



April 27, 2022

Performance Audit

**Construction Project Management and
Change Orders**

Aviation Department

Report No. 21-112



**CITY OF ALBUQUERQUE
OFFICE OF INTERNAL AUDIT**

City of Albuquerque - Office of Internal Audit

Construction Project Management and Change Orders

Performance Audit

April 27, 2022

Audit #21-112

Executive Summary

The Office of Internal Audit (OIA) conducted a performance audit of the City of Albuquerque's (City) Aviation Department's (Aviation) construction project management controls over the *Terminal Improvement Project (TIP) at the Albuquerque International Sunport* (Sunport). The audit objective was to determine whether Aviation has adequate policies and procedures for effectively monitoring and controlling construction costs. Specifically, the audit assessed whether Aviation established and implemented procedures to protect and mitigate owner risk, reduce and eliminate contractor discretionary spending, control allowances, and manage contingency spending and non-allowable costs in change orders. The scope of the audit included all construction costs incurred related to TIP.

The audit found that Aviation did not have the appropriate framework in place to effectively monitor and control project costs and progression, resulting in an additional \$3 million in change orders and over two years of project delays after the original contract completion date. Aviation staff over-relied on the architect consultant and as a consequence failed to document the approved schedule of values, maintain a construction schedule from the primary contractor, validate the contractor's payment applications to ensure that project costs were justified, document visual inspections of construction progress, and develop its own project management policies and procedures. Further, Aviation to date has not assessed up to \$753,000 in liquidated damages from the primary contractor, as provided for under the contract to help recover cost overruns associated with project delays.

The City and the primary contractor initially agreed to 13 change orders, with various types of altered work to be performed and contract time extensions totaling 126 calendar days. The primary contractor subsequently submitted a 14th change order, claiming that overhead and profit within those previous 13 change orders did not include general condition compensation for 53 of the 126 days extended. As a result, the primary contractor received an additional \$189,779, which the City was not obligated to pay. The primary contractor was required to adhere to the City's *Standard Specifications General Conditions*, which stipulates that the primary contractor's agreement of a change order is a waiver of any reservation of claim for additional compensation. Although provided for by the contract, Aviation chose not to require the primary contractor to obtain multiple competitive bids from subcontractors for newly proposed work in change orders.

Lastly, the audit found that a \$3,625 change order was approved for questionable and unnecessary work for construction that was ultimately removed. The prior Administration requested "to make the carousel look as complete as possible for a photo opportunity for City Administration." As a result, the primary contractor instructed a subcontractor to install ceiling tiles prior to completion of overhead. Once the photo opportunity was complete, the primary contractor instructed the same subcontractor to remove the tiles to complete the overhead work.

Recommendations

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Aviation should:

- Consult with the City Attorney's Office regarding its ability to seek up to \$753,000 in liquidated damages from the primary contractor and its ability to recover \$189,779 in change orders which it was not obligated to pay.
- On future projects, enforce the relevant Supplemental Special Provision and require a formal schedule of values and construction schedule be submitted for approval.
- Incorporate project management controls into its formal policies that: define its role and responsibilities in managing project progression and charges, require validation of payment applications for reasonableness; require visual inspections be conducted and documented; establish a standard process for documenting decisions regarding delays subject to liquidated damages; the process for how requests from work outside the project scope should be handled; and the criteria for requiring multiple competitive bids from subcontractors on change orders.
- Discuss with applicable departments whether revisions are necessary to the City's Standard Specifications General Conditions related to the processing and approval of change order requests outside the original scope of work.

Aviation *concurs* with all findings and recommendations made. The response of the department is attached as an appendix. OIA will work with the department to follow up every six months on the status of the open recommendations made in this report.

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City of Albuquerque

Office of Internal Audit

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Accountability in Government Oversight Committee
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Audit No. 21-102

INTRODUCTION

The Office of Internal Audit (OIA) conducted a performance audit of the City of Albuquerque’s (City) Aviation Department’s (Aviation) construction project management controls related to the 2017 Terminal Improvement Project (TIP) at the Albuquerque International Sunport (Sunport). The audit objective was to determine whether Aviation has adequate policies and procedures for effectively monitoring and controlling construction costs. Specifically, establishing and implementing procedures to:

- Project and mitigate owner risk,
- Reduce and eliminate contractor discretionary spending,
- Control allowances, and
- Manage contingency spending and non-allowable cost in change orders

The scope of the audit was all construction costs related to the 2017 Terminal Improvement Project. The audit was included in OIA’s work plan for fiscal year 2021. Further information pertaining to the audit objectives, scope, and methodology can be found in **Appendix A**.

BACKGROUND

The Sunport is New Mexico’s largest commercial airport, welcoming over 5 million passengers each year and is responsible for \$2.25 billion in economic output for the state¹. The Sunport is owned and operated by the City of Albuquerque (City) and has one terminal with 22 gates used by major commercial air carriers and another gate that accommodates commuter airlines.

