



# OFFICE OF INTERNAL AUDIT

---

Internal Audit Report  
Review of the Request for Additional Funding for the 2012 Bond Program

Leo Bobadilla – Chief Operating Officer

Issue Date:  
10/21/2015

**Table of Contents**

**Executive Summary ..... 3**

    Background..... 3

    Audit Objectives ..... 3

    Audit Scope..... 3

    Overall Conclusion and Recommendation ..... 4

        Management Response..... 5

        Audit Comment/Clarification ..... 6

**Attachment..... 8**

    Report Detail ..... 8

        Effects of Inflation ..... 8

        Not to Exceed Values in the CMAR Contracts and the Awarded GMPs ..... 8

            Recommendation..... 9

            Management Response..... 9

        CMAR Agreement Cancelled and Replaced by a CSP..... 12

            Recommendation..... 12

            Management Response..... 12

        Additional Cost Control Considerations..... 13

            Recommendation..... 13

            Management Response..... 13

        Project Cost Controls..... 14

            Recommendation..... 15

            Management Response..... 15

        Recommendation List for Process Improvements to Promote Cost Savings ..... 16

            Management Response..... 17

            Summary (by Management) ..... 18

            Audit Comment/Clarification ..... 18

## Executive Summary

### Background

In 2012 voters approved a \$1.89 Billion Bond Program to rebuild or renovate 40 schools across the city, including 29 high schools. The program also included technology upgrades, middle school restroom renovations and improvements to district wide athletic facilities. In the years following the passage of the program, the district has experienced major increases in construction costs which have been attributed by management to inflation. To ensure delivery of all projects and original scope of work proposed under the 2012 Bond Program, management has proposed \$211 million in additional funding. This funding would be provided through the issuance of \$200 million in maintenance bonds plus \$11 million from the reserve fund from the 2007 Bond Program. If approved the \$211 million would be distributed proportionately to each school project based on the original 2012 construction budgets.

### Audit Objectives

The objective of this review was to perform an assessment of the Draft 2012 Bond Program Inflation Worksheet prepared by HISD Construction and Facilities Services (CFS) personnel. The worksheet will be utilized by the Board of Education to consider approval of an increase of approximately \$211 million in bond program construction cost. (Worksheet is attached as **Audit Exhibit B**). The specific objective includes the validation and evaluation of the reasonableness of assumptions, cost projections, and future construction inflation factors when compared to similar construction projects and economic indicators in Houston, Texas. Risk factors associated with such projections were also assessed.

### Audit Scope

This project was a limited scope review of the request for additional funding for the 2012 Bond Program with a focus on the recent calculations by management of the effects of inflation. The purpose was to gain an understanding of the assumptions and supporting methodology used in management's analysis.

This review was not designed to identify fraud. No one can absolutely predict inflation or expected market conditions; however, we evaluated the methodology used in developing the budget for reasonableness and compared to leading indices covering inflation.

The review consisted of gaining an understanding how the proposed budget increase and the effects of inflation were developed, re-performance of key calculations, and reviewing construction actual commitments against the budget. Documents reviewed included the original 2012 Bond Program Budgetary worksheets, which became the basis for the program; subsequent construction estimates; executed construction contracts, including the basis for pricing; architectural agreements; and project management agreements. We have also referenced authoritative sources such as R.S. Means, and the Engineering News Record, which we consider independent and objective.

## Overall Conclusion and Recommendation

Based on the documentation reviewed, review of inflation indices, and interviews with personnel from the HISD Business Operations, Accounting, and Construction and Facilities Services, Internal Audit believes that inflation itself is not the key driver in the request for additional funds. Based on two analyses of construction inflation, one based on R.S. Means construction cost data, and one based on the Engineering News Record magazine, the average inflation rate from 2012 through 2015, was approximately 8% compared to the district's stated inflation rate of 38.75% for the same period. Other inflation indices are discussed in the detail report.

**We agree that excessive supply and demand can create tight market conditions that cause higher than normal prices such as those experienced with other local school districts and Houston area construction projects, but other factors such as an ineffective CMAR process, cost creep from excessive architectural designs, inadequate project cost controls, and the overall effectiveness of bond program monitoring are critical components, the effects of which could be easily misinterpreted as inflation due to market conditions.**

- Lack of Competitive Bidding

While CFS has stated the increase is due to inflation and overall market conditions, a major factor impacting cost is the lack of competitive bidding at the sub-contractor level on CMAR projects. Sub-contractors' work represents approximately 90% of a typical CMAR construction contract. The total estimated construction costs in the originally approved bond budget amounted to approximately \$1.2 billion (including the estimated construction contingency and estimated inflation, etc.) Therefore, estimated trade subcontractor costs would typically represent approximately \$1 to \$1.1 billion of the total originally approved bond budget. The District should improve the oversight and negotiations with the general contractors to maximize competitive bidding at the sub-contractor level to more effectively manage costs.

