



**A Report to the
Austin City Council**

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**Office of the
City Auditor**

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CIA, CGAP, CFE

Deputy City Auditor
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CPA, CFE

Airport Construction Projects Audit

December 2015



REPORT SUMMARY

The Aviation Department effectively identified necessary construction projects and sources of funding for those projects to manage growth at Austin-Bergstrom International Airport. A detailed review of one project found that the Public Works Department followed industry best practice to manage the construction process. However, an analysis of other airport construction projects found documentation issues related to the vendor selection process and the design review process.

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GOVERNMENT AUDITING STANDARDS COMPLIANCE

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. 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.

AUDIT TEAM

Patrick A. Johnson, CGAP, CICA, Assistant City Auditor
Andrew Keegan, CIA, CGAP, Auditor-in-Charge
Karl Stephenson, CGAP, CICA, Auditor
R. L. Townsend & Associates, Construction Audit Consultant

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Report Highlights

Why We Did This Audit

This audit was conducted as part of the Office of the City Auditor's Fiscal Year 2014 Strategic Audit Plan, in part, because of plans for several high-cost construction projects at ABIA.

What We Recommend

The Capital Contracting Officer should:

- determine the reason for lack of multiple bids and
- ensure bid evaluation scores are accurately recorded.

The Public Works Department Director should ensure that:

- design quality control plans include required elements;
- design review schedules are followed; and
- final approval of project designs are documented.



AIRPORT CONSTRUCTION PROJECTS AUDIT

BACKGROUND

Austin-Bergstrom International Airport (ABIA) opened in 1999 and is managed by the City's Aviation Department. In 2014, nearly 11 million passengers traveled through the airport, setting a new passenger record for the fourth consecutive year. To manage this growth, the Aviation Department identified, and is in the process of completing, several construction projects.

The City's construction process is overseen by the Public Works Department although other City departments are involved including the Capital Contracting Office, Law Department, and Small and Minority Business Resources Department.

OBJECTIVES AND SCOPE

The objective of the audit was to evaluate the City's process related to construction projects at ABIA. The audit scope included activities related to construction of the Remain Overnight Apron and other construction and design projects authorized by City Council between fiscal years 2012 and 2014.

WHAT WE FOUND

Based on an analysis of three projects at ABIA, the Aviation Department effectively identified necessary construction projects as well as sources of funding for those projects. Based on a detailed review of the Remain Overnight Apron project, we noted that the Public Works Department followed industry best practice to manage the project and no significant deficiencies were noted related to vendor invoices, change orders, and inspection reports.

However, an analysis of other construction projects at ABIA found documentation issues related to parts of the construction process. Related to the vendor selection process managed by the Capital Contracting Office:

- for projects based on low bids, we noted that 2 of 5 projects received a single bid and City policy does not require staff to determine why additional vendors did not participate and
- for projects based on qualified bids, we noted one instance where a vendor's score was incorrectly calculated which affected the final rankings, though this did not affect the selected vendor. We also noted at least two instances where evaluation team member score changes were not consistently reflected in the total vendor scores.

Related to the design review process managed by the Public Works Department, we noted that:

- design quality control plans did not always include required elements such as design review schedules;
- design review schedules did not appear to be followed; and
- final approval of project designs were not always documented.

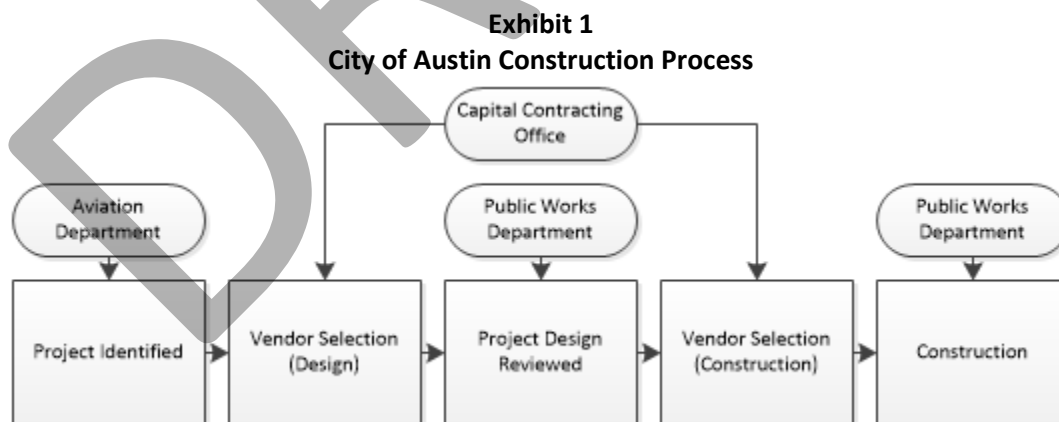
BACKGROUND

In order to remain eligible for federal grant funds, the Federal Aviation Administration (FAA) requires airports to document their expansion plans. These plans include information on existing airport facilities, plans for future facilities, and projected future passenger traffic. Specific construction projects are tied to these growth projections. The Austin-Bergstrom International Airport's (ABIA) Master Plan was developed in 1993¹ and updated 10 years later. In the 2003 update, the most aggressive growth estimate was 9.2 million passengers in 2020.

