



CITY OF RICHMOND
CITY AUDITOR

DATE: December 11, 2020

TO: Mr. Lincoln Saunders
Acting Chief Administrative Officer

FROM: Louis Lassiter *LL*
City Auditor

SUBJECT: Citywide
Capital Improvement Projects audit

The City Auditor's Office issued a Citywide Capital Improvement Projects audit on November 9, 2020. At that time Richmond Public Schools stated they were not able to provide a response. RPS management recently responded and their response has been added to Appendix A.

We would like to thank the Administration staff and RPS management for their cooperation and assistance during this audit.

Attachment

cc: The Richmond Audit Committee
The Richmond City Council
Robert Steidel, DCAO of Operations
Betty Burrell, Director of Procurement Services
Bobby Vincent, Director of Public Works
Jason Kamras, Superintendent of Richmond Public Schools

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CITY OF RICHMOND
CITY AUDITOR

DATE: November 9, 2020

TO: Ms. Lenora Reid
Acting Chief Administrative Officer

FROM: Louis Lassiter *LL*
City Auditor

SUBJECT: Citywide
Capital Improvement Projects audit

The City Auditor's Office has completed the Citywide Capital Improvement Projects audit and the final report is attached.

During this audit, significant feedback was received from management and considered in drafting this report. Unfortunately, on several items, we were not able to reach consensus as outlined in management's responses, which are included as a part of this document. Even so, we hope that this report provides information for consideration as the City moves forward.

We would like to thank the Administration staff for their cooperation and assistance during this audit.

Attachment

cc: The Richmond Audit Committee
The Richmond City Council
Robert Steidel, DCAO of Operations
Betty Burrell, Director of Procurement Services
Bobby Vincent, Director of Public Works
Jason Kamras, Superintendent of Richmond Public Schools

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City of
RICHMOND
Office of the City Auditor

Audit Report# **2021-05**

Citywide – Capital Improvement Projects Audit

November 9, 2020

HENRY L MARSH III
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Highlights

Audit Report to the Audit Committee, City Council, and the Administration

Why We Did This Audit

The Office of the City Auditor conducted this audit as part of the FY20 audit plan approved by the Audit Committee. The main objective for this audit was to evaluate the controls, compliance and monitoring of Capital Improvement Projects.

What We Recommend

The Richmond Public School Board

- Continues to adopt school design policies to use prototype school designs as additional schools are built.

The Interim Chief Capital Projects Manager

- Solicit construction management services/program management services at a fixed price cost.

Deputy Chief Administrative Officer of Operations:

- Work with the Interim Chief Capital Projects Manager and the Director of Procurement Services to ensure:
 - Advanced project planning occurs.
 - CM@R contracts are executed to encompass pre-construction services and construction services to capture a GMP for transferring risks and budgetary control earlier in the project.

Other recommendations to improve internal controls are included in the report.



Citywide Capital Improvement Projects Audit

Background - The City of Richmond uses a long range planning process to develop a five-year Capital Improvement Plan (CIP). The City uses the CIP to strategically invest in and develop capital projects. A project that is included in the City’s capital budget is broadly defined as requiring the expenditure of public funds, for the purchase, construction, enhancement or replacement of physical infrastructure/assets. To be included in the CIP, the anticipated cost of the project must be greater than \$25,000 and must have an expected useful life greater than the life-span of any debt used to fund the project.

Commendations

- Contract terms and conditions, and scope of work were project specific, clear and concise.
- Invoices were accurate, paid timely, properly approved, and supported.
- The City implemented capital improvement project best practices as outlined by the Government Financial Officers Association (GFOA).

Needs Improvement

Finding #1 – Middle & Elementary School Construction Cost

In Calendar Years 2018 and 2019 the City’s cost per pupil to build a middle school was lower than the State’s average cost, however per square foot, the City was above the State’s average cost. The City spent more money than Chesterfield County and the State’s average to build elementary schools. The average cost to build an elementary school in the State of Virginia during Calendar Years 2018 and 2019 was \$283.22 (total cost/sq. feet), while the average cost for the City of Richmond during the same time period was \$324.28 (total cost/sq. feet).

Finding #2 – Improvements Needed for Construction Management at Risk Contract Execution

The City entered into fixed price pre-construction services contracts for the construction of three new schools. Rather than entering into second contracts for construction services, the City executed the initial CM@R contracts and worked through the construction process utilizing incremental changes via change orders. The City executed change orders of \$124,311,279, setting an incremental GMP with each change order.

Finding #3 – Noncompliance State Code and City Ordinance

The auditors reviewed six projects, which contained 15 contract modifications and 21 change orders as of May 30, 2020. Contract files were missing the second page of three contract modifications to show the Chief Administrative Officer’s (CAO) approval. According to the State of Virginia’s Records Retention and Disposition Schedule these records must be maintained for five years after termination. A quality control process was not in place to ensure contract documents were complete and in compliance with the State’s Record Retention and Disposition Schedule. The auditors also noted a contract modification of \$230,400 was not approved by the CAO.

Finding #4 – Best Practices

The City has implemented best practices as outlined by the GFOA. The auditors also reviewed best practices for capital improvement projects outlined by the Project Management Institute (PMI) and noted the City has not adopted all of the recommended project management best practices.

Management concurred / conditionally concurred with 5 of 8 recommendations. We appreciate the cooperation received from management and staff while conducting this audit.

BACKGROUND, OBJECTIVES, SCOPE, METHODOLOGY, MANAGEMENT RESPONSIBILITY and INTERNAL CONTROLS

This audit was conducted in accordance with the Generally Accepted Government Auditing Standards promulgated by the Comptroller General of the United States. Those Standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on the audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on the audit objectives.