Additionally, CFS should consider the potential additional cost impact of allowing CMAR's to award sub-contracts to affiliated companies on a lump sum basis. This is especially important when the affiliated company is the only bidder.

We noted multiple contracts (nine) which were issued with stated "not to exceed" (NTE) amounts but the resulting "guaranteed maximum prices (GMPs)" were negotiated in excess of the NTE amount. Holding the CMARs accountable to the budget would reduce the effects of cost escalation that the District is currently experiencing.

To effectively manage costs when a CMAR does not deliver a GMP proposal with acceptable total cost reflecting in an adequate level of sub-contractor bidding, etc., CFS should follow the alternative allowed by the Texas State Government Code which allows for the District to cease negotiations with such contractor and start negotiations with the next qualified bidder or re-bid under a Competitive Sealed Proposal (CSP). CFS has recently terminated CMAR contracts with four projects and re-bid under a CSP, resulting in substantial savings.

- **Project Cost Controls**

With respect to the calculation and related allocation of the proposed \$211 million budget increase, CFS did not perform a project by project analysis based on the originally promised deliverables for each campus to support their funding request. This analysis should reflect the detail scope of what work was originally promised, work under contract, work completed, work deferred, work remaining and a more accurate start date. The funding analysis should be tied to the work remaining based on the original bond program approved by the Board of Education. Without this analysis, it is not possible to obtain an accurate picture of the funding needs at each campus. This leaves the District vulnerable to scope creep by agreeing to work that was not in the original plan. We recommend CFS create a project cost group to monitor cost on a project by project basis, including a quarterly forecast, to avoid future funding concerns.

Additional details and other suggestions for improvement are noted in the detail report, along with management's action plan and responses.

**Management Response** – This Audit Report inaccurately creates a perception that mismanagement within the bond program has created a budget problem requiring an additional \$211 million in funds. That conclusion stems from flawed methodology, including insufficient data review, limited and biased research, and a profound lack of understanding of the Houston economic climate.

This report further misinterprets the purpose of the Audit and the rationale for Administration's supplemental funding request. The result is a reckless and irresponsible indictment of the many design professionals, professional construction companies, project management companies, project advisory teams, and HISD staff who are involved in the 2012 bond program.

The Houston construction market has seen historic growth since the inception of the 2012 bond program resulting in an increasingly challenging building environment. CFS staff has been monitoring and keeping the Bond Oversight Committee (which includes participation by the Internal Audit Department), administration, and Trustees abreast of these trends since they became apparent. As part of this ongoing monitoring, CFS conducted an updated cost analysis similar to the one undertaken at the beginning of the 2012 Bond Program. This analysis showed that as a result of inflation and market condition, construction square foot costs have increased from the original \$160 per square feet to about \$222 per square foot in 2015. Based on this increase and related projections in cost, it was determined that an additional \$211 million in funds may be required in order to construct the projects to their current scope.

The Office of Internal Audit was requested to review the accuracy of this calculation alone, but instead veers off into unsubstantiated and irresponsible allegations of bond mismanagement by CFS staff, administration, architects, program managers, and contractors. HISD administration strongly disagrees with the Report's inflation calculation and the "other factors," which the Report claims are misinterpreted as inflation. In sum,

**Preliminary Report**  
**Review of the Request for Additional Funding for the 2012 Bond Program**  
**October 21, 2015**

- The Audit Report is not based on a credible application of the data for the Houston market.
- Auditor's quote "Design to the Budget" is a simplistic cost control recommendation.
- The \$211 million reflects cost escalation alone and no other allegedly misinterpreted factors.
- The bond program utilizes a rigorous project budget review process.
- The bond program successfully has utilized both the CMAR and CSP delivery methods.

CFS staff have been fiscally responsible in managing the bond program and are confident they can fulfill the District's obligation to the students, faculty, and HISD voters with the prompt approval of the \$211 million request. Failure to recognize inflation/market escalation and adjust accordingly will inevitably result in project cuts and delays. The HISD bond program invites an audit by a qualified and experienced third party organization knowledgeable about local market conditions.

Please see the following link provided by the Office of Business Operations that includes all materials from management, including Exhibits A through I and other items.

[https://www.dropbox.com/s/9ticj54t6r3a5gz/Audit-Exhibits\\_395.pdf?dl=0](https://www.dropbox.com/s/9ticj54t6r3a5gz/Audit-Exhibits_395.pdf?dl=0)

**Audit Comment/Clarification** - The Office of Internal Audit stands by the recommendations included in this report. While the audit was not intended to serve as a review of CFS's management of the 2012 Bond Program, it is unfortunate that the perception of such exists. We considered all influences which impacted construction costs and did not limit our review to inflation. The audit looked at various factors which contributed to construction cost increases.

