashx?moduleinstanceid=351728&dataid=206703&FileName=InvestigationReport2023Bond.pdf.

The audit team requested all SOPs used by the department. FBISD provided a Project Management Guide, which is consistently updated and appears to be robust. Departmental interviews expressed that this guide is very useful and organized. However, FBISD did not provide any documentation related to bond planning cost estimating or managing relationships with third-party program managers. Interviews provided additional information that there is a lack of documentation in these areas. This documentation gap led to FBISD's inability to determine how cost estimates from PBK resulted in the amounts included in the bond book.

Recommendation 2: Document standard operating procedures (SOPs) in key design and construction areas.

FBISD needs to document SOPs in areas where they do not currently exist. Gibson has identified cost estimation for bond planning and program management activities in conjunction with third parties as areas requiring formalization and documentation. FBISD should conduct an internal analysis to identify any further documentation gaps and prioritize their development accordingly. Thorough SOPs, similar to the Project Management Guide, would mitigate the risks associated with turnover of key positions and better use resources.

Management Response: *Management agrees with this recommendation. D&C will develop SOPs for Bond Planning and Execution Strategies for future capital facilities improvement program (bond) planning. Also, the current SOPs will be expanded to address program management activities with third parties. These changes and updates to our SOPs will be completed and adopted by the end of the 3rd Quarter 2025.*

Bond Development/Contingency Management

Finding 3: The current approach to establishing program- and project-level contingencies has not sufficiently addressed market fluctuations and other factors.

Analysis of individual project cost sheets indicates an overall contingency at a "project level" to be approximately 5% in their estimates and a program level contingency at $5M. With market data hovering around 25% increases in projections at the time, it is not surprising that the district found itself in a difficult position. Insufficient contingencies increase the district's risk exposure on the Bond Program, as sufficient funding may not be available to perform the work outlined in the Bond Book, as adopted by voters.

Recommendation 3: Modify the approach to establish contingencies on construction projects and programs.

In preparation for future Bond Programs, it is recommended that a careful focus on contingencies be developed. During the concept phase, future projects should carry design contingency for schematic and design development phases of the project, a minimum 15% construction contingency, 4% contingency for future contract growth, as well as 8% to 10% program-level contingency. Additional funds should be allocated for management support for the bonds, which could be earmarked as a separate project.

If carrying appropriate contingencies is not feasible, a two-tiered project list could be established in which necessary projects would account for approximately 70% of the future bond value, and the remaining 30% of funds could be listed as potential projects. Potential projects are projects that only become "live" projects after necessary projects are designed, bid out, and have a predictable outcome. Reporting would only forecast potential projects if it was determined that sufficient funds to complete them were remaining after commitments were made on necessary projects.

Management Response: *Management agrees with this recommendation. The district established a more robust Bond Program Contingency in October 2024. Our new procedures and approaches for establishing contingencies on construction projects and programs will be documented in the Bond Planning and Execution Strategies SOPs referenced in our response to Recommendation No. 2. Those SOPs are scheduled to be completed by the end of the 3rd Quarter 2025.*

Project Controls

Finding 4: Requirements for campus stakeholder engagement in the project management process are inadequately documented.

Campus project stakeholders typically include principals and department heads. However, in the FBISD Design and Construction Procedure Manual[3], there are only formally documented engagement requirements for principals. Campus project stakeholders need to be engaged in all phases of a project to be kept informed of any project risks and to ensure that they will be ultimately satisfied with the work upon completion. Engagement also mitigates risks for the district, as informed stakeholders are less likely to request modifications late into the project lifecycle. Typically, stakeholders are included in certain project owner and design meetings. These meetings are facilitated by the architect, or in some cases a designated stakeholder engagement person, who maintains minutes, and includes participation by project managers, contractors, program managers, and campus leadership. The exact information covered in these meetings will vary depending upon the project phase; however, the purpose is to provide status updates, discuss risks and potential changes, and provide a space for communicating any concerns or issues in a standard, repeatable way.

The district has standard meetings with their architects, project managers, and contractors. Meeting requirements are specified in the Procedure Manual. Excerpts of the manual are included in Appendix B. Section 2.01 of the manual specifies that a principal introductory meeting shall occur in the pre-design phase, after an architect/engineer firm has been selected. Another meeting is required during the scope to budget validation phase. According to the 'Design Checklist' included in the manual, principals are expected to be included in meetings during the following design phases:

- Schematic Design Phase (construction cost limitation exceeds $2.0 million);
- Design Development Phase;
- Combined Schematic Design and Design Development Phase (if applicable);
- 50% Construction Documents; and
- 90% Construction Documents.

During the construction phase, principal meetings are not explicitly required in the Procedure Manual. Instead, as outlined in the 'Construction Checklist,' project managers are required to "keep school principals informed at least on a monthly basis."

However, during interviews, the audit team learned that principals are not always involved in the meetings outlined in the Procedure Manual, and that this has resulted in late change orders, some actually issued after projects reach substantial completion, as established in construction contracts. Gibson performed tests over stakeholder engagement in a sample of projects. The first test was completed to verify that principals were included in meetings as outlined in the FBISD Design and Construction Procedure Manual.

[3] The FBISD Design and Construction Procedure Manual Section 1-5 and associated references, January 7, 2019, last updated June 1, 2024.

The second test to verify that meetings have occurred in accordance with contractual terms. Formalizing stakeholder engagement throughout the construction process will lead to better project acceptance at completion of projects and minimize last-minute changes to the work.

Audit Testing: Test 1 – Stakeholder Engagement Review

The purpose of this test is to assess whether principals were appropriately involved in design phase and construction document phase meetings. The objective is to ensure that key stakeholders were consulted and that their inputs were considered throughout the decision-making process.

Test Approach

- Gibson obtained access to Kahua Project Management Information System (PMIS), which captures all construction phases, meetings, project communications, and agenda items;
- Judgmentally selected five project samples for testing;
- Examined meeting records within Kahua;
  - Determined if principals were present at any of the design phase meetings **(Test 1)**; and
  - Determined if regular meetings were scheduled for each project to address the different phases of construction **(Test 2)**.

Test Results

- Please refer to Table 10 below. “P” indicates that the sample passed the test; “F” indicates that the sample failed the test; and “N/A" indicates that the test was not applicable for the sample or could not be performed.

Table 10. Stakeholder Engagement and Meeting Frequency Results

Sample	Project	Phase	Test 1	Test 2
1	Briargate ES Rebuild	Construction	F	P
2	Mission Bend ES Rebuild	Construction	F	P
3	Clements HS Rebuild	Construction	P	P
4	Marshall HS Renovations	Procurement	P	P
5	Hightower HS Renovations	Design Development	F	N/A

Source. Gibson Consulting Group, 2024

- **Test 1 – Principals were present at any of the design phase meetings.**
  - Two out of five project samples included evidence of principals’ participation in a design meeting.
  - Three out of five project samples failed this test, as principal participation could not be found on Kahua.

- Though technically exceptions based on the Procedure Manual requirements, campus stakeholders were included in pre-design and design meetings for Briargate and Mission Bend. Principals were included in community meetings and other departmental stakeholders were included in design meetings, based on evidence reviewed by the audit team.