BACKGROUND

The City of Richmond uses a long range planning process to develop a five-year Capital Improvement Plan (CIP). The City uses the CIP to strategically invest in and develop capital projects. According to the 2020 Adopted Biennial Fiscal Plan, projects included in the CIP require expenditure of public funds for the purchase, construction, enhancement or replacement of infrastructure/assets. Projects included in the plan must have an anticipated cost of greater than \$25,000 and an expected useful life greater than the life-span of any debt used as a funding source.

Capital Projects include:

- improvements to roadways, sidewalks and bikeways;
- construction and renovation of general government buildings and facilities;
- improvements to neighborhood parks, libraries and recreational facilities;
- procurement of fleet assets;
- construction and major renovations of schools and other City facilities;
- economic development activities;
- acquisition of property; and

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- new utility infrastructure and renovation of existing infrastructure to ensure efficient operation of the water, sewage, stormwater, street lighting and natural gas utility systems.

Other costs associated with capital projects include, but are not limited to, debt service architectural and engineering fees and site development.

CIP Funding

CIP is funded by bonds, special revenue funds, federal and state funds/grants, direct cash contributions (PAYGO) and other funding sources, when available. The FY2020 CIP funding was comprised of:

- \$132,556,608 in bonds,
- \$8,291,067 in short term debt,
- \$36,428,188 in pay-as-you-go sources, and
- \$38,629,628 in other sources.

The following table depicts a summary of the FY2020 CIP uses of funds:

Project Title	NO. of Projects	FY2020 Adopted
City Facility Maintenance & Improvements	4	\$3,200,000
Culture & Recreation	12	\$4,108,650
Economic & Community Development	5	\$600,909
Education	1	\$19,000,000
Public Safety	8	\$3,470,000
Transportation	37	\$52,965,865

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City Equipment & other Infrastructure Investment	2	\$8,291,067
Gas Utility	2	\$33,435,000
Stormwater Utility	1	\$15,006,000
Wastewater Utility	3	\$45,772,000
Water Utility	3	\$30,056,000
Total	78	\$215,905,491

Source: FY 2020 Biennial Fiscal Plan

Capital Projected Reviewed

The auditors reviewed six projects as follows:

Southside Regional Park and Community Center

This project was for the construction and renovation of the Southside Regional Park and Community Center. The facility includes: gymnasium, kitchen, classrooms, restrooms and a variety of other areas. The site has a number of fields for sports and a skateboard area. This is a multi-year project. In 2016, the gymnasium roof was replaced and additional HVAC upgrades were completed. In 2017, the gymnasium building renovation was completed. Funding for design development for other sites at this location was approved in FY18. The total cost for this project has varied as the scope of the project has changed significantly, however preliminary cost estimates to implement the approved master plan was \$14 Million over a period of two fiscal years. The funding source for this project is General Obligation (GO) Bonds.

Oliver Hill Courts Building

This project has been funded since 2003. This project provided ongoing alterations to improve and maintain functional and operational efficiency of the building, which includes ongoing upgrades to life safety equipment, security, access controls, and monitoring, as well as other

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improvements to infrastructure to prolong its useful life. Prior year appropriation was \$4.4 Million. This project was funded by GO Bonds.

Manchester Courthouse

Major renovations were completed in 2009. Current requests for funding include: improvements and renovations to maintain operations and functionality as well as efficiency. Additionally, upgrades for security, access control and monitoring, life safety and any other systems to prolong usefulness of the building and systems. Prior year appropriation was \$300,000 and was funded by GO Bonds.

Richmond Public Schools

Replacements for E.S.H. Greene Elementary, George Mason Elementary and Elkhardt-Thompson Middle School

Replace three existing aged school facilities with modern school comprehensive education facilities, including communities-in-schools components, all serving as major assets to the communities at large. These schools were selected for replacement by Richmond Public Schools (RPS) and date back prior to the 1940's with new designs and construction work underway since 2019. E.S.H. Greene Elementary School, George Mason Elementary School, and Elkhardt-Thompson Middle School opened in FY2021 with new names, Cardinal Elementary, Henry L. Marsh III Elementary, and River City Middle School, respectively. These schools will incorporate the community-in-schools concepts/facilities and will achieve the LEED Silver certification. Of note, the Capital Improvement Plan for Fiscal Years 2020-2024 outlined a plan to replace five schools at a cost of \$195 million, however the City had a limited debt capacity of approximately \$66 Million through FY2023, therefore any funds remaining after completion of the three schools will be used to begin planning the other two schools' replacements. In February 2018, the City adopted an ordinance which increased the meals tax from six percent to seven-and-a-half percent, overall incrementally increasing the City's debt capacity by over \$150 Million.

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CIP Process and Timeline

Each October, the Budget Office distributes a kickoff letter with instructions for submitting CIP funding requests. Subsequently, a kickoff meeting is held with the departments to walk through the process and discuss available CIP funding calculated from the prior year. Prior to the CIP submission due date, Budget staff meet with departments to answer questions concerning their respective projects. Departments are required to submit documents detailing costs related to building, maintaining, and replacing their capital projects. Projects selection are based on the City's focus areas, with community safety and well-being identified as a top priority. Upon completion of a draft budget, the Budget Office meets with departments to communicate funded and unfunded requests. The following table depicts the CIP process timeline:

CIP Process Timeline	
Month	Description
October	Budget Office holds kickoff meeting.
November	Departments submit funding requests to the Budget Office.
December	Investment and Debt Portfolio Manager determines the debt service affordability of general obligations bonds. The Budget Office uses the calculated amount to balance the CIP budget.
January-February	The Mayor and the Administration review the budget and make any needed adjustments. Once a prospective budget is set, the Budget Office meets with the departments to communicate the funded requests.
March	The budget is presented to the Planning Commission and City Council on a day of their choosing.
May	City Council must adopt the budget no later than May 31st of each year.

OBJECTIVES

The objectives for this audit were to:

- To evaluate the CIP construction Management Process for efficiency and compliance to contract terms.
- Test a sample of City CIP projects.