We dissected the cost increases into two broad areas: a.) true construction "inflation" that is uncontrollable in the opinion of most economists, and b.) price increases partially due to lack of competition, excessive demand, and improvement opportunities. We referred to an independent national construction inflation rate/cost index in order to demonstrate that inflation is a component of the cost increases the district is experiencing and not the sole cause. We do not see any independent inflation indices that support a 38% "inflation" increase as described. We do not dispute that HISD has incurred an increase in construction costs, and we have offered five basic improvement opportunities for consideration.

From the beginning, we have supported the Audit Committee's requests for a full scope, 3<sup>rd</sup> party audit of the 2012 Bond Program. Originally, this project's objective was included in the 3<sup>rd</sup> party auditor's scope of work. The need for this review became imminent because CFS submitted the \$211 million funding request to the Board of Education for a vote without a detailed project-by-project analysis. We also feel the scope and objective of this review is within our audit rights.

**Preliminary Report**  
**Review of the Request for Additional Funding for the 2012 Bond Program**  
**October 21, 2015**

In regard to the lack of competitive bidding, we sampled projects at ten campuses with a total Guaranteed Maximum Price (GMP) value of \$316.3 million, and noted the following:

- Single bids were noted for contracts valued at \$56.7 million or roughly 18% of the sampled population.
- Single bids representing self-performed work by the CMAR or work by an affiliated company were valued at \$24.4 million or 8% of the sampled population.

We see the acceptance of single bids and related party bids as contributing factors to the need for the additional funding. When contracts are not competitively bid, the resulting cost of labor and materials are potentially not a representation of local market conditions regardless of how one defines inflation.

Our concern is that accountability might be diminished if the funding is approved on a program wide basis and CFS is not required to provide usage and forecast updates by project to the Board of Education, the Bond Oversight Committee, and general public. We understand the desire of CFS is to have the funding available to assist with future contract negotiations and we can support this move as long as our recommended improvements are implemented.

Auditor:

John M. Gerwin – Construction Audit Manager

*(Signature on file)*

---

Approved:

*(Signature on file)*

---

Richard Patton – Chief Audit Executive, Office of Internal Audit

Attachments – Report Detail, Exhibits A and B, Embedded Link to Management Response

cc: Terry Grier, ED. D., Superintendent of Schools  
Kenneth Huewitt, Chief Financial Officer  
Sherrie Robinson, Controller  
Sundaresh Kamath, Officer of Construction and Facilities Services  
Elneita Hutchins-Taylor, General Counsel  
Anna Eastman, Audit Committee Member  
Manuel Rodriguez, Audit Committee Member  
Juliet Stipeche, Audit Committee Chairperson

## Attachment

### Report Detail

**Effects of Inflation** - Internal Audit consulted with R. L. Townsend & Associates, LLC, to evaluate the impact of inflation and market conditions.

Please refer to the report from R.L. Townsend, LLC., which is attached as **Audit Exhibit A**.

- 1) R. S. Means Construction Cost Data – According to R. S. Means the inflation rate for the period from 2012 through 2015 is 7.89%.
- 2) Engineering News Record According to the Engineering News Record the inflation rate for the period from 2012 through 2015 is 8.33%.

We did not use the results from the following as explained:

- 1) Public School Construction Costs issued by the Texas Comptroller of Public Accounts - A separate analysis conducted by the Texas Comptroller of Public Accounts covered construction costs for newly built campuses in the State of Texas that opened between 2007 and 2013, which was published in July 2014. Page 6 of that report referenced the use of R. S. Means and listed costs per square foot for each year. A comparison of the square foot prices for 2012 and 2013 resulted in an inflation rate of 4.8% for the whole State. The publication states the *“resulting data set remains dependent on the accuracy of data reported by school districts”*. *“Over the same six year period, the Houston area’s 169 campuses were by far the less expensive in the adjusted average cost per square foot at \$135.”* We did not rely on this information because the time period covered was not comparable.
- 2) Annual School Construction Report issued by School Planning & Management Magazine - Internal Audit did not utilize data from the Annual School Construction Report because it covered a 4 state region. According to the report from Texas Comptroller of Public Accounts the Houston area was far less expensive than the rest of the State.
- 3) Association of General Contractors - This survey is derived from contractors and therefore, not considered independent or objective for the purposes of our analysis.

**Not to Exceed Values in the CMAR Contracts and the Awarded GMPs** - A review of the contracts for the ten sampled schools from Group 1 indicates that the Guaranteed Maximum Prices (GMPs) are consistently being awarded which exceed the Not to Exceed (NTE) value stated in the contract. According to the table below, GMPs have been awarded on 9 projects which exceed the contracted NTE values by \$44,332,425. The one remaining school, Furr HS, was originally under a Construction Manager at Risk (CMAR) Contract which was cancelled and replaced by a Competitive Sealed Proposal (CSP) style contract.