- **Test 2 – Regular meetings were scheduled for each project to address the different phases of construction.**
  - Four out of five sample projects had routine, scheduled meetings to discuss the projects' status during their construction phases.
  - This test could not be performed for Hightower, as the latest meeting date on Kahua was March 25, 2024. It is likely that further meetings were performed, as design development documentation packages were fully executed in August 2024. However, these have not been uploaded to Kahua and could not be assessed by Gibson.

After reviewing these five construction projects, with three of the projects consisting of school rebuilds, it was noted by Gibson that only two out of the five projects included evidence of principal involvement. Further, requirements for other campus stakeholder engagement (e.g., assistant principals, department heads) are not included in the procedures manual. The lack of documentation of requirements and evidence of meetings through the project lifecycle, the district is at risk for late change orders and the associated negative financial implications that arise from late change orders.

Recommendation 4: Strengthen campus stakeholder engagement during the project lifecycle.

The district should improve campus stakeholder engagement in three ways. Meetings with principals should be instituted during the construction phase, strengthening the requirement from "keep school principals informed at least on a monthly basis." Requirements for other campus positions such as assistant principals and department leaders should be documented as well. Modifications to the principal and other campus stakeholder requirements should be reflected in the Procedures Manual and meeting templates should be created. Additionally, this new requirement and existing requirements should be enforced. The Design Checklist and Construction Checklist could be digitized and included in every project within Kahua. This would increase accountability for project managers and A/E firms and allow for simple auditing of project files.

Management Response: *Management partially agrees with this recommendation. The district established a more robust Bond Program Contingency in October 2024. Our new procedures and approaches for establishing contingencies on construction projects and programs will be documented in the Bond Planning and Execution Strategies SOPs referenced in our response to Recommendation No. 2. Those SOPs are scheduled to be completed by the end of the 3rd Quarter 2025.*

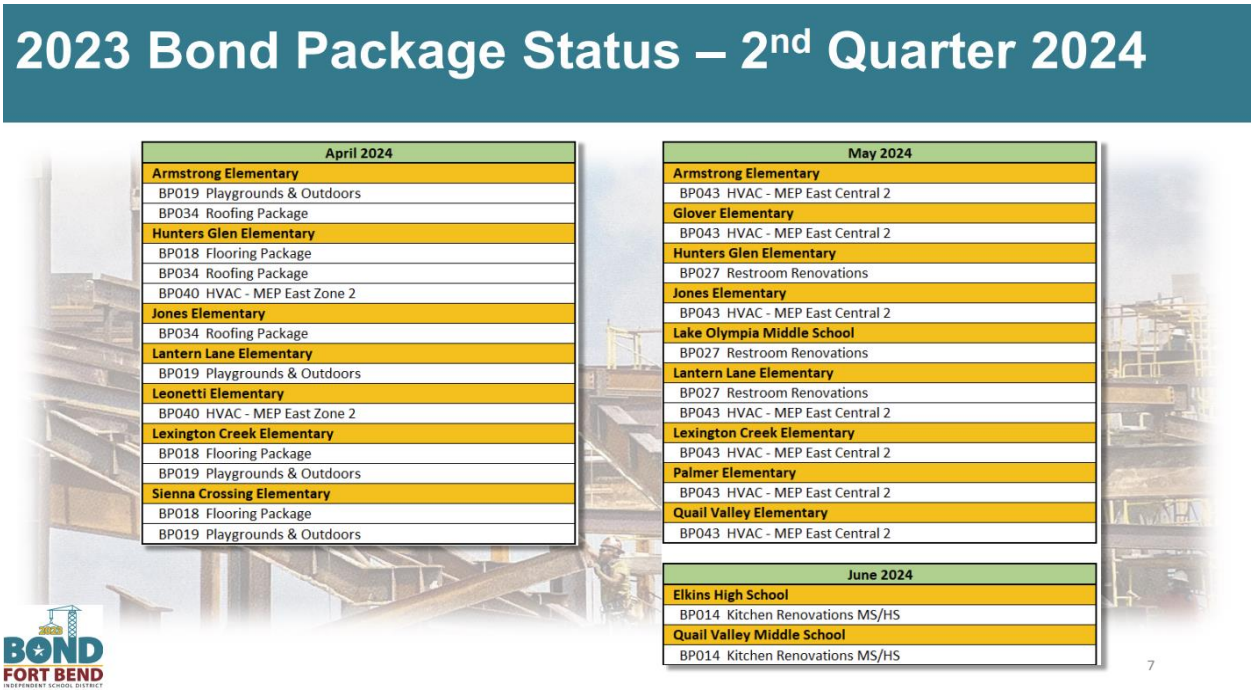
Finding 5: Progress reporting does not accurately reflect forecast of completion.

Currently, the department employs multiple methods for progress reporting. Quarterly, a report is made to the Bond Oversight Committee (BOC), while each month the 2023 Bond Dashboard for the BOT and the separate Community Dashboard are updated. Additionally, monthly updates to the BOT began in March 2024.

On a quarterly basis, members of the construction and design teams, along with district administrative personnel, meet with the BOC to review the progress and financial status of various construction projects. During a recent meeting on April 18, 2024, district personnel provided updates on both the 2018 and 2023 Bond Programs, highlighting construction progress at multiple schools and discussing various bond packages. The audit team summarized the meeting below:

The timeline for bond packages was presented, along with a comparison of the board-approved bond budget and the latest estimates. The budget includes soft costs, which cover bond support and must be capitalized within the budget. The Design and Construction Department is focused on reducing overage costs through value engineering, ensuring that projects maintain their planned quality. By beginning this process early, the district is maximizing bond funds, considering both immediate and long-term costs. One example of value engineering involves the procurement of mechanical and electrical components – by sourcing similar-quality materials from alternate vendors with shorter lead times, the district can cut labor costs and achieve overall savings. Figure 9 below gives an overview of bond packages that will have activity in the second quarter.

Figure 9. FBISD April 28, 2024 Meeting BOC Presentation (Excerpt 1)



Source. FBISD BOC Presentation

Figure 10 was included to demonstrate the effect of the district's value engineering efforts and use of contingencies to reduce the $163.2 million deficit.

Figure 10. FBISD April 28, 2024 Meeting BOC Presentation (Excerpt 2)

2023 Bond: Closing the Gap

Major Projects ($M)	Bond Budget (Board Approved)	February 2024	March 2024	April 2024
Briargate ES Rebuild	$ 48.3	$ 61.1	$ 55.3	$ 55.3
Mission Bend ES Rebuild	$ 51.8	$ 61.1	$ 51.8	$ 51.8
Clements HS Rebuild	$ 237.0	$ 249.4	$ 260.7	$ 260.7
Ferndell Henry Reno & Adds	$ 20.4	$ 18.0	$ 21.2	$ 22.8
Middle School 16	$ 87.3	$ 106.5	$ 90.6	$ 90.6
Elementary School 55	$ 50.8	$ 55.8	$ 62.1	$ 62.1
Aquatic Practice Facility	$ 22.9	$ 27.4	$ 27.4	$ 27.4
Transportation Facility	$ 23.0	$ 19.7	$ 23.7	$ 24.3
Major Projects Subtotal:	**$ 541.4**	**$ 599.5**	**$ 592.9**	**$ 595.0**
Renovation Packages	$ 571.3	$ 676.4	$ 623.3	$ 595.0
Design & Construction Total:	**$ 1,112.7**	**$ 1,275.9**	**$ 1,216.2**	**$ 1,190.0**
Difference:		**$ (163.2)**	**$ (103.5)**	**$ (77.3)**

9

Source. FBISD BOC Presentation

Figure 11 is a general summary of available program contingency.