The Aviation Department (Aviation) is responsible for overseeing Sunport operations on behalf of the City. The mission of Aviation is to be a first-class airport connecting families, businesses and cultures while prioritizing safety, diversity, sustainability, and accessibility. Aviation is one of two major enterprise funds for the City and has a capital budget that totaled \$66.5 million in fiscal year 2022. The money for projects is generated by fees paid for services provided by the enterprise with a pledge against the net revenues of the respective system.

The Terminal Improvement Project

TIP construction, which commenced in 2017, included the Level 1 Baggage and exterior Arrivals areas and the Level 2 Ticketing and exterior Departures areas on the pre-security side of the terminal. The work also included wayfinding signage within all public areas throughout the terminal. The description of work to be performed related to TIP is as follows:

Description of Work	
Level 1 Baggage	The work scope includes demolition of existing systems and new ceilings and lighting at the escalator lobby; new baggage area ceilings and soffit beams and lighting; divider railing removal; fixed bench seating and horizontal surface furniture adjacent to baggage carousels; new simplified column guards with accent lighting; refurbished exit vestibule surrounds; new ceilings at exists, walkway ceilings and lighting; new service counters; replacement of mechanical mixing boxes, ductwork diffusers and returns; and electrical infrastructure.
Level 1 Arrivals	The work includes demolition of existing systems and exit vestibules with new finishes; passenger pick-up sidewalk extension, ceiling and lighting; ceiling removal at the underside of the elevated roadway, new exposed structure finish and lighting; portico base refurbishment; new crosswalks ceilings and lighting; new crosswalk terminus canopy; new trellis canopies with rain gutter/downspouts and lighting; windscreens/seating; existing landscaping refurbishment adjacent to elevated roadway; structural remediation; and electrical infrastructure.

1 - University of New Mexico 2019 economic impact study.

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Level 2 Ticketing	The work includes demolition of existing systems and new ticket lobby ceilings and soffit beams, new lighting; new ticket counters and self-check-in kiosks, new simplified column guards with accent lighting; refurbished entrance vestibule surrounds; new walkway ceilings, lighting and faux skylights at the vestibule entrances; replacement of mechanical mixing boxes, ductwork diffusers and returns; and electrical infrastructure.
Level 2 Departures	The work includes demolition of existing systems and a new trellis canopy with rain gutter/downspouts, lighting, and PA speakers; removal and replacement of curbside check-in kiosks with canopy, wind screens and lighting; refurbishment of entrance porticos with new lighting and portico column bases; refurbished entrance vestibules with new finishes; new concrete sidewalk finish striping/signage upgrades; guard railings refurbishment structural remediation; and electrical infrastructure.
Signage	The work includes demolition of existing signage and installation of new signage. Signage types consist of illuminated hanging wayfinding signs, fascia-mounted signs and column wraps; column and wall mounted flag signs; and room signs. The work also includes signage structural support; electrical power to illuminated signs; cutting, patching and refinishing of all floor, wall and ceiling surfaces affected by removals and new work.
Low Voltage	This work includes new low voltage systems design coordination and rough-in for fire alarm, telephone, BAS interface, lighting controls and data systems. Data systems include coordination of the flight information display system, baggage information display system and airline data management systems.

A best-value request for proposal (RFP) delivery method was utilized for TIP. A best-value RFP is a method in which the project owner contracts with a single entity, the architect-consultant, for both design and construction service. Aviation utilized the architectural consulting services from SMPC Architects, for TIP, through an existing contract between the City and SMPC Architects.

Through a bidding process, the City's Municipal Development Department (DMD), entered into a \$29.8 million lump sum agreement with Flintco, LLC (Flintco), as the primary contractor. In a lump sum contract, the contractor agrees to provide specified services for a stipulated or fixed price. A contractor under a lump sum agreement is responsible for the proper job execution and provides its own means and methods to complete the work.

The General Conditions Agreement of Flintco's contract, sets forth the responsibilities of TIP's owner and primary contractor throughout all stages of construction, including the compensation to which Flintco is entitled. It allows Flintco and its subcontractors to receive a specified overhead and profit markup percentage on their direct costs (direct labor, direct materials, and equipment) incurred. The general contractual terms between the City and the Primary Contractor are detailed below:

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Contract Terms	
Type of Contract	Lump Sum
Project Delivery Method	Best-Value RFP
Contract Length	456 days
Lumpsum Amount	\$29,882,721
Overhead Markup Limit on Change Orders	5%
Profit Markup Limit on Change Orders	5%

The table below details the responsibilities of each party involved in the TIP contract.

TIP Project Roles and Responsibilities		
Role	Party	Responsibilities
Owner	The City of Albuquerque	Pays for the construction project
Project Manager	Aviation Department	Represents the project owner and has day-to-day administrative responsibilities.
Fiscal Manager	Municipal Development Department	Serves as the final review and approval of payment applications and change orders prior to payment.
Architect Consultant	SMPC Architects	Oversees all construction on behalf of the project owner.
Primary Contractor	Flintco, LLC	Builds the project.
Subcontractors	12 firms hired by the primary contractor	Construction trade workers, such as electricians and carpenters, hired by the primary contractor.