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SCOPE

The scope of this audit covered the CIP and Construction Management Contracts for the following projects during the period of FY19:

- Southside Regional Park and Community Center
- Oliver Hill Courts Building
- Manchester Courthouse
- E.S.H. Greene Elementary School Replacement
- George Mason Elementary School Replacement
- Elkhardt-Thompson Middle School Replacement

METHODOLOGY

The auditors performed the following procedures to complete this audit:

- Interviewed management and staff;
- Reviewed and evaluated relevant policies and procedures and tested for compliance;
- Reviewed expenditures for selected Capital Improvement Projects;
- Benchmarked against other Virginia localities;
- Reviewed City Ordinances, City Code, and State Code for applicability to CIP; and
- Performed other tests, as deemed necessary.

MANAGEMENT RESPONSIBILITY

City of Richmond management is responsible for ensuring resources are managed properly and used in compliance with laws and regulations; programs are achieving their objectives; and services are being provided efficiently, effectively, and economically.

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INTERNAL CONTROLS

According to the Government Auditing Standards, internal control, in the broadest sense, encompasses the agency's plan, policies, procedures, methods, and processes adopted by management to meet its mission, goals, and objectives. Internal control includes the processes for planning, organizing, directing, and controlling program operations. It also includes systems for measuring, reporting, and monitoring program performance. An effective control structure is one that provides reasonable assurance regarding:

- Efficiency and effectiveness of operations;
- Accurate financial reporting; and
- Compliance with laws and regulations.

Based on the audit test work, the auditors concluded the internal controls related to contract management and construction cost control need improvement. These internal control weaknesses are discussed throughout this report.

FINDINGS and RECOMMENDATIONS

What Works Well

Contract Formation

Contract terms and conditions, and scope of work were project specific, clear and concise.

Invoice/Payment Management

Invoices were accurate, paid timely, properly approved, and supported.

Government Financial Officers Association Best Practices

The City has implemented capital improvement project best practices as outlined by the Government Financial Officers Association (GFOA).

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What Needs Improvement

Finding #1 – Middle & Elementary School Construction Costs

The auditors reviewed the Virginia Department of Education (VDOE) new school construction data for Calendar Years (CY) 2018 and 2019. This data is provided to the State by localities when contracts are awarded and additional costs may be incurred after the contracts are awarded.

This report includes:

- Schools Maximum Operating Capacity
- Building Cost
- Site Cost
- Total Cost
- Total Square Feet
- Total Cost/Square Feet
- Building Only Cost/Square Feet
- Total Cost/Pupil

According to the VDOE reports, only Chesterfield County and the City of Richmond built schools in Region One with contracts award dates during CY2018 and CY2019. The auditors compared the City's school construction cost, which was provided by management with Chesterfield County as well as the State's average cost for contracts awarded in CY2018 and CY2019. The City's cost per pupil to build a middle school was lower than the State's average cost, however per square foot, the City was above the State's average cost as shown in the following table:

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Middle School Costs for Contracts Awarded in CY2018 and CY2019						
Division	School Name	Contract Award Date	Total Cost/Sq. Ft.	Total Cost/Pupil	Building Only Cost/Sq. Ft.	Maximum Operating Capacity
Chesterfield County	Manchester	2018	\$ 287.58	\$ 36,080	\$ 253.89	1,108
City of Richmond (see note)	Elkhardt-Thompson Replacement	2019	\$ 312.87	\$ 36,319	\$ 268.76	1,583
State Average		2018-2019	\$ 271.24	\$ 37,873	\$ 233.81	1,307

Additionally, VDOE data revealed that the City's costs to build the elementary schools for contracts awarded in CY2018 and CY2019 were higher than the costs in Chesterfield County as well as the State's average cost as shown in the following table:

Elementary School Costs for Contracts Awarded in CY2018 and CY2019						
Division	School Name	Contract Award Date	Total Cost/Sq. Ft.	Total Cost/Pupil	Building Only Cost/Sq. Ft.	Maximum Operating Capacity
Chesterfield County	Old Hundred	2018	\$ 244.89	\$ 26,032	\$ 190.14	940
	New Harrowgate	2019	\$ 236.42	\$ 28,568	\$ 209.10	794
	Matoaca	2019	\$ 273.21	\$ 31,933	\$ 221.12	794
	Reams Replacement	2019	\$ 266.67	\$ 32,223	\$ 212.52	794
	Ettrick Replacement	2019	\$ 256.12	\$ 30,949	\$ 217.56	794
	Crestwood Replacement	2019	\$ 254.28	\$ 30,727	\$ 215.29	794
City of Richmond	E.S.H. Greene Replacement	2019	\$308.23	\$32,137	\$266.49	1,117
	George Mason Replacement	2019	\$342.99	\$44,529	\$288.10	770
State Average (with Richmond Adjusted numbers)		2018-2019	\$283.22	\$36,664	\$228.30	815

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Note: Management provided updated DOE information for the City's schools' cost to the Auditors on 10/6/20 as well as capacity update information on 10/8/20.

It is prudent business practice to build schools at the best value. Chesterfield County executed a fixed rate contract for construction management services for \$2.2 Million with additional hourly rates for supplemental services, if required for the construction of four new elementary schools. The City solicited and awarded an annual program management services contract through a competitive Request for Proposals. Per management, projects are assigned on a not to exceed basis. The City's Program Management Services Contract was not awarded solely based on the lowest cost to the City. Rather, it was based on the chosen vendor's familiarity and knowledge of the City processes, procedures and politics. The vendor selected maintains office space and staff in the Capital Project Division area in City Hall.

Moreover, school design can affect construction cost. It has been shown that the use of prototype school designs reduces cost. Schools systems that opt to use prototype designs achieve time and cost savings. The City of Richmond worked with an architect to modify the school design concept used by the City of Suffolk. The City also incorporated the LEED silver certification in building the new schools which can impact building costs. Prototype designs are utilized in new school construction projects in a number of ways:

- Work with an architect to design a prototype schools that is customized to localities, education programs and potential future requirements;
- Select an "Off the shelf design" from a variety of tested and approved school plans; or
- Adopt predesigned modules that have the ability to be arranged in a variety of configurations to meet the confines of a site.