ABIA opened in 1999 and is managed by the City's Aviation Department. In 2014, the FAA classified ABIA as the 34th largest airport in the United States. That year, nearly 11 million passengers traveled through the airport, which was a 7% increase from the previous year. This was the fourth consecutive year that ABIA had set a new passenger record.

To manage this rapid growth, the Aviation Department identified, and is in the process of completing, several construction projects. Funding for these projects can come from grants, bonds, or through the Aviation Department's capital fund. This capital fund includes airport revenue, such as parking, concessions, leases, and user fees². Examples of some of the large projects recently completed or planned at ABIA include the Consolidated Rental Car Facility, Terminal East Infill, and Terminal and Apron Expansion.

The City's construction process is overseen by the Public Works Department although other City departments are involved, including the Capital Contracting Office, Law Department, and Small and Minority Business Resources Department. The Aviation Department has its own staff of project managers and is involved throughout the process as well. Exhibit 1 shows the City's construction process, including the department primarily responsible for each step. A more detailed depiction of this process is included in Appendix B.



SOURCE: OCA analysis of the City of Austin construction process, November 2014

¹ This plan was used to convert Bergstrom Air Force Base into a commercial airport.

² Passenger Facility Charges are fees authorized by the FAA and included on the purchase of all tickets. The current amount is \$4.50 and the FAA has guidelines describing how these funds can be spent. Customer Facility Charges are fees included in the cost of car rentals. In 2014 this fee was \$5.95. These funds can only be spent on projects related to the improvement of car rental facilities.

OBJECTIVE, SCOPE, AND METHODOLOGY

The Airport Construction Projects Audit was conducted as part of the Office of the City Auditor's (OCA) Fiscal Year (FY) 2014 Strategic Audit Plan, as presented to the City Council Audit and Finance Committee. This audit was conducted, in part, because of the Aviation Department's plans for several high-cost construction projects at Austin-Bergstrom International Airport (ABIA).

Objective

The objective of the audit was to evaluate the City's process related to construction projects at ABIA.

Scope

The audit scope included activities related to construction of the Remain Overnight Apron and other construction and design projects authorized by City Council between FYs 2012 and 2014.

Methodology

To accomplish our audit objectives, we performed the following steps:

- interviewed Aviation Department, Public Works Department, and Capital Contracting Office employees responsible or knowledgeable about the construction process;
- engaged a construction audit consultant to review project invoices, change orders, and construction inspection reports for the Remain Overnight Apron construction project;
- interviewed vendor project managers responsible for the design and construction of the Remain Overnight Apron construction project;
- physically inspected the Remain Overnight Apron construction project;
- selected a judgmental sample of other construction projects at the airport;
- reviewed project bid evaluation documentation for a sample of projects at the airport;
- reviewed project design submittal documentation for a sample of projects at the airport;
- reviewed City policies and procedures related to the construction process;
- evaluated risk of fraud, waste, and abuse related to the construction process; and
- evaluated internal controls related to the construction process.

WHAT WE FOUND

The Aviation Department is responsible for identifying necessary construction projects as well as funding sources for those projects. Based on an analysis of three projects, the Aviation Department effectively accomplished those tasks.

After projects are identified, the Public Works Department is responsible for managing the construction process. A detailed review of invoices, change orders, and inspection reports did not identify deficiencies in the Remain Overnight Apron construction project. However, an analysis of other construction projects at the airport found documentation issues indicating that vendor selection and project design review processes may not be fully supported.

Finding 1: The Aviation Department effectively identified necessary construction projects and sources of funding for those projects.

The graphic below shows that the Aviation Department is responsible for identifying construction projects at ABIA. This process involves determining that a project is needed, as well as identifying available sources of funding for the project.

The Federal Aviation Administration (FAA) requires that airports document their expansion plans in order to be eligible for federal grants. The Aviation Department updated ABIA's original 1993 Master Plan in 2003 and identified various

construction projects that would be necessary to accommodate projected passenger traffic. Current increases in passenger traffic has exceeded even the highest projections made at that time, so the Aviation Department has been working to complete the construction projects identified in the plan.