Figure 11. FBISD April 28, 2024 Meeting BOC Presentation (Excerpt 3)

Bond Programs Contingency Summary

Program Description	January 2024	April 2024	Comment
Bond 2014	$10,637,424	$10,637,424	Set aside for CTE program Development
Bond 2018	$3,389,414	$ 4,504,717	Available to date
Bond 2023	$ 5,002,040	$ 5,735,522	Available to Date

As of April 8, 2024

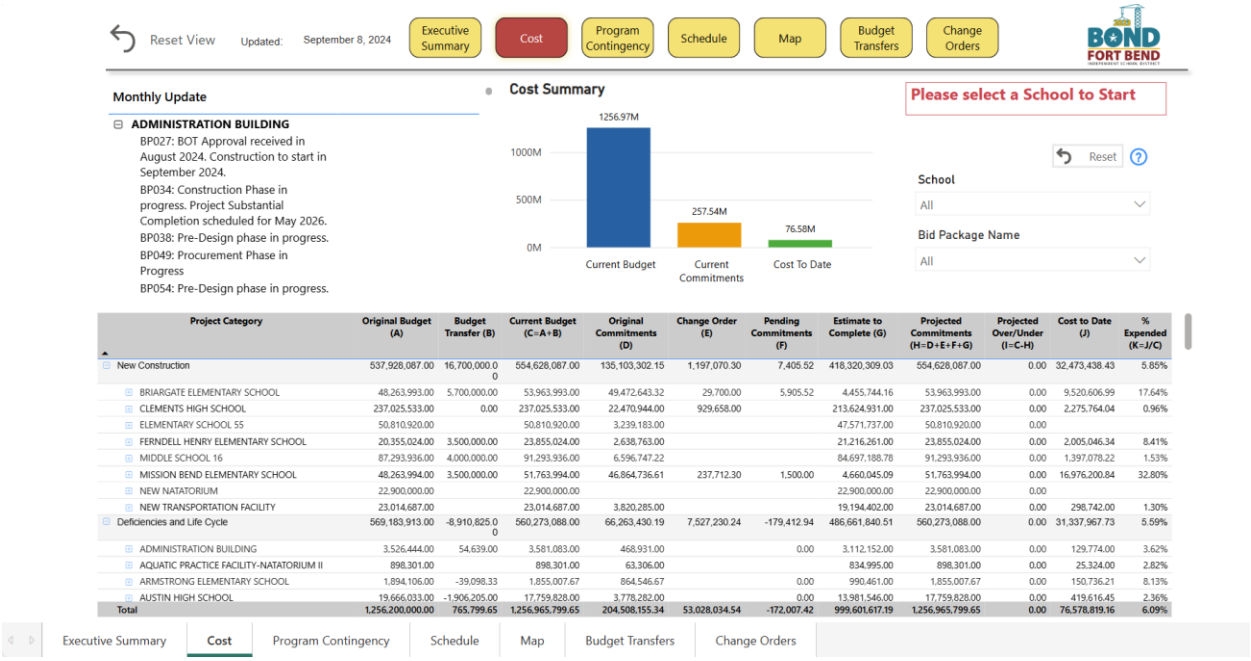
10

Source. FBISD BOC Presentation

Gibson reviewed the meeting presentations and minutes for BOC meetings that have occurred during the 2023 Bond Program. Meetings appear to have occurred in accordance with BOC guidelines and requirements.

Figure 12 offers a snapshot of the Bond Dashboard, which is updated monthly, presenting an overview of various bond package projects. It outlines key details such as the budgeted cost of each construction project, current construction phases, and the estimated timeline for the project's start and completion. The Cost Summary section provides a breakdown of project expenses, including the original budget, budget transfers, current budget, and original commitments. It tracks financial data related to the construction project, including the initial budgeted amount, the estimated final cost, impacts of transfers and change orders, and how much has been spent so far compared to the allocated funds.