A review of the NTE values in the above contracts indicates that many were simply based on the originally proposed construction budgets without including the reserves for inflation. The stated NTE value in a CMAR contract typically serves as the price ceiling for the eventual GMP.



**Preliminary Report**  
**Review of the Request for Additional Funding for the 2012 Bond Program**  
**October 21, 2015**

Acceptance of GMP amounts in excess of the NTE amounts is an inherent conflict with the terms of the contract. It has been known that CFS has been expressing concerns over cost increases. Internal Audit questions the inclusion of the NTE values in the contracts if it was known that they were already low at the time especially when the Project Management firms and the Architects are contracted to assist CFS with budgeting for the program. The award of excess GMP amounts over the NTE value could indicate a defective original NTE amount, a spike in prices due to market conditions, inflated contractor pricing due to lack of competition with CMAR sub-contractors, or inadequate cost reviews of the GMP proposals before acceptance.

School	Not To Exceed Value on Executed CMAR Contracts	Executed Construction GMPs To Date	GMP > Not to Exceed Value on the CMAR Contract
Debakey HS	\$ 41,483,501	\$ 48,282,232	\$ 6,798,731
Furr HS (CSP Contract)*	N/A	N/A	-
Grady MS	\$ 8,816,000	\$ 10,473,381	\$ 1,657,381
Lee HS	\$ 43,626,429	\$ 53,887,156	\$ 10,260,727
Mandarin Chinese Imersion School	\$ 19,138,988	\$ 26,313,216	\$ 7,174,228
Milby HS	\$ 40,162,694	\$ 52,452,182	\$ 12,289,488
North Early College HS	\$ 10,522,082	\$ 11,256,724	\$ 734,642
South Early College HS	\$ 10,450,000	\$ 11,022,411	\$ 572,411
Sterling HS**	\$ 41,198,668	\$ 45,380,795	\$ 4,182,127
Waltrip HS	\$ 22,600,000	\$ 23,262,690	\$ 662,690
Totals	\$ 278,498,514	\$ 322,830,939	\$ 44,332,425

\*Furr HS does not apply in this analysis as it was awarded as a CSP

\*\*At this writing it is not known if the GMP for Sterling HS represents the final GMP.

**Recommendation** – CFS tighten its budgetary controls to ensure that amounts under contract are an accurate reflection of the project needs. CFS should evaluate the NTE values included in its CMAR contracts more thoroughly to ensure the NTE amounts are sufficient to cover proposed GMPs. CFS should then hold the CMAR to the established budget when negotiating GMPs. If a CMAR submits a GMP in excess of the budget CFS should evaluate the benefits and potential cost savings of terminating the CMAR agreement and negotiating with the next qualified firm or consider bidding out the project under the CSP method.

In the event that CFS decides to accept a GMP in excess of the NTE amount due to a valid reason, Article 1.01 in the CMAR agreement should be amended to reflect a revised NTE amount.

**Management Response –**

- a. **The Audit Report relies upon fundamentally flawed data.**

The Audit Report's analysis of the effects of inflation is fundamentally flawed in that it utilizes insufficient data and fails to consider local market information or context. Management contends that the methodology and data used by the bond program to determine the original 2012 budget and this 2015 update are reasonable and relevant.

The Audit Report relies entirely on two national sources, RS Means and Engineering News Record, and excludes all other credible sources of national, regional, and local data. Without a more comprehensive data review, the audit is fundamentally flawed and creates an inaccurate representation of the inflation impact in the Houston area. When the bond program was establishing the original 2012 budget, administrators reviewed and considered numerous sources of data, including those used in the Audit Report, to ensure a complete and accurate assessment of local market conditions.

RS Means Construction Cost Data does not fully reflect the Houston market and cost factors. For example: According to the RS Means data published in August 2015 edition of Building Design and Construction Magazine, 2015 average cost of a high school in Houston is \$150.12 (Exhibit A). As a matter of fact, the 2014 Median Cost for a High School in Region 9 was \$209.84, according the February 2015 School Planning and Management Magazine. Information from local school districts and architects show bids being submitted this year from \$215 to \$238 per square foot.

The ENR Building Cost Index is a limited reflection of inflation rates. As enumerated in Gilbane's Construction Economics dated Summer 2015 (Exhibit B) the ENR Building Cost Index is not always the best representation of all building types. It does not include any mechanical, electrical, or plumbing items - which can comprise 30%-50% of the cost of the building. In many cases, ENR's shopping basket comprises less than 20% of the building cost. Further, ENR Building Cost Index does not take into consideration bid prices, so it often does not represent the final cost of buildings.