We looked at the Aviation Department's planning process related to the Remain Overnight Apron, Consolidated Rental Car Facility, and Terminal East Infill projects. Each project had been identified in the ABIA Master Plan and was also requested by airport stakeholders.³ In addition to addressing the growth of the airport, these projects had additional benefits such as improving security and customer service, increasing revenue, and serving as the basis for future expansion.

These three projects used a variety of funding sources, including grants, bonds, and revenue from airport operations. Certain revenue, such as ticket fees authorized by the FAA, can only be spent to improve airport facilities. Where federal grant money was provided, the Aviation Department maximized the use of that funding source.

Aviation Department's Role in the City's Construction Process



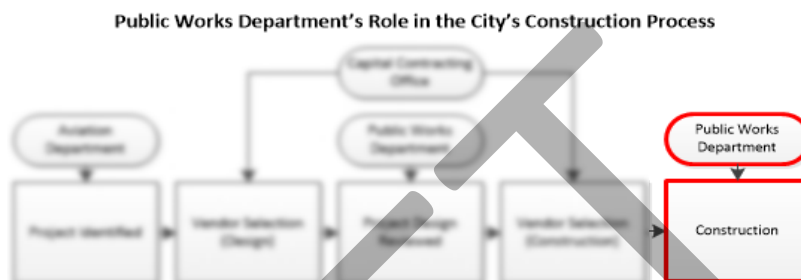
³ Airport stakeholders include the airline companies, car rental agencies, and government agencies operating at the airport.

Finding 2: The Public Works Department followed industry best practice to manage the Remain Overnight Apron construction project and no significant deficiencies were noted related to vendor invoices, change orders, and inspection reports.

We engaged a construction audit consultant to perform a detailed review of the construction process for a single project, the Remain Overnight Apron. The project currently provides expanded overnight parking capacity for aircraft and was designed to serve as a foundation for the future terminal expansion.

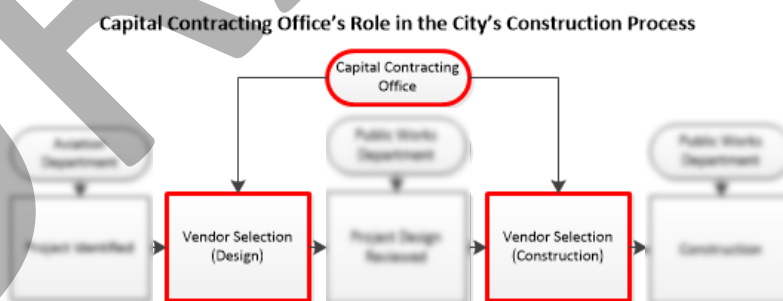
In order to provide reasonable assurance that the City received appropriate materials and was billed correctly, the consultant's review included an analysis of the construction contract, change order and payment documentation, and daily

inspection reports completed during construction. The review also included a physical inspection of the completed project. There were no significant deficiencies identified in this review and the consultant's final report is included in Appendix C.



Finding 3: The vendor selection process appeared to identify the most appropriate vendor for selected projects, but several documentation issues resulted in incomplete support for those decisions.

The Capital Contracting Office is responsible for selecting design and construction vendors (as shown in the graphic below). Depending on the type of service, vendors are generally selected because they have the lowest bid or because a bid evaluation team determined that they are the most qualified vendor⁴.



We reviewed 10 contracts awarded in a sample of airport construction projects (see Appendix D). Five of the contracts were awarded to the vendor with the lowest bid and five were awarded to the most qualified vendor. While each process appeared to identify the appropriate vendor, issues were noted with each process.

⁴ Generally, the different methods for awarding contracts are based on the type of services required. In the construction process, the *low bid* method is generally used for construction contracts when a project design already exists. The *most qualified* method is generally used for project design contracts, rotation lists, and alternative delivery methods such as Construction Manager at Risk (CMaR) contracts.

Lowest Bid

In the five projects awarded to the vendor with the lowest price, two projects only had one bidder. The Texas Contract Management Guide notes that when a single bid is received, an organization should try to determine the reason for the single bid, in part, to determine if the solicitation was unduly restrictive. City policies do not require such actions, although Capital Contracting Office management stated that they may take steps to determine why only one bid was received. Generally, there is an increased risk the City will pay more for construction services if there are fewer bids.

Most Qualified

Issues noted with the process for selecting the most qualified bidder included:

- One vendor's total score was incorrectly calculated which affected the final vendor rankings.
- In at least two instances, individual evaluation team member scores were changed on the scoring sheets and these changes were not consistently reflected in the total vendor scores.
- Documentation identified individual evaluation team members even though City policy states that team member names should not be kept on file. However, the documentation allowed us to determine that evaluation team diversity and qualification criteria had been met.