Aviation's Role in Construction

Aviation's project management team was comprised of the following seven key individuals: Director, Associate Director, Planning Manager, Fiscal Manager, Fiscal Program Manager, Rate Implementation Coordinator, and Project Manager. During TIP, the expectation for the Planning Manager was to work alongside the Architect Consultant and utilize the Planning Manager's expertise of monitoring and controlling project progression and all costs. Specifically, the Aviation Planning Manager was responsible for understanding the scope of work completed through meetings and site-visits; reviewing change orders for completeness and accuracy; and reviewing payment applications to ensure work performed aligned with the base cost total of \$29.8 million and securing additional funds, if necessary. Aviation's Fiscal Division was responsible to ensure payment applications and change orders were mathematically correct and accounted for appropriately.

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Aviation also referred to the Municipal Development Department’s (DMD) *Capital Improvement Project (CIP) Manager Handbook* for guidance on project management practices.

Architect Consultant’s Role in Construction

The Architect Consultant’s roles and responsibilities included acting as the project manager; providing designs to the primary contractor; holding the primary contractor accountable to milestones and completion dates; reviewing a schedule of values and making an approximate estimate of the value of the work completed and incorporating the estimate into a payment application; reviewing change orders for reasonableness; and negotiating subcontractor bids on Aviation’s behalf.

The Department of Municipal Development’s Role in Construction

DMD’s Fiscal Division was responsible to serve as the final review of all payment applications and change orders for reasonableness and mathematical accuracy prior to submitting payment to the primary contractor on Aviation’s behalf.

Final Project Completion

TIP was completed at a total cost of \$32.9 million, which was 10 percent over the original budget, with 26 change orders and delayed by over two years. Change orders are used to authorize the addition, deletion, or revision of work or an adjustment in the contract price or contract time issued after execution of the agreement. The first table below details the delays and overruns and the second table details all change orders:

Original Lumpsum Amount & Contract Length vs. Actual Cost & Contract Length

Planned Construction Duration	Actual Construction Duration	% Increase	Original Not to Exceed Amount	Actual Total Cost	% Increase
456 days	1,265 days	177%	\$29,882,721	\$32,905,780	10%

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Total Count and Cost of Change Orders

Change Order No.	Value of Cost Increase	No. of Days Increased	Reason
1	\$48,022	0	Other ²
2	\$923,218	18	Other
3	\$18,139	0	Field Conditions, Other
4	\$46,021	5	Changed Scope, Field Conditions, Other
5	\$30,569	0	Changed Scope, Field Conditions
6	\$176,133	14	Changed Scope
7	\$55,635	12	Changed Scope, Field Conditions
8	\$275,184	14	Changed Scope, Field Conditions
9	\$35,747	15	Changed Scope, Field Conditions
10	\$104,904	26	Changed Scope, Field Conditions
11	\$79,218	22	Changed Scope, Field Conditions
12	\$17,743	0	Other
13	\$127,813	0	Changed Scope, Field Conditions, Other
14	\$189,779	0	Changed Scope, Field Conditions, Other
15	\$281,673	30	Changed Scope, Field Conditions
16	\$ -	120	Changed Scope, Field Conditions
17	\$124,884	0	Changed Scope, Field Conditions
18	\$ -	105	Changed Scope, Field Conditions
19	\$203,038	0	Changed Scope, Field Conditions
20	\$ -	50	Changed Scope, Field Conditions
21	\$ -	227	Field Conditions
22	\$123,072	0	Changed Scope, Field Conditions
23	\$ -	118	Field Conditions
24	\$34,176	0	Field Conditions
25	\$108,561	0	Changed Scope, Field Conditions
26	\$19,541	33	Changed Scope
Total Cost			\$3,023,059
Total No. of Days Increased			809

2 - Examples of “other” may include requests for contract days extension, adjustments to the New Mexico Gross Tax Rate, and upcharges for more durable equipment.

FINDINGS

1. AVIATION DID NOT HAVE THE APPROPRIATE FRAMEWORK IN PLACE TO EFFECTIVELY MONITOR AND CONTROL PROJECT COSTS AND PROGRESSION, RESULTING IN \$3 MILLION IN COST OVERRUNS AND OVER TWO YEARS IN DELAYS.

The audit found that Aviation staff over-relied on the Architect Consultant and did not adequately monitor construction progression and charges. Specifically, the department did not require the primary contractor to submit an approved schedule of values and construction schedule, validate the contractor's payment applications to ensure that project costs were not inflated, document visual inspections of construction progress, or develop its own project management policies and procedures.

Supplemental Special Provision, Section 3, states that the primary contractor is required to submit the below to Aviation for approval:

- Schedule of Values no later than ten (10) consecutive calendar days after Notice of Award.
- Construction Schedule no later than thirty (30) consecutive calendar days after Notice of Award.

According to General Conditions, § 1.4, a schedule of values is a “breakdown of the Material and Labor costs of all major components of a project or a bid item that is bid at Lump Sum unit price.” In general, a construction schedule is a timeline for every task and event in a construction project. The construction schedule is a fundamental part of the project planning phase, as it also defines the resources needed and the teams responsible for each task in the construction process. However, neither Aviation nor the Architect Consultant could provide the audit team with an approved schedule of values and construction schedule. According to Aviation, this information was lost due to the turnover of Aviation personnel.