**ENR's own website explains the limitations of its data, (Exhibit C)**

*"Do ENR's cost indexes capture all the factors influencing construction costs? No. ENR's two primary cost indexes, the construction Cost Index and the Building Cost Index, each have only four components (inputs)—cement, lumber, structural steel, and labor. They do not capture all factors influencing project costs. They merely offer a snapshot of general cost trends."* (ENR FAQ available at <http://enr.construction.com/economics/faq>)

Management requested the well-respected independent Houston construction consulting firm Kiley Advisors, which has 30 years of experience in the local market, to review inflation rates of RS Means and ENR as stated in this report.

**Kiley concluded that neither measurement is accurate or relevant to Houston for various reasons as outlined in their letter dated October 15, 2015 (Exhibit D).**

While the district reviews many resources and data in its analyses, the most applicable to the Houston area are from School Planning & Management Data, Texas Public School Construction Cost Data, and the Associated General Contractors Houston, which provide the most complete and accurate indexes and measures in calculating the inflation percentages for the Houston area. Other documentation regarding inflation support the

district's method of calculation (Exhibit E). In addition, the State Comptroller has issued a report on Public School Construction Costs that supported the original 2012 assumptions.

The Audit Report acknowledges that local market conditions can cause higher-than-normal prices, but makes no effort to analyze and report that impact. The report completely ignores information from Houston construction professionals who state, "*Our construction workforce and resources are being strained and have driven the cost of construction up as much as 30% in the past two years.*" (February 2015 report on School Construction from AGC Houston)

The Audit Report also fails to consider other expert sources, including an August 2014 Cushman & Wakefield interview with four top construction executives, where it was stated, "*Houston is going through a white hot boom that has caused construction pricing to increase 38% between mid-2011 and now (mid-2014).*" (Exhibit F).

In addition, an October report from the Greater Houston Partnership also shows that building permit activity continues at record levels. Permitting activity totaled \$5.5 billion for the first eight months of the year, the second highest August YTD total since the partnership began tracking City of Houston building permits in 2002.

Without any substantiation, the Audit Report relies on a very limited national data source to conclude that current cost trends are, in large part, the result of an "*ineffective CMAR process, cost creep from excessive architectural designs, inadequate project cost controls and the overall effectiveness of bond program monitoring.*" The report inaccurately suggests that costs associated with these issues are the primary driver in the cost escalation HISD is experiencing. This conclusion is not based on a credible application of the data for the Houston market and should raise serious questions and concerns about how this audit was performed and the assumptions used. Such flawed methodology unfairly discredits the many professional construction companies, design professionals, project management companies, project advisory teams, and HISD staff who are involved in the 2012 Bond Program.

**b. The Bond Program utilizes a rigorous budget review process.**

CFS staff undertake a rigorous "Scope to Budget" alignment of each project in an effort to bring the project within the established budget. The Report does not appear to have reviewed any of the many processes and procedures utilized by the bond program to establish final construction costs. The process includes the input and direction of the program managers, architects, construction managers, and bond staff.

Despite these measures, current Houston market conditions have resulted in higher-than-budgeted construction costs. CFS cannot control external market factors driving costs upward due to spiking and booming Houston construction market (Exhibit G). CFS will continue to be aggressive in controlling project costs with its current implementation processes.

**Preliminary Report**  
**Review of the Request for Additional Funding for the 2012 Bond Program**  
**October 21, 2015**

It is important to note that the original not-to-exceed amounts contained in the CMAR contracts were established based upon 2012 dollars and prior to any design or community input. These original amounts did not include the inflation and reserve dollars. Had the inflation and reserve dollars been reflected in the original contracts, chances are the GMPs would have met or exceeded such values. CFS was fiscally responsible to have the contract reflect the original budget allocation in lieu of adding in the inflation and reserve dollars in the original negotiation.

CFS has done an effective job in managing each individual project, working with the contractors, architects, and communities to come to a final GMP. In instances in which this has been unattainable, CFS has terminated and pursued other options. Failure to recognize market conditions and to promptly address the impact on the bond program would not be fulfilling the promise to our communities to build 21<sup>st</sup> century schools.

**CMAR Agreement Cancelled and Replaced by a CSP** - One of the ten sampled Group 1 Projects is one of four projects which was originally a CMAR, but when CFS and the contractor could not come to an agreement, that contract was cancelled and the work was re-bid under a CSP style contract. Respective values of the proposed CMAR GMP and the CSP agreement are included in the table below, which indicates that the district avoided costs of \$14,494,176, by re-bidding under the CSP method.

School	Contract Values	Notes
Furr HS - CMAR Contract (Cancelled)	\$ 54,994,328	Proposed GMP was \$54,994,328.
Furr HS - CSP Contract	\$ 40,500,152	CSP Contract Awarded at \$40,500,152.
Total Cost Avoidance by Using CSP	\$ 14,494,176	

**Recommendation** – In cases where the CMAR is not reasonable in comparison to the NTE value in the CMAR agreement, CFS should evaluate the benefits and potential cost savings of terminating the CMAR agreement and negotiating with the next qualified firm or consider bidding out the project under the CSP method.