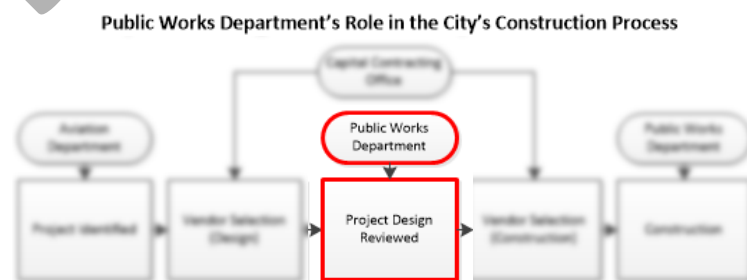
Although a standard vendor evaluation form exists, evaluation team members are not required to use it. This may have made it more difficult for Capital Contracting Office employees to combine individual vendor scores and calculate an accurate total score. While calculation errors may result in the misidentification of the most qualified vendor, this was not the case in the contracts we reviewed.

Finding 4: For the projects we reviewed, design quality control plans did not always include required elements, design review schedules did not appear to be followed, and design approvals were not always documented.

As shown in the graphic below, the Public Works Department is responsible for ensuring that project designs are reviewed. Design contracts require that vendors document a plan for controlling the quality of project designs and contract templates specify what elements must be included in the plans, such as:

- the codes, specifications, and laws that must be followed;
- who is responsible for reviewing the designs; and
- when those design reviews will occur.

Although department policy provides some discretion on the specific review schedule, it states that reviews should be done when the design is 30%, 60%, and 90-95% complete. A review of the design quality control plans found that one of six⁵ projects included all of the standard quality plan elements and none of the others contained a review schedule. In



⁵ The 10 contracts listed in Appendix D resulted in 7 construction projects. However, the design for one project was done by Public Works Department staff, so a different design review process was used. That project was not included in these tests.

one instance, a project manager appeared to accept the vendor's quality control plan despite being notified by design review staff that it did not contain a number of the standard elements. Additionally, evidence that project designs had been reviewed according to the established design review schedule⁶ was provided for two of the six projects.

Public Works Department staff indicated that there was no formal process in place to approve project designs at the time the sampled projects were being reviewed. Staff also asserted that there is now a process to approve designs, although they said this process is not documented in department procedures and the final approval is not always documented.

An incomplete quality control plan for project designs makes it more difficult to ensure project design quality. Additionally, unidentified or unresolved design issues may result in increased project costs, design flaws, and construction delays.

RECOMMENDATIONS

1. **The Capital Contracting Officer should develop, document, and implement a procedure related to projects that receive only one bid. This procedure should seek to determine the reason for lack of multiple responses and what course of action best serves the interests of the City.**

MANAGEMENT RESPONSE: **Concur.** Refer to Appendix A for management response and action plan.

2. **The Capital Contracting Officer should develop, document, and implement procedures to ensure that:**
 - a) **bid evaluation teams follow a standard procedure for documenting vendor bid scoring and**
 - b) **evaluation team vendor bid scores are accurately recorded and calculated to yield the most qualified bidder.**

MANAGEMENT RESPONSE: **Concur.** Refer to Appendix A for management response and action plan.

3. **The Public Works Department Director should ensure vendor Quality Control Plans include all required elements, the design review schedule is followed, and final approval of project designs are documented and completed prior to starting construction.**

MANAGEMENT RESPONSE: **Concur.** Refer to Appendix A for management response and action plan.


⁶ In the absence of a stated design review schedule in the quality control plan, the standard review milestones of 30%, 60%, and 90-95% were used.

MANAGEMENT RESPONSE – Aviation Department



MEMORANDUM

TO: Corrie Stokes, City Auditor
Office of the City Auditor

FROM: Jim Smith, Executive Director
Aviation Department 

DATE: November 23, 2015

SUBJECT: Airport Construction Projects Audit

The Office of the City Auditor has conducted an Airport Construction Projects Audit at Austin-Bergstrom International Airport (ABIA). The objective of the Audit was to evaluate the City's process related to construction projects at ABIA.


We at the Department of Aviation take very seriously our position in the community and City policies and procedures, which are designed to delivery projects in a cost effective and quality manner. We take pride in our ability to integrate roles and functions of various City Departments to keep projects on track at ABIA, while operating with the rules and regulations set by the City and other federal and state agencies. We are committed to continuous improvement in all our processes. We appreciate and will coordinate with City Departments to utilize recommendations set forth in the Audit to improve the overall operation of ABIA.