School systems may also see a reduction in other costs, such as change orders and contingency costs by using prototype school designs.

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Recommendations:

- 1. We recommend to the extent possible, the Richmond Public School Board continues to adopt school design policies to use prototype school designs as additional schools are built.*
- 2. We recommend the Interim Chief Capital Projects Manager solicit construction management services/program management services at a fixed price cost.*

Finding #2 –Improvements Needed for Construction Manager at Risk Contract Execution

There are a variety of construction project delivery methods. Selection of a delivery method is typically based on how an organization operates, internal resource availability, level of expertise and knowledge, funding requirements and overall schedule of delivery. The three most common methods in the delivery of construction projects are:

- *Design-Bid-Build (DBB)* - DBB is a linear process, where one task follows another, plans and specifications are completed by an architect and then bids are issued. Contractors bid the project, with the lowest responsible, responsive bidder awarded the work.
- *Construction Manager at Risk (CM@R)* - CM@R allows an owner to pre-qualify and select management general contractor services based on qualifications and experience, as well as other criteria before the design and bidding documents are fully completed. The guaranteed maximum price (GMP) is provided by the construction manager (CM) after publicly soliciting, receiving, and evaluating trade sub-contractor bids for the scope of the work, and awarding subcontracts.
- *Design-Build (DB)* - Under this method, the contractor and the architect are one team hired by the owner. A guaranteed total price is provided early in the project. The contractor/architect then develops drawings that fulfill the owner's criteria and completes the design and project construction for the negotiated fixed price, assuming no owner requested changes or unexpected conditions for which the owner contractually assumed the risk.

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The City entered into three separate CM@R contracts with three vendors to build replacements for the following schools:

- E.S.H. Greene Elementary School (Now Cardinal Elementary School)
- George Mason Elementary School (Now Henry L. Marsh II Elementary School)
- Elkhardt-Thompson Middle School (Now River City Middle School)

Pursuant to Purchasing Policy No. 50, CM@R is “a construction delivery method in which the construction manager is required to deliver the project within a Guaranteed Maximum Price (GMP) and provides or is at-risk for all or a portion of the construction to be provided.” This Policy was revised to incorporate policy changes adopted by City Council on June 25, 2018 to enhance the use of CM@R project delivery method.

Per the Commonwealth of Virginia, Construction and Professional Services Manual (CPSM), “CM@R contracts are structured in two parts:

- (a) *Pre-Construction Services*: services are subject to the terms and conditions for Non-Professional Services and are performed for a stipulated or fixed amount; and
- (b) *Construction Services*: services are contingent upon the CM@R providing an agreeable GMP to the owner.”

If a GMP cannot be agreed upon, the Contract for Part I Pre-Construction Services is concluded and the Agency would not enter into a Part 2 contract with the CM@R. In the event of phased permitting, where the drawings and specifications are not complete for portions of the project, but where early release packages have been bid and permitted, the value of the early release serves as an interim GMP for the work pending a full GMP for the project.

The City entered into fixed price pre-construction services contracts with three vendors for the construction of three new schools. Rather than entering into a second contract for construction services, the City executed the initial CM@R contract and worked through the construction

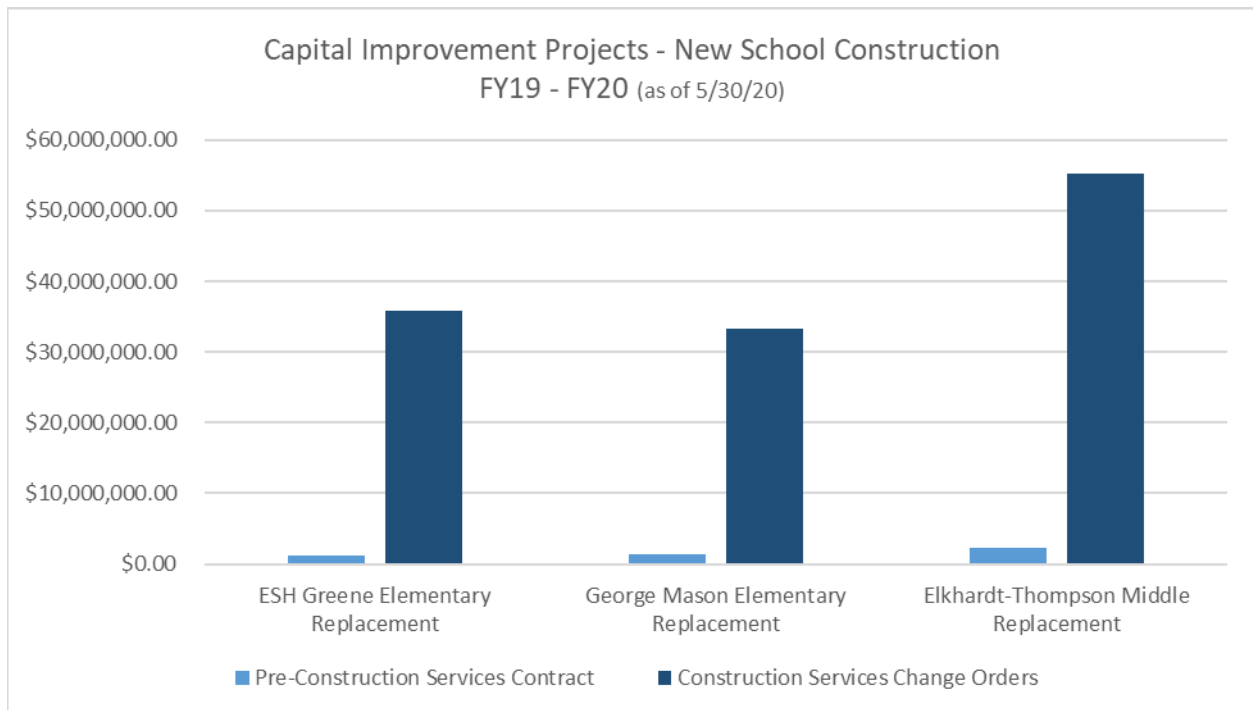
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process utilizing incremental changes via change orders. The City executed contract change orders of **\$124,311,279**, setting an incremental GMP with each change order. The following graph shows the pre-construction services contract amounts and the construction services change orders for the three schools from July 2018 through May 30, 2020:



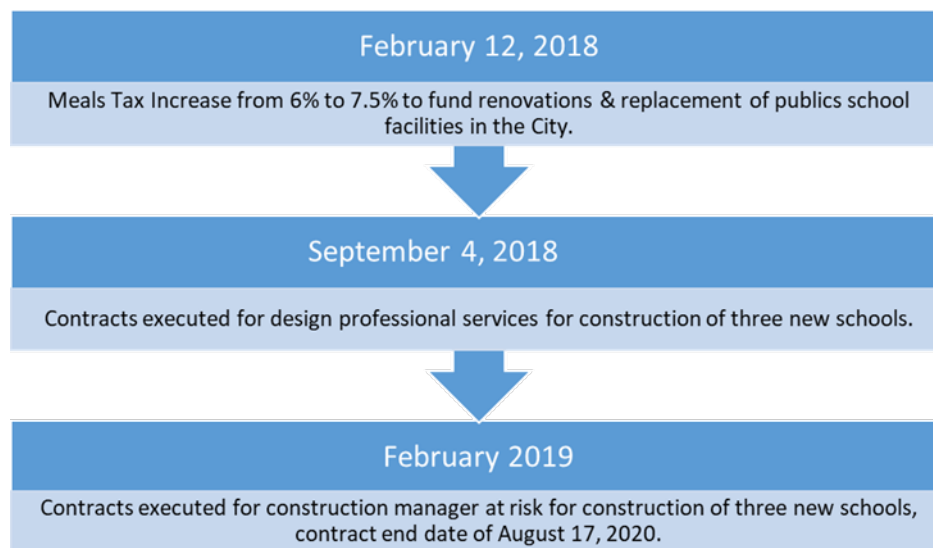
Due to time constraints for a September 2020 occupancy for Richmond Public Schools, and due to the age and poor condition of these schools, there was minimal pre-planning prior to project engagement. This did not allow for an optimal planning, design and construction timeline and according to management, with an escalating building cost environment this phased approach was used to save time and funding. Also, City policies do not provide enough guidance. Current policies are vague and subject to interpretation. Purchasing Policy No. 50 does not provide procedural guidance for the use of early release packages and establishment of incremental GMPs. Furthermore, the policy does not outline the required documentation to perform these tasks. The timeline below illustrates events from funding approval to contract termination.

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The City did not obtain a GMP early during the construction phase of the projects, but rather did this incrementally due to time constraints and minimal pre-planning. Due to this practice, risk was not transferred to the Construction Manager at Risk earlier in the project, therefore, increasing the City's cost risk and neutralizing a primary benefit for the selection of this project delivery method.

Recommendations:

If the City is going to continue using Construction Manager at Risk as a procurement method:

3. *We recommend the Deputy Chief Administrative Officer for Operations work with the Interim Chief Capital Projects Manager and the Director of Procurement Services to ensure:*
 - *Advanced project planning occurs; and*
 - *CM@R contracts are executed to encompass pre-construction services and construction services to capture a GMP for transferring risks and budgetary control earlier in the project.*

4. *We recommend the Director of Procurement Services develop a separate policy for the CM@R project delivery method, encompassing requirements as outlined by the State Construction and Professional Services Manual.*

Finding 3 – State Code and City Ordinance Noncompliance

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The auditors reviewed six projects, which contained 15 contract modifications and 21 change orders as of May 30, 2020. During the file review, the auditors noted the contractors' files were missing the documents that showed Chief Administrative Officers' (CAO) approvals as follows:

Project	Missing Documentation
E.S.H. Greene Elementary School Replacement	Contract Modification # 1 – CAO Signature Page
George Mason Elementary School Replacement	Contract Modification # 1 – CAO Signature Page
Elkhardt-Thompson Middle School Replacement	Contract Modification # 1 – CAO Signature Page

According to the State of Virginia's Records Retention and Disposition Schedule for Contract Records, performance and conformance records of contractual obligations of the locality or owed to the locality must be maintained for five years after termination. Non-compliance with the State's Record Retention and Disposition Schedule could expose the City to financial loss. A quality control process was not in place to ensure contract documents were complete and in compliance with the State's Record Retention and Disposition Schedule.

The auditors also noted a contract modification of \$230,400 was not approved by the CAO. According to Virginia State Code § 2.2-4309 and City Ordinance §21-59, "a public contract may include provisions for modification of the contract during performance, but no fixed price contract that will increase the amount to be expended under such contract in an amount in excess of \$100,000 in the aggregate shall be made unless the Chief Administrative Officer approves such change in writing in advance of such modification being made."

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The Procurement Services staff who approved and processed the contract modification is no longer employed by the City. Therefore, the auditors could not determine the rationale for not obtaining the CAO's approval. The City failed to comply with Virginia State Code as well as City Ordinance. Non-compliance with contract modifications could expose the City to financial losses.

Recommendations:

- 5. We recommend the Director of Procurement Services implement a quality control process to ensure all contract files are complete with required approvals documented.*
- 6. We recommend the Director of Procurement Services ensure contract modifications are executed in compliance with Virginia State Code § 2.2-4309 and City Ordinance § 21-59.*

Finding #4 – Best Practices

The auditors reviewed best practices for capital improvement projects outlined by the Government Financial Officers Association (GFOA) and noted the City of Richmond has implemented the best practices as outlined by the GFOA. The auditors also reviewed best practices for capital improvement projects outlined by the Project Management Institute (PMI) and noted the City has not adopted all recommended project management best practices. PMI outlines three concepts for project management success recommended to management for implementation:

- Project Management Training;
- Project Management Organizational Maturity Assessment; and
- Project Performance Auditing.