Figure 12. Excerpt of Board Bond Dashboard, FBISD

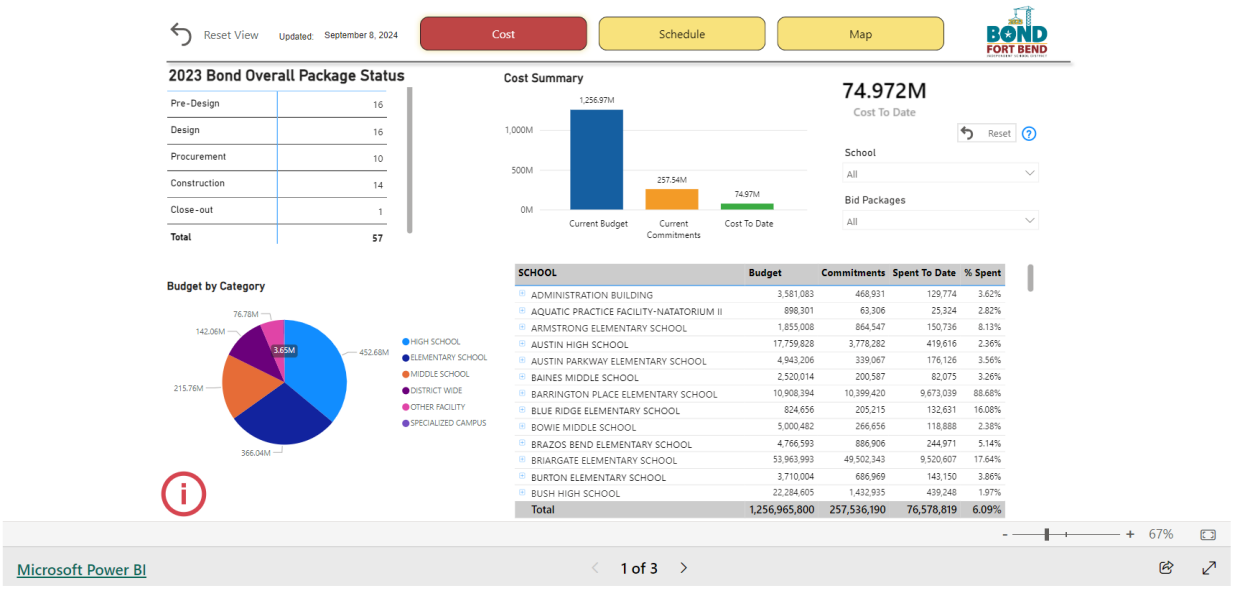


Project Category	Original Budget (A)	Budget Transfer (B)	Current Budget (C=A+B)	Original Commitments (D)	Change Order (E)	Pending Commitments (F)	Estimate to Complete (G)	Projected Commitments (H=D+E+F+G)	Projected Over/Under (I=C-H)	Cost to Date (J)	% Expended (K=J/C)
New Construction	537,928,087.00	16,700,000.00	554,628,087.00	135,103,302.15	1,197,070.30	7,405.52	418,320,309.03	554,628,087.00	0.00	32,473,438.43	5.85%
BRIARGATE ELEMENTARY SCHOOL	48,263,993.00	5,700,000.00	53,963,993.00	49,472,643.32	29,700.00	5,905.52	4,455,744.16	53,963,993.00	0.00	9,520,606.99	17.64%
CLEMENTS HIGH SCHOOL	237,025,533.00	0.00	237,025,533.00	22,470,944.00	929,658.00		213,624,931.00	237,025,533.00	0.00	2,275,764.04	0.96%
ELEMENTARY SCHOOL 55	50,810,920.00		50,810,920.00	3,239,183.00			47,571,737.00	50,810,920.00	0.00		
FERNDELL HENRY ELEMENTARY SCHOOL	20,355,024.00	3,500,000.00	23,855,024.00	2,638,763.00			21,216,261.00	23,855,024.00	0.00	2,005,046.34	8.41%
MIDDLE SCHOOL 16	87,293,936.00	4,000,000.00	91,293,936.00	6,596,747.22			84,697,188.78	91,293,936.00	0.00	1,397,078.22	1.53%
MISSION BEND ELEMENTARY SCHOOL	48,263,994.00	3,500,000.00	51,763,994.00	46,864,736.61	237,712.30	1,500.00	4,660,045.09	51,763,994.00	0.00	16,976,200.84	32.80%
NEW NATATORIUM	22,900,000.00		22,900,000.00				22,900,000.00	22,900,000.00	0.00		
NEW TRANSPORTATION FACILITY	23,014,687.00		23,014,687.00	3,820,285.00			19,194,402.00	23,014,687.00	0.00	298,742.00	1.30%
Deficiencies and Life Cycle	569,183,913.00	-8,910,825.00	560,273,088.00	66,263,430.19	7,527,230.24	-179,412.94	486,661,840.51	560,273,088.00	0.00	31,337,967.73	5.59%
ADMINISTRATION BUILDING	3,526,444.00	54,639.00	3,581,083.00	468,931.00		0.00	3,112,152.00	3,581,083.00	0.00	129,774.00	3.62%
AQUATIC PRACTICE FACILITY-NATATORIUM II	898,301.00		898,301.00	63,306.00			834,995.00	898,301.00	0.00	25,324.00	2.82%
ARMSTRONG ELEMENTARY SCHOOL	1,894,106.00	-39,098.33	1,855,007.67	864,546.67		0.00	990,461.00	1,855,007.67	0.00	150,736.21	8.13%
AUSTIN HIGH SCHOOL	19,666,033.00	-1,906,205.00	17,759,828.00	3,778,282.00		0.00	13,981,546.00	17,759,828.00	0.00	419,616.45	2.36%
Total	1,256,200,000.00	765,799.65	1,256,965,799.65	204,508,155.34	53,028,034.54	-172,007.42	999,601,617.19	1,256,965,799.65	0.00	76,578,819.16	6.09%

Source. FBISD Design and Construction 2023 Bond Dashboard

Figure 13 presents an excerpt of the public-facing dashboard, which is updated each month.

Figure 13. Excerpt of Public-Facing Dashboard, FBISD



Source. FBISD Design and Construction 2023 Bond Dashboard

The controls analysts are responsible for maintaining and updating the dashboard. Data from Kahua is integrated into a Power BI dashboard, with one version for the BOT and another for the community. To ensure the dashboard accurately reflects project and program data from PeopleSoft, the controls specialist performs a monthly reconciliation between the two systems. Gibson reviewed and re-performed this reconciliation process for five bid packages to verify alignment between PeopleSoft and Kahua.

Audit Testing: Test 2 – Data Reconciliation

The primary objective of this audit test is to ensure the accuracy, consistency, and reconciliation of data between two systems: Kahua and PeopleSoft. The focus is on verifying that budget amounts, expenses, and other critical financial data are accurately reflected across both systems. This process ensures that any discrepancies are identified, examined, and resolved, leading to more reliable financial reporting, enhanced operational efficiency, and informed decision making.

Test Approach

- Gibson judgmentally selected five project samples for testing;
- Obtained the associated cost reports for each sample from FBISD, which were sourced from PeopleSoft;
- Obtained access to Kahua PMIS system to view financial metrics; and
- Compared data across systems:
  - Conducted a detailed comparison of the extracted data from Kahua and PeopleSoft. Gibson tested key fields such as project budgets, incurred expenses, and other financial records; and

- Evaluated whether the data matched across both systems, identifying any differences between the cost reports and the data generated from other systems **(Test 1)**.

Test Results

- Please refer to Table 11 below. “P” indicates that the sample passed the test; “F” indicates that the sample failed the test; and “N/A" indicates that the test was not applicable for the sample or could not be performed.

Table 11. Project Reconciliation Test Results

Sample	Project	Project Budget Amount	Test 1
1	Briargate Rebuild	$53,963,993	P
2	Mission Bend Rebuild	$51,763,994	P
3	Clements HS Rebuild	$237,025,533	P
4	Flooring Packages	$8,130,881	P
5	Roofing Package	$21,106,628	P

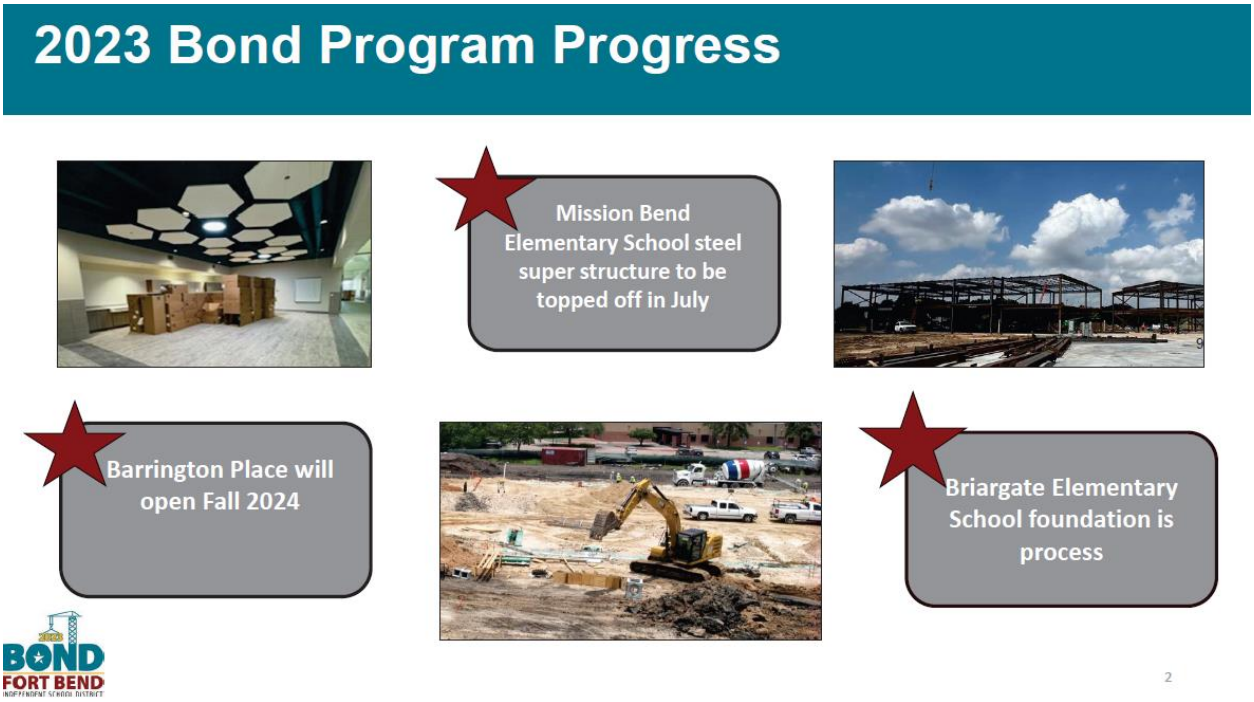
- **Test 1 – The project budget amounts in Kahua are consistent with the project budget amounts in PeopleSoft systems.**
  - Five out of the five samples related to the project budget amounts were consistent between Kahua and PeopleSoft systems.