MANAGEMENT RESPONSE – Capital Contracting Office



M E M O R A N D U M

TO: City Auditor's Office

FROM: Rosie Truelove, Capital Contracting Officer 

DATE: December 8, 2015

SUBJECT: Airport Construction Audit

The Office of the City Auditor performed an Audit on Capital Improvement Projects related to the expansion of the Austin Bergstrom International Airport. The City Auditor provided recommendations derived from findings regarding the Capital Contracting Office oversight of the Vendor Selection for Design and Construction services. The purpose of this memorandum is to provide the Capital Contracting Office efforts to implement the recommendations.

City Auditor recommendations:

1. The Capital Contracting Officer should develop, document, and implement a procedure related to projects that receive only one bid. This procedure should seek to determine the reason for lack of multiple responses and what course of action best serves the interest of the City.
2. The Capital Contracting Officer should develop, document, and implement procedures to ensure that:
 - a) Bid evaluation teams follow a standard procedure for documenting vendor bid scoring and,
 - b) Evaluation team vendor bid scores are accurately recorded and calculated to yield the most qualified bidder.

Capital Contracting Office implementation of recommendations:

1. The Capital Contracting Office has revised its current bid and proposal acceptance procedures to provide staff with a process for managing solicitations that result in only one or no bid/proposal. Staff will now contact those vendors who attended the pre-bid and pre-response meetings and who stated they were interested in submitting bids as prime vendors, to determine reason(s) for a lack of response. A determination will be made if the best interest of the City is best served through rebidding the solicitation or moving forward with an award.

MANAGEMENT RESPONSE – Capital Contracting Office (continued)

Page 2 of 2

2. The Capital Contracting Office continually looks at how the evaluation scoring and confirmation process is conducted. Prior to this audit being performed, we had added a Supervisor position to help provide additional oversight to the procurement process due to the procurement workload process that is lengthy and detailed. We believe this addition has already made a positive impact as it provided a new layer of review in the development of solicitation documents and professional service evaluations. In response to the recommendations identified in the audit, we have implemented the following process improvements.

During the period of the audit, our practice for evaluation scoring relied on two score cards: 1) scores received in the evaluator notes forms and 2) the individual evaluator matrix. The purpose of the evaluator notes form is to guide the evaluator through the scoring process before the final evaluation meeting and to facilitate a tangible discussion during the final evaluation meeting. The purpose of the individual evaluator matrix is to summarize each evaluator's final score for each consideration item. As of **December 1, 2015** we deleted the process of reviewing the scores in the evaluator notes form and instead rely solely on the scores made by the individual evaluators to the individual evaluator matrix.

The scores shown in the evaluator individual matrix submitted at the final evaluation meeting alone will be entered into the final composite matrix. The Capital Contracting Office procurement lead will communicate to the evaluation team during the final evaluation meeting that only the evaluator individual matrix will be used to determine the final outcome of the selection process, not the notes forms.

In addition, the procurement lead and their assistant for each solicitation will be required to review each evaluator individual matrix and the composite matrix spreadsheet to validate the composite matrix and confirm that the correct scores were entered. If errors are found in the individual matrices after the final evaluation meeting, the procurement lead and their assistant will notify the evaluator and ask them to confirm the error via email or initial and date next to the change on the individual matrix. The procurement lead will also initial and date next to the change on the individual matrix to acknowledge the change and confirm that the final composite matrix is updated accordingly. The new process will document that the evaluator made the change within the allowable timeframe at the final evaluation and add an additional layer of review and approval to reduce the chance of error. It will also eliminate any discrepancies or confusion that has been caused by using two documents (evaluator individual matrix and evaluator notes forms) to determine the selection outcome.

Additional detail is included in the attached action plan. Please feel free to contact me if you have any questions.

Cc: Elaine Hart, Chief Financial Officer
Rolando Fernandez, Capital Contracting Office

MANAGEMENT RESPONSE – Public Works Department



MEMORANDUM

TO: Corrie Stokes, City Auditor

FROM: Howard S. Lazarus, PE, Director, Public Works Department

DATE: December 3, 2015

SUBJECT: Response to Airport Construction Projects Draft Audit Report

cc: Robert Goode, PE, Assistant City Manager
Sara Hartley, Chief of Staff, Public Works Department
Roxanne Cook, PE, Manager, Project Management Division
Steven Penshorn, PE, Manager, Quality Management Division

The purpose of this memorandum is to provide you with a response and background regarding the findings of the Draft Audit Report. In addition to the narrative below, we have attached the required Action Plan.

The objective of the audit was to evaluate the City's process related to construction projects at ABIA. The Auditor has provided four findings, two of which apply to the Public Works Department (PWD). Our analysis and responses are provided below:

Finding 2: The Public Works Department followed industry best practice to manage the Remain Overnight Apron construction project and no significant deficiencies were noted related to vendor invoices, change orders, and inspection reports.

PWD concurs with this finding and will continue to execute capital improvement projects on behalf of our sponsors using industry best practices in concert with our established procedures.