The City has partially implemented parts of all three PMI best practices. The City recognized a need for CIP construction management improvement and training and conducted a two-day seminar on August 28th and August 29th, 2019. Other tasks relating to the CIP task force process development are in progress.

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Recommendations:

- 7. We recommend the Deputy Chief Administrative Officer of Operations continue to develop and implement the Capital Improvement Project Management Development and Training.*

- 8. We recommend the Deputy Chief Administrative Officer of Operations adopt industry best practices as outlined by the Project Management Institute, as well as other professional standards applicable to project management: project management training, organizational assessment and project performance audits.*

**APPENDIX A: MANAGEMENT RESPONSE FORM
2021-05 Citywide Capital Improvement Projects Audit**

#	RECOMMENDATION	CONCUR Y/N	ACTION STEPS
1	We recommend to the extent possible, the Richmond Public School Board continues to adopt school design policies to use prototype school designs as additional schools are built.	Y	Richmond Public Schools' management has concurred and is continuing to implement these policies to the extent possible.
	TITLE OF RESPONSIBLE PERSON		TARGET DATE
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION
#	RECOMMENDATION	CONCUR Y/N	ACTION STEPS
2	We recommend the Interim Chief Capital Projects Manager solicit construction management services/program management services at a fixed price cost.	N	See Administration's Report attached.
	TITLE OF RESPONSIBLE PERSON		TARGET DATE
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION
#	RECOMMENDATION	CONCUR Y/N	ACTION STEPS
3	We recommend the Deputy Chief Administrative Officer for Operations work with the Interim Chief Capital Projects Manager and the Director of Procurement Services to ensure: <ul style="list-style-type: none"> • Advanced project planning occurs; and • CM@R contracts are executed to encompass pre-construction services and construction services to capture a GMP for transferring risks and budgetary control earlier in the project. 	N	See Administration's Report attached.
	TITLE OF RESPONSIBLE PERSON		TARGET DATE
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION
#	RECOMMENDATION	CONCUR Y/N	ACTION STEPS
4	We recommend the Director of Procurement Services develop a separate policy for the CM@R project delivery method, encompassing requirements as outlined by the State Construction and Professional Services Manual.	N	See Administration's Report attached.
	TITLE OF RESPONSIBLE PERSON		TARGET DATE
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION
#	RECOMMENDATION	CONCUR Y/N	ACTION STEPS
5	We recommend the Director of Procurement Services implement a quality control process to ensure all contract files are complete with required approvals documented.	Conditionally Y	See Administration's Report attached.
	TITLE OF RESPONSIBLE PERSON		TARGET DATE
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION
#	RECOMMENDATION	CONCUR Y/N	ACTION STEPS
6	We recommend the Director of Procurement Services ensure contract modifications are executed in compliance with Virginia State Code § 2.2-4309 and City Ordinance § 21-59.	Conditionally Y	See Administration's Report attached.
	TITLE OF RESPONSIBLE PERSON		TARGET DATE
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION

**APPENDIX A: MANAGEMENT RESPONSE FORM
2021-05 Citywide Capital Improvement Projects Audit**

#	RECOMMENDATION	CONCUR Y/N	ACTION STEPS
7	We recommend the Deputy Chief Administrative Officer of Operations continue to develop and implement the Capital Improvement Project Management Development and Training.	Y	See Administration's Report attached.
	TITLE OF RESPONSIBLE PERSON		TARGET DATE
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION
#	RECOMMENDATION	CONCUR Y/N	ACTION STEPS
8	We recommend the Deputy Chief Administrative Officer of Operations adopt industry best practices as outlined by the Project Management Institute, as well as other professional standards applicable to project management: project management training, organizational assessment and project performance audits.	Conditionally Y	See Administration's Report attached.
	TITLE OF RESPONSIBLE PERSON		TARGET DATE
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION



CITY OF RICHMOND

INTRACITY CORRESPONDENCE

TO: Louis Lassiter, City Auditor

FROM: Robert Steidel, DCAO of Operations
Betty Burrell, Director of Procurement
Robert Stone, Interim Chief Capital Projects Manager

CC: Lenora G. Reid, Acting Chief Administrative Officer
Dr. Cynthia Newbille, President of Richmond City Council
Lincoln Saunders, Mayor's Chief of Staff
Bobby Vincent, Director of Public Works

DATE: November 6, 2020

SUBJECT: Administration Response to City Auditor Report #2021-05

The City Administration has reviewed the Richmond City Auditor's Report #2021-05 regarding the Citywide Capital Improvement Projects. The Administration takes issue with the general tone of the audit report. Rather than looking at a broad cross section of City Capital Improvement Program (CIP) projects, the audit report gives only a cursory look at three minor projects and focus primarily on the new schools projects. The preoccupation with the school projects completely overlook major CIP projects within transportation and utilities, and does not accurately reflect a complete audit of the city's CIP program.

The Administration believes audits should be conducted based on events that have already taken place, to have a comprehensive and static accounting of all documents to be reviewed. Instead the official start date to begin the CIP audit, for schools, was December 3, 2019, at that time all three schools were in the process of being built. Auditing a building construction project before the completion of walls and floors has placed pressure on both the Auditor and the Administration as documents were constantly being updated with new information. This approach has placed a strain on City resources as the CIP audit has gone on for nearly a year.

A real urgency existed to construct and open three new schools by the fall of 2020. Deplorable school conditions would often render the facilities unsafe and unusable for students, faculty and staff. Due to the advanced construction timeline, a cross-agency team was established to ensure the timely completion of the new schools. Through bi-monthly Joint Construction meetings, Mayor Stoney, the City Administration, City Council, Richmond Public Schools Administration, and designated School Board officials collaborated on every aspect on the construction of the three schools including funding mechanisms, design concepts, contracts, and construction details.