According to both Aviation and the Architect Consultant, an informal schedule of values was used to monitor and control the budget. During the project, the expectation was for the primary contractor to submit the informal schedule of values to the Architect Consultant who would then make an approximate estimate of the value of the work completed and the value of unused materials delivered and stored, and incorporate the estimate into a payment application. Rather than maintaining a construction schedule, the Architect Consultant and Aviation monitored project milestones and completion dates by attending weekly progress meetings with the primary contractor. However, without an approved schedule of values or a construction schedule developed during planning, the City was seemingly unable to effectively track and monitor billing

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and progress activity as compared to the original budget and schedule. To this point, 26 change orders were ultimately approved, totaling \$3 million in additional charges and 809 additional construction days.

The audit also found that Aviation did not validate the contractor's payment applications³ to ensure that project costs were not inflated and did not document visual inspections of construction progress. Rather, the department over-relied on the Architect Consultant's review and only conducted a high-level, undocumented review of payment applications. When asked about their process to validate the contractor's payment applications and conduct visual inspections of progress, Aviation staff said they worked alongside the Architect Consultant via meetings and site visits, to understand the scope of work completed. However, Aviation staff provided no documentation regarding these efforts. Staff said minutes of meetings among the City, the Architect Consultant, and the primary contractor might contain discussions of cost estimates, however, the audit identified no evidence of these discussions.

According to the New Mexico Inspection of Public Records Act, Aviation is required to remain compliant with the City's *Functional Records Retention and Disposition Schedules (FRRDS)*, which states that "Records related to the planning, design and construction of projects using capital funds require permanent retention." Due to the historical information of the schedule of values and construction schedule never being retained, Aviation was not compliant with this respective policy.

Further, Aviation does not have its own project management policies and procedures for staff to refer to and failed to adhere to the City's *Capital Improvement Project (CIP) Manager Handbook* in some cases. Aviation stated the department is not required to adhere to the *CIP Manager Handbook* but rather to utilize it, where applicable, as a reference tool for project management practices. While it was not a requirement, not utilizing citywide construction practices to aid in the development of an internal framework to monitor and control construction costs likely resulted in poor oversight and significant cost overruns. According to the *Capital Improvement Project (CIP) Manager Handbook*, Aviation should have implemented and documented the following for project monitoring:

3 - A payment application is the form which is to be used by the primary contractor to request a progress payment.

Capital Improvement Project Manager Handbook
Section 2.02.02 – Plan the Work and Work the Plan
“A project manager must first plan out the project and then monitor and control the execution of the work effort.”
Section 10.31.1 – Daily Work Reports
“Inspector documents in their daily diary the events that took place that day. Daily diaries are scanned weekly into the image repository.”
Section 2.5.4 – Monitor the Schedule
“Identify activities that have been completed during the previous time period and update the work plan to show they are finished.”
Section 2.5.5 – Monitor the Budget
“Look at the amount of money your project has actually consumed and determine whether you’re actual spending is more than originally estimated based on the work that has been completed.”

Not all CIP project management tasks as defined above were adhered to as department practices have not been defined. For instance, Aviation did not effectively monitor and control the budget nor have an internal work plan to monitor construction project deliverables or document daily progress. However, according to Aviation management, the department is currently in the process of developing its own project management policies and procedures.

Comprehensive policies and procedures are an example of a control activity. U.S. Government Accountability Office defines control activities as:

Control activities are the policies, procedures, techniques and mechanisms that enforce management’s directives.... They help ensure that actions are taken to address risks. Control activities are an integral part of an entity’s planning, implementing, reviewing, and accountability for stewardship of government resources and achieving effective results.

RECOMMENDATIONS:

The Aviation Department should:

1. On future construction projects, enforce the relevant Supplemental Special Provision and require that a formal schedule of values and construction schedule be submitted to the department for approval.
2. Continue efforts to develop formal policies and procedures for project management controls that specifically define Aviation’s roles and responsibilities in managing project progression

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and charges, require verification of payment applications to ensure that project costs are not inflated, and require that visual inspections of construction progress be documented.

3. Create a filing system to maintain critical records for the retention period in order to remain compliant with the City’s *Functional Records Retention and Disposition Schedule (FRRDS)*.
2. AVIATION HAS NOT ASSESSED UP TO \$753,000 IN LIQUIDATED DAMAGES FROM THE PRIMARY CONTRACTOR TO HELP RECOVER COSTS ASSOCIATED WITH PROJECT DELAYS.

The final contract costs were significantly higher than the awarded contract amount. The project was scheduled to take 456 days, but it took 1,265 days (over two years) to complete, leading to additional project costs totaling \$3 million. However, none of the additional project costs due to the delay have been recovered from the primary contractor in the form of “liquidated damages,” as provided for in Section 1 of the contract’s Special Provisions.