Finding 4: For the projects we reviewed, design quality control plans did not always include required elements, design review schedules did not appear to be followed, and design approvals were not always documented.

This finding has multiple observations, and while we have some disagreement with specific elements contained within the observations, we do agree that there is a need to better document the Quality Assurance (QA) and design review processes. We strongly disagree with the comment in the Audit Report that "Public Works staff indicated there was no formal process in place to approve project designs at the time the sampled projects were being reviewed. Staff also asserted that there is now a process to approve designs, although they said this process is not documented in departmental procedures and the final approval is not always documented." It is important to note that independent

MANAGEMENT RESPONSE - Public Works Department (continued)

of this audit, PWD went through a comprehensive review of its practices and procedures while undergoing accreditation from the American Public Works Association (APWA). All of the practices related to the control of project design were updated and were found to be fully compliant with best practices. As there is no beneficial way to track the origins and the context of the comments attributed to PWD staff, it is our intent to provide training to all of our Project Managers in January 2016 and to relaunch the Project Manager Academy training program over the next year as a means to reinforce the requirements for managing the design process.

As an immediate measure and in addition to the training cited above, PWD is implementing a new procedure to establish a consistent and easily understandable mechanism for confirming and communicating that a project's QA review comments have been sufficiently incorporated. Our Quality Management Division (QMD) has created a QA Review Completion Form that will serve as official notification that the project has cleared the QA process. In addition, the form will summarize the dates that the QCP, 30%, 60%, 90% and if applicable 100% were received and signed-off on by QMD and the Project Manager. The Capital Contracting Office will not issue a solicitation for the related construction project until they are in receipt of this form. An interim procedure was implemented in November 2016 and a final procedure should be issued in January 2016. Our intent is to ensure this process is fully implemented by the end of March 2016.

As always, we appreciate the efforts of the Auditor's team to work with us to improve our processes. Please do not hesitate to contact me or Roxanne Cook directly if you have any questions related to the technical content of this memorandum. Sara Hartley, remains our principal point of contact for general coordination with the Office of the City Auditor.

1 ATTACHMENT

Action Plan for Recommendation 3

ACTION PLAN

Airport Construction Projects Audit

Recommendation	Concurrence and Proposed Strategies for Implementation	Status of Strategies	Proposed Implementation Date
1. The Capital Contracting Officer should develop, document, and implement a procedure related to projects that receive only one bid. This procedure should seek to determine the reason for lack of multiple responses and what course of action best serves the interests of the City.	Concur. The Capital Contracting Office has revised its current bid and proposal acceptance procedures to provide staff with a process for managing solicitations that result in only one or no bid/proposal. Staff will now contact those vendors who attended the pre-bid and pre-response meetings and who stated they were interested in submitting bids as prime vendors, to determine reason(s) for a lack of response.	Implemented	Dec. 1, 2015