While the fall 2020 ready date was an aggressive schedule, it was achievable due to the cross agency collaboration and the chosen procurement delivery method. Upon careful review of the three major project delivery methods, which are outlined in this Audit Report, CM at Risk delivery was selected as the best option to meet the project's goals for schedule, cost, quality and meaningful MBE participation.

Below the Administration provides and expands upon the formal responses to each of the report's findings and recommendations:

Finding #1 – Middle & Elementary School Construction Cost

“According to the VDOE reports, only Chesterfield County and the City of Richmond built schools in Region One with contracts award dates during CY2018 and CY2019. The auditors compared the City's school construction cost, which was provided by management with Chesterfield County as well as the State's average cost for contracts awarded in CY2018 and CY2019. The City's cost per pupil to build a middle school was lower than the State's average cost, however per square foot, the City was above the State's average cost...”

Recommendations:

2. We recommend the Interim Chief Capital Projects Manager solicit construction management services/program management services at a fixed price cost.

Administration Response:

The Auditor's office has employed a methodology to evaluate VDOE data; unfortunately, this methodology leaves other critical data points out of the report. VDOE Region 1 covers primarily rural municipalities. Richmond City Schools, being listed as a 'medium sized City', is the largest municipality in Region 1. The methodology chosen for the report omits other medium sized localities like Arlington County, which received a contract award in September 2019 to build an elementary school at a cost of \$382.16 (total cost/sq. feet).

A more true comparison would have been to compare City of Richmond school construction costs with other medium sized cities. Where schools were built in varying years, a simple adjustment for inflation could have been made. For reference the 'medium size cities' from VDOE are listed below. (<https://www.doe.virginia.gov/directories/>)

Div#	Name	Locale Description
101	Alexandria City	City, Middle
7	Arlington County	City, Middle
112	Hampton City	City, Middle
117	Newport News City	City, Middle
118	Norfolk City	City, Middle
121	Portsmouth City	City, Middle
123	Richmond City	City, Middle

Chesterfield County is fortunate to be in the financial position to, in less than a two-year span from 2018-2019, bid and award contracts to build six new elementary schools utilizing a prototype design. This marketplace buying power, economies of scale, along with other factors has enabled Chesterfield County to build new elementary schools more cheaply than just about any other municipality or public school system in the Commonwealth of Virginia.

The generally recognized truth is that the cost of doing business in the City of Richmond, or other medium sized Cities, is higher than in the surrounding counties. At the time the Administration executed the three construction contracts in 1st quarter 2019, the national economy was at nearly full employment, and the local construction market was booming with numerous public and private sector projects already underway or pending. Even in September 2018, Chesterfield County received only a single bid for their Manchester Middle School Replacement project. The cost for the new River City Middle School compares quite favorably with Chesterfield's cost for Manchester Middle School. This accounts for inflation between bidding dates and other factors such as LEED certification, despite Richmond having a significantly more compressed construction schedule for a 32% larger building. Moreover, Henrico County bid two new high school projects in August 2019 and received bids significantly higher than anticipated.

Regarding the second recommendation, the Audit Report misleads the reader to think that the Administration procured Program Management/Construction Management (PM/CM) services differently than Chesterfield County for their recent school construction projects. This is simply not the case. A careful reading of the Audit Report reveals that on Page 10 Chesterfield executed a “fixed rate” contract for CM services, yet the recommendation states that the City should solicit CM/PM services at “a fixed price cost”. These two terms are not synonymous.

The Administration has reviewed Chesterfield’s CM services solicitation. Both Richmond and Chesterfield procured these services utilizing a non-professional services Request for Proposals (RFP), which led to a competitive negotiation process. This is what is prescribed in City Procurement Policy, a process that has been utilized for decades, and is the standard procurement method used by most governmental bodies to procure this type of services contract.

Both Richmond and Chesterfield used a variety of qualifications and experience scoring factors along with a cost effectiveness factor to score and rank the proposals. Both Richmond and Chesterfield awarded contracts based on negotiated billing rates, which are used to determine the cost of services for specific projects based on the desired staffing needs, level of service and project duration. Contrary to what is stated in the Auditor’s Report, “knowledge of City politics” was not one of the evaluation/scoring criteria contained in the RFP. It is also worth pointing out that the RFP for the current PM/CM contract was advertised in September 2015 during the administration of Mayor Jones.

Finding #2 – Improvements Needed for Construction Management at Risk Contract Execution

“The City entered into fixed price pre-construction services contracts with three vendors for the construction of three new schools. Rather than entering into a second contract for construction services, the City executed the initial CM@R contract and worked through the construction process utilizing incremental changes via change orders. The City executed contract change orders of \$124,437,093, setting an incremental GMP with each change order.”

Recommendations:

If the City is going to continue using Construction Manager at Risk as a procurement method:

3. We recommend the Deputy Chief Administrative Officer for Operations work with the Interim Chief Capital Projects Manager and the Director of Procurement Services to ensure:

- Advanced project planning occurs; and
- CM@R contracts are executed to encompass pre-construction services and construction services to capture a GMP for transferring risks and budgetary control earlier in the project.

4. We recommend the Director of Procurement Services develop a separate policy for the CM@R project delivery method, encompassing requirements as outlined by the State Construction and Professional Services Manual.

Administration Response:

The summary statement of Finding #2 is factually correct; however, the Administration does not concur with many of the assertions contained in the body of the report on pages 13 and 14. Specifically, the Administration disagrees with the opinion of the Audit Report that there was “minimal pre-planning prior to project engagement”. Without significant project planning these three new schools would not have been designed, construction contracts procured, and construction completed in such a compressed timeframe. The very real and immediate needs of Richmond’s children, teachers and staff dictated the schedule for these three new schools.