Testing provided positive evidence that the data presented to the BOT and public agrees with financial information maintained in the district’s system of record, PeopleSoft. However, not all necessary data elements are included in the district’s progress reporting, specifically forecasted project costs.

On a monthly basis, Design and Construction Department administration meet with the BOT to review the progress and financial status of various construction projects. During a recent meeting on June 3, 2024, district personnel provided updates on the 2023 Bond Program, highlighting construction progress at multiple schools and discussing various bond packages. The audit team summarized the meeting below:

An update on the bond progress was presented, including the specific stages of three projects. These updates are shown below in Figure 14.

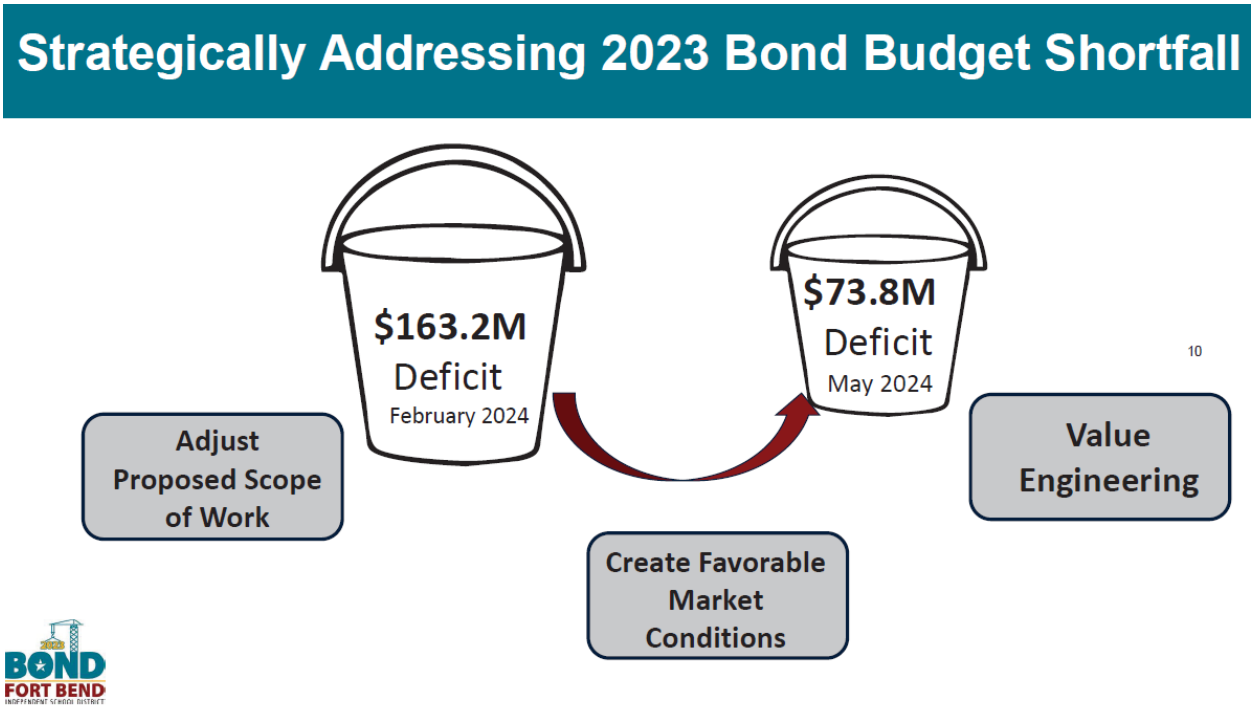
Figure 14. FBISD June 3, 2024 Meeting BOT Presentation (Excerpt 1)



Source. FBISD BOT Presentation, 2024

The presentation then consisted of ways the department is strategically addressing the 2023 bond budget shortfall. Figure 15 illustrates the three main strategies, including adjusting the proposed Scope of Work, creating favorable market conditions, and value engineering. The presentation included steps for each strategy and described in subsequent slides how to explore additional resources to combat the shortfall.

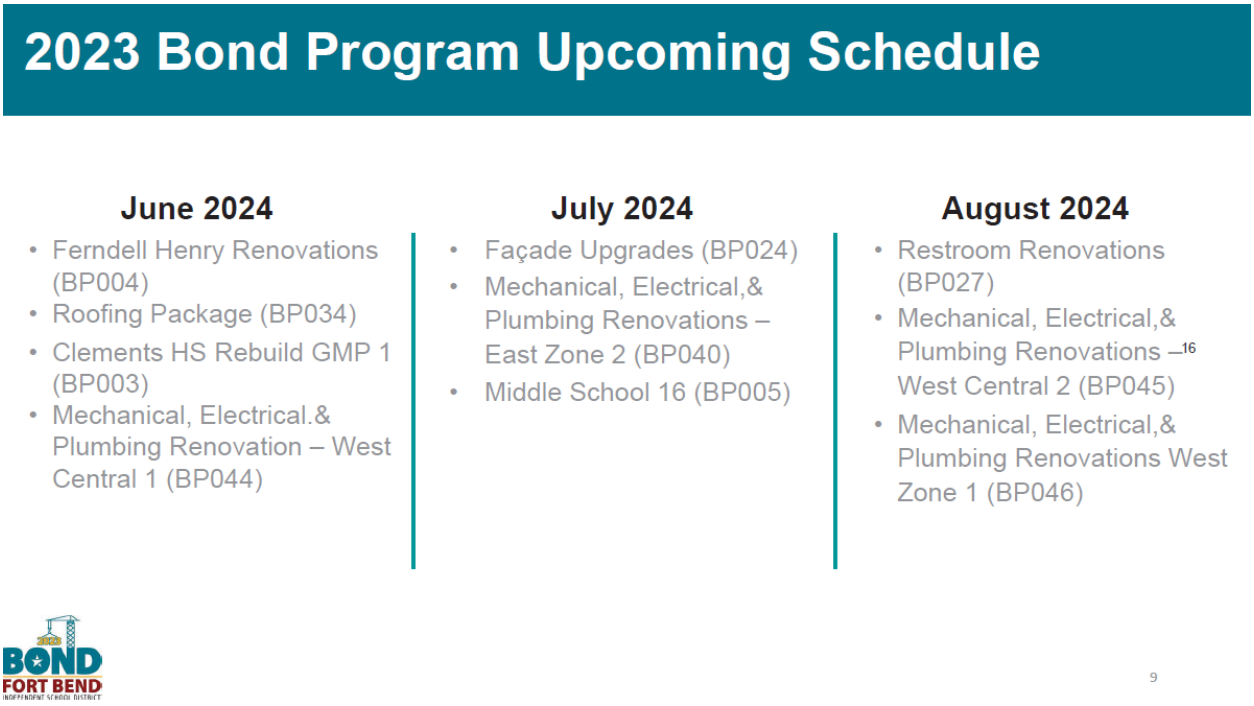
Figure 15. FBISD June 3, 2024 Meeting BOT Presentation (Excerpt 2)



Source. FBISD BOT Presentation, 2024

Lastly, the department gave an overview of the upcoming construction schedule for the next three months. This schedule is shown in Figure 16.