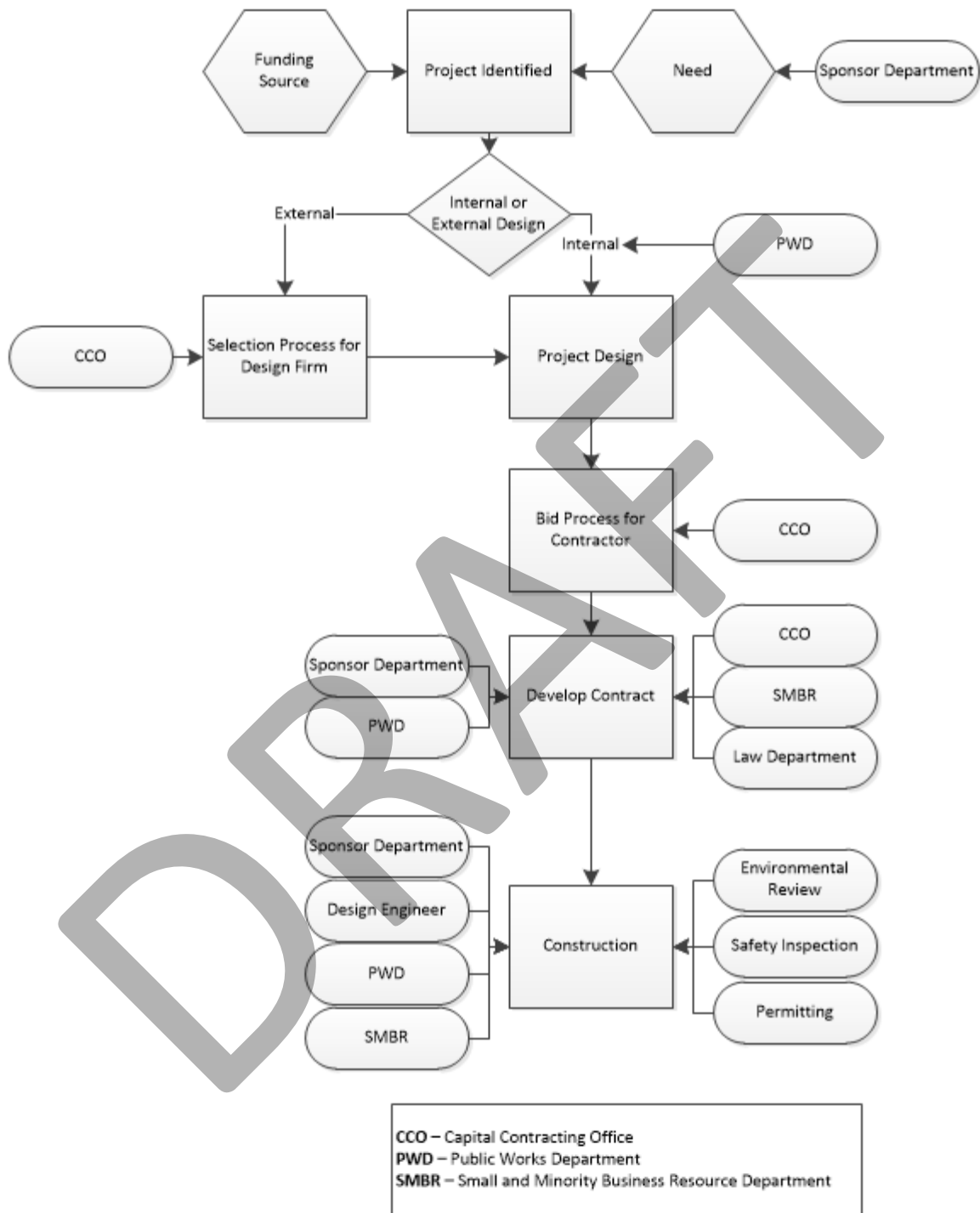
APPENDIX A

Recommendation	Concurrence and Proposed Strategies for Implementation	Status of Strategies	Proposed Implementation Date
<p>2. The Capital Contracting Officer should develop, document, and implement procedures to ensure that:</p> <ul style="list-style-type: none"> a) bid evaluation teams follow a standard procedure for documenting vendor bid scoring and, b) evaluation team vendor bid scores are accurately recorded and calculated to yield the most qualified bidder. 	<p>Concur. Prior to this Audit taking place, the Capital Contracting Office added a Contract Relations Supervisor position which oversees the CIP procurement program activities. The position reports to a Division Manager within the Capital Contracting Office. We believe this addition has already made a positive impact as it provided a new layer of review in the development of solicitation documents and professional service evaluations.</p> <p>In response to the recommendations 2 (a) (b), the Capital Contracting Office has revised procedures for each phase of evaluation process as noted below:</p> <ul style="list-style-type: none"> a) The current procedure for conducting the final evaluations has been in place for several years. To further strengthen our process, the Capital Contracting Office revised the Evaluator Notes page to remove the scoring component. The notes pages will now be used to facilitate discussion on each firm rather than be used as an additional scoring sheet. b) Additional verification steps have been implemented to the evaluation scoring process to mitigate scoring issues encountered in the audit. This includes an additional layer of review of all evaluator individual matrices and any scoring discrepancies discovered after the final evaluation meeting are properly documented and entered to the final composite matrix. 	Implemented	Dec. 1, 2015

APPENDIX A

Recommendation	Concurrence and Proposed Strategies for Implementation	Status of Strategies	Proposed Implementation Date
3. The Public Works Department Director should ensure vendor Quality Control Plans include all required elements, the design review schedule is followed, and final approval of project designs are documented and completed prior to starting construction.	The Public Works Department Director concurs with Recommendation 3. Specific strategies for implementation are provided below.		
	The Public Works Department does have established QA/QC Procedures and Guidelines for Quality Control Plans. These plans were updated and reviewed as part of our 2015 APWA Accreditation.	Implemented	Completed
	The Public Works Department will implement training for its Project Managers regarding procedures related to QCP requirements including schedule and ensuring 30%, 60% and 90% design reviews are performed and documented.	Underway	January 2016
	PWD will implement a new procedure to establish a consistent and easily understandable mechanism for confirming and communicating that a project's QA review comments have been sufficiently incorporated. QMD created a QA Review Completion Form that will serve as official notification that the project has cleared the QA process. In addition, the form will summarize the dates that the QCP, 30%, 60%, 90% and if applicable 100% were received and signed-off on by QMD. The Capital Contracting Office will not bid a project out until they are in receipt of this form.	Underway	March 2016