The Administration does not concur with Recommendation #3, not because we disagree with the basic sentiment expressed, but rather because we believe that proper project planning did occur and that the phased CM@Risk Guaranteed Maximum Price (GMP) employed in these projects was critical and necessary to accomplishing the project goals. Under Virginia law, public sector CM@Risk delivery can self-perform at most 10% of the contract value and must

perform 90+% of the contract work through publicly bid subcontracting. Contrary to the opinion expressed on page 14 of the report, any experienced and prudent CM@Risk contractor is going to shield themselves from undue financial risk if forced to provide a complete early GMP based on incomplete design documents through the inclusion of increased contingency fees and allowances. The Administration does not know when the CM@Risk project delivery method might need to be used next or the type of construction project (schools, utilities, transportation or facilities buildings), but it is likely that schedule requirements will be a significant driving factor. Therefore the Administration does not advocate eliminating any legally available tools from our project management toolbox to meet the demands of our citizens

The Administration does not concur with Recommendation #4. The Guidelines contained in Procurement Policy No. 50, which was updated in June 2018 to conform to changes in Virginia Code, were carefully reviewed and edited by the City Attorney. The Administration believes this Policy complies with the requirements of Virginia Code Chapter 43.1 Section 2.2-4382. The reference in this section of Virginia Code to “the procedures adopted by the Secretary of Administration” is a document separate and different from the State Construction and Professional Services Manual (CPSM) and can be found at the following Virginia DGS DEB webpage:

<https://dgs.virginia.gov/engineering-and-buildings/special-reports-and-procedures/AlternativeConstructionProcurementProcedures/>

Finding #3 – Noncompliance State Code and City Ordinance

“The auditors reviewed six projects, which contained 15 contract modifications and 21 change orders as of May 30, 2020. During the file review, the auditors noted the contractors’ files were missing the documents that showed Chief Administrative Officers’ (CAO) approvals... According to the State of Virginia’s Records Retention and Disposition Schedule for Contract Records, performance and conformance records of contractual obligations of the locality or owed to the locality must be maintained for five years after termination. Non-compliance with the State’s Record Retention and Disposition Schedule could expose the City to financial loss. A quality control process was not in place to ensure contract documents were complete and in compliance with the State’s Record Retention and Disposition Schedule. The auditors also noted a contract modification of \$230,400 was not approved by the CAO.”

Recommendations:

5. We recommend the Director of Procurement Services implement a quality control process to ensure all contract files are complete with required approvals documented.
6. We recommend the Director of Procurement Services ensure contract modifications are executed in compliance with Virginia State Code § 2.2-4309 and City Ordinance § 21-59.

Administration Response:

The Administration conditionally concurs with recommendation #5. DPS has experienced a high level of turnover, an average of 25% per year since 2013, including the former employee who was the lead person responsible for all 2020 Schools change orders. Management cannot discuss personnel matters and as such can only agree that Quality Control processes are important, should be, and will be implemented. Important note: the problems created by a high turnover rate is further exacerbated by the extreme difficulty DPS has encountered in our attempts to hire staff who possess procurement experience and/or training to fill the vacated positions.

Of the most recent attempt to hire Senior Procurement Analysts for a posting that closed on 8/30/20, three applicants declined to interview, three applicants declined our job offers, and a couple of applicants barely qualified for a senior role. Lastly, based on the volume of complex procurements that are time-sensitive and can be unforgiving with respect to the required contractual needs to protect against risks to life, health, and safety, the highest risks are addressed first

and can, on occasion, result of minor mistakes or missteps such as the omission of certain documentation in DPS records. DPS is currently responsible for 342 Active Contracts in aggregate worth \$1.4B.

The Administration conditionally concurs with recommendation #6. As previously stated, DPS has experienced a high level of turnover, including the former employee who was the lead person responsible for all 2020 Schools contract modifications. Management agrees that all contracts, contract modifications, and change orders must be executed in compliance with City Code, and applicable Virginia Code procurement provisions.

Finding #4 – Best Practices

“The auditors reviewed best practices for capital improvement projects outlined by the Government Financial Officers Association (GFOA) and noted the City of Richmond has implemented the best practices as outlined by the GFOA. The auditors also reviewed best practices for capital improvement projects outlined by the Project Management Institute (PMI) and noted the City has not adopted all recommended project management best practices.”

Recommendations:

7. We recommend the Deputy Chief Administrative Officer of Operations continue to develop and implement the Capital Improvement Project Management Development and Training.

8. We recommend the Deputy Chief Administrative Officer of Operations adopt industry best practices as outlined by the Project Management Institute, as well as other professional standards applicable to project management: project management training, organizational assessment and project performance audits.

Administration Response:

The Administration concurs with Recommendation #7. Project Management Institute (PMI) training is being planned through Virginia State University’s project management certificate program (<http://www.cet.vsu.edu/departments/technology/programs/certificate-programs/index.php>) and CPSM training through the Virginia Department of General Services (VDGS) program, which is open to local governments. Disruptions from the COVID-19 pandemic have impacted the ability to procure the VSU training and the timing for VDGS to offer the CPSM training. Many of the City’s senior capital project managers still in DPU, DPW and Parks and Recreation underwent extensive PMI based project management training in 2005-2006 timeframe. For the past two years, we have been conducting ongoing workshops with City staff and City Council staff involved with the CIP planning and budgeting process to refine the processes through which we initiate, evaluate, prioritize and fund CIP projects.

With respect to Recommendation #8, due to the broadness of this recommendation, we can only agree to evaluating industry best practices as outlined by PMI and other professional standards. Best practices that are found to be applicable, implementable and cost effective will be considered for implementation.

Conclusion:

The Administration is proud to have been given the opportunity to build three new schools. Having been able to build the schools on time, on budget, and during an economic downturn and pandemic is no small feat. If there is an opportunity to do it again, given the same set of variables and circumstances, the Administration will not change the project implementation. Based on the fact that doing so could have compromised the project deliverables.