Figure 16. FBISD June 3, 2024 Meeting BOT Presentation (Excerpt 3)



Source. FBISD BOT Presentation, 2024

Gibson reviewed the meeting presentations and minutes for BOT meetings that have occurred during the 2023 Bond Program. Meetings appear to have occurred in accordance with BOT guidelines and requirements.

After reviewing all communications to the BOC, BOT, and the public, Gibson notes that the communications omit forecasts for actual project costs, creating the impression that all projects are on or under budget. See Figure 17 below, which provides an example of the dashboard showing the estimate to complete (G), the current budget (C), the sum of original commitments (D), change orders (E), and pending commitments (F). As a result, when the estimate to complete is incorporated in the projected commitments, the project will always show no project overage or surplus. The projected commitments do not incorporate forecasted project costs and therefore do not provide an accurate snapshot for the management team or public.

Figure 17. Project Costs Presented on the 2023 Bond Dashboard

Project Category	Original Budget (A)	Budget Transfer (B)	Current Budget (C=A+B)	Original Commitments (D)	Change Order (E)	Pending Commitments (F)	Estimate to Complete (G)	Projected Commitments (H=D+E+F+G)	Projected Over/Under (I=C-H)	Cost to Date (J)	% Expended (K=J/C)
New Construction	537,928,087.00	16,700,000.00	554,628,087.00	135,103,302.15	1,197,070.30	7,405.52	418,320,309.03	554,628,087.00	0.00	32,473,438.43	5.85%
Deficiencies and Life Cycle	569,183,913.00	-8,910,825.00	560,273,088.00	66,263,430.19	7,527,230.24	-179,412.94	486,661,840.51	560,273,088.00	0.00	31,337,967.73	5.59%
District Wide	149,088,000.00	-7,023,375.35	142,064,624.65	3,141,423.00	44,303,734.00		94,619,467.65	142,064,624.65	0.00	12,767,413.00	8.99%
Total	1,256,200,000.00	765,799.65	1,256,965,799.65	204,508,155.34	53,028,034.54	-172,007.42	999,601,617.19	1,256,965,799.65	0.00	76,578,819.16	6.09%

Source. FBISD Design and Construction 2023 Bond Dashboard

This is a concern, as it results in the management team, and key stakeholders, such as the BOC, BOT, and community, having an incomplete view of program and project financial status. Reporting must be transparent to be credible, escalating issues and challenges quickly so the management team and BOT can give assistance or direction in taking corrective action. Regarding the reporting immediately after bond issuance, transparent reporting could have allowed for earlier corrective action, allowing the district to defer less important projects before the Bond overage escalated.

The stakeholders may perceive the department as being non-transparent and although the number of budget transfer requests could be considered a clue. Additionally, though a previous test demonstrated that projects are reconciled between Kahua and PeopleSoft, a lag can still exist when it comes to reporting on the Power BI dashboard.

Recommendation 5: Implement key performance measures/progress reporting to key stakeholders.

FBISD can improve progress reporting by including key performance indicators (KPIs) in monthly reporting. To ensure consistency and transparency in reporting to the BOC and BOT, the Design and Construction Department should first identify the KPIs that are most important to the BOC and BOT, such as tracking project milestones, contingencies used to date, remaining balances, forecasted cost, and percentage of construction completed versus percentage of contract paid. Once established, these KPIs should be consistently updated and presented at each BOT meeting. By providing stakeholders with an accurate and comprehensive financial overview of the 2023 Bond Program across multiple meetings, the department can gradually rebuild the trust and confidence of the board and other stakeholders in the Design and Construction Department.

Management Response: *Management agrees with this recommendation. Key performance measures and indicators will be implemented by the end of the 2nd Quarter 2025.*

Finding 6: The potential change order (PCO) approval process is inefficient and duplicative.

For PCOs, Superintendent approval is required over $50,000, COO approval is required over $25,000, and executive director of design and construction approval is required under $25,000. Once PCOs receive final approval, they are converted, and often batched, into change orders (COs). These COs then go through their own approval process, meaning the change is approved twice. Gibson developed a test to calculate the processing time for PCOs.

Audit Testing: Test 3 – PCO Approval Lag Time

The purpose of this test is to verify the accuracy and efficiency of the time lag between the initiation of a PCO, which Gibson notes is the date the PCO is sent for approval after pricing has been updated, and its final execution as a CO. The audit focused on identifying any delays in the approval or execution processes and determining whether the lag time is within acceptable limits.

Test Approach

- Gibson selected a random sample of 15 PCOs from three bid packages;
- Assessed whether the actual lag times were within acceptable limits (30 days); and
- Calculated the actual lag time between PCO initiation and CO execution for the selected sample.
  - Lag time for approval = final approval date – PCO initiation date
  - Lag time for execution = CO execution date – final approval date
  - Days between PCO initiation and CO execution = CO execution date – PCO initiation date

Test Results

- Please refer to Table 12 below. “N/A" indicates that the test could not be performed, as the CO associated with the selected PCO has not yet received final approval.

Table 12. PCO Approval Lag Time Testing Results

Sample	Value	Lag Time (Days)
1	$31,765	13
2	$68,773	34
3	$65,930	12
4	$12,315	63
5	$11,190	N/A
6	$25,919	29
7	$8,700	15
8	$45,303	53
9	$30,000	13

Sample	Value	Lag Time (Days)
10	$6,057	53
11	$82,269	48
12	$7,222	65
13	$1,913	65
14	$108,184	48
15	$58,558	48
Average Lag Time	**-**	**39.9**

Source. Gibson Consulting Group, 2024

Based on the testing completed by Gibson, the samples below show an average lag time of 39.9 days for approval of PCOs. Many low-value PCOs (i.e., samples 4, 10, 12, and 13) exceeded this average in processing time. This means that any changes that need to be made take over a month to be approved, which can delay the construction process.

Recommendation 6: Change the approval requirements on PCOs under $10,000.

The current process for approving PCOs is duplicative and typically takes over a month to complete. To streamline this process, FBISD should adjust the approval requirements for PCOs under $10,000, requiring only the director of construction's approval instead of the executive director of design and construction's approval. This change would reduce the time needed to approve PCOs, accelerating necessary modifications and minimizing construction delays. Simplifying approvals for lower-cost PCOs will eliminate redundant steps and improve overall efficiency.