Liquidated damages may be assessed when a contractor does not deliver projects timely as agreed. According to the *City of Albuquerque, Standard Specifications for Public Works Construction, General Conditions, § 12.2*, “The contract time will be extended in an amount equal to time lost due to delays beyond control of the Contractor.” However, “[d]elays . . . shall not include acts, errors, or omissions caused by any tier of subcontractors under the control or supervision of the contractor.” Under § 1 of the Contract Special Provisions, “Liquidated damages in the amount of \$1,500 per consecutive calendar day can be assessed against the contractor for each calendar day that the work has not achieved substantial completion after expiration of the agreed time allotted for construction, including any approved extensions of time granted.”

OIA evaluated all 26 change orders and found that four were approved on the basis of the primary contractor solely requesting contract time extension due to having to terminate and replace its electrical subcontractor. The table below details the extensions.

Change Order No.	Change Order Date	Reason	Days Extended
16	12/12/2018	“The performance failure of electrical subcontractor.”	120
18	3/18/2019	“The performance failure of electrical subcontractor.”	105
20	6/27/2019	“The performance failure of electrical subcontractor.”	50
21	1/7/2020	“The performance failure of electrical subcontractor.”	227
Total Number of Days Requested to be Extended			502
Daily Liquidated Damages Charge			\$1,500
Potential Total Liquidated Damages			\$753,000

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According to Aviation, project management practices were to rely on the expertise of the Architect Consultant, who recommended approval for the contract extensions. The basis of the decision, per Aviation management, was to not incur additional delays on top of those already present and thus the change orders were ultimately approved.

While circumstances may arise where the assessment of liquidated damages may not always be appropriate or assessed at a reduced rate, management should maintain documentation to support the basis for its decision.

RECOMMENDATIONS:

The Aviation Department should:

4. Consult with the City Attorney's Office regarding its ability to seek liquidated damages from the primary contractor up to \$753,000.
5. Establish a standard process for documenting decisions regarding delays that are subject to liquidated damages and retain documentation to justify those management decisions.

3. THE LACK OF ADEQUATE REVIEW OF CHANGE ORDERS RESULTED IN UNNECESSARY EXPENSES TOTALING \$193,404.

From an inspection of a sample of the top five high-dollar change orders, which were comprised of 0.62 percent of all change orders, the audit identified two change orders that deviated from the City's Planning Department's *Standard Specifications General Conditions*.

The audit identified a \$189,779 payment for a change order that the City was not contractually obligated to pay. The City and the primary contractor initially agreed to 13 change orders, (the first of a total of 26) with various types of altered work to be performed and contract time extensions totaling 126 calendar days. Subsequent to those change orders, the primary contractor submitted Change Order No.14, claiming that overhead and profit within those previous 13 change orders did not cover general condition compensation⁴ and as result, the primary contractor requested an additional \$189,779 related to 53 of those 126 calendar days.

4 - General condition compensation relates to the primary contractor's expenses for employees, materials and equipment, vehicles, temporary office facilities, means of communication and builder's risk.

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According to Aviation, project management practices were to rely on the expertise of the Architect Consultant, who recommended this approval and thus, Aviation approved the request for additional compensation.

According to the City's *Standard Specifications General Conditions, Section 11.10*:

The contractor agrees that, by signing any change order, the compensation established in the change order shall comprise the total complete compensation due to the contractor for the work and contract time defined in the change order. The contractor agrees that the change order is in full accord and satisfaction of all disputed compensation amounts and contract time including but not limited to compensation amounts and contract time for interruption of schedules, extended home or other office overhead, all other overhead, profit, and delay and impact claims or ripple effect, attributable to those matters included within the change order, and that contractor's execution of the change order is a waiver of any reservation of claim for additional compensation, increase in contract price and contract time with respect to the change order.

Based on these terms, when the primary contractor agreed to the costs and various types of altered work to be performed within the first 13 change orders, the primary contractor committed to the rightful overhead and profit markup limit of 10 percent and surrendered the ability to request any additional profit and overhead compensation.

The audit also found that a \$3,625 change order was approved for work that did not pertain to the original scope of work and was immediately removed. Upon examination of Change Order No. 15:

The Aviation Department requested that Flintco make the carousel look as complete as possible for a photo opportunity for City Administration. Flintco instructed a subcontractor to install ceiling tiles prior to completion of overhead work in carousel 8 per the request of the Aviation department. Once the photo opportunity was complete Flintco instructed the same subcontractor to remove the tiles to complete the overhead work. Due to the install, removal and re-install of the tiles, the subcontractor has accrued added unexpected costs for this event and this change order reflects that cost of having to re-install tiles.

This change order request, which was dated October 15, 2018, was owner initiated and requested by the prior Administration.

According to the City's *Standard Specifications General Conditions*, a change order is defined as "A written order to contractor signed by owner authorizing an addition, deletion, or revision in the work or an adjustment in the contract price or the contract time issued after execution of the

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agreement." Additionally, according to the U.S. Office of Management and Budget's Code of Federal Regulations (CFR) defines questionable costs as "costs, at the time of the audit, are not supported by adequate documentation; or where the costs incurred appear unreasonable and do not reflect the actions a prudent person would take in the circumstances."