**Management Response –**

- a. **CFS has successfully utilized both the CMAR and CSP delivery methods**

The Audit Report fails to include that CFS has successfully utilized both the CMAR and CSP construction delivery methods. It further fails to note that CFS already has rejected GMP proposals on multiple projects that were not in line with our architects' and program managers' estimates. In each of these instances, the project teams evaluated the delivery methods and determined whether proceeding with another CMAR or switching to CSP provided the best value to the District. The CSP bids support CFS's analysis of market conditions.

For example, after rejecting the GMP at Furr High School, CSP proposals were obtained. The successful CSP proposal for Furr High School came in at \$223 per square foot. This is in line with the market conditions regarding square-foot cost of schools in our area and what we are currently seeing from the district's other CMARs, but this is still over the original budget of \$160 square foot established for our Bond Program.

If administration follows the logic of the Audit Report, it should reject this proposal and/or cut the building program or scope of work to achieve that original budget.

Simply terminating contracts because a CMAR or CSP contractor can't meet a budget amid challenging market conditions is counterproductive and doesn't serve the best interests of HISD.

**Additional Cost Control Considerations** - CFS has held many meetings with various communities via Project Advisory Teams to assist in the architectural design of each campus. Some of the designs have resulted in excessive space requirements and expensive components that we consider to be a factor in the District's budget concerns.

**Recommendation** – If the district continues to have budget concerns we recommend CFS balance the needs of the communities with the original budget by “designing to budget”, but not overlooking quality or life cycle costs.

**Management Response** – Audit's recommendation of “designing to budget” is a simplistic solution that doesn't take into account that the budgets that were established in 2012 may no longer be sufficient to deliver the schools promised and approved by voters. Again, based on the best information available at the time, the Board of Education agreed to approve a total program budget that included an average cost of \$160 per square foot for each project. As the program kicked off at the end of November 2012, this was the basis for planning most of the educational spaces for schools in Groups 1 and 2.

The extent of the overheated market conditions in Houston did not begin to be known until the fall of 2014 when pricing estimates started to come in from the contractors. At that point, CFS began alerting the Board of Education and other stakeholders about the potential impact. It was made clear that the District should first look at ways to plug any gaps before considering potential program cuts and square footage reductions. The direction given to district staff was to “go all in.” As a result, the CFS team made the prudent decision to reallocate funds within each project budget, moving all of the inflationary dollars and 50 percent of the reserves to the construction budgets. In addition, district staff also looked at value engineering options, as well as moving available dollars from other line items to the construction budgets. Even with these additional dollars, all school communities have had difficult conversations on capacity and priorities relating to their building projects.

By “designing to budget,” as recommended by the Audit, the District may need to cut capacity at many of the schools, as well as cut programs. Building schools smaller than those approved by the voters in 2012 would require Board of Education approval.

**Preliminary Report**  
**Review of the Request for Additional Funding for the 2012 Bond Program**  
**October 21, 2015**

**Project Cost Controls** - The budgetary worksheet which is the basis for the \$211 million funding request is attached as **Audit Exhibit B**. A review of the budgetary worksheet has revealed the following:

- The \$211 million estimate of the additional bonds to cover the impact of inflation was arrived at using a short cut method of estimating, versus a project by project analysis, using various assumptions that may or may not result in a reasonable forecast.
- A comparison of the actual awarded contract amounts to the proposed construction budgets included in the \$211 million budgetary increase for the ten selected Group 1 projects is shown below. It indicates a potential problem with the allocation of the requested funds, because these ten Group 1 projects are already under contract with a Guaranteed Maximum Price and should not be subject to additional inflation. HISD's allocation of the \$211 million was allocated equally over the projects in Groups 1 through 4.

**Construction Contract Awards to Date Compared to Original Bond Budget and Revised Proposed Construction Budgets**

School	Original Bond Budget for Construction Including 5% Reserve plus Estimated Inflation	Current Contract Award without Owner Allowance for Change Orders	% Over or Under Original Bond Budget	Proposed Construction Budget Including Allocation of Proposed \$211 Million Budget Increase	Unused Portion of Proposed \$211 million Budget Increase Based on Actual Contracts In Place
Debakey HS	\$ 47,065,421	\$ 48,282,232	2.6%	\$ 55,929,283	\$ 7,647,051
Furr HS*	\$ 39,241,623	\$ 40,500,152	3.2%	\$ 45,607,512	\$ 5,107,360
Grady MS	\$ 10,210,635	\$ 10,473,381	2.6%	\$ 12,094,367	\$ 1,620,986
Lee HS	\$ 52,820,515	\$ 53,887,156	2.0%	\$ 62,142,260	\$ 8,255,104
Mandarin Chinese	\$ 22,702,628	\$ 26,313,216	15.9%	\$ 26,792,093	\$ 478,877
Milby HS	\$ 48,232,333	\$ 52,452,182	8.7%	\$ 56,813,975	\$ 4,361,793
North Early College	\$ 8,749,221	\$ 11,256,724	28.7%	\$ 10,287,659	\$ (969,065)
South Early College	\$ 8,749,221	\$ 11,022,441	26.0%	\$ 10,287,659	\$ (734,782)
Sterling HS**	\$ 51,571,852	\$ 45,380,795	-12.0%	\$ 60,374,853	\$ 14,994,058
Waltrip HS	\$ 21,138,724	\$ 23,262,690	10.0%	\$ 25,009,657	\$ 1,746,967
<b>Totals</b>	<b>\$ 310,482,173</b>	<b>\$ 322,830,969</b>	<b>4.0%</b>	<b>\$ 365,339,318</b>	<b>\$ 42,508,349</b>