Management Response: *Management agrees with this recommendation. We plan to obtain approval of this procedural change by the end of the 1st Quarter 2025.*

Appendix A: Interview List

- Ashley Dixon – Director
- Benice Edwards – Controls Analyst
- Bryan Guinn – Chief Financial Officer
- Carol Fletcher – Executive Assistant
- Cedric Winslow – Senior Project Manager
- Colleen Dunham – Project Controls Specialist
- Daniel Bankhead – Executive Director
- Darryl King – Project Manager
- Dr. Damian Viltz – Chief Operations Officer
- Dr. Marc Smith – Superintendent
- Eric Ford – Design Manager
- Francisco Rivera – Coordinator Boundaries & Planning
- Ganesh Nagalla – Senior Project Manager
- Guillermo Martinez – Project Manager
- Jade Mays – Logistics Specialist (FF&E)
- Jane Thompson – Executive Assistant
- Jeanette Boleware – Small Business Coordinator
- Jessica Melchor – Contracts Specialist
- Jose Garcia – Project Manager
- Dr. Kathleen Brown – Deputy Superintendent
- Kelly Kelly – Logistics Specialist (FF&E)
- Lawrence Kubacak – PMCM Business Leader
- Lorraine Gonzalez – Accounting Specialist
- Mariana Bozzetti – Senior Project Manager
- Minh Ngo – Project Controls Manager
- Micki Morris – Outside General Counsel
- Nancy Lazo – Controls Analyst
- Rounak Kore – Senior Project Manager
- Ryan Kiefer – Design Manager
- Travis Nguyen – Senior Project Manager
- Vince Huang – Program Estimator

Appendix B: FBISD Design Checklist

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A/E Firm: _____ P.O. No: _____

BP No.: _____

Design Checklist

(Develop one checklist for each school / facility included in the Bid Package. Some listed responsible parties may be considered optional and not required to participate in certian task and meetings.) This checklist is used for reference.

School: _____ Site No. _____

ID	Tasks, Deliverables, & Meetings	Responsibility										Date Completed (Mgr to review weekly with PM)	Remarks (PM must maintain the updated version in the network)
		PM	Design Mgr. / Director	Cost Estimator	Construction Manager	Controls	Procurement	District	District Facilities	AE Firm	A/E Subconsultants	Principal	
1.00	**Conceptual Design / Program verification (New Schools/Additions)**												
1.01	Design Kick Off Meeting	x								x	x		
1.02	Pre-Development meeting with City	x	x							x	x		AE/consultants separate mtg.
1.03	Conceptual Design/Stand Up review meeting	x	x					x	x	x	x		Optional
1.04	Consolidate comments, issue meeting minutes	x								x	x		
1.05	Procurement of Consultants (as applicable)	x				x	x						
1.05.1	Procurement of Commissioning Consultant	x				x	x			x			Confirm Scope
1.05.2	Phase One of Environmental Services	x				x	x						Request/Approve Proposals if required
1.05.3	Phase Two of Environmental Services	x				x	x						Request/Approve Proposals
1.05.4	Procurement of Geotechnical Consultant	x				x	x						Request/Approve Proposals
1.05.5	Procurement of 3rd Party Cost Consultant	x				x							Request/Approve Proposals
1.05.6	Procurement of Land Surveyor Services	x				x	x						Request/Approve Proposals
1.06	Conduct internal review and approve/reject	x	x										
1.07	Issue Authorization to Proceed to SD Phase	x	x						x				Sign approval form
2.00	**Schematic Design Phase (CCL > $2M only)**												
2.01	Team Design Kick-Off Meeting	x	x							x	x		
2.01.1	Discuss Timeline & Deliverables Required	x	x							x	x		
2.03	School Design Kick-Off Meeting	x	x					x	x	x	x	x	
2.03.1	Evaluation of Scope of Work	x	x					x	x	x	x	x	
2.03.2	Review School's Daily Operations, Swing Space	x	x					x	x	x	x	x	
2.03.3	Discuss Preliminary Phasing Plan	x	x					x	x	x	x	x	
2.04	Review of SD Documents / Drawings	x											Internal and External
2.05	Statement of Probable Cost Review Meeting	x		x	x								
2.06	Authorization to Print / Electronic to External Rev.	x											1 copy for Facilities only
2.07	Delivery of Submittals									x			
2.08	Open Bluebeam Studio Session	x											
2.09	Distribute Documents/ Drawings to Reviewers	x											PMT, Facilities
2.10	Review Documents / Drawings	x		x	x			x					External reviewers
2.11	Complete Bluebeam Studio Session	x											External reviewers
2.12	Review Comments from Studio Session	x											
2.13	Approve / Resubmit Submittal	x											
2.14	Issue Design Documents Review Comments to A/E	x								x			
2.15	Obtain Approval Signatures	x						x		x		x	
2.16	Procurement of Consultants as applicable												
2.16.1	Procurement of Geotechnical Consultant	x				x	x						Request/Approve Proposal
2.16.2	Procurement of Land Surveyor Services	x				x	x	x		x			Request/Approve Proposal
2.17	Issue Authorization to Proceed to DD Phase	x								x			
2.18	Board of Education presentation/renderings	x								x			
3.00	**Design Development Phase (Bluebeam)**												
3.01	Team Design Kick-Off Meeting	x	x							x	x		

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Design Checklist

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ID	Tasks, Deliverables, & Meetings	Responsibility										Date Completed (Mgr to review weekly with PM)	Remarks (PM must maintain the updated version in the network)
		PM	Design Mgr. / Director	Cost Estimator	Construction Manager	Controls	Procurement	District	District Facilities	AE Firm	A/E Subconsultants	Principal	
3.01.1	Discuss Timeline & Deliverables Required	x	x							x	x			
3.02	School Design Kick-Off Meeting	x	x					x	x	x	x	x		
3.02.1	Evaluation of Scope of Work	x	x					x	x	x	x	x		
3.02.2	Review School's Daily Operations, Swing Space	x	x					x	x	x	x	x		
3.02.3	Preliminary Phasing Plan	x	x					x	x	x	x	x		
3.03	Discuss FF&E layouts and any required special paramenters with A/E	x	x					x		x				
3.04	Review of DD Documents / Drawings	x												
3.05	Statement of Probable Cost Review	x			x					x				
3.06	Authorization to Print / Electronic to External Rev.	x												1 copy for Facilities only
3.07	Delivery of Submittals	x								x				
3.08	Open Bluebeam Studio Session	x												External reviewers
3.09	Distribute Documents/ Drawings to Reviewers	x				x								PMT, Facilities
3.09.1	Roofing Design Review Meeting as applicable	x	x		x				x	x	x			AE's Roofing Consultant
3.09.2	Distribute Documents to I.T. Reviewers	x						x						If applicable
3.10	Review Documents / Drawings			x	x			x						External reviewers
3.11	Backcheck review comments	x												External reviewers
3.12	Incorporate, open/close comments	x								x				A/E, external reviewers
3.13	Approve / Resubmit Submittal	x												
3.14	Close Bluebeam Studio session	x								x				
3.15	Obtain Appropriate Signatures	x						x		x		x		
3.16	Procurement of Consultants as applicable	x				x	x							
3.17	Authorization to Proceed to CD Phase (50% CD)	x								x				
4.00	**Combined SD & DD Phase (if applicable)**													
4.01	Team Design Kick-Off Meeting	x	x							x	x			
4.01.1	Discuss Timeline & Deliverables Required	x	x							x	x			
4.02	School design Kick-Off Meeting	x	x					x	x	x	x	x		
4.02.1	Evaluation of Assessment Data	x	x					x	x	x	x	x		
4.02.2	Review School's Daily Operations, Swing Space	x	x					x	x	x	x	x		
4.02.3	Preliminary Phasing Plan	x	x					x	x	x	x	x		
4.03	Review of SD Documents / Drawings	x												
4.04	Statement of Probable Cost Review Meeting			x	x									
4.05	Authorization to Print, electronic	x												
4.06	Delivery of Submittals									x				
4.07	Open Bluebeam Studio Session	x												
4.08	Distribute Documents/ Drawings to Reviewers	x						x						PMT, Facilities
4.08.1	Distribute Documents/ to 3rd Party I.T. Reviewers													As applicable
4.08.3	Roofing Design Review Meeting	x	x		x			x	x	x	x			AE's Roofing Consultant
4.09	Review Documents / Drawings			x	x			x						
4.10	Incorporate/reject review comments									x				PMT, Facilities
4.11	Open/close review comments	x												PMT, Facilities
4.12	Approve / Resubmit Submittal	x												
4.13	Close Bluebeam Studio session	x								x				
4.14	Obtain Appropriate Signatures	x						x		x		x		

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BP No.: _____

Design Checklist

(Develop one checklist for each school / facility included in the Bid Package. Some listed responsible parties may be considered optional and not required to participate in certian task and meetings.) This checklist is used for reference.