As stated by Aviation Management, all change order requests are first reviewed by the Architect Consultant. If the Architect Consultant finds the change order request is necessary, the Architect Consultant will incorporate the change order request into a formal change order packet and forward it to the Aviation Planning Manager to commence the approval process. The packet contains justification and pricing for the new work, along with the change order memo which lists project funding and revised completion dates, where applicable. The Aviation Planning Manager will check the packet for completeness and mathematical accuracy, and then forward to Aviation's Fiscal Division, who performs the same review as the Planning Manager but neither reassess for reasonableness and they failed to identify the errors the audit team noted. Once this is completed, Aviation's Fiscal Division will forward the change order to the Department of Municipal Development for payment processing.

Change orders are a mechanism to adjust a project's guaranteed maximum price after it is agreed upon and thus can present a significant financial risk that must be carefully managed and reviewed. Inadequate review of change orders increases the risk that the City may overpay for work performed.

RECOMMENDATIONS:

The Aviation Department should:

6. Consult with the City Attorney's Office regarding its ability to recover up to \$189,779 from the primary contractor.
7. Include language within Aviation's drafted policies and procedures that define how out of scope work requests should be addressed.
8. In conjunction with the Department of Municipal Development and Planning Department, discuss whether revisions are necessary to the City's *Standard Specifications General Conditions* related to the processing and approval of change order requests that are outside the original scope of work.
9. Continue to develop and implement processes for verifying costs for change orders on construction contracts. At a minimum, the processes should include obtaining an itemized breakdown of costs and supporting details, validating costs for accuracy, reasonableness, and compliance with contract terms, and recalculating overhead and markup calculations.

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4. AVIATION DID NOT REQUIRE THAT THE PRIMARY CONTRACTOR OBTAIN MULTIPLE COMPETITIVE BIDS FROM SUBCONTRACTORS FOR WORK RELATED TO CHANGE ORDERS.

According to the American Institute of Architects states, “Competitive bidding involves sending complete sets of contract documents to two or more contractors who bid against each other.” To this point, the contract affords Aviation the ability to require the primary contractor to request multiple competitive bids from subcontractors for work arising from change orders. However, the department elected not to require the primary contractor to do so. According to the City’s *Standard Specifications General Conditions*, “if required by the City, the primary contractor shall obtain competitive bids from subcontractors acceptable to him and shall deliver such bids to the City who will then determine, with advice of Architect Consultant, which bids will be accepted.”

The audit assessed 100 percent of change orders for reasonableness and found Aviation did not require the primary contractor to obtain multiple competitive bids from subcontractors when approving change orders. Further, Aviation does not have policies in place that would define situations in which obtaining multiple competitive bids from subcontractors should occur.

As stated by Aviation Management, the project management practices were to rely on the expertise of the Architect Consultant. Meaning, while multiple bids were not required, all bids would go through negotiations conducted by the Architect Consultant and Aviation would rely on the Architect Consultant’s determination. While the audit team did find that negotiations were mentioned within the Architect Consultant’s formal letters sent to Aviation for each individual change order request, Aviation had no record of the negotiations that took place for the 26 change orders.

Competitive bidding helps organizations control costs by seeking the best value. Further, subcontractors’ costs become the basis upon which the primary contractor and Architect Consultant each apply their profit markups to, so it is critical that the basis is not overinflated. Relying on the Architect Consultant as the sole control in securing subcontractors’ bids, means the City could have paid unnecessarily higher costs if the contractor did not select the most competitive qualified bidder.

RECOMMENDATION:

10. The Aviation Department should consider incorporating a set of criteria within Aviation’s own policies and procedures that appropriately defines situations to obtain multiple competitive bids from subcontractors for newly proposed work in change orders. These policies should include reviewing subcontractor bid packages to ensure that the lowest qualified bidder is selected.

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CONCLUSION

By implementing the recommendations detailed in this report, Aviation can improve its ability to effectively administer, manage, and monitor construction projects. Aviation's response to the recommendations made is included in APPENDIX B of the report. We greatly appreciate the assistance of the Aviation personnel that participated throughout this audit.

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APPENDIX A**OBJECTIVES**

The audit objective was to determine whether Aviation has adequate policies and procedures for effectively monitoring and controlling construction costs. Specifically, establishing and implementing procedures:

- Project and mitigate owner risk,
- Reduce and eliminate contractor discretionary spending,
- Control allowances, and
- Manage contingency spending and non-allowable cost in change orders

SCOPE AND LIMITATIONS

The scope of the audit was all construction costs related to the 2017 Terminal Improvement Project. The audit was included in OIA’s work plan for fiscal year 2021.

This report and its conclusions are based on information taken from payment applications, change orders, systems, and users, and does not represent an examination of all related financial records, systems and users for construction project management controls. The audit report is based on our examination of functions and activities through the completion of fieldwork on March 28, 2022, and does not reflect events after that date. City management is responsible for establishing and maintaining effective internal control and complying with laws and regulations.