\*Contracted under a CSP.

\*\*At this writing it is not known if the GMP for Sterling HS represents the final GMP.

At face value, this analysis indicates that the proposed construction budgets exceed the existing contracts by \$42,508,349. This is partially due to the fact that the \$211 million was allocated proportionally based each schools' original construction budget in relation to the total construction budget. In reality, in the original calculation which came up with the \$211 million, each school was assigned an inflation percentage based on which group it belonged to. Group 1 and Group 2 schools were marked up with a lower inflation rate because construction was

already under contract or starting soon. Group 3 and Group 4 schools were assigned a higher rate because construction was planned to start in 2016. To allocate the \$211 million on a straight line basis when there were different mark ups applied to each group disproportionately allocates funds to the schools in the earlier groups.

Although the amounts of the contracts for the ten projects appear to be sufficient to deliver the work, according to CFS, some of these projects contain planned work which was deferred from the scope of work until a later time when funding was available. In addition CFS indicated that some funds were borrowed from other dedicated sources such as Furniture Fixtures and Equipment (FF&E) in order to fund construction. When asked for an accounting of the deferred work and borrowed funds, CFS stated that they would have to do research on a school by school basis and review the scope of work with the Project Advisory Teams from each school. That fact indicates that CFS does not have a firm grasp on the budgets for the ten schools in question.

**Recommendation** – Internal Audit recommends:

1. CFS prepare a project by project analysis to re-forecast the probable cost at each campus and submit increases for approval as needed, rather than approve a single program wide budget increase.
2. The project by project analysis include consideration of originally promised work, work under contract, work completed, work deferred, work remaining, and a more accurate proposed start date.
3. Creation of a project cost control group to monitor cost on a project by project basis, including a quarterly forecast, to avoid future funding concerns.

**Management Response** – Project costs are reviewed thoroughly by staff, program manager, and, where applicable, by the design firm. In addition, the district has another internal group that reviews project costs independent of the designated project managers. With this mechanism in place, management contends it has the appropriate amount of controls to monitor costs. Should a need arise in the future, either through External Audit findings or otherwise, CFS will consider supplementing additional resources to enhance the project cost control group.

CFS requires further direction and clarification from the Board of Education on specific project enhancements that should be considered in a project by project analysis. In particular, items that have been requested at schools include pools, specific building materials, temporary buildings, additional learning centers, and underground parking garages. The question should be answered as to whether schools currently under construction should have the opportunity to revisit requested items that were not essential to fulfilling a project's original scope. To what extent does the board wish CFS to consider community desires? For example, should CFS develop pricing for a 50 meter pool at Lamar? Brick instead of tilt wall at Dowling? Pool additions at Milby and Yates? A complete rebuild of Davis that includes predominantly new construction with CTE and Fine Arts areas? Multi-level underground parking garage at HSPVA? Larger capacity at Sam Houston and Pilgrim Academy? Larger capacity auditoriums that exceed district standards? Additional property purchase requests for multiple schools?

These are questions that CFS staff cannot answer without Board direction.

**Recommendation List for Process Improvements to Promote Cost Savings** - Internal Audit recommends that CFS implement the following process improvements in administering its Construction Management at Risk (CMAR) contracts and other contract types which should result in cost savings to the district and remediate some of concerns that have been attributed to market conditions.