CITY'S CONSTRUCTION PROCESS



SOURCE: OCA analysis of construction process, November 2014

CONSULTANT'S FINAL REPORT

**Construction Audit Report
Construction of Remain Over Night (RON) Aprons
Phases 1 and 2**

Prepared for:

**City of Austin
Office of the City Auditor**



Report Prepared By:

R. L. Townsend & Associates, LLC
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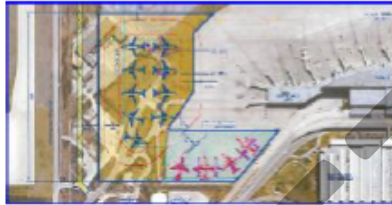
(972) 403-1829
Plano, Texas

September 4, 2015

<p align="center">Construction Audit Report Prepared for the City of Austin - Office of the City Auditor</p>
<p align="center">Construction of Remain Over Night (RON) Aprons – Phases 1 and 2 Austin-Bergstrom International Airport</p>

Background:

In preparation for the current airport expansion project, the Austin-Bergstrom International Airport (ABIA) expanded the Remain Overnight (RON) Apron in two phases as shown in the highlighted areas on the following diagram:



Phase 1 and Phase 2 of these projects were designed by AECOM. The construction contractor for Phase 1 was Chasco Contracting LTD and the construction contractor for Phase 2 was Austin Bridge & Road, LP.

The construction bidding and contract award was managed by the City's Public Works department in accordance with the City's policies and procedures which follow applicable government codes applicable to this type of construction activity. The following is a summary of the construction costs that were the subject of this audit:

	RON Apron - Phase 1 - Chasco Contracting LTD	RON Apron - Phase 2 - Austin Bridge & Road, LP	Total Construction Costs for Both Phases
Original Contract Amounts Based on Competitive Bids	\$ 6,455,831	\$ 5,290,384	\$ 11,746,215
Net Contract Increase due to Approved Change Orders	\$ 139,093	\$ (56,799)	\$ 82,294
Total Direct Construction Costs Incurred	\$ 6,594,924	\$ 5,233,585	\$ 11,828,509
Net Change Due to Change Orders	2.2%	-1.1%	0.7%

Scope of Construction Audit Work Performed:


Our audit consisted of a detailed review of the following construction project related documentation:

1. Issued for Bid Construction Contract Plans and Specifications
2. Competitive Bids Submitted and the corresponding Bid Analysis performed by the City
3. Construction contracts issued to both Chasco Contracting (Chasco) and Austin Bridge & Road LP (ABR)
4. Detailed documentation for each change order line item issued to Chasco and ABR
5. Detailed daily reports filed by the full-time on-site AECOM inspector (Owner Representative)
6. Final subcontractor payment application documentation provided by Chasco and ABR

In addition, our audit included an on-site audit inspection of a sample of construction project scope of work line items and related follow-up interviews with the AECOM inspector (Tyson Duncan) and ABIA project representative (Dale Thompson).

Overall Audit Conclusion:

The project was professionally managed using "best practice" processes and procedures. No significant deficiencies were noted.

	<p align="center">Report Date: September 4, 2015</p>	<p>1</p>
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AIRPORT CONTRACTS SELECTED FOR TESTING

Contracts	Description	Estimated Cost ⁷	RCA Date	Vendor Selection Type
Terminal Apron Expansion and Improvements (Design)	Provide design consulting services for construction project	\$18 million	8/7/2014	Most Qualified
Remain Overnight Apron	Increase space for airplane parking (Phase 1)	\$7.1 million	12/17/2009	Lowest Bid
	Increase space for airplane parking (Phase 2)	\$5.8 million	5/12/2011	Lowest Bid
	Design plans to increase space for airplane parking	\$4 million	2/28/2008	Most Qualified
Architectural and Engineering Rotation List	Identify firms to serve on rotation list	\$7.5 million	11/10/2011	Most Qualified
Terminal Improvements 2012	Renovations, repairs, replacements, and upgrades for the passenger terminal	\$6.8 million	12/6/2012	Lowest Bid
Terminal East Infill (Design)	Design plans to increase capacity of passenger terminal	\$6.3 million	10/18/2012	Most Qualified
Presidential Boulevard Roadway Safety and Security Improvements	Increase terminal security and traffic flow	\$4 million	8/2/2012	Lowest Bid
Stormwater Drainage Improvements	Improve drainage and ensure environmental compliance	\$2.5 million	8/8/2013	Most Qualified
Terminal Directories	Replace outdated directories	\$.2 million	8/23/2012	Lowest Bid

⁷ Estimated Cost is based on the amount listed in the Recommendation for Council Action for the authorization of the execution of contracts for that project.