In performance audits, a deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct (1) impairments of effectiveness or efficiency of operations, (2) misstatements in financial or performance information, or (3) noncompliance with applicable laws, regulations, standards, guidelines, and/or best practices. A deficiency in design exists when (a) a control necessary to meet the control objective is missing or (b) and existing control is not properly designed so that, even if the control operates as designed, the control objective is not met. In the performance audit requirements, the term significant is comparable to the term material as used in the context of financial statement engagements. A deficiency in operation exists when a properly designed control does not operate as designed, or when the person performing the control does not possess the necessary authority or qualifications to perform the control effectively.

Our consideration of internal control was for the limited purpose described in our audit objectives and was not designed to identify all deficiencies in internal control. Therefore, unidentified

deficiencies may exist. Accordingly, we do not express an opinion on the effectiveness of the City's internal control.

As part of the performance audit, we tested the City's compliance with applicable laws, and regulations. Noncompliance with these requirements could directly and significantly affect the objectives of our audit. However, opining on compliance with all provisions was not an objective of our performance audit and accordingly, we do not express an opinion.

We conducted this performance audit in accordance with generally accepted government auditing standards for performance audits, as prescribed in *Government Auditing Standards*, issued by the Controller 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 our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

METHODOLOGY

Methodologies used to accomplish the audit objectives include but are not limited to the following:

- Interviewed management regarding staff, procedures, and processes;
- Reviewed and analyzed applicable City policies, procedures, and regulations;
- Analyzed all 35 payment applications to:
 - establish if all costs submitted for payment were allowable;
 - evaluate cost overruns;
 - ensure invoiced discrepancies, where identified, were appropriately addressed;
 - ascertain invoiced amounts and line items were accurate, aligned with the contract, and submitted only once for payment;
 - verify if construction progress was documented; and
 - determine if the primary contractor was held accountable to project milestones and budgets.
- Examined all 26 change orders to:
 - substantiate change order requests had the appropriate documentation, justification, and contain price estimates;
 - verify that all required authorizations were obtained prior to work commencement; and
 - confirm if the primary contractor adhered to project milestones and completion dates.
- Selected a sample of the top 5 high-dollar change orders, which were comprised of 0.62 percent of all change orders, to:
 - determine if the primary contractor was required to obtain multiple competitive bids;
 - ensure costs were itemized with supporting data;
 - verify payroll costs were appropriate;

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- confirm the New Mexico Gross Rate Tax was applied correctly;
- ensure overhead and markup aligned with the contract;
- confirm submitted costs were mathematically accurate; and
- determine if the change order was justified and reasonable.
- Summarized all findings and provided the auditee with recommendations that will help to strengthen internal control, cost savings, and operating efficiency and effectiveness.

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Recommendations and Responses

APPENDIX B

For each recommendation, the responsible agency should indicate in the column labeled *Department Response* whether it concurs, does not concur, or partially concurs and provide a brief explanation. If it concurs with the recommendation, it should indicate the expected implementation date and implementation plan. If the responsible department does not concur or partially concurs, it should provide an explanation and an alternate plan of action to address the identified issue.

Recommendation	Responsible Department	Department Response	<u>OIA Use Only</u> Status Determination*
The Aviation Department should: 1. On future construction projects, enforce the relevant Supplemental Special Provision and require that a formal schedule of values and construction schedule be submitted to the department for approval.	The Aviation Department	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur Aviation will enforce any Supplemental Special Provision that dictates that a formal schedule of values and construction schedule be submitted by the primary contractor and approved by the Department. The approved schedules will become part of the permanent record in the electronic project management filing system. <u>ESTIMATED COMPLETION DATES</u> Immediate implementation for future projects.	<input type="checkbox"/> Open <input checked="" type="checkbox"/> Closed <input type="checkbox"/> Contested

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Recommendation	Responsible Department	Department Response	<u>OIA Use Only</u> Status Determination*
<p>2. Continue efforts to develop formal policies and procedures for project management controls that specifically define Aviation’s roles and responsibilities in managing project progression and charges, require verification of payment applications to ensure that project costs are not inflated, and require that visual inspections of construction progress be documented.</p>	<p>Aviation Department</p>	<p><input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur</p> <p>Aviation will finalize a Project Management Manual (PMM) that includes:</p> <ul style="list-style-type: none"> • an organizational structure with defined roles & responsibilities, • clear lines for communication with stakeholders & management, • project management controls with proactive risk management, and • documentation requirements with well-defined outputs. <p><u>ESTIMATED COMPLETION DATES</u></p> <p>November 2022</p>	<p><input checked="" type="checkbox"/> Open <input type="checkbox"/> Closed <input type="checkbox"/> Contested</p>
<p>3. Create a filing system to maintain critical records for the retention period in order to remain compliant with the City’s <i>Functional Records Retention and Disposition Schedule (FRRDS)</i>.</p>	<p>Aviation Department</p>	<p><input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur</p> <p>Aviation has created an electronic filing system for retention of project management records. The PMM will address procedures specific to the filing system and retention requirements, and training will be provided to users.</p> <p><u>ESTIMATED COMPLETION DATES</u></p> <p>This has been completed and training is ongoing as needed.</p>	<p><input type="checkbox"/> Open <input checked="" type="checkbox"/> Closed <input type="checkbox"/> Contested</p>