1. HISD CMAR Process

- a. Require CMARs to improve competition at sub-contractor level and oversee their bidding process since 90% of costs reside there.
- b. Where CMAR overall proposals are unsatisfactory, such as:
  - Where total proposed GMP is unacceptable to HISD.
  - Where there are numerous instances of only one bid.
  - No sub-contractor participation possibly due to CMAR reputation.Implement alternate delivery options such as replacing CMAR with next qualified firm, or rebid with CSP.
- c. When awarding GMPs, perform a robust review of the proposed GMP details and negotiate with CMAR to mitigate excess charges. Specifically, HISD needs to perform a critical analysis of:
  - Sub-contract bids and related recommendations.
  - Self-performed work by CMAR or affiliate.
  - Inclusion of Subguard (one example GMP included 2.5% mark-up).
  - Review the mark-up percentages for liability insurance.
  - Identification of excess labor rates.
- d. For future contracts with CMAR and sub-contractors, revise contracts to optimize cost savings by including:
  - Elimination of reimbursement of sub-contractor bonds and/or Subguard
  - Reimburse general liability insurance at a maximum of 0.5% of cost of work.
  - Pay CMAR labor and labor burden at actual wages and audited labor burden, excluding ESOP.
- e. Create a project cost control group to support the CFS team and project management firms during the review and approval of contracts, GMP proposals, monthly payment applications, and change orders.
- f. Assess the impact of project delays or schedule compression on the GMP. Extend the project schedule if necessary.



2. Critical review of design specs to eliminate unnecessary costs that do not directly improve education.
3. Need to design to budget but not overlook quality and life cycle costs.

**Management Response** – Management has made a concerted effort to conduct outreach to the subcontracting community, including M/WBE subcontractors. During the bidding process, a CMAR reaches out to a wide array of subcontractors and encourages them to bid on the projects (Exhibit H). HISD also issues notices to the contractors, vendors, and other entities in our database, indicating that the CMAR currently is seeking subcontractor bids (See Exhibit I). The HISD Office of Business Assistance has also conducted a total of 77 outreach meetings for subcontractors to learn about the various projects and opportunities to do business with the district. HISD project managers and program managers also reach out to their contacts to encourage them to bid on the projects. The tight bidding climate and labor shortage in the Houston area is resulting in fewer subcontractor bids. It is not guaranteed that the subcontractor participation level will increase with the change in delivery method to CSP. Nevertheless, every attempt has been made to improve subcontractor participation levels during bidding in an attempt to secure favorable prices for HISD.

CFS has successfully utilized both the CMAR and CSP construction delivery methods based upon the Board-approved delivery method guidelines. CFS has already rejected GMP proposals on multiple projects that were not in line with our architects' and program managers' estimates and utilized alternative delivery methods as appropriate.

In addition to the outreach described above, CFS closely monitors the CMAR's subcontractor solicitation and selection process and performs a detailed review of proposed GMPs. Procurement, CFS staff, and program managers participate in the subcontractor bid processes and receive copies of all proposals. Upon receipt of a proposed GMP by the CMAR, it is reviewed and analyzed by CFS staff, the program manager, and architect. The final price is then aggressively negotiated with the CMAR.

Particular attention is given to self-performance by the CMAR. Under Texas law, a CMAR may seek to perform portions of the work itself if the CMAR submits its bid or proposal for those portions of the work in the same manner as all other trader contractor or subcontractors, and the District determines that the CMAR's bid or proposal provides the best value. In addition to this requirement, HISD now requests that the CMAR submit his pricing on the self-performing work 24 hours before the scheduled bid opening.

CFS utilizes a thorough and multi-layered review and negotiation process for each GMP. However, each project has a unique set of circumstances that may result in unique line items or differentiated costs. Further, some project circumstances have changed since the original budget was established. All of these factors are taken into consideration when negotiating the GMP.

Design specifications are reviewed thoroughly to eliminate unnecessary costs or sole source callouts throughout the design process by the CMAR as part of Constructability Reviews. During bidding, requests for substitutions are reviewed and accepted as

**Preliminary Report**  
**Review of the Request for Additional Funding for the 2012 Bond Program**  
**October 21, 2015**

necessary. CFS will continue to review design specifications to ensure no additional costs are incurred.

CFS conducts "Scope to Budget" alignments for each project. As stated, Houston market conditions have resulted in bids higher than budgeted values, resulting in the subsequent request for additional funding

**Summary (by Management)** – The report by the Office of Internal Audit should not be considered a credible assessment of the bond program or an accurate review of the administration's \$211 million supplemental funding request. The report uses limited data and incomplete research to develop conclusions and recommendations that are not based on a professional or thorough review of current market conditions in Houston. Administration stands by its request for the supplemental funding as the best solution to dealing with an unforeseen spike in construction costs since the bond budgets were developed in 2012. At the same time, the bond team recognizes that there is always room for improvement within its internal processes and continues to strive for ways to enhance program oversight and controls.

Finally, it should be noted that the Office of Internal Audit and its five staff members are an integral part of the bond program oversight and have an office at CFS, where they have had access to all documents, records, and staff since the inception of this bond program.

Should the Office of Internal Audit decide to revise its report, management requests the opportunity to respond prior to any disclosure.

**Audit Comment/Clarification** - Please refer to the Audit Comment/Clarification beginning on page 6 of this report. Also, in response to concerns from CFS regarding language in the original draft, internal audit submitted a revision containing alternative language that we felt was more palatable without changing the facts or content. CFS chose to respond to the original draft.