ID	Tasks, Deliverables, & Meetings	Responsibility										Date Completed (Mgr to review weekly with PM)	Remarks (PM must maintain the updated version in the network)
		PM	Design Mgr. / Director	Cost Estimator	Construction Manager	Controls	Procurement	District	District Facilities	AE Firm	A/E Subconsultants	Principal	
4.13	Procurement of Consultants as applicable	x				x	x						
4.13.1	Procurement of Geotechnical Consultant	x					x						Request/Approve Proposal
4.13.2	Procurement of other consultants as applicable	x					x						Request/Approve Proposal
4.14	Issue Authorization to Proceed to DD Phase	x								x			
CONSTRUCTION DOCUMENT PHASE													
5.00	**50% Construction Documents (Bluebeam Studio Session)**												
5.01	Procurement of Consultants as applicable	x				x	x						
5.01.1	Procurement of HazMat Consultant (Task 1)	x				x	x						Request/Approve Proposal
5.02	A/E Meeting	x	x							x	x		
5.02.1	Discuss Timeline & Deliverables Required	x	x							x	x		
5.03	Review of CD Documents / Drawings	x											External Reviewers
5.04	Statement of Probable Cost Review Meeting	x		x	x								
5.05	Authorization to Print, electronic	x											
5.06	Delivery of Submittals									x			
5.07	Open Bluebeam Studio Session	x											
5.08	Distribute Documents/ Drawings to Reviewers	x						x					
5.08.1	Distribute Documents / 3rd Party Cost Estimating	x											50% Review
5.08.2	Distribute Documents / 3rd Party I.T. Review	x											50% Review; if applicable
5.08.3	Distribute Documents / External Reviewers	x											50% Review
5.08.4	Distribute Documents /Facilities	x											50% Review, provide hard copies for facilities
5.09	Review Documents / Drawings	x		x	x			x	x				External Reviewers
5.10	Open Bluebeam Studio Session	x											External Reviewers
5.11	Backcheck, open/close comments	x							x				External Reviewers
5.12	Approve / Resubmit Submittal	x											
5.13	Close Bluebeam Studio session	x								x			External Reviewers
5.14	50% Stand Up Review Meeting (optional)	x	x					x	x	x	x		External Reviewers
5.15	Constructability Review Meeting	x	x	x	x			x	x	x	x		If Needed
5.15.1	Add Sub Topic _____	x	x	x	x			x	x	x	x		
5.15.2	Add Sub Topic _____	x	x	x	x			x	x	x	x		
5.16	Value Engineering Review Meeting	x		x	x					x	x		If Needed
5.16.1	Add Sub Topic _____	x		x	x					x	x		
5.16.2	Add Sub Topic _____	x		x	x					x	x		
5.17	Principal Meeting	x								x		x	
5.18	Obtain Appropriate Signatures	x						x		x		x	
5.19	Authorization to Proceed to 95% CD Phase	x								x			
6.00	**90% Construction Documents (Bluebeam Studio Session)**												
6.01	Procurement of Consultants as applicable	x				x	x						
6.01.1	Procurement of HazMat Consultant (Task 2)	x					x						Request/Approve Proposals
6.01.2	Procurement of Materials Testing	x					x						Request/Approve Proposals
6.01.3	Procurement of Testing & Balancing	x					x						Request/Approve Proposals
6.02	Prepare Division 0 and 1 for Project Manual	x				x				x			Distribute to A/E
6.03	A/E Meeting to discuss Schedule, Divisions 0 and 1 and required deliverables	x	x							x	x		

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ID	Tasks, Deliverables, & Meetings	Responsibility										Date Completed *(Mgr to review weekly with PM)*	Remarks *(PM must maintain the updated version in the network)*
		PM	Design Mgr. / Director	Cost Estimator	Construction Manager	Controls	Procurement	District	District Facilities	AE Firm	A/E Subconsultants	Principal	
6.03.1	Discuss Timeline & Deliverables Required	x	x							x	x		
6.04	Review of CD Documents / Drawings	x											External Reviewers
6.05	Statement of Probable Cost Review Meeting			x	x								
6.06	Authorization to Print, electronic	x											
6.07	Delivery of Submittals									x			
6.08	Open Bluebeam Studio Session	x											External Reviewers
6.09	Distribute Documents/ Drawings to Reviewers	x	x		x			x	x				PMT, Hard copies for Facilities
6.09.1	Distribute Documents / 3rd Party Cost Estimating	x		x									Cost Estimate Verification
6.09.2	Distribute Documents / 3rd Party I.T. Reviewer	x								x			Final Review
6.09.3	Distribute Documents / Facilities	x								x			Final Review
6.09.4	Distribute Documents / 3rd Party Plan Reviewer	x								x			External Reviewers
6.09.5	Distribute Documents for Constructability Review	x	x		x			x					If applicable
6.10	Approve / Resubmit Submittal	x											
6.11	Close Bluebeam Studio session	x								x			External Reviewers
6.12	Principal Meeting	x								x		x	
6.13	Obtain Appropriate Signatures	x						x		x		x	
6.14	Authorization to Proceed to 100% CD Phase	x								x			
7.00	**100% Construction Documents / Permit Set (Bluebeam Studio Session)**												
7.01	A/E Meeting	x	x							x	x		
7.01.1	Discuss Timeline & Deliverables Required	x	x							x	x		
7.02	Receive 100% Documents and Final Review Form									x			Sealed Documents
7.03	Review/Audit of 100% CD Documents / Drawings	x											
7.04	Review Bluebeam Studio Session report	x											
7.05	Close Bluebeam Studio session	x											
7.06	Statement of Probable Cost Review Meeting	x		x	x			x					
7.07	Approve / Resubmit Submittal	x											Bidding and Permit Documents
7.08	Authorization to Print, electronic for Procurement	x				x				x			Bidding and Permit Printing
7.09	Obtain Appropriate Signatures	x						x		x		x	
7.10	Procurement of Consultants for Construction Phase	x				x	x						
7.10.1	Procurement of Materials Testing	x				x	x						Request/Approve Proposals
7.10.2	Procurement of Testing & Balancing	x				x	x						Request/Approve Proposals
7.11	Authorization to Proceed with Procurement												
7.12	Submit Permit set to applicable municipality	x								x			

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