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Recommendation	Responsible Department	Department Response	<u>OIA Use Only</u> Status Determination*
4. Consult with the City Attorney’s Office regarding its ability to seek liquidated damages from the primary contractor up to \$753,000.	The Aviation Department	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur Aviation will consult with the City Attorney’s Office regarding whether it may seek liquidated damages from the primary contractor up to \$753,000. Additionally, Aviation will include a standard process for addressing liquidated damage provisions in the PMM. The standard process will include required documentation. <u>ESTIMATED COMPLETION DATES</u> The consultation will take place within three (3) months. As to the standard process referenced above, November 2022.	<input checked="" type="checkbox"/> Open <input type="checkbox"/> Closed <input type="checkbox"/> Contested
5. Establish a standard process for documenting decisions regarding delays that are subject to liquidated damages and retain documentation to justify those management decisions.	The Aviation Department	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur Aviation will include a standard process for reviewing and approving change order requests in the PMM. The process will include appropriate procurement methods to be utilized for work outside the scope of a project. <u>ESTIMATED COMPLETION DATES</u> November 2022	<input checked="" type="checkbox"/> Open <input type="checkbox"/> Closed <input type="checkbox"/> Contested

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Recommendation	Responsible Department	Department Response	OIA Use Only Status Determination
<p>6. Consult with the City Attorney’s Office regarding its ability to recover up to \$189,779 from the primary contractor.</p>	<p>The Aviation Department</p>	<p><input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur</p> <p>Aviation will consult with the City Attorney's Office regarding the ability to recover up to \$189,779 from the primary contractor.</p> <p><u>ESTIMATED COMPLETION DATES</u></p> <p>The consultation will take place within three (3) months, with recommended action being taken on a time frame agreed upon by the City Attorney.</p>	<p><input checked="" type="checkbox"/> Open <input type="checkbox"/> Closed <input type="checkbox"/> Contested</p>
<p>7. Include language within Aviation’s drafted policies and procedures that define how out of scope work requests should be addressed.</p>	<p>The Aviation Department</p>	<p><input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur</p> <p>Aviation will include a standard process for reviewing and approving change order requests in the PMM. The process will include appropriate procurement methods to be utilized for work outside the scope of a project.</p> <p><u>ESTIMATED COMPLETION DATES</u></p> <p>November 2022</p>	<p><input checked="" type="checkbox"/> Open <input type="checkbox"/> Closed <input type="checkbox"/> Contested</p>

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Recommendation	Responsible Department	Department Response	OIA Use Only Status Determination *
<p>8. In conjunction with the Department of Municipal Development and Planning Department, discuss whether revisions are necessary to the City's <i>Standard Specifications General Conditions</i> related to the processing and approval of change order requests that are outside the original scope of work.</p>	<p>The Aviation Department</p>	<p><input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur</p> <p>Aviation currently has the authority to reject change orders that are outside the project scope of work. However, pursuant to Recommendation #7, Aviation will specifically define a process for addressing work outside the project scope in the PMM.</p> <p>Aviation will assist the Department of Municipal Development with any revision to standard specifications that they deem necessary in regards to change order management.</p> <p><u>ESTIMATED COMPLETION DATES</u></p> <p>November 2022</p>	<p><input checked="" type="checkbox"/> Open <input type="checkbox"/> Closed <input type="checkbox"/> Contested</p>

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Recommendation	Responsible Department	Department Response	OIA Use Only Status Determination *
<p>9. Continue to develop and implement processes for verifying costs for change orders on construction contracts. At a minimum, the processes should include obtaining itemized breakdown of costs and supporting details, validating costs for accuracy, reasonableness, and compliance with contract terms, and recalculating overhead and markup calculations.</p>	<p>The Aviation Department</p>	<p><input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur</p> <p>Aviation will finalize a PMM that includes processes for verifying costs for change orders. The processes will include:</p> <ul style="list-style-type: none"> • A breakdown of costs with supporting details as deemed appropriate, • A review and validation of costs for accuracy, reasonableness, completeness, and compliance with contract terms, and • A recalculation of overhead and markup calculations. <p><u>ESTIMATED COMPLETION DATES</u></p> <p>November 2022</p>	<p><input checked="" type="checkbox"/> Open <input type="checkbox"/> Closed <input type="checkbox"/> Contested</p>

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Recommendation	Responsible Agency	Agency Response	OIA Use Only Status Determination*
10. Consider incorporating a set of criteria within Aviation’s own policies and procedures that appropriately defines situations to obtain multiple competitive bids from subcontractors for newly proposed work in change orders. These policies should include reviewing subcontractor bid packages to ensure that the lowest qualified bidder is selected.	The Aviation Department	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Do Not Concur <input type="checkbox"/> Partially Concur Aviation will consider including criteria to be used in determining when multiple competitive bids from subcontractors should be required for change orders in the PMM. <u>ESTIMATED COMPLETION DATES</u> November 2022	<input checked="" type="checkbox"/> Open <input type="checkbox"/> Closed <input type="checkbox"/